

Contrato Administrativo Nº 301/2014

**PROJETO EXECUTIVO DA ETE NOVO MUNDO -
Atualização Gráfica e Orçamentária da ETE**



PROJETO ESTRUTURAL - TOMO I



Contrato nº 301 / 2014

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Atualização Gráfica e Orçamentária da ETE**

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Fevereiro / 2015

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ÍNDICE

ÍNDICE DE VOLUMES

VOLUME 1 – MEMORIAL DESCRITIVO E DE CÁLCULO HIDRÁULICO

VOLUME 2 – PEÇAS GRÁFICAS

VOLUME 3 – ORÇAMENTOS

ESPECIFICAÇÕES TÉCNICAS

PROJETO ESTRUTURAL TOMO I, TOMO II, TOMO III E PEÇAS GRÁFICAS

DETALHAMENTO DAS INSTALAÇÕES ELÉTRICAS E PEÇAS GRÁFICAS

PROJETO EXECUTIVO DA ETE NOVO MUNDO
ATUALIZAÇÃO GRÁFICA E ORÇAMENTÁRIA DA ETE
ÍNDICE DO PROJETO ESTRUTURAL – TOMO I

ÍNDICE

1	APRESENTAÇÃO	2
2	CAIXA DE AREIA	5
2.1	Caracterização da obra	5
2.2	Condicionantes de projeto	5
2.3	Concepção geral do(s) modelo(S) estrutural(is)	6
2.4	Metodologia de projeto	7
2.5	Memorial de Desenvolvimento e resultados do projeto.....	8
2.6	Relatório de Blocos Fundação.....	10
2.7	Relatório de Vigas de Fundação.....	34
2.8	Relatório de Pilares	66
3	TANQUE DE AERAÇÃO.....	114
3.1	Caracterização da obra	114
3.2	Condicionantes de projeto	114
3.3	Concepção geral do(s) modelo(S) estrutural(is)	115
3.4	Metodologia de projeto	117
3.5	Memorial de Desenvolvimento e resultados do projeto.....	118
3.5.1	Lajes de Fundo do Tanque (Vigas e lajes):.....	118
3.5.2	Paredes:.....	119
3.5.3	Elevatória de Recirculação do Lodo	123
3.5.4	Elevatória de Lodo Ativado.....	123
3.6	Anexos	124
3.6.1	Bloco de Fundação.....	124
3.7	Vigas de Fundação.....	199

1 APRESENTAÇÃO

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O presente trabalho se refere ao “Projeto Executivo da ETE Novo Mundo – Atualização Gráfica e Orçamentária da ETE”, contratado pela Prefeitura de Pelotas.

Os principais dados e informações que caracterizam o Contrato são os seguintes:

Contrato Administrativo nº: Nº 301/2014;

Data da Assinatura do Contrato: 15/12/2014;

Prazo de Execução do Contrato: 25 dias;

Valor do Contrato: R\$ 7.993,42.

Esse trabalho teve por objetivo a atualização gráfica e orçamentária do Projeto Executivo do Coletor Geral CG-3 e da Estação de Tratamento de Esgotos – ETE Novo Mundo desenvolvido pelo Consórcio STE-ECSAM-ENGEPLUS, em Junho / 2011 e as obras parcialmente executadas até Dezembro / 2014.

A atualização gráfica e orçamentária do Projeto compreendeu as seguintes atividades:

- Levantamento de Quantitativos das obras já realizadas, a partir do cadastro fornecido pela UGP (serviços de Terraplenagem de implantação do CG-3);
- Verificação completa dos Quantitativos de Projeto, considerando as obras previstas para serem implantadas;
- Atualização dos Preços Unitários do Orçamento, segundo valores da tabela SINAPI;
- Atualização de Preços de Materiais e Equipamentos, através de Consulta aos fornecedores; e
- Edição atualizada e completa do Projeto.

Tendo por base, portanto, as atividades realizadas, o presente relatório contempla o **Projeto Estrutural – TOMO I**, sendo o Memorial do Projeto Estrutural da Caixa de Areia e do Tanque de Aeração.

Como o próprio título diz, este documento que não se apresenta como uma memória de cálculo clássica onde, de forma manual, toda a sequência de cálculo da obra é apresentada. Isso decorre da introdução, cada vez mais intensa, da utilização de diferentes ferramentas de apoio ao projeto estrutural, tais como aplicativos CAD munidos de calculadoras especializadas, planilhas eletrônicas, dentre outros, além do próprio cálculo manual.

Dessa forma, ao invés de uma simples memória de cálculo, temos um Memorial de Projeto Estrutural, o qual vem a ser um documento onde o projeto como um todo é apresentado e não apenas os cálculos. Desde a descrição das principais características da obra e condicionantes de projeto, passando pela tipologia estrutural, modelos adotados, carregamentos, análise de esforços, dimensionamento e detalhamento.

Na medida em que grande parte dos cálculos são feitos através do uso de aplicativos computacionais e os relatórios, mesmo quando já resumidos, podem ser bastante

extensos, é dada especial ênfase à descrição da modelagem estrutural e do entendimento do comportamento da estrutural o que, associado ao detalhamento final, permite o seu pleno entendimento. Isso permite, a reprodução do projeto, com bastante aproximação, mesmo com a utilização de outros aplicativos que não o utilizado no seu desenvolvimento. Em alguns casos, quando a modelagem é complexa, são utilizados de forma amostral cálculos manuais servindo como testemunhos comparativos do que os aplicativos computacionais apresentam como resultados. Isso dá uma maior segurança na análise, dimensionamento e detalhamento, tanto na fase de desenvolvimento quanto posteriormente durante qualquer revisão.

A seguir são apresentados em um primeiro item a caracterização da obra. Na sequência são apresentados os condicionantes que afetam o projeto estrutural de modo mais significativo, principalmente aqueles que, pelas suas especificidades e importância, inclusive normativas, necessitam ser explicitados em plantas. Quando necessário neste item constam os carregamentos especiais e/ou específicos da obra. A concepção geral do modelo ou modelos estruturais que foram utilizados são descritos, seguidos da descrição da metodologia de projeto adotada. Segue-se o memorial de desenvolvimento do projeto e seus resultados que podem, quando necessário, serem comentados. Quando os resultados são constituídos por relatórios muito extensos estes são mencionados de forma resumida neste item e incluídos na sua íntegra na forma de anexos.

2 CAIXA DE AREIA

2 CAIXA DE AREIA

2.1 Caracterização da obra

A unidade de Caixa de Areia, formada por Câmara de Distribuição, Gradeamento, Caixa de Areia e Partidor, constitui-se por uma estrutura em concreto armado na forma de tanque, medindo internamente 5,5m x 4m a Câmara de Distribuição, 3,90m x 4,90 o Gradeamento, 17m x 4,60m a Caixa de Areia e o Partidor em duas partes, a primeira medindo 8,50m x 175m e a segunda 5,20m x 3,70m. As plantas EGO112-D-CAG-HID-01-03 e EGO112-CAP-HID-01-03 trazem seus detalhes.

As estruturas de todos os elementos acima são em concreto armado, conforme já mencionado, e as fundações em estacas pré-moldadas de 20x20, 26x26 e 35x35, com profundidade média de 20m.

2.2 Condicionantes de projeto

Os condicionantes do projeto estrutural são constituídos pela geometria e especificações constantes dos projetos arquitetônicos e hidráulico, bem como pelo que preconizam as normas brasileira vigentes, em especial a NBR6118/2003 (Projeto de Estruturas de Concreto – Procedimentos), a NBR 6120/80 (Cargas para o cálculo de estruturas de edificações), NBR 6123/1988 (Forças devido ao vento em edificações), NBR 6122/1996 (Projeto e Execução de Fundações) e NBR 8681/2003 (Ações e Segurança Nas Estruturas – Procedimentos). Além disso, foi observado o que dispõe a “Especificação para Elaboração de Projetos de Estruturas de Concreto” da CORSAN.

A Classe de Agressividade Ambiental adotada, conforme as especificações da CORSAN, foi a III indicada na Tabela 6.1 da NBR 6118/2003, correspondendo a agressividade *forte*.

Para esta classe a NBR 6118 estabelece o seguinte:

- a) Especificações para o concreto:
 - Classe de concreto: $\geq C30$ – $f_{ck} \geq 30\text{Mpa}$ (300 kgf/cm²);
 - $E_{cs} = 0,85 E_{ci} = 26072 \text{ Mpa}$ (260720 kgf/cm²);
 - Fator água cimento máximo = 0,55.
- b) Especificações para cobrimentos de armaduras (CORSAN):
 - Vigas e pilares: 45 mm
 - Lajes : 45 mm
 - Fundações : 45 mm

Como carregamentos específicos deste projeto têm-se:

- i) Peso específico aparente do lodo: 1,2 tf/m³.
- ii) Nas passarelas e escadas foi considerada uma sobrecarga acidental de 300 kgf/m².

Para efeito do cálculo das pressões nas paredes e lajes de fundo o nível de lodo foi considerado como com a altura máxima das próprias paredes admitindo-se, à favor da segurança, a possibilidade deste enchimento máximo.

As fundações foram projetadas a partir de relatórios de sondagem de percussão, tipo SPT, elaborados, respectivamente, pelas empresas Fundasolos Engenharia de Solos e Fundações Ltda, datado de 1982, e RW – Geologia e Geotecnia Ltda, de setembro de 2010.

2.3 Concepção geral do(s) modelo(S) estrutural(is)

A estrutura das unidades de Caixa de Areia basicamente está constituída por uma laje de fundo e paredes em concreto armado. Essas estruturas foram modeladas no cad/estrutural TQS. As Figuras 1 e 2 ilustram de forma geral o modelo.

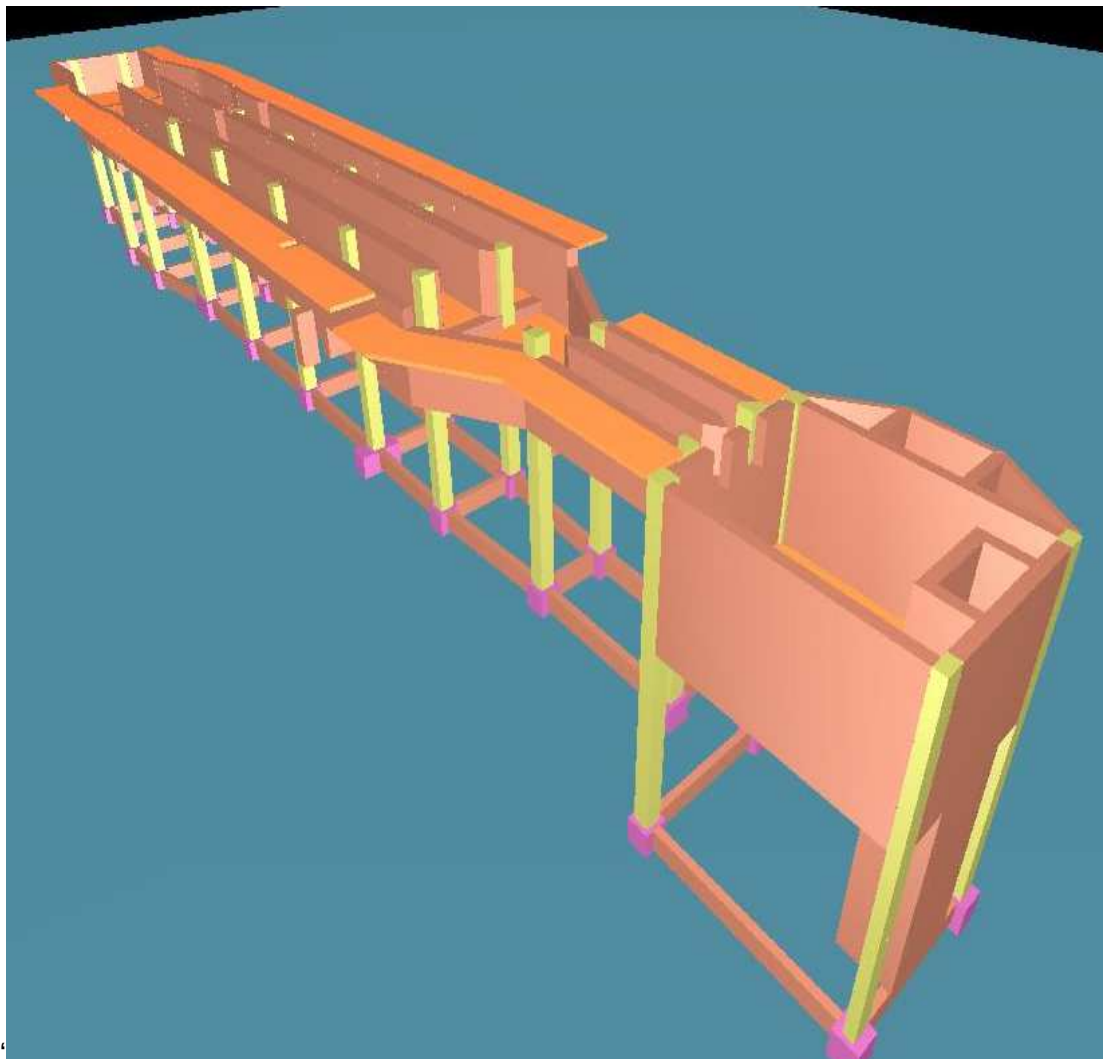


Figura 1 – Vista geral do modelo da unidade de caixa de areia construído no TQS. Em primeiro plano o partidor de vazão.

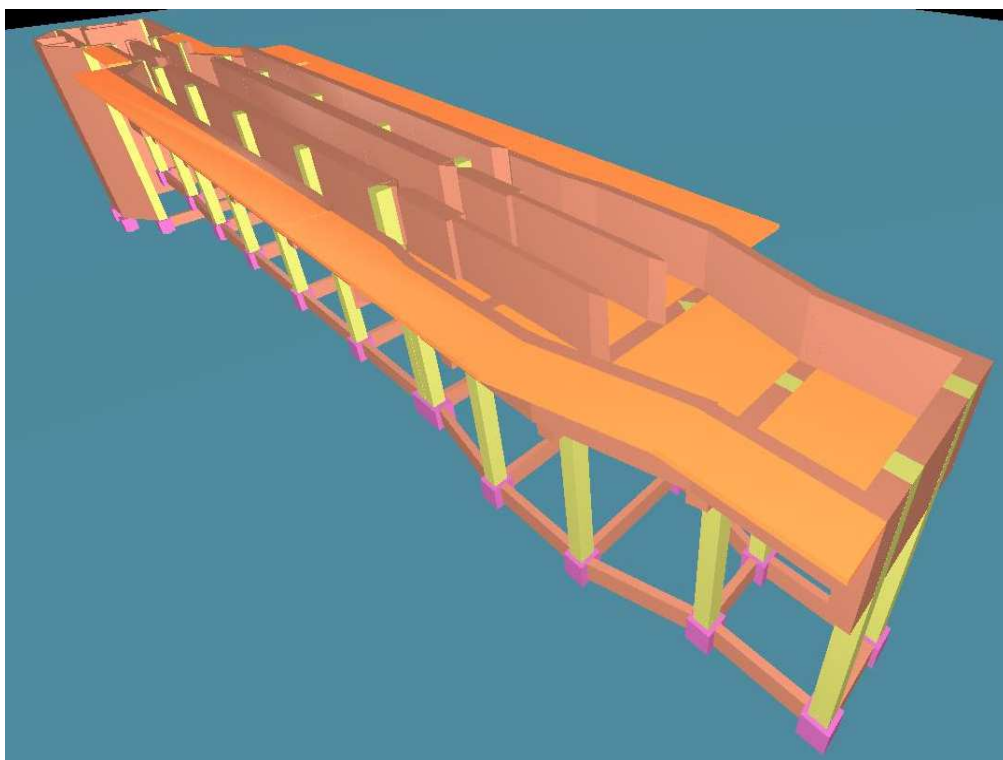


Figura 2 – Outra vista do mesmo modelo – em primeiro plano a câmara de distribuição..

Em virtude do seu comprimento a estrutura foi segmentada em três partes, através de juntas: a primeira contempla câmara de distribuição e gradeamento, a segunda a caixa de areia e a calha parshall e a terceira o partidor. Toda a estrutura – laje de fundo, paredes, canais e poços – estão apoiados em pórticos e estes em blocos de coroamento de estacas com estacas pré-moldadas.

A laje de fundo está apoiada nas vigas dos pórticos, nas paredes laterais e a modelagem foi feita como lajes de fundo de reservatórios de concreto armado.

As paredes foram tratadas como vigas paredes no sentido vertical, apoiadas sobre os pórticos; e, horizontalmente, como lajes submetidas à pressão do esgoto e areia.

2.4 Metodologia de projeto

A metodologia adotada é a utilizada pelo CAD/TQS com a configuração de modelos e dos parâmetros de projeto.

O lançamento geométrico e de carregamento da estrutura é feito graficamente a partir do qual são construídos os arquivos de entrada de dados no sistema.

Os dados de carregamento são objeto de combinações que visam atender o que estabelecem as normas NBR 6118 e NBR 8681 relativamente aos ELU (Estados Limites Últimos) e ELS (Estados Limites de Serviço). O sistema, no nível de pavimento (laje de fundo do decantador e vigas paredes), discretiza as lajes e vigas em grelhas, distribuindo os esforços nas mesmas e resolvendo os sistemas de equações resultantes matricialmente. Isto feito, os resultados são transferidos para um modelo

de pórtico espacial que trata a estrutura de barras constituída por vigas e pilares como um todo, inclusive com a consideração dos esforços horizontais. Neste modelo de pórtico, as lajes horizontais são tratadas como diafragmas rígidos e os esforços são distribuídos entre os pilares de acordo com suas respectivas rigidezes. Resolvido o pórtico, os esforços resultantes são individualizados nas vigas e pilares que lhes correspondem. O próximo passo é o dimensionamento de vigas e pilares que é feito de forma automática pelo sistema obedecendo aos critérios estabelecidos pelo projetista. Esses resultados podem ser objeto de edição interativa, intermediária, parcial ou total, e, posteriormente, final de detalhamento e desenho. O dimensionamento das lajes é feito de forma interativa com a utilização de editor de esforços e armaduras.

O processamento é feito de diferentes maneiras automática e/ou manual. Os resultados são fornecidos através de relatórios analíticos e de interfaces gráficas. De uma forma geral os procedimentos são os seguintes:

- 1º. Estabelecimento dos critérios de projeto e lançamento gráfico da estrutura com suas cargas.
- 2º. Processamento global com as seguintes análises de resultados:
 - a. Análise visual e dos valores das deformações das vigas e lajes em modelo elástico;
 - b. Análise visual das deformações e solicitações no pórtico;
 - c. Edição interativa das armaduras das lajes;
 - d. Exame visual da armadura de vigas e seus diagramas; edição interativa de vigas;
 - e. Análise de lajes e vigas através de modelo de grelha não-linear com verificação visual de deformações imediata e lenta, bem como da fissuração.
 - f. Exame visual das armaduras e taxas de armadura dos pilares e edição interativa se necessário;
 - g. Análise das fundações e edição interativa se necessário.
- 3º. Detalhamento final e desenho.
- 4º. Emissão de plantas.

2.5 Memorial de Desenvolvimento e resultados do projeto

A Figura 3 ilustra os diagramas de momentos fletores resultantes de um grande conjunto de combinações e que foram utilizados no dimensionamento dos elementos estruturais: lajes, vigas paredes, pilares dentre outros.

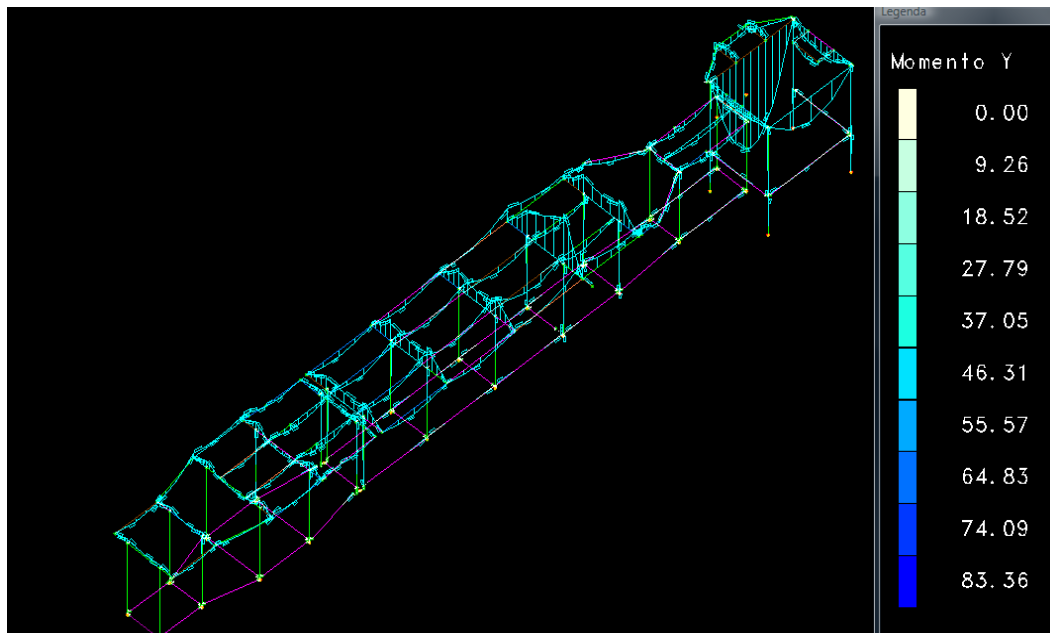


Figura 3 – Momentos fletores resultantes do modelo de pórtico espacial.

Abaixo estão transcritos os resultados do dimensionamento desses elementos (lajes, vigas paredes e vigas e pilares).

2.6 Relatório de Blocos Fundação

CAD/FUNDACOES V15.9.8 DIMENSIONAMENTO DE BLOCOS Pg
 1
 VANGUARDA SIST. ESTRUT. ABERTOS ENG. LTDA 90680-060 RS 33328845
 RUA DONA OTTY, 40 SALA 201 PORTO ALEGRE
 0001 CAIXA AREIA ETE PELOTAS 09/08/12
 CORSAN 16:49:55

Fck= 300.00 kgf/cm² Armad. Princ.: CA50B Recobrimento = 4.50
 cm

Este programa utiliza o MÉTODO SIMPLIFICADO DAS BIELAS EM BLOCOS CONSIDERADOS RÍGIDOS (com um ângulo ótimo entre 45 e 55 graus).

Nos casos com Momentos Fletores atuantes, Considera-se para o dimensionamento do bloco, a Força normal Equivalente (FE), mais crítica, dentre os casos de carregamentos transferidos.

Cabe ao engenheiro o cálculo e o detalhamento de armaduras complementares para esforços de TRAÇÃO em pontos localizados do bloco e estaca(s), se houver, em função da geometria do bloco e das solicitações.

Legenda:

FE: Força normal Equivalente total para dimensionamento, que provoca o mesmo efeito das ações (compressão e flexões concomitantes), na estaca mais solicitada, dentre todos os casos de carregamento;

F1: FE/Estacas (esforço crítico p/ simples conferência, "para a estaca mais solicitada");

AsXfdZ, AsYfdZ: a SOMA de armaduras necessárias para fendilhamento e cintamento (quando houver);

Ascín: Armadura necessária para cintamento;

- Observar possíveis conversões entre armaduras e tipos de aço (ex: CA50 para CA60)

BLOCO: 1 - B1 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm ²]	VERIF.[cm, graus]
Estacas= 1 fi = 25.0	FN= 28.1	TensLimP= 260.0	
		TensPil = 29.5	
Xbl = 60.0 Ybl = 60.0			dutil = 45.0
Alt = 60.0 Vol = .216		TensLimE= 270.0	AnguloX= -85.2
Xpil= 40.0 Ypil= 40.0	FE= 28.6	TensEst = 98.6	AnguloY= -85.2

Formas:	1.44 m2	F1=	28.6	

ARMADURAS [cm2,cm]		Peso Próprio:	.5 tf (x1)	

Prin.X:	.7 = 3 {10.0 C/ 25.0	Prin.Y:	.7 = 3 {10.0 C/ 25.0	
AsXfdZ:	1.4	AsYfdZ:	1.4	
AsCin :	.0	Laterl:	.5 = 3 { 5.0 C/ 20.0	

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais e lateral, repectivamente.				

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	28.06	.00	.00	
Caso 2:	27.96	.00	.00	
Caso 3:	27.96	.00	.00	
Caso 4:	27.38	.00	.00	
Caso 5:	27.96	.00	.00	
Caso 6:	27.96	.00	.00	

BLOCO:	2 - B2	Retang. (	
1x)			

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]

Estacas= 1 fi = 25.0	FN= 31.7	TensLimP= 260.0	
		TensPil = 33.3	
Xbl = 60.0 Ybl = 60.0			dutil = 45.0
Alt = 60.0 Vol = .216	-----	TensLimE= 270.0	AnguloX= -85.2
Xpil= 40.0 Ypil= 40.0	FE= 32.2	TensEst = 111.1	AnguloY= -85.2
Formas: 1.44 m2	F1= 32.2		

ARMADURAS [cm2,cm]	Peso Próprio:	.5 tf (x1)	

Prin.X: .8 = 3 {10.0 C/ 25.0	Prin.Y: .8 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.5	AsYfdZ: 1.5		

| AsCin : .0 Laterl: .5 = 3 { 5.0 C/ 20.0

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais e lateral, repectivamente.

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	31.69	.00	.00		
Caso 2:	31.69	.00	.00		
Caso 3:	31.69	.00	.00		
Caso 4:	30.88	.00	.00		
Caso 5:	31.69	.00	.00		
Caso 6:	31.69	.00	.00		

BLOCO: 3 - B5 Retang. (1x)

GEOMETRIA[cm,m3] | CARGAS[tf,m] | TENSOES[kgf/cm2] | VERIF.[cm, graus]

Estacas= 1 fi = 25.0 | FN= 13.6 | TensLimP= 260.0 |
 | | TensPil = 14.3 |
 Xbl = 60.0 Ybl = 60.0 | | dutil = 45.0
 Alt = 60.0 Vol = .216 |-----| TensLimE= 270.0 | AnguloX= -85.2
 Xpil= 40.0 Ypil= 40.0 | FE= 14.2 | TensEst = 48.9 | AnguloY= -85.2
 Formas: 1.44 m2 | F1= 14.2 |

ARMADURAS [cm2,cm] | Peso Próprio: .5 tf (x1)

Prin.X: .3 = 3 {10.0 C/ 25.0 Prin.Y: .3 = 3 {10.0 C/ 25.0
 AsXfdZ: .7 AsYfdZ: .7
 AsCin : .0 Laterl: .5 = 3 { 5.0 C/ 20.0

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais e lateral, repectivamente.

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	13.64	.00	.00		
Caso 2:	13.63	.00	.00		
Caso 3:	13.63	.00	.00		
Caso 4:	13.38	.00	.00		

Caso	5:	13.63	.00	.00
Caso	6:	13.63	.00	.00

BLOCO: 4 - B6 Retang. (1x)

GEOMETRIA[cm,m3] | CARGAS[tf,m] | TENSOES[kgf/cm2] | VERIF.[cm, graus]

Estacas= 1 fi = 25.0 | FN= 19.6 | TensLimP= 260.0 |
 | | TensPil = 20.6 |
 Xbl = 60.0 Ybl = 60.0 | | dutil = 45.0
 Alt = 60.0 Vol = .216 |-----| TensLimE= 270.0 | AnguloX= -85.2
 Xpil= 40.0 Ypil= 40.0 | FE= 20.1 | TensEst = 69.4 | AnguloY= -85.2
 Formas: 1.44 m2 | F1= 20.1 |

ARMADURAS [cm2,cm] | Peso Próprio: .5 tf (x1)

Prin.X: .5 = 3 {10.0 C/ 25.0 Prin.Y: .5 = 3 {10.0 C/ 25.0
 AsXfdZ: 1.0 AsYfdZ: 1.0
 AsCin : .0 Laterl: .5 = 3 { 5.0 C/ 20.0

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais e lateral, repectivamente.

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	19.59	.00	.00	
Caso	2:	19.57	.00	.00	
Caso	3:	19.57	.00	.00	
Caso	4:	19.15	.00	.00	
Caso	5:	19.57	.00	.00	
Caso	6:	19.57	.00	.00	

BLOCO: 5 - B7 Retang. (1x)

GEOMETRIA[cm,m3] | CARGAS[tf,m] | TENSOES[kgf/cm2] | VERIF.[cm, graus]

```

Estacas= 2  fi = 25.0 | FN= 39.7 | TensLimP= 270.0 | dmin = 22.5
DisX= 65.0 | TensPil = 52.1 | dmax = 31.9
Xbl = 125.0 Ybl = 60.0 | MY= .0 | dutil = 45.0
Alt = 60.0 Vol = .450 |-----| TensLimE= 270.0 | AnguloX= 63.4
Xpil= 40.0 Ypil= 40.0 | FE= 40.8 | TensEst = 87.3 | AnguloY= 63.4
Formas: 2.22 m2 | F1= 20.4 |
***** | ****

```

```

ARMADURAS [cm2,cm] | Peso Próprio: 1.1 tf (x1)

```

```

Prin.X: 3.9 = 5 {10.0 C/ 12.5 SecndY: .8 = 5 { 5.0 C/ 25.0
P.Estr: .8 = 4 { 5.0 C/ 15.0 Laterl: .5 = 3 { 5.0 C/ 20.0

```

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	39.68	.00	.00		
Caso 2:	39.30	.00	.00		
Caso 3:	39.30	.00	.00		
Caso 4:	38.82	.00	.00		
Caso 5:	39.30	.00	.00		
Caso 6:	39.30	.00	.00		

BLOCO: 6 - B8 Retang. (1x)

```

GEOMETRIA[cm,m3] | CARGAS[tf,m] | TENSOES[kgf/cm2] | VERIF.[cm,graus]

```

```

Estacas= 1  fi = 25.0 | FN= 44.1 | TensLimP= 260.0 |
| TensPil = 46.3 |
Xbl = 60.0 Ybl = 60.0 | dutil = 45.0
Alt = 60.0 Vol = .216 |-----| TensLimE= 270.0 | AnguloX= -85.2
Xpil= 40.0 Ypil= 40.0 | FE= 44.7 | TensEst = 154.0 | AnguloY= -85.2
Formas: 1.44 m2 | F1= 44.7 |

```

```

ARMADURAS [cm2,cm] | Peso Próprio: .5 tf (x1)

```

```

-.-.-.-.-
-
| Prin.X:    1.1 =    3 {10.0 C/  25.0    Prin.Y:    1.1 =    3 {10.0 C/  25.0
| AsXfdZ:    2.1                                AsYfdZ:    2.1
| AsCin :    .0                                Laterl:    .5 =    3 { 5.0 C/  20.0
-.-.-.-.-

```

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais e lateral, repectivamente.

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	44.14	.00	.00		
Caso 2:	44.14	.00	.00		
Caso 3:	44.14	.00	.00		
Caso 4:	43.18	.00	.00		
Caso 5:	44.14	.00	.00		
Caso 6:	44.14	.00	.00		

BLOCO: 7 - B9 Retang. (1x)

```

-.-.-.-.-
-
| GEOMETRIA[cm,m3]          | CARGAS[tf,m] | TENSOES[kgf/cm2] | VERIF.[cm,graus]
-.-.-.-.-
-
| Estacas= 1 fi = 25.0 | FN= 45.7 | TensLimP= 260.0 |
|                               |           | TensPil = 48.0 |
| Xbl = 60.0 Ybl = 60.0 |           |           | dutil = 45.0
| Alt = 60.0 Vol = .216 |-----| TensLimE= 270.0 | AnguloX= -85.2
| Xpil= 40.0 Ypil= 40.0 | FE= 46.2 | TensEst = 159.3 | AnguloY= -85.2
| Formas: 1.44 m2      | F1= 46.2 |           |
-.-.-.-.-

```

```

-.-.-.-.-
-
| ARMADURAS [cm2,cm]      | Peso Próprio: .5 tf (x1)
-.-.-.-.-

```

```

-.-.-.-.-
-
| Prin.X:    1.1 =    3 {10.0 C/  25.0    Prin.Y:    1.1 =    3 {10.0 C/  25.0
| AsXfdZ:    2.2                                AsYfdZ:    2.2
| AsCin :    .0                                Laterl:    .5 =    3 { 5.0 C/  20.0
-.-.-.-.-

```

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais

e lateral, repectivamente.

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	45.68	.00	.00		
Caso 2:	45.68	.00	.00		
Caso 3:	45.68	.00	.00		
Caso 4:	44.38	.00	.00		
Caso 5:	45.68	.00	.00		
Caso 6:	45.68	.00	.00		

BLOCO: 8 - B10 Retang. (1x)

GEOMETRIA[cm,m3] | CARGAS[tf,m] | TENSOES[kgf/cm2] | VERIF.[cm, graus]

Estacas= 1 fi = 25.0 | FN= 34.1 | TensLimP= 260.0 |
 | | TensPil = 35.8 |
 Xbl = 60.0 Ybl = 60.0 | | dutil = 45.0
 Alt = 60.0 Vol = .216 |-----| TensLimE= 270.0 | AnguloX= -85.2
 Xpil= 40.0 Ypil= 40.0 | FE= 34.7 | TensEst = 119.5 | AnguloY= -85.2
 Formas: 1.44 m2 | F1= 34.7 |

ARMADURAS [cm2,cm] | Peso Próprio: .5 tf (x1)

Prin.X: .8 = 3 {10.0 C/ 25.0 Prin.Y: .8 = 3 {10.0 C/ 25.0
 AsXfdZ: 1.7 AsYfdZ: 1.7
 ASCin : .0 Laterl: .5 = 3 { 5.0 C/ 20.0

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais e lateral, repectivamente.

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	34.13	.00	.00		
Caso 2:	32.93	.00	.00		
Caso 3:	32.93	.00	.00		
Caso 4:	32.37	.00	.00		
Caso 5:	32.93	.00	.00		
Caso 6:	32.93	.00	.00		

BLOCO: 9 - B11 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 1 fi = 25.0	FN= 34.7	TensLimP= 260.0	
		TensPil = 36.4	
Xbl = 60.0 Ybl = 60.0			dutil = 45.0
Alt = 60.0 Vol = .216	-----	TensLimE= 270.0	AnguloX= -85.2
Xpil= 40.0 Ypil= 40.0	FE= 35.2	TensEst = 121.4	AnguloY= -85.2
Formas: 1.44 m2	F1= 35.2		

ARMADURAS [cm2,cm]	Peso Próprio: .5 tf (x1)
Prin.X: .8 = 3 {10.0 C/ 25.0	Prin.Y: .8 = 3 {10.0 C/ 25.0
AsXfdZ: 1.7	AsYfdZ: 1.7
ASCin : .0	Laterl: .5 = 3 { 5.0 C/ 20.0

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais e lateral, repectivamente.

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	34.68	.00	.00	
Caso 2:	34.68	.00	.00	
Caso 3:	34.68	.00	.00	
Caso 4:	33.75	.00	.00	
Caso 5:	34.68	.00	.00	
Caso 6:	34.68	.00	.00	

BLOCO: 10 - B12 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 1 fi = 25.0	FN= 21.0	TensLimP= 260.0	
		TensPil = 22.0	
Xbl = 60.0 Ybl = 60.0			dutil = 45.0

```

| Alt = 60.0 Vol = .216 |-----| TensLimE= 270.0 | AnguloX= -85.2
| Xpil= 40.0 Ypil= 40.0 | FE= 21.5 | TensEst = 74.2 | AnguloY= -85.2
| Formas: 1.44 m2 | F1= 21.5 |

```

```

-----
| ARMADURAS [cm2,cm] | Peso Próprio: .5 tf (x1)

```

```

-----
| Prin.X: .5 = 3 {10.0 C/ 25.0 Prin.Y: .5 = 3 {10.0 C/ 25.0
| AsXfdZ: 1.0 AsYfdZ: 1.0
| AsCin : .0 Laterl: .5 = 3 { 5.0 C/ 20.0

```

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais e lateral, repectivamente.

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	20.99	.00	.00		
Caso 2:	20.99	.00	.00		
Caso 3:	20.99	.00	.00		
Caso 4:	20.72	.00	.00		
Caso 5:	20.99	.00	.00		
Caso 6:	20.99	.00	.00		

BLOCO: 11 - B13 Retang. (1x)

```

-----
| GEOMETRIA[cm,m3] | CARGAS[tf,m] | TENSOES[kgf/cm2] | VERIF.[cm,graus]

```

```

-----
| Estacas= 1 fi = 25.0 | FN= 11.2 | TensLimP= 260.0 |
| | | TensPil = 11.8 |
| Xbl = 60.0 Ybl = 60.0 | | dutil = 45.0
| Alt = 60.0 Vol = .216 |-----| TensLimE= 270.0 | AnguloX= -85.2
| Xpil= 40.0 Ypil= 40.0 | FE= 11.7 | TensEst = 40.4 | AnguloY= -85.2
| Formas: 1.44 m2 | F1= 11.7 |

```

```

-----
| ARMADURAS [cm2,cm] | Peso Próprio: .5 tf (x1)

```

```

| Prin.X:      .3 =   3 {10.0 C/  25.0   Prin.Y:      .3 =   3 {10.0 C/  25.0
| AsXfdZ:      .6                               AsYfdZ:      .6
| AsCin :      .0                               Laterl:      .5 =   3 { 5.0 C/  20.0
|
|-----
|

```

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais e lateral, repectivamente.

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	11.20	.00	.00		
Caso 2:	11.20	.00	.00		
Caso 3:	11.20	.00	.00		
Caso 4:	11.01	.00	.00		
Caso 5:	11.20	.00	.00		
Caso 6:	11.20	.00	.00		

BLOCO: 12 - B16 Retang. (1x)

```

|-----
| GEOMETRIA[cm,m3] | CARGAS[tf,m] | TENSOES[kgf/cm2] | VERIF.[cm,graus]
|-----
|
| Estacas= 1 fi = 25.0 | FN= 11.2 | TensLimP= 260.0 |
|                   |           | TensPil = 11.8 |
| Xbl = 60.0 Ybl = 60.0 |           | dutil = 45.0
| Alt = 60.0 Vol = .216 |-----| TensLimE= 270.0 | AnguloX= -85.2
| Xpil= 40.0 Ypil= 40.0 | FE= 11.8 | TensEst = 40.5 | AnguloY= -85.2
| Formas: 1.44 m2 | F1= 11.8 |
|-----
|

```

```

| ARMADURAS [cm2,cm] | Peso Próprio: .5 tf (x1)
|-----
|

```

```

| Prin.X:      .3 =   3 {10.0 C/  25.0   Prin.Y:      .3 =   3 {10.0 C/  25.0
| AsXfdZ:      .6                               AsYfdZ:      .6
| AsCin :      .0                               Laterl:      .5 =   3 { 5.0 C/  20.0
|
|-----
|

```

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais e lateral, repectivamente.

Carregamentos:	6	N	Mx	My	[tf,m]
----------------	---	---	----	----	--------

Caso	1:	11.22	.00	.00
Caso	2:	11.22	.00	.00
Caso	3:	11.22	.00	.00
Caso	4:	11.21	.00	.00
Caso	5:	11.22	.00	.00
Caso	6:	11.22	.00	.00

BLOCO: 13 - B17
1x)

Retang. (

 GEOMETRIA[cm,m3] | CARGAS[tf,m] | TENSOES[kgf/cm2] | VERIF.[cm,graus]

Estacas= 1 fi = 25.0 | FN= 18.0 | TensLimP= 260.0 |
 | | TensPil = 18.9 |
 Xbl = 60.0 Ybl = 60.0 | | dutil = 45.0
 Alt = 60.0 Vol = .216 |-----| TensLimE= 270.0 | AnguloX= -85.2
 Xpil= 40.0 Ypil= 40.0 | FE= 18.5 | TensEst = 63.8 | AnguloY= -85.2
 Formas: 1.44 m2 | F1= 18.5 |

 ARMADURAS [cm2,cm] | Peso Próprio: .5 tf (x1)

Prin.X: .4 = 3 {10.0 C/ 25.0 Prin.Y: .4 = 3 {10.0 C/ 25.0
 AsXfdZ: .9 AsYfdZ: .9
 AsCin : .0 Laterl: .5 = 3 { 5.0 C/ 20.0

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais e lateral, repectivamente.

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	17.97	.00	.00
Caso	2:	17.96	.00	.00
Caso	3:	17.96	.00	.00
Caso	4:	17.79	.00	.00
Caso	5:	17.96	.00	.00
Caso	6:	17.96	.00	.00

BLOCO: 14 - B19
1x)

Retang. (

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]

Estacas= 1 fi = 25.0	FN= 23.6	TensLimP= 260.0	
		TensPil = 24.8	
Xbl = 60.0 Ybl = 60.0			dutil = 45.0
Alt = 60.0 Vol = .216	-----	TensLimE= 270.0	AnguloX= -85.2
Xpil= 40.0 Ypil= 40.0	FE= 24.1	TensEst = 83.1	AnguloY= -85.2
Formas: 1.44 m2	F1= 24.1		

ARMADURAS [cm2,cm]	Peso Próprio:	.5 tf (x1)

Prin.X: .6 = 3 {10.0 C/ 25.0	Prin.Y: .6 = 3 {10.0 C/ 25.0	
AsXfdZ: 1.2	AsYfdZ: 1.2	
AsCin : .0	Laterl: .5 = 3 { 5.0 C/ 20.0	

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais e lateral, repectivamente.

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	23.58	.00	.00		
Caso 2:	23.57	.00	.00		
Caso 3:	23.57	.00	.00		
Caso 4:	23.08	.00	.00		
Caso 5:	23.57	.00	.00		
Caso 6:	23.57	.00	.00		

BLOCO: 15 - B26 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]

Estacas= 1 fi = 25.0	FN= 11.4	TensLimP= 260.0	
		TensPil = 12.0	
Xbl = 60.0 Ybl = 60.0			dutil = 45.0
Alt = 60.0 Vol = .216	-----	TensLimE= 270.0	AnguloX= -85.2

Xpil= 40.0 Ypil= 40.0 | FE= 11.9 | TensEst = 41.2 | AnguloY= -85.2
 Formas: 1.44 m2 | F1= 11.9 |

ARMADURAS [cm2,cm] | Peso Próprio: .5 tf (x1)

Prin.X: .3 = 3 {10.0 C/ 25.0 Prin.Y: .3 = 3 {10.0 C/ 25.0
 AsXfdZ: .6 AsYfdZ: .6
 AsCin : .0 Laterl: .5 = 3 { 5.0 C/ 20.0

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais e lateral, repectivamente.

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	11.40	.00	.00	
Caso 2:	11.36	.00	.00	
Caso 3:	11.36	.00	.00	
Caso 4:	11.16	.00	.00	
Caso 5:	11.36	.00	.00	
Caso 6:	11.36	.00	.00	

BLOCO: 16 - B20 Retang. (1x)

GEOMETRIA[cm,m3] | CARGAS[tf,m] | TENSOES[kgf/cm2] | VERIF.[cm,graus]

Estacas= 2 fi = 25.0 | FN= 40.6 | TensLimP= 270.0 | dmin = 22.5
 DisX= 65.0 | TensPil = 53.3 | dmax = 31.9
 Xbl = 125.0 Ybl = 60.0 | MY= .0 | dutil = 45.0
 Alt = 60.0 Vol = .450 | TensLimE= 270.0 | AnguloX= 63.4
 Xpil= 40.0 Ypil= 40.0 | FE= 41.7 | TensEst = 89.3 | AnguloY= 63.4
 Formas: 2.22 m2 | F1= 20.9 |

***** | ****

ARMADURAS [cm2,cm] | Peso Próprio: 1.1 tf (x1)

```

| Prin.X:    4.0 = 4 {12.5 C/ 15.0   SecndY:    .8 = 5 { 5.0 C/ 25.0
| P.Estr:    .8 = 4 { 5.0 C/ 15.0   Laterl:    .5 = 3 { 5.0 C/ 20.0
|

```

```

-----
-
Carregamentos:  6          N          Mx          My  [tf,m]
                Caso  1:      40.62      .00      .00
                Caso  2:      40.37      .00      .00
                Caso  3:      40.37      .00      .00
                Caso  4:      39.80      .00      .00
                Caso  5:      40.37      .00      .00
                Caso  6:      40.37      .00      .00

```

BLOCO: 17 - B21 Retang. (1x)

```

-----
-
| GEOMETRIA[cm,m3]          | CARGAS[tf,m] | TENSOES[kgf/cm2] | VERIF.[cm,graus]
|

```

```

-----
-
| Estacas= 1 fi = 25.0 | FN= 43.7 | TensLimP= 260.0 |
|                      |          | TensPil = 45.9 |
| Xbl = 60.0 Ybl = 60.0 |          | dutil = 45.0
| Alt = 60.0 Vol = .216 |-----| TensLimE= 270.0 | AnguloX= -85.2
| Xpil= 40.0 Ypil= 40.0 | FE= 44.2 | TensEst = 152.4 | AnguloY= -85.2
| Formas: 1.44 m2      | F1= 44.2 |
|

```

```

-----
-
| ARMADURAS [cm2,cm]      | Peso Próprio: .5 tf (x1)
|

```

```

-----
-
| Prin.X:    1.1 = 3 {10.0 C/ 25.0   Prin.Y:    1.1 = 3 {10.0 C/ 25.0
| AsXfdZ:    2.1                      AsYfdZ:    2.1
| AsCin :    .0                      Laterl:    .5 = 3 { 5.0 C/ 20.0
|

```

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais e lateral, repectivamente.

```

Carregamentos:  6          N          Mx          My  [tf,m]
                Caso  1:      43.69      .00      .00
                Caso  2:      43.69      .00      .00
                Caso  3:      43.69      .00      .00
                Caso  4:      42.61      .00      .00
                Caso  5:      43.69      .00      .00

```

Caso 6: 43.69 .00 .00

BLOCO: 18 - B22 Retang. (1x)

GEOMETRIA[cm,m3] | CARGAS[tf,m] | TENSOES[kgf/cm2] | VERIF.[cm,graus]

Estacas= 1 fi = 25.0 | FN= 46.3 | TensLimP= 260.0 |
 | | TensPil = 48.6 |
 Xbl = 60.0 Ybl = 60.0 | | dutil = 45.0
 Alt = 60.0 Vol = .216 |-----| TensLimE= 270.0 | AnguloX= -85.2
 Xpil= 40.0 Ypil= 40.0 | FE= 46.9 | TensEst = 161.5 | AnguloY= -85.2
 Formas: 1.44 m2 | F1= 46.9 |

ARMADURAS [cm2,cm] | Peso Próprio: .5 tf (x1)

Prin.X: 1.1 = 3 {10.0 C/ 25.0 Prin.Y: 1.1 = 3 {10.0 C/ 25.0
 AsXfdZ: 2.2 AsYfdZ: 2.2
 AsCin : .0 Laterl: .5 = 3 { 5.0 C/ 20.0

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais e lateral, repectivamente.

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	46.31	.00	.00	
Caso 2:	44.65	.00	.00	
Caso 3:	44.65	.00	.00	
Caso 4:	44.12	.00	.00	
Caso 5:	44.65	.00	.00	
Caso 6:	44.65	.00	.00	

BLOCO: 19 - B18 Retang. (1x)

GEOMETRIA[cm,m3] | CARGAS[tf,m] | TENSOES[kgf/cm2] | VERIF.[cm,graus]

Estacas= 2 fi = 25.0 | FN= 72.6 | TensLimP= 270.0 | dmin = 22.5

DisX= 65.0		TensPil = 99.0		dmax = 31.9
Xbl = 125.0 Ybl = 60.0		MY= -.2		dutil = 45.0
Alt = 60.0 Vol = .450		TensLimE= 270.0		AnguloX= 63.4
Xpil= 40.0 Ypil= 40.0		FE= 74.4		TensEst = 159.2
				AnguloY= 63.4
Formas: 2.22 m2		F1= 37.2		
*****				****

ARMADURAS [cm2,cm] | Peso Próprio: 1.1 tf (x1)

Prin.X: 7.2 = 4 {16.0 C/ 15.0	SecndY: 1.2 = 8 { 5.0 C/ 15.0
P.Estr: .9 = 5 { 5.0 C/ 12.5	Laterl: 1.1 = 4 { 6.3 C/ 12.5

Md/West (47.91 tf/m2) < fctd_inf_est (103.02 tf/m2) --> ok.

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	72.57	-.09	-.24	
Caso 2:	71.71	-.09	-.24	
Caso 3:	69.17	-.08	-.19	
Caso 4:	69.17	-.08	-.19	
Caso 5:	70.01	-.08	-.18	
Caso 6:	72.57	-.09	-.24	

BLOCO: 20 - B23 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]		TENSOES[kgf/cm2]		VERIF.[cm,graus]
------------------	--	--------------	--	------------------	--	------------------

Estacas= 1 fi = 25.0		FN= 39.1		TensLimP= 260.0	
				TensPil = 41.0	
Xbl = 60.0 Ybl = 60.0				dutil = 45.0	
Alt = 60.0 Vol = .216		TensLimE= 270.0		AnguloX= -85.2	
Xpil= 40.0 Ypil= 40.0		FE= 39.6		TensEst = 136.5	
				AnguloY= -85.2	
Formas: 1.44 m2		F1= 39.6			

ARMADURAS [cm2,cm] | Peso Próprio: .5 tf (x1)

```

-----
-
Prin.X:    1.0 =    3 {10.0 C/  25.0    Prin.Y:    1.0 =    3 {10.0 C/  25.0
AsXfdZ:    1.9                                AsYfdZ:    1.9
AsCin :    .0                                Laterl:    .5 =    3 { 5.0 C/  20.0
-----

```

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais e lateral, repectivamente.

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	39.07	.00	.00		
Caso 2:	37.86	.00	.00		
Caso 3:	37.86	.00	.00		
Caso 4:	37.13	.00	.00		
Caso 5:	37.86	.00	.00		
Caso 6:	37.86	.00	.00		

BLOCO: 21 - B24 Retang. (1x)

```

-----
-
GEOMETRIA[cm,m3] | CARGAS[tf,m] | TENSOES[kgf/cm2] | VERIF.[cm,graus]
-----
-
Estacas= 1 fi = 25.0 | FN= 26.6 | TensLimP= 260.0 |
| | TensPil = 27.9 |
Xbl = 60.0 Ybl = 60.0 | | dutil = 45.0
Alt = 60.0 Vol = .216 |-----| TensLimE= 270.0 | AnguloX= -85.2
Xpil= 40.0 Ypil= 40.0 | FE= 27.1 | TensEst = 93.5 | AnguloY= -85.2
Formas: 1.44 m2 | F1= 27.1 |
-----

```

```

-----
-
ARMADURAS [cm2,cm] | Peso Próprio: .5 tf (x1)
-----
-
Prin.X:    .7 =    3 {10.0 C/  25.0    Prin.Y:    .7 =    3 {10.0 C/  25.0
AsXfdZ:    1.3                                AsYfdZ:    1.3
AsCin :    .0                                Laterl:    .5 =    3 { 5.0 C/  20.0
-----

```

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais e lateral, repectivamente.

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:		26.58	.00	.00	
Caso 2:		26.44	.00	.00	
Caso 3:		26.44	.00	.00	
Caso 4:		26.00	.00	.00	
Caso 5:		26.44	.00	.00	
Caso 6:		26.44	.00	.00	

BLOCO: 22 - B25 Retang. (1x)

GEOMETRIA[cm,m3]			CARGAS[tf,m]		TENSOES[kgf/cm2]		VERIF.[cm,graus]		

Estacas= 1 fi = 25.0			FN= 31.8		TensLimP= 260.0				
					TensPil = 33.4				
Xbl = 60.0		Ybl = 60.0						dutil = 45.0	
Alt = 60.0		Vol = .216		-----		TensLimE= 270.0		AnguloX= -85.2	
Xpil= 40.0		Ypil= 40.0		FE= 32.3		TensEst = 111.4		AnguloY= -85.2	
Formas:		1.44 m2		F1= 32.3					

ARMADURAS [cm2,cm]			Peso Próprio:		.5 tf (x1)				

Prin.X:		.8 = 3 {10.0 C/ 25.0			Prin.Y:		.8 = 3 {10.0 C/ 25.0		
AsXfdZ:		1.6			AsYfdZ:		1.6		
AsCin :		.0			Laterl:		.5 = 3 { 5.0 C/ 20.0		

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais e lateral, repectivamente.

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:		31.79	.00	.00	
Caso 2:		31.79	.00	.00	
Caso 3:		31.79	.00	.00	
Caso 4:		30.91	.00	.00	
Caso 5:		31.79	.00	.00	
Caso 6:		31.79	.00	.00	

**** Erro: Bloco 23 sem carregamento definido ou com valores desprezíveis ou submetido a tração.

BLOCO: 24 - B15
1x)

Retang. (

GEOMETRIA[cm,m3]				CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0				FN= 79.1	TensLimP= 210.0	
					TensPil = 132.9	
Xbl = 60.0 Ybl = 60.0						dutil = 54.0
Alt = 70.0 Vol = .252					TensLimE= 270.0	AnguloX= 89.1
Xpil= 25.0 Ypil= 40.0				FE= 79.7	TensEst = 139.3	AnguloY= 89.1
Formas: 1.68 m2				F1= 79.7		
ARMADURAS [cm2,cm]				Peso Próprio: .6 tf (x1)		
Prin.X: 2.5 = 4 {10.0 C/ 15.0				Prin.Y: 1.4 = 3 {10.0 C/ 25.0		
AsXfdZ: 5.0				AsYfdZ: 2.9		
ASCin : .0				Laterl: .6 = 4 { 5.0 C/ 15.0		

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais e lateral, repectivamente.

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	79.11	.00	.00	
Caso 2:	79.11	.00	.00	
Caso 3:	79.11	.00	.00	
Caso 4:	78.98	.00	.00	
Caso 5:	79.11	.00	.00	
Caso 6:	79.11	.00	.00	

BLOCO: 25 - B14
1x)

Retang. (

GEOMETRIA[cm,m3]				CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0				FN= 74.8	TensLimP= 260.0	
					TensPil = 78.5	

```

| Xbl = 60.0 Ybl = 60.0 | | | dutil = 45.0
| Alt = 60.0 Vol = .216 |-----| TensLimE= 270.0 | AnguloX= -88.4
| Xpil= 40.0 Ypil= 40.0 | FE= 75.3 | TensEst = 131.6 | AnguloY= -88.4
| Formas: 1.44 m2 | F1= 75.3 | |

```

```

- .
| ARMADURAS [cm2,cm] | Peso Próprio: .5 tf (x1)

```

```

- .
| Prin.X: 1.8 = 3 {10.0 C/ 25.0 Prin.Y: 1.8 = 3 {10.0 C/ 25.0
| AsXfdZ: 3.6 AsYfdZ: 3.6
| ASCin : .0 Laterl: .5 = 3 { 5.0 C/ 20.0

```

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais e lateral, repectivamente.

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	74.79	.00	.00		
Caso 2:	74.77	.00	.00		
Caso 3:	74.77	.00	.00		
Caso 4:	74.64	.00	.00		
Caso 5:	74.77	.00	.00		
Caso 6:	74.77	.00	.00		

**** Erro: Bloco 26 sem carregamento definido ou com valores desprezíveis ou submetido a tração.

BLOCO: 27 - B28 Retang. (1x)

```

- .
| GEOMETRIA[cm,m3] | CARGAS[tf,m] | TENSOES[kgf/cm2] | VERIF.[cm,graus]
- .
| Estacas= 1 fi = 35.0 | FN= 31.4 | TensLimP= 210.0 |
| | | TensPil = 52.7 |
| Xbl = 60.0 Ybl = 60.0 | | | dutil = 54.0
| Alt = 70.0 Vol = .252 |-----| TensLimE= 270.0 | AnguloX= 89.1
| Xpil= 25.0 Ypil= 40.0 | FE= 32.0 | TensEst = 55.9 | AnguloY= 89.1
| Formas: 1.68 m2 | F1= 32.0 | |

```

ARMADURAS [cm2,cm]	Peso Próprio:	.6 tf (x1)
Prin.X: 1.0 = 3 {10.0 C/ 25.0	Prin.Y: .6 = 3 {10.0 C/ 25.0	
AsXfdZ: 2.0	AsYfdZ: 1.2	
AsCin : .0	Laterl: .6 = 4 { 5.0 C/ 15.0	

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais e lateral, repectivamente.

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	31.37	.00	.00	
Caso 2:	31.36	.00	.00	
Caso 3:	31.36	.00	.00	
Caso 4:	31.28	.00	.00	
Caso 5:	31.36	.00	.00	
Caso 6:	31.36	.00	.00	

BLOCO: 28 - B27 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 1 fi = 35.0	FN= 26.5	TensLimP= 260.0	
		TensPil = 27.8	
Xbl = 60.0 Ybl = 60.0		dutil = 45.0	
Alt = 60.0 Vol = .216		TensLimE= 270.0	AnguloX= -88.4
Xpil= 40.0 Ypil= 40.0	FE= 27.0	TensEst = 47.3	AnguloY= -88.4
Formas: 1.44 m2	F1= 27.0		

ARMADURAS [cm2,cm]	Peso Próprio:	.5 tf (x1)
Prin.X: .6 = 3 {10.0 C/ 25.0	Prin.Y: .6 = 3 {10.0 C/ 25.0	
AsXfdZ: 1.3	AsYfdZ: 1.3	
AsCin : .0	Laterl: .5 = 3 { 5.0 C/ 20.0	

- Armaduras para fendilhamento e cintamento detalhadas nas armaduras principais e lateral, repectivamente.

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	26.51	.00	.00		
Caso 2:	26.51	.00	.00		
Caso 3:	26.51	.00	.00		
Caso 4:	26.40	.00	.00		
Caso 5:	26.51	.00	.00		
Caso 6:	26.51	.00	.00		

BLOCO: 29 - B29 Polign. (1x)

 GEOMETRIA[cm,m3] | CARGAS[tf,m] | TENSOES[kgf/cm2] | VERIF.[cm,graus]

 Estacas= 3 fi = 20.0 | FN= 30.0 | TensLimP= 337.5 | dmin = 34.8
 DisX= 80.0 DisY= 80.0 | MX= 4.0 | TensPil = 112.7 | dmax = 49.5
 Xbl = 138.0 Ybl = 120.0 | MY= 4.0 | dutil = 45.0
 Alt = 60.0 Vol = .684 |-----|
 Xpil= 40.0 Ypil= 40.0 | FE= 55.4 | TensEst = 155.7 | AnguloY= 52.8
 Formas: 2.49 m2 | F1= 18.5 |

 ARMADURAS [cm2,cm] | Peso Próprio: 1.7 tf (x1)

 Prin.X: 3.2 = 3 {12.5 C/ 10.0 SecndX: 1.5 = 8 { 5.0 C/ 15.0
 SecndY: 1.5 = 9 { 5.0 C/ 15.0 Laterl: .4 = 2 { 5.0 C/ 25.0

Carregamentos:	2	N	Mx	My	[tf,m]
Caso 1:	30.00	4.00	4.00		
Caso 2:	.00	.00	.00		

Volume total de concreto: 7.07 m3.
 Area total de formas: 42.75 m2.

----- LISTAGEM DOS CRITÉRIOS DE PROJETO DE BLOCOS -----

* Coeficientes *

GamaC = 1.40
GamaS = 1.15
GamaF = 1.40
GamaN = 1.20

Coeficiente de efeito Rusch = .90
Coeficiente de redução de altura útil = .90

----- CRITÉRIOS DE CÁLCULO E DETALHAMENTO -----

Cobrimento para pilares (cm) = 4.500
Considerar seção do pilar: QUADRADA
FCK para ESTACAS (kgf/cm²) <= 180.00 (usado para cálc. de fctd_inf_est)
Considerar Peso Próprio no dimens/detalhamento: SIM
Número de bitolas p/ traspasse = 40.00
Bitola da arm a partir da qual coloca raio de dobramento (mm) = 6
Espacamento maximo fretagem 1 estaca (cm) = .00
Lastro de concreto magro = .00
Critério de altura de dobra: 2
Valor minimo p/ arm principal (cm²/m) = 1.50
Valor min p/ arm suspensao ou malha (cm²/m) = 1.50
Valor min p/ arm lateral ou de pele (cm²/m) = 1.50
Valor min p/ arm de porta-estribo (cm²/m) = 1.50
Critério de armadura lateral: 3
Critério de armadura porta-estribo: 3

--- DIMENSÕES LIMITES ASSOCIADAS ÀS ESTACAS ---

Numero de dimensoes definidas = 5
Const p/ determ dist em função dos diâmetros da estaca = 30.00

diam lim sup estaca	dist lim inf borda est
20.00	25.00
25.00	30.00
30.00	35.00
35.00	40.00
40.00	45.00

----- BLOCOS SOBRE 1 ESTACA -----

Porc p/ As da arm lateral-pele sobre area As calc = .00
Coeficiente p/ tensao admissivel de compressao no concreto = 1.40
Verificação de tensão última: NBR 6118 - 1980.
Cálculo de Armaduras Principais: SIM

----- BLOCOS SOBRE 2 ESTACAS -----

ARMADURA PRINCIPAL: Distribuida uniforme, gancho 90
ARMADURA LATERAL-PELE: Reta c/ gancho 90
Porc p/ As da arm transversal (estribo) sobre As calc = .20
Porc p/ As da arm lateral-pele sobre As calc = .15
Porc p/ As da arm porta-estribo sobre As calc = .15
Coeficiente p/ tensao admissivel de compressao no concreto = 1.40

----- BLOCOS APOIADOS EM 3 ESTACAS -----

ARM PRIN: Concentrada sobre estacas, gancho 90
ARMADURA DE SUSPENSAO-MALHA: Duplo u
ARMADURA LATERAL-PELE: Perimetral
Porc p/ As da arm suspensao-malha s/ As calc = .20
Porc p/ As da arm lateral-pele s/ As calc = .15
Coeficiente p/ tensao admissivel de compressao no concreto = 1.75



2.7 Relatório de Vigas de Fundação

VANGUARDA SIST. ESTRUT. ABERTOS ENG. LTDA R E L G E R - Relatório geral de vigas (V15.9.8) Pg
1
RUA DONA OTTY, 40 SALA 201 PORTO ALEGRE 90680-060 RS 33328845
T Q S Projeto: 0002 - Fundação 09/08/12
CAD/Vigas 09:43:48

fck=300.kgf/cm² - Aco: 50A - Esforços Característicos

L E G E N D A
G E O M E T R I A
Eng.E : Engastamento a Esquerda / Eng.D : Engastamento a Direita / Repet : Repeticoes
NAnd : N.de Andares / Red V Ext : Reducao de Cortante no Extremo / Fat.Alt : Fator de
Alternancia de Cargas
Cob : Cobrimento / TpS : Tipo da Secao / BCs : Mesa
Colaborante Superior
BCi : Mesa Colaborante Inferior / Esp.LS : Espessura Laje Superior / Esp.LI : Espessura
Laje Infetior
FSp.Ex : Distancia Face Superior Eixo / FLt.Ex : Distancia Face Lateral ao Eixo / Cob/S :
Cobrim/Cobr.superior adicional
C A R G A S
MEsq : Momento Adicional a Esquerda / MDir : Momento Adicional a Direita / Q : Cortante
Adicional (valor unico)
A R M A D U R A S - F L E X A O
SRAS : Secao Retangular Armad.Simples / SRAD : Secao Retangular Armad.Dupla / STAS : Secao Te
Armadura Simples
STAD : Secao Te Armadura Dupla / x/d : Profund. relativa da Linha Neutra / x/dMx : Profund.
relativa da LN Maxima
AsL : Armadura de Compressao / Bit.de Fiss.: Bitola de fissuracao / Asapo : Armadura e/d
que chega no extremo
A R M A D U R A S - C I S A L H A M E N T O
MdC : Modelo de Calculo (I ou II) / Ang. : Angulo da biela de compressao / Aswmin :
Armad.transv.minima-cisalhamento
Asw[C+T]: Arm.tran.calculada cisalh+torcao / Bit : Bitola selecionada / Esp : Espacamento
selecionado
NR : Numero de ramos do estribo / AsTrt : Armadura transversal de Tirante / AsSus : Armadura
transversal-Suspensao
A R M A D U R A S - T O R C A O
%dT : % limite de TRd2 para desprezar o M de torcao (Tsd) / he : Espessura do nucleo de torcao

```

b-nuc   : Largura do nucleo                               / h-nuc   : Altura do nucleo
Asw-1R  : Armadura de torcao calculada para 1 Ramo de estribo / AswmnNR : Armad.transv.minima-torcao p/NR
estribos selecionado
Asl-b   : Armadura longitudinal de torcao no lado b       / Asl-h   : Armadura longitudinal de torcao no
lado h
ComDia  : Valor da compressao diagonal (cisalhamento+torcao) / AdPla   : Capacida/ adaptacao plastica no
vao - S[sim] N[nao]
R E A C O E S   D E   A P O I O
DEPEV   : Distancia do eixo do pilar ao eixo efetivo de apoio -viga / Morte   : Codigo se pilar morre / segue /
vigas
M.I.Mx  : Momento Imposto Maximo                          / M.I.Mn  : Momento Imposto Minimo
=====
=====

```

```

Viga=    1  V1                                     Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5  .0 CM

```

```

----- G E O M E T R I A           E           C A R G A S -----
-----
Vao= 1  /L= 2.90 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10  [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S   ( F L E X A O   E   C I S A L H A M E N T O )   - -
- - - - -
FLEXAO- | E S Q U E R D A                               | M E I O   D O   V A O                               | D I R E I T A
        | M.[-] = .2 tf* m                               | M.[+] Max= .1 tf* m - Abcis.= 145                   | M.[-] = .1
tf* m
[tf,cm] | As = 1.50 -SRAS- [ 2 B 10.0mm]                | AsL= .00 -----                                     | As = 1.50 -
SRAS- [ 2 B 10.0mm]
        | AsL= .00 ----- x/d = .05                    | As = 1.50 -SRAS- [ 2 B 10.0mm ]                       | AsL= .00 ----
--      | x/d = .05                                         |                                                           |
        | x/dMx= .50                                       |                                                           |
[tf,cm] | M[-]Min = 181.0                                   | M[+]Min = 181.0                                       | M[-]Min = 181.0
[cm2 ]  | Asapo[+]= .00                                     |                                                           | Asapo[+]= .00
CISALHAMENTO- Xi   Xf   Vsd   VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit   Esp NR AsTrt AsSus           M E N S
A G E M

```

[tf,cm] 0.- 261. .52 45.31 1 45. .0 2.3 2.3 5.0 15.0 2 .0 .0

REAC.	APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	Pilares:
0	0	0	.370	.370	.60	.15	0	B1	.00	.00	8001 0 0
0	0	0	.356	.356	.60	.15	0	B2	.00	.00	8002 0 0

=====

Viga= 2 V2 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 3.28 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - - - -

FLEXAO-	E S Q U E R D A	M E I O D O	V A O	D I R E I T A
tf* m	M.[-] = .0 tf* m	M.[+] Max=	.1 tf* m - Abcis.= 109	M.[-] = .5
[tf,cm]	As = 1.50 -SRAS- [2 B 10.0mm]	AsL= .00		As = 1.50 -
SRAS-	[2 B 10.0mm]			
	AsL= .00	x/d = .05	As = 1.50 -SRAS- [2 B 10.0mm]	AsL= .00
--	x/d = .05			
		x/dMx= .50		
x/dMx= .50				
[tf,cm]	M[-]Min = 181.0	M[+]Min = 181.0		M[-]Min = 181.0
[cm2]	Asapo[+]= .00			Asapo[+]= .00

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S
A G E M															
[tf,cm]	0.- 298.	.78	45.31	1	45.	.0	2.3	2.3	5.0	15.0	2	.0	.0		

REAC.	APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	Pilares:
-------	-------	-----	---------	---------	---------	-------	-------	------	--------	--------	----------

		1	.267	.263	.61	.15	0	B2	.00	.00	8002	0	0
0	0	0											
		2	.556	.552	1.27	.48	0	B7	.00	.00	8005	0	0
0	0	0											

Viga= 3 V3 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 2.43 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - - - -
- - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R E I T A
| M.[-] = .1 tf* m | M.[+] Max= .1 tf* m - Abcis.= 121 | M.[-] = .1
tf* m
[tf,cm] | As = 1.50 -SRAS- [2 B 10.0mm] | AsL= .00 ----- | As = 1.50 -
SRAS- [2 B 10.0mm] | AsL= .00 ----- x/d = .05 | As = 1.50 -SRAS- [2 B 10.0mm] | AsL= .00 ----
-- x/d = .05 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 181.0 | M[+]Min = 181.0 | M[-]Min = 181.0
[cm2] | Asapo[+]= .00 | | Asapo[+]= .00

CISALHAMENTO- A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S
[tf,cm]	0.-	213.	.46	45.31	1	45.	.0	2.3	2.3	5.0	15.0	2	.0	.0	

REAC. APOIO -	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	Pilares:
0 0 0	1	.331	.329	.60	.15	0	B5	.00	.00	8003 0 0
0 0 0	2	.278	.276	.60	.15	0	B6	.00	.00	8004 0 0

Viga= 4 V4 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 2.86 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - -
- - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R E I T A
| M.[-] = .2 tf* m | M.[+] Max= .1 tf* m - Abcis.= 142 | M.[-] = .1
tf* m
[tf,cm] | As = 1.50 -SRAS- [2 B 10.0mm] | AsL= .00 ----- | As = 1.50 -
SRAS- [2 B 10.0mm] | AsL= .00 ----- x/d = .05 | As = 1.50 -SRAS- [2 B 10.0mm] | AsL= .00 ----
-- x/d = .05 | x/dMx= .50 |
x/dMx= .50
[tf,cm] | M[-]Min = 181.0 | M[+]Min = 181.0 | M[-]Min = 181.0
[cm2] | Asapo[+]= .00 | Asapo[+]= .00

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S
A G E M															
[tf,cm]	0.-	256.	.53	45.31	1	45.	.0	2.3	2.3	5.0	15.0	2	.0	.0	

REAC. APOIO -	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn		Pilares:
0 0 0	1	.376	.375	.62	.16	0	B6	.00	.00	8004	0 0
0 0 0	2	.340	.339	.62	.16	0	B1	.00	.00	8001	0 0

Viga= 5 V5
/Cob/S=4.5 .0 CM

Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 3.71 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - -
- - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R E I T A
| M.[-] = .0 tf* m | M.[+] Max= .2 tf* m - Abcis.= 128 | M.[-] = .4
tf* m
[tf,cm] | As = 1.50 -SRAS- [2 B 10.0mm] | AsL= .00 ----- | As = 1.50 -
SRAS- [2 B 10.0mm] | AsL= .00 ----- x/d = .05 | As = 1.50 -SRAS- [2 B 10.0mm] | AsL= .00 ----
-- x/d = .05 | | |
x/dMx= .50 | x/dMx= .50 | |
[tf,cm] | M[-]Min = 181.0 | M[+]Min = 181.0 | M[-]Min = 181.0
[cm2] | Asapo[+]= .00 | | | Asapo[+]= 1.42

CISALHAMENTO- A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S
[tf,cm]	0.-	341.	.82	45.31	1	45.	.0	2.3	2.3	5.0	15.0	2	.0	.0	

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 4.11 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - -
- - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R E I T A
| M.[-] = .4 tf* m | M.[+] Max= .2 tf* m - Abcis.= 220 | M.[-] = .3
tf* m

```

[tf,cm]| As = 1.50 -SRAS- [ 2 B 10.0mm] | AsL= .00 ----- | As = 1.50 -
SRAS- [ 2 B 10.0mm]
      | AsL= .00 ----- x/d = .05 | As = 1.50 -SRAS- [ 2 B 10.0mm ] | AsL= .00 ----
-- x/d = .05
      | x/dMx= .50 |
x/dMx= .50
      |
[tf,cm]| M[-]Min = 181.0 | M[+]Min = 181.0 | M[-]Min = 181.0
[cm2 ]| Asapo[+]= 1.42 | | Asapo[+]= 1.42

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus M E N S
A G E M
[tf,cm] 0.- 381. .74 45.31 1 45. .0 2.3 2.3 5.0 15.0 2 .0 .0

----- G E O M E T R I A E C A R G A S -----
-----
Vao= 3 /L= 4.12 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitações provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O ) - -
- - - - -
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R E I T A
      | M.[-] = .4 tf* m | M.[+] Max= .2 tf* m - Abcis.= 221 | M.[-] = .3
tf* m
[tf,cm]| As = 1.50 -SRAS- [ 2 B 10.0mm] | AsL= .00 ----- | As = 1.50 -
SRAS- [ 2 B 10.0mm]
      | AsL= .00 ----- x/d = .05 | As = 1.50 -SRAS- [ 2 B 10.0mm ] | AsL= .00 ----
-- x/d = .05
      | x/dMx= .50 |
x/dMx= .50
      |
[tf,cm]| M[-]Min = 181.0 | M[+]Min = 181.0 | M[-]Min = 181.0
[cm2 ]| Asapo[+]= 1.42 | | Asapo[+]= 1.42

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus M E N S
A G E M
[tf,cm] 0.- 382. .76 45.31 1 45. .0 2.3 2.3 5.0 15.0 2 .0 .0

```

----- G E O M E T R I A E C A R G A S -----

Vao= 4 /L= 3.35 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - -

FLEXAO-	E S Q U E R D A	M E I O D O	V A O	D I R E I T A
	M.[-] = .3 tf* m	M.[+] Max=	.1 tf* m - Abcis.= 203	M.[-] = .2
tf* m				
[tf,cm]	As = 1.50 -SRAS- [2 B 10.0mm]	AsL= .00		As = 1.50 -
SRAS-	[2 B 10.0mm]			
	AsL= .00	x/d = .05	As = 1.50 -SRAS- [2 B 10.0mm]	AsL= .00
--	x/d = .05			
		x/dMx= .50		
x/dMx= .50				
[tf,cm]	M[-]Min = 181.0	M[+]Min = 181.0		M[-]Min = 181.0
[cm2]	Asapo[+]= 1.42			Asapo[+]= .00

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S
A G E M															
[tf,cm]	0.-	305.	.63	45.31	1	45.	.0	2.3	2.3	5.0	15.0	2	.0	.0	

REAC. APOIO -	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn		Pilares:
	1	.351	.349	1.25	.47	0	B7	.00	.00	8005	0 0
0 0 0	2	1.099	1.097	.60	.15	0	B8	.00	.00	8006	0 0
0 0 0	3	1.040	1.038	.60	.15	0	B9	.00	.00	8007	0 0
0 0 0	4	.940	.940	.60	.15	0	B10	.00	.00	8008	0 0
0 0 0	5	.395	.394	.60	.15	0	B11	.00	.00	8009	0 0
0 0 0											

=====

Viga= 6 V6
/Cob/S=4.5 .0 CM

Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 3.80 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - -
- - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R E I T A
| M.[-] = .2 tf* m | M.[+] Max= .2 tf* m - Abcis.= 190 | M.[-] = .4
tf* m
[tf,cm] | As = 1.50 -SRAS- [2 B 10.0mm] | AsL= .00 ----- | As = 1.50 -
SRAS- [2 B 10.0mm] | AsL= .00 ----- x/d = .05 | As = 1.50 -SRAS- [2 B 10.0mm] | AsL= .00 ----
-- x/d = .05 | | |
x/dMx= .50 | | |
[tf,cm] | M[-]Min = 181.0 | M[+]Min = 181.0 | M[-]Min = 181.0
[cm2] | Asapo[+]= .00 | | | Asapo[+]= 1.42

CISALHAMENTO- A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S
[tf,cm]	0.-	350.	.72	45.31	1	45.	.0	2.3	2.3	5.0	15.0	2	.0	.0	

REAC. APOIO -	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	Pilares:
0 0 0	1	.436	.434	.60	.15	0	B11	.00	.00	8009 0 0
0 0 0	2	.516	.515	.60	.15	0	B12	.00	.00	8010 0 0

Viga= 7 V7
/Cob/S=4.5 .0 CM

Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 4.06 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - -

FLEXAO-	E S Q U E R D A		M E I O D O V A O		D I R E I T A
	M.[-] = .3 tf* m		M.[+] Max= .2 tf* m - Abcis.= 202		M.[-] = .3
tf* m					
[tf,cm]	As = 1.50 -SRAS- [2 B 10.0mm]		AsL= .00 -----		As = 1.50 -
SRAS-	[2 B 10.0mm]				
	AsL= .00 ----- x/d = .05		As = 1.50 -SRAS- [2 B 10.0mm]		AsL= .00 ----
--	x/d = .05				
		x/dMx= .50			
x/dMx= .50					
[tf,cm]	M[-]Min = 181.0		M[+]Min = 181.0		M[-]Min = 181.0
[cm2]	Asapo[+]= .00				Asapo[+]= 1.42

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S
A G E M															
[tf,cm]	0.-	376.	.72	45.31	1	45.	.0	2.3	2.3	5.0	15.0	2	.0	.0	

REAC. APOIO -	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn		Pilares:
	1	.515	.513	.60	.15	0	B12	.00	.00	8010	0 0
0 0 0											
	2	.501	.499	.60	.15	0	B13	.00	.00	8011	0 0
0 0 0											

=====

Viga= 8 V8 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 2.43 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O ) - -
- - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R E I T A
        | M.[-] = .1 tf* m | M.[+] Max= .1 tf* m - Abcis.= 121 | M.[-] = .1
tf* m
[tf,cm] | As = 1.50 -SRAS- [ 2 B 10.0mm] | AsL= .00 ----- | As = 1.50 -
SRAS- [ 2 B 10.0mm]
        | AsL= .00 ----- x/d = .05 | As = 1.50 -SRAS- [ 2 B 10.0mm ] | AsL= .00 ----
-- x/d = .05
        | x/dMx= .50 |
x/dMx= .50
        |
[tf,cm] | M[-]Min = 181.0 | M[+]Min = 181.0 | M[-]Min = 181.0
[cm2 ] | Asapo[+]= .00 | | Asapo[+]= 1.42

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus M E N S
A G E M
[tf,cm] 0.- 213. .46 45.31 1 45. .0 2.3 2.3 5.0 15.0 2 .0 .0

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn Pilares:
0 0 0 1 .330 .327 .60 .15 0 B16 .00 .00 8012 0 0
0 0 0 2 .279 .277 .60 .15 0 B17 .00 .00 8013 0 0
0 0 0
=====
=====

```

Viga= 9 V9 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5 .0 CM

```

----- G E O M E T R I A E C A R G A S -----
-----
Vao= 1 /L= 2.86 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O ) - -
- - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R E I T A
| M.[-] = .2 tf* m | M.[+] Max= .1 tf* m - Abcis.= 142 | M.[-] = .1
tf* m
[tf,cm] | As = 1.50 -SRAS- [ 2 B 10.0mm] | AsL= .00 ----- | As = 1.50 -
SRAS- [ 2 B 10.0mm] | AsL= .00 ----- x/d = .05 | As = 1.50 -SRAS- [ 2 B 10.0mm ] | AsL= .00 ----
-- x/d = .05 | | |
x/dMx= .50 | | |
[tf,cm] | M[-]Min = 181.0 | M[+]Min = 181.0 | M[-]Min = 181.0
[cm2 ] | Asapo[+]= .00 | | | Asapo[+]= 1.42

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus M E N S
A G E M
[tf,cm] 0.- 256. .53 45.31 1 45. .0 2.3 2.3 5.0 15.0 2 .0 .0

```

```

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn Pilares:
1 .375 .373 .62 .16 0 B17 .00 .00 8013 0 0
0 0 0
2 .342 .340 .62 .16 0 B24 .00 .00 8021 0 0
0 0 0

```

```

Viga= 10 V10 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5 .0 CM

```

```

----- G E O M E T R I A E C A R G A S -----
-----
Vao= 1 /L= 4.06 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/Flt.Ex= .10 [M]

```

-----Solicitações provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O ) - -
- - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R E I T A

```

tf* m	M.[-] =	.3 tf* m	M.[+] Max=	.2 tf* m - Abcis.= 202	M.[-] =	.3
[tf,cm]	As =	1.50 -SRAS- [2 B 10.0mm]	AsL=	.00 -----	As =	1.50 -
SRAS- [2 B 10.0mm]	AsL=	.00 ----- x/d = .05	As =	1.50 -SRAS- [2 B 10.0mm]	AsL=	.00 ----
-- x/d = .05		x/dMx= .50				
x/dMx= .50						
[tf,cm]	M[-]Min =	181.0	M[+]Min =	181.0	M[-]Min =	181.0
[cm2]	Asapo[+]=	.00			Asapo[+]=	1.42

CISALHAMENTO- Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S
A G E M														
[tf,cm]	0.-	376.	.72	45.31	1	45.	.0	2.3	2.3	5.0	15.0	2	.0	.0

REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	Pilares:
1	.516	.514	.60	.15	0	B19	.00	.00	8014 0 0
2	.500	.498	.60	.15	0	B26	.00	.00	8015 0 0

Viga= 11 V11 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 3.71 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - -	A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)	- - - - -
FLEXAO- E S Q U E R D A	M E I O D O V A O	D I R E I T A
M.[-] =	.1 tf* m	M.[+] Max=
tf* m		.2 tf* m - Abcis.= 160
[tf,cm]	As =	1.50 -SRAS- [2 B 10.0mm]
SRAS- [2 B 10.0mm]	AsL=	.00 -----
		As =
		1.50 -

```

--      | AsL=      .00  -----      x/d  = .05      | As =      1.50  -SRAS-  [ 2 B 10.0mm ]      | AsL=      .00  ----
      x/d  = .05
      |
      |      x/dMx= .50      |
x/dMx= .50
      |
[tf,cm]| M[-]Min =      181.0      | M[+]Min =      181.0      | M[-]Min =      181.0
[cm2 ]| Asapo[+]=      .00      |      | Asapo[+]=      1.42

```

```

CISALHAMENTO-  Xi      Xf      Vsd      VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus      M E N S
A G E M
[tf,cm]        0.- 341.      .80 45.31  1 45.      .0  2.3      2.3 5.0 15.0 2      .0  .0

```

```

----- G E O M E T R I A      E      C A R G A S -----
-----

```

```

Vao= 2 /L= 4.11 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O ) - -
- - - - -
FLEXAO- | E S Q U E R D A      | M E I O D O      V A O      | D I R E I T A
      | M.[-] =      .4 tf* m      | M.[+] Max=      .2 tf* m - Abcis.= 220      | M.[-] =      .3
tf* m
[tf,cm]| As =      1.50  -SRAS-  [ 2 B 10.0mm ]      | AsL=      .00  -----      | As =      1.50  -
SRAS- [ 2 B 10.0mm ]
      | AsL=      .00  -----      x/d  = .05      | As =      1.50  -SRAS-  [ 2 B 10.0mm ]      | AsL=      .00  ----
--      x/d  = .05
      |      x/dMx= .50      |
x/dMx= .50
      |
[tf,cm]| M[-]Min =      181.0      | M[+]Min =      181.0      | M[-]Min =      181.0
[cm2 ]| Asapo[+]=      1.42      |      | Asapo[+]=      1.42

```

```

CISALHAMENTO-  Xi      Xf      Vsd      VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus      M E N S
A G E M
[tf,cm]        0.- 381.      .75 45.31  1 45.      .0  2.3      2.3 5.0 15.0 2      .0  .0

```

```

----- G E O M E T R I A      E      C A R G A S -----
-----

```

Vao= 3 /L= 4.12 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O ) - -
- - - - -
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R E I T A
        | M.[-] = .4 tf* m | M.[+] Max= .2 tf* m - Abcis.= 221 | M.[-] = .3
        tf* m
[tf,cm]| As = 1.50 -SRAS- [ 2 B 10.0mm] | AsL= .00 ----- | As = 1.50 -
SRAS- [ 2 B 10.0mm]
        | AsL= .00 ----- x/d = .05 | As = 1.50 -SRAS- [ 2 B 10.0mm ] | AsL= .00 ----
-- x/d = .05
        | x/dMx= .50 | |
        | M[-]Min = 181.0 | M[+]Min = 181.0 | M[-]Min = 181.0
[tf,cm]| Asapo[+]= 1.42 | Asapo[+]= 1.42
[cm2 ]|

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus M E N S
A G E M
[tf,cm] 0.- 382. .76 45.31 1 45. .0 2.3 2.3 5.0 15.0 2 .0 .0

```

----- G E O M E T R I A E C A R G A S -----

Vao= 4 /L= 3.35 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O ) - -
- - - - -
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R E I T A
        | M.[-] = .3 tf* m | M.[+] Max= .1 tf* m - Abcis.= 174 | M.[-] = .2
        tf* m
[tf,cm]| As = 1.50 -SRAS- [ 2 B 10.0mm] | AsL= .00 ----- | As = 1.50 -
SRAS- [ 2 B 10.0mm]
        | AsL= .00 ----- x/d = .05 | As = 1.50 -SRAS- [ 2 B 10.0mm ] | AsL= .00 ----
-- x/d = .05

```

x/dMx= .50

x/dMx= .50		
[tf,cm]	M[-]Min = 181.0	M[+]Min = 181.0
[cm2]	Asapo[+]= 1.42	Asapo[+]= .00

CISALHAMENTO- A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S
[tf,cm]	0.-	305.	.62	45.31	1	45.	.0	2.3	2.3	5.0	15.0	2	.0	.0	

REAC.	AP0IO	- No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn		Pilares:
0	0	1	.366	.362	1.25	.47	0	B20	.00	.00	8016	0 0
0	0	2	1.092	1.088	.60	.15	0	B21	.00	.00	8017	0 0
0	0	3	1.033	1.033	.60	.15	0	B22	.00	.00	8018	0 0
0	0	4	.932	.926	.60	.15	0	B18	.00	.00	8019	0 0
0	0	5	.408	.403	.60	.15	0	B23	.00	.00	8020	0 0
0	0	0										

Viga= 12 V12 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 3.80 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

-	-	-	-	-	-	A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)	-	-
FLEXAO-	E S Q U E R D A					M E I O D O V A O		D I R E I T A
	M.[-] =	.2 tf* m				M.[+] Max=	.2 tf* m - Abcis.= 158	M.[-] =
tf* m								
[tf,cm]	As =	1.50 -SRAS-	[2 B 10.0mm]			AsL=	.00 -----	As =
SRAS-	[2 B 10.0mm]							

```

--      | AsL=   .00  -----   x/d  = .05   | As =   1.50  -SRAS-  [ 2 B 10.0mm ]   | AsL=   .00  ----
      x/d  = .05
      |
      |      x/dMx= .50   |
x/dMx= .50
      |
[tf,cm]| M[-]Min =   181.0   | M[+]Min =   181.0   | M[-]Min =   181.0
[cm2 ]| Asapo[+]=   .00   |      | Asapo[+]=   1.42

```

```

CISALHAMENTO-  Xi    Xf    Vsd    VRd2  MdC  Ang.  Asw[C]  Aswmin  Asw[C+T]  Bit  Esp  NR  AsTrt  AsSus
A G E M
[tf,cm]        0.- 350.    .73  45.31    1  45.    .0    2.3      2.3  5.0 15.0  2    .0    .0

```

```

REAC. APOIO - No.    Maximos    Minimos    Largura    DEPEV    Morte    Nome    M.I.Mx  M.I.Mn
1          .435    .431    .60    .15    0    B23    .00    .00    8020
0          0      0      0      0      0    B19    .00    .00    8014
0          0      0      0      0      0

```

```

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=====

```

Viga= 13 V13 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 2.91 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - -

```

FLEXAO-| E S Q U E R D A   | M E I O   D O   V A O   | D I R E I T A
      | M.[-] =   .2 tf* m   | M.[+] Max=   .1 tf* m - Abcis.= 145 | M.[-] =   .1
tf* m
[tf,cm]| As =   1.50  -SRAS-  [ 2 B 10.0mm] | AsL=   .00  -----   | As =   1.50  -
SRAS- [ 2 B 10.0mm]
      | AsL=   .00  -----   x/d  = .05   | As =   1.50  -SRAS-  [ 2 B 10.0mm ]   | AsL=   .00  ----
--      x/d  = .05
      |      x/dMx= .50   |
x/dMx= .50

```

[tf,cm] M[-]Min = 181.0 [cm2] Asapo[+]= .00	M[+]Min = 181.0	M[-]Min = 181.0 Asapo[+]= 1.42
---	-----------------	-------------------------------------

CISALHAMENTO- A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S
[tf,cm]	0.-	261.	.52	45.31	1	45.	.0	2.3	2.3	5.0	15.0	2	.0	.0	

REAC.	APOIO	- No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	Pilares:	
0	0	0	1	.368	.367	.60	.15	0	B24	.00	.00	8021
0	0	0	2	.360	.358	.60	.15	0	B25	.00	.00	8022
0	0	0										

Viga= 14 V14 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 3.28 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - -	A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)	- - - - -
FLEXAO-	E S Q U E R D A	M E I O D O V A O
	M.[-] = .0 tf* m	M.[+] Max= .1 tf* m - Abcis.= 109
tf* m		
[tf,cm]	As = 1.50 -SRAS- [2 B 10.0mm]	AsL= .00 -----
SRAS-	[2 B 10.0mm]	
	AsL= .00 -----	
--	x/d = .05	As = 1.50 -SRAS- [2 B 10.0mm]
		AsL= .00 ----
x/dMx= .50		
	x/dMx= .50	
[tf,cm]	M[-]Min = 181.0	M[+]Min = 181.0
[cm2]	Asapo[+]= .00	
		M[-]Min = 181.0
		Asapo[+]= 1.42

CISALHAMENTO- A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S
[tf,cm]	0.-	298.	.78	45.31	1	45.	.0	2.3	2.3	5.0	15.0	2	.0	.0	

REAC. APOIO -	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn		Pilares:
0 0 0	1	.269	.265	.61	.15	0	B25	.00	.00	8022	0 0
0 0 0	2	.556	.552	1.27	.49	0	B20	.00	.00	8016	0 0

Viga= 15 V15 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 1.80 /B= .25 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .13 [M]

-----Solicitações provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - - - -
- - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R E I T A
| M.[-] = .1 tf* m | M.[+] Max= .1 tf* m - Abcis.= 105 | M.[-] = .0
tf* m
[tf,cm] | As = 1.88 -SRAS- [2 B 12.5mm] | AsL= .00 ----- | As = .00 ----
-- [0 B ----mm] | AsL= .00 ----- x/d = .05 | As = 1.88 -SRAS- [3 B 10.0mm] | AsL= .00 ----
-- x/d = .00 | x/dMx= .50 |
x/dMx= .50
[tf,cm] | M[-]Min = 226.2 | M[+]Min = 226.2 | M[-]Min = 226.2
[cm2] | Asapo[+]= .00 | | Asapo[+]= 1.42

CISALHAMENTO- A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S
[tf,cm]	0.-	150.	.45	56.64	1	45.	.0	2.9	2.9	5.0	12.5	2	.0	.0	

REAC.	APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	Pilares:
		1	.319	.315	.60	.15	0	B16	.00	.00	8012
0	0	0									0
		2	.248	.245	.60	.15	0	B5	.00	.00	8003
0	0	0									0

=====

Viga= 16 V16 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 1.80 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - -

FLEXAO-	E S Q U E R D A	M E I O D O	V A O	D I R E I T A
M.[-] =	.0 tf* m	M.[+] Max=	.1 tf* m - Abcis.= 90	M.[-] = .0
tf* m				
[tf,cm]	As = 1.50 -SRAS- [2 B 10.0mm]	AsL= .00		As = 1.50 -
SRAS- [2 B 10.0mm]				
AsL= .00	----- x/d = .05	As = 1.50 -SRAS- [2 B 10.0mm]		AsL= .00 ----
-- x/d = .05				
	x/dMx= .50			
x/dMx= .50				
[tf,cm]	M[-]Min = 181.0	M[+]Min = 181.0		M[-]Min = 181.0
[cm2]	Asapo[+]= .00			Asapo[+]= 1.42

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S
A G E M															
[tf,cm]	0.-	150.	.32	45.31	1	45.	.0	2.3	2.3	5.0	15.0	2	.0	.0	

REAC.	APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	Pilares:
		1	.227	.226	.60	.15	0	B17	.00	.00	8013
0	0	0									0

0 0 0 2 .224 .223 .60 .15 0 B6 .00 .00 8004 0 0

Viga= 17 V17 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 3.20 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/Flt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - -
- - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R E I T A
| M.[-] = .2 tf* m | M.[+] Max= .2 tf* m - Abcis.= 159 | M.[-] = .2
tf* m
[tf,cm] | As = 1.50 -SRAS- [2 B 10.0mm] | AsL= .00 ----- | As = 1.50 -
SRAS- [2 B 10.0mm] | AsL= .00 ----- x/d = .05 | As = 1.50 -SRAS- [2 B 10.0mm] | AsL= .00 ----
-- x/d = .05 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 181.0 | M[+]Min = 181.0 | M[-]Min = 181.0
[cm2] | Asapo[+]= .00 | | Asapo[+]= 1.42

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus M E N S
A G E M
[tf,cm] 0.- 290. .56 45.31 1 45. .0 2.3 2.3 5.0 15.0 2 .0 .0

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn Pilares:
1 .400 .400 .60 .15 0 B24 .00 .00 8021 0 0
0 0 0
2 .400 .400 .60 .15 0 B1 .00 .00 8001 0 0
0 0 0

Viga= 18 V18 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 3.20 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - -
- - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R E I T A
| M.[-] = .2 tf* m | M.[+] Max= .2 tf* m - Abcis.= 160 | M.[-] = .2
tf* m
[tf,cm] | As = 1.50 -SRAS- [2 B 10.0mm] | AsL= .00 ----- | As = 1.50 -
SRAS- [2 B 10.0mm]
| AsL= .00 ----- x/d = .05 | As = 1.50 -SRAS- [2 B 10.0mm] | AsL= .00 ----
-- x/d = .05
| x/dMx= .50 |
[tf,cm] | M[-]Min = 181.0 | M[+]Min = 181.0 | M[-]Min = 181.0
[cm2] | Asapo[+]= .00 | | Asapo[+]= 1.42

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus M E N S
A G E M
[tf,cm] 0.- 290. .57 45.31 1 45. .0 2.3 2.3 5.0 15.0 2 .0 .0

REAC.	APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	Pilares:
0	0	1	.393	.392	.60	.15	0	B25	.00	.00	8022 0 0
0	0	2	.408	.407	.60	.15	0	B2	.00	.00	8002 0 0

Viga= 19 V19 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 2.05 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - - - -

FLEXAO-	E S Q U E R D A	M E I O D O	V A O	D I R E I T A
	M.[-] = .0 tf* m	M.[+] Max= .2 tf* m	- Abcis.= 68	M.[-] = .0
tf* m				
[tf,cm]	As = .00	[0 B ----mm]	AsL= .00	As = .00
-- [0 B ----mm]				
	AsL= .00	x/d = .00	As = 1.50	-SRAS- [2 B 10.0mm]
-- x/d = .00				AsL= .00
		x/dMx= .50		
x/dMx= .50				
[tf,cm]	M[-]Min = 181.0		M[+]Min = 181.0	M[-]Min = 181.0
[cm2]	Asapo[+]= .00			Asapo[+]= 1.42

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S
A G E M															
[tf,cm]	0.-	175.	.46	45.31	1	45.	.0	2.3	2.3	5.0	15.0	2	.0	.0	

REAC. APOIO -	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	Pilares:
0	0	0	0	0	0	0	B20	.00	.00	8016
0	0	0	0	0	0	0	B7	.00	.00	8005

Viga= 20 V20 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 2.05 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O ) - -
- - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R E I T A
        | M.[-] = .0 tf* m | M.[+] Max= .1 tf* m - Abcis.= 68 | M.[-] = .1
tf* m
[tf,cm] | As = .00 ----- [ 0 B ----mm] | AsL= .00 ----- | As = 1.50 -
SRAS- [ 2 B 10.0mm]
        | AsL= .00 ----- x/d = .00 | As = 1.50 -SRAS- [ 2 B 10.0mm ] | AsL= .00 ----
-- x/d = .05
        | x/dMx= .50 |
x/dMx= .50
        |
[tf,cm] | M[-]Min = 181.0 | M[+]Min = 181.0 | M[-]Min = 181.0
[cm2 ] | Asapo[+]= .00 | | Asapo[+]= 1.42

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus M E N S
A G E M
[tf,cm] 0.- 175. .46 45.31 1 45. .0 2.3 2.3 5.0 15.0 2 .0 .0

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn Pilares:
0 0 0 1 .189 .181 .60 .15 0 B21 .00 .00 8017 0 0
0 0 0 2 .331 .324 .60 .15 0 B8 .00 .00 8006 0 0
0 0 0
=====
=====

```

Viga= 21 V21 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5 .0 CM

```

----- G E O M E T R I A E C A R G A S -----
-----
Vao= 1 /L= 2.05 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O ) - -
- - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R E I T A
        | M.[-] = .1 tf* m | M.[+] Max= .1 tf* m - Abcis.= 85 | M.[-] = .1
tf* m
[tf,cm] | As = 1.50 -SRAS- [ 2 B 10.0mm] | AsL= .00 ----- | As = 1.50 -
SRAS- [ 2 B 10.0mm]
        | AsL= .00 ----- x/d = .05 | As = 1.50 -SRAS- [ 2 B 10.0mm ] | AsL= .00 ----
-- x/d = .05
        | x/dMx= .50 |
x/dMx= .50
[tf,cm] | M[-]Min = 181.0 | M[+]Min = 181.0 | M[-]Min = 181.0
[cm2 ] | Asapo[+]= .00 | | Asapo[+]= 1.42

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus M E N S
A G E M
[tf,cm] 0.- 175. .39 45.31 1 45. .0 2.3 2.3 5.0 15.0 2 .0 .0

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn Pilares:
1 .253 .232 .60 .15 0 B22 .00 .00 8018 0 0
0 0 0
2 .280 .260 .60 .15 0 B9 .00 .00 8007 0 0
0 0 0
=====
=====

Viga= 22 V22 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
-----
Vao= 1 /L= 1.73 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/Flt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O ) - -
- - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R E I T A

```

tf* m	M.[-] =	.0 tf* m	M.[+] Max=	.0 tf* m - Abcis.= 172	M.[-] =	.2
[tf,cm]	As =	1.50 -SRAS- [2 B 10.0mm]	AsL=	.00 -----	As =	1.50 -
SRAS- [2 B 10.0mm]	AsL=	.00 ----- x/d = .05	As =	1.50 -SRAS- [2 B 10.0mm]	AsL=	.00 ----
-- x/d = .05		x/dMx= .50				
x/dMx= .50						
[tf,cm]	M[-]Min =	181.0	M[+]Min =	181.0	M[-]Min =	181.0
[cm2]	Asapo[+]=	.00			Asapo[+]=	1.42

CISALHAMENTO- Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S
A G E M														
[tf,cm]	0.- 143.	.43	45.31	1	45.	.0	2.3	2.3	5.0	15.0	2	.0	.0	

REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	Pilares:
1	.151	.125	1.25	.47	0	B18	.00	.00	8019
0 0 0									
2	.306	.280	.60	.15	0	B10	.00	.00	8008
0 0 0									

Viga= 23 V23 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 2.05 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - -	- - - - -	A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)	- - - - -
FLEXAO-	E S Q U E R D A	M E I O D O V A O	D I R E I T A
M.[-] =	.0 tf* m	M.[+] Max=	.2 tf* m - Abcis.= 102
tf* m			
[tf,cm]	As = .00 ----- [0 B ----mm]	AsL= .00 -----	As = .00 ----
-- [0 B ----mm]			

```

--      | AsL=      .00  -----      x/d  = .00      | As =   1.50  -SRAS-  [  2 B 10.0mm  ]      | AsL=      .00  ----
      x/d  = .00
      |
      |      x/dMx= .50      |
x/dMx= .50
      |
[tf,cm]| M[-]Min =   181.0      | M[+]Min =   181.0      | M[-]Min =   181.0
[cm2  ]| Asapo[+]=   .00      |      |      | Asapo[+]=   1.42

```

```

CISALHAMENTO-  Xi    Xf    Vsd    VRd2  MdC  Ang.  Asw[C]  Aswmin  Asw[C+T]  Bit  Esp  NR  AsTrt  AsSus      M E N S
A G E M
[tf,cm]        0.- 175.    .39  45.31    1  45.    .0    2.3      2.3  5.0 15.0  2    .0    .0

```

```

REAC. APOIO - No.    Maximos    Minimos    Largura    DEPEV    Morte    Nome    M.I.Mx  M.I.Mn      Pilares:
      1      .252      .237      .60      .15      0    B23      .00      .00      8020      0      0
0      0      0
      2      .276      .260      .60      .15      0    B11      .00      .00      8009      0      0
0      0      0

```

```

Viga= 24 V24      Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5 .0 CM

```

```

----- G E O M E T R I A      E      C A R G A S -----
-----
Vao= 1 /L= 1.62 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O ) - -
- - - - -
FLEXAO-| E S Q U E R D A      | M E I O D O V A O      | D I R E I T A
      | M.[-] =      .0 tf* m      | M.[+] Max=      .1 tf* m - Abcis.= 40      | M.[-] =      .1
tf* m
[tf,cm]| As =      .00  ----- [  0 B ----mm]      | AsL=      .00  -----      | As =   1.50  -
SRAS- [  2 B 10.0mm]
      | AsL=      .00  -----      x/d  = .00      | As =   1.50  -SRAS- [  2 B 10.0mm ]      | AsL=      .00  ----
--      x/d  = .05
      |      x/dMx= .50      |
x/dMx= .50

```

[tf,cm] M[-]Min = 181.0 [cm2] Asapo[+]= .00	M[+]Min = 181.0	M[-]Min = 181.0 Asapo[+]= 1.42
---	-----------------	-------------------------------------

CISALHAMENTO- A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S
[tf,cm]	0.-	132.	.42	45.31	1	45.	.0	2.3	2.3	5.0	15.0	2	.0	.0	

REAC.	APOIO	- No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	Pilares:
0	0	0	.120	.103	.60	.15	0	B19	.00	.00	8014
0	0	2	.301	.284	.60	.15	0	B12	.00	.00	8010
0	0	0									

Viga= 25 V25 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 1.62 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

FLEXAO-	E S Q U E R D A	M E I O	D O	V A O	D I R E I T A
M.[-] =	.0 tf* m	M.[+] Max=	.1 tf* m	- Abcis.= 53	M.[-] = .1
tf* m					
[tf,cm] As =	.00 ----- [0 B ----mm]	AsL=	.00 -----		As = 1.50 -
SRAS- [2 B 10.0mm]					
AsL=	.00 ----- x/d = .00	As = 1.50	-SRAS- [2 B 10.0mm]		AsL= .00 ----
-- x/d = .05					
x/dMx= .50					
[tf,cm] M[-]Min =	181.0	M[+]Min =	181.0		M[-]Min = 181.0
[cm2] Asapo[+]=	.00				Asapo[+]= 1.42

CISALHAMENTO- A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S
[tf,cm]	0.-	132.	.38	45.31	1	45.	.0	2.3	2.3	5.0	15.0	2	.0	.0	

REAC. APOIO -	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	Pilares:
0 0 0	1	.154	.134	.60	.15	0	B26	.00	.00	8015 0 0
0 0 0	2	.270	.250	.60	.15	0	B13	.00	.00	8011 0 0

Viga= 26 V26 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 5.08 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitações provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - -
- - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R E I T A
| M.[-] = .5 tf* m | M.[+] Max= .4 tf* m - Abcis.= 253 | M.[-] = .4
tf* m
[tf,cm] | As = 1.50 -SRAS- [2 B 10.0mm] | AsL= .00 ----- | As = 1.50 -
SRAS- [2 B 10.0mm] | AsL= .00 ----- x/d = .05 | As = 1.50 -SRAS- [2 B 10.0mm] | AsL= .00 ----
-- x/d = .05 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 181.0 | M[+]Min = 181.0 | M[-]Min = 181.0
[cm2] | Asapo[+]= .00 | | Asapo[+]= 1.42

CISALHAMENTO- A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S
[tf,cm]	0.-	478.	.92	45.31	1	45.	.0	2.3	2.3	5.0	15.0	2	.0	.0	

REAC.	APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	Pilares:
		1	.657	.651	.60	.15	0	B27	.00	.00	8028
0	0	0									0
		2	.618	.612	.60	.15	0	B28	.00	.00	8027
0	0	0									0

=====

Viga= 27 V27 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 3.47 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - -

FLEXAO-	E S Q U E R D A	M E I O D O	V A O	D I R E I T A
M.[-] =	.0 tf* m	M.[+] Max=	.2 tf* m - Abcis.= 144	M.[-] =
tf* m				
[tf,cm]	As = 1.50 -SRAS- [2 B 10.0mm]	AsL= .00		As = 1.50 -
SRAS- [2 B 10.0mm]				
AsL= .00	----- x/d = .05	As = 1.50 -SRAS- [2 B 10.0mm]		AsL= .00 ----
-- x/d = .05				
	x/dMx= .50			
x/dMx= .50				
[tf,cm]	M[-]Min = 181.0	M[+]Min = 181.0		M[-]Min = 181.0
[cm2]	Asapo[+]= .00			Asapo[+]= 1.42

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S
A G E M															
[tf,cm]	0.-	317.	.70	45.31	1	45.	.0	2.3	2.3	5.0	15.0	2	.0	.0	

REAC.	APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	Pilares:
		1	.380	.364	.60	.15	0	B27	.00	.00	8028
0	0	0									0

0 0 0 2 .503 .487 .60 .15 0 B14 .00 .00 8025 0 0

Viga= 28 V28 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00
/Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 3.47 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .25
/FLt.Ex= .10 [M]

-----Solicitações provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - -
- - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R E I T A
| M.[-] = .0 tf* m | M.[+] Max= .3 tf* m - Abcis.= 144 | M.[-] = .3
tf* m
[tf,cm] | As = .00 ----- [0 B ----mm] | AsL= .00 ----- | As = 1.50 -
SRAS- [2 B 10.0mm] | AsL= .00 ----- x/d = .00 | As = 1.50 -SRAS- [2 B 10.0mm] | AsL= .00 ----
-- x/d = .05 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 181.0 | M[+]Min = 181.0 | M[-]Min = 181.0
[cm2] | Asapo[+]= .00 | | Asapo[+]= 1.42

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus M E N S
A G E M
[tf,cm] 0.- 317. .74 45.31 1 45. .0 2.3 2.3 5.0 15.0 2 .0 .0

REAC.	AP0IO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	Pilares:
0	0	0	.344	.337	.60	.15	0	B28	.00	.00	8027 0 0
0	0	2	.530	.523	.60	.15	0	B15	.00	.00	8024 0 0

2.8 Relatório de Pilares

VANGUARDA SIST. ESTRUT. ABERTOS ENG. LTDA LISPIL - Listagem dos resultados -P-A-S- por pil (V15.9.8) Pg 1
 RUA DONA OTTY, 40 SALA 201 PORTO ALEGRE 90680-060 RS 33328845
 T Q S Projeto: 0001 - CAIXA AREIA ETE PELOTAS 09/08/12
 CAD/Pilar CORSAN 09:44:05

AS RESULTANTE POR BITOLAS fck = .300 [tf,cm] fck(opc.) = .300

SEL = Quantidade Efetiva de Barras na Secao
 Nb = Quantidades de Barras Dimensionadas na Secao
 NbH = Numero de Barras lado H
 NbB = Numero de Barras lado B

PILAR:P1
 num. 1

Esforço de Calculo do Dimensionamento

LANCE	B(cm)	H(cm)	ROS	SEL	BITL	BITE	Nb	NbH	NbB	AS(cm)	RO	ASnec	LBDALM	LAMDBA	FNd (tf)	Mxd (tf,cm)	Myd (tf,cm)
Terreo																	
L. 1	40.0	40.0	.5	10	10.0	5.0	10	4	1	7.85	.5	7.93	35.0	34.2	39.3	106.1	106.1
					12.5	5.0	8	3	1	9.82	.6	8.00			CASO PÓRTICO = 24 (COMBINAÇÃO= 10)		
					16.0	5.0	8	3	1	16.08	1.0	8.00			**VER NOTA (A)**		
					20.0	5.0	8	3	1	25.13	1.6	8.00					
VALORES CÁLCULOS DEFINIDOS ARQUIVO CRITÉRIOS																	
Cobrimento[cm]		fck[MPa]		GamaAço		GamaConcreto		AsMax[%]		AsMin[%]		GmapN	GmapM	GmavN	Gmavm		
4.5		30.0		1.15		1.40		8.00		.50		1.40	1.40	1.40	1.40		
TipoAço	ClasseAço	ExcMin		ExcMax		K12	K37										
50	A	2.0		15.0		1	1										
Fundacao																	

PILAR:P2
 num. 2

Esforço de Calculo do Dimensionamento

LANCE	B(cm)	H(cm)	ROS	SEL	BITL	BITE	Nb	NbH	NbB	AS(cm)	R0	ASnec	LBDALM	LAMDBA	FNd (tf)	Mxd (tf,cm)	Myd (tf,cm)
Terreo																	
L. 1	40.0	40.0	.5	10	10.0	5.0	10	4	1	7.85	.5	7.93	35.0	34.2	44.4	119.8	-157.9
					12.5	5.0	8	3	1	9.82	.6	8.00			CASO PÓRTICO = 13 (COMBINAÇÃO= 1)		
					16.0	5.0	8	3	1	16.08	1.0	8.00			**VER NOTA (A)**		
					20.0	5.0	8	3	1	25.13	1.6	8.00					
VALORES CÁLCULOS DEFINIDOS ARQUIVO CRITÉRIOS																	
Cobrimento[cm]		fck[MPa]		GamaAço		GamaConcreto		AsMax[%]		AsMin[%]		GmapN		GmapM		GmavN Gmavm	
4.5		30.0		1.15		1.40		8.00		.50		1.40		1.40		1.40 1.40	
TipoAço		ClasseAço		ExcMin		ExcMax		K12		K37							
50		A		2.0		15.0		1		1							
Fundacao																	

PILAR:P3 num. 3													Esforço de Calculo do Dimensionamento														
LANCE	B(cm)	H(cm)	ROS	SEL	BITL	BITE	Nb	NbH	NbB	AS(cm)	RO	ASnec	LBDALM	LAMDBA	FNd (tf)	Mxd (tf,cm)	Myd (tf,cm)										

Terreo																											
L. 1	40.0	40.0	.5	10	10.0	5.0	10	4	1	7.85	.5	7.93	35.0	39.8	19.1	71.7	67.9										
					12.5	5.0	8	3	1	9.82	.6	8.00			CASO PÓRTICO = 24 (COMBINAÇÃO= 10)												
					16.0	5.0	8	3	1	16.08	1.0	8.00			**VER NOTA (A)**												
					20.0	5.0	8	3	1	25.13	1.6	8.00															

VALORES CÁLCULOS DEFINIDOS				ARQUIVO				CRITÉRIOS																			
Cobrimento[cm]				fck[MPa]				GamaAço				GamaConcreto				AsMax[%]		AsMin[%]		GmapN		GmapM		GmavN		Gmavm	
4.5				30.0				1.15				1.40				8.00		.50		1.40		1.40		1.40		1.40	
TipoAço		ClasseAço		ExcMin		ExcMax		K12		K37																	
50		A		2.0		15.0		1		1																	
Fundacao																											

PILAR:P4 num. 4													Esforço de Calculo do Dimensionamento					
LANCE	B(cm)	H(cm)	ROS	SEL	BITL	BITE	Nb	NbH	NbB	AS(cm)	RO	ASnec	LBDALM	LAMDBA	FNd (tf)	Mxd (tf,cm)	Myd (tf,cm)	
Terreo																		
L. 1	40.0	40.0	.5	10	10.0	5.0	10	4	1	7.85	.5	7.93	35.0	34.2	27.4	-74.0	97.6	
					12.5	5.0	8	3	1	9.82	.6	8.00			CASO PÓRTICO = 24 (COMBINAÇÃO= 10)			
					16.0	5.0	8	3	1	16.08	1.0	8.00			**VER NOTA (A)**			
					20.0	5.0	8	3	1	25.13	1.6	8.00						
VALORES CÁLCULOS DEFINIDOS ARQUIVO CRITÉRIOS																		
Cobrimento[cm]			fck[MPa]		GamaAço		GamaConcreto		AsMax[%]		AsMin[%]		GmapN	GmapM	GmavN	Gmavm		
4.5			30.0		1.15		1.40		8.00		.50		1.40	1.40	1.40	1.40		
TipoAço		ClasseAço		ExcMin		ExcMax		K12	K37									
50		A		2.0		15.0		1	1									
Fundacao																		

PILAR:P5 num. 5													Esforço de Cálculo do Dimensionamento					
LANCE	B(cm)	H(cm)	ROS	SEL	BITL	BITE	Nb	NbH	NbB	AS(cm)	RO	ASnec	LBDALM	LAMDBA	FNd (tf)	Mxd (tf,cm)	Myd (tf,cm)	
Terreo																		
L. 1	40.0	40.0	.5	10	10.0	5.0	10	4	1	7.85	.5	7.93	35.0	34.2	21.1	-58.2	-126.1	
					12.5	5.0	8	3	1	9.82	.6	8.00			CASO PÓRTICO = 24 (COMBINAÇÃO= 10)			
					16.0	5.0	8	3	1	16.08	1.0	8.00			**VER NOTA (A)**			
					20.0	5.0	8	3	1	25.13	1.6	8.00						
VALORES CÁLCULOS DEFINIDOS ARQUIVO CRITÉRIOS																		
Cobrimento[cm]		fck[MPa]		GamaAço		GamaConcreto		AsMax[%]		AsMin[%]		GmapN	GmapM	GmavN	Gmavm			
4.5		30.0		1.15		1.40		8.00		.50		1.40	1.40	1.40	1.40			
TipoAço		ClasseAço		ExcMin		ExcMax		K12		K37								
50		A		2.0		15.0		1		1								

Fundacao

PILAR:P6
num. 6

Esforço de Calculo do Dimensionamento

LANCE	B(cm)	H(cm)	ROS	SEL	BITL	BITE	Nb	NbH	NbB	AS(cm)	RO	ASnec	LBDALM	LAMDBA	FNd (tf)	Mxd (tf,cm)	Myd (tf,cm)
Terreo																	
L. 1	40.0	40.0	.5	10	10.0	5.0	10	4	1	7.85	.5	7.93	35.0	32.5	34.1	-105.4	-205.4
					12.5	5.0	8	3	1	9.82	.6	8.00			CASO PÓRTICO = 13 (COMBINAÇÃO= 1)		
					16.0	5.0	8	3	1	16.08	1.0	8.00			**VER NOTA (A)**		
					20.0	5.0	8	3	1	25.13	1.6	8.00					
VALORES CÁLCULOS DEFINIDOS ARQUIVO CRITÉRIOS																	
Cobrimento[cm]		fck[MPa]		GamaAço		GamaConcreto		AsMax[%]		AsMin[%]		GmapN		GmapM		GmavN Gmavm	
4.5		30.0		1.15		1.40		8.00		.50		1.40		1.40		1.40 1.40	
TipoAço		ClasseAço		ExcMin		ExcMax		K12		K37							
50		A		2.0		15.0		1		1							
Fundacao																	

PILAR:P7
num. 7

Esforço de Calculo do Dimensionamento

LANCE	B(cm)	H(cm)	ROS	SEL	BITL	BITE	Nb	NbH	NbB	AS(cm)	R0	ASnec	LBDALM	LAMDBA	FNd (tf)	Mxd (tf,cm)	Myd (tf,cm)
Terreo																	
L. 1	40.0	40.0	.5	10	10.0	5.0	10	4	1	7.85	.5	7.93	35.0	32.5	61.8	-166.8	239.4
					12.5	5.0	8	3	1	9.82	.6	8.00			CASO PÓRTICO = 13 (COMBINAÇÃO= 1)		
					16.0	5.0	8	3	1	16.08	1.0	8.00			**VER NOTA (A)**		
					20.0	5.0	8	3	1	25.13	1.6	8.00					
VALORES CÁLCULOS DEFINIDOS ARQUIVO CRITÉRIOS																	
Cobrimento[cm]		fck[MPa]		GamaAço		GamaConcreto		AsMax[%]		AsMin[%]		GmapN		GmapM		GmavN Gmavm	
4.5		30.0		1.15		1.40		8.00		.50		1.40		1.40		1.40 1.40	
TipoAço		ClasseAço		ExcMin		ExcMax		K12		K37							
50		A		2.0		15.0		1		1							
Fundacao																	

PILAR:P8
num. 8

Esforço de Calculo do Dimensionamento

LANCE	B(cm)	H(cm)	ROS	SEL	BITL	BITE	Nb	NbH	NbB	AS(cm)	RO	ASnec	LBDALM	LAMDBA	FNd (tf)	Mxd (tf,cm)	Myd (tf,cm)
Terreo																	
L. 1	40.0	40.0	.5	10	10.0	5.0	10	4	1	7.85	.5	7.93	35.0	32.5	63.9	-172.7	247.8
					12.5	5.0	8	3	1	9.82	.6	8.00			CASO PÓRTICO = 13 (COMBINAÇÃO= 1)		
					16.0	5.0	8	3	1	16.08	1.0	8.00			**VER NOTA (A)**		
					20.0	5.0	8	3	1	25.13	1.6	8.00					
VALORES CÁLCULOS DEFINIDOS ARQUIVO CRITÉRIOS																	
Cobrimento[cm]		fck[MPa]		GamaAço		GamaConcreto		AsMax[%]		AsMin[%]		GmapN		GmapM		GmavN Gmavm	
4.5		30.0		1.15		1.40		8.00		.50		1.40		1.40		1.40 1.40	
TipoAço		ClasseAço		ExcMin		ExcMax		K12		K37							

TipoAço	ClasseAço	ExcMin	ExcMax	K12	K37													
50	A	2.0	15.0	1	1													
Fundacao																		
PILAR:P12																		
num. 12																		
Esforço de Calculo do Dimensionamento																		
LANCE	B(cm)	H(cm)	ROS	SEL	BITL	BITE	Nb	NbH	NbB	AS(cm)	RO	ASnec	LBDALM	LAMDBA	FND (tf)	Mxd (tf,cm)	Myd (tf,cm)	
Terreo																		
L. 1	40.0	40.0	.5	10	10.0	5.0	10	4	1	7.85	.5	7.93	35.0	34.2	15.7	42.3	-42.3	
					12.5	5.0	8	3	1	9.82	.6	8.00			CASO PÓRTICO = 13 (COMBINAÇÃO= 1)			
					16.0	5.0	8	3	1	16.08	1.0	8.00			**VER NOTA (A)**			
					20.0	5.0	8	3	1	25.13	1.6	8.00						
VALORES CÁLCULOS DEFINIDOS ARQUIVO CRITÉRIOS																		
Cobrimento[cm]		fck[MPa]		GamaAço		GamaConcreto		AsMax[%]		AsMin[%]		GmapN		GmapM		GmavN Gmavm		
4.5		30.0		1.15		1.40		8.00		.50		1.40		1.40		1.40 1.40		
TipoAço	ClasseAço	ExcMin	ExcMax	K12	K37													
50	A	2.0	15.0	1	1													
Fundacao																		

PILAR:P13													Esforço de Calculo do Dimensionamento					
num. 13																		
LANCE	B(cm)	H(cm)	ROS	SEL	BITL	BITE	Nb	NbH	NbB	AS(cm)	RO	ASnec	LBDALM	LAMDBA	FNd (tf)	Mxd (tf,cm)	Myd (tf,cm)	
Terreo																		
L. 1	40.0	40.0	.5	10	10.0	5.0	10	4	1	7.85	.5	7.93	35.0	39.8	15.7	-42.4	52.1	
					12.5	5.0	8	3	1	9.82	.6	8.00			CASO PÓRTICO = 24 (COMBINAÇÃO= 10)			
					16.0	5.0	8	3	1	16.08	1.0	8.00			**VER NOTA (A)**			
					20.0	5.0	8	3	1	25.13	1.6	8.00						
VALORES CÁLCULOS DEFINIDOS					ARQUIVO CRITÉRIOS													
Cobrimento[cm]			fck[MPa]		GamaAço		GamaConcreto			AsMax[%]		AsMin[%]		GmapN	GmapM	GmavN	Gmavm	
4.5			30.0		1.15		1.40			8.00		.50		1.40	1.40	1.40	1.40	
TipoAço		ClasseAço		ExcMin		ExcMax		K12 K37										
50		A		2.0		15.0		1 1										
Fundacao																		

PILAR:P14 num. 14													Esforço de Calculo do Dimensionamento					
LANCE	B(cm)	H(cm)	ROS	SEL	BITL	BITE	Nb	NbH	NbB	AS(cm)	RO	ASnec	LBDALM	LAMDBA	FNd (tf)	Mxd (tf,cm)	Myd (tf,cm)	
Terreo																		
L. 1	40.0	40.0	.5	10	10.0	5.0	10	4	1	7.85	.5	7.93	35.0	34.2	25.2	67.9	89.5	
					12.5	5.0	8	3	1	9.82	.6	8.00			CASO PÓRTICO = 24 (COMBINAÇÃO= 10)			
					16.0	5.0	8	3	1	16.08	1.0	8.00			**VER NOTA (A)**			
					20.0	5.0	8	3	1	25.13	1.6	8.00						
VALORES CÁLCULOS DEFINIDOS ARQUIVO CRITÉRIOS																		
Cobrimento[cm]			fck[MPa]		GamaAço		GamaConcreto		AsMax[%]		AsMin[%]		GmapN	GmapM	GmavN	Gmavm		

4.5	30.0	1.15	1.40	8.00	.50	1.40	1.40	1.40	1.40
TipoAço	ClasseAço	ExcMin	ExcMax	K12	K37				
50	A	2.0	15.0	1	1				
Fundacao									

PILAR:P15
num. 15

Esforço de Calculo do Dimensionamento

LANCE	B(cm)	H(cm)	ROS	SEL	BITL	BITE	Nb	NbH	NbB	AS(cm)	RO	ASnec	LBDALM	LAMDBA	Fnd (tf)	Mxd (tf,cm)	Myd (tf,cm)
Terreo																	
L. 1	40.0	40.0	.5	10	10.0	5.0	10	4	1	7.85	.5	7.93	35.0	29.9	33.0	89.2	-121.3
					12.5	5.0	8	3	1	9.82	.6	8.00			CASO PÓRTICO = 24 (COMBINAÇÃO= 10)		
					16.0	5.0	8	3	1	16.08	1.0	8.00			**VER NOTA (A)**		
					20.0	5.0	8	3	1	25.13	1.6	8.00					
VALORES CÁLCULOS DEFINIDOS ARQUIVO CRITÉRIOS																	
Cobrimento[cm]		fck[MPa]		GamaAço		GamaConcreto		AsMax[%]		AsMin[%]		GmapN	GmapM	GmavN	Gmavm		
4.5		30.0		1.15		1.40		8.00		.50		1.40	1.40	1.40	1.40		
TipoAço	ClasseAço		ExcMin		ExcMax		K12	K37									
50	A		2.0		15.0		1	1									
Fundacao																	

PILAR:P16
num. 16

Esforço de Calculo do Dimensionamento

LANCE	B(cm)	H(cm)	ROS	SEL	BITL	BITE	Nb	NbH	NbB	AS(cm)	RO	ASnec	LBDALM	LAMDBA	FNd (tf)	Mxd (tf,cm)	Myd (tf,cm)
Terreo																	
L. 1	40.0	40.0	.5	10	10.0	5.0	10	4	1	7.85	.5	7.93	35.0	34.2	16.0	43.1	-58.6
					12.5	5.0	8	3	1	9.82	.6	8.00			CASO PÓRTICO = 24 (COMBINAÇÃO= 10)		
					16.0	5.0	8	3	1	16.08	1.0	8.00			**VER NOTA (A)**		
					20.0	5.0	8	3	1	25.13	1.6	8.00					
VALORES CÁLCULOS DEFINIDOS ARQUIVO CRITÉRIOS																	
Cobrimento[cm]		fck[MPa]		GamaAço		GamaConcreto		AsMax[%]		AsMin[%]		GmapN	GmapM	GmavN	Gmavm		
4.5		30.0		1.15		1.40		8.00		.50		1.40	1.40	1.40	1.40		
TipoAço	ClasseAço			ExcMin		ExcMax		K12	K37								
50	A			2.0		15.0		1	1								
Fundacao																	

PILAR:P17
num. 17

Esforço de Calculo do Dimensionamento

LANCE	B(cm)	H(cm)	ROS	SEL	BITL	BITE	Nb	NbH	NbB	AS(cm)	RO	ASnec	LBDALM	LAMDBA	Fnd (tf)	Mxd (tf,cm)	Myd (tf,cm)
Terreo																	
L. 1	40.0	40.0	.5	10	10.0	5.0	10	4	1	7.85	.5	7.93	35.0	34.2	22.5	60.8	-135.8
					12.5	5.0	8	3	1	9.82	.6	8.00			CASO PÓRTICO = 24 (COMBINAÇÃO= 10)		
					16.0	5.0	8	3	1	16.08	1.0	8.00			**VER NOTA (A)**		
					20.0	5.0	8	3	1	25.13	1.6	8.00					
VALORES CÁLCULOS DEFINIDOS ARQUIVO CRITÉRIOS																	

Cobrimento[cm]	fck[MPa]	GamaAço	GamaConcreto	AsMax[%]	AsMin[%]	GmapN	GmapM	GmavN	Gmavm
4.5	30.0	1.15	1.40	8.00	.50	1.40	1.40	1.40	1.40
TipoAço	ClasseAço	ExcMin	ExcMax	K12	K37				
50	A	2.0	15.0	1	1				
Fundacao									

PILAR:P18
num. 18

Esforço de Calculo do Dimensionamento

LANCE	B(cm)	H(cm)	ROS	SEL	BITL	BITE	Nb	NbH	NbB	AS(cm)	RO	ASnec	LBDALM	LAMDBA	FNd (tf)	Mxd (tf,cm)	Myd (tf,cm)		
Terreo																			
L. 1	40.0	40.0	.5	10	10.0	5.0	10	4	1	7.85	.5	7.93	35.0	32.5	34.2	120.8	-195.0		
					12.5	5.0	8	3	1	9.82	.6	8.00			CASO PÓRTICO = 13 (COMBINAÇÃO= 1)				
					16.0	5.0	8	3	1	16.08	1.0	8.00			**VER NOTA (A)**				
					20.0	5.0	8	3	1	25.13	1.6	8.00							
VALORES CÁLCULOS DEFINIDOS ARQUIVO CRITÉRIOS																			
Cobrimento[cm]		fck[MPa]		GamaAço		GamaConcreto		AsMax[%]		AsMin[%]		GmapN	GmapM	GmavN	Gmavm				
4.5		30.0		1.15		1.40		8.00		.50		1.40	1.40	1.40	1.40				
TipoAço		ClasseAço		ExcMin		ExcMax		K12	K37										
50		A		2.0		15.0		1	1										
Fundacao																			

PILAR:P19
num. 19

Esforço de Calculo do Dimensionamento

LANCE	B(cm)	H(cm)	ROS	SEL	BITL	BITE	Nb	NbH	NbB	AS(cm)	RO	ASnec	LBDALM	LAMDBA	FNd (tf)	Mxd (tf,cm)	Myd (tf,cm)		
Terreo																			
L. 1	40.0	40.0	.5	10	10.0	5.0	10	4	1	7.85	.5	7.93	35.0	32.5	61.2	165.1	-237.0		
					12.5	5.0	8	3	1	9.82	.6	8.00			CASO PÓRTICO = 13 (COMBINAÇÃO= 1)				
					16.0	5.0	8	3	1	16.08	1.0	8.00			**VER NOTA (A)**				
					20.0	5.0	8	3	1	25.13	1.6	8.00							
VALORES CÁLCULOS DEFINIDOS ARQUIVO CRITÉRIOS																			
Cobrimento[cm]		fck[MPa]		GamaAço		GamaConcreto		AsMax[%]		AsMin[%]		GmapN	GmapM	GmavN	Gmavm				
4.5		30.0		1.15		1.40		8.00		.50		1.40	1.40	1.40	1.40				
TipoAço		ClasseAço		ExcMin		ExcMax		K12	K37										
50		A		2.0		15.0		1	1										
Fundacao																			

PILAR:P20
num. 20

Esforço de Calculo do Dimensionamento

LANCE	B(cm)	H(cm)	ROS	SEL	BITL	BITE	Nb	NbH	NbB	AS(cm)	RO	ASnec	LBDALM	LAMDBA	FNd (tf)	Mxd (tf,cm)	Myd (tf,cm)
Terreo																	
L. 1	40.0	40.0	.5	10	10.0	5.0	10	4	1	7.85	.5	7.93	35.0	32.5	62.5	-168.8	242.2
					12.5	5.0	8	3	1	9.82	.6	8.00			CASO PÓRTICO = 13 (COMBINAÇÃO= 1)		
					16.0	5.0	8	3	1	16.08	1.0	8.00			**VER NOTA (A)**		
					20.0	5.0	8	3	1	25.13	1.6	8.00					

VALORES CÁLCULOS DEFINIDOS			ARQUIVO		CRITÉRIOS						
Cobrimento[cm]	fck[MPa]	GamaAço	GamaConcreto	AsMax[%]	AsMin[%]	GmapN	GmapM	GmapV	GmapV	GmapV	
4.5	30.0	1.15	1.40	8.00	.50	1.40	1.40	1.40	1.40	1.40	
TipoAço	ClasseAço	ExcMin	ExcMax	K12	K37						
50	A	2.0	15.0	1	1						
Fundacao											

PILAR:P21
num. 21

Esforço de Calculo do Dimensionamento

LANCE	B(cm)	H(cm)	ROS	SEL	BITL	BITE	Nb	NbH	NbB	AS(cm)	RO	ASnec	LBDALM	LAMDBA	FNd (tf)	Mxd (tf,cm)	Myd (tf,cm)
Terreo																	
L. 1	40.0	40.0	.5	10	10.0	5.0	10	4	1	7.85	.5	7.93	35.0	30.3	101.6	-274.3	-393.7
					12.5	5.0	8	3	1	9.82	.6	8.00			CASO PÓRTICO = 13 (COMBINAÇÃO= 1)		
					16.0	5.0	8	3	1	16.08	1.0	8.00			**VER NOTA (A)**		
					20.0	5.0	8	3	1	25.13	1.6	8.00					
VALORES CÁLCULOS DEFINIDOS ARQUIVO CRITÉRIOS																	
Cobrimento[cm]				fck[MPa]		GamaAço		GamaConcreto		AsMax[%]		AsMin[%]		GmapN	GmapM	GmapV	Gmapv
4.5				30.0		1.15		1.40		8.00		.50		1.40	1.40	1.40	1.40
TipoAço		ClasseAço		ExcMin		ExcMax		K12		K37							
50		A		2.0		15.0		1		1							
Fundacao																	

PILAR:P22
num. 22

Esforço de Calculo do Dimensionamento

LANCE	B(cm)	H(cm)	ROS	SEL	BITL	BITE	Nb	NbH	NbB	AS(cm)	RO	ASnec	LBDALM	LAMDBA	FND (tf)	Mxd (tf,cm)	Myd (tf,cm)
Terreo																	
L. 1	40.0	40.0	.5	10	10.0	5.0	10	4	1	7.85	.5	7.93	35.0	32.5	53.0	197.4	-143.1
					12.5	5.0	8	3	1	9.82	.6	8.00			CASO PÓRTICO = 13 (COMBINAÇÃO= 1)		
					16.0	5.0	8	3	1	16.08	1.0	8.00			**VER NOTA (A)**		
					20.0	5.0	8	3	1	25.13	1.6	8.00					
VALORES CÁLCULOS DEFINIDOS ARQUIVO CRITÉRIOS																	
Cobrimento[cm]				fck[MPa]		GamaAço		GamaConcreto		AsMax[%]		AsMin[%]		GmapN	GmapM	GmapV	Gmapv
4.5				30.0		1.15		1.40		8.00		.50		1.40	1.40	1.40	1.40
TipoAço		ClasseAço		ExcMin		ExcMax		K12		K37							
50		A		2.0		15.0		1		1							
Fundacao																	

PILAR:P23
num. 23

Esforço de Calculo do Dimensionamento

LANCE	B(cm)	H(cm)	ROS	SEL	BITL	BITE	Nb	NbH	NbB	AS(cm)	RO	ASnec	LBDALM	LAMDBA	Fnd (tf)	Mxd (tf,cm)	Myd (tf,cm)
Terreo																	
L. 1	40.0	40.0	.5	10	10.0	5.0	10	4	1	7.85	.5	7.93	35.0	34.2	37.2	-100.5	100.5
					12.5	5.0	8	3	1	9.82	.6	8.00			CASO PÓRTICO = 24 (COMBINAÇÃO= 10)		
					16.0	5.0	8	3	1	16.08	1.0	8.00			**VER NOTA (A)**		

PILAR:P26 num. 26													Esforço de Calculo do Dimensionamento					
LANCE	B(cm)	H(cm)	ROS	SEL	BITL	BITE	Nb	NbH	NbB	AS(cm)	RO	ASnec	LBDALM	LAMDBA	FNd (tf)	Mxd (tf,cm)	Myd (tf,cm)	
Terreo																		
L. 1	40.0	40.0	.5	10	10.0	5.0	10	4	1	7.85	.5	7.93	35.0	50.8	37.1	174.0	174.0	
					12.5	5.0	8	3	1	9.82	.6	8.00			CASO PÓRTICO = 13 (COMBINAÇÃO= 1)			
74																		

PILAR:P28 num. 28													Esforço de Calculo do Dimensionamento					
LANCE	B(cm)	H(cm)	ROS	SEL	BITL	BITE	Nb	NbH	NbB	AS(cm)	RO	ASnec	LBDALM	LAMDBA	FNd (tf)	Mxd (tf,cm)	Myd (tf,cm)	
Terreo																		
L. 1	25.0	40.0	.6	8	10.0	5.0	8	4	0	6.28	.6	5.00	35.0	81.3	43.9	-324.5	-206.0	
					12.5	5.0	6	3	0	7.36	.7	5.00			CASO PÓRTICO = 24 (COMBINAÇÃO= 10)			
					16.0	5.0	6	3	0	12.06	1.2	5.00			**VER NOTA (A)**			
					20.0	5.0	6	3	0	18.85	1.9	5.00						
VALORES CÁLCULOS DEFINIDOS													CRITÉRIOS					
Cobrimento[cm]		fck[MPa]		GamaAço		GamaConcreto		AsMax[%]		AsMin[%]		GmapN		GmapM		GmapV		
4.5		30.0		1.15		1.40		8.00		.50		1.40		1.40		1.40		
TipoAço		ClasseAço		ExcMin		ExcMax		K12		K37								
50		A		2.0		15.0		1		1								
Fundacao																		

Este carregamento listado é, dentre os inúmeros carregamentos analisados, o que provocou a seleção desta armadura em primeiro lugar. Não necessariamente, este carregamento é o que necessita a maior quantidade de armadura na seção, pois o dimensionamento é feito de forma indireta, por verificação. Exemplificando, temos duas configurações de armaduras válidas para o lance, uma correspondendo a 17 cm2 e outra a 20 cm2. Um carregamento inicial necessitou de 18 cm2 e, por esta razão foi selecionada a configuração de 20 cm2 como a definitiva. Outros carregamentos posteriores necessitaram, por exemplo, de 19 cm2, 19.5 cm2 (sempre

inferiores aos 20 cm²), mas a listagem com o carregamento mais desfavorável foi feita com aquele que necessitou os 18 cm², pois foi o primeiro a requisitar os 20 cm². A pesquisa do carregamento exato que provoca maior armadura na seção não é realizada automaticamente para não aumentar de forma significativa o tempo de processamento. Se o usuário quiser calcular a real necessidade de armadura para um carregamento específico, ele poderá fazê-lo facilmente no Editor de Esforços e Armaduras, comando do próprio Cad/Pilar.

=====

Viga= 401 PORTICO 1 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1B /L= .95 /B= .40 /H= .80 /BCs= .78 /BCi= .00 /TpS= 2 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .40 /FLt.Ex= .20 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - - - -
FLEXAO | M[-]= 10.24 tf* m | As = 4.80 -SRAS- [4 B 12.5mm]
BAL.ESQ | x/d = .05 | ASL= .00 -Arm.Lat.= [2 X 7 B 8.0mm] .6
[tf,cm] | M[-]Min= 926.5 - x/dMx =1.00 | | % Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus M E N S A G E M
[tf,cm] 0.- 75. 8.25 151.72 1 45. .0 4.6 4.6 5.0 15.0 4 .0 .0

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 2.10 /B= .40 /H= .80 /BCs= .65 /BCi= .00 /TpS= 2 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .40 /FLt.Ex= .20 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R E I T A
| M.[-] = 10.2 tf* m | M.[+] Max= .0 tf* m - Abcis.= 210 | M.[-] = 10.2 tf* m
[tf,cm] | As = 4.80 -SRAS- [4 B 12.5mm] | ASL= .00 -STAS- [4 B 12.5mm] | As = 4.80 -SRAS- [4 B 12.5mm]
| ASL= .00 - x/d = .05 | As = 4.80 -STAS- [4 B 12.5mm] | ASL= .00 - x/d = .05
| x/dMx= .50 | Arm.Lat.= [2 X 7 B 8.0mm] - LN= 3.1 | x/dMx= .50
[tf,cm] | M[-]Min = 926.5 | M[+]Min = 926.5 | M[-]Min = 926.5
[cm2] | Asapo[+]= .00 | | Asapo[+]= 7.42

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus M E N S A G E M
[tf,cm] 0.- 170. 9.49 151.72 1 45. .0 4.6 4.6 5.0 15.0 4 .0 .0

----- G E O M E T R I A E C A R G A S -----
Vao= 3B /L= .95 /B= .40 /H= .80 /BCs= .78 /BCi= .00 /TpS= 2 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .40 /FLt.Ex= .20 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - - - -
FLEXAO | M[-]= 10.24 tf* m | As = 4.80 -SRAS- [4 B 12.5mm]
BAL.DIR | x/d = .05 | ASL= .00 -Arm.Lat.= [2 X 7 B 8.0mm] .6
[tf,cm] | M[-]Min= 926.5 - x/dMx =1.00 | | % Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus M E N S A G E M
[tf,cm] 0.- 75. 11.01 151.72 1 45. .0 4.6 4.6 5.0 15.0 4 .0 .0

REAC.	AP010	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	Pilares:					
		1	12.664	12.517	.40	.00	1	P14	.00	.00	14	0	0	0	0	0
		2	14.210	13.836	.40	.00	1	P4	.00	.00	4	0	0	0	0	0

Viga= 402 PORTICO 2 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1B /L= .95 /B= .40 /H= .80 /BCs= .78 /BCi= .00 /TpS= 2 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .40 /FLt.Ex= .20 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - - - -
FLEXAO | M[-]= 10.24 tf* m | As = 4.80 -SRAS- [4 B 12.5mm]
BAL.ESQ | x/d = .05 | AsL= .00 -Arm.Lat.= [2 X 7 B 8.0mm] .6
[tf,cm] | M[-]Min= 926.5 - x/dMx =1.00 | | % Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus M E N S A G E M
[tf,cm] 0.- 75. 13.15 151.72 1 45. .0 4.6 4.6 5.0 15.0 4 .0 .0

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 3.50 /B= .40 /H= .80 /BCs= .82 /BCi= .00 /TpS= 2 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .40 /FLt.Ex= .20 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R E I T A
| M.[-] = 10.2 tf* m | M.[+] Max= 3.3 tf* m - Abcis.= 174 | M.[-] = 10.2 tf* m
[tf,cm] | As = 4.80 -SRAS- [4 B 12.5mm] | AsL= .00 -STAS- [4 B 12.5mm] | As = 4.80 -SRAS- [4 B 12.5mm]
| AsL= .00 - x/d = .05 | As = 4.80 - x/d = .05
| x/dMx = .50 | Arm.Lat.= [2 X 7 B 8.0mm] - LN= 3.1 | AsL= .00 - x/d = .05
| | | x/dMx = .50
[tf,cm] | M[-]Min = 926.5 | M[+]Min = 926.5 | M[-]Min = 926.5
[cm2] | Asapo[+]= .00 | | Asapo[+]= 7.42

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus M E N S A G E M
[tf,cm] 0.- 310. 14.79 151.72 1 45. .0 4.6 4.6 5.0 15.0 4 .0 .0

----- G E O M E T R I A E C A R G A S -----
Vao= 3B /L= .94 /B= .40 /H= .80 /BCs= .78 /BCi= .00 /TpS= 2 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .40 /FLt.Ex= .20 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - - - -
FLEXAO | M[-]= 10.24 tf* m | As = 4.80 -SRAS- [4 B 12.5mm]
BAL.DIR | x/d = .05 | AsL= .00 -Arm.Lat.= [2 X 7 B 8.0mm] .6
[tf,cm] | M[-]Min= 926.5 - x/dMx =1.00 | | % Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus M E N S A G E M
[tf,cm] 0.- 74. 13.53 151.72 1 45. .0 4.6 4.6 5.0 15.0 4 .0 .0

REAC.	AP010	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	Pilares:					
		1	19.940	19.431	.40	.00	1	P23	.00	.00	23	0	0	0	0	0
		2	18.232	17.703	.40	.00	1	P1	.00	.00	1	0	0	0	0	0

Viga= 405 PORTICO 3 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1B /L= 1.37 /B= .40 /H= .80 /BCs= .67 /BCi= .00 /TpS= 8 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .40 /FLt.Ex= .20 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - - - -
FLEXAO | M[-]= 10.24 tf* m | As = 4.80 -SRAS- [4 B 12.5mm]
BAL.ESQ | x/d = .05 | AsL= .00 -Arm.Lat.= [2 X 7 B 8.0mm] .9
[tf,cm] | M[-]Min= 926.5 - x/dMx =1.00 | | % Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus M E N S A G E M
[tf,cm] 0.- 117. 6.94 151.72 1 45. .0 4.6 4.6 5.0 15.0 4 .0

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 2.35 /B= .40 /H= .80 /BCs= .54 /BCi= .00 /TpS= 8 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .40 /FLt.Ex= .20 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R E I T A
| M.[-] = 10.2 tf* m | M.[+] Max= .0 tf* m - Abcis.= 235 | M.[-] = 10.2 tf* m
[tf,cm] | As = 4.80 -SRAS- [4 B 12.5mm] | AsL= .00 -STAS- [4 B 12.5mm] | As = 4.80 -SRAS- [4 B 12.5mm]
| AsL= .00 - x/d = .05 | Arm.Lat.= [2 X 7 B 8.0mm] - LN= 3.1 | AsL= .00 - x/d = .05
| x/dMx= .50 | | x/dMx= .50
[tf,cm] | M[-]Min = 926.5 | M[+]Min = 926.5 | M[-]Min = 926.5
[cm2] | Asapo[+]= .00 | | Asapo[+]= 7.42

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus M E N S A G E M
[tf,cm] 0.- 195. 10.92 151.72 1 45. .0 4.6 4.6 5.0 15.0 4 .0

----- G E O M E T R I A E C A R G A S -----
Vao= 3B /L= 1.38 /B= .40 /H= .80 /BCs= .68 /BCi= .00 /TpS= 8 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .40 /FLt.Ex= .20 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - - - -
FLEXAO | M[-]= 10.24 tf* m | As = 4.80 -SRAS- [4 B 12.5mm]
BAL.DIR | x/d = .05 | AsL= .00 -Arm.Lat.= [2 X 7 B 8.0mm] .9
[tf,cm] | M[-]Min= 926.5 - x/dMx =1.00 | | % Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus M E N S A G E M
[tf,cm] 0.- 118. 6.30 151.72 1 45. .0 4.6 4.6 5.0 15.0 4 .0

REAC.	AP010	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	Pilares:					
		1	12.547	12.208	.40	.00	1	P17	.00	.00	17	0	0	0	0	0
		2	11.640	11.373	.40	.00	1	P5	.00	.00	5	0	0	0	0	0

Viga= 407 PORTICO 4 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1B /L= 1.42 /B= .40 /H= .80 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .40 /FLt.Ex= .20 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - - - -

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FLEXAO | M[-]= 20.66 tf* m | As = 9.35 -SRAS- [ 5 B 16.0mm]
BAL.ESQ | x/d = .09 | AsL= .00 -Arm.Lat.= [ 2 X 7 B 8.0mm] .9
[tf,cm] | M[-]Min= 926.5 - x/dMx =1.00 | | % Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus M E N S A G E M
[tf,cm] 0.- 122. 24.42 151.72 1 45. .0 4.6 4.6 5.0 15.0 4 .0 .0

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 2.35 /B= .40 /H= .80 /BCs= .68 /BCi= .00 /TpS= 2 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .40 /Flt.Ex= .20 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O ) - - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R E I T A
[tf,cm] | M.[-] = 20.7 tf* m | M.[+] Max= .0 tf* m - Abcis.= 235 | M.[-] = 20.7 tf* m
| As = 9.35 -SRAS- [ 5 B 16.0mm] | AsL= .00 ----- | As = 9.39 -SRAS- [ 5 B 16.0mm]
| AsL= .00 ----- x/d = .09 | As = 4.80 -STAS- [ 4 B 12.5mm ] | AsL= .00 ----- x/d = .09
| x/dMx = .50 | Arm.Lat.= [2 X 7 B 8.0mm] - LN= 3.1 | x/dMx = .50
[tf,cm] | M[-]Min = 926.5 | M[+]Min = 926.5 | M[-]Min = 926.5
[cm2 ] | Asapo[+]= .00 | | Asapo[+]= 7.42

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus M E N S A G E M
[tf,cm] 0.- 195. 7.39 151.72 1 45. .0 4.6 4.6 5.0 15.0 4 .0 .0

----- G E O M E T R I A E C A R G A S -----
Vao= 3B /L= 1.43 /B= .40 /H= .80 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .40 /Flt.Ex= .20 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O ) - - - - -
FLEXAO | M[-]= 20.74 tf* m | As = 9.39 -SRAS- [ 5 B 16.0mm]
BAL.DIR | x/d = .09 | AsL= .00 -Arm.Lat.= [ 2 X 7 B 8.0mm] 1.0
[tf,cm] | M[-]Min= 926.5 - x/dMx =1.00 | | % Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus M E N S A G E M
[tf,cm] 0.- 123. 23.57 151.72 1 45. .0 4.6 4.6 5.0 15.0 4 .0 .0

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn Pilares:
1 22.687 22.199 .40 .00 1 P19 .00 .00 19 0 0 0 0 0
2 21.789 21.272 .40 .00 1 P7 .00 .00 7 0 0 0 0 0

Viga= 409 PORTICO 5 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1B /L= 1.90 /B= .40 /H= 1.30 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .40 /Flt.Ex= .20 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O ) - - - - -
FLEXAO | M[-]= 50.87 tf* m | As = 13.67 -SRAS- [ 7 B 16.0mm]
BAL.ESQ | x/d = .08 | AsL= .00 -Arm.Lat.= [ 2 X 11 B 8.0mm] 1.3
[tf,cm] | M[-]Min= 2446.5 - x/dMx =1.00 | | % Baric.Armad.= 1

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CISALHAMENTO- Xi   Xf   Vsd   VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit   Esp NR AsTrt AsSus           M E N S A G E M
[tf,cm]        0.- 170.  56.31 253.55 1 45.  2.7  4.6  4.6  5.0 15.0 4  .0  .0

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L=  2.35 /B=  .40 /H=  1.30 /BCs=  .68 /BCi=  .00 /TpS=  2 /Esp.LS=  .00 /Esp.LI=  .00 FSp.Ex=  .40 /FLt.Ex=  .20 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O ) - - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R E I T A
[tf,cm] | M.[-] = 50.9 tf* m | M.[+] Max= .0 tf* m - Abcis.= 235 | M.[-] = 27.5 tf* m
        | As = 13.67 -SRAS- [ 7 B 16.0mm] | AsL= .00 ----- | As = 12.64 -SRAS- [ 4 B 20.0mm]
        | AsL= .00 ----- | x/d = .08 | As = 7.80 -STAS- [ 4 B 16.0mm ] | AsL= .00 ----- | x/d = .13
        | x/dMx= .50 | Arm.Lat.= [2 X 11 B 8.0mm] - LN= 4.8 | x/dMx= .50
[tf,cm] | M[-]Min = 2446.5 | M[+]Min = 2446.5 | M[-]Min = 2446.5
[cm2 ] | Asapo[+]= .00 | | Asapo[+]= 7.42

CISALHAMENTO- Xi   Xf   Vsd   VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit   Esp NR AsTrt AsSus           M E N S A G E M
[tf,cm]        0.- 195.  15.21 253.55 1 45.  .0  4.6  4.6  5.0 15.0 4  .0  .0

----- G E O M E T R I A E C A R G A S -----
Vao= 3B /L=  1.43 /B=  .40 /H=  .80 /BCs=  .97 /BCi=  .00 /TpS=  2 /Esp.LS=  .00 /Esp.LI=  .00 FSp.Ex=  .40 /FLt.Ex=  .20 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O ) - - - - -
FLEXAO | M[-]= 27.53 tf* m | As = 12.64 -SRAS- [ 4 B 20.0mm]
BAL.DIR | x/d = .13 | AsL= .00 -Arm.Lat.= [ 2 X 7 B 8.0mm] | % Baric.Armad.= 1
[tf,cm] | M[-]Min= 926.5 - x/dMx =1.00 | | % Baric.Armad.= 1

CISALHAMENTO- Xi   Xf   Vsd   VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit   Esp NR AsTrt AsSus           M E N S A G E M
[tf,cm]        0.- 123.  31.17 151.72 1 45.  1.8  4.6  4.6  5.0 15.0 4  .0  .0

REAC. APOIO - No.   Maximos   Minimos   Largura   DEPEV   Morte   Nome   M.I.Mx M.I.Mn   Pilares:
              1      45.257    43.243    .40        .00      1    P21    .00    .00    21      0      0      0      0      0
              2      14.352    12.941    .40        .00      1    P9     .00    .00    9       0      0      0      0      0

Viga= 410 PORTICO 6 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1B /L=  1.42 /B=  .40 /H=  .80 /BCs=  .68 /BCi=  .00 /TpS=  8 /Esp.LS=  .00 /Esp.LI=  .00 FSp.Ex=  .40 /FLt.Ex=  .20 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O ) - - - - -
FLEXAO | M[-]= 21.44 tf* m | As = 9.72 -SRAS- [ 5 B 16.0mm]
BAL.ESQ | x/d = .10 | AsL= .00 -Arm.Lat.= [ 2 X 7 B 8.0mm] | % Baric.Armad.= 1
[tf,cm] | M[-]Min= 926.5 - x/dMx =1.00 | | % Baric.Armad.= 1

CISALHAMENTO- Xi   Xf   Vsd   VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit   Esp NR AsTrt AsSus           M E N S A G E M
[tf,cm]        0.- 122.  25.90 151.72 1 45.  .0  4.6  4.6  5.0 15.0 4  .0  .0

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----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 2.35 /B= .40 /H= .80 /BCs= .54 /BCi= .00 /TpS= 8 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .40 /Flt.Ex= .20 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - - - -		
FLEXAO-	E S Q U E R D A	M E I O D O V A O
[tf,cm]	M.[-] = 21.4 tf* m	M.[+] Max= .0 tf* m - Abcis.= 235
	As = 9.72 -SRAS- [5 B 16.0mm]	AsL= .00 -----
	AsL= .00 ----- x/d = .10	As = 4.80 -STAS- [4 B 12.5mm]
	x/dMx= .50	Arm.Lat.= [2 X 7 B 8.0mm] - LN= 3.1
[tf,cm]	M[-]Min = 926.5	M[+]Min = 926.5
[cm2]	Asapo[+]= .00	M[-]Min = 926.5
		Asapo[+]= 7.42

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S A G E M
[tf,cm]	0.-	195.	8.69	151.72	1	45.	.0	4.6	4.6	5.0	15.0	4	.0	.0	

----- G E O M E T R I A E C A R G A S -----
Vao= 3B /L= 1.43 /B= .40 /H= .80 /BCs= .69 /BCi= .00 /TpS= 8 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .40 /Flt.Ex= .20 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - - - -		
FLEXAO	M[-]= 19.67 tf* m	As = 8.89 -SRAS- [5 B 16.0mm]
BAL.DIR	x/d = .09	AsL= .00 -Arm.Lat.= [2 X 7 B 8.0mm]
[tf,cm]	M[-]Min= 926.5	x/dMx= 1.00
		% Baric.Armad.= 1

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S A G E M
[tf,cm]	0.-	123.	23.66	151.72	1	45.	.0	4.6	4.6	5.0	15.0	4	.0	.0	

REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	Pilares:
1	24.694	23.467	.40	.00	1	P22	.00	.00	22 0 0 0 0
2	22.246	21.490	.40	.00	1	P10	.00	.00	10 0 0 0 0

Viga= 411 PORTICO 7 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 1.92 /B= .40 /H= .80 /BCs= .59 /BCi= .00 /TpS= 5 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .40 /Flt.Ex= .20 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - - - -		
FLEXAO-	E S Q U E R D A	M E I O D O V A O
[tf,cm]	M.[-] = .7 tf* m	M.[+] Max= 3.2 tf* m - Abcis.= 95
	As = 4.80 -SRAS- [4 B 12.5mm]	AsL= .00 -----
	AsL= .00 ----- x/d = .04	As = 4.80 -STAS- [4 B 12.5mm]
	x/dMx= .50	Arm.Lat.= [2 X 7 B 8.0mm] - LN= 3.1
[tf,cm]	M[-]Min = 926.5	M[+]Min = 926.5
[cm2]	Asapo[+]= .00	M[-]Min = 926.5
		Asapo[+]= 7.42

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S A G E M				
[tf,cm]	0.-	152.	10.42	151.72	1	45.	.0	4.6	4.6	5.0	15.0	4	.0	.0					
REAC. APOIO -	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	Pilares:									
1	7.076	7.013	.40	.00	1	P15	.00	.00	15	0	0	0	0	0	0	0	0	0	
2	7.440	7.382	.40	.00	1	P11	.00	.00	11	0	0	0	0	0	0	0	0	0	

Viga= 412 PORTICO 8 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 1.92 /B= .40 /H= .80 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00 FSp.Ex= .40 /FLt.Ex= .20 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) - - - - -		
FLEXAO-	E S Q U E R D A	M E I O D O V A O
[tf,cm]	M.[-] = .4 tf* m	M.[+] Max= 2.5 tf* m - Abcis.= 95
	As = 4.80 -SRAS- [4 B 12.5mm]	ASL= .00
	AsL= .00	As = 4.80 -SRAS- [4 B 12.5mm]
	x/d = .04	Arm.Lat.= [2 X 7 B 8.0mm] - LN= 3.1
	x/dMx= .50	
[tf,cm]	M[-]Min = 926.5	M[+]Min = 926.5
[cm2]	Asapo[+]= .00	M[-]Min = 926.5
		Asapo[+]= 7.42

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus	M E N S A G E M				
[tf,cm]	0.-	152.	5.16	151.72	1	45.	.0	4.6	4.6	5.0	15.0	4	.0	.0					
REAC. APOIO -	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	Pilares:									
	1	3.330	3.297	.40	.00	1	P16	.00	.00	16	0	0	0	0	0	0	0	0	
	2	3.684	3.650	.40	.00	1	P12	.00	.00	12	0	0	0	0	0	0	0	0	

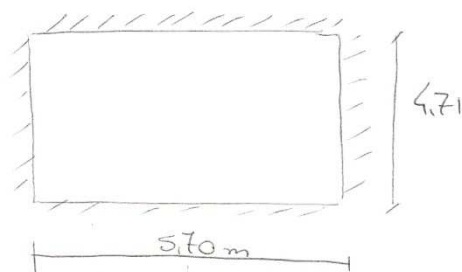
OBS: Pórticos 9 e 10 dimensionados junto com o partidor na página 105.

*MEMÓRIAS MANUAIS

①

CAIXA AREIA
RESERVATÓRIO SEPARADOR FINAL
Partidor

1) LAJE FUNDO



COM LÂMINA ÁGUA (ESOTO) $h = 3\text{ m} = 3 \times 12 \frac{\text{kN}}{\text{m}^3} = 36 \frac{\text{kN}}{\text{m}^2}$

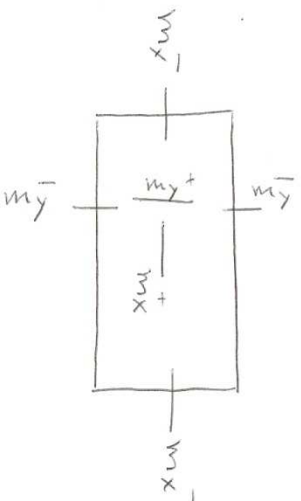
PESO PRÓPRIO $- 0,25 \times 25 = 6,25 \frac{\text{kN}}{\text{m}^2}$

PROCESSO ELÁSTICO

42,25 $\frac{\text{kN}}{\text{m}^2}$

$$\frac{l_y}{l_x} = \frac{4,71}{5,70} = 0,83$$

(2)



$$0,001 q l_y^2 = 0,937$$

$$h = 25 \quad d = 21 \text{ cm}$$

$$f_{ck} = 30 \text{ MPa}$$

A_s

$$m_y^+ = 28 \cdot 0,937 = 26,24 \text{ kNm/m} \quad 4,35 \text{ cm}^2/\text{m}$$

$$m_x^+ = 19 \cdot 0,937 = 17,81 \text{ kNm/m} \quad 4,35 \text{ cm}^2/\text{m}$$

$$m_y^- = 65 \cdot 0,937 = 60,92 \text{ kNm/m} \quad 9,91 \text{ cm}^2/\text{m}$$

$$m_x^- = 56 \cdot 0,937 = 52,48 \text{ kNm/m} \quad 8,54 \text{ cm}^2/\text{m}$$

OBS. com PAREDE DE 20 cm TERMINOS

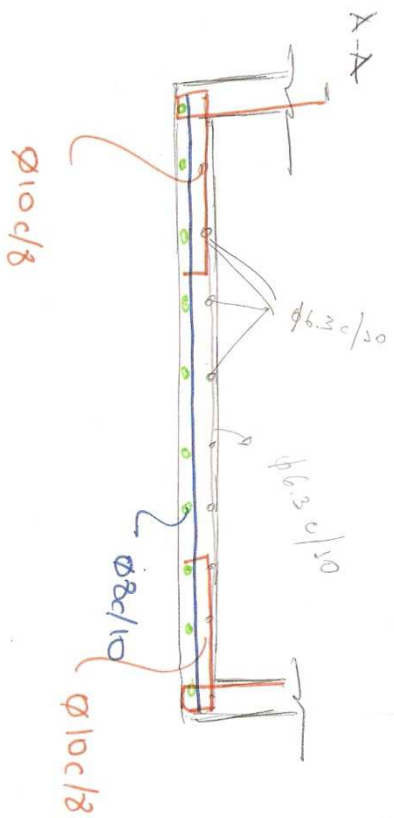
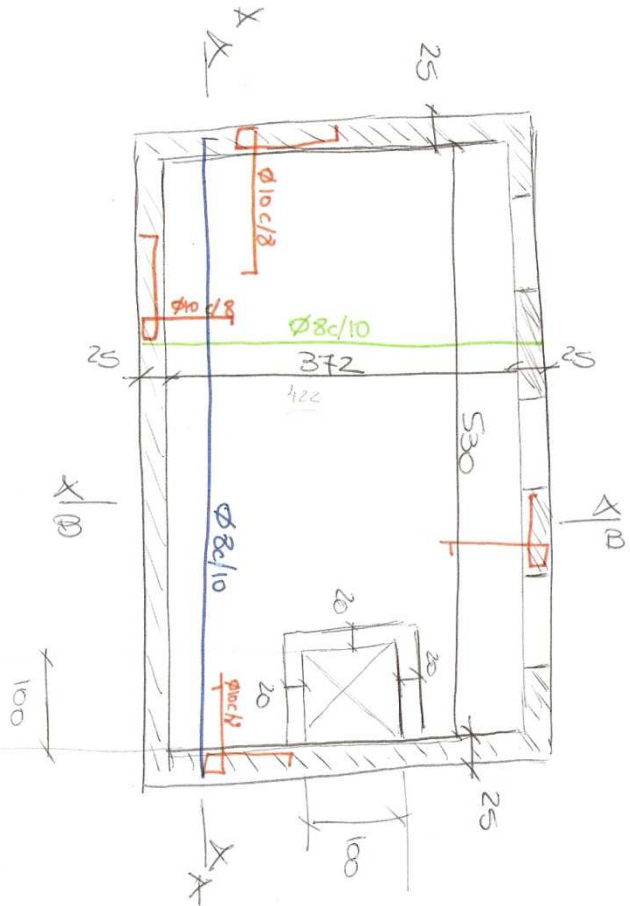
ARMADURA MUITO EXCELENTE

$$m_y^- = 61 \text{ kNm/m} \rightarrow A_s = 13,67 \text{ cm}^2 (\phi 12,5 \text{ c/a})$$

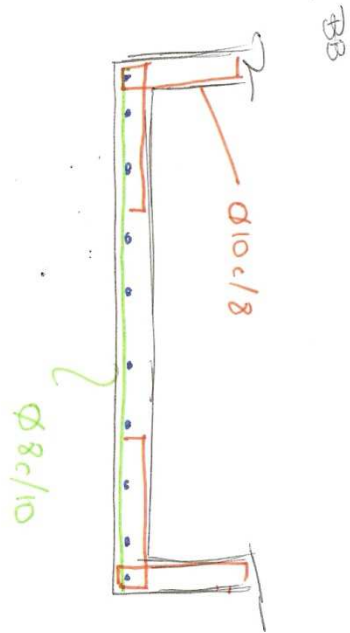
$$\text{OPTIMOS POR } h = 25 \text{ cm}$$

3

DETALHAMENTO LAJE FUNDO

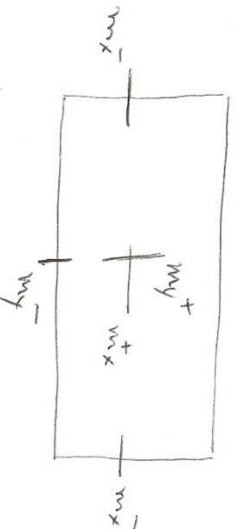
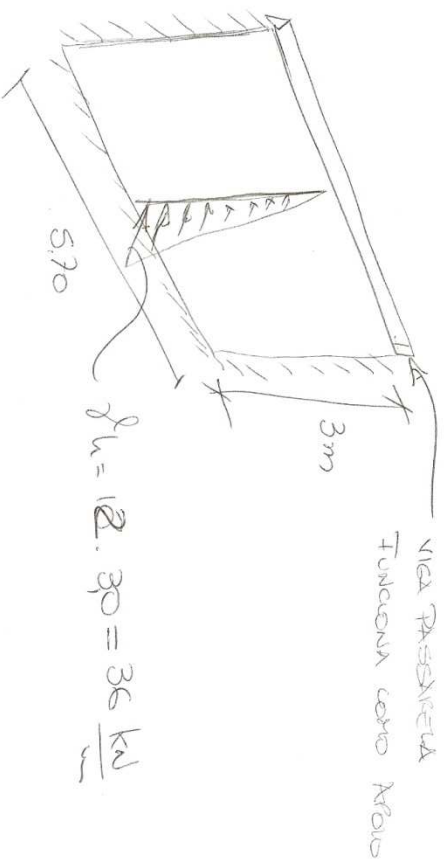


4



(5)

2) ANÁLISE DA PAREDE LATERAL:



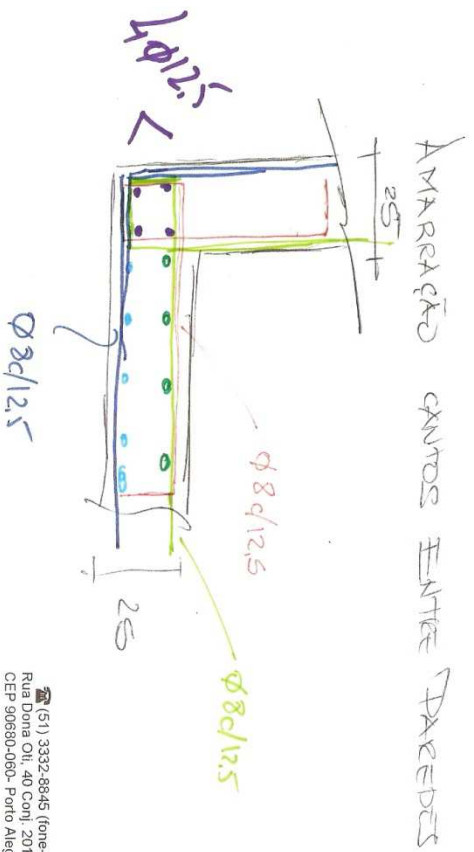
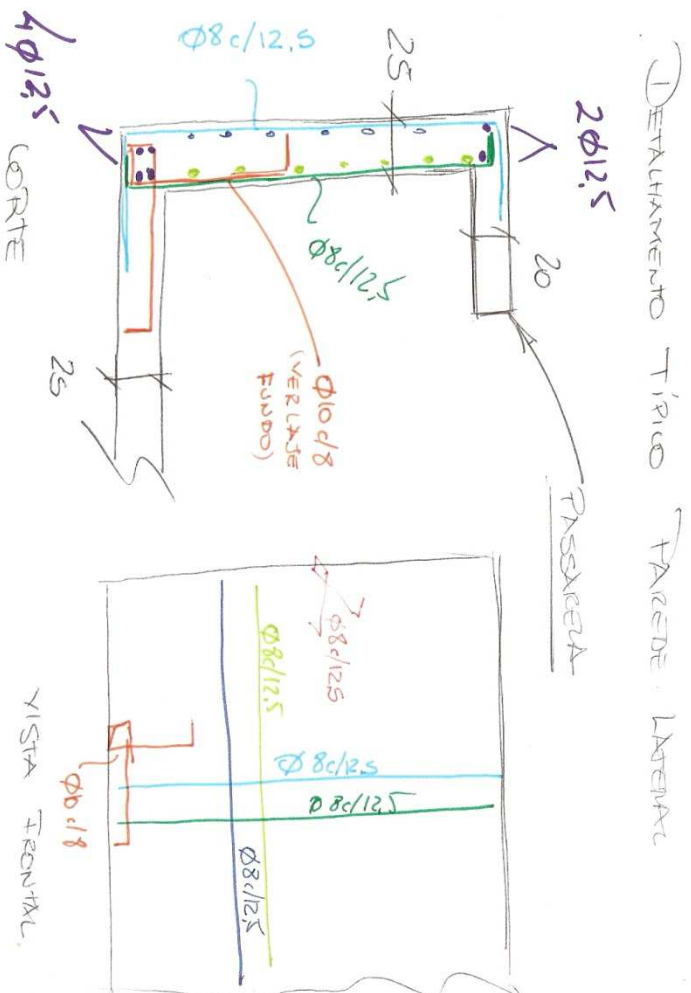
$$0,001 q l_y^2 = 0,001 \cdot 36 \cdot 3^2 = 0,324$$

$$\frac{l_y}{l_x} = 0,53$$

$m_y^+ = 25 \cdot 0,324 = 8,1$	$\rightarrow$	$3,85 \text{ cm}^2/n$
$m_x^+ = 10 \cdot 0,324 = 3,24$	$\rightarrow$	$3,85 \text{ cm}^2/n$
$m_y^- = 61 \cdot 0,324 = 20$	$\rightarrow$	$3,85 \text{ cm}^2/n$
$m_x^- = 36 \cdot 0,324 = 11,66$	$\rightarrow$	$3,85 \text{ cm}^2/n$

$A_{smin} = \frac{0,80}{125}$

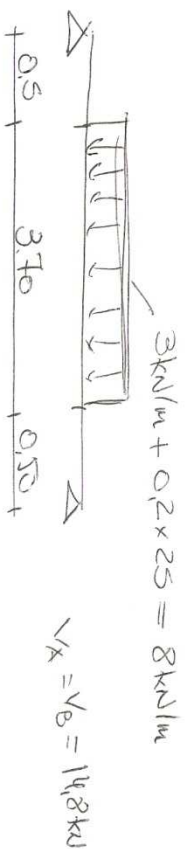
(51) 3332-8845 (fone-fax)
Rua Dona Oli, 40 Cont, 201
CEP 90680-060 - Porto Alegre - RS - Brasil



(51) 3332-8845 (fone-fax)
Rua Dona Oli, 40 Conj. 201
CEP 90680-060- Porto Alegre - RS - Brasil

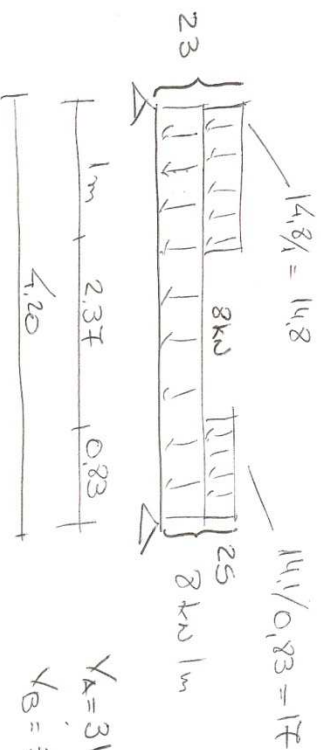
(7)

3) PASSARELAS SUPERIORES



$$M = 21,1 \text{ kNm}$$

$$A_s = 4,58 \text{ cm}^2/\text{m} \rightarrow \underline{\underline{\phi 8 \text{ d} 10}} \rightarrow \underline{\underline{\phi 10 \text{ d} 15}}$$

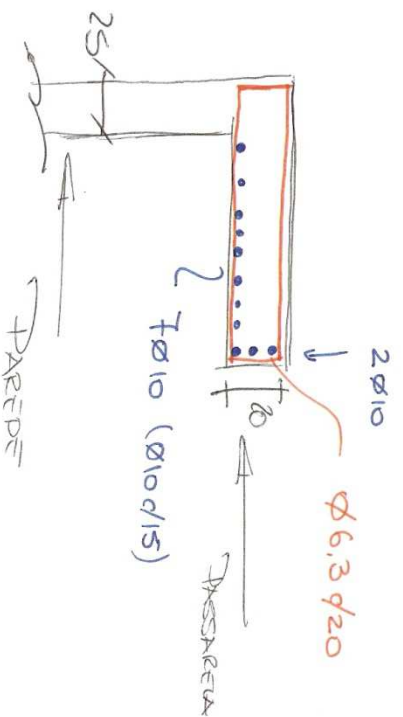


$$\begin{aligned} V_A &= 31,4 \text{ kN} \\ V_B &= 31,3 \text{ kN} \\ X &= 2,05 \text{ m} \\ M &= 24,32 \text{ kNm} \end{aligned}$$

$$A_s = 5,24 \text{ cm}^2 \rightarrow \underline{\underline{\phi 10 \text{ d} 15}}$$

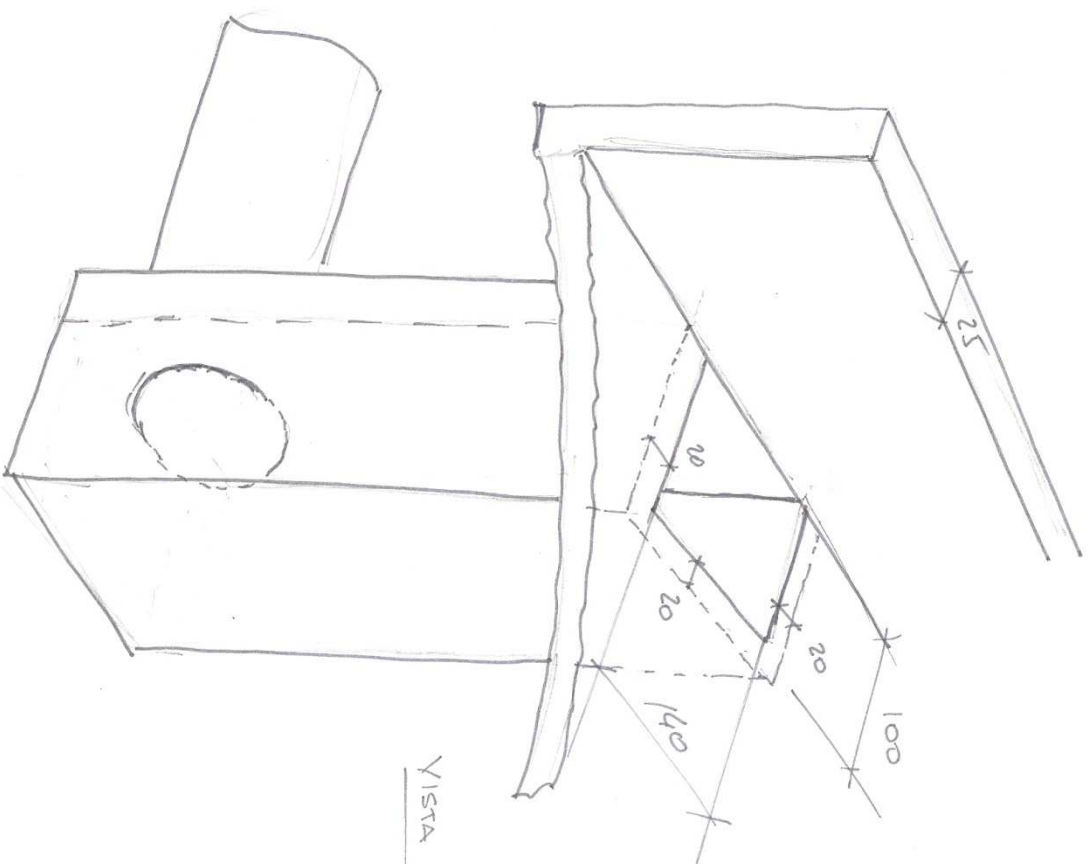
8

DETALHE PASSARELAS



(9)

4) DETALHAMENTO DO CO DRENAGEM FRONTAL



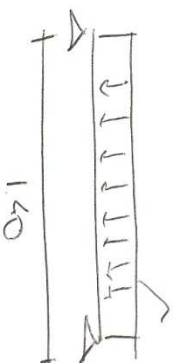
VISTA INTERNA

16

* CARGA LATE FUNDO:

$$q = 12 \frac{\text{kN}}{\text{m}^3} \times 4,0 \text{ m} = 48 \text{ kN/m}^2$$

ACENDIDO DIREÇÃO TRANSVERSAL



$$q = 48 + 0,2 \cdot 25 = 53 \text{ kN/m}^2$$

$$M = 53 \times \frac{1,4^2}{8} = 13 \text{ kNm/m}$$

$$A_{s \text{ min}} = 3,1 \text{ cm}^2/\text{m}$$

< Ø 8c/15

* REAÇÕES LATE NA BORDA

$$R_f = 53 \times 1,4 \times 1 = 74,2 \text{ kN}$$

$$q/m = \frac{74,2}{(2 \times 1,4 + 2 \times 1)} = 15,5 \text{ kN/m}$$

⑪

⑦ PESO DAS PAREDES:

$$0,2 \times 25 \times 4m = 20 \text{ kN}$$

$$0,25 \times 25 \times 4m = 25 \text{ kN}$$

$$\text{CARGA TOTAL} = 25 + 15,5 = 40,5 \text{ kN/m}$$

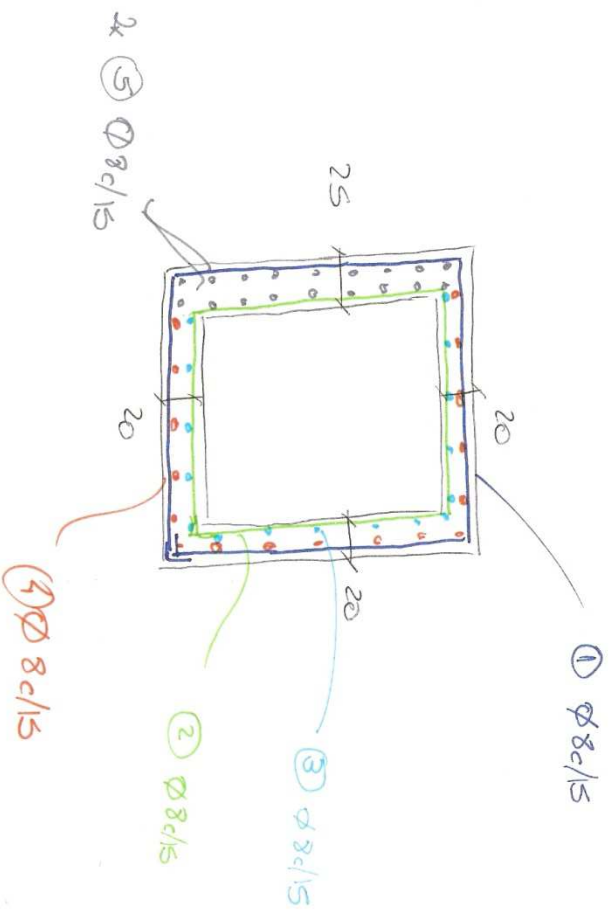
⑧ PAREDES SUSPENSAS:

$$A_s = \frac{1,4 \cdot 40,5}{43,48} = 1,30 \text{ cm}^2$$

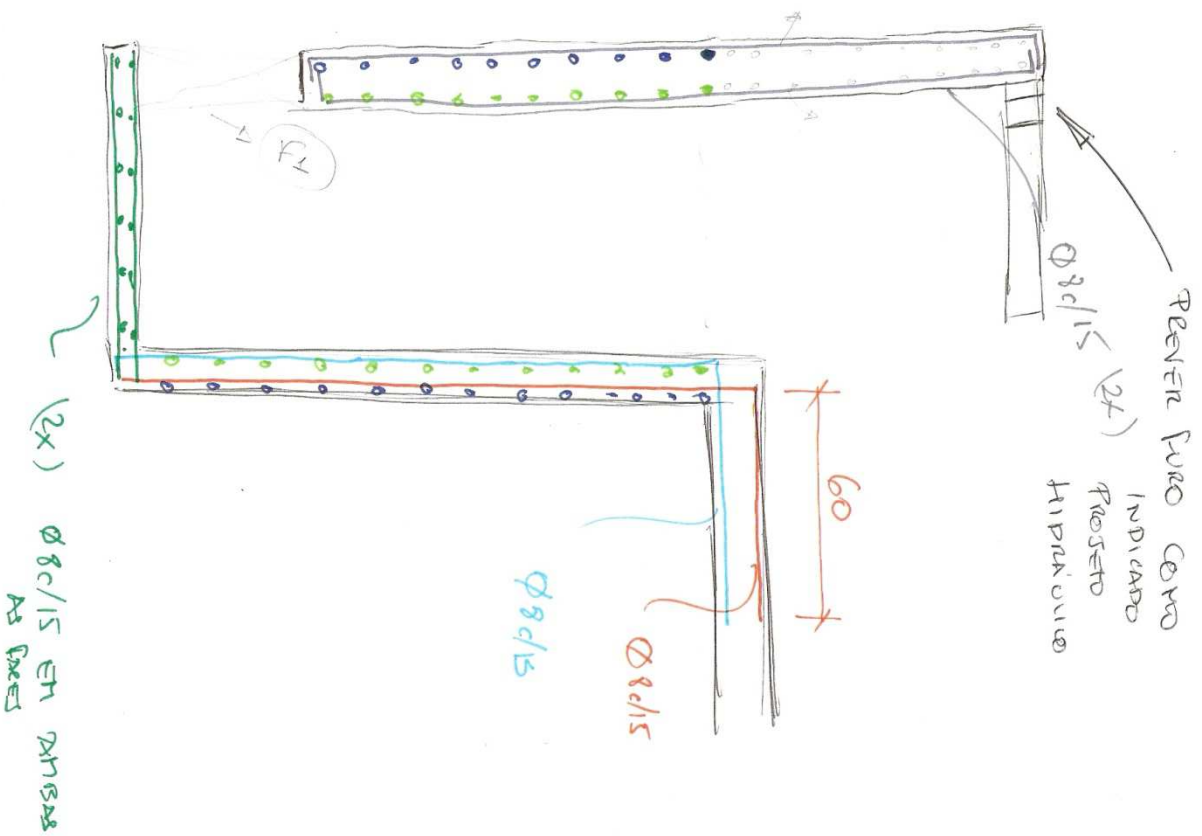
Adotar $\varnothing 8/15$ em ambas as direções

12

DETALHE ARMADURA

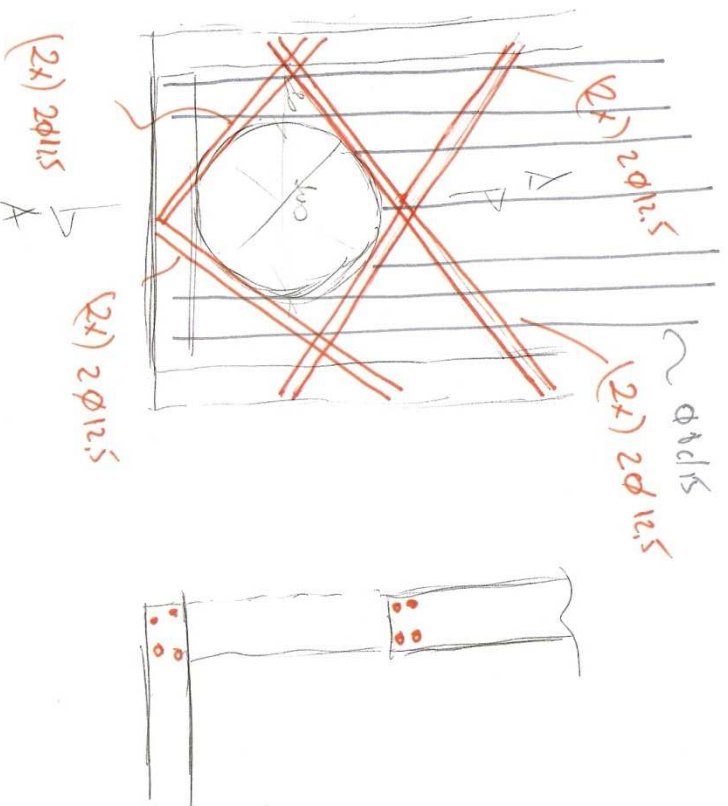


13

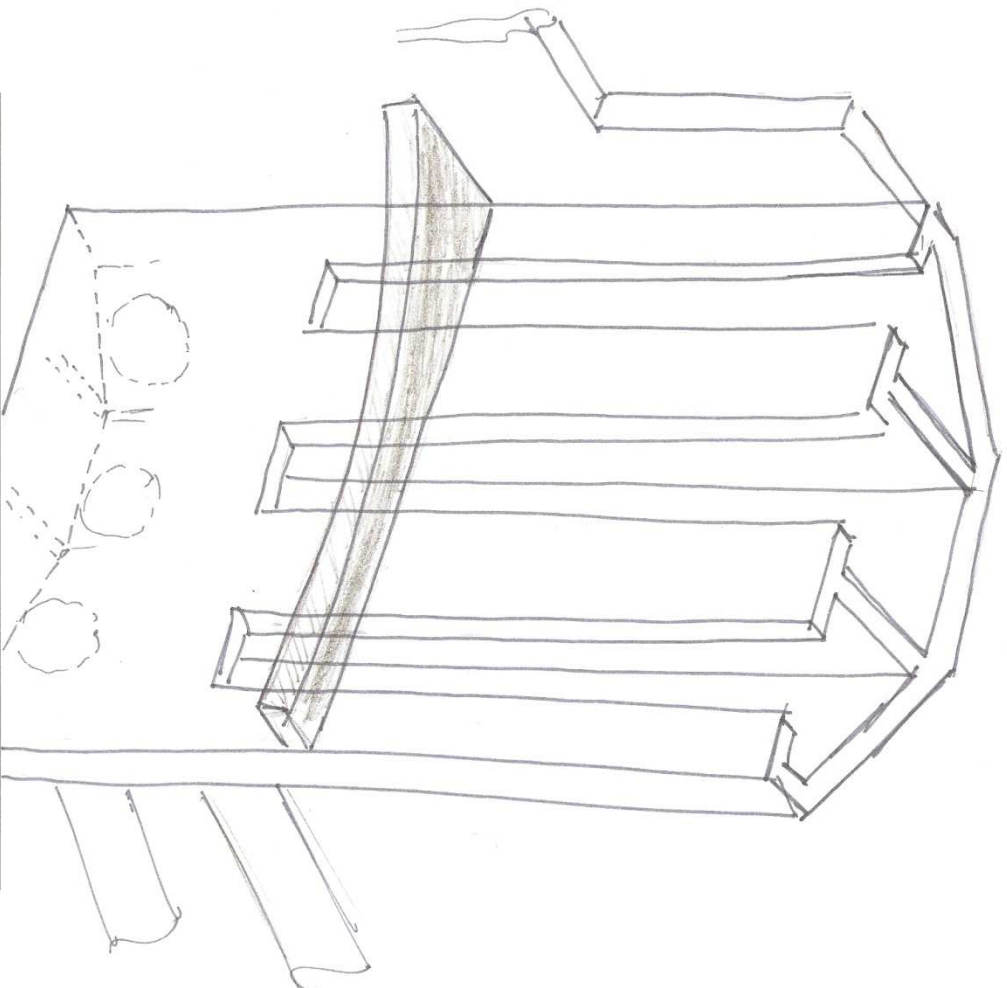


14

DETALHE Reforço + suas FL

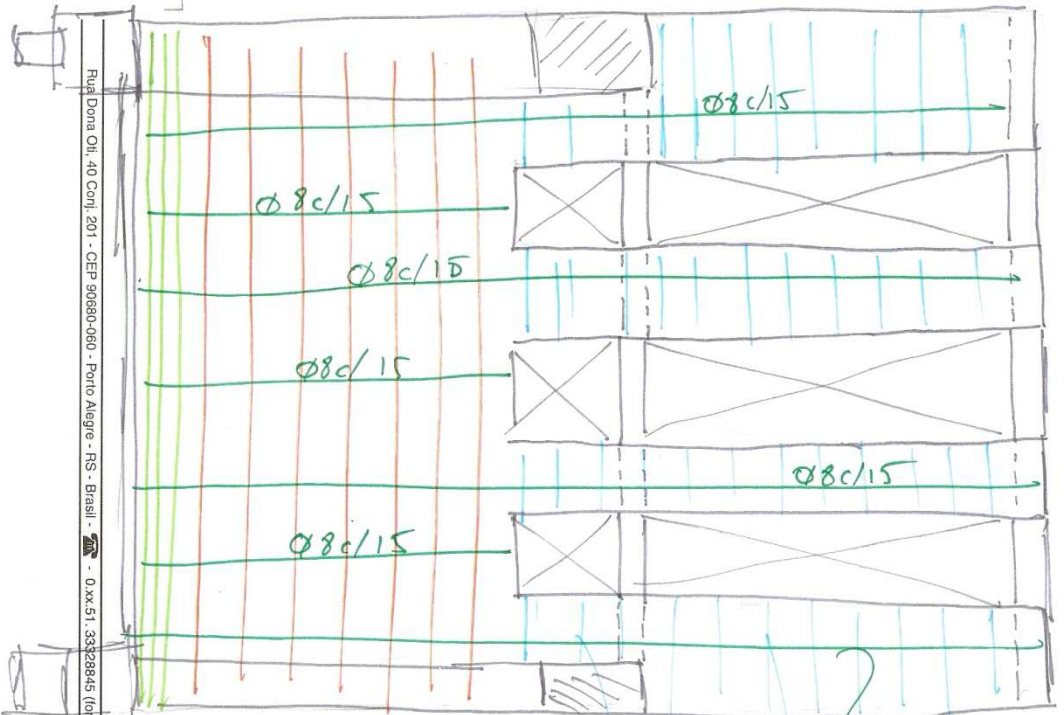


5 DETALHAMENTO SEPARA DORES LATERAIS

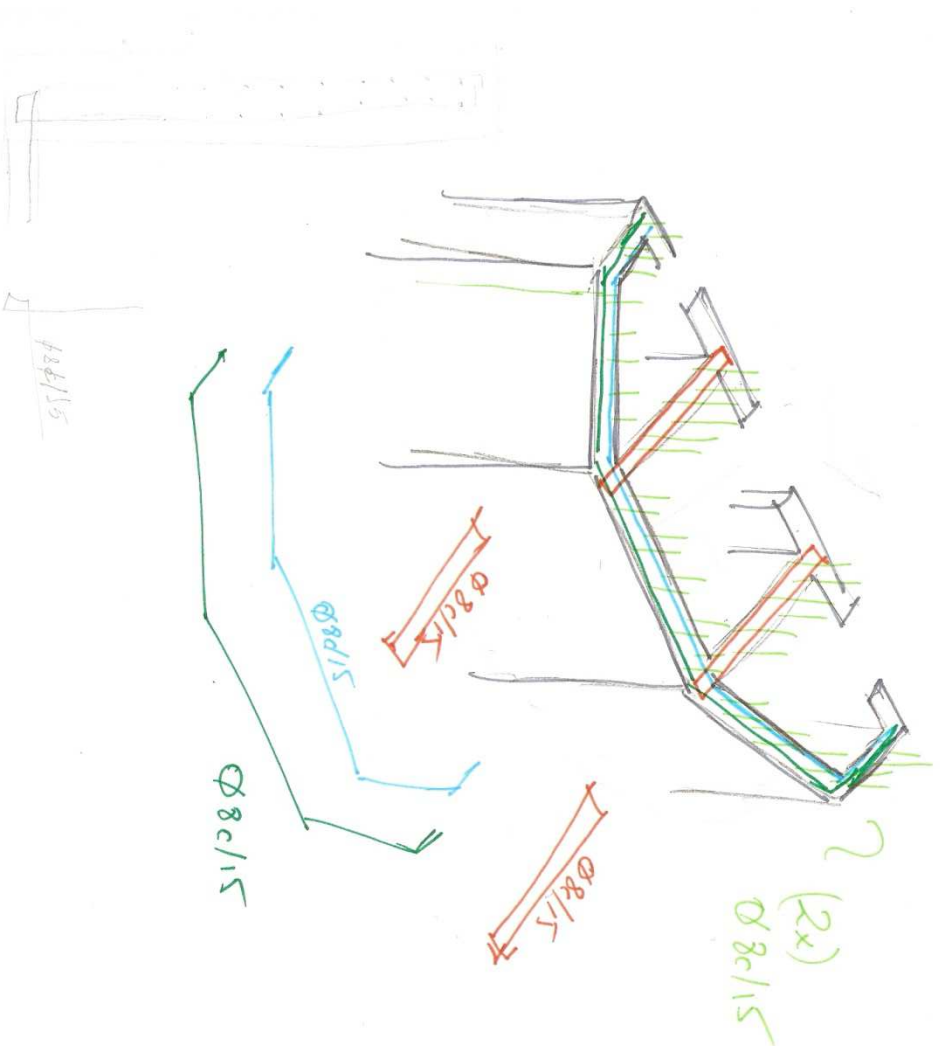


70

(3)



PARDE TRIANGULAR E SETO
INTERNO



Estudo cargas sobre Pórtico - Radial

P_{ESO} total Líquido:

$$\frac{36 \text{ kN}}{\text{m}^2} \times 5,70 \times 4,71 + 70 \frac{\text{kN}}{\text{m}^2} \times 1 \times 1,4 + 70 \times 1 \times 1,40 = 1162 \text{ kN}$$

P_{ESO} concreto:

$$\begin{aligned} & [(2 \times 5,70 + 2 \times 4,71) \cdot 0,25 \cdot 3 + 0,25 \cdot 5,70 \cdot 4,71 \\ & + 7,2 \text{ m} \times 0,2 \times 7 + (1 + 1 + 1,4 + 1,40) \cdot 4 \times 0,20 + \\ & (1 \times 1,4) \times 0,20 + (1 \times 1,4 \times 0,20)] \times 25 = \\ & (15,61 + 6,71 + 10,1 + 3,84 + 0,28 + 0,28) 25 \end{aligned}$$

$$P_{\text{conc}} = 920,5 \text{ kN}$$

PASSARELA:

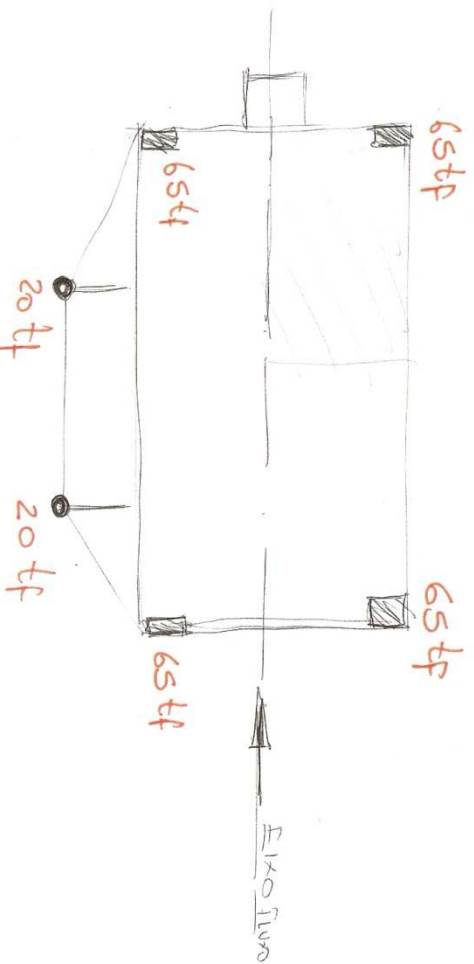
$$10 \frac{\text{kN}}{\text{m}^2} \times 1 \times (2 \times 5,7 + 2 \times 4,71) = 208,2 \text{ kN}$$

CARGA TOTAL

$$1162 + 921 + 209 = 2292 \text{ kN}$$

$$\downarrow$$
$$\underline{\underline{2500 \text{ kN}}}$$

CARGA POR ESTACA:

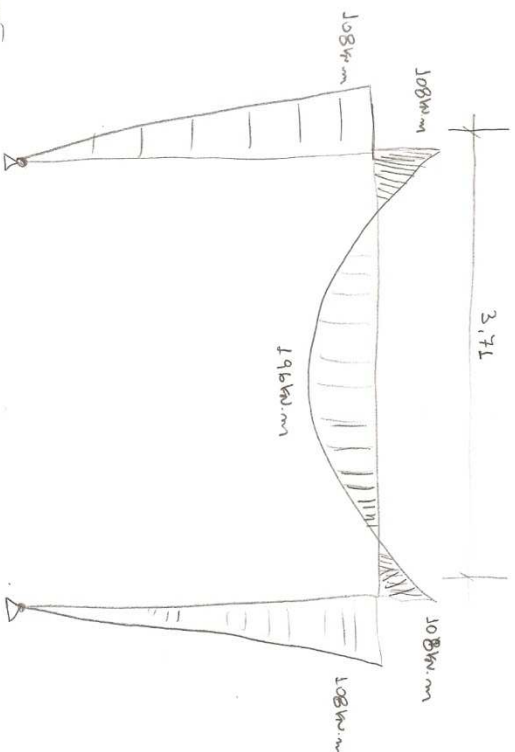
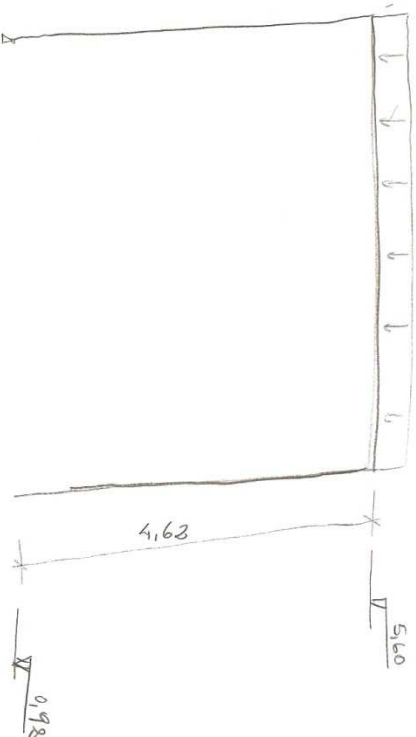


20

Dimensionamento Pórtico Periférico

* Pórticos 3 e 10

1) Cargas $\left\{ \begin{array}{l} q = \frac{650N}{3,71m} = 176N/m \end{array} \right.$



* Flexão

B = 25

H = 80

fck = 30 MPa

X = 108 Nm

M = 396 kNm

$AS_x = 4,72 cm^2 \rightarrow 4 \phi 20 (12,60 cm^2)$

$AS_m = 8,79 cm^2 \rightarrow 4 \phi 20 (12,60 cm^2)$

* Cisalhamento

B = 25

H = 80

fck = 30 MPa

Vk = 327 kN

$AS_w = 9,81 cm^2/m \rightarrow \phi 8,0 c/10$

B = 40

H = 80

fck = 30 MPa

X = 108 Nm

M = 396 kNm

$AS_x = 5,57 cm^2 \rightarrow 4 \phi 20 (12,60 cm^2)$

$AS_m = 8,59 cm^2 \rightarrow 4 \phi 20 (12,60 cm^2)$

* Cisalhamento

B = 40

H = 80

fck = 30 MPa

Vk = 327 kN

$AS_w = 6,51 cm^2/m \rightarrow \phi 8,0 c/14$

21

Dimensionamento Pilares Pórtico F21P8

Pilar 40x40

$$P = 650 \text{ kN}$$

$$M_x = 208 \text{ kN.m}$$

$$H = 467 \text{ cm}$$

$$A_{s_{\text{calc}}} = 13,50 \text{ cm}^2 \rightarrow 10 \phi 12,5 (12,50 \text{ cm}^2)$$

$$\text{Estimões: } \phi 5 / 18$$

Pilar 40x25

$$P = 650 \text{ kN}$$

$$M_x = 108 \text{ kN.m}$$

$$H = 467 \text{ cm}$$

$$A_{s_{\text{calc}}} = 25 \text{ cm}^2 \rightarrow 8 \phi 20 (25,20)$$

$$\text{Estimões: } \phi 5 / 20$$

Força Bloco de 70 cm

1

Dimensionamento UNIDADE CAIXA DE RESERVA

1) CÂMARA DE DISTRIBUIÇÃO E SEDIMENTAÇÃO

- DADOS :

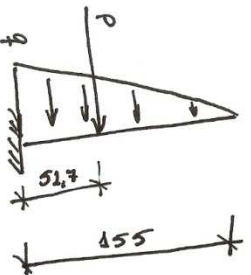
$$Q_{ESQ} = 12 \text{ m}^3/\text{m}^3$$

$$K_{SUC} = 25 \text{ m}^3/\text{m}^3$$

$$Cobertura = 4,5 \text{ cm}$$

$$SCK = 30 \text{ mPa}$$

A) PARTE LATERAL



$$q = 12 \times 1,55 = 18,6 \text{ m}^3/\text{m}$$

$$R = \frac{18,6 \times 1,55}{2} = 14,5 \text{ m}$$

$$X = 14,5 \text{ m} \times 0,517 = 7,49 \text{ m}^2/\text{m}$$

$$b = 100 \text{ cm}$$

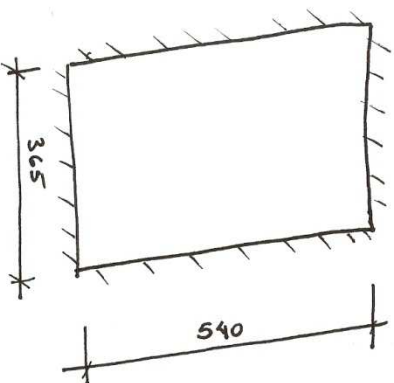
$$H = 2,5 \text{ cm}$$

$$ASX = 4,35 \text{ cm}^2/\text{m} \rightarrow \phi 8 \text{ c/11} \quad \text{utilizado} \quad \phi 10 \text{ c/11}$$

$$AS_{LZ} = \phi 8 \text{ c/11}$$

(2)

⑧ LAJE FUNDO



$$\frac{Q_x}{Q_y} = 0,67$$

$$M_x = 12,19 \text{ kN.m}$$

$$M_y = 5,177 \text{ kN.m}$$

$$X = 23,71 \text{ kN.m}$$

$$Y = 18,43 \text{ kN.m}$$

$$R_x = 22,13 \text{ kN/m}$$

$$R_y = 28,93 \text{ kN/m}$$

* CARGAS

$$p_D = 0,25 \times 25 \text{ kN/m}^3 = 6,25 \text{ kN/m}^2$$

$$p_{Lig} = 1,30 \times 12 \text{ kN/m}^3 = 15,6 \text{ kN/m}^2$$

$$F_{ACH} = 0,10 \times 25 \text{ kN/m}^3 = 2,5 \text{ kN/m}^2$$

$$\rightarrow q = 24,4 \text{ kN/m}^2$$

$$B = 100 \text{ cm}$$

$$H = 25 \text{ cm}$$

$$A_{S_{mx}} = 4,35 \text{ cm}^2/\text{m} \rightarrow \phi 8 \text{ c/11}$$

$$A_{S_{my}} = 4,35 \text{ cm}^2/\text{m} \rightarrow \phi 8 \text{ c/11}$$

$$A_{S_x} = 4,35 \text{ cm}^2/\text{m} \rightarrow \phi 8 \text{ c/11} \quad \text{utilizado} \quad \phi 20 \text{ c/11}$$

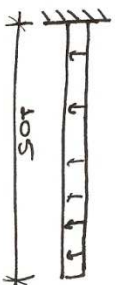
$$A_{S_y} = 4,35 \text{ cm}^2/\text{m} \rightarrow \phi 8 \text{ c/11} \quad \text{utilizado} \quad \phi 20 \text{ c/11}$$

$$A_{S_{ide}}: \phi 6.3 \text{ c/11}$$

3

③ Passa R=2m5 com 5 divisões

H = 15 cm



$$X = \frac{6,75 \times 1,05^2}{2} = 3,72 \text{ km/m/m}$$

$$q = \begin{cases} \text{PP} = 0,25 \times 25 = 3,75 \text{ w/m}^2 \\ \text{SC} = 3,0 \text{ w/m}^2 \end{cases}$$

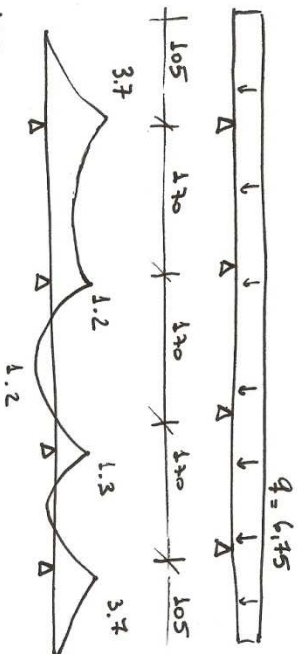
$$q = 6,75 \text{ w/m}^2$$

B = 100

H = 15

Asx = 2161 cm²/m (φ 6.3 c/11)

① Passagem com situação



B = 100

H = 15

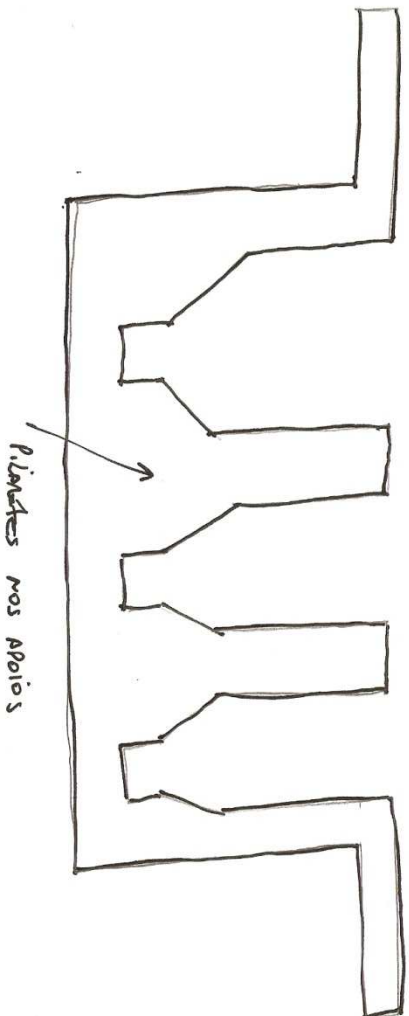
Asx = 2161 cm²/m → Utilização φ 6.3 c/11

Asm = 2161 cm²/m → Utilização φ 10 c/11

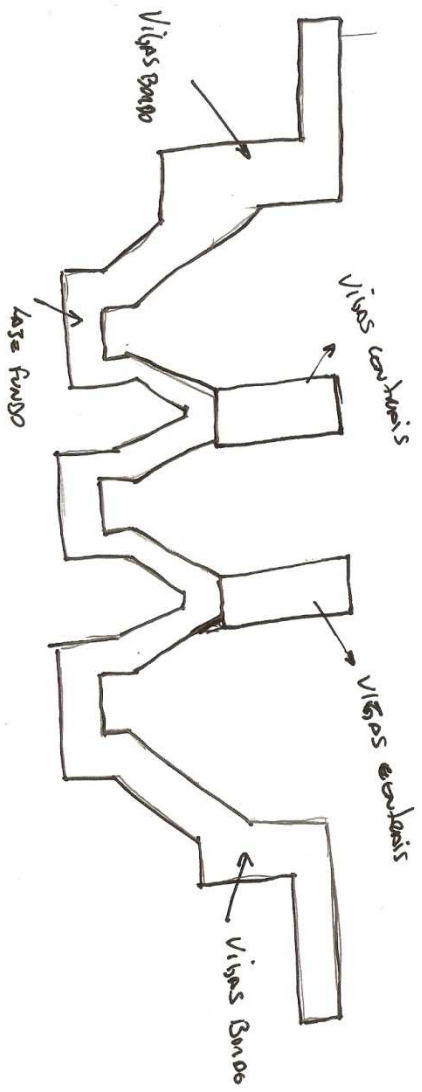
⑤

② CAIXA ALÉIA

* SEÇÃO CAIXA ALÉIA NOS APOIOS (PÓRTICOS)



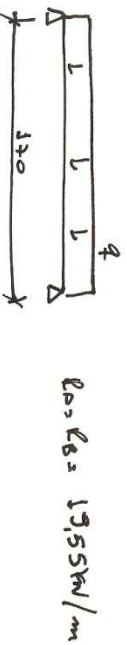
* SEÇÃO CAIXA ALÉIA FORA DOS APOIOS



(4)

⑧ $L \times S = \text{cubo}$

$$q = \begin{cases} P_f = 0,20 \times 2,5 \text{ W/m}^3 = 5 \text{ W/m}^2 \\ P_{\text{eq}} = 1,5 \times 1,2 \text{ W/m}^2 = 1,8 \text{ W/m}^2 \end{cases} \rightarrow q = 23 \text{ W/m}^2$$



$$M_{\text{max}} = \frac{23 \times 1,70^2}{8} = 8,3 \text{ W/m/m}$$

$$B = 200$$

$$H = 20$$

$$AS = 3,48 \text{ cm}^2/\text{m} \rightarrow \phi 8 \text{ c/15}$$

$$AS_{\text{dist}} = \frac{1}{5} AS = 0,70 \text{ cm}^2/\text{m} \quad \text{utilizado} \rightarrow \phi 6,3 \text{ c/11}$$

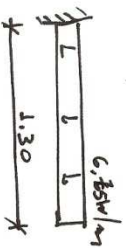
* N/A da OAS para a OAS de 100 cm

$$AS_{\text{tr}} = \frac{1,4 \times 13,55}{43,48} = 0,63 \text{ cm}^2/\text{m} \rightarrow \text{utilizado} \rightarrow \phi 8 \text{ c/15}$$

6

⑧ Viga Borda

* Borda

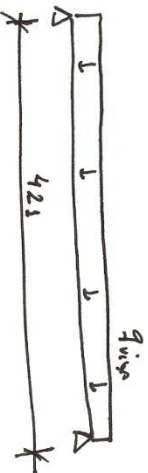


$$q_g = 8.8 \text{ kN/m}$$

$$X = 5.70 \text{ km/m}$$

$$q_{visão} = \begin{cases} q_D = 0.51 \times 0.30 \times 25 \text{ kN/m}^3 = 6.83 \text{ kN/m} \\ q_L = 19.55 \text{ kN/m} \\ q_E = 8.8 \text{ kN/m} \end{cases}$$

$$\rightarrow q_{visão} = 35.18 \text{ kN/m}$$



$$M_{max} \approx 80 \text{ kNm}$$

$$V_{0.6} = 74 \text{ kN}$$

* Flange

$$B = 30$$

$$H = 91$$

$$A_s = 4,75 \text{ cm}^2 \rightarrow 3 \phi 16$$

* Corrente

$$B = 30$$

$$H = 91$$

$$A_{sw} = 3.48 \text{ cm}^2/\text{m} \rightarrow \phi 6.3 \text{ c/s}$$

$$A_{st} = 1.89 \text{ cm}^2/\text{m}$$

$$A_{rel} = 0.10; A_c = 2.73 \text{ cm}^2/\text{face}$$

$$3 \phi 6.3 / \text{face}$$

$$A_{sw} + A_{st} = 5.33 \text{ cm}^2/\text{m}$$

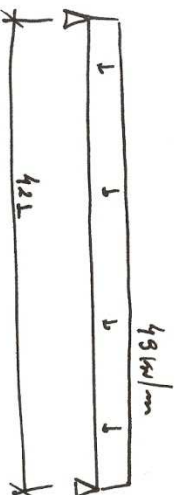
$$4 \phi 6.3 \text{ c/s}$$

$$A_{0.700} \phi 8 \text{ c/s}$$



© Vigas contínuas

$$q = \begin{cases} p = 0,50 \times 0,74 \times 25 = 9,25 \text{ kN/m} \\ R_{L1} = 29,55 \text{ kN/m} \\ R_{L2} = 29,55 \text{ kN/m} \end{cases} \quad q = 49 \text{ kN/m}$$



$$M_{\max} = 108 \text{ kN.m}$$

$$V_{\max} = 103 \text{ kN}$$

$$B = 50$$

$$H = 74$$

$$A_s = 6,44 \text{ cm}^2 \rightarrow 4 \phi 36$$

$$x_{\text{calculo}} =$$

$$B = 50$$

$$H = 74$$

$$A_{sw} = 3,48 \text{ cm}^2/\text{m} \rightarrow \phi 6,3 @ 15$$

3 TANQUE DE AERAÇÃO

3 TANQUE DE AERAÇÃO

3.1 Caracterização da obra

O Tanque de Aeração -, módulos 1, 2 e 3 - constitui-se por um tanque em concreto armado, medindo internamente 25 m x 50 m e com uma altura de paredes 5,50 m, estando dividido em três áreas principais: zona anaeróbia, zona anóxica e zona aeróbia. Estas áreas estão separadas entre si por paredes de concreto armado com grandes aberturas que garantem uma comunicação permanente entre as mesmas. Uma parede central, com desenvolvimento longitudinal, divide o tanque em, aproximadamente, duas partes sendo que a zona aeróbia ocupa uma delas e as outras duas a restante. O tanque possui algumas estruturas anexas, todas em concreto armado, que são: canal afluente, elevatória de lodo ativado, elevatória de recirculação do lodo e vertedouro com canal efluente. O detalhamento geral do tanque incluindo os canais afluente e efluente (com vertedor de saída e remoção do excesso de lodo) consta das plantas EG0112-D-TQA-HID-01-02, EG0112-D-TQA-HID-02a03; EG0112-D-TQA-HID-04 e EG0112-D-TQA-HID-05a06; a planta EG0112-D-ELA-HID-01-00 trata da Elevatória de Lodo Ativado; e, as plantas EG0112-D-ERL-HID-01a02-00 contém a Elevatória de Recirculação do Lodo.

As estruturas de todos os elementos acima são em concreto armado, conforme já mencionado, e as fundações em estacas pré-moldadas de concreto

3.2 Condicionantes de projeto

Os condicionantes do projeto estrutural são constituídos pela geometria e especificações constantes dos projetos arquitetônicos e hidráulico, bem como pelo que preconizam as normas brasileira vigentes, em especial a NBR6118/2003 (Projeto de Estruturas de Concreto – Procedimentos), a NBR 6120/80 (Cargas para o cálculo de estruturas de edificações), NBR 6123/1988 (Forças devido ao vento em edificações), NBR 6122/1996 (Projeto e Execução de Fundações) e NBR 8681/2003 (Ações e Segurança Nas Estruturas – Procedimentos). Além disso, foi observado o que dispõe a “Especificação para Elaboração de Projetos de Estruturas de Concreto” da CORSAN.

A Classe de Agressividade Ambiental adotada tomando por base as especificações da CORSAN, foi a III indicada na Tabela 6.1 da NBR 6118/2003, correspondendo a agressividade *forte*.

Para esta classe a NBR 6118 estabelece o seguinte:

- c) Especificações para o concreto:
 - Classe de concreto: $\geq C30$ – $f_{ck} \geq 30\text{Mpa}$ (300 kgf/cm^2);
 - $E_{cs} = 0,85 E_{ci} = 26072\text{ Mpa}$ (260720 kgf/cm^2);
 - Fator água cimento máximo = 0,55.
- d) Especificações para cobrimentos de armaduras (CORSAN):
 - Vigas e pilares: 45 mm
 - Lajes : 45 mm

Como carregamentos específicos deste projeto têm-se:

- iii) Peso específico aparente do lodo: 1,2 tf/m³.
- iv) Talhas elétricas com diferentes carregamentos, sendo que foi adotada, à favor da segurança, um carga única de 3 tf, colocada na extremidade dos braços dos pórticos de carga.
- v) Moto-bombas com peso considerado de 1,5 tf, também, à favor da segurança.

- vi) Nos locais com tubulações foi considerada a carga permanente do peso das mesmas e mais uma sobrecarga accidental correspondente ao volume de lodo por metro de comprimento com peso específico de 1,2 tf/m³.
- vii) Nas passarelas e escadas foi considerada uma sobrecarga accidental de 300 kfg/m².

Para efeito do cálculo das pressões nas paredes e lajes de fundo o nível de lodo foi considerado como com a altura máxima das próprias paredes admitindo-se, à favor da segurança, a possibilidade deste enchimento máximo.

As fundações foram projetadas a partir de relatórios de sondagem de percussão, tipo SPT, pela empresa FS Sondagens de Cachoeirinha-RS.

3.3 Concepção geral do(s) modelo(S) estrutural(is)

A estrutura principal do tanque está constituída por paredes munidas de contrafortes. Tanto os contrafortes como a laje de fundo estão apoiados em blocos sobre estacas pré-moldadas de concreto armado.

As Figuras 1 e 2, abaixo, mostram de uma forma geral a estrutura como um todo. No perímetro externo estão as paredes com contrafortes que, nas duas laterais de desenvolvimento longitudinal e no fundo da figura, possuem uma seção variando continuamente desde baixo (50x120) até a parte superior (30x 50 e 50x50). De uma forma geral, em todo o perímetro do tanque existem passarelas.

Na parte alta da parede longitudinal esquerda (parede que fica acima na Figura 1 e à esquerda na Figura 2) encontra-se o canal afluente o qual é constituído por lajes de fundo e viga longitudinal de testada (parede frontal paralela à parede externa) apoiados em vigas transversais de seção variável engastadas nos contrafortes.

Na Figura 2 pode-se ver que os contrafortes assumem formas especiais dadas as interferências tanto do canal efluente (canal que recebe o extravasamento do vertedor) e de remoção do excesso de lodo como, também, da interface da estrutura do tanque com a elevatória de lodo ativado.

Devido ao tamanho do tanque o mesmo foi dividido em três setores (A, B e C) separados entre si, paredes e fundo, por juntas de dilatação de 3 cm de espessura munidas de *fugenband* do tipo O-22.

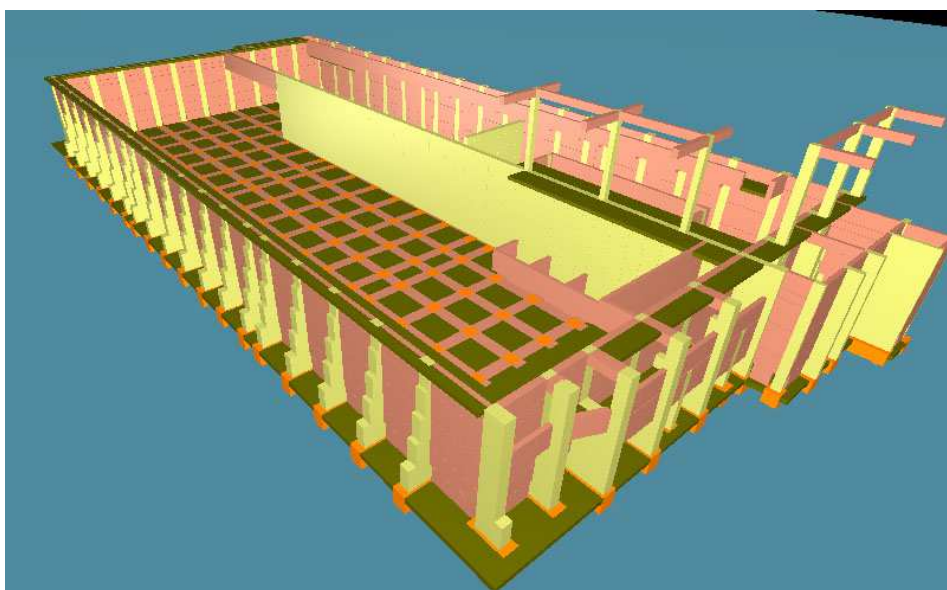


Figura 1 — Vista tridimensional do modelo estrutural – visada desde o canto próximo ao canal efluente e dispositivo de remoção do excesso de lodo.

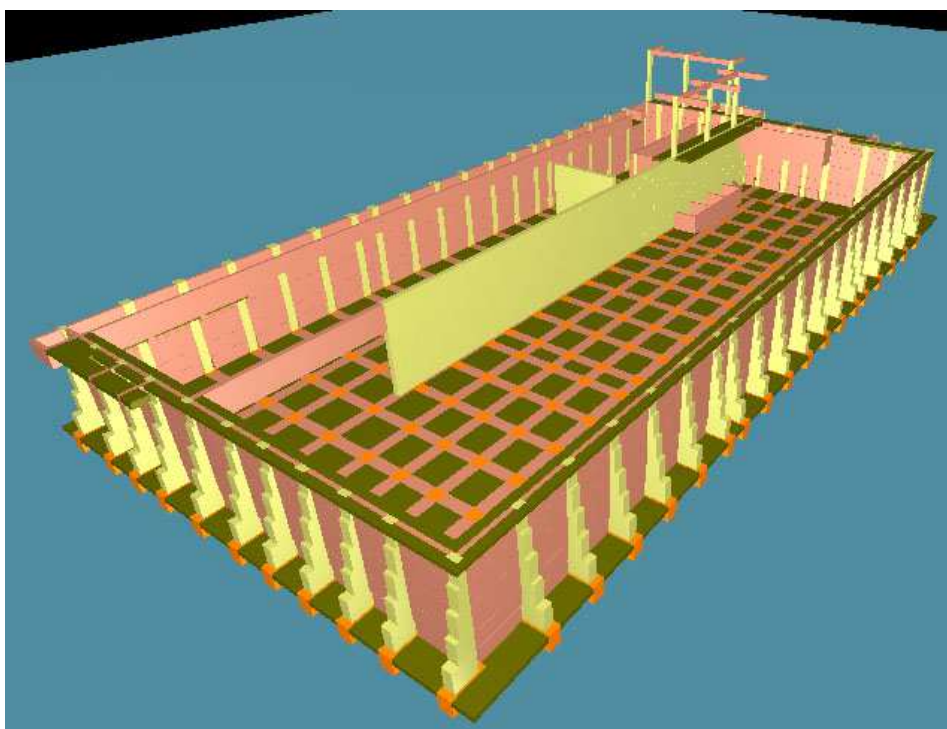


Figura 2 – Vista tridimensional do modelo estrutural de outra visada.

3.4 Metodologia de projeto

A metodologia adotada é a utilizada pelo CAD/TQS com a configuração de modelos e dos parâmetros de projeto.

O lançamento geométrico e de carregamento da estrutura é feito graficamente a partir do qual são construídos os arquivos de entrada de dados no sistema.

Os dados de carregamento são objeto de combinações que visam atender o que estabelecem as normas NBR 6118 e NBR 8681 relativamente aos ELU (Estados Limites Últimos) e ELS (Estados Limites de Serviço). O sistema, no nível de pavimento (laje de fundo do tanque, dos canais e canaletas e das elevatórias), discretiza as lajes e vigas em grelhas, distribuindo os esforços nas mesmas e resolvendo os sistemas de equações resultantes matricialmente. Isto feito, os resultados são transferidos para um modelo de pórtico espacial que trata a estrutura de barras constituída por vigas e pilares como um todo, inclusive com a consideração dos esforços horizontais devidos ao vento. Neste modelo de pórtico, as lajes horizontais são tratadas como diafragmas rígidos e os esforços são distribuídos entre os pilares de acordo com suas respectivas rigidezes. Resolvido o pórtico, os esforços resultantes são individualizados nas vigas e pilares que lhes correspondem. O próximo passo é o dimensionamento de vigas e pilares que é feito de forma automática pelo sistema obedecendo aos critérios estabelecidos pelo projetista. Esses resultados podem ser objeto de edição interativa, intermediária, parcial ou total, e, posteriormente, final de detalhamento e desenho. O dimensionamento das lajes é feito de forma interativa com a utilização de editor de esforços e armaduras.

O processamento é feito de diferentes maneiras automática e/ou manual. Os resultados são fornecidos através de relatórios analíticos e de interfaces gráficas. De uma forma geral os procedimentos são os seguintes:

- 5º. Estabelecimento dos critérios de projeto e lançamento gráfico da estrutura com suas cargas.
- 6º. Processamento global com as seguintes análises de resultados:
 - a. Análise visual e dos valores das deformações das vigas e lajes em modelo elástico;
 - b. Análise visual das deformações e solicitações no pórtico;
 - c. Edição interativa das armaduras das lajes;
 - d. Exame visual da armadura de vigas e seus diagramas; edição interativa de vigas;
 - e. Análise de lajes e vigas através de modelo de grelha não-linear com verificação visual de deformações imediata e lenta, bem como da fissuração.
 - f. Exame visual das armaduras e taxas de armadura dos pilares e edição interativa se necessário;
 - g. Análise das fundações e edição interativa se necessário.
- 7º. Detalhamento final e desenho.
- 8º. Emissão de plantas.

No caso do tanque as paredes tiveram seus diagramas de pressões e esforços globais determinados com o uso de uma planilha de cálculo. Os momentos fletores nas paredes externas foram obtidos utilizando um aplicativo independente e o dimensionamento foi feito também em planilha. No caso dos contrafortes os mesmos foram discretizados no TQS, para efeito de cálculo, com seções escalonadas. O carregamento foi introduzido de forma concentrada, a partir das reações da modelagem externa das paredes e a determinação de esforços foi obtida a partir da resolução numérica do pórtico espacial. O dimensionamento seguiu o procedimento normal do cálculo de pilares à flexão composta característico daquele aplicativo. Simultaneamente, foram determinados os esforços e foi dimensionado manualmente um contraforte de um vão com significativa representatividade no contexto global do projeto. Feita a comparação os valores do cálculo manual e do TQS verificou-se que os resultados foram bastante próximos indicando a validação do processo automático utilizado.

No caso das paredes internas, na medida em que as mesmas foram consideradas sem contrafortes, com engastamento na base e livre no topo, o modelo utilizado no TQS foi o de uma sequência de pilares alinhados um ao lado do outro. O carregamento foi feito com forças e o tratamento numérico semelhante ao dos contrafortes, ou seja, como pórtico. O cálculo manual feito em planilha eletrônica conduziu a valores semelhantes ao obtido automaticamente.

As Elevatórias de Recirculação do Lodo e de Lodo Ativado foram discretizadas em lajes, vigas e pilares e tratadas de forma trivial no TQS. As paredes foram dimensionadas como lajes verticais, de forma manual, e as reações resultantes aplicadas nos pilares como esforços horizontais.

No dimensionamento das armaduras, além da absorção de esforços, foi considerada a retração e a limitação da abertura de fissuras a 0,1 mm.

3.5 Memorial de Desenvolvimento e resultados do projeto

3.5.1 Lajes de Fundo do Tanque (Vigas e lajes):

As lajes de fundo, com 25 cm de espessura, e apoiadas em blocos sobre estacas, foram modeladas como grelhas formada por vigas faixas, de mesma altura da laje. As vigas faixas foram distribuídas em malha unindo os blocos. Preferiu-se utilizar blocos ao invés do apoio direto da laje sobre as estacas para reduzir a punção a valores de tensão que dispensassem o uso de armadura. A Figura 3 mostra o modelo estrutural do setor A. Na periferia pode-se ver os contrafortes, bem como suas vigas e blocos sobre estacas. Na região central está a laje e as vigas faixas também sobre blocos.

As Figuras 3 e 4 apresentam, a título de exemplo, respectivamente, o modelo estrutural de grelha e os momentos fletores resultantes utilizados nos dimensionamentos das vigas de equilíbrio e na laje plana (vigas faixas e laje discretizada em pequenas grelhas). O dimensionamento das vigas e lajes é o trivial para esses elementos de concreto armado. No caso das lajes a apresentação dos resultados numéricos fica prejudicada porque no TQS somente tem saída gráfica. As vigas faixas e as vigas de equilíbrio são apresentadas no anexo correspondente.

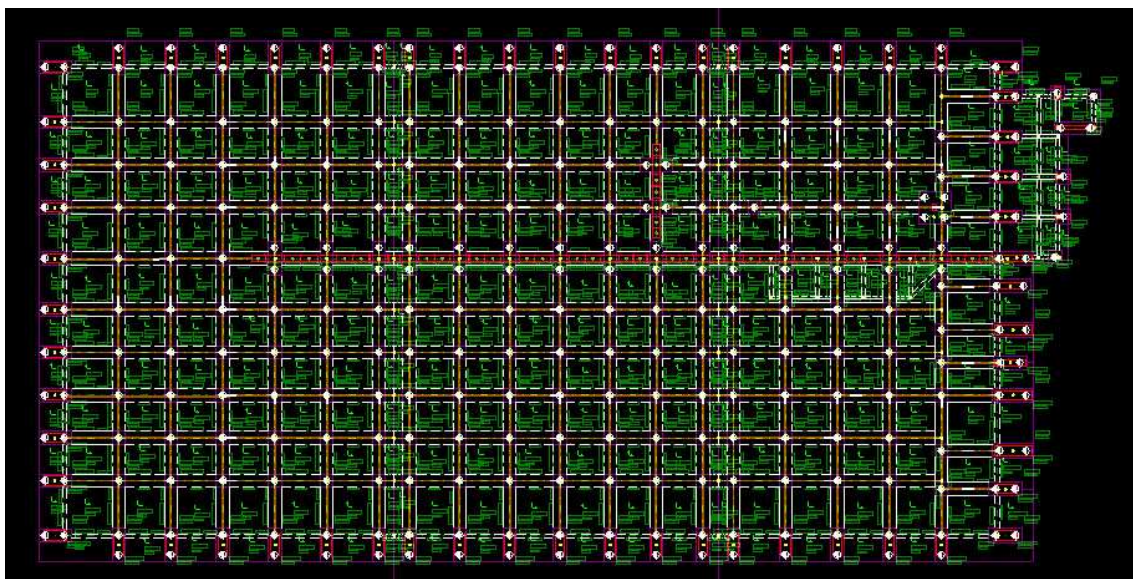


Figura 3 – Modelo estrutural da laje de fundo do Setor A.

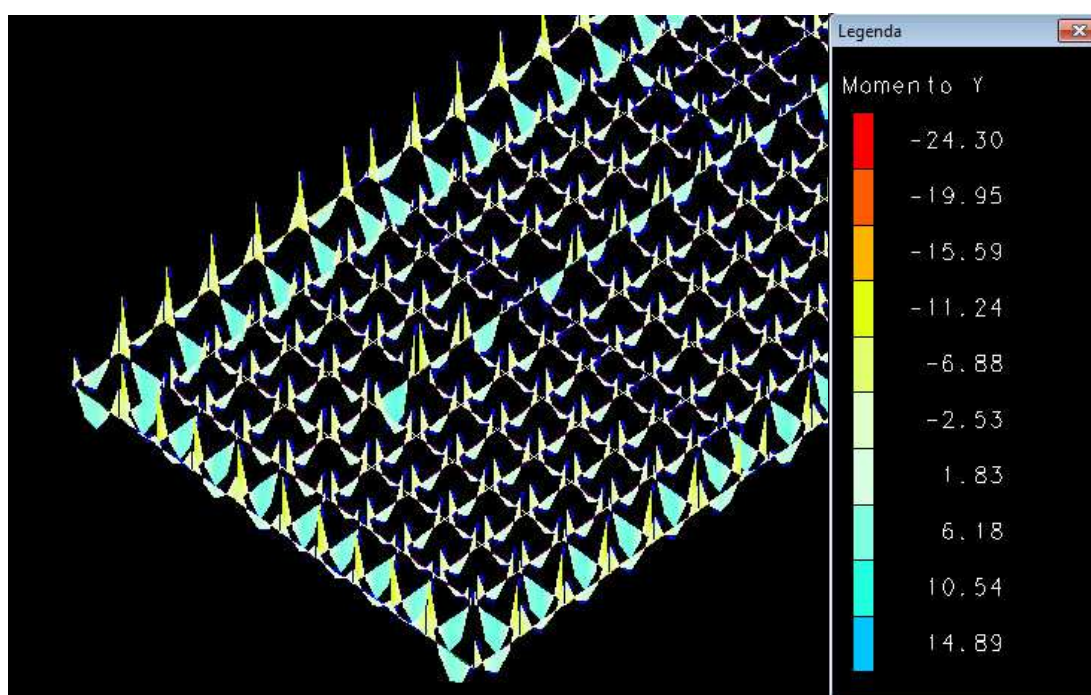


Figura 4 – Resultado gráfico parcial dos momentos fletores utilizados no dimensionamento das vigas e lajes.

A carga utilizada sobre o fundo foi de 5,50 m de lodo com um peso específico aparente de 1,2 tf/m³. A carga total adotada foi de 6,60 tf/m² da qual 1/3 foi considerada como permanente e 2/3 como accidental.

3.5.2 Paredes:

As paredes conforme já mencionado foram divididas em externas e centrais. As paredes externas apoiam-se em contrafortes e, portanto, tem sua direção principal de dimensionamento a horizontal sendo dividida em faixas. As Figuras 5 e 6 mostram a título de exemplo o carregamento e os momentos fletores das paredes do Setor. As cargas

adotadas foram as mesmas para todos os setores. O dimensionamento é o trivial de seções de lajes concreto armado submetidas a flexão.

Como já mencionado os contrafortes foram carregados com as reações das paredes acima no modelo de pórtico do TQS. A Figura 7 apresenta uma planilha com o cálculo de um contraforte representativo considerado engastado na base e livre no topo. A confrontação desse resultado com os obtidos do TQS apresentam-se muito próximos. Portanto, foram adotados esses resultados para a maioria dos contrafortes. As exceções foram os contrafortes das paredes dos Setores A e F onde estão localizadas as estruturas anexas que lhes modificam as configurações. Nesse caso, utilizou-se como resultado para detalhamento os valores de armadura saídos do TQS com as adequações que se entendeu necessárias.

A parede central e a parede transversal de separação entre a zona anaeróbia e anóxica foram dimensionadas como engastadas na base e livres no topo, sem contrafortes. O carregamento horizontal utilizado alternadamente de um lado e outro foi o de 15% da pressão utilizada na parede externa. Portanto, na parede interna admitiu-se a presença de lodo em ambos os lados equilibrando os esforços. Os 15% de pressão adotados tiveram o propósito de considerar uma variação de nível de lodo que eventualmente pudesse vir acontecer sempre de forma ocasional e transitória.

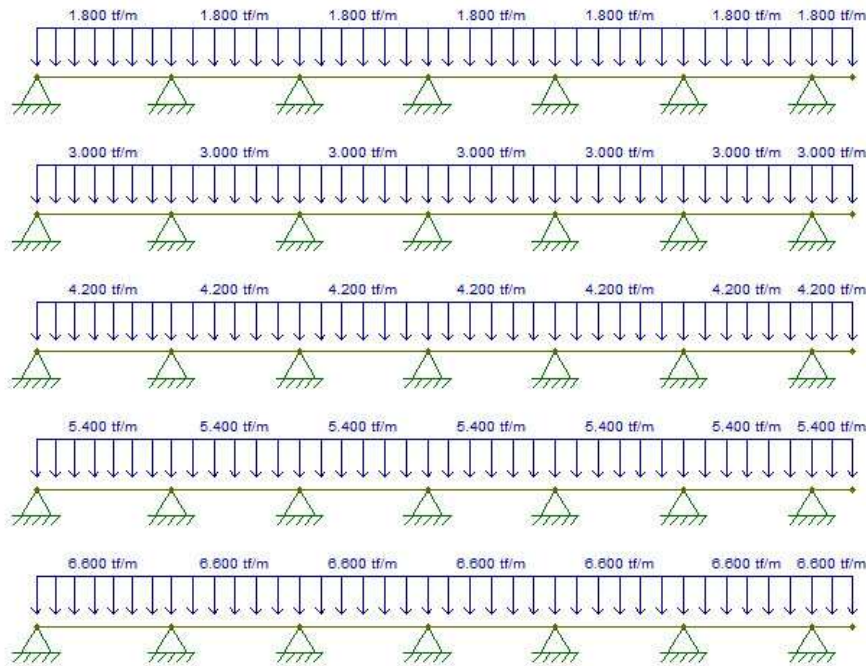


Figura 5 - Setor E - Carregamento das paredes externas em faixas horizontais.

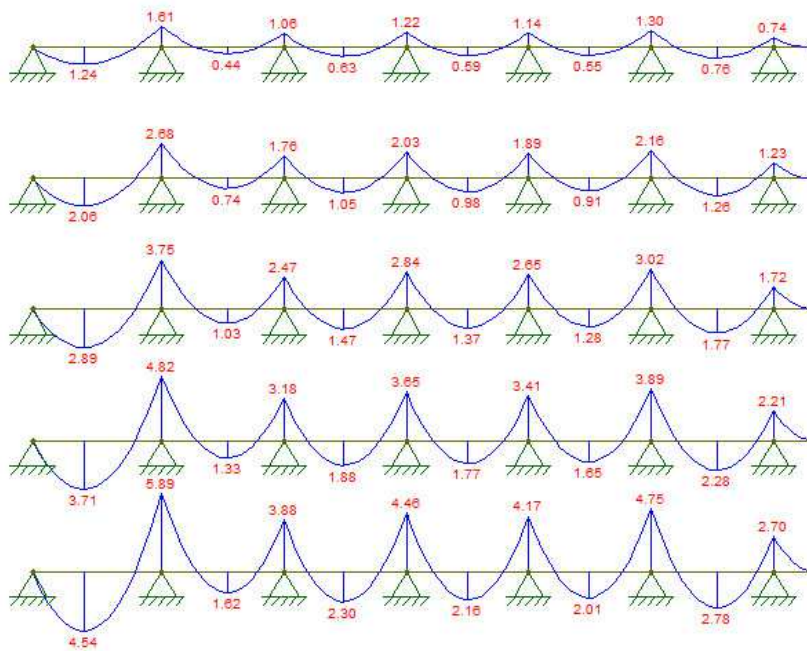


Figura 6 - Setor E - Momentos fletores nas faixas horizontais das paredes externas

CONTRAFORTES - Esforços e dimensionamento																
Gama =		1200 kgf/m ³		h _{sup} =		30		gama _f =		1,4		gama _c =		1,4		
L =		2,80 m		h _{inf} =		120		f _{ck} =		300		σ _{cd} =		182,14		
								f _{yd} =		4348						
6,77	z	pz	Qz	Mz	hsec	bw	Fzo	Fzpar	Fzpp	Fztot	δ	d'	v	μ	w	As
6,27	0,50	600,00	420,00	70,00	38,18	50	0,00	575,00	213,07	788,07	0,10	3,82	0,00	0,00		0,00
5,77	1,00	1.200,00	1.680,00	560,00	46,36	50	0,00	1150,00	477,27	1627,27	0,10	4,64	0,01	0,00		0,00
5,27	1,50	1.800,00	3.780,00	1.890,00	54,55	50	0,00	1725,00	792,61	2517,61	0,10	5,45	0,01	0,01		0,00
4,77	2,00	2.400,00	6.720,00	4.480,00	62,73	50	0,00	2300,00	1159,09	3459,09	0,10	6,27	0,01	0,02		0,00
4,27	2,50	3.000,00	10.500,00	8.750,00	70,91	50	0,00	2875,00	1576,70	4451,70	0,10	7,09	0,01	0,03	0,07	10,40
3,77	3,00	3.600,00	15.120,00	15.120,00	79,09	50	0,00	3450,00	2045,45	5495,45	0,10	7,91	0,01	0,04	0,09	14,91
3,27	3,50	4.200,00	20.580,00	24.010,00	87,27	50	0,00	4025,00	2565,34	6590,34	0,10	8,73	0,01	0,05	0,12	21,94
2,77	4,00	4.800,00	26.880,00	35.840,00	95,45	50	0,00	4600,00	3136,36	7736,36	0,10	9,55	0,01	0,06	0,14	27,99
2,27	4,50	5.400,00	34.020,00	51.030,00	103,64	50	0,00	5175,00	3758,52	8933,52	0,10	10,36	0,01	0,07	0,16	34,73
1,77	5,00	6.000,00	42.000,00	70.000,00	111,82	50	0,00	5750,00	4431,82	10181,82	0,10	11,18	0,01	0,09	0,21	49,18
1,27	5,50	6.600,00	50.820,00	93.170,00	120,00	50	0,00	6325,00	5156,25	11481,25	0,10	12,00	0,01	0,10	0,23	57,81

Figura 7 – Contraforte representativo – Esforços e dimensionamento.

	ETE Novo Mundo - Pelotas									
	CONTRAFORTES - Esforços e dimensionamento									
	Gama =	180	kgf/m3	hsup=	35	gamaf=	1,4	gamac=	1,4	
	L =	1,00	m	hinf=	35	fck=	300	σcd=	182,14	
						fyd=	4348			
	z	pz	Qz	Mz	hsec	bw	Fzo	Fzpar	Fzpp	Fztot
6,77	0,00	0,00	0,00	0,00	35,00	100	0,00	0,00	0,00	0,00
5,67	1,10	198,00	108,90	39,93	35,00	100	0,00	0,00	962,50	962,50
4,57	2,20	396,00	435,60	319,44	35,00	100	0,00	0,00	1925,00	1925,00
3,47	3,30	594,00	980,10	1.078,11	35,00	100	0,00	0,00	2887,50	2887,50
2,37	4,40	792,00	1.742,40	2.555,52	35,00	100	0,00	0,00	3850,00	3850,00
1,27	5,50	990,00	2.722,50	4.991,25	35,00	100	0,00	0,00	4812,50	4812,50

Figura 8 – Distribuição de pressões e esforços na parede central.

As forças resultantes das ações horizontais (Figura 9) nas paredes centrais foram transferidas ao TQS onde estas foram discretizadas como pilares lado a lado alternadamente apoiados nos blocos de estacas e sobre uma viga bloco de desenvolvimento contínuo.

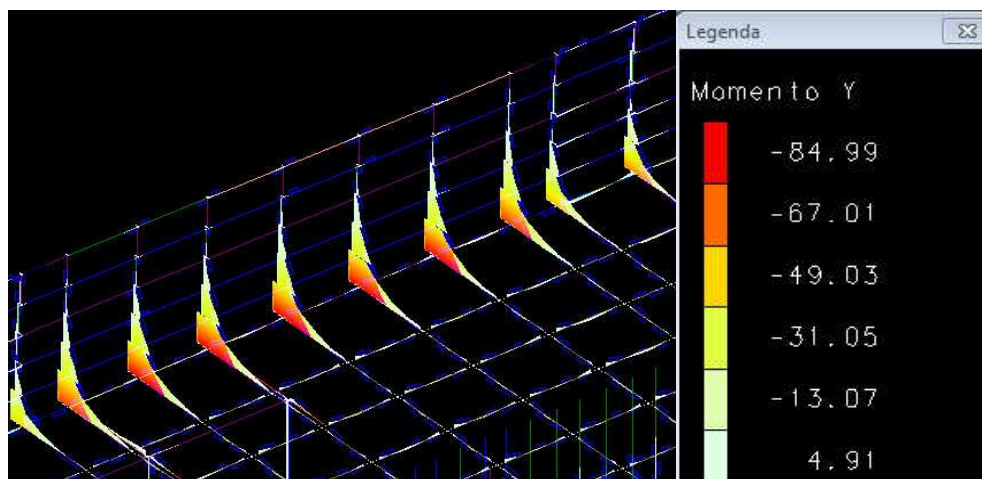


Figura 9 – Momentos fletores no modelo de pórtico dos setores A e B.

A Figura 9 ilustra os resultados de momentos fletores (contrafortes, vigas de equilíbrio e vigas faixa) na estrutura no modelo de pórtico. Observando-se a escala pode-se ver a proximidade dos momentos fletores obtidos no TQS para os contrafortes (diagramas variando entre o branco e o azul escuro) com os obtidos através do cálculo manual em planilha (coluna Mz da planilha da Figura 7).

3.5.3 Elevatória de Recirculação do Lodo

No nível da laje de fundo a elevatória foi discretizada junto com a laje de fundo do Setor F observando a mesma metodologia indicada acima. Na plataforma de sustentação das tubulações de recalque e recirculação a modelagem foi na forma de lajes e vigas dentro do padrão clássico do TQS.

3.5.4 Elevatória de Lodo Ativado

As vigas de fundação e os pilares estão incluídos, respectivamente, na laje de fundo F e nos pilares do Setor.

A modelagem da estrutura foi a trivial do TQS. As paredes foram dimensionadas manualmente como lajes sobre 3 apoios submetidas as pressões da elevatória considerada, a favor da segurança, cheia até sua borda superior; simultaneamente foram tratadas como vigas paredes. As reações horizontais das paredes foram transmitidas aos pilares da parede paralela à do tanque e tratadas no cálculo dos esforços no pórtico do tanque; o dimensionamento desses pilares, considerando esses esforços foi feito pelo TQS e está apresentado no relatório geral de pilares juntamente com os contrafortes.

3.6 Anexos

3.6.1 Bloco de Fundação

CAD/FUNDAÇÕES V15.7.1 DIMENSIONAMENTO DE BLOCOS Pg 1
 JOAO SOARES VIEGAS FILHO 96077-230 RS 32283060
 AV. REPUBLICA, 440 AREAL PELOTAS
 0001 TANQUE DE AERAÇÃO (TA) 07/08/12
 SANEP 02:29:27

Fck= 300.00 kgf/cm² Armad. Princ.: CA50A Recobrimento = 4.50 cm

Este programa utiliza o MÉTODO SIMPLIFICADO DAS BIELAS EM BLOCOS CONSIDERADOS RÍGIDOS (com um ângulo ótimo entre 45 e 55 graus).

Nos casos com Momentos Fletores atuantes, Considera-se para o dimensionamento do bloco, a Força normal Equivalente (FE), mais crítica, dentre os casos de carregamentos transferidos.

Cabe ao engenheiro o cálculo e o detalhamento de armaduras complementares para esforços de TRAÇÃO em pontos localizados do bloco e estaca(s), se houver, em função da geometria do bloco e das solicitações.

Legenda:

FE: Força normal Equivalente total para dimensionamento, que provoca o mesmo efeito das ações (compressão e flexões concomitantes), na estaca mais solicitada, dentre todos os casos de carregamento;

F1: FE/Estacas (esforço crítico p/ simples conferência, "para a estaca mais solicitada");

AsxkdZ,AsykdZ: a SOMA de armaduras necessárias para fendilhamento e cintamento (quando houver);

Ascín: Armadura necessária para cintamento;

- Observar possíveis conversões entre armaduras e tipos de aço (ex: CA50 para CA60)

AVISO: Bloco 1 - Altura de ferro principal 1 excedida (97.0), limite = 70.0 cm.

BLOCO: 1 - BA33				Retang. (1x)	
GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm ²]	VERIF.[cm,graus]	
Estacas= 2	fi = 35.0	FN= 89.8	TensLimP= 270.0	dmin = 48.8	
DisX= 115.0			TensPil = 148.8	dmax = 69.2	
Xbl = 185.0	Ybl = 70.0	MY= 10.4		dutil = 72.0	
Alt = 90.0	Vol = 1.166		TensLimE= 270.0	AnguloX= 55.9	
Xpil= 35.0	Ypil= 100.0	FE= 110.9	TensEst = 141.2	AnguloY= 55.9	
Formas: 4.59 m ²		F1= 55.4			

ARMADURAS [cm ² ,cm]		Peso Próprio: 2.9 tf (x1)			
Prin.X: 14.5 = 5 {20.0 C/ 15.0		SecndY: 2.4 = 15 { 5.0 C/ 12.5			
P.Estr: 2.2 = 5 { 8.0 C/ 15.0		Laterl: 2.9 = 4 {10.0 C/ 20.0			

ATENCAO: Xbl menor que o recomendado. - Recomendado: 205.00 Fornecido: 185.00
 Md/West (.00 tf/m²) < fctd_inf_est (103.02 tf/m²) --> ok.

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	89.80	.00	10.44		
Caso 2:	89.52	.00	10.44		
Caso 3:	89.52	.00	10.44		
Caso 4:	89.52	.00	10.44		
Caso 5:	89.80	.00	10.44		
Caso 6:	89.52	.00	10.44		

AVISO: Bloco 2 - Altura de ferro principal 1 excedida (97.0), limite = 70.0 cm.

BLOCO: 2 - BA34				Retang. (1x)	
GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm ²]	VERIF.[cm,graus]	
Estacas= 2	fi = 35.0	FN= 84.7	TensLimP= 270.0	dmin = 48.8	
DisX= 115.0			TensPil = 174.7	dmax = 69.2	
Xbl = 185.0	Ybl = 70.0	MY= 14.0		dutil = 72.0	
Alt = 90.0	Vol = 1.166		TensLimE= 270.0	AnguloX= 55.9	
Xpil= 35.0	Ypil= 100.0	FE= 112.0	TensEst = 142.6	AnguloY= 55.9	
Formas: 4.59 m ²		F1= 56.0			

*****			****
ARMADURAS [cm2,cm]	Peso Próprio:	2.9 tf (x1)	
Prin.X: 14.6 = 5 {20.0 C/ 15.0	SecndY: 2.4 = 15 { 5.0 C/ 12.5		
P.Estr: 2.2 = 5 { 8.0 C/ 15.0	Laterl: 2.9 = 4 {10.0 C/ 20.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 205.00 Fornecido: 185.00
 Md/West (.00 tf/m2) < fctd_inf_est (103.02 tf/m2) --> ok.

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	84.68	.00	14.02	
Caso 2:	84.68	.00	14.02	
Caso 3:	84.61	.00	14.02	
Caso 4:	84.61	.00	14.02	
Caso 5:	84.61	.00	14.02	
Caso 6:	84.61	.00	14.02	

BLOCO: 3 - BB1 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0	FN= 69.6	TensLimP= 270.0	dmin = 22.5
DisX= 105.0		TensPil = 21.4	dmax = 31.9
Xbl = 175.0 Ybl = 70.0	MY= .0		dutil = 72.0
Alt = 90.0 Vol = 1.103		TensLimE= 270.0	AnguloX= 72.6
Xpil= 120.0 Ypil= 50.0	FE= 72.3	TensEst = 69.3	AnguloY= 72.6
Formas: 4.41 m2	F1= 36.2		****

ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 4.4 = 4 {12.5 C/ 20.0	SecndY: .9 = 7 { 5.0 C/ 25.0		
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .7 = 4 { 5.0 C/ 20.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	69.57	.00	.00	
Caso 2:	69.57	.00	.00	
Caso 3:	69.57	.00	.00	
Caso 4:	69.57	.00	.00	
Caso 5:	69.57	.00	.00	
Caso 6:	69.57	.00	.00	

BLOCO: 4 - BB2 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0	FN= 88.5	TensLimP= 270.0	dmin = 22.5
DisX= 105.0		TensPil = 27.2	dmax = 31.9
Xbl = 175.0 Ybl = 70.0	MY= .0		dutil = 72.0
Alt = 90.0 Vol = 1.103		TensLimE= 270.0	AnguloX= 72.6
Xpil= 120.0 Ypil= 50.0	FE= 91.3	TensEst = 87.5	AnguloY= 72.6
Formas: 4.41 m2	F1= 45.6		****

ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 5.5 = 5 {12.5 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0		
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .9 = 5 { 5.0 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	88.51	.00	.00	
Caso 2:	88.51	.00	.00	
Caso 3:	88.51	.00	.00	
Caso 4:	88.42	.00	.00	
Caso 5:	88.51	.00	.00	
Caso 6:	88.51	.00	.00	

BLOCO: 5 - BB3 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0	FN= 85.5	TensLimP= 270.0	dmin = 22.5
DisX= 105.0		TensPil = 26.3	dmax = 31.9
Xbl = 175.0 Ybl = 70.0	MY= .0		dutil = 72.0
Alt = 90.0 Vol = 1.103		TensLimE= 270.0	AnguloX= 72.6
Xpil= 120.0 Ypil= 50.0	FE= 88.2	TensEst = 84.6	AnguloY= 72.6
Formas: 4.41 m2	F1= 44.1		****

ARMADURAS [cm2,cm]		Peso Próprio: 2.8 tf (x1)	
Prin.X:	5.3 = 5 {12.5 C/ 15.0	SecndY:	.9 = 7 { 5.0 C/ 25.0
P.Estr:	.9 = 5 { 5.0 C/ 15.0	Laterl:	.9 = 5 { 5.0 C/ 15.0

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:		85.47	.00	.00
Caso 2:		85.39	.00	.00
Caso 3:		85.39	.00	.00
Caso 4:		85.39	.00	.00
Caso 5:		85.39	.00	.00
Caso 6:		85.39	.00	.00

BLOCO: 6 - BB4 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]		TENSÕES[kgf/cm2]		VERIF. [cm, graus]	
Estacas= 2	fi = 35.0	FN=	86.2	TensLimP=	270.0	dmin =	22.5
DisX=	105.0	TensPil =	26.5	TensPil =	26.5	dmax =	31.9
Xbl = 175.0	Ybl = 70.0	MY=	.0	TensLimE=	270.0	dutil =	72.0
Alt = 90.0	Vol = 1.103	FE=	89.0	TensEst =	85.3	AnguloX=	72.6
Xpil= 120.0	Ypil= 50.0	F1=	44.5			AnguloY=	72.6
Formas:	4.41 m2						****

ARMADURAS [cm2,cm]		Peso Próprio: 2.8 tf (x1)	
Prin.X:	5.4 = 5 {12.5 C/ 15.0	SecndY:	.9 = 7 { 5.0 C/ 25.0
P.Estr:	.9 = 5 { 5.0 C/ 15.0	Laterl:	.9 = 5 { 5.0 C/ 15.0

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:		86.22	.00	.00
Caso 2:		86.02	.00	.00
Caso 3:		86.02	.00	.00
Caso 4:		86.02	.00	.00
Caso 5:		86.02	.00	.00
Caso 6:		86.02	.00	.00

BLOCO: 7 - BB5 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]		TENSÕES[kgf/cm2]		VERIF. [cm, graus]	
Estacas= 2	fi = 35.0	FN=	84.8	TensLimP=	270.0	dmin =	22.5
DisX=	105.0	TensPil =	26.1	TensPil =	26.1	dmax =	31.9
Xbl = 175.0	Ybl = 70.0	MY=	.0	TensLimE=	270.0	dutil =	72.0
Alt = 90.0	Vol = 1.103	FE=	87.6	TensEst =	84.0	AnguloX=	72.6
Xpil= 120.0	Ypil= 50.0	F1=	43.8			AnguloY=	72.6
Formas:	4.41 m2						****

ARMADURAS [cm2,cm]		Peso Próprio: 2.8 tf (x1)	
Prin.X:	5.3 = 5 {12.5 C/ 15.0	SecndY:	.9 = 7 { 5.0 C/ 25.0
P.Estr:	.9 = 5 { 5.0 C/ 15.0	Laterl:	.9 = 5 { 5.0 C/ 15.0

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:		84.85	.00	.00
Caso 2:		84.85	.00	.00
Caso 3:		84.85	.00	.00
Caso 4:		84.53	.00	.00
Caso 5:		84.85	.00	.00
Caso 6:		84.85	.00	.00

BLOCO: 8 - BB6 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]		TENSÕES[kgf/cm2]		VERIF. [cm, graus]	
Estacas= 2	fi = 35.0	FN=	87.2	TensLimP=	270.0	dmin =	22.5
DisX=	105.0	TensPil =	26.8	TensPil =	26.8	dmax =	31.9
Xbl = 175.0	Ybl = 70.0	MY=	.0	TensLimE=	270.0	dutil =	72.0
Alt = 90.0	Vol = 1.103	FE=	90.0	TensEst =	86.2	AnguloX=	72.6
Xpil= 120.0	Ypil= 50.0	F1=	45.0			AnguloY=	72.6
Formas:	4.41 m2						****

ARMADURAS [cm2,cm]		Peso Próprio: 2.8 tf (x1)	
Prin.X:	5.4 = 5 {12.5 C/ 15.0	SecndY:	.9 = 7 { 5.0 C/ 25.0

| P.Estr: .9 = 5 { 5.0 C/ 15.0 Laterl: .9 = 5 { 5.0 C/ 15.0 |

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	87.24	.00	.00		
Caso 2:	87.24	.00	.00		
Caso 3:	87.24	.00	.00		
Caso 4:	85.30	.00	.00		
Caso 5:	87.24	.00	.00		
Caso 6:	87.24	.00	.00		

BLOCO: 9 - BC1 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 51.6 MY= .0 FE= 54.4 F1= 27.2	TensLimP= 270.0 TensPil = 15.9 TensLimE= 270.0 TensEst = 52.1	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****
ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 3.3 = 5 {10.0 C/ 15.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .5 = 3 { 5.0 C/ 25.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	51.61	.00	.00		
Caso 2:	51.61	.00	.00		
Caso 3:	51.61	.00	.00		
Caso 4:	51.18	.00	.00		
Caso 5:	51.61	.00	.00		
Caso 6:	51.61	.00	.00		

BLOCO: 10 - BB7 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 68.4 MY= .0 FE= 71.2 F1= 35.6	TensLimP= 270.0 TensPil = 21.0 TensLimE= 270.0 TensEst = 68.2	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****
ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 4.3 = 4 {12.5 C/ 20.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .7 = 4 { 5.0 C/ 20.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	68.40	.00	.00		
Caso 2:	68.40	.00	.00		
Caso 3:	68.40	.00	.00		
Caso 4:	68.39	.00	.00		
Caso 5:	68.40	.00	.00		
Caso 6:	68.40	.00	.00		

BLOCO: 11 - BC2 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 87.2 MY= .0 FE= 89.9 F1= 45.0	TensLimP= 270.0 TensPil = 26.8 TensLimE= 270.0 TensEst = 86.2	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****
ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 5.4 = 5 {12.5 C/ 15.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .9 = 5 { 5.0 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	87.17	.00	.00	
Caso	2:	87.17	.00	.00	
Caso	3:	87.17	.00	.00	
Caso	4:	87.01	.00	.00	
Caso	5:	87.17	.00	.00	
Caso	6:	87.17	.00	.00	

BLOCO: 12 - BC3 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 81.3 MY= .0 FE= 84.1 F1= 42.0	TensLimP= 270.0 TensPil = 25.0 TensLimE= 270.0 TensEst = 80.6	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****
ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 5.1 = 5 {12.5 C/ 15.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .8 = 5 { 5.0 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	81.33	.00	.00	
Caso	2:	81.21	.00	.00	
Caso	3:	81.21	.00	.00	
Caso	4:	81.21	.00	.00	
Caso	5:	81.21	.00	.00	
Caso	6:	81.21	.00	.00	

BLOCO: 13 - BC4 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 85.0 MY= .0 FE= 87.8 F1= 43.9	TensLimP= 270.0 TensPil = 26.1 TensLimE= 270.0 TensEst = 84.1	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****
ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 5.3 = 5 {12.5 C/ 15.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .9 = 5 { 5.0 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	85.00	.00	.00	
Caso	2:	85.00	.00	.00	
Caso	3:	85.00	.00	.00	
Caso	4:	84.81	.00	.00	
Caso	5:	85.00	.00	.00	
Caso	6:	85.00	.00	.00	

BLOCO: 14 - BB8 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0 Xbl = 70.0 Ybl = 70.0 Alt = 90.0 Vol = .441 Xpil= 60.0 Ypil= 60.0 Formas: 2.52 m2	FN= 41.7 FE= 42.8 F1= 42.8	TensLimP= 250.0 TensPil = 19.5 TensLimE= 270.0 TensEst = 75.3	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= -85.0 AnguloY= -85.0 ****
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0 AsXfdZ: .6 AsXpln: .1 = 8 { 5.0 C/ 7.0 AsCin : .0 Nro Plan.Fretag= 9	Prin.Y: 1.1 = 3 {10.0 C/ 25.0 AsYfdZ: .6 AsYpln: .1 = 8 { 5.0 C/ 7.0		

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	41.71	.00	.00	

Caso	2:	41.65	.00	.00
Caso	3:	41.65	.00	.00
Caso	4:	41.65	.00	.00
Caso	5:	41.65	.00	.00
Caso	6:	41.65	.00	.00

BLOCO: 15 - BB9

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 57.5	TensLimP= 250.0 TensPil = 26.8	
Xbl = 70.0 Ybl = 70.0			dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 58.6	TensEst = 103.1	AnguloY= -85.0
Formas: 2.52 m2	F1= 58.6		
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	57.49	.00	.00	
Caso	2:	57.49	.00	.00	
Caso	3:	57.49	.00	.00	
Caso	4:	57.49	.00	.00	
Caso	5:	57.49	.00	.00	
Caso	6:	57.49	.00	.00	

BLOCO: 16 - BB10

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 54.5	TensLimP= 250.0 TensPil = 25.4	
Xbl = 70.0 Ybl = 70.0			dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 55.6	TensEst = 97.8	AnguloY= -85.0
Formas: 2.52 m2	F1= 55.6		
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .7	AsYfdZ: .7		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	54.51	.00	.00	
Caso	2:	54.51	.00	.00	
Caso	3:	54.51	.00	.00	
Caso	4:	54.45	.00	.00	
Caso	5:	54.51	.00	.00	
Caso	6:	54.51	.00	.00	

BLOCO: 17 - BB11

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 55.7	TensLimP= 250.0 TensPil = 26.0	
Xbl = 70.0 Ybl = 70.0			dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 56.8	TensEst = 100.0	AnguloY= -85.0
Formas: 2.52 m2	F1= 56.8		
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .7	AsYfdZ: .7		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	55.71	.00	.00	
Caso	2:	55.71	.00	.00	
Caso	3:	55.71	.00	.00	
Caso	4:	55.63	.00	.00	

Caso	5:	55.71	.00	.00
Caso	6:	55.71	.00	.00

BLOCO: 18 - BB12

Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas=	1 fi = 35.0	FN= 52.6	TensLimP= 250.0 TensPil = 24.6	
Xbl = 70.0	Ybl = 70.0			dutil = 72.0
Alt = 90.0	Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0	Ypil= 60.0	FE= 53.7	TensEst = 94.5	AnguloY= -85.0
Formas:	2.52 m2	F1= 53.7		
ARMADURAS [cm2,cm]		Peso Próprio:	1.1 tf (x1)	
Prin.X:	1.1 = 3 {10.0 C/ 25.0	Prin.Y:	1.1 = 3 {10.0 C/ 25.0	
AsXfdZ:	.7	AsYfdZ:	.7	
AsXpln:	.1 = 8 { 5.0 C/ 7.0	AsYpln:	.1 = 8 { 5.0 C/ 7.0	
AsCin :	.0 Nro Plan.Fretag.= 9			

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	52.62	.00	.00
Caso	2:	52.62	.00	.00
Caso	3:	52.62	.00	.00
Caso	4:	52.39	.00	.00
Caso	5:	52.62	.00	.00
Caso	6:	52.62	.00	.00

BLOCO: 19 - BB13

Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas=	1 fi = 35.0	FN= 42.9	TensLimP= 250.0 TensPil = 20.0	
Xbl = 70.0	Ybl = 70.0			dutil = 72.0
Alt = 90.0	Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0	Ypil= 60.0	FE= 44.0	TensEst = 77.4	AnguloY= -85.0
Formas:	2.52 m2	F1= 44.0		
ARMADURAS [cm2,cm]		Peso Próprio:	1.1 tf (x1)	
Prin.X:	1.1 = 3 {10.0 C/ 25.0	Prin.Y:	1.1 = 3 {10.0 C/ 25.0	
AsXfdZ:	.6	AsYfdZ:	.6	
AsXpln:	.1 = 8 { 5.0 C/ 7.0	AsYpln:	.1 = 8 { 5.0 C/ 7.0	
AsCin :	.0 Nro Plan.Fretag.= 9			

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	42.90	.00	.00
Caso	2:	36.07	.00	.00
Caso	3:	36.07	.00	.00
Caso	4:	36.07	.00	.00
Caso	5:	36.07	.00	.00
Caso	6:	36.07	.00	.00

BLOCO: 20 - BB14

Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas=	1 fi = 35.0	FN= 39.5	TensLimP= 250.0 TensPil = 18.4	
Xbl = 70.0	Ybl = 70.0			dutil = 72.0
Alt = 90.0	Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0	Ypil= 60.0	FE= 40.6	TensEst = 71.5	AnguloY= -85.0
Formas:	2.52 m2	F1= 40.6		
ARMADURAS [cm2,cm]		Peso Próprio:	1.1 tf (x1)	
Prin.X:	1.1 = 3 {10.0 C/ 25.0	Prin.Y:	1.1 = 3 {10.0 C/ 25.0	
AsXfdZ:	.5	AsYfdZ:	.5	
AsXpln:	.1 = 8 { 5.0 C/ 7.0	AsYpln:	.1 = 8 { 5.0 C/ 7.0	
AsCin :	.0 Nro Plan.Fretag.= 9			

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	39.53	.00	.00
Caso	2:	39.53	.00	.00
Caso	3:	39.53	.00	.00
Caso	4:	39.24	.00	.00
Caso	5:	39.53	.00	.00
Caso	6:	39.53	.00	.00

BLOCO: 21 - BB15

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 46.0	TensLimP= 250.0 TensPil = 21.5	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 46.9	TensEst = 82.9	AnguloY= -83.4
Formas: 1.96 m2	F1= 46.9		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	46.02	.00	.00	
Caso 2:	46.02	.00	.00	
Caso 3:	46.02	.00	.00	
Caso 4:	46.01	.00	.00	
Caso 5:	46.02	.00	.00	
Caso 6:	46.02	.00	.00	

BLOCO: 22 - BB16

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 63.2	TensLimP= 250.0 TensPil = 29.5	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 64.1	TensEst = 113.4	AnguloY= -83.4
Formas: 1.96 m2	F1= 64.1		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.4 = 3 {10.0 C/ 25.0	Prin.Y: 1.4 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.1	AsYfdZ: 1.1		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	63.21	.00	.00	
Caso 2:	63.20	.00	.00	
Caso 3:	63.20	.00	.00	
Caso 4:	63.20	.00	.00	
Caso 5:	63.20	.00	.00	
Caso 6:	63.20	.00	.00	

BLOCO: 23 - BB17

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 58.0	TensLimP= 250.0 TensPil = 27.1	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 58.8	TensEst = 104.1	AnguloY= -83.4
Formas: 1.96 m2	F1= 58.8		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.3 = 3 {10.0 C/ 25.0	Prin.Y: 1.3 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.0	AsYfdZ: 1.0		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	57.96	.00	.00	
Caso 2:	57.96	.00	.00	
Caso 3:	57.96	.00	.00	
Caso 4:	57.96	.00	.00	
Caso 5:	57.96	.00	.00	
Caso 6:	57.96	.00	.00	

BLOCO: 24 - BB18

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
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GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 60.8	TensLimP= 250.0 TensPil = 28.4	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 61.7	TensEst = 109.2	AnguloY= -83.4
Formas: 1.96 m2	F1= 61.7		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.4 = 3 {10.0 C/ 25.0	Prin.Y: 1.4 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.0	AsYfdZ: 1.0		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	60.84	.00	.00	
Caso 2:	60.83	.00	.00	
Caso 3:	60.83	.00	.00	
Caso 4:	60.83	.00	.00	
Caso 5:	60.83	.00	.00	
Caso 6:	60.83	.00	.00	

BLOCO: 25 - BB19 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 56.0	TensLimP= 250.0 TensPil = 26.1	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 56.9	TensEst = 100.6	AnguloY= -83.4
Formas: 1.96 m2	F1= 56.9		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.3 = 3 {10.0 C/ 25.0	Prin.Y: 1.3 = 3 {10.0 C/ 25.0		
AsXfdZ: .9	AsYfdZ: .9		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	56.01	.00	.00	
Caso 2:	55.99	.00	.00	
Caso 3:	55.99	.00	.00	
Caso 4:	55.99	.00	.00	
Caso 5:	55.99	.00	.00	
Caso 6:	55.99	.00	.00	

AVISO: Bloco 26 - Altura de ferro principal 1 excedida (72.8), limite = 70.0 cm.

BLOCO: 26 - BB27 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0	FN= 60.8	TensLimP= 270.0 TensPil = 40.0	dmin = 43.8
DisX= 105.0			dmax = 62.1
Xbl = 175.0 Ybl = 70.0	MY= .0		dutil = 72.0
Alt = 90.0 Vol = 1.103		TensLimE= 270.0	AnguloX= 58.7
Xpil= 35.0 Ypil= 100.0	FE= 63.6	TensEst = 76.0	AnguloY= 58.7
Formas: 4.41 m2	F1= 31.8		
*****			****
ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 7.5 = 4 {16.0 C/ 20.0	SecndY: 1.2 = 7 { 5.0 C/ 25.0		
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: 1.5 = 5 { 6.3 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	60.84	.00	.00	
Caso 2:	58.74	.00	.00	
Caso 3:	58.74	.00	.00	
Caso 4:	58.74	.00	.00	
Caso 5:	58.74	.00	.00	
Caso 6:	58.74	.00	.00	

BLOCO: 27 - BB21 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
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Estacas= 1	fi = 35.0	FN= 42.5	TensLimP= 250.0	
Xbl = 70.0	Ybl = 70.0		TensPil = 19.8	
Alt = 70.0	Vol = .343	-----	TensLimE= 270.0	dutil = 54.0
Xpil= 60.0	Ypil= 60.0	FE= 43.3	TensEst = 76.7	AnguloX= -83.4
Formas:	1.96 m2	F1= 43.3		AnguloY= -83.4

ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		

Prin.X:	1.1 = 3 {10.0 C/ 25.0	Prin.Y:	1.1 = 3 {10.0 C/ 25.0	
AsXfdZ:	.7	AsYfdZ:	.7	
AsXpln:	.1 = 8 { 5.0 C/ 7.0	AsYpln:	.1 = 8 { 5.0 C/ 7.0	
AsCin :	.0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	42.49	.00	.00	
Caso 2:	42.46	.00	.00	
Caso 3:	42.46	.00	.00	
Caso 4:	42.46	.00	.00	
Caso 5:	42.46	.00	.00	
Caso 6:	42.46	.00	.00	

BLOCO: 28 - BB22 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0		FN= 45.7	TensLimP= 250.0 TensPil = 21.3	dutil = 54.0 AnguloX= -83.4 AnguloY= -83.4
Xbl = 70.0	Ybl = 70.0			
Alt = 70.0	Vol = .343		TensLimE= 270.0	
Xpil= 60.0	Ypil= 60.0	FE= 46.5	TensEst = 82.4	
Formas:	1.96 m2	F1= 46.5		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0			
AsXfdZ: .8	AsYfdZ: .8			
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0			
AsCin : .0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	45.69	.00	.00	
Caso 2:	45.69	.00	.00	
Caso 3:	45.69	.00	.00	
Caso 4:	45.68	.00	.00	
Caso 5:	45.69	.00	.00	
Caso 6:	45.69	.00	.00	

BLOCO: 29 - BB23 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]	
Estacas= 1 fi = 35.0		FN= 63.7	TensLimP= 250.0 TensPil = 29.7	dutil = 54.0 AnguloX= -83.4 AnguloY= -83.4	
Xbl = 70.0 Ybl = 70.0					
Alt = 70.0 Vol = .343		TensLimE= 270.0			
Xpil= 60.0 Ypil= 60.0	FE= 64.6	TensEst = 114.3			
Formas: 1.96 m2	F1= 64.6				
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)			
Prin.X: 1.4 = 3 {10.0 C/ 25.0	Prin.Y: 1.4 = 3 {10.0 C/ 25.0				
AsXfdZ: 1.1	AsYfdZ: 1.1				
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0				
AsCin : .0	Nro Plan.Fretag= 6				

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	63.74	.00	.00	
Caso 2:	63.71	.00	.00	
Caso 3:	63.71	.00	.00	
Caso 4:	63.71	.00	.00	
Caso 5:	63.71	.00	.00	
Caso 6:	63.71	.00	.00	

BLOCO: 30 - BB24 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1	fi = 35.0	FN= 58.7	TensLimP= 250.0
Xbl = 70.0	Ybl = 70.0		TensPil = 27.4
			dutil = 54.0

Alt = 70.0	Vol = .343	-----	TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 59.5	TensEst = 105.3	AnguloY= -83.4
Formas: 1.96 m2	F1= 59.5			

ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X: 1.3 = 3 {10.0 C/ 25.0	Prin.Y: 1.3 = 3 {10.0 C/ 25.0			
AsXfdZ: 1.0	AsYfdZ: 1.0			
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0			
AsCin : .0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	58.65	.00	.00	
Caso 2:	58.65	.00	.00	
Caso 3:	58.65	.00	.00	
Caso 4:	58.63	.00	.00	
Caso 5:	58.65	.00	.00	
Caso 6:	58.65	.00	.00	

BLOCO: 31 - BB25 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 61.3	TensLimP= 250.0		
Xbl = 70.0 Ybl = 70.0		TensPil = 28.6		dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0		AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 62.1	TensEst = 109.9		AnguloY= -83.4
Formas: 1.96 m2	F1= 62.1			
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X: 1.4 = 3 {10.0 C/ 25.0	Prin.Y: 1.4 = 3 {10.0 C/ 25.0			
AsXfdZ: 1.0	AsYfdZ: 1.0			
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0			
AsCin : .0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	61.25	.00	.00	
Caso 2:	61.24	.00	.00	
Caso 3:	61.24	.00	.00	
Caso 4:	61.24	.00	.00	
Caso 5:	61.24	.00	.00	
Caso 6:	61.24	.00	.00	

BLOCO: 32 - BB26 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 56.4	TensLimP= 250.0		
Xbl = 70.0 Ybl = 70.0		TensPil = 26.3		dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0		AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 57.3	TensEst = 101.4		AnguloY= -83.4
Formas: 1.96 m2	F1= 57.3			
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X: 1.3 = 3 {10.0 C/ 25.0	Prin.Y: 1.3 = 3 {10.0 C/ 25.0			
AsXfdZ: 1.0	AsYfdZ: 1.0			
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0			
AsCin : .0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	56.45	.00	.00	
Caso 2:	56.45	.00	.00	
Caso 3:	56.45	.00	.00	
Caso 4:	56.41	.00	.00	
Caso 5:	56.45	.00	.00	
Caso 6:	56.45	.00	.00	

AVISO: Bloco 33 - Altura de ferro principal 1 excedida (72.8), limite = 68.0 cm.
 AVISO: Bloco 33 - Altura de ferro principal 2 excedida (72.8), limite = 70.0 cm.

BLOCO: 33 - BC21 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 4 fi = 35.0	FN= 54.8	TensLimP= 405.0	dmin = 63.9	
DisX= 105.0 DisY= 105.0	MX= .0	TensPil = 1204.5	dmax = 95.0	
Xbl = 175.0 Ybl = 175.0	MY= 16.6		dutil = 72.0	
Alt = 90.0 Vol = 2.756		TensLimE= 405.0	AnguloX= 47.0	

Xpil= 30.0	Ypil= 20.0	FE= 93.3	TensEst = 76.2	AnguloY= 48.5
Formas: 6.30 m2		F1= 23.3		
*****			****	

ARMADURAS [cm2,cm]	Peso Próprio: 6.9 tf (x1)
Prin.X: 5.6 = 3 {16.0 C/ 17.5	Prin.Y: 5.9 = 3 {16.0 C/ 17.5
SecndX: 2.3 = 12 { 5.0 C/ 15.0	SecndY: 2.5 = 14 { 5.0 C/ 12.5
Laterl: 1.2 = 4 { 6.3 C/ 20.0	

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	55.61	.00	16.06	
Caso 2:	54.76	.00	16.63	
Caso 3:	54.76	.00	16.63	
Caso 4:	54.76	.00	16.63	
Caso 5:	55.61	.00	16.06	
Caso 6:	54.76	.00	16.63	

BLOCO: 34 - BB28 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 1 fi = 35.0	FN= 41.7	TensLimP= 250.0	
Xbl = 70.0 Ybl = 70.0		TensPil = 19.5	dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 42.6	TensEst = 75.3	AnguloY= -83.4
Formas: 1.96 m2	F1= 42.6		
ARMADURAS [cm2,cm]	Peso Próprio: .9 tf (x1)		
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsxfdZ: .7	AsyfdZ: .7		
Asxpln: .1 = 8 { 5.0 C/ 7.0	Asypln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	41.70	.00	.00	
Caso 2:	41.70	.00	.00	
Caso 3:	41.70	.00	.00	
Caso 4:	41.67	.00	.00	
Caso 5:	41.70	.00	.00	
Caso 6:	41.70	.00	.00	

AVISO: Bloco 35 - Altura de ferro principal 1 excedida (97.0), limite = 70.0 cm.

BLOCO: 35 - BB29 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 2 fi = 35.0	FN= 60.4	TensLimP= 270.0	dmin = 48.8
DisX= 115.0		TensPil = 134.0	dmax = 69.2
Xbl = 185.0 Ybl = 70.0	MY= 11.1		dutil = 72.0
Alt = 90.0 Vol = 1.166		TensLimE= 270.0	AnguloX= 55.9
Xpil= 35.0 Ypil= 100.0	FE= 82.6	TensEst = 105.2	AnguloY= 55.9
Formas: 4.59 m2	F1= 41.3		****
ARMADURAS [cm2,cm]	Peso Próprio: 2.9 tf (x1)		
Prin.X: 10.8 = 4 {20.0 C/ 20.0	SecndY: 1.8 = 12 { 5.0 C/ 15.0		
P.Estr: 1.6 = 4 { 8.0 C/ 20.0	Laterl: 2.2 = 5 { 8.0 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 205.00 Fornecido: 185.00
 Md/West (.00 tf/m2) < fctd_inf_est (103.02 tf/m2) --> ok.

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	60.35	.00	11.14	
Caso 2:	60.35	.00	11.14	
Caso 3:	60.32	.00	11.14	
Caso 4:	60.32	.00	11.14	
Caso 5:	60.32	.00	11.14	
Caso 6:	60.32	.00	11.14	

AVISO: Bloco 36 - Altura de ferro principal 1 excedida (97.0), limite = 70.0 cm.

BLOCO: 36 - BB30 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 2 fi = 35.0	FN= 83.5	TensLimP= 270.0	dmin = 48.8
DisX= 115.0		TensPil = 173.0	dmax = 69.2
Xbl = 185.0 Ybl = 70.0	MY= 13.9		dutil = 72.0

Alt = 90.0	Vol = 1.166	-----	TensLimE= 270.0	AnguloX= 55.9
Xpil= 35.0	Ypil= 100.0	FE= 110.6	TensEst = 140.8	AnguloY= 55.9
Formas: 4.59 m2	F1= 55.3			****

ARMADURAS [cm2,cm]	Peso Próprio: 2.9 tf (x1)
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Prin.X: 14.5 = 5 {20.0 C/ 15.0	SecndY: 2.4 = 15 { 5.0 C/ 12.5
P.Estr: 2.2 = 5 { 8.0 C/ 15.0	Laterl: 2.9 = 4 {10.0 C/ 20.0

ATENCAO: Xbl menor que o recomendado. - Recomendado: 205.00 Fornecido: 185.00
 Md/West (.00 tf/m2) < fctd_inf_est (103.02 tf/m2) --> ok.

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	83.48	.00	13.92		
Caso 2:	83.48	.00	13.92		
Caso 3:	83.48	.00	13.92		
Caso 4:	83.43	.00	13.92		
Caso 5:	83.43	.00	13.92		
Caso 6:	83.48	.00	13.92		

AVISO: Bloco 37 - Altura de ferro principal 1 excedida (97.0), limite = 70.0 cm.

BLOCO: 37 - BB31 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0	FN= 77.0	TensLimP= 270.0	dmin = 48.8
DisX= 115.0		TensPil = 168.5	dmax = 69.2
Xbl = 185.0 Ybl = 70.0	MY= 13.9		dutil = 72.0
Alt = 90.0 Vol = 1.166	-----	TensLimE= 270.0	AnguloX= 55.9
Xpil= 35.0 Ypil= 100.0	FE= 104.1	TensEst = 132.6	AnguloY= 55.9
Formas: 4.59 m2	F1= 52.0		****

ARMADURAS [cm2,cm]	Peso Próprio: 2.9 tf (x1)
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Prin.X: 13.6 = 5 {20.0 C/ 15.0	SecndY: 2.3 = 12 { 5.0 C/ 15.0
P.Estr: 2.0 = 5 { 8.0 C/ 15.0	Laterl: 2.7 = 4 {10.0 C/ 20.0

ATENCAO: Xbl menor que o recomendado. - Recomendado: 205.00 Fornecido: 185.00
 Md/West (.00 tf/m2) < fctd_inf_est (103.02 tf/m2) --> ok.

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	76.95	.00	13.93		
Caso 2:	76.92	.00	13.93		
Caso 3:	76.92	.00	13.93		
Caso 4:	76.92	.00	13.93		
Caso 5:	76.95	.00	13.93		
Caso 6:	76.92	.00	13.93		

AVISO: Bloco 38 - Altura de ferro principal 1 excedida (97.0), limite = 70.0 cm.

BLOCO: 38 - BB32 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0	FN= 80.1	TensLimP= 270.0	dmin = 48.8
DisX= 115.0		TensPil = 170.5	dmax = 69.2
Xbl = 185.0 Ybl = 70.0	MY= 13.9		dutil = 72.0
Alt = 90.0 Vol = 1.166	-----	TensLimE= 270.0	AnguloX= 55.9
Xpil= 35.0 Ypil= 100.0	FE= 107.2	TensEst = 136.5	AnguloY= 55.9
Formas: 4.59 m2	F1= 53.6		****

ARMADURAS [cm2,cm]	Peso Próprio: 2.9 tf (x1)
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Prin.X: 14.0 = 5 {20.0 C/ 15.0	SecndY: 2.3 = 12 { 5.0 C/ 15.0
P.Estr: 2.1 = 5 { 8.0 C/ 15.0	Laterl: 2.8 = 4 {10.0 C/ 20.0

ATENCAO: Xbl menor que o recomendado. - Recomendado: 205.00 Fornecido: 185.00
 Md/West (.00 tf/m2) < fctd_inf_est (103.02 tf/m2) --> ok.

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	80.14	.00	13.90		
Caso 2:	80.14	.00	13.90		
Caso 3:	80.14	.00	13.90		
Caso 4:	80.12	.00	13.90		
Caso 5:	80.12	.00	13.90		
Caso 6:	80.14	.00	13.90		

AVISO: Bloco 39 - Altura de ferro principal 1 excedida (97.0), limite = 70.0 cm.

BLOCO: 39 - BB33 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
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Estacas= 2	fi = 35.0	FN= 75.7	TensLimP= 270.0	dmin = 48.8
DisX= 115.0			TensPil = 163.7	dmax = 69.2
Xbl = 185.0	Ybl = 70.0	MY= 13.5		dutil = 72.0
Alt = 90.0	Vol = 1.166		TensLimE= 270.0	AnguloX= 55.9
Xpil= 35.0	Ypil= 100.0	FE= 102.0	TensEst = 129.9	AnguloY= 55.9
Formas: 4.59 m2	F1= 51.0			****

ARMADURAS [cm2,cm]	Peso Próprio: 2.9 tf (x1)
Prin.X: 13.3 = 5 {20.0 C/ 15.0	SecndY: 2.2 = 12 { 5.0 C/ 15.0
P.Estr: 2.0 = 4 { 8.0 C/ 20.0	Laterl: 2.7 = 4 {10.0 C/ 20.0

ATENCAO: Xbl menor que o recomendado. - Recomendado: 205.00 Fornecido: 185.00
 Md/West (.00 tf/m2) < fctd_inf_est (103.02 tf/m2) --> ok.

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	75.68	.00	13.46	
Caso 2:	75.64	.00	13.47	
Caso 3:	75.64	.00	13.47	
Caso 4:	75.64	.00	13.47	
Caso 5:	75.68	.00	13.46	
Caso 6:	75.64	.00	13.47	

AVISO: Bloco 40 - Altura de ferro principal 1 excedida (97.0), limite = 70.0 cm.

BLOCO: 40 - BB34 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2	fi = 35.0	FN= 77.4	TensLimP= 270.0	dmin = 48.8
DisX= 115.0			TensPil = 124.4	dmax = 69.2
Xbl = 185.0	Ybl = 70.0	MY= 8.5		dutil = 72.0
Alt = 90.0	Vol = 1.166	-----	TensLimE= 270.0	AnguloX= 55.9
Xpil= 35.0	Ypil= 100.0	FE= 95.2	TensEst = 121.2	AnguloY= 55.9
Formas: 4.59 m2		F1= 47.6		
*****				****

ARMADURAS [cm2,cm]	Peso Próprio: 2.9 tf (x1)
Prin.X: 12.4 = 4 {20.0 C/ 20.0	SecndY: 2.1 = 12 { 5.0 C/ 15.0
P.Estr: 1.9 = 4 { 8.0 C/ 20.0	Laterl: 2.5 = 5 { 8.0 C/ 15.0

ATENCAO: Xbl menor que o recomendado. - Recomendado: 205.00 Fornecido: 185.00
 Md/West (.00 tf/m2) < fctd_inf_est (103.02 tf/m2) --> ok.

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	78.08	.00	7.63	
Caso 2:	77.39	.00	8.54	
Caso 3:	78.08	.00	7.63	
Caso 4:	77.39	.00	8.54	
Caso 5:	78.08	.00	7.63	
Caso 6:	78.08	.00	7.63	

AVISO: Bloco 41 - Altura de ferro principal 1 excedida (97.0), limite = 70.0 cm.

BLOCO: 41 - BB35 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2	fi = 35.0	FN= 58.5	TensLimP= 270.0	dmin = 48.8
DisX= 115.0			TensPil = 127.5	dmax = 69.2
Xbl = 185.0	Ybl = 70.0	MY= 10.5		dutil = 72.0
Alt = 90.0	Vol = 1.166	-----	TensLimE= 270.0	AnguloX= 55.9
Xpil= 35.0	Ypil= 100.0	FE= 79.7	TensEst = 101.4	AnguloY= 55.9
Formas: 4.59 m2		F1= 39.8		
*****				****

ARMADURAS [cm2,cm]	Peso Próprio: 2.9 tf (x1)
Prin.X: 10.4 = 4 {20.0 C/ 20.0	SecndY: 1.7 = 9 { 5.0 C/ 20.0
P.Estr: 1.6 = 5 { 6.3 C/ 15.0	Laterl: 2.1 = 5 { 8.0 C/ 15.0

ATENCAO: Xbl menor que o recomendado. - Recomendado: 205.00 Fornecido: 185.00
 Md/West (.00 tf/m2) < fctd_inf_est (103.02 tf/m2) --> ok.

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	58.45	.00	10.52	
Caso 2:	58.43	.00	10.53	
Caso 3:	58.43	.00	10.53	
Caso 4:	58.43	.00	10.53	
Caso 5:	58.45	.00	10.52	
Caso 6:	58.43	.00	10.53	

BLOCO: 42 - BB36 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 46.0	TensLimP= 250.0 TensPil = 21.5	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 46.8	TensEst = 82.9	AnguloY= -83.4
Formas: 1.96 m2	F1= 46.8		
ARMADURAS [cm2,cm]			
Peso Próprio: .9 tf (x1)			
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	45.98	.00	.00	
Caso 2:	45.98	.00	.00	
Caso 3:	45.98	.00	.00	
Caso 4:	45.96	.00	.00	
Caso 5:	45.98	.00	.00	
Caso 6:	45.98	.00	.00	

BLOCO: 43 - BB37 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 63.7	TensLimP= 250.0 TensPil = 29.7	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 64.6	TensEst = 114.3	AnguloY= -83.4
Formas: 1.96 m2	F1= 64.6		
ARMADURAS [cm2,cm]			
Peso Próprio: .9 tf (x1)			
Prin.X: 1.4 = 3 {10.0 C/ 25.0	Prin.Y: 1.4 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.1	AsYfdZ: 1.1		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	63.74	.00	.00	
Caso 2:	63.71	.00	.00	
Caso 3:	63.71	.00	.00	
Caso 4:	63.71	.00	.00	
Caso 5:	63.71	.00	.00	
Caso 6:	63.71	.00	.00	

BLOCO: 44 - BB38 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 58.6	TensLimP= 250.0 TensPil = 27.4	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 59.5	TensEst = 105.3	AnguloY= -83.4
Formas: 1.96 m2	F1= 59.5		
ARMADURAS [cm2,cm]			
Peso Próprio: .9 tf (x1)			
Prin.X: 1.3 = 3 {10.0 C/ 25.0	Prin.Y: 1.3 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.0	AsYfdZ: 1.0		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	58.63	.00	.00	
Caso 2:	58.63	.00	.00	
Caso 3:	58.63	.00	.00	
Caso 4:	58.62	.00	.00	
Caso 5:	58.63	.00	.00	
Caso 6:	58.63	.00	.00	

BLOCO: 45 - BB39 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 61.3	TensLimP= 250.0	

Xbl = 70.0	Ybl = 70.0		TensPil = 28.6	dutil = 54.0
Alt = 70.0	Vol = .343	-----	TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 62.2	TensEst = 110.1	AnguloY= -83.4
Formas: 1.96 m2		F1= 62.2		
ARMADURAS [cm2,cm]		Peso Próprio:	.9 tf (x1)	
Prin.X: 1.4 = 3 {10.0 C/ 25.0	Prin.Y: 1.4 = 3 {10.0 C/ 25.0			
AsXfdZ: 1.0	AsYfdZ: 1.0			
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0			
AsCin : .0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:		61.34	.00	.00
Caso 2:		61.33	.00	.00
Caso 3:		61.33	.00	.00
Caso 4:		61.33	.00	.00
Caso 5:		61.33	.00	.00
Caso 6:		61.33	.00	.00

BLOCO: 46 - BB40 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]		TENSOES[kgf/cm2]		VERIF. [cm, graus]	
Estacas= 1 fi = 35.0		FN= 57.0		TensLimP= 250.0 TensPil= 26.6			
Xbl = 70.0	Ybl = 70.0					dutil = 54.0	
Alt = 70.0	Vol = .343			TensLimE= 270.0		AnguloX= -83.4	
Xpil= 60.0	Ypil= 60.0	FE= 57.9		TensEst = 102.4		AnguloY= -83.4	
Formas: 1.96 m2		F1= 57.9					
ARMADURAS [cm2,cm]		Peso Próprio:		.9 tf (x1)			
Prin.X: 1.3 = 3 {10.0 C/ 25.0		Prin.Y: 1.3 = 3 {10.0 C/ 25.0					
AsXfdZ: 1.0		AsYfdZ: 1.0					
AsXpln: .2 = 8 { 5.0 C/ 7.0		AsYpln: .2 = 8 { 5.0 C/ 7.0					
AsCin : .0		Nro Plan.Fretag= 6					

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:		57.03	.00	.00
Caso 2:		57.03	.00	.00
Caso 3:		57.03	.00	.00
Caso 4:		57.03	.00	.00
Caso 5:		57.03	.00	.00
Caso 6:		57.03	.00	.00

BLOCO: 47 - BB41 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]		TENSOES[kgf/cm2]		VERIF. [cm, graus]	
Estacas= 1 fi = 35.0		FN= 58.5		TensLimP= 250.0			
				TensPil = 27.3			
Xbl = 70.0	Ybl = 70.0					dutil = 54.0	
Alt = 70.0	Vol = .343			TensLimE= 270.0		AnguloX= -83.4	
Xpil= 60.0	Ypil= 60.0	FE= 59.4		TensEst = 105.1		AnguloY= -83.4	
Formas: 1.96 m2		F1= 59.4					
ARMADURAS [cm2,cm]		Peso Próprio:		.9 tf (x1)			
Prin.X:	1.3 = 3 {10.0 C/ 25.0	Prin.Y:		1.3 = 3 {10.0 C/ 25.0			
AsXfdZ:	1.0	AsYfdZ:		1.0			
AsXpln:	.2 = 8 { 5.0 C/ 7.0	AsYpln:		.2 = 8 { 5.0 C/ 7.0			
AsCin :	.0	Nro Plan.Fretag.= 6					

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:		58.53	.00	.00
Caso 2:		58.52	.00	.00
Caso 3:		58.52	.00	.00
Caso 4:		58.52	.00	.00
Caso 5:		58.52	.00	.00
Caso 6:		58.52	.00	.00

BLOCO: 48 - BB42 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 44.5	TensLimP= 250.0	
		TensPil = 20.8	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343	-----	TensLimE= 270.0	AnguloX= -83.4

Xpil= 60.0	Ypil= 60.0	FE= 45.4	TensEst = 80.3	AnguloY= -83.4
Formas: 1.96 m2		F1= 45.4		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0			
AsXfdZ: .8	AsYfdZ: .8			
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0			
AsCin : .0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:		44.54	.00	.00
Caso 2:		44.54	.00	.00
Caso 3:		44.54	.00	.00
Caso 4:		44.53	.00	.00
Caso 5:		44.54	.00	.00
Caso 6:		44.54	.00	.00

BLOCO: 49 - BB43 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1	fi = 35.0	FN= 45.3	TensLimP= 250.0	
			TensPil = 21.1	
Xbl = 70.0	Ybl = 70.0			dutil = 54.0
Alt = 70.0	Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 46.1	TensEst = 81.7	AnguloY= -83.4
Formas: 1.96 m2		F1= 46.1		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0			
AsXfdZ: .8	AsYfdZ: .8			
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0			
AsCin : .0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:		45.29	.00	.00
Caso 2:		45.29	.00	.00
Caso 3:		45.29	.00	.00
Caso 4:		45.28	.00	.00
Caso 5:		45.29	.00	.00
Caso 6:		45.29	.00	.00

BLOCO: 50 - BB44 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1	fi = 35.0	FN= 62.9	TensLimP= 250.0	
			TensPil = 29.3	
Xbl = 70.0	Ybl = 70.0			dutil = 54.0
Alt = 70.0	Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 63.7	TensEst = 112.8	AnguloY= -83.4
Formas: 1.96 m2		F1= 63.7		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X: 1.4 = 3 {10.0 C/ 25.0	Prin.Y: 1.4 = 3 {10.0 C/ 25.0			
AsXfdZ: 1.1	AsYfdZ: 1.1			
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0			
AsCin : .0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:		62.88	.00	.00
Caso 2:		62.88	.00	.00
Caso 3:		62.88	.00	.00
Caso 4:		62.88	.00	.00
Caso 5:		62.88	.00	.00
Caso 6:		62.88	.00	.00

BLOCO: 51 - BB45 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1	fi = 35.0	FN= 57.2	TensLimP= 250.0	
			TensPil = 26.7	
Xbl = 70.0	Ybl = 70.0			dutil = 54.0
Alt = 70.0	Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 58.1	TensEst = 102.8	AnguloY= -83.4
Formas: 1.96 m2		F1= 58.1		

ARMADURAS [cm2,cm]			Peso Próprio: .9 tf (x1)		
Prin.X:	1.3 = 3 {10.0 C/ 25.0		Prin.Y:	1.3 = 3 {10.0 C/ 25.0	
AsXfdZ:	1.0		AsYfdZ:	1.0	
AsXpln:	.2 = 8 { 5.0 C/ 7.0		AsYpln:	.2 = 8 { 5.0 C/ 7.0	
AsCin :	.0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:		57.23	.00	.00	
Caso 2:		57.23	.00	.00	
Caso 3:		57.23	.00	.00	
Caso 4:		57.23	.00	.00	
Caso 5:		57.23	.00	.00	
Caso 6:		57.23	.00	.00	

BLOCO: 52 - BB46 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]		TENSOES[kgf/cm2]		VERIF. [cm, graus]	
Estacas=	1 fi = 35.0	FN=	60.3	TensLimP=	250.0		
Xbl =	70.0 Ybl = 70.0			TensPil =	28.1	dutil =	54.0
Alt =	70.0 Vol = .343			TensLimE=	270.0	AnguloX=	-83.4
Xpil=	60.0 Ypil= 60.0	FE=	61.1	TensEst =	108.1	AnguloY=	-83.4
Formas:	1.96 m2	F1=	61.1				

ARMADURAS [cm2,cm]			Peso Próprio: .9 tf (x1)		
Prin.X:	1.4 =	3 {10.0 C/ 25.0	Prin.Y:	1.4 =	3 {10.0 C/ 25.0
AsXfdZ:	1.0		AsYfdZ:	1.0	
AsXpln:	.2 =	8 { 5.0 C/ 7.0	AsYpln:	.2 =	8 { 5.0 C/ 7.0
AsCin :	.0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:		60.26	.00	.00	
Caso 2:		60.26	.00	.00	
Caso 3:		60.26	.00	.00	
Caso 4:		60.26	.00	.00	
Caso 5:		60.26	.00	.00	
Caso 6:		60.26	.00	.00	

BLOCO: 53 - BB47 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]		TENSOES[kgf/cm2]		VERIF. [cm, graus]	
Estacas=	1 fi = 35.0	FN=	55.8	TensLimP=	250.0		
Xbl =	70.0 Ybl = 70.0			TensPil =	26.0	dutil =	54.0
Alt =	70.0 Vol = .343			TensLimE=	270.0	AnguloX=	-83.4
Xpil=	60.0 Ypil= 60.0	FE=	56.6	TensEst =	100.2	AnguloY=	-83.4
Formas:	1.96 m2	F1=	56.6				

ARMADURAS [cm2,cm]			Peso Próprio: .9 tf (x1)		
Prin.X:	1.3 = 3 {10.0 C/ 25.0		Prin.Y:	1.3 = 3 {10.0 C/ 25.0	
AsXfdZ:	.9		AsYfdZ:	.9	
AsXpln:	.2 = 8 { 5.0 C/ 7.0		AsYpln:	.2 = 8 { 5.0 C/ 7.0	
AsCin :	.0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:		55.78	.00	.00	
Caso 2:		55.78	.00	.00	
Caso 3:		55.78	.00	.00	
Caso 4:		55.78	.00	.00	
Caso 5:		55.78	.00	.00	
Caso 6:		55.78	.00	.00	

BLOCO: 54 - BB48 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]		TENSOES[kgf/cm2]		VERIF. [cm, graus]	
Estacas=	1 fi = 35.0	FN=	57.8	TensLimP=	250.0		
Xbl =	70.0 Ybl = 70.0			TensPil =	27.0	dutil =	54.0
Alt =	70.0 Vol = .343			TensLimE=	270.0	AnguloX=	-83.4
Xpil=	60.0 Ypil= 60.0	FE=	58.6	TensEst =	103.8	AnguloY=	-83.4
Formas:	1.96 m2	F1=	58.6				

ARMADURAS [cm2,cm]		Peso Próprio:		.9 tf (x1)	
Prin.X:	1.3 = 3 {10.0 C/ 25.0	Prin.Y:	1.3 = 3 {10.0 C/ 25.0		

AsXfdZ:	1.0	AsYfdZ:	1.0
AsXpln:	.2 = 8 { 5.0 C/ 7.0	AsYpln:	.2 = 8 { 5.0 C/ 7.0
AsCin :	.0 Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	57.78	.00	.00		
Caso 2:	57.78	.00	.00		
Caso 3:	57.78	.00	.00		
Caso 4:	57.78	.00	.00		
Caso 5:	57.78	.00	.00		
Caso 6:	57.78	.00	.00		

BLOCO: 55 - BB49

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 44.0	TensLimP= 250.0 TensPil = 20.5	dutil = 54.0
Xbl = 70.0 Ybl = 70.0		TensLimE= 270.0	AnguloX= -83.4
Alt = 70.0 Vol = .343	FE= 44.9	TensEst = 79.4	AnguloY= -83.4
Xpil= 60.0 Ypil= 60.0	F1= 44.9		
Formas: 1.96 m2			
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .7	AsYfdZ: .7		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	44.03	.00	.00		
Caso 2:	44.03	.00	.00		
Caso 3:	44.03	.00	.00		
Caso 4:	44.03	.00	.00		
Caso 5:	44.03	.00	.00		
Caso 6:	44.03	.00	.00		

BLOCO: 56 - BB56

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 43.4	TensLimP= 250.0 TensPil = 20.3	dutil = 54.0
Xbl = 70.0 Ybl = 70.0		TensLimE= 270.0	AnguloX= -83.4
Alt = 70.0 Vol = .343	FE= 44.3	TensEst = 78.3	AnguloY= -83.4
Xpil= 60.0 Ypil= 60.0	F1= 44.3		
Formas: 1.96 m2			
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .7	AsYfdZ: .7		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	43.41	.00	.00		
Caso 2:	43.41	.00	.00		
Caso 3:	43.41	.00	.00		
Caso 4:	43.41	.00	.00		
Caso 5:	43.41	.00	.00		
Caso 6:	43.41	.00	.00		

BLOCO: 57 - BB55

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 57.3	TensLimP= 250.0 TensPil = 26.7	dutil = 54.0
Xbl = 70.0 Ybl = 70.0		TensLimE= 270.0	AnguloX= -83.4
Alt = 70.0 Vol = .343	FE= 58.1	TensEst = 102.8	AnguloY= -83.4
Xpil= 60.0 Ypil= 60.0	F1= 58.1		
Formas: 1.96 m2			
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.3 = 3 {10.0 C/ 25.0	Prin.Y: 1.3 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.0	AsYfdZ: 1.0		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	57.26	.00	.00	
Caso 2:	57.26	.00	.00	
Caso 3:	57.26	.00	.00	
Caso 4:	57.26	.00	.00	
Caso 5:	57.26	.00	.00	
Caso 6:	57.26	.00	.00	

BLOCO: 58 - BB54 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 55.2	TensLimP= 250.0 TensPil = 25.8	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 56.1	TensEst = 99.2	AnguloY= -83.4
Formas: 1.96 m2	F1= 56.1		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.3 = 3 {10.0 C/ 25.0	Prin.Y: 1.3 = 3 {10.0 C/ 25.0		
AsXfdZ: .9	AsYfdZ: .9		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	55.20	.00	.00	
Caso 2:	55.20	.00	.00	
Caso 3:	55.20	.00	.00	
Caso 4:	55.20	.00	.00	
Caso 5:	55.20	.00	.00	
Caso 6:	55.20	.00	.00	

BLOCO: 59 - BB53 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 59.7	TensLimP= 250.0 TensPil = 27.9	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 60.6	TensEst = 107.2	AnguloY= -83.4
Formas: 1.96 m2	F1= 60.6		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.4 = 3 {10.0 C/ 25.0	Prin.Y: 1.4 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.0	AsYfdZ: 1.0		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	59.74	.00	.00	
Caso 2:	59.74	.00	.00	
Caso 3:	59.74	.00	.00	
Caso 4:	59.74	.00	.00	
Caso 5:	59.74	.00	.00	
Caso 6:	59.74	.00	.00	

BLOCO: 60 - BB52 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 56.7	TensLimP= 250.0 TensPil = 26.4	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 57.5	TensEst = 101.8	AnguloY= -83.4
Formas: 1.96 m2	F1= 57.5		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.3 = 3 {10.0 C/ 25.0	Prin.Y: 1.3 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.0	AsYfdZ: 1.0		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
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Caso	1:	56.65	.00	.00
Caso	2:	56.65	.00	.00
Caso	3:	56.65	.00	.00
Caso	4:	56.65	.00	.00
Caso	5:	56.65	.00	.00
Caso	6:	56.65	.00	.00

BLOCO: 61 - BB51

Retang. (1x)

GEOMETRIA [cm,m3]	CARGAS [tf,m]	TENSOES [kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 62.3	TensLimP= 250.0 TensPil = 29.1	dutil = 54.0
Xbl = 70.0 Ybl = 70.0			AnguloX= -83.4
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloY= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 63.2	TensEst = 111.8	
Formas: 1.96 m2	F1= 63.2		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.4 = 3 {10.0 C/ 25.0	Prin.Y: 1.4 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.1	AsYfdZ: 1.1		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	62.33	.00	.00
Caso	2:	62.33	.00	.00
Caso	3:	62.33	.00	.00
Caso	4:	62.33	.00	.00
Caso	5:	62.33	.00	.00
Caso	6:	62.33	.00	.00

BLOCO: 62 - BB50

Retang. (1x)

GEOMETRIA [cm,m3]	CARGAS [tf,m]	TENSOES [kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 44.7	TensLimP= 250.0 TensPil = 20.8	dutil = 54.0
Xbl = 70.0 Ybl = 70.0			AnguloX= -83.4
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloY= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 45.5	TensEst = 80.5	
Formas: 1.96 m2	F1= 45.5		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	44.66	.00	.00
Caso	2:	44.66	.00	.00
Caso	3:	44.66	.00	.00
Caso	4:	44.66	.00	.00
Caso	5:	44.66	.00	.00
Caso	6:	44.66	.00	.00

BLOCO: 63 - BB57

Retang. (1x)

GEOMETRIA [cm,m3]	CARGAS [tf,m]	TENSOES [kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 46.1	TensLimP= 250.0 TensPil = 21.5	dutil = 54.0
Xbl = 70.0 Ybl = 70.0			AnguloX= -83.4
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloY= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 46.9	TensEst = 83.0	
Formas: 1.96 m2	F1= 46.9		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	46.06	.00	.00
Caso	2:	46.06	.00	.00
Caso	3:	46.06	.00	.00

Caso	4:	46.06	.00	.00
Caso	5:	46.06	.00	.00
Caso	6:	46.06	.00	.00

BLOCO: 64 - BB58

Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas=	1 fi = 35.0	FN= 63.6	TensLimP= 250.0 TensPil = 29.7	
Xbl = 70.0	Ybl = 70.0			dutil = 54.0
Alt = 70.0	Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 64.5	TensEst = 114.1	AnguloY= -83.4
Formas:	1.96 m2	F1= 64.5		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X:	1.4 = 3 {10.0 C/ 25.0	Prin.Y:	1.4 = 3 {10.0 C/ 25.0	
AsXfdZ:	1.1	AsYfdZ:	1.1	
AsXpln:	.2 = 8 { 5.0 C/ 7.0	AsYpln:	.2 = 8 { 5.0 C/ 7.0	
AsCin :	.0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	63.62	.00	.00
Caso	2:	63.62	.00	.00
Caso	3:	63.62	.00	.00
Caso	4:	63.62	.00	.00
Caso	5:	63.62	.00	.00
Caso	6:	63.62	.00	.00

BLOCO: 65 - BB59

Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas=	1 fi = 35.0	FN= 58.2	TensLimP= 250.0 TensPil = 27.2	
Xbl = 70.0	Ybl = 70.0			dutil = 54.0
Alt = 70.0	Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 59.0	TensEst = 104.5	AnguloY= -83.4
Formas:	1.96 m2	F1= 59.0		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X:	1.3 = 3 {10.0 C/ 25.0	Prin.Y:	1.3 = 3 {10.0 C/ 25.0	
AsXfdZ:	1.0	AsYfdZ:	1.0	
AsXpln:	.2 = 8 { 5.0 C/ 7.0	AsYpln:	.2 = 8 { 5.0 C/ 7.0	
AsCin :	.0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	58.18	.00	.00
Caso	2:	58.18	.00	.00
Caso	3:	58.18	.00	.00
Caso	4:	58.18	.00	.00
Caso	5:	58.18	.00	.00
Caso	6:	58.18	.00	.00

BLOCO: 66 - BB60

Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas=	1 fi = 35.0	FN= 61.1	TensLimP= 250.0 TensPil = 28.5	
Xbl = 70.0	Ybl = 70.0			dutil = 54.0
Alt = 70.0	Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 62.0	TensEst = 109.7	AnguloY= -83.4
Formas:	1.96 m2	F1= 62.0		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X:	1.4 = 3 {10.0 C/ 25.0	Prin.Y:	1.4 = 3 {10.0 C/ 25.0	
AsXfdZ:	1.0	AsYfdZ:	1.0	
AsXpln:	.2 = 8 { 5.0 C/ 7.0	AsYpln:	.2 = 8 { 5.0 C/ 7.0	
AsCin :	.0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	61.14	.00	.00
Caso	2:	61.14	.00	.00
Caso	3:	61.14	.00	.00
Caso	4:	61.14	.00	.00
Caso	5:	61.14	.00	.00
Caso	6:	61.14	.00	.00

BLOCO: 67 - BB61

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 56.8	TensLimP= 250.0 TensPil = 26.5	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 57.6	TensEst = 101.9	AnguloY= -83.4
Formas: 1.96 m2	F1= 57.6		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.3 = 3 {10.0 C/ 25.0	Prin.Y: 1.3 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.0	AsYfdZ: 1.0		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	56.75	.00	.00	
Caso 2:	56.75	.00	.00	
Caso 3:	56.75	.00	.00	
Caso 4:	56.75	.00	.00	
Caso 5:	56.75	.00	.00	
Caso 6:	56.75	.00	.00	

BLOCO: 68 - BB62

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 58.9	TensLimP= 250.0 TensPil = 27.5	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 59.7	TensEst = 105.7	AnguloY= -83.4
Formas: 1.96 m2	F1= 59.7		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.3 = 3 {10.0 C/ 25.0	Prin.Y: 1.3 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.0	AsYfdZ: 1.0		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	58.85	.00	.00	
Caso 2:	58.85	.00	.00	
Caso 3:	58.85	.00	.00	
Caso 4:	58.85	.00	.00	
Caso 5:	58.85	.00	.00	
Caso 6:	58.85	.00	.00	

BLOCO: 69 - BB63

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 44.5	TensLimP= 250.0 TensPil = 20.8	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 45.3	TensEst = 80.2	AnguloY= -83.4
Formas: 1.96 m2	F1= 45.3		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	44.48	.00	.00	
Caso 2:	44.48	.00	.00	
Caso 3:	44.48	.00	.00	
Caso 4:	44.48	.00	.00	
Caso 5:	44.48	.00	.00	
Caso 6:	44.48	.00	.00	

BLOCO: 70 - BB70

Retang. (1x)

GEOMETRIA [cm, m3]	CARGAS [tf, m]	TENSOES [kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 35.6	TensLimP= 250.0 TensPil = 16.6	
Xbl = 70.0 Ybl = 70.0			dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 36.7	TensEst = 64.5	AnguloY= -85.0
Formas: 2.52 m2	F1= 36.7		
ARMADURAS [cm2, cm]	Peso Próprio: 1.1 tf (x1)		
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .5	AsYfdZ: .5		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 9			

Carregamentos:	6	N	Mx	My [tf, m]
Caso 1:	35.59	.00	.00	
Caso 2:	35.59	.00	.00	
Caso 3:	35.59	.00	.00	
Caso 4:	35.59	.00	.00	
Caso 5:	35.59	.00	.00	
Caso 6:	35.59	.00	.00	

BLOCO: 71 - BB69

Retang. (1x)

GEOMETRIA [cm, m3]	CARGAS [tf, m]	TENSOES [kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 48.0	TensLimP= 250.0 TensPil = 22.4	
Xbl = 70.0 Ybl = 70.0			dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 49.1	TensEst = 86.3	AnguloY= -85.0
Formas: 2.52 m2	F1= 49.1		
ARMADURAS [cm2, cm]	Peso Próprio: 1.1 tf (x1)		
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .6	AsYfdZ: .6		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 9			

Carregamentos:	6	N	Mx	My [tf, m]
Caso 1:	47.96	.00	.00	
Caso 2:	47.96	.00	.00	
Caso 3:	47.96	.00	.00	
Caso 4:	47.96	.00	.00	
Caso 5:	47.96	.00	.00	
Caso 6:	47.96	.00	.00	

BLOCO: 72 - BB68

Retang. (1x)

GEOMETRIA [cm, m3]	CARGAS [tf, m]	TENSOES [kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 48.3	TensLimP= 250.0 TensPil = 22.5	
Xbl = 70.0 Ybl = 70.0			dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 49.4	TensEst = 86.9	AnguloY= -85.0
Formas: 2.52 m2	F1= 49.4		
ARMADURAS [cm2, cm]	Peso Próprio: 1.1 tf (x1)		
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .6	AsYfdZ: .6		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 9			

Carregamentos:	6	N	Mx	My [tf, m]
Caso 1:	48.30	.00	.00	
Caso 2:	48.30	.00	.00	
Caso 3:	48.30	.00	.00	
Caso 4:	48.30	.00	.00	
Caso 5:	48.30	.00	.00	
Caso 6:	48.30	.00	.00	

BLOCO: 73 - BB67

Retang. (1x)

GEOMETRIA [cm, m3]	CARGAS [tf, m]	TENSOES [kgf/cm2]	VERIF. [cm, graus]
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Estacas= 1	fi = 35.0	FN= 52.0	TensLimP= 250.0	
Xbl = 70.0	Ybl = 70.0		TensPil = 24.2	
Alt = 90.0	Vol = .441			dutil = 72.0
Xpil= 60.0	Ypil= 60.0	FE= 53.1	TensLimE= 270.0	AnguloX= -85.0
Formas: 2.52 m2	F1= 53.1		TensEst = 93.3	AnguloY= -85.0
ARMADURAS [cm2,cm]		Peso Próprio: 1.1 tf (x1)		
Prin.X: 1.1 = 3 {10.0 C/ 25.0		Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .7		AsYfdZ: .7		
AsXpln: .1 = 8 { 5.0 C/ 7.0		AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 9			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:		51.96	.00	.00
Caso 2:		51.96	.00	.00
Caso 3:		51.96	.00	.00
Caso 4:		51.96	.00	.00
Caso 5:		51.96	.00	.00
Caso 6:		51.96	.00	.00

BLOCO: 74 - BB66 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1	fi = 35.0	FN= 50.7	TensLimP= 250.0
Xbl = 70.0	Ybl = 70.0		TensPil = 23.7
Alt = 90.0	Vol = .441		
Xpil= 60.0	Ypil= 60.0	FE= 51.8	TensLimE= 270.0
Formas: 2.52 m2	F1= 51.8		TensEst = 91.1
			dutil = 72.0
			AnguloX= -85.0
			AnguloY= -85.0
ARMADURAS [cm2,cm]		Peso Próprio: 1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0		Prin.Y: 1.1 = 3 {10.0 C/ 25.0	
AsXfdZ: .7		AsYfdZ: .7	
AsXpln: .1 = 8 { 5.0 C/ 7.0		AsYpln: .1 = 8 { 5.0 C/ 7.0	
AsCin : .0	Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:		50.71	.00	.00
Caso 2:		50.71	.00	.00
Caso 3:		50.71	.00	.00
Caso 4:		50.71	.00	.00
Caso 5:		50.71	.00	.00
Caso 6:		50.71	.00	.00

BLOCO: 75 - BB65 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1	fi = 35.0	FN= 53.9	TensLimP= 250.0
Xbl = 70.0	Ybl = 70.0		TensPil = 25.2
Alt = 90.0	Vol = .441		
Xpil= 60.0	Ypil= 60.0	FE= 55.0	TensLimE= 270.0
Formas: 2.52 m2	F1= 55.0		TensEst = 96.8
			dutil = 72.0
			AnguloX= -85.0
			AnguloY= -85.0
ARMADURAS [cm2,cm]		Peso Próprio: 1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0		Prin.Y: 1.1 = 3 {10.0 C/ 25.0	
AsXfdZ: .7		AsYfdZ: .7	
AsXpln: .1 = 8 { 5.0 C/ 7.0		AsYpln: .1 = 8 { 5.0 C/ 7.0	
AsCin : .0	Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:		53.94	.00	.00
Caso 2:		53.94	.00	.00
Caso 3:		53.94	.00	.00
Caso 4:		53.94	.00	.00
Caso 5:		53.94	.00	.00
Caso 6:		53.94	.00	.00

BLOCO: 76 - BB64 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1	fi = 35.0	FN= 38.1	TensLimP= 250.0
Xbl = 70.0	Ybl = 70.0		TensPil = 17.8
			dutil = 72.0

Alt = 90.0	Vol = .441	-----	TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0	Ypil= 60.0	FE= 39.2	TensEst = 68.9	AnguloY= -85.0
Formas: 2.52 m2	F1= 39.2			

ARMADURAS [cm2,cm]		Peso Próprio: 1.1 tf (x1)		
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0			
AsXfdZ: .5	AsYfdZ: .5			
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0			
AsCin : .0	Nro Plan.Fretag.= 9			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	38.06	.00	.00	
Caso 2:	38.06	.00	.00	
Caso 3:	38.06	.00	.00	
Caso 4:	38.06	.00	.00	
Caso 5:	38.06	.00	.00	
Caso 6:	38.06	.00	.00	

BLOCO: 77 - BA73 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2	fi = 35.0	FN= 77.9	TensLimP= 270.0	dmin = 22.5
DisX= 105.0			TensPil = 23.9	dmax = 31.9
Xbl = 175.0	Ybl = 70.0	MY= .0		dutil = 72.0
Alt = 90.0	Vol = 1.103	-----	TensLimE= 270.0	AnguloX= 72.6
Xpil= 120.0	Ypil= 50.0	FE= 80.6	TensEst = 77.3	AnguloY= 72.6
Formas: 4.41 m2	F1= 40.3			****

ARMADURAS [cm2,cm]		Peso Próprio: 2.8 tf (x1)		
Prin.X: 4.9 = 4 {12.5 C/ 20.0	SecndY: .9 = 7 { 5.0 C/ 25.0			
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .8 = 5 { 5.0 C/ 15.0			

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	77.86	.00	.00	
Caso 2:	77.84	.00	.00	
Caso 3:	77.84	.00	.00	
Caso 4:	77.84	.00	.00	
Caso 5:	77.84	.00	.00	
Caso 6:	77.84	.00	.00	

BLOCO: 78 - BA74 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2	fi = 35.0	FN= 77.9	TensLimP= 270.0	dmin = 22.5
DisX= 105.0			TensPil = 23.9	dmax = 31.9
Xbl = 175.0	Ybl = 70.0	MY= .0		dutil = 72.0
Alt = 90.0	Vol = 1.103	-----	TensLimE= 270.0	AnguloX= 72.6
Xpil= 120.0	Ypil= 50.0	FE= 80.7	TensEst = 77.3	AnguloY= 72.6
Formas: 4.41 m2	F1= 40.3			****

ARMADURAS [cm2,cm]		Peso Próprio: 2.8 tf (x1)		
Prin.X: 4.9 = 4 {12.5 C/ 20.0	SecndY: .9 = 7 { 5.0 C/ 25.0			
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .8 = 5 { 5.0 C/ 15.0			

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	77.90	.00	.00	
Caso 2:	77.90	.00	.00	
Caso 3:	77.90	.00	.00	
Caso 4:	77.90	.00	.00	
Caso 5:	77.90	.00	.00	
Caso 6:	77.90	.00	.00	

BLOCO: 79 - BA75 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2	fi = 35.0	FN= 78.2	TensLimP= 270.0	dmin = 22.5
DisX= 105.0			TensPil = 24.0	dmax = 31.9
Xbl = 175.0	Ybl = 70.0	MY= .0		dutil = 72.0
Alt = 90.0	Vol = 1.103	-----	TensLimE= 270.0	AnguloX= 72.6
Xpil= 120.0	Ypil= 50.0	FE= 81.0	TensEst = 77.6	AnguloY= 72.6
Formas: 4.41 m2	F1= 40.5			

*****			****
ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 4.9 = 4 {12.5 C/ 20.0	SecndY: .9 = 7 { 5.0 C/ 25.0		
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .8 = 5 { 5.0 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	78.20	.00	.00		
Caso 2:	78.14	.00	.00		
Caso 3:	78.14	.00	.00		
Caso 4:	78.14	.00	.00		
Caso 5:	78.14	.00	.00		
Caso 6:	78.14	.00	.00		

BLOCO: 80 - BA76 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0	FN= 83.5	TensLimP= 270.0	dmin = 22.5
DisX= 105.0		TensPil = 25.7	dmax = 31.9
Xbl = 175.0 Ybl = 70.0	MY= .0		dutil = 72.0
Alt = 90.0 Vol = 1.103		TensLimE= 270.0	AnguloX= 72.6
Xpil= 120.0 Ypil= 50.0	FE= 86.2	TensEst = 82.6	AnguloY= 72.6
Formas: 4.41 m2	F1= 43.1		
*****			****

ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 5.2 = 5 {12.5 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0		
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .9 = 5 { 5.0 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	83.46	.00	.00		
Caso 2:	83.46	.00	.00		
Caso 3:	83.46	.00	.00		
Caso 4:	83.28	.00	.00		
Caso 5:	83.46	.00	.00		
Caso 6:	83.46	.00	.00		

BLOCO: 81 - BA77 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0	FN= 52.0	TensLimP= 270.0	dmin = 22.5
DisX= 105.0		TensPil = 16.0	dmax = 31.9
Xbl = 175.0 Ybl = 70.0	MY= .0		dutil = 72.0
Alt = 90.0 Vol = 1.103		TensLimE= 270.0	AnguloX= 72.6
Xpil= 120.0 Ypil= 50.0	FE= 54.8	TensEst = 52.5	AnguloY= 72.6
Formas: 4.41 m2	F1= 27.4		
*****			****

ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 3.3 = 5 {10.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0		
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .6 = 3 { 5.0 C/ 25.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	52.02	.00	.00		
Caso 2:	51.95	.00	.00		
Caso 3:	51.95	.00	.00		
Caso 4:	51.95	.00	.00		
Caso 5:	51.95	.00	.00		
Caso 6:	51.95	.00	.00		

BLOCO: 82 - BB71 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0	FN= 68.0	TensLimP= 270.0	dmin = 22.5
DisX= 105.0		TensPil = 20.9	dmax = 31.9
Xbl = 175.0 Ybl = 70.0	MY= .0		dutil = 72.0
Alt = 90.0 Vol = 1.103		TensLimE= 270.0	AnguloX= 72.6
Xpil= 120.0 Ypil= 50.0	FE= 70.7	TensEst = 67.8	AnguloY= 72.6
Formas: 4.41 m2	F1= 35.4		
*****			****

ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
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Prin.X:	4.3 =	4 {12.5 C/ 20.0	SecndY:	.9 =	7 { 5.0 C/ 25.0
P.Estr:	.9 =	5 { 5.0 C/ 15.0	Laterl:	.7 =	4 { 5.0 C/ 20.0

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:		67.96	.00	.00	
Caso 2:		67.93	.00	.00	
Caso 3:		67.93	.00	.00	
Caso 4:		67.93	.00	.00	
Caso 5:		67.93	.00	.00	
Caso 6:		67.93	.00	.00	

BLOCO: 83 - BB72

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0	FN= 86.0	TensLimP= 270.0	dmin = 22.5
DisX= 105.0		TensPil = 26.4	dmax = 31.9
Xbl = 175.0 Ybl = 70.0	MY= .0		dutil = 72.0
Alt = 90.0 Vol = 1.103		TensLimE= 270.0	AnguloX= 72.6
Xpil= 120.0 Ypil= 50.0	FE= 88.8	TensEst = 85.1	AnguloY= 72.6
Formas: 4.41 m2	F1= 44.4		****

ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)
Prin.X: 5.4 = 5 {12.5 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0	
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .9 = 5 { 5.0 C/ 15.0	

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:		85.99	.00	.00	
Caso 2:		85.99	.00	.00	
Caso 3:		85.99	.00	.00	
Caso 4:		85.94	.00	.00	
Caso 5:		85.99	.00	.00	
Caso 6:		85.99	.00	.00	

BLOCO: 84 - BB73

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0	FN= 83.6	TensLimP= 270.0	dmin = 22.5
DisX= 105.0		TensPil = 25.7	dmax = 31.9
Xbl = 175.0 Ybl = 70.0	MY= .0		dutil = 72.0
Alt = 90.0 Vol = 1.103		TensLimE= 270.0	AnguloX= 72.6
Xpil= 120.0 Ypil= 50.0	FE= 86.4	TensEst = 82.8	AnguloY= 72.6
Formas: 4.41 m2	F1= 43.2		****

ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)
Prin.X: 5.2 = 5 {12.5 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0	
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .9 = 5 { 5.0 C/ 15.0	

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:		83.62	.00	.00	
Caso 2:		83.61	.00	.00	
Caso 3:		83.61	.00	.00	
Caso 4:		83.61	.00	.00	
Caso 5:		83.61	.00	.00	
Caso 6:		83.61	.00	.00	

BLOCO: 85 - BB74

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0	FN= 84.1	TensLimP= 270.0	dmin = 22.5
DisX= 105.0		TensPil = 25.9	dmax = 31.9
Xbl = 175.0 Ybl = 70.0	MY= .0		dutil = 72.0
Alt = 90.0 Vol = 1.103		TensLimE= 270.0	AnguloX= 72.6
Xpil= 120.0 Ypil= 50.0	FE= 86.9	TensEst = 83.2	AnguloY= 72.6
Formas: 4.41 m2	F1= 43.4		****

ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)
Prin.X: 5.2 = 5 {12.5 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0	
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .9 = 5 { 5.0 C/ 15.0	

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	84.11	.00	.00		
Caso 2:	84.11	.00	.00		
Caso 3:	84.11	.00	.00		
Caso 4:	84.11	.00	.00		
Caso 5:	84.11	.00	.00		
Caso 6:	84.11	.00	.00		

BLOCO: 86 - BB75 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 81.6 MY= .0 FE= 84.4 F1= 42.2	TensLimP= 270.0 TensPil = 25.1 TensLimE= 270.0 TensEst = 80.9	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****
ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 5.1 = 5 {12.5 C/ 15.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .8 = 5 { 5.0 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	81.61	.00	.00		
Caso 2:	81.59	.00	.00		
Caso 3:	81.59	.00	.00		
Caso 4:	81.59	.00	.00		
Caso 5:	81.59	.00	.00		
Caso 6:	81.59	.00	.00		

BLOCO: 87 - BB76 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 81.6 MY= .0 FE= 84.3 F1= 42.2	TensLimP= 270.0 TensPil = 25.1 TensLimE= 270.0 TensEst = 80.8	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****
ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 5.1 = 5 {12.5 C/ 15.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .8 = 5 { 5.0 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	81.57	.00	.00		
Caso 2:	81.57	.00	.00		
Caso 3:	81.57	.00	.00		
Caso 4:	81.51	.00	.00		
Caso 5:	81.57	.00	.00		
Caso 6:	81.57	.00	.00		

BLOCO: 88 - BB77 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 66.2 MY= .0 FE= 68.9 F1= 34.5	TensLimP= 270.0 TensPil = 20.3 TensLimE= 270.0 TensEst = 66.1	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****
ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 4.2 = 4 {12.5 C/ 20.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .7 = 4 { 5.0 C/ 20.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	66.18	.00	.00	
Caso	2:	66.14	.00	.00	
Caso	3:	66.14	.00	.00	
Caso	4:	66.14	.00	.00	
Caso	5:	66.14	.00	.00	
Caso	6:	66.14	.00	.00	

BLOCO: 89 - BC65 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 52.0 MY= .0 FE= 54.8 F1= 27.4	TensLimP= 270.0 TensPil = 16.0 TensLimE= 270.0 TensEst = 52.5	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****

ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)
Prin.X: 3.3 = 5 {10.0 C/ 15.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .6 = 3 { 5.0 C/ 25.0	

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	52.02	.00	.00	
Caso	2:	52.02	.00	.00	
Caso	3:	52.02	.00	.00	
Caso	4:	51.76	.00	.00	
Caso	5:	52.02	.00	.00	
Caso	6:	52.02	.00	.00	

BLOCO: 90 - BC66 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 82.1 MY= .0 FE= 84.8 F1= 42.4	TensLimP= 270.0 TensPil = 25.2 TensLimE= 270.0 TensEst = 81.3	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****

ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)
Prin.X: 5.1 = 5 {12.5 C/ 15.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .9 = 5 { 5.0 C/ 15.0	

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	82.09	.00	.00	
Caso	2:	82.09	.00	.00	
Caso	3:	82.09	.00	.00	
Caso	4:	81.95	.00	.00	
Caso	5:	82.09	.00	.00	
Caso	6:	82.09	.00	.00	

BLOCO: 91 - BC5 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 80.4 MY= .0 FE= 83.1 F1= 41.6	TensLimP= 270.0 TensPil = 24.7 TensLimE= 270.0 TensEst = 79.7	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****

ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)
Prin.X: 5.0 = 5 {12.5 C/ 15.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .8 = 5 { 5.0 C/ 15.0	

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	80.37	.00	.00	
Caso	2:	80.37	.00	.00	

Caso	3:	80.37	.00	.00
Caso	4:	80.23	.00	.00
Caso	5:	80.37	.00	.00
Caso	6:	80.37	.00	.00

BLOCO: 92 - BA72

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 84.0 MY= .0 FE= 86.8 F1= 43.4	TensLimP= 270.0 TensPil = 25.8 TensLimE= 270.0 TensEst = 83.2	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****
ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 5.2 = 5 {12.5 C/ 15.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .9 = 5 { 5.0 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	84.03	.00	.00
Caso	2:	84.03	.00	.00
Caso	3:	84.03	.00	.00
Caso	4:	84.02	.00	.00
Caso	5:	84.03	.00	.00
Caso	6:	84.03	.00	.00

BLOCO: 93 - BC67

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 76.6 MY= .0 FE= 79.4 F1= 39.7	TensLimP= 270.0 TensPil = 23.6 TensLimE= 270.0 TensEst = 76.1	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****
ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 4.8 = 4 {12.5 C/ 20.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .8 = 5 { 5.0 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	76.65	.00	.00
Caso	2:	76.60	.00	.00
Caso	3:	76.60	.00	.00
Caso	4:	76.60	.00	.00
Caso	5:	76.60	.00	.00
Caso	6:	76.60	.00	.00

BLOCO: 94 - BC68

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 75.8 MY= .0 FE= 78.6 F1= 39.3	TensLimP= 270.0 TensPil = 23.3 TensLimE= 270.0 TensEst = 75.3	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****
ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 4.7 = 4 {12.5 C/ 20.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .8 = 4 { 5.0 C/ 20.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	75.85	.00	.00
Caso	2:	75.85	.00	.00
Caso	3:	75.85	.00	.00
Caso	4:	75.80	.00	.00

Caso	5:	75.85	.00	.00
Caso	6:	75.85	.00	.00

BLOCO: 95 - BC69

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 81.0 MY= .0 FE= 83.8 F1= 41.9	TensLimP= 270.0 TensPil = 24.9 TensLimE= 270.0 TensEst = 80.3	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****
ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 5.1 = 5 {12.5 C/ 15.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .8 = 5 { 5.0 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	81.01	.00	.00
Caso	2:	81.01	.00	.00
Caso	3:	81.01	.00	.00
Caso	4:	80.88	.00	.00
Caso	5:	81.01	.00	.00
Caso	6:	81.01	.00	.00

BLOCO: 96 - BA7

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 70.5 MY= .0 FE= 73.2 F1= 36.6	TensLimP= 270.0 TensPil = 21.7 TensLimE= 270.0 TensEst = 70.2	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****
ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 4.4 = 4 {12.5 C/ 20.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .7 = 4 { 5.0 C/ 20.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	70.49	.00	.00
Caso	2:	70.36	.00	.00
Caso	3:	70.36	.00	.00
Caso	4:	70.36	.00	.00
Caso	5:	70.36	.00	.00
Caso	6:	70.36	.00	.00

BLOCO: 97 - BA9

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0 Xbl = 70.0 Ybl = 70.0 Alt = 90.0 Vol = .441 Xpil= 60.0 Ypil= 60.0 Formas: 2.52 m2	FN= 67.3 FE= 68.4 F1= 68.4	TensLimP= 250.0 TensPil = 31.4 TensLimE= 270.0 TensEst = 120.3	dutil = 72.0 AnguloX= -85.0 AnguloY= -85.0
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0 AsXfdZ: .9 AsXpln: .1 = 8 { 5.0 C/ 7.0 AsCin : .0 Nro Plan.Fretag= 9	Prin.Y: 1.1 = 3 {10.0 C/ 25.0 AsYfdZ: .9 AsYpln: .1 = 8 { 5.0 C/ 7.0		

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	67.25	.00	.00
Caso	2:	67.25	.00	.00
Caso	3:	67.25	.00	.00
Caso	4:	67.23	.00	.00
Caso	5:	67.25	.00	.00
Caso	6:	67.25	.00	.00

BLOCO: 98 - BA10

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 64.4	TensLimP= 250.0 TensPil = 30.0	
Xbl = 70.0 Ybl = 70.0			dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 65.5	TensEst = 115.2	AnguloY= -85.0
Formas: 2.52 m2	F1= 65.5		
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	64.36	.00	.00	
Caso 2:	64.36	.00	.00	
Caso 3:	64.36	.00	.00	
Caso 4:	64.36	.00	.00	
Caso 5:	64.36	.00	.00	
Caso 6:	64.36	.00	.00	

BLOCO: 99 - BA11

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 63.5	TensLimP= 250.0 TensPil = 29.6	
Xbl = 70.0 Ybl = 70.0			dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 64.6	TensEst = 113.6	AnguloY= -85.0
Formas: 2.52 m2	F1= 64.6		
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	63.45	.00	.00	
Caso 2:	63.45	.00	.00	
Caso 3:	63.45	.00	.00	
Caso 4:	63.45	.00	.00	
Caso 5:	63.45	.00	.00	
Caso 6:	63.45	.00	.00	

BLOCO: 100 - BA12

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 62.9	TensLimP= 250.0 TensPil = 29.4	
Xbl = 70.0 Ybl = 70.0			dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 64.0	TensEst = 112.6	AnguloY= -85.0
Formas: 2.52 m2	F1= 64.0		
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	62.92	.00	.00	
Caso 2:	62.91	.00	.00	
Caso 3:	62.91	.00	.00	
Caso 4:	62.91	.00	.00	
Caso 5:	62.91	.00	.00	
Caso 6:	62.91	.00	.00	

BLOCO: 101 - BA13

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
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GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 66.3	TensLimP= 250.0 TensPil = 31.0	
Xbl = 70.0 Ybl = 70.0			dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 67.5	TensEst = 118.7	AnguloY= -85.0
Formas: 2.52 m2	F1= 67.5		
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .9	AsYfdZ: .9		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	66.35	.00	.00	
Caso 2:	66.35	.00	.00	
Caso 3:	66.35	.00	.00	
Caso 4:	66.35	.00	.00	
Caso 5:	66.35	.00	.00	
Caso 6:	66.35	.00	.00	

BLOCO: 102 - BA14

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 48.2	TensLimP= 250.0 TensPil = 22.5	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 49.0	TensEst = 86.8	AnguloY= -83.4
Formas: 1.96 m2	F1= 49.0		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	48.18	.00	.00	
Caso 2:	48.17	.00	.00	
Caso 3:	48.17	.00	.00	
Caso 4:	48.17	.00	.00	
Caso 5:	48.17	.00	.00	
Caso 6:	48.17	.00	.00	

BLOCO: 103 - BA8

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0	FN= 85.1	TensLimP= 270.0 TensPil = 26.2	dmin = 22.5 dmax = 31.9
DisX= 105.0	MY= .0		dutil = 72.0
Xbl = 175.0 Ybl = 70.0		TensLimE= 270.0	AnguloX= 72.6
Alt = 90.0 Vol = 1.103	FE= 87.8	TensEst = 84.2	AnguloY= 72.6
Xpil= 120.0 Ypil= 50.0	F1= 43.9		
Formas: 4.41 m2			****
ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 5.3 = 5 {12.5 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0		
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .9 = 5 { 5.0 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	85.09	.00	.00	
Caso 2:	85.09	.00	.00	
Caso 3:	85.09	.00	.00	
Caso 4:	84.63	.00	.00	
Caso 5:	85.09	.00	.00	
Caso 6:	85.09	.00	.00	

BLOCO: 104 - BA15

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0	FN= 61.7	TensLimP= 270.0	dmin = 22.5

DisX= 105.0			TensPil = 19.0	dmax = 31.9
Xbl = 175.0 Ybl = 70.0	MY= .0			dutil = 72.0
Alt = 90.0 Vol = 1.103	-----		TensLimE= 270.0	AnguloX= 72.6
Xpil= 120.0 Ypil= 50.0	FE= 64.5		TensEst = 61.8	AnguloY= 72.6
Formas: 4.41 m2	F1= 32.2			****

ARMADURAS [cm2,cm]	Peso Próprio: 2.8 tf (x1)
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Prin.X: 3.9 = 5 {10.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .6 = 4 { 5.0 C/ 20.0

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos: 6	N	Mx	My [tf,m]
Caso 1:	61.73	.00	.00
Caso 2:	61.20	.00	.00
Caso 3:	61.20	.00	.00
Caso 4:	61.20	.00	.00
Caso 5:	61.20	.00	.00
Caso 6:	61.20	.00	.00

BLOCO: 105 - BA16 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 59.1	TensLimP= 250.0	
Xbl = 70.0 Ybl = 70.0		TensPil = 27.6	dutil = 72.0
Alt = 90.0 Vol = .441	-----	TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 60.2	TensEst = 105.9	AnguloY= -85.0
Formas: 2.52 m2	F1= 60.2		

ARMADURAS [cm2,cm]	Peso Próprio: 1.1 tf (x1)
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Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0
AsXfdZ: .8	AsYfdZ: .8
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0
AsCin: .0 Nro Plan.Fretag.= 9	

Carregamentos: 6	N	Mx	My [tf,m]
Caso 1:	59.09	.00	.00
Caso 2:	59.09	.00	.00
Caso 3:	59.09	.00	.00
Caso 4:	59.09	.00	.00
Caso 5:	59.09	.00	.00
Caso 6:	59.09	.00	.00

BLOCO: 106 - BA17 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 59.3	TensLimP= 250.0	
Xbl = 70.0 Ybl = 70.0		TensPil = 27.7	dutil = 54.0
Alt = 70.0 Vol = .343	-----	TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 60.2	TensEst = 106.5	AnguloY= -83.4
Formas: 1.96 m2	F1= 60.2		

ARMADURAS [cm2,cm]	Peso Próprio: .9 tf (x1)
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Prin.X: 1.3 = 3 {10.0 C/ 25.0	Prin.Y: 1.3 = 3 {10.0 C/ 25.0
AsXfdZ: 1.0	AsYfdZ: 1.0
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0
AsCin: .0 Nro Plan.Fretag.= 6	

Carregamentos: 6	N	Mx	My [tf,m]
Caso 1:	59.35	.00	.00
Caso 2:	59.35	.00	.00
Caso 3:	59.35	.00	.00
Caso 4:	59.35	.00	.00
Caso 5:	59.35	.00	.00
Caso 6:	59.35	.00	.00

BLOCO: 107 - BA18 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 59.9	TensLimP= 250.0	
Xbl = 70.0 Ybl = 70.0		TensPil = 27.9	dutil = 54.0
Alt = 70.0 Vol = .343	-----	TensLimE= 270.0	AnguloX= -83.4

Xpil= 60.0	Ypil= 60.0	FE= 60.7	TensEst = 107.5	AnguloY= -83.4
Formas: 1.96 m2		F1= 60.7		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X: 1.4 = 3 {10.0 C/ 25.0	Prin.Y: 1.4 = 3 {10.0 C/ 25.0			
AsXfdZ: 1.0	AsYfdZ: 1.0			
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0			
AsCin : .0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:		59.89	.00	.00
Caso 2:		59.88	.00	.00
Caso 3:		59.88	.00	.00
Caso 4:		59.88	.00	.00
Caso 5:		59.88	.00	.00
Caso 6:		59.88	.00	.00

BLOCO: 108 - BA19

Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1	fi = 35.0	FN= 59.5	TensLimP= 250.0	
			TensPil = 27.7	
Xbl = 70.0	Ybl = 70.0			dutil = 54.0
Alt = 70.0	Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 60.3	TensEst = 106.7	AnguloY= -83.4
Formas: 1.96 m2		F1= 60.3		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X: 1.3 = 3 {10.0 C/ 25.0	Prin.Y: 1.3 = 3 {10.0 C/ 25.0			
AsXfdZ: 1.0	AsYfdZ: 1.0			
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0			
AsCin : .0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:		59.46	.00	.00
Caso 2:		59.46	.00	.00
Caso 3:		59.46	.00	.00
Caso 4:		59.45	.00	.00
Caso 5:		59.46	.00	.00
Caso 6:		59.46	.00	.00

BLOCO: 109 - BA20

Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1	fi = 35.0	FN= 64.9	TensLimP= 250.0	
			TensPil = 30.3	
Xbl = 70.0	Ybl = 70.0			dutil = 54.0
Alt = 70.0	Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 65.7	TensEst = 116.3	AnguloY= -83.4
Formas: 1.96 m2		F1= 65.7		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X: 1.5 = 3 {10.0 C/ 25.0	Prin.Y: 1.5 = 3 {10.0 C/ 25.0			
AsXfdZ: 1.1	AsYfdZ: 1.1			
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0			
AsCin : .0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:		64.85	.00	.00
Caso 2:		64.85	.00	.00
Caso 3:		64.85	.00	.00
Caso 4:		64.85	.00	.00
Caso 5:		64.85	.00	.00
Caso 6:		64.85	.00	.00

BLOCO: 110 - BA21

Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1	fi = 35.0	FN= 46.0	TensLimP= 250.0	
			TensPil = 21.5	
Xbl = 70.0	Ybl = 70.0			dutil = 54.0
Alt = 70.0	Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 46.9	TensEst = 82.9	AnguloY= -83.4
Formas: 1.96 m2		F1= 46.9		

ARMADURAS [cm2,cm]			Peso Próprio: .9 tf (x1)		
Prin.X:	1.1 = 3 {10.0 C/ 25.0	Prin.Y:	1.1 = 3 {10.0 C/ 25.0		
AsXfdZ:	.8	AsYfdZ:	.8		
AsXpln:	.1 = 8 { 5.0 C/ 7.0	AsYpln:	.1 = 8 { 5.0 C/ 7.0		
AsCin :	.0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	45.99		.00	.00	
Caso 2:	45.99		.00	.00	
Caso 3:	45.99		.00	.00	
Caso 4:	45.99		.00	.00	
Caso 5:	45.99		.00	.00	
Caso 6:	45.99		.00	.00	

BLOCO: 111 - BA22 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]		TENSOES[kgf/cm2]		VERIF. [cm, graus]	
Estacas= 2	fi = 35.0	FN=	70.3	TensLimP=	270.0	dmin =	22.5
DisX=	105.0			TensPil =	21.6	dmax =	31.9
Xbl = 175.0	Ybl = 70.0	MY=	.0			dutil =	72.0
Alt = 90.0	Vol = 1.103			TensLimE=	270.0	AnguloX=	72.6
Xpil= 120.0	Ypil= 50.0	FE=	73.1	TensEst =	70.0	AnguloY=	72.6
Formas:	4.41 m2	F1=	36.5				
*****						****	

ARMADURAS [cm2,cm]		Peso Próprio:		2.8 tf (x1)	
Prin.X:	4.4 = 4 {12.5 C/ 20.0	SecndY:	.9 = 7 { 5.0 C/ 25.0		
P.Estr:	.9 = 5 { 5.0 C/ 15.0	Laterl:	.7 = 4 { 5.0 C/ 20.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	70.33		.00	.00	
Caso 2:	70.33		.00	.00	
Caso 3:	70.33		.00	.00	
Caso 4:	70.29		.00	.00	
Caso 5:	70.33		.00	.00	
Caso 6:	70.33		.00	.00	

BLOCO: 112 - BA29 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]		TENSOES[kgf/cm2]		VERIF. [cm, graus]	
Estacas= 2	fi = 35.0	FN=	81.3	TensLimP=	270.0	dmin =	22.5
DisX=	105.0			TensPil =	25.0	dmax =	31.9
Xbl = 175.0	Ybl = 70.0	MY=	.0			dutil =	72.0
Alt = 90.0	Vol = 1.103			TensLimE=	270.0	AnguloX=	72.6
Xpil= 120.0	Ypil= 50.0	FE=	84.0	TensEst =	80.5	AnguloY=	72.6
Formas:	4.41 m2	F1=	42.0				
*****						****	

ARMADURAS [cm2,cm]		Peso Próprio:		2.8 tf (x1)	
Prin.X:	5.1 = 5 {12.5 C/ 15.0	SecndY:	.9 = 7 { 5.0 C/ 25.0		
P.Estr:	.9 = 5 { 5.0 C/ 15.0	Laterl:	.8 = 5 { 5.0 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	81.28		.00	.00	
Caso 2:	81.28		.00	.00	
Caso 3:	81.28		.00	.00	
Caso 4:	80.99		.00	.00	
Caso 5:	81.28		.00	.00	
Caso 6:	81.28		.00	.00	

BLOCO: 113 - BA23 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]		TENSOES[kgf/cm2]		VERIF. [cm, graus]	
Estacas= 1	fi = 35.0	FN=	66.8	TensLimP=	250.0		
				TensPil =	31.2		
Xbl = 70.0	Ybl = 70.0					dutil =	72.0
Alt = 90.0	Vol = .441			TensLimE=	270.0	AnguloX=	-85.0
Xpil= 60.0	Ypil= 60.0	FE=	67.9	TensEst =	119.4	AnguloY=	-85.0
Formas:	2.52 m2	F1=	67.9				

ARMADURAS [cm2,cm]		Peso Próprio:		1.1 tf (x1)	
Prin.X:	1.1 = 3 {10.0 C/ 25.0	Prin.Y:	1.1 = 3 {10.0 C/ 25.0		

AsXfdZ:	.9	AsYfdZ:	.9
AsXpln:	.1 = 8 { 5.0 C/ 7.0	AsYpln:	.1 = 8 { 5.0 C/ 7.0
AsCin :	.0 Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	66.76	.00	.00		
Caso 2:	66.76	.00	.00		
Caso 3:	66.76	.00	.00		
Caso 4:	66.76	.00	.00		
Caso 5:	66.76	.00	.00		
Caso 6:	66.76	.00	.00		

BLOCO: 114 - BA24

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 66.0	TensLimP= 250.0 TensPil = 30.8	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 66.8	TensEst = 118.3	AnguloY= -83.4
Formas: 1.96 m2	F1= 66.8		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.5 = 3 {10.0 C/ 25.0	Prin.Y: 1.5 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.1	AsYfdZ: 1.1		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	65.98	.00	.00		
Caso 2:	65.98	.00	.00		
Caso 3:	65.98	.00	.00		
Caso 4:	65.97	.00	.00		
Caso 5:	65.98	.00	.00		
Caso 6:	65.98	.00	.00		

BLOCO: 115 - BA25

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 66.4	TensLimP= 250.0 TensPil = 31.0	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 67.2	TensEst = 119.0	AnguloY= -83.4
Formas: 1.96 m2	F1= 67.2		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.5 = 3 {10.0 C/ 25.0	Prin.Y: 1.5 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.1	AsYfdZ: 1.1		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	66.37	.00	.00		
Caso 2:	66.36	.00	.00		
Caso 3:	66.36	.00	.00		
Caso 4:	66.36	.00	.00		
Caso 5:	66.36	.00	.00		
Caso 6:	66.36	.00	.00		

BLOCO: 116 - BA26

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 60.9	TensLimP= 250.0 TensPil = 28.4	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 61.8	TensEst = 109.4	AnguloY= -83.4
Formas: 1.96 m2	F1= 61.8		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.4 = 3 {10.0 C/ 25.0	Prin.Y: 1.4 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.0	AsYfdZ: 1.0		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	60.94	.00	.00	
Caso 2:	60.94	.00	.00	
Caso 3:	60.94	.00	.00	
Caso 4:	60.93	.00	.00	
Caso 5:	60.94	.00	.00	
Caso 6:	60.94	.00	.00	

BLOCO: 117 - BA27

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 66.2	TensLimP= 250.0 TensPil = 30.9	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 67.0	TensEst = 118.6	AnguloY= -83.4
Formas: 1.96 m2	F1= 67.0		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.5 = 3 {10.0 C/ 25.0	Prin.Y: 1.5 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.1	AsYfdZ: 1.1		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	66.19	.00	.00	
Caso 2:	66.16	.00	.00	
Caso 3:	66.16	.00	.00	
Caso 4:	66.16	.00	.00	
Caso 5:	66.16	.00	.00	
Caso 6:	66.16	.00	.00	

BLOCO: 118 - BA28

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 46.4	TensLimP= 250.0 TensPil = 21.7	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 47.3	TensEst = 83.6	AnguloY= -83.4
Formas: 1.96 m2	F1= 47.3		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	46.40	.00	.00	
Caso 2:	46.40	.00	.00	
Caso 3:	46.40	.00	.00	
Caso 4:	46.39	.00	.00	
Caso 5:	46.40	.00	.00	
Caso 6:	46.40	.00	.00	

BLOCO: 119 - BA36

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0	FN= 67.6	TensLimP= 270.0 TensPil = 20.8	dmin = 22.5 dmax = 31.9
DisX= 105.0	MY= .0		dutil = 72.0
Xbl = 175.0 Ybl = 70.0		TensLimE= 270.0	AnguloX= 72.6
Alt = 90.0 Vol = 1.103		TensEst = 67.5	AnguloY= 72.6
Xpil= 120.0 Ypil= 50.0	FE= 70.4		
Formas: 4.41 m2	F1= 35.2		
*****			****
ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 4.3 = 4 {12.5 C/ 20.0	SecndY: .9 = 7 { 5.0 C/ 25.0		
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .7 = 4 { 5.0 C/ 20.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
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Caso	1:	67.65	.00	.00
Caso	2:	67.44	.00	.00
Caso	3:	67.44	.00	.00
Caso	4:	67.44	.00	.00
Caso	5:	67.44	.00	.00
Caso	6:	67.44	.00	.00

BLOCO: 120 - BA43

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 62.3 MY= .0 FE= 65.1 F1= 32.5	TensLimP= 270.0 TensPil = 19.2 TensLimE= 270.0 TensEst = 62.4	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****

ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)
Prin.X: 3.9 = 5 {10.0 C/ 15.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .7 = 4 { 5.0 C/ 20.0	

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	62.34	.00	.00
Caso	2:	62.34	.00	.00
Caso	3:	62.34	.00	.00
Caso	4:	62.31	.00	.00
Caso	5:	62.34	.00	.00
Caso	6:	62.34	.00	.00

BLOCO: 121 - BA30

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0 Xbl = 70.0 Ybl = 70.0 Alt = 90.0 Vol = .441 Xpil= 60.0 Ypil= 60.0 Formas: 2.52 m2	FN= 73.6 FE= 74.7 F1= 74.7	TensLimP= 250.0 TensPil = 34.3 TensLimE= 270.0 TensEst = 131.4	dutil = 72.0 AnguloX= -85.0 AnguloY= -85.0

ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)
Prin.X: 1.3 = 3 {10.0 C/ 25.0 AsXfdZ: 1.0 AsXpln: .1 = 8 { 5.0 C/ 7.0 AsCin : .0	Prin.Y: 1.3 = 3 {10.0 C/ 25.0 AsYfdZ: 1.0 AsYpln: .1 = 8 { 5.0 C/ 7.0 Nro Plan.Fretag.= 9	

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	73.56	.00	.00
Caso	2:	73.54	.00	.00
Caso	3:	73.54	.00	.00
Caso	4:	73.54	.00	.00
Caso	5:	73.54	.00	.00
Caso	6:	73.54	.00	.00

BLOCO: 122 - BA31

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0 Xbl = 70.0 Ybl = 70.0 Alt = 70.0 Vol = .343 Xpil= 60.0 Ypil= 60.0 Formas: 1.96 m2	FN= 73.6 FE= 74.5 F1= 74.5	TensLimP= 250.0 TensPil = 34.3 TensLimE= 270.0 TensEst = 131.8	dutil = 54.0 AnguloX= -83.4 AnguloY= -83.4

ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)
Prin.X: 1.7 = 3 {10.0 C/ 25.0 AsXfdZ: 1.2 AsXpln: .2 = 8 { 5.0 C/ 7.0 AsCin : .0	Prin.Y: 1.7 = 3 {10.0 C/ 25.0 AsYfdZ: 1.2 AsYpln: .2 = 8 { 5.0 C/ 7.0 Nro Plan.Fretag.= 6	

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	73.60	.00	.00
Caso	2:	73.60	.00	.00
Caso	3:	73.60	.00	.00

Caso	4:	73.50	.00	.00
Caso	5:	73.60	.00	.00
Caso	6:	73.60	.00	.00

BLOCO: 123 - BA32

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 77.4	TensLimP= 250.0 TensPil = 36.1	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 78.3	TensEst = 138.5	AnguloY= -83.4
Formas: 1.96 m2	F1= 78.3		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.8 = 3 {10.0 C/ 25.0	Prin.Y: 1.8 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.3	AsYfdZ: 1.3		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	77.41	.00	.00
Caso	2:	77.41	.00	.00
Caso	3:	77.41	.00	.00
Caso	4:	77.15	.00	.00
Caso	5:	77.41	.00	.00
Caso	6:	77.41	.00	.00

BLOCO: 124 - BA50

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0	FN= 62.7	TensLimP= 270.0	dmin = 22.5
DisX= 105.0		TensPil = 19.3	dmax = 31.9
Xbl = 175.0 Ybl = 70.0	MY= .0		dutil = 72.0
Alt = 90.0 Vol = 1.103		TensLimE= 270.0	AnguloX= 72.6
Xpil= 120.0 Ypil= 50.0	FE= 65.4	TensEst = 62.7	AnguloY= 72.6
Formas: 4.41 m2	F1= 32.7		****

ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 3.9 = 4 {12.5 C/ 20.0	SecndY: .9 = 7 { 5.0 C/ 25.0		
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .7 = 4 { 5.0 C/ 20.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	62.65	.00	.00
Caso	2:	62.65	.00	.00
Caso	3:	62.65	.00	.00
Caso	4:	62.65	.00	.00
Caso	5:	62.65	.00	.00
Caso	6:	62.65	.00	.00

BLOCO: 125 - BA57

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0	FN= 62.5	TensLimP= 270.0	dmin = 22.5
DisX= 105.0		TensPil = 19.2	dmax = 31.9
Xbl = 175.0 Ybl = 70.0	MY= .0		dutil = 72.0
Alt = 90.0 Vol = 1.103		TensLimE= 270.0	AnguloX= 72.6
Xpil= 120.0 Ypil= 50.0	FE= 65.2	TensEst = 62.5	AnguloY= 72.6
Formas: 4.41 m2	F1= 32.6		****

ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 3.9 = 5 {10.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0		
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .7 = 4 { 5.0 C/ 20.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	62.46	.00	.00
Caso	2:	62.37	.00	.00
Caso	3:	62.37	.00	.00
Caso	4:	62.37	.00	.00
Caso	5:	62.37	.00	.00
Caso	6:	62.37	.00	.00

BLOCO: 126 - BA64

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 74.6 MY= .0 FE= 77.3 F1= 38.7	TensLimP= 270.0 TensPil = 22.9 TensLimE= 270.0 TensEst = 74.1	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****

ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)
Prin.X: 4.7 = 4 {12.5 C/ 20.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .8 = 4 { 5.0 C/ 20.0	

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	74.58	.00	.00		
Caso 2:	74.58	.00	.00		
Caso 3:	74.58	.00	.00		
Caso 4:	74.55	.00	.00		
Caso 5:	74.58	.00	.00		
Caso 6:	74.58	.00	.00		

AVISO: Bloco 127 - Altura de ferro principal 1 excedida (72.8), limite = 70.0 cm.

BLOCO: 127 - BC27

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 2 fi = 35.0 DisX= 115.0 Xbl = 185.0 Ybl = 70.0 Alt = 90.0 Vol = 1.166 Xpil= 35.0 Ypil= 100.0 Formas: 4.59 m2 *****	FN= 58.6 MY= 7.7 FE= 74.9 F1= 37.4	TensLimP= 270.0 TensPil = 104.3 TensLimE= 270.0 TensEst = 95.4	dmin = 48.8 dmax = 69.2 dutil = 72.0 AnguloX= 55.9 AnguloY= 55.9 ****

ARMADURAS [cm2,cm]	Peso Próprio:	2.9 tf (x1)
Prin.X: 9.8 = 5 {16.0 C/ 15.0 P.Estr: 1.5 = 5 { 6.3 C/ 15.0	SecndY: 1.6 = 9 { 5.0 C/ 20.0 Laterl: 2.0 = 4 { 8.0 C/ 20.0	

 ATENCAO: Xbl menor que o recomendado. - Recomendado: 205.00 Fornecido: 185.00
 Md/West (.00 tf/m2) < fctd_inf_est (103.02 tf/m2) --> ok.

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	58.60	.00	7.69		
Caso 2:	58.60	.00	7.69		
Caso 3:	58.60	.00	7.69		
Caso 4:	57.96	.00	7.64		
Caso 5:	57.96	.00	7.64		
Caso 6:	58.60	.00	7.69		

BLOCO: 128 - BA71

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 67.5 MY= .0 FE= 70.2 F1= 35.1	TensLimP= 270.0 TensPil = 20.7 TensLimE= 270.0 TensEst = 67.3	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****

ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)
Prin.X: 4.2 = 4 {12.5 C/ 20.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .7 = 4 { 5.0 C/ 20.0	

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	67.49	.00	.00		
Caso 2:	67.48	.00	.00		
Caso 3:	67.48	.00	.00		
Caso 4:	67.48	.00	.00		
Caso 5:	67.48	.00	.00		
Caso 6:	67.48	.00	.00		

AVISO: Bloco 129 - Altura de ferro principal 1 excedida (97.0), limite = 70.0 cm.

BLOCO: 129 - BA35

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0 DisX= 115.0 Xbl = 185.0 Ybl = 70.0 Alt = 90.0 Vol = 1.166 Xpil= 35.0 Ypil= 100.0 Formas: 4.59 m2 *****	FN= 61.1 MY= 11.2 FE= 83.6 F1= 41.8	TensLimP= 270.0 TensPil = 135.2 TensLimE= 270.0 TensEst = 106.4	dmin = 48.8 dmax = 69.2 dutil = 72.0 AnguloX= 55.9 AnguloY= 55.9 ****

ARMADURAS [cm2,cm]	Peso Próprio:	2.9 tf (x1)
Prin.X: 10.9 = 4 {20.0 C/ 20.0 P.Estr: 1.6 = 4 { 8.0 C/ 20.0	SecndY: 1.8 = 12 { 5.0 C/ 15.0 Laterl: 2.2 = 5 { 8.0 C/ 15.0	

 ATENCAO: Xbl menor que o recomendado. - Recomendado: 205.00 Fornecido: 185.00
 Md/West (.00 tf/m2) < fctd_inf_est (103.02 tf/m2) --> ok.

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	61.11	.00	11.23		
Caso 2:	61.11	.00	11.23		
Caso 3:	61.09	.00	11.23		
Caso 4:	61.09	.00	11.23		
Caso 5:	61.09	.00	11.23		
Caso 6:	61.09	.00	11.23		

BLOCO: 130 - BA37

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0 Xbl = 70.0 Ybl = 70.0 Alt = 90.0 Vol = .441 Xpil= 60.0 Ypil= 60.0 Formas: 2.52 m2	FN= 65.3 FE= 66.4 F1= 66.4	TensLimP= 250.0 TensPil = 30.5 TensLimE= 270.0 TensEst = 116.8	dutil = 72.0 AnguloX= -85.0 AnguloY= -85.0

ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)
Prin.X: 1.1 = 3 {10.0 C/ 25.0 AsXfdZ: .9 AsXpln: .1 = 8 { 5.0 C/ 7.0 AsCin : .0 Nro Plan.Fretag= 9	Prin.Y: 1.1 = 3 {10.0 C/ 25.0 AsYfdZ: .9 AsYpln: .1 = 8 { 5.0 C/ 7.0	

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	65.26	.00	.00		
Caso 2:	65.26	.00	.00		
Caso 3:	65.26	.00	.00		
Caso 4:	65.26	.00	.00		
Caso 5:	65.26	.00	.00		
Caso 6:	65.26	.00	.00		

BLOCO: 131 - BA38

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0 Xbl = 70.0 Ybl = 70.0 Alt = 70.0 Vol = .343 Xpil= 60.0 Ypil= 60.0 Formas: 1.96 m2	FN= 66.1 FE= 66.9 F1= 66.9	TensLimP= 250.0 TensPil = 30.8 TensLimE= 270.0 TensEst = 118.4	dutil = 54.0 AnguloX= -83.4 AnguloY= -83.4

ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)
Prin.X: 1.5 = 3 {10.0 C/ 25.0 AsXfdZ: 1.1 AsXpln: .2 = 8 { 5.0 C/ 7.0 AsCin : .0 Nro Plan.Fretag= 6	Prin.Y: 1.5 = 3 {10.0 C/ 25.0 AsYfdZ: 1.1 AsYpln: .2 = 8 { 5.0 C/ 7.0	

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	66.05	.00	.00		
Caso 2:	66.05	.00	.00		
Caso 3:	66.05	.00	.00		
Caso 4:	66.04	.00	.00		
Caso 5:	66.05	.00	.00		
Caso 6:	66.05	.00	.00		

BLOCO: 132 - BA39

Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 1	fi = 35.0	FN= 66.5	TensLimP= 250.0 TensPil = 31.0	dutil = 54.0 AnguloX= -83.4 AnguloY= -83.4
Xbl = 70.0	Ybl = 70.0			
Alt = 70.0	Vol = .343		TensLimE= 270.0	
Xpil= 60.0	Ypil= 60.0	FE= 67.4	TensEst = 119.2	
Formas: 1.96 m2		F1= 67.4		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X: 1.5 = 3 {10.0 C/ 25.0		Prin.Y: 1.5 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.1		AsYfdZ: 1.1		
AsXpln: .2 = 8 { 5.0 C/ 7.0		AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	66.53	.00	.00	
Caso 2:	66.52	.00	.00	
Caso 3:	66.52	.00	.00	
Caso 4:	66.52	.00	.00	
Caso 5:	66.52	.00	.00	
Caso 6:	66.52	.00	.00	

BLOCO: 133 - BA40

Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 1	fi = 35.0	FN= 61.0	TensLimP= 250.0 TensPil = 28.5	dutil = 54.0 AnguloX= -83.4 AnguloY= -83.4
Xbl = 70.0	Ybl = 70.0			
Alt = 70.0	Vol = .343		TensLimE= 270.0	
Xpil= 60.0	Ypil= 60.0	FE= 61.9	TensEst = 109.5	
Formas: 1.96 m2		F1= 61.9		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X: 1.4 = 3 {10.0 C/ 25.0		Prin.Y: 1.4 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.0		AsYfdZ: 1.0		
AsXpln: .2 = 8 { 5.0 C/ 7.0		AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	61.03	.00	.00	
Caso 2:	61.03	.00	.00	
Caso 3:	61.03	.00	.00	
Caso 4:	61.02	.00	.00	
Caso 5:	61.03	.00	.00	
Caso 6:	61.03	.00	.00	

BLOCO: 134 - BA41

Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 1	fi = 35.0	FN= 66.3	TensLimP= 250.0 TensPil = 30.9	dutil = 54.0 AnguloX= -83.4 AnguloY= -83.4
Xbl = 70.0	Ybl = 70.0			
Alt = 70.0	Vol = .343		TensLimE= 270.0	
Xpil= 60.0	Ypil= 60.0	FE= 67.1	TensEst = 118.8	
Formas: 1.96 m2		F1= 67.1		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X: 1.5 = 3 {10.0 C/ 25.0		Prin.Y: 1.5 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.1		AsYfdZ: 1.1		
AsXpln: .2 = 8 { 5.0 C/ 7.0		AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	66.29	.00	.00	
Caso 2:	66.26	.00	.00	
Caso 3:	66.26	.00	.00	
Caso 4:	66.26	.00	.00	
Caso 5:	66.26	.00	.00	
Caso 6:	66.26	.00	.00	

BLOCO: 135 - BA42

Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
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Estacas= 1	fi = 35.0	FN= 46.6	TensLimP= 250.0	
Xbl = 70.0	Ybl = 70.0		TensPil = 21.8	dutil = 54.0
Alt = 70.0	Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 47.5	TensEst = 84.0	AnguloY= -83.4
Formas:	1.96 m2	F1= 47.5		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X:	1.1 = 3 {10.0 C/ 25.0	Prin.Y:	1.1 = 3 {10.0 C/ 25.0	
AsXfdZ:	.8	AsYfdZ:	.8	
AsXpln:	.1 = 8 { 5.0 C/ 7.0	AsYpln:	.1 = 8 { 5.0 C/ 7.0	
AsCin :	.0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:		46.64	.00	.00
Caso 2:		46.64	.00	.00
Caso 3:		46.64	.00	.00
Caso 4:		46.62	.00	.00
Caso 5:		46.64	.00	.00
Caso 6:		46.64	.00	.00

AVISO: Bloco 136 - Altura de ferro principal 1 excedida (97.0), limite = 70.0 cm.

BLOCO: 136 - BC28

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 2	fi = 35.0	FN= 99.7	TensLimP= 270.0
DisX= 115.0			TensPil = 119.2
Xbl = 185.0	Ybl = 70.0	MY= 6.0	dmin = 48.8
Alt = 90.0	Vol = 1.166		dmax = 69.2
Xpil= 35.0	Ypil= 100.0	FE= 113.0	dutil = 72.0
Formas:	4.59 m2	F1= 56.5	TensLimE= 270.0
*****			TensEst = 143.9
			AnguloX= 55.9
			AnguloY= 55.9

ARMADURAS [cm2,cm]		Peso Próprio: 2.9 tf (x1)	
Prin.X:	14.8 = 5 {20.0 C/ 15.0	SecndY:	2.5 = 15 { 5.0 C/ 12.5
P.Estr:	2.2 = 5 { 8.0 C/ 15.0	Laterl:	3.0 = 4 {10.0 C/ 20.0

ATENCAO: Xbl menor que o recomendado. - Recomendado: 205.00 Fornecido: 185.00
 Md/West (.00 tf/m2) < fctd_inf_est (103.02 tf/m2) --> ok.

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:		99.69	.00	6.00
Caso 2:		99.69	.00	6.00
Caso 3:		99.69	.00	6.00
Caso 4:		99.43	.00	5.91
Caso 5:		99.43	.00	5.91
Caso 6:		99.69	.00	6.00

AVISO: Bloco 137 - Altura de ferro principal 1 excedida (97.0), limite = 70.0 cm.

BLOCO: 137 - BC29

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 2	fi = 35.0	FN= 96.1	TensLimP= 270.0
DisX= 115.0			TensPil = 100.7
Xbl = 185.0	Ybl = 70.0	MY= 4.1	dmin = 48.8
Alt = 90.0	Vol = 1.166		dmax = 69.2
Xpil= 35.0	Ypil= 100.0	FE= 106.1	dutil = 72.0
Formas:	4.59 m2	F1= 53.0	TensLimE= 270.0
*****			TensEst = 135.1
			AnguloX= 55.9
			AnguloY= 55.9

ARMADURAS [cm2,cm]		Peso Próprio: 2.9 tf (x1)	
Prin.X:	13.9 = 5 {20.0 C/ 15.0	SecndY:	2.3 = 12 { 5.0 C/ 15.0
P.Estr:	2.1 = 5 { 8.0 C/ 15.0	Laterl:	2.8 = 4 {10.0 C/ 20.0

ATENCAO: Xbl menor que o recomendado. - Recomendado: 205.00 Fornecido: 185.00
 Md/West (.00 tf/m2) < fctd_inf_est (103.02 tf/m2) --> ok.

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:		96.09	.00	4.06
Caso 2:		92.26	.00	4.13
Caso 3:		92.26	.00	4.13
Caso 4:		92.26	.00	4.13
Caso 5:		96.09	.00	4.06
Caso 6:		92.26	.00	4.13

BLOCO: 138 - BA44

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 57.7	TensLimP= 250.0 TensPil = 26.9	
Xbl = 70.0 Ybl = 70.0			dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 58.8	TensEst = 103.5	AnguloY= -85.0
Formas: 2.52 m2	F1= 58.8		
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	57.73	.00	.00	
Caso 2:	57.73	.00	.00	
Caso 3:	57.73	.00	.00	
Caso 4:	57.72	.00	.00	
Caso 5:	57.73	.00	.00	
Caso 6:	57.73	.00	.00	

BLOCO: 139 - BA45				Retang. (1x)	
GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]	
Estacas= 1 fi = 35.0		FN= 59.3	TensLimP= 250.0		
			TensPil = 27.7		
Xbl = 70.0 Ybl = 70.0				dutil = 54.0	
Alt = 70.0 Vol = .343			TensLimE= 270.0	AnguloX= -83.4	
Xpil= 60.0 Ypil= 60.0		FE= 60.2	TensEst = 106.5	AnguloY= -83.4	
Formas: 1.96 m2		F1= 60.2			
ARMADURAS [cm2,cm]		Peso Proprio:	.9 tf (x1)		
Prin.X: 1.3 = 3 {10.0 C/ 25.0		Prin.Y: 1.3 = 3 {10.0 C/ 25.0			
ASXfdZ: 1.0		ASYfdZ: 1.0			
ASXpln: .2 = 8 { 5.0 C/ 7.0		ASYpln: .2 = 8 { 5.0 C/ 7.0			
ASCin : .0		Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	59.34	.00	.00	
Caso 2:	59.34	.00	.00	
Caso 3:	59.34	.00	.00	
Caso 4:	59.34	.00	.00	
Caso 5:	59.34	.00	.00	
Caso 6:	59.34	.00	.00	

BLOCO: 140 - BA46				Retang. (1x)	
GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]		VERIF. [cm, graus]
Estacas= 1 fi = 35.0		FN= 59.8	TensLimP= 250.0 TensPil = 27.9		
Xbl = 70.0	Ybl = 70.0				dutil = 54.0
Alt = 70.0	Vol = .343		TensLimE= 270.0		AnguloX= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 60.6	TensEst = 107.3		AnguloY= -83.4
Formas: 1.96 m2		F1= 60.6			
ARMADURAS [cm2,cm]		Peso Proprio: .9 tf (x1)			
Prin.X: 1.4 = 3 {10.0 C/ 25.0	Prin.Y: 1.4 = 3 {10.0 C/ 25.0				
ASxfdZ: 1.0	ASyfdZ: 1.0				
ASxpln: .2 = 8 { 5.0 C/ 7.0	ASypln: .2 = 8 { 5.0 C/ 7.0				
ASCin : .0	Nro Plan.Fretag.= 6				

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	59.76	.00	.00	
Caso 2:	59.76	.00	.00	
Caso 3:	59.76	.00	.00	
Caso 4:	59.76	.00	.00	
Caso 5:	59.76	.00	.00	
Caso 6:	59.76	.00	.00	

BLOCO: 141 - BA47			Retang. (1x)
GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 59.1	TensLimP= 250.0	

Xbl = 70.0	Ybl = 70.0		TensPil = 27.6	dutil = 54.0
Alt = 70.0	Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 60.0	TensEst = 106.2	AnguloY= -83.4
Formas: 1.96 m2		F1= 60.0		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X: 1.3 = 3 {10.0 C/ 25.0	Prin.Y: 1.3 = 3 {10.0 C/ 25.0			
AsXfdZ: 1.0	AsYfdZ: 1.0			
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0			
AsCin : .0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	59.15	.00	.00	
Caso 2:	59.15	.00	.00	
Caso 3:	59.15	.00	.00	
Caso 4:	59.14	.00	.00	
Caso 5:	59.15	.00	.00	
Caso 6:	59.15	.00	.00	

BLOCO: 142 - BA48 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 64.9	TensLimP= 250.0	
		TensPil = 30.3	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 65.8	TensEst = 116.4	AnguloY= -83.4
Formas: 1.96 m2	F1= 65.8		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)	
Prin.X: 1.5 = 3 {10.0 C/ 25.0	Prin.Y: 1.5 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.1	AsYfdZ: 1.1		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	64.91	.00	.00	
Caso 2:	64.91	.00	.00	
Caso 3:	64.91	.00	.00	
Caso 4:	64.91	.00	.00	
Caso 5:	64.91	.00	.00	
Caso 6:	64.91	.00	.00	

BLOCO: 143 - BA49 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 45.6	TensLimP= 250.0	
		TensPil = 21.3	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 46.5	TensEst = 82.3	AnguloY= -83.4
Formas: 1.96 m2	F1= 46.5		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	45.64	.00	.00	
Caso 2:	45.64	.00	.00	
Caso 3:	45.64	.00	.00	
Caso 4:	45.64	.00	.00	
Caso 5:	45.64	.00	.00	
Caso 6:	45.64	.00	.00	

AVISO: Bloco 144 - Altura de ferro principal 1 excedida (97.0), limite = 70.0 cm.

BLOCO: 144 - BC30 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0	FN= 107.2	TensLimP= 270.0	dmin = 48.8
DisX= 115.0		TensPil = 98.2	dmax = 69.2
Xbl = 185.0 Ybl = 70.0	MY= 2.8		dutil = 72.0

Alt = 90.0	Vol = 1.166	-----	TensLimE= 270.0	AnguloX= 55.9
Xpil= 35.0	Ypil= 100.0	FE= 115.0	TensEst = 146.4	AnguloY= 55.9
Formas: 4.59 m2	F1= 57.5			****

ARMADURAS [cm2,cm]	Peso Próprio: 2.9 tf (x1)	
Prin.X: 15.0 = 5 {20.0 C/ 15.0	SecndY: 2.5 = 15 { 5.0 C/ 12.5	
P.Estr: 2.3 = 5 { 8.0 C/ 15.0	Laterl: 3.0 = 4 {10.0 C/ 20.0	

ATENCAO: Xbl menor que o recomendado. - Recomendado: 205.00 Fornecido: 185.00
 Md/West (.00 tf/m2) < fctd_inf_est (103.02 tf/m2) --> ok.

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	107.17	.00	2.82		
Caso 2:	107.17	.00	2.82		
Caso 3:	107.17	.00	2.82		
Caso 4:	98.74	.00	2.76		
Caso 5:	98.74	.00	2.76		
Caso 6:	107.17	.00	2.82		

AVISO: Bloco 145 - Altura de ferro principal 1 excedida (97.0), limite = 70.0 cm.

BLOCO: 145 - BC31 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0	FN= 80.9	TensLimP= 270.0	dmin = 48.8
DisX= 115.0		TensPil = 97.5	dmax = 69.2
Xbl = 185.0 Ybl = 70.0	MY= -5.0		dutil = 72.0
Alt = 90.0 Vol = 1.166	-----	TensLimE= 270.0	AnguloX= 55.9
Xpil= 35.0 Ypil= 100.0	FE= 92.4	TensEst = 117.7	AnguloY= 55.9
Formas: 4.59 m2	F1= 46.2		****

ARMADURAS [cm2,cm]	Peso Próprio: 2.9 tf (x1)	
Prin.X: 12.1 = 4 {20.0 C/ 20.0	SecndY: 2.0 = 12 { 5.0 C/ 15.0	
P.Estr: 1.8 = 4 { 8.0 C/ 20.0	Laterl: 2.4 = 5 { 8.0 C/ 15.0	

ATENCAO: Xbl menor que o recomendado. - Recomendado: 205.00 Fornecido: 185.00
 Md/West (.00 tf/m2) < fctd_inf_est (103.02 tf/m2) --> ok.

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	80.86	.00	-4.97		
Caso 2:	80.86	.00	-4.97		
Caso 3:	66.96	.00	-5.33		
Caso 4:	66.96	.00	-5.33		
Caso 5:	66.96	.00	-5.33		
Caso 6:	66.96	.00	-5.33		

BLOCO: 146 - BA51 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 58.8	TensLimP= 250.0	
		TensPil = 27.5	
Xbl = 70.0 Ybl = 70.0			dutil = 72.0
Alt = 90.0 Vol = .441	-----	TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 59.9	TensEst = 105.5	AnguloY= -85.0
Formas: 2.52 m2	F1= 59.9		

ARMADURAS [cm2,cm]	Peso Próprio: 1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0	
AsXfdZ: .8	AsYfdZ: .8	
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0	
AsCin : .0	Nro Plan.Fretag= 9	

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	58.84	.00	.00		
Caso 2:	58.84	.00	.00		
Caso 3:	58.84	.00	.00		
Caso 4:	58.83	.00	.00		
Caso 5:	58.84	.00	.00		
Caso 6:	58.84	.00	.00		

BLOCO: 147 - BA52 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 61.0	TensLimP= 250.0	
		TensPil = 28.5	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0

Alt = 70.0	Vol = .343	-----	TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 61.9	TensEst = 109.5	AnguloY= -83.4
Formas: 1.96 m2	F1= 61.9			

ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X: 1.4 = 3 {10.0 C/ 25.0	Prin.Y: 1.4 = 3 {10.0 C/ 25.0			
AsXfdZ: 1.0	AsYfdZ: 1.0			
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0			
AsCin : .0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	61.05	.00	.00	
Caso 2:	61.04	.00	.00	
Caso 3:	61.04	.00	.00	
Caso 4:	61.04	.00	.00	
Caso 5:	61.04	.00	.00	
Caso 6:	61.04	.00	.00	

BLOCO: 148 - BA53 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 61.5	TensLimP= 250.0		
Xbl = 70.0 Ybl = 70.0		TensPil = 28.7		
Alt = 70.0 Vol = .343		TensLimE= 270.0	dutil = 54.0	
Xpil= 60.0 Ypil= 60.0	FE= 62.4	TensEst = 110.3	AnguloX= -83.4	
Formas: 1.96 m2	F1= 62.4		AnguloY= -83.4	
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X: 1.4 = 3 {10.0 C/ 25.0	Prin.Y: 1.4 = 3 {10.0 C/ 25.0			
AsXfdZ: 1.0	AsYfdZ: 1.0			
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0			
AsCin : .0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	61.49	.00	.00	
Caso 2:	61.49	.00	.00	
Caso 3:	61.49	.00	.00	
Caso 4:	61.49	.00	.00	
Caso 5:	61.49	.00	.00	
Caso 6:	61.49	.00	.00	

BLOCO: 149 - BA54 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 59.0	TensLimP= 250.0		
Xbl = 70.0 Ybl = 70.0		TensPil = 27.5		
Alt = 70.0 Vol = .343		TensLimE= 270.0	dutil = 54.0	
Xpil= 60.0 Ypil= 60.0	FE= 59.9	TensEst = 105.9	AnguloX= -83.4	
Formas: 1.96 m2	F1= 59.9		AnguloY= -83.4	
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X: 1.3 = 3 {10.0 C/ 25.0	Prin.Y: 1.3 = 3 {10.0 C/ 25.0			
AsXfdZ: 1.0	AsYfdZ: 1.0			
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0			
AsCin : .0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	58.99	.00	.00	
Caso 2:	58.99	.00	.00	
Caso 3:	58.99	.00	.00	
Caso 4:	58.99	.00	.00	
Caso 5:	58.99	.00	.00	
Caso 6:	58.99	.00	.00	

BLOCO: 150 - BA55 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 64.7	TensLimP= 250.0		
Xbl = 70.0 Ybl = 70.0		TensPil = 30.2		
Alt = 70.0 Vol = .343		TensLimE= 270.0	dutil = 54.0	
Xpil= 60.0 Ypil= 60.0	FE= 65.6	TensEst = 116.0	AnguloX= -83.4	
Formas: 1.96 m2	F1= 65.6		AnguloY= -83.4	

ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)
Prin.X: 1.5 = 3 {10.0 C/ 25.0	Prin.Y: 1.5 = 3 {10.0 C/ 25.0	
AsXfdZ: 1.1	AsYfdZ: 1.1	
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0	
AsCin : .0	Nro Plan.Fretag.= 6	

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	64.72	.00	.00	
Caso 2:	64.72	.00	.00	
Caso 3:	64.72	.00	.00	
Caso 4:	64.72	.00	.00	
Caso 5:	64.72	.00	.00	
Caso 6:	64.72	.00	.00	

BLOCO: 151 - BA56

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 45.3	TensLimP= 250.0	
Xbl = 70.0 Ybl = 70.0		TensPil = 21.1	dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 46.2	TensEst = 81.7	AnguloY= -83.4
Formas: 1.96 m2	F1= 46.2		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	45.30	.00	.00	
Caso 2:	45.30	.00	.00	
Caso 3:	45.30	.00	.00	
Caso 4:	45.30	.00	.00	
Caso 5:	45.30	.00	.00	
Caso 6:	45.30	.00	.00	

BLOCO: 152 - BC22

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 17.9	TensLimP= 250.0	
Xbl = 70.0 Ybl = 70.0		TensPil = 8.4	dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 18.8	TensEst = 33.2	AnguloY= -83.4
Formas: 1.96 m2	F1= 18.8		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .3	AsYfdZ: .3		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	17.92	.00	.00	
Caso 2:	17.46	.00	.00	
Caso 3:	17.46	.00	.00	
Caso 4:	17.46	.00	.00	
Caso 5:	17.46	.00	.00	
Caso 6:	17.46	.00	.00	

AVISO: Bloco 153 - Altura de ferro principal 1 excedida (72.8), limite = 70.0 cm.

BLOCO: 153 - BB20

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0	FN= 73.3	TensLimP= 270.0	dmin = 43.8
DisX= 105.0		TensPil = 48.2	dmax = 62.1
Xbl = 175.0 Ybl = 70.0	MY= .0		dutil = 72.0
Alt = 90.0 Vol = 1.103		TensLimE= 270.0	AnguloX= 58.7
Xpil= 35.0 Ypil= 100.0	FE= 76.0	TensEst = 90.9	AnguloY= 58.7
Formas: 4.41 m2	F1= 38.0		
*****			****

ARMADURAS [cm2,cm]			Peso Próprio: 2.8 tf (x1)		
Prin.X:	8.9 = 5 {16.0 C/ 15.0	SecndY:	1.5 = 9 { 5.0 C/ 20.0		
P.Estr:	1.3 = 5 { 6.3 C/ 15.0	Laterl:	1.8 = 6 { 6.3 C/ 12.5		
ATENCAO: Xbl menor que o recomendado. -			Recomendado: 195.00 Fornecido: 175.00		

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	73.28	.00	.00		
Caso 2:	73.28	.00	.00		
Caso 3:	73.28	.00	.00		
Caso 4:	67.69	.00	.00		
Caso 5:	73.28	.00	.00		
Caso 6:	73.28	.00	.00		

BLOCO: 154 - BA58				Retang. (1x)	
GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]		VERIF. [cm, graus]
Estacas= 1 fi = 35.0		FN= 58.5	TensLimP= 250.0		
			TensPil = 27.3		
Xbl = 70.0	Ybl = 70.0				dutil = 72.0
Alt = 90.0	Vol = .441		TensLimE= 270.0		AnguloX= -85.0
Xpil= 60.0	Ypil= 60.0	FE= 59.6	TensEst = 104.9		AnguloY= -85.0
Formas: 2.52 m2		F1= 59.6			
ARMADURAS [cm2,cm]		Peso Próprio:		1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0		Prin.Y: 1.1 = 3 {10.0 C/ 25.0			
ASXfdZ: .8		ASYfdZ: .8			
ASXpln: .1 = 8 { 5.0 C/ 7.0		ASYpln: .1 = 8 { 5.0 C/ 7.0			
ASCin : .0		Nro Plan.Fretag.= 9			

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	58.54	.00	.00		
Caso 2:	58.54	.00	.00		
Caso 3:	58.54	.00	.00		
Caso 4:	58.53	.00	.00		
Caso 5:	58.54	.00	.00		
Caso 6:	58.54	.00	.00		

BLOCO: 155 - BA59				Retang. (1x)	
GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]	
Estacas= 1 fi = 35.0		FN= 60.8	TensLimP= 250.0		
			TensPil = 28.4		
Xbl = 70.0	Ybl = 70.0			dutil = 54.0	
Alt = 70.0	Vol = .343		TensLimE= 270.0	AnguloX= -83.4	
Xpil= 60.0	Ypil= 60.0	FE= 61.7	TensEst = 109.2	AnguloY= -83.4	
Formas:	1.96 m2	F1= 61.7			
ARMADURAS [cm2,cm]		Peso Proprio:		.9 tf (x1)	
Prin.X:	1.4 = 3 {10.0 C/ 25.0	Prin.Y:	1.4 = 3 {10.0 C/ 25.0		
ASXfdZ:	1.0	ASYfdZ:	1.0		
ASXpln:	.2 = 8 { 5.0 C/ 7.0	ASYpln:	.2 = 8 { 5.0 C/ 7.0		
ASCin :	.0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	60.84	.00	.00		
Caso 2:	60.84	.00	.00		
Caso 3:	60.84	.00	.00		
Caso 4:	60.84	.00	.00		
Caso 5:	60.84	.00	.00		
Caso 6:	60.84	.00	.00		

BLOCO: 156 - BA60		Retang. (1x)			
GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]	
Estacas= 1	fi = 35.0	FN= 61.2	TensLimP= 250.0		
Xbl = 70.0	Ybl = 70.0		TensPil = 28.6		
Alt = 70.0	Vol = .343		TensLimE= 270.0	dutil = 54.0	
Xpil= 60.0	Ypil= 60.0	FE= 62.1	TensEst = 109.9	AnguloX= -83.4	
Formas:	1.96 m2	F1= 62.1		AnguloY= -83.4	
ARMADURAS [cm2,cm]		Peso Próprio:		.9 tf (x1)	
Prin.X:	1.4 = 3 {10.0 C/ 25.0	Prin.Y:	1.4 = 3 {10.0 C/ 25.0		
AsXfdZ:	1.0	AsYfdZ:	1.0		

AsXpln:	.2 = 8 { 5.0 C/ 7.0	AsYpln:	.2 = 8 { 5.0 C/ 7.0
AsCin :	.0 Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	61.23	.00	.00	
Caso 2:	61.23	.00	.00	
Caso 3:	61.23	.00	.00	
Caso 4:	61.23	.00	.00	
Caso 5:	61.23	.00	.00	
Caso 6:	61.23	.00	.00	

BLOCO: 157 - BA61 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 1 fi = 35.0	FN= 59.7	TensLimP= 250.0 TensPil = 27.8	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 60.5	TensEst = 107.1	AnguloY= -83.4
Formas: 1.96 m2	F1= 60.5		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.4 = 3 {10.0 C/ 25.0	Prin.Y: 1.4 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.0	AsYfdZ: 1.0		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	59.66	.00	.00	
Caso 2:	59.66	.00	.00	
Caso 3:	59.66	.00	.00	
Caso 4:	59.66	.00	.00	
Caso 5:	59.66	.00	.00	
Caso 6:	59.66	.00	.00	

BLOCO: 158 - BA62 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 1 fi = 35.0	FN= 65.1	TensLimP= 250.0 TensPil = 30.4	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 66.0	TensEst = 116.7	AnguloY= -83.4
Formas: 1.96 m2	F1= 66.0		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.5 = 3 {10.0 C/ 25.0	Prin.Y: 1.5 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.1	AsYfdZ: 1.1		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	65.10	.00	.00	
Caso 2:	65.10	.00	.00	
Caso 3:	65.10	.00	.00	
Caso 4:	65.10	.00	.00	
Caso 5:	65.10	.00	.00	
Caso 6:	65.10	.00	.00	

BLOCO: 159 - BA63 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 1 fi = 35.0	FN= 46.2	TensLimP= 250.0 TensPil = 21.5	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 47.0	TensEst = 83.2	AnguloY= -83.4
Formas: 1.96 m2	F1= 47.0		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	46.16	.00	.00
Caso	2:	46.16	.00	.00
Caso	3:	46.16	.00	.00
Caso	4:	46.16	.00	.00
Caso	5:	46.16	.00	.00
Caso	6:	46.16	.00	.00

BLOCO: 160 - BC16 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 58.4 MY= .0 FE= 61.1 F1= 30.6	TensLimP= 270.0 TensPil = 17.9 TensLimE= 270.0 TensEst = 58.6	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****
ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 3.7 = 5 {10.0 C/ 15.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .6 = 4 { 5.0 C/ 20.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	58.35	.00	.00
Caso	2:	57.57	.00	.00
Caso	3:	57.57	.00	.00
Caso	4:	57.57	.00	.00
Caso	5:	57.57	.00	.00
Caso	6:	57.57	.00	.00

BLOCO: 161 - BC17 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 60.4 MY= .0 FE= 63.2 F1= 31.6	TensLimP= 270.0 TensPil = 18.6 TensLimE= 270.0 TensEst = 60.6	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****
ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 3.8 = 5 {10.0 C/ 15.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .6 = 4 { 5.0 C/ 20.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	60.44	.00	.00
Caso	2:	60.44	.00	.00
Caso	3:	60.44	.00	.00
Caso	4:	59.37	.00	.00
Caso	5:	60.44	.00	.00
Caso	6:	60.44	.00	.00

BLOCO: 162 - BA65 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0 Xbl = 70.0 Ybl = 70.0 Alt = 90.0 Vol = .441 Xpil= 60.0 Ypil= 60.0 Formas: 2.52 m2	FN= 64.7 FE= 65.8 F1= 65.8	TensLimP= 250.0 TensPil = 30.2 TensLimE= 270.0 TensEst = 115.8	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= -85.0 AnguloY= -85.0 ****
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0 AsXfdZ: .8 AsXpln: .1 = 8 { 5.0 C/ 7.0 AsCin : .0 Nro Plan.Fretag= 9	Prin.Y: 1.1 = 3 {10.0 C/ 25.0 AsYfdZ: .8 AsYpln: .1 = 8 { 5.0 C/ 7.0		

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	64.70	.00	.00

Caso	2:	64.70	.00	.00
Caso	3:	64.70	.00	.00
Caso	4:	64.69	.00	.00
Caso	5:	64.70	.00	.00
Caso	6:	64.70	.00	.00

BLOCO: 163 - BA66

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 62.4	TensLimP= 250.0 TensPil = 29.1	dutil = 72.0 AnguloX= -85.0 AnguloY= -85.0
Xbl = 70.0 Ybl = 70.0			
Alt = 90.0 Vol = .441		TensLimE= 270.0	
Xpil= 60.0 Ypil= 60.0	FE= 63.5	TensEst = 111.6	
Formas: 2.52 m2	F1= 63.5		
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	62.36	.00	.00
Caso	2:	62.36	.00	.00
Caso	3:	62.36	.00	.00
Caso	4:	62.36	.00	.00
Caso	5:	62.36	.00	.00
Caso	6:	62.36	.00	.00

BLOCO: 164 - BA67

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 62.2	TensLimP= 250.0 TensPil = 29.0	dutil = 72.0 AnguloX= -85.0 AnguloY= -85.0
Xbl = 70.0 Ybl = 70.0			
Alt = 90.0 Vol = .441		TensLimE= 270.0	
Xpil= 60.0 Ypil= 60.0	FE= 63.3	TensEst = 111.3	
Formas: 2.52 m2	F1= 63.3		
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	62.18	.00	.00
Caso	2:	62.18	.00	.00
Caso	3:	62.18	.00	.00
Caso	4:	62.18	.00	.00
Caso	5:	62.18	.00	.00
Caso	6:	62.18	.00	.00

BLOCO: 165 - BA68

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 61.0	TensLimP= 250.0 TensPil = 28.5	dutil = 72.0 AnguloX= -85.0 AnguloY= -85.0
Xbl = 70.0 Ybl = 70.0			
Alt = 90.0 Vol = .441		TensLimE= 270.0	
Xpil= 60.0 Ypil= 60.0	FE= 62.1	TensEst = 109.3	
Formas: 2.52 m2	F1= 62.1		
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	61.03	.00	.00
Caso	2:	61.02	.00	.00
Caso	3:	61.02	.00	.00
Caso	4:	61.02	.00	.00

Caso	5:	61.02	.00	.00
Caso	6:	61.02	.00	.00

BLOCO: 166 - BA69

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 63.9	TensLimP= 250.0 TensPil = 29.8	
Xbl = 70.0 Ybl = 70.0			dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 65.0	TensEst = 114.4	AnguloY= -85.0
Formas: 2.52 m2	F1= 65.0		
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	63.92	.00	.00
Caso	2:	63.92	.00	.00
Caso	3:	63.92	.00	.00
Caso	4:	63.92	.00	.00
Caso	5:	63.92	.00	.00
Caso	6:	63.92	.00	.00

BLOCO: 167 - BA70

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 45.3	TensLimP= 250.0 TensPil = 21.1	
Xbl = 70.0 Ybl = 70.0			dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 46.4	TensEst = 81.6	AnguloY= -85.0
Formas: 2.52 m2	F1= 46.4		
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .6	AsYfdZ: .6		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	45.26	.00	.00
Caso	2:	45.26	.00	.00
Caso	3:	45.26	.00	.00
Caso	4:	45.26	.00	.00
Caso	5:	45.26	.00	.00
Caso	6:	45.26	.00	.00

BLOCO: 168 - BC18

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0	FN= 87.5	TensLimP= 270.0 TensPil = 26.9	dmin = 22.5 dmax = 31.9
DisX= 105.0	MY= .0		dutil = 72.0
Xbl = 175.0 Ybl = 70.0		TensLimE= 270.0	AnguloX= 72.6
Alt = 90.0 Vol = 1.103	FE= 90.2	TensEst = 86.5	AnguloY= 72.6
Xpil= 120.0 Ypil= 50.0	F1= 45.1		
Formas: 4.41 m2			****
ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 5.4 = 5 {12.5 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0		
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .9 = 5 { 5.0 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	87.49	.00	.00
Caso	2:	86.75	.00	.00
Caso	3:	86.75	.00	.00
Caso	4:	86.75	.00	.00
Caso	5:	86.75	.00	.00
Caso	6:	86.75	.00	.00

BLOCO: 169 - BC19

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 76.3 MY= .0 FE= 79.1 F1= 39.5	TensLimP= 270.0 TensPil = 23.4 TensLimE= 270.0 TensEst = 75.8	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****
ARMADURAS [cm2,cm]	Peso Próprio: 2.8 tf (x1)		
Prin.X: 4.8 = 4 {12.5 C/ 20.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .8 = 5 { 5.0 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	76.30	.00	.00	
Caso 2:	76.30	.00	.00	
Caso 3:	76.30	.00	.00	
Caso 4:	75.38	.00	.00	
Caso 5:	76.30	.00	.00	
Caso 6:	76.30	.00	.00	

BLOCO: 170 - BC26

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 175.0 Ybl = 70.0 Alt = 90.0 Vol = 1.103 Xpil= 120.0 Ypil= 50.0 Formas: 4.41 m2 *****	FN= 72.1 MY= .0 FE= 74.9 F1= 37.4	TensLimP= 270.0 TensPil = 22.2 TensLimE= 270.0 TensEst = 71.8	dmin = 22.5 dmax = 31.9 dutil = 72.0 AnguloX= 72.6 AnguloY= 72.6 ****
ARMADURAS [cm2,cm]	Peso Próprio: 2.8 tf (x1)		
Prin.X: 4.5 = 4 {12.5 C/ 20.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0 Laterl: .8 = 4 { 5.0 C/ 20.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	72.12	.00	.00	
Caso 2:	72.12	.00	.00	
Caso 3:	72.12	.00	.00	
Caso 4:	70.63	.00	.00	
Caso 5:	72.12	.00	.00	
Caso 6:	72.12	.00	.00	

AVISO: Bloco 171 - Altura de ferro principal 1 excedida (72.8), limite = 70.0 cm.

BLOCO: 171 - BC34

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0 DisX= 145.0 Xbl = 220.0 Ybl = 75.0 Alt = 90.0 Vol = 1.485 Xpil= 60.0 Ypil= 60.0 Formas: 5.31 m2	FN= 45.1 MY= .0 FE= 48.8 F1= 24.4	TensLimP= 270.0 TensPil = 34.4 TensLimE= 270.0 TensEst = 69.7	dmin = 57.5 dmax = 81.6 dutil = 72.0 AnguloX= 51.4 AnguloY= 51.4
ARMADURAS [cm2,cm]	Peso Próprio: 3.7 tf (x1)		
Prin.X: 7.5 = 4 {16.0 C/ 20.0 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: 1.3 = 9 { 5.0 C/ 25.0 Laterl: 1.5 = 5 { 6.3 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 235.00 Fornecido: 220.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	45.06	.00	.00	
Caso 2:	45.06	.00	.00	
Caso 3:	45.06	.00	.00	
Caso 4:	44.11	.00	.00	
Caso 5:	45.06	.00	.00	
Caso 6:	45.06	.00	.00	

AVISO: Bloco 172 - Altura de ferro principal 1 excedida (97.0), limite = 70.0 cm.

BLOCO: 172 - BC32

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0 DisX= 145.0 Xbl = 220.0 Ybl = 75.0 Alt = 90.0 Vol = 1.485 Xpil= 60.0 Ypil= 60.0 Formas: 5.31 m2	FN= 78.0 MY= .0 FE= 81.7 F1= 40.9	TensLimP= 270.0 TensPil = 59.6 TensLimE= 270.0 TensEst = 116.9	dmin = 57.5 dmax = 81.6 dutil = 72.0 AnguloX= 51.4 AnguloY= 51.4

ARMADURAS [cm2,cm]	Peso Próprio:	3.7 tf (x1)
Prin.X: 12.6 = 4 {20.0 C/ 20.0 P.Estr: 1.9 = 4 { 8.0 C/ 20.0	SecndY: 2.1 = 11 { 5.0 C/ 20.0 Laterl: 2.5 = 5 { 8.0 C/ 15.0	

ATENCAO: Xbl menor que o recomendado. - Recomendado: 235.00 Fornecido: 220.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	78.03	.00	.00	
Caso 2:	78.03	.00	.00	
Caso 3:	78.03	.00	.00	
Caso 4:	71.54	.00	.00	
Caso 5:	78.03	.00	.00	
Caso 6:	78.03	.00	.00	

BLOCO: 173 - BC77 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0 Xbl = 70.0 Ybl = 70.0 Alt = 70.0 Vol = .343 Xpil= 60.0 Ypil= 60.0 Formas: 1.96 m2	FN= 50.7 FE= 51.5 F1= 51.5	TensLimP= 250.0 TensPil = 23.6 TensLimE= 270.0 TensEst = 91.2	dutil = 54.0 AnguloX= -83.4 AnguloY= -83.4

ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)
Prin.X: 1.2 = 3 {10.0 C/ 25.0 AsXfdZ: .9 AsXpln: .1 = 8 { 5.0 C/ 7.0 AsCin : .0 Nro Plan.Fretag.= 6	Prin.Y: 1.2 = 3 {10.0 C/ 25.0 AsYfdZ: .9 AsYpln: .1 = 8 { 5.0 C/ 7.0	

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	50.65	.00	.00	
Caso 2:	50.65	.00	.00	
Caso 3:	50.65	.00	.00	
Caso 4:	50.09	.00	.00	
Caso 5:	50.65	.00	.00	
Caso 6:	50.65	.00	.00	

BLOCO: 174 - BC76 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0 Xbl = 80.0 Ybl = 80.0 Alt = 70.0 Vol = .448 Xpil= 60.0 Ypil= 60.0 Formas: 2.24 m2	FN= 62.5 FE= 63.6 F1= 63.6	TensLimP= 285.7 TensPil = 29.2 TensLimE= 270.0 TensEst = 112.5	dutil = 54.0 AnguloX= -83.4 AnguloY= -83.4

ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)
Prin.X: 1.4 = 3 {10.0 C/ 25.0 AsXfdZ: 2.1 AsXpln: .4 = 10 { 5.0 C/ 7.0 AsCin : .0 Nro Plan.Fretag.= 6	Prin.Y: 1.4 = 3 {10.0 C/ 25.0 AsYfdZ: 2.1 AsYpln: .4 = 10 { 5.0 C/ 7.0	

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	62.48	.00	.00	
Caso 2:	61.61	.00	.00	
Caso 3:	61.61	.00	.00	
Caso 4:	61.61	.00	.00	
Caso 5:	61.61	.00	.00	
Caso 6:	61.61	.00	.00	

BLOCO: 175 - BC75 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 29.8	TensLimP= 285.7	

Xbl = 80.0	Ybl = 80.0		TensPil = 13.9	dutil = 54.0
Alt = 70.0	Vol = .448	-----	TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 30.9	TensEst = 54.7	AnguloY= -83.4
Formas: 2.24 m2		F1= 30.9		
ARMADURAS [cm2,cm]		Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.2 = 3 {10.0 C/ 25.0	Prin.Y: 1.2 = 3 {10.0 C/ 25.0			
AsXfdZ: 1.0	AsYfdZ: 1.0			
AsXpln: .2 = 10 { 5.0 C/ 7.0	AsYpln: .2 = 10 { 5.0 C/ 7.0			
AsCin : .0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:		29.79	.00	.00
Caso 2:		28.58	.00	.00
Caso 3:		28.58	.00	.00
Caso 4:		28.58	.00	.00
Caso 5:		28.58	.00	.00
Caso 6:		28.58	.00	.00

BLOCO: 176 - BA1 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0	FN= 88.9	TensLimP= 270.0	dmin = 22.5
DisX= 105.0		TensPil = 27.3	dmax = 31.9
Xbl = 175.0 Ybl = 70.0	MY= .0		dutil = 72.0
Alt = 90.0 Vol = 1.103	-----	TensLimE= 270.0	AnguloX= 72.6
Xpil= 120.0 Ypil= 50.0	FE= 91.7	TensEst = 87.9	AnguloY= 72.6
Formas: 4.41 m2	F1= 45.8		****

ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 5.5 = 5 {12.5 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0		
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .9 = 5 { 5.0 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:		88.93	.00	.00
Caso 2:		88.89	.00	.00
Caso 3:		88.89	.00	.00
Caso 4:		88.89	.00	.00
Caso 5:		88.89	.00	.00
Caso 6:		88.89	.00	.00

BLOCO: 177 - BA2 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0	FN= 84.1	TensLimP= 270.0	dmin = 22.5
DisX= 105.0		TensPil = 25.8	dmax = 31.9
Xbl = 175.0 Ybl = 70.0	MY= .0		dutil = 72.0
Alt = 90.0 Vol = 1.103	-----	TensLimE= 270.0	AnguloX= 72.6
Xpil= 120.0 Ypil= 50.0	FE= 86.8	TensEst = 83.2	AnguloY= 72.6
Formas: 4.41 m2	F1= 43.4		****

ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)	
Prin.X: 5.2 = 5 {12.5 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0		
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .9 = 5 { 5.0 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:		84.05	.00	.00
Caso 2:		83.94	.00	.00
Caso 3:		83.94	.00	.00
Caso 4:		83.94	.00	.00
Caso 5:		83.94	.00	.00
Caso 6:		83.94	.00	.00

BLOCO: 178 - BA3 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0	FN= 91.7	TensLimP= 270.0	dmin = 22.5
DisX= 105.0		TensPil = 28.2	dmax = 31.9
Xbl = 175.0 Ybl = 70.0	MY= .0		dutil = 72.0
Alt = 90.0 Vol = 1.103	-----	TensLimE= 270.0	AnguloX= 72.6

Xpil= 120.0	Ypil= 50.0	FE= 94.4	TensEst = 90.5	AnguloY= 72.6
Formas: 4.41 m2		F1= 47.2		
*****				****

ARMADURAS [cm2,cm]	Peso Próprio: 2.8 tf (x1)
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Prin.X: 5.7 = 5 {12.5 C/ 15.0	SecndY: 1.0 = 7 { 5.0 C/ 25.0
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: 1.0 = 5 { 5.0 C/ 15.0

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos: 6	N	Mx	My [tf,m]
Caso 1:	91.69	.00	.00
Caso 2:	91.69	.00	.00
Caso 3:	91.69	.00	.00
Caso 4:	91.43	.00	.00
Caso 5:	91.69	.00	.00
Caso 6:	91.69	.00	.00

BLOCO: 179 - BA4 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0	FN= 81.3	TensLimP= 270.0	dmin = 22.5
DisX= 105.0		TensPil = 25.0	dmax = 31.9
Xbl = 175.0 Ybl = 70.0	MY= .0		dutil = 72.0
Alt = 90.0 Vol = 1.103		TensLimE= 270.0	AnguloX= 72.6
Xpil= 120.0 Ypil= 50.0	FE= 84.1	TensEst = 80.6	AnguloY= 72.6
Formas: 4.41 m2	F1= 42.0		****

ARMADURAS [cm2,cm]	Peso Próprio: 2.8 tf (x1)
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Prin.X: 5.1 = 5 {12.5 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .8 = 5 { 5.0 C/ 15.0

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos: 6	N	Mx	My [tf,m]
Caso 1:	81.32	.00	.00
Caso 2:	81.09	.00	.00
Caso 3:	81.09	.00	.00
Caso 4:	81.09	.00	.00
Caso 5:	81.09	.00	.00
Caso 6:	81.09	.00	.00

BLOCO: 180 - BA5 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0	FN= 86.7	TensLimP= 270.0	dmin = 22.5
DisX= 105.0		TensPil = 26.6	dmax = 31.9
Xbl = 175.0 Ybl = 70.0	MY= .0		dutil = 72.0
Alt = 90.0 Vol = 1.103		TensLimE= 270.0	AnguloX= 72.6
Xpil= 120.0 Ypil= 50.0	FE= 89.4	TensEst = 85.7	AnguloY= 72.6
Formas: 4.41 m2	F1= 44.7		****

ARMADURAS [cm2,cm]	Peso Próprio: 2.8 tf (x1)
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Prin.X: 5.4 = 5 {12.5 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .9 = 5 { 5.0 C/ 15.0

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos: 6	N	Mx	My [tf,m]
Caso 1:	86.69	.00	.00
Caso 2:	86.69	.00	.00
Caso 3:	86.69	.00	.00
Caso 4:	86.48	.00	.00
Caso 5:	86.69	.00	.00
Caso 6:	86.69	.00	.00

BLOCO: 181 - BA6 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0	FN= 55.9	TensLimP= 270.0	dmin = 22.5
DisX= 105.0		TensPil = 17.2	dmax = 31.9
Xbl = 175.0 Ybl = 70.0	MY= .0		dutil = 72.0
Alt = 90.0 Vol = 1.103		TensLimE= 270.0	AnguloX= 72.6
Xpil= 120.0 Ypil= 50.0	FE= 58.7	TensEst = 56.2	AnguloY= 72.6
Formas: 4.41 m2	F1= 29.3		****

ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)
Prin.X: 3.5 = 5 {10.0 C/ 15.0	SecndY: .9 = 7 { 5.0 C/ 25.0	
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .6 = 3 { 5.0 C/ 25.0	

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 175.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:		55.93	.00	.00	
Caso 2:		55.88	.00	.00	
Caso 3:		55.88	.00	.00	
Caso 4:		55.88	.00	.00	
Caso 5:		55.88	.00	.00	
Caso 6:		55.88	.00	.00	

AVISO: Bloco 183 - Altura de ferro principal 1 excedida (56.9), limite = 50.0 cm.

BLOCO: 183 - BC74 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0	FN= 54.8	TensLimP= 270.0	dmin = 23.8
DisX= 155.0		TensPil = 25.6	dmax = 33.7
Xbl = 225.0 Ybl = 70.0	MY= .0		dutil = 54.0
Alt = 70.0 Vol = 1.103		TensLimE= 270.0	AnguloX= 66.3
Xpil= 215.0 Ypil= 20.0	FE= 57.6	TensEst = 60.0	AnguloY= 66.3
Formas: 4.13 m2	F1= 28.8		****

ARMADURAS [cm2,cm]	Peso Próprio:	2.8 tf (x1)
Prin.X: 4.9 = 4 {12.5 C/ 20.0	SecndY: .9 = 9 { 5.0 C/ 25.0	
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .8 = 5 { 5.0 C/ 12.5	

ATENCAO: Xbl menor que o recomendado. - Recomendado: 245.00 Fornecido: 225.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:		54.85	.00	.00	
Caso 2:		54.85	.00	.00	
Caso 3:		54.85	.00	.00	
Caso 4:		54.63	.00	.00	
Caso 5:		54.85	.00	.00	
Caso 6:		54.85	.00	.00	

BLOCO: 184 - BC71 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 48.1	TensLimP= 250.0	
		TensPil = 22.4	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 48.9	TensEst = 86.6	AnguloY= -83.4
Formas: 1.96 m2	F1= 48.9		

ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0	
AsXfdZ: .8	AsYfdZ: .8	
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0	
AsCin : .0	Nro Plan.Fretag.= 6	

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:		48.07	.00	.00	
Caso 2:		46.94	.00	.00	
Caso 3:		46.94	.00	.00	
Caso 4:		46.94	.00	.00	
Caso 5:		46.94	.00	.00	
Caso 6:		46.94	.00	.00	

BLOCO: 185 - BC72 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 17.0	TensLimP= 250.0	
		TensPil = 7.9	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 17.8	TensEst = 31.6	AnguloY= -83.4
Formas: 1.96 m2	F1= 17.8		

ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)
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Prin.X:	1.1 = 3 {10.0 C/ 25.0	Prin.Y:	1.1 = 3 {10.0 C/ 25.0
AsXfdZ:	.3	AsYfdZ:	.3
AsXpln:	.0 = 8 { 5.0 C/ 7.0	AsYpln:	.0 = 8 { 5.0 C/ 7.0
AsCin :	.0 Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	16.99	.00	.00	
Caso 2:	16.99	.00	.00	
Caso 3:	16.99	.00	.00	
Caso 4:	16.62	.00	.00	
Caso 5:	16.99	.00	.00	
Caso 6:	16.99	.00	.00	

BLOCO: 190 - BC9

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 67.0	TensLimP= 250.0	
Xbl = 70.0 Ybl = 70.0		TensPil = 31.2	dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 68.1	TensEst = 119.7	AnguloY= -85.0
Formas: 2.52 m2	F1= 68.1		
ARMADURAS [cm2,cm]	Peso Próprio: 1.1 tf (x1)		
Prin.X:	1.1 = 3 {10.0 C/ 25.0	Prin.Y:	1.1 = 3 {10.0 C/ 25.0
AsXfdZ:	.9	AsYfdZ:	.9
AsXpln:	.1 = 8 { 5.0 C/ 7.0	AsYpln:	.1 = 8 { 5.0 C/ 7.0
AsCin :	.0 Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	66.96	.00	.00	
Caso 2:	66.95	.00	.00	
Caso 3:	66.95	.00	.00	
Caso 4:	66.95	.00	.00	
Caso 5:	66.95	.00	.00	
Caso 6:	66.95	.00	.00	

BLOCO: 194 - BC6

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 48.6	TensLimP= 250.0	
Xbl = 70.0 Ybl = 70.0		TensPil = 22.7	dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 49.7	TensEst = 87.5	AnguloY= -85.0
Formas: 2.52 m2	F1= 49.7		
ARMADURAS [cm2,cm]	Peso Próprio: 1.1 tf (x1)		
Prin.X:	1.1 = 3 {10.0 C/ 25.0	Prin.Y:	1.1 = 3 {10.0 C/ 25.0
AsXfdZ:	.6	AsYfdZ:	.6
AsXpln:	.1 = 8 { 5.0 C/ 7.0	AsYpln:	.1 = 8 { 5.0 C/ 7.0
AsCin :	.0 Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	48.61	.00	.00	
Caso 2:	48.59	.00	.00	
Caso 3:	48.59	.00	.00	
Caso 4:	48.59	.00	.00	
Caso 5:	48.59	.00	.00	
Caso 6:	48.59	.00	.00	

BLOCO: 195 - BC7

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 67.0	TensLimP= 250.0	
Xbl = 70.0 Ybl = 70.0		TensPil = 31.3	dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 68.1	TensEst = 119.8	AnguloY= -85.0
Formas: 2.52 m2	F1= 68.1		
ARMADURAS [cm2,cm]	Peso Próprio: 1.1 tf (x1)		
Prin.X:	1.1 = 3 {10.0 C/ 25.0	Prin.Y:	1.1 = 3 {10.0 C/ 25.0
AsXfdZ:	.9	AsYfdZ:	.9
AsXpln:	.1 = 8 { 5.0 C/ 7.0	AsYpln:	.1 = 8 { 5.0 C/ 7.0

| AsCin : .0 Nro Plan.Fretag.= 9

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	66.97	.00	.00		
Caso 2:	66.94	.00	.00		
Caso 3:	66.94	.00	.00		
Caso 4:	66.94	.00	.00		
Caso 5:	66.94	.00	.00		
Caso 6:	66.94	.00	.00		

BLOC0: 196 - BC10

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 77.9	TensLimP= 250.0 TensPil = 36.3	
Xbl = 70.0 Ybl = 70.0			dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 79.0	TensEst = 139.0	AnguloY= -85.0
Formas: 2.52 m2	F1= 79.0		
ARMADURAS [cm2,cm]	Peso Próprio: 1.1 tf (x1)		
Prin.X: 1.3 = 3 {10.0 C/ 25.0	Prin.Y: 1.3 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.0	AsYfdZ: 1.0		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 9			

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	77.88	.00	.00		
Caso 2:	77.84	.00	.00		
Caso 3:	77.84	.00	.00		
Caso 4:	77.84	.00	.00		
Caso 5:	77.84	.00	.00		
Caso 6:	77.84	.00	.00		

BLOC0: 197 - BC8

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 63.0	TensLimP= 250.0 TensPil = 29.4	
Xbl = 70.0 Ybl = 70.0			dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 64.1	TensEst = 112.8	AnguloY= -85.0
Formas: 2.52 m2	F1= 64.1		
ARMADURAS [cm2,cm]	Peso Próprio: 1.1 tf (x1)		
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 9			

Carregamentos:	6	N	Mx	My	[tf,m]
Caso 1:	63.03	.00	.00		
Caso 2:	63.01	.00	.00		
Caso 3:	63.01	.00	.00		
Caso 4:	63.01	.00	.00		
Caso 5:	63.01	.00	.00		
Caso 6:	63.01	.00	.00		

BLOC0: 198 - BC12

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 64.6	TensLimP= 250.0 TensPil = 30.1	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 65.4	TensEst = 115.8	AnguloY= -83.4
Formas: 1.96 m2	F1= 65.4		
ARMADURAS [cm2,cm]	Peso Próprio: .9 tf (x1)		
Prin.X: 1.5 = 3 {10.0 C/ 25.0	Prin.Y: 1.5 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.1	AsYfdZ: 1.1		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	64.55	.00	.00	
Caso	2:	64.55	.00	.00	
Caso	3:	64.55	.00	.00	
Caso	4:	64.55	.00	.00	
Caso	5:	64.55	.00	.00	
Caso	6:	64.55	.00	.00	

BLOCO: 199 - BC13 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 59.3	TensLimP= 250.0 TensPil = 27.7	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 60.1	TensEst = 106.4	AnguloY= -83.4
Formas: 1.96 m2	F1= 60.1		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.3 = 3 {10.0 C/ 25.0	Prin.Y: 1.3 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.0	AsYfdZ: 1.0		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	59.27	.00	.00	
Caso	2:	59.27	.00	.00	
Caso	3:	59.27	.00	.00	
Caso	4:	59.26	.00	.00	
Caso	5:	59.27	.00	.00	
Caso	6:	59.27	.00	.00	

BLOCO: 200 - BC11 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 46.2	TensLimP= 250.0 TensPil = 21.6	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 47.1	TensEst = 83.3	AnguloY= -83.4
Formas: 1.96 m2	F1= 47.1		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	46.21	.00	.00	
Caso	2:	46.21	.00	.00	
Caso	3:	46.21	.00	.00	
Caso	4:	46.21	.00	.00	
Caso	5:	46.21	.00	.00	
Caso	6:	46.21	.00	.00	

BLOCO: 201 - BC14 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 62.9	TensLimP= 250.0 TensPil = 29.3	
Xbl = 70.0 Ybl = 70.0			dutil = 54.0
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0 Ypil= 60.0	FE= 63.7	TensEst = 112.7	AnguloY= -83.4
Formas: 1.96 m2	F1= 63.7		
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.4 = 3 {10.0 C/ 25.0	Prin.Y: 1.4 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.1	AsYfdZ: 1.1		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	62.86	.00	.00	
Caso	2:	62.85	.00	.00	

Caso	3:	62.85	.00	.00
Caso	4:	62.85	.00	.00
Caso	5:	62.85	.00	.00
Caso	6:	62.85	.00	.00

BLOC0: 202 - BC15

Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas=	1 fi = 35.0	FN= 56.4	TensLimP= 250.0 TensPil = 26.3	
Xbl = 70.0	Ybl = 70.0			dutil = 72.0
Alt = 90.0	Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0	Ypil= 60.0	FE= 57.5	TensEst = 101.1	AnguloY= -85.0
Formas:	2.52 m2	F1= 57.5		
ARMADURAS [cm2,cm]		Peso Próprio: 1.1 tf (x1)		
Prin.X:	1.1 = 3 {10.0 C/ 25.0	Prin.Y:	1.1 = 3 {10.0 C/ 25.0	
AsXfdZ:	.7	AsYfdZ:	.7	
AsXpln:	.1 = 8 { 5.0 C/ 7.0	AsYpln:	.1 = 8 { 5.0 C/ 7.0	
AsCin :	.0 Nro Plan.Fretag.= 9			

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	56.36	.00	.00
Caso	2:	56.36	.00	.00
Caso	3:	56.36	.00	.00
Caso	4:	55.31	.00	.00
Caso	5:	56.36	.00	.00
Caso	6:	56.36	.00	.00

BLOC0: 203 - BC20

Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas=	1 fi = 35.0	FN= 39.9	TensLimP= 250.0 TensPil = 18.6	
Xbl = 70.0	Ybl = 70.0			dutil = 54.0
Alt = 70.0	Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 40.8	TensEst = 72.2	AnguloY= -83.4
Formas:	1.96 m2	F1= 40.8		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X:	1.1 = 3 {10.0 C/ 25.0	Prin.Y:	1.1 = 3 {10.0 C/ 25.0	
AsXfdZ:	.7	AsYfdZ:	.7	
AsXpln:	.1 = 8 { 5.0 C/ 7.0	AsYpln:	.1 = 8 { 5.0 C/ 7.0	
AsCin :	.0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	39.93	.00	.00
Caso	2:	39.93	.00	.00
Caso	3:	39.93	.00	.00
Caso	4:	39.88	.00	.00
Caso	5:	39.93	.00	.00
Caso	6:	39.93	.00	.00

BLOC0: 204 - BC23

Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas=	1 fi = 35.0	FN= 66.2	TensLimP= 250.0 TensPil = 30.9	
Xbl = 70.0	Ybl = 70.0			dutil = 54.0
Alt = 70.0	Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 67.0	TensEst = 118.6	AnguloY= -83.4
Formas:	1.96 m2	F1= 67.0		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X:	1.5 = 3 {10.0 C/ 25.0	Prin.Y:	1.5 = 3 {10.0 C/ 25.0	
AsXfdZ:	1.1	AsYfdZ:	1.1	
AsXpln:	.2 = 8 { 5.0 C/ 7.0	AsYpln:	.2 = 8 { 5.0 C/ 7.0	
AsCin :	.0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	66.18	.00	.00
Caso	2:	66.18	.00	.00
Caso	3:	66.18	.00	.00
Caso	4:	65.65	.00	.00
Caso	5:	66.18	.00	.00

Caso 6: 66.18 .00 .00

BLOC0: 205 - BC24

Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1	fi = 35.0	FN= 71.8	TensLimP= 250.0 TensPil = 33.5	dutil = 54.0
Xbl = 70.0	Ybl = 70.0			AnguloX= -83.4
Alt = 70.0	Vol = .343		TensLimE= 270.0	AnguloY= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 72.6	TensEst = 128.5	
Formas:	1.96 m2	F1= 72.6		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X:	1.6 = 3 {10.0 C/ 25.0	Prin.Y:	1.6 = 3 {10.0 C/ 25.0	
AsXfdZ:	1.2	AsYfdZ:	1.2	
AsXpln:	.2 = 8 { 5.0 C/ 7.0	AsYpln:	.2 = 8 { 5.0 C/ 7.0	
AsCin :	.0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	71.76	.00	.00	
Caso 2:	71.67	.00	.00	
Caso 3:	71.67	.00	.00	
Caso 4:	71.67	.00	.00	
Caso 5:	71.67	.00	.00	
Caso 6:	71.67	.00	.00	

BLOC0: 206 - BC25

Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1	fi = 35.0	FN= 66.0	TensLimP= 250.0 TensPil = 30.8	dutil = 54.0
Xbl = 70.0	Ybl = 70.0			AnguloX= -83.4
Alt = 70.0	Vol = .343		TensLimE= 270.0	AnguloY= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 66.9	TensEst = 118.4	
Formas:	1.96 m2	F1= 66.9		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X:	1.5 = 3 {10.0 C/ 25.0	Prin.Y:	1.5 = 3 {10.0 C/ 25.0	
AsXfdZ:	1.1	AsYfdZ:	1.1	
AsXpln:	.2 = 8 { 5.0 C/ 7.0	AsYpln:	.2 = 8 { 5.0 C/ 7.0	
AsCin :	.0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	66.04	.00	.00	
Caso 2:	66.04	.00	.00	
Caso 3:	66.04	.00	.00	
Caso 4:	65.93	.00	.00	
Caso 5:	66.04	.00	.00	
Caso 6:	66.04	.00	.00	

BLOC0: 208 - BC35

Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1	fi = 35.0	FN= 44.8	TensLimP= 250.0 TensPil = 20.9	dutil = 54.0
Xbl = 70.0	Ybl = 70.0			AnguloX= -83.4
Alt = 70.0	Vol = .343		TensLimE= 270.0	AnguloY= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 45.7	TensEst = 80.9	
Formas:	1.96 m2	F1= 45.7		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X:	1.1 = 3 {10.0 C/ 25.0	Prin.Y:	1.1 = 3 {10.0 C/ 25.0	
AsXfdZ:	.8	AsYfdZ:	.8	
AsXpln:	.1 = 8 { 5.0 C/ 7.0	AsYpln:	.1 = 8 { 5.0 C/ 7.0	
AsCin :	.0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	44.84	.00	.00	
Caso 2:	44.84	.00	.00	
Caso 3:	44.84	.00	.00	
Caso 4:	44.82	.00	.00	
Caso 5:	44.84	.00	.00	
Caso 6:	44.84	.00	.00	

BLOCO: 209 - BC36

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 1 fi = 35.0	FN= 61.8	TensLimP= 250.0 TensPil = 28.9	dutil = 54.0 AnguloX= -83.4 AnguloY= -83.4
Xbl = 70.0 Ybl = 70.0 Alt = 70.0 Vol = .343 Xpil= 60.0 Ypil= 60.0 Formas: 1.96 m2	FE= 62.7 F1= 62.7	TensLimE= 270.0 TensEst = 110.9	
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.4 = 3 {10.0 C/ 25.0 AsXfdZ: 1.0 AsXpln: .2 = 8 { 5.0 C/ 7.0 AsCin : .0 Nro Plan.Fretag.= 6	Prin.Y: 1.4 = 3 {10.0 C/ 25.0 AsYfdZ: 1.0 AsYpln: .2 = 8 { 5.0 C/ 7.0		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	61.83	.00	.00	
Caso 2:	61.64	.00	.00	
Caso 3:	61.64	.00	.00	
Caso 4:	61.64	.00	.00	
Caso 5:	61.64	.00	.00	
Caso 6:	61.64	.00	.00	

BLOCO: 210 - BC37

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 1 fi = 35.0	FN= 49.5	TensLimP= 250.0 TensPil = 23.1	dutil = 54.0 AnguloX= -83.4 AnguloY= -83.4
Xbl = 70.0 Ybl = 70.0 Alt = 70.0 Vol = .343 Xpil= 60.0 Ypil= 60.0 Formas: 1.96 m2	FE= 50.4 F1= 50.4	TensLimE= 270.0 TensEst = 89.1	
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0 AsXfdZ: .8 AsXpln: .1 = 8 { 5.0 C/ 7.0 AsCin : .0 Nro Plan.Fretag.= 6	Prin.Y: 1.1 = 3 {10.0 C/ 25.0 AsYfdZ: .8 AsYpln: .1 = 8 { 5.0 C/ 7.0		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	49.49	.00	.00	
Caso 2:	49.30	.00	.00	
Caso 3:	49.30	.00	.00	
Caso 4:	49.30	.00	.00	
Caso 5:	49.30	.00	.00	
Caso 6:	49.30	.00	.00	

BLOCO: 211 - BC38

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 1 fi = 35.0	FN= 59.3	TensLimP= 250.0 TensPil = 27.7	dutil = 54.0 AnguloX= -83.4 AnguloY= -83.4
Xbl = 70.0 Ybl = 70.0 Alt = 70.0 Vol = .343 Xpil= 60.0 Ypil= 60.0 Formas: 1.96 m2	FE= 60.1 F1= 60.1	TensLimE= 270.0 TensEst = 106.4	
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.3 = 3 {10.0 C/ 25.0 AsXfdZ: 1.0 AsXpln: .2 = 8 { 5.0 C/ 7.0 AsCin : .0 Nro Plan.Fretag.= 6	Prin.Y: 1.3 = 3 {10.0 C/ 25.0 AsYfdZ: 1.0 AsYpln: .2 = 8 { 5.0 C/ 7.0		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	59.27	.00	.00	
Caso 2:	58.94	.00	.00	
Caso 3:	58.94	.00	.00	
Caso 4:	58.94	.00	.00	
Caso 5:	58.94	.00	.00	
Caso 6:	58.94	.00	.00	

BLOCO: 213 - BC41

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
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Estacas= 1	fi = 35.0	FN= 45.6	TensLimP= 250.0	
Xbl = 70.0	Ybl = 70.0		TensPil = 21.3	dutil = 54.0
Alt = 70.0	Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 46.5	TensEst = 82.2	AnguloY= -83.4
Formas:	1.96 m2	F1= 46.5		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X:	1.1 = 3 {10.0 C/ 25.0	Prin.Y:	1.1 = 3 {10.0 C/ 25.0	
AsXfdZ:	.8	AsYfdZ:	.8	
AsXpln:	.1 = 8 { 5.0 C/ 7.0	AsYpln:	.1 = 8 { 5.0 C/ 7.0	
AsCin :	.0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	45.62	.00	.00	
Caso 2:	45.62	.00	.00	
Caso 3:	45.62	.00	.00	
Caso 4:	45.61	.00	.00	
Caso 5:	45.62	.00	.00	
Caso 6:	45.62	.00	.00	

BLOC0: 214 - BC42

Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 1	fi = 35.0	FN= 65.1	TensLimP= 250.0	
Xbl = 70.0	Ybl = 70.0		TensPil = 30.4	dutil = 54.0
Alt = 70.0	Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 66.0	TensEst = 116.8	AnguloY= -83.4
Formas:	1.96 m2	F1= 66.0		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X:	1.5 = 3 {10.0 C/ 25.0	Prin.Y:	1.5 = 3 {10.0 C/ 25.0	
AsXfdZ:	1.1	AsYfdZ:	1.1	
AsXpln:	.2 = 8 { 5.0 C/ 7.0	AsYpln:	.2 = 8 { 5.0 C/ 7.0	
AsCin :	.0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	65.15	.00	.00	
Caso 2:	65.15	.00	.00	
Caso 3:	65.15	.00	.00	
Caso 4:	65.12	.00	.00	
Caso 5:	65.15	.00	.00	
Caso 6:	65.15	.00	.00	

BLOC0: 215 - BC43

Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 1	fi = 35.0	FN= 60.0	TensLimP= 250.0	
Xbl = 70.0	Ybl = 70.0		TensPil = 28.0	dutil = 54.0
Alt = 70.0	Vol = .343		TensLimE= 270.0	AnguloX= -83.4
Xpil= 60.0	Ypil= 60.0	FE= 60.9	TensEst = 107.8	AnguloY= -83.4
Formas:	1.96 m2	F1= 60.9		
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)		
Prin.X:	1.4 = 3 {10.0 C/ 25.0	Prin.Y:	1.4 = 3 {10.0 C/ 25.0	
AsXfdZ:	1.0	AsYfdZ:	1.0	
AsXpln:	.2 = 8 { 5.0 C/ 7.0	AsYpln:	.2 = 8 { 5.0 C/ 7.0	
AsCin :	.0	Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	60.05	.00	.00	
Caso 2:	60.05	.00	.00	
Caso 3:	60.05	.00	.00	
Caso 4:	60.00	.00	.00	
Caso 5:	60.05	.00	.00	
Caso 6:	60.05	.00	.00	

BLOC0: 216 - BC44

Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 1	fi = 35.0	FN= 63.4	TensLimP= 250.0	
			TensPil = 29.6	

Xbl = 70.0	Ybl = 70.0			TensLimE= 270.0	dutil = 54.0
Alt = 70.0	Vol = .343	-----		AnguloX= -83.4	
Xpil= 60.0	Ypil= 60.0	FE= 64.2	TensEst = 113.7	AnguloY= -83.4	
Formas:	1.96 m2	F1= 64.2			

ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)			

Prin.X:	1.4 = 3 {10.0 C/ 25.0	Prin.Y:	1.4 = 3 {10.0 C/ 25.0		
AsXfdZ:	1.1	AsYfdZ:	1.1		
AsXpln:	.2 = 8 { 5.0 C/ 7.0	AsYpln:	.2 = 8 { 5.0 C/ 7.0		
AsCin :	.0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	63.39	.00	.00	
Caso 2:	63.39	.00	.00	
Caso 3:	63.39	.00	.00	
Caso 4:	63.33	.00	.00	
Caso 5:	63.39	.00	.00	
Caso 6:	63.39	.00	.00	

BLOCO: 217 - BC45 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1	fi = 35.0	FN= 42.7	TensLimP= 250.0	
			TensPil = 19.9	
Xbl = 70.0	Ybl = 70.0			dutil = 72.0
Alt = 90.0	Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0	Ypil= 60.0	FE= 43.8	TensEst = 77.1	AnguloY= -85.0
Formas:	2.52 m2	F1= 43.8		
ARMADURAS [cm2,cm]		Peso Próprio: 1.1 tf (x1)		
Prin.X:	1.1 = 3 {10.0 C/ 25.0	Prin.Y:	1.1 = 3 {10.0 C/ 25.0	
AsXfdZ:	.6	AsYfdZ:	.6	
AsXpln:	.1 = 8 { 5.0 C/ 7.0	AsYpln:	.1 = 8 { 5.0 C/ 7.0	
AsCin :	.0	Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	42.71	.00	.00	
Caso 2:	42.71	.00	.00	
Caso 3:	42.71	.00	.00	
Caso 4:	42.49	.00	.00	
Caso 5:	42.71	.00	.00	
Caso 6:	42.71	.00	.00	

BLOCO: 218 - BC47 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]	
Estacas= 1 fi = 35.0		FN= 45.4	TensLimP= 250.0 TensPil = 21.2		
Xbl = 70.0	Ybl = 70.0			dutil =	54.0
Alt = 70.0	Vol = .343		TensLimE= 270.0	AnguloX=	-83.4
Xpil= 60.0	Ypil= 60.0	FE= 46.2	TensEst = 81.8	AnguloY=	-83.4
Formas:	1.96 m2	F1= 46.2			
ARMADURAS [cm2,cm]		Peso Próprio: .9 tf (x1)			
Prin.X:	1.1 = 3 {10.0 C/ 25.0	Prin.Y:	1.1 = 3 {10.0 C/ 25.0		
AsXfdZ:	.8	AsYfdZ:	.8		
AsXpln:	.1 = 8 { 5.0 C/ 7.0	AsYpln:	.1 = 8 { 5.0 C/ 7.0		
AsCin :	.0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	45.36	.00	.00	
Caso 2:	45.36	.00	.00	
Caso 3:	45.36	.00	.00	
Caso 4:	45.36	.00	.00	
Caso 5:	45.36	.00	.00	
Caso 6:	45.36	.00	.00	

BLOCO: 219 - BC48 Retang. (1x)

GEOMETRIA[cm,m3]		CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]

Estacas= 1 fi = 35.0	FN= 65.1	TensLimP= 250.0		
		TensPil = 30.4		
Xbl = 70.0 Ybl = 70.0			dutil = 54.0	
Alt = 70.0 Vol = .343		TensLimE= 270.0	AnguloX= -83.4	
Xpil= 60.0 Ypil= 60.0	FE= 65.9	TensEst = 116.7	AnguloY= -83.4	

Formas:	1.96 m2	F1=	65.9		
ARMADURAS [cm2,cm]		Peso Próprio:	.9 tf (x1)		
Prin.X:	1.5 = 3 {10.0 C/ 25.0	Prin.Y:	1.5 = 3 {10.0 C/ 25.0		
AsXfdZ:	1.1	AsYfdZ:	1.1		
AsXpln:	.2 = 8 { 5.0 C/ 7.0	AsYpln:	.2 = 8 { 5.0 C/ 7.0		
AsCin :	.0	Nro Plan.Fretag.=	6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	65.07	.00	.00	
Caso 2:	65.05	.00	.00	
Caso 3:	65.05	.00	.00	
Caso 4:	65.05	.00	.00	
Caso 5:	65.05	.00	.00	
Caso 6:	65.05	.00	.00	

BLOCO: 220 - BC49 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 58.9	TensLimP= 250.0	
Xbl = 70.0 Ybl = 70.0		TensPil = 27.5	
Alt = 70.0 Vol = .343		TensLimE= 270.0	dutil = 54.0
Xpil= 60.0 Ypil= 60.0	FE= 59.8	TensEst = 105.7	AnguloX= -83.4
Formas: 1.96 m2	F1= 59.8		AnguloY= -83.4
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X:	1.3 = 3 {10.0 C/ 25.0	Prin.Y:	1.3 = 3 {10.0 C/ 25.0
AsXfdZ:	1.0	AsYfdZ:	1.0
AsXpln:	.2 = 8 { 5.0 C/ 7.0	AsYpln:	.2 = 8 { 5.0 C/ 7.0
AsCin :	.0	Nro Plan.Fretag.=	6

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	58.89	.00	.00	
Caso 2:	58.88	.00	.00	
Caso 3:	58.88	.00	.00	
Caso 4:	58.88	.00	.00	
Caso 5:	58.88	.00	.00	
Caso 6:	58.88	.00	.00	

BLOCO: 221 - BC50 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 61.4	TensLimP= 250.0	
Xbl = 70.0 Ybl = 70.0		TensPil = 28.6	
Alt = 70.0 Vol = .343		TensLimE= 270.0	dutil = 54.0
Xpil= 60.0 Ypil= 60.0	FE= 62.2	TensEst = 110.1	AnguloX= -83.4
Formas: 1.96 m2	F1= 62.2		AnguloY= -83.4
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X:	1.4 = 3 {10.0 C/ 25.0	Prin.Y:	1.4 = 3 {10.0 C/ 25.0
AsXfdZ:	1.0	AsYfdZ:	1.0
AsXpln:	.2 = 8 { 5.0 C/ 7.0	AsYpln:	.2 = 8 { 5.0 C/ 7.0
AsCin :	.0	Nro Plan.Fretag.=	6

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	61.38	.00	.00	
Caso 2:	61.34	.00	.00	
Caso 3:	61.34	.00	.00	
Caso 4:	61.34	.00	.00	
Caso 5:	61.34	.00	.00	
Caso 6:	61.34	.00	.00	

BLOCO: 222 - BC51 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 71.0	TensLimP= 250.0	
Xbl = 70.0 Ybl = 70.0		TensPil = 33.2	
Alt = 90.0 Vol = .441		TensLimE= 270.0	dutil = 72.0
Xpil= 60.0 Ypil= 60.0	FE= 72.1	TensEst = 126.9	AnguloX= -85.0
Formas: 2.52 m2	F1= 72.1		AnguloY= -85.0
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	

Prin.X:	1.2 = 3 {10.0 C/ 25.0	Prin.Y:	1.2 = 3 {10.0 C/ 25.0
AsXfdZ:	.9	AsYfdZ:	.9
AsXpln:	.1 = 8 { 5.0 C/ 7.0	AsYpln:	.1 = 8 { 5.0 C/ 7.0
AsCin :	.0 Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	71.04	.00	.00	
Caso	2:	71.04	.00	.00	
Caso	3:	71.04	.00	.00	
Caso	4:	70.76	.00	.00	
Caso	5:	71.04	.00	.00	
Caso	6:	71.04	.00	.00	

BLOCO: 223 - BC53 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 1 fi = 35.0	FN= 46.0	TensLimP= 250.0	
Xbl = 70.0 Ybl = 70.0		TensPil = 21.5	
Alt = 70.0 Vol = .343		TensLimE= 270.0	dutil = 54.0
Xpil= 60.0 Ypil= 60.0	FE= 46.9	TensEst = 82.9	AnguloX= -83.4
Formas: 1.96 m2	F1= 46.9		AnguloY= -83.4

ARMADURAS [cm2,cm]				Peso Próprio: .9 tf (x1)			
Prin.X:	1.1 =	3 {10.0 C/	25.0	Prin.Y:	1.1 =	3 {10.0 C/	25.0
AsXfdZ:	.8			AsYfdZ:	.8		
AsXpln:	.1 =	8 { 5.0 C/	7.0	AsYpln:	.1 =	8 { 5.0 C/	7.0
AsCin :	.0	Nro Plan.Fretag.= 6					

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	46.00	.00	.00	
Caso	2:	46.00	.00	.00	
Caso	3:	46.00	.00	.00	
Caso	4:	45.99	.00	.00	
Caso	5:	46.00	.00	.00	
Caso	6:	46.00	.00	.00	

BLOCO: 224 - BC54 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 1 fi = 35.0	FN= 65.1	TensLimP= 250.0	
Xbl = 70.0 Ybl = 70.0		TensPil = 30.4	
Alt = 70.0 Vol = .343		TensLimE= 270.0	dutil = 54.0
Xpil= 60.0 Ypil= 60.0	FE= 65.9	TensEst = 116.7	AnguloX= -83.4
Formas: 1.96 m2	F1= 65.9		AnguloY= -83.4

ARMADURAS [cm2,cm]			Peso Próprio: .9 tf (x1)		
Prin.X:	1.5 =	3 {10.0 C/ 25.0	Prin.Y:	1.5 =	3 {10.0 C/ 25.0
AsXfdZ:	1.1		AsYfdZ:	1.1	
AsXpln:	.2 =	8 { 5.0 C/ 7.0	AsYpln:	.2 =	8 { 5.0 C/ 7.0
AsCin :	.0	Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	65.06	.00	.00	
Caso	2:	65.06	.00	.00	
Caso	3:	65.06	.00	.00	
Caso	4:	65.06	.00	.00	
Caso	5:	65.06	.00	.00	
Caso	6:	65.06	.00	.00	

BLOCO: 225 - BC55 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 1 fi = 35.0	FN= 59.0	TensLimP= 250.0	
Xbl = 70.0 Ybl = 70.0		TensPil = 27.5	
Alt = 70.0 Vol = .343		TensLimE= 270.0	dutil = 54.0
Xpil= 60.0 Ypil= 60.0	FE= 59.9	TensEst = 105.9	AnguloX= -83.4
Formas: 1.96 m2	F1= 59.9		AnguloY= -83.4

ARMADURAS [cm2,cm]		Peso Próprio:		.9 tf (x1)	
Prin.X:	1.3 = 3 {10.0 C/ 25.0	Prin.Y:	1.3 = 3 {10.0 C/ 25.0		
AsXfdZ:	1.0	AsYfdZ:	1.0		

AsXpln:	.2 = 8 { 5.0 C/ 7.0	AsYpln:	.2 = 8 { 5.0 C/ 7.0
AsCin :	.0 Nro Plan.Fretag.= 6		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	59.00	.00	.00	
Caso 2:	59.00	.00	.00	
Caso 3:	59.00	.00	.00	
Caso 4:	58.99	.00	.00	
Caso 5:	59.00	.00	.00	
Caso 6:	59.00	.00	.00	

BLOCO: 226 - BC56 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 1 fi = 35.0	FN= 63.2	TensLimP= 250.0 TensPil = 29.5	dutil = 54.0 AnguloX= -83.4 AnguloY= -83.4
Xbl = 70.0 Ybl = 70.0			
Alt = 70.0 Vol = .343	FE= 64.0	TensLimE= 270.0	
Xpil= 60.0 Ypil= 60.0	F1= 64.0	TensEst = 113.3	
Formas: 1.96 m2			
ARMADURAS [cm2,cm]	Peso Próprio:	.9 tf (x1)	
Prin.X: 1.4 = 3 {10.0 C/ 25.0	Prin.Y: 1.4 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.1	AsYfdZ: 1.1		
AsXpln: .2 = 8 { 5.0 C/ 7.0	AsYpln: .2 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 6			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	63.19	.00	.00	
Caso 2:	63.19	.00	.00	
Caso 3:	63.19	.00	.00	
Caso 4:	63.18	.00	.00	
Caso 5:	63.19	.00	.00	
Caso 6:	63.19	.00	.00	

BLOCO: 227 - BC57 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 1 fi = 35.0	FN= 80.3	TensLimP= 250.0 TensPil = 37.5	dutil = 72.0 AnguloX= -85.0 AnguloY= -85.0
Xbl = 70.0 Ybl = 70.0			
Alt = 90.0 Vol = .441	FE= 81.4	TensLimE= 270.0	
Xpil= 60.0 Ypil= 60.0	F1= 81.4	TensEst = 143.2	
Formas: 2.52 m2			
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.4 = 3 {10.0 C/ 25.0	Prin.Y: 1.4 = 3 {10.0 C/ 25.0		
AsXfdZ: 1.0	AsYfdZ: 1.0		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 9			

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	80.28	.00	.00	
Caso 2:	80.28	.00	.00	
Caso 3:	80.28	.00	.00	
Caso 4:	80.09	.00	.00	
Caso 5:	80.28	.00	.00	
Caso 6:	80.28	.00	.00	

BLOCO: 228 - BC46 Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm,graus]
Estacas= 2 fi = 35.0	FN= 39.0	TensLimP= 270.0 TensPil = 23.1	dmin = 37.5 dmax = 53.3 dutil = 72.0
DisX= 105.0	MY= .0		AnguloX= 62.5 AnguloY= 62.5
Xbl = 180.0 Ybl = 75.0			
Alt = 90.0 Vol = 1.215	FE= 42.0	TensLimE= 270.0	
Xpil= 60.0 Ypil= 60.0	F1= 21.0	TensEst = 46.7	
Formas: 4.59 m2			
ARMADURAS [cm2,cm]	Peso Próprio:	3.0 tf (x1)	
Prin.X: 4.2 = 4 {12.5 C/ 20.0	SecndY: .9 = 7 { 5.0 C/ 25.0		
P.Estr: .9 = 5 { 5.0 C/ 15.0	Laterl: .7 = 4 { 5.0 C/ 20.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 180.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	39.00	.00	.00	
Caso	2:	37.81	.00	.00	
Caso	3:	37.81	.00	.00	
Caso	4:	37.81	.00	.00	
Caso	5:	37.81	.00	.00	
Caso	6:	37.81	.00	.00	

AVISO: Bloco 229 - Altura de ferro principal 1 excedida (97.0), limite = 70.0 cm.

BLOCO: 229 - BC52

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0 DisX= 145.0 Xbl = 220.0 Ybl = 75.0 Alt = 90.0 Vol = 1.485 Xpil= 60.0 Ypil= 60.0 Formas: 5.31 m2	FN= 123.5 MY= .0 FE= 127.2 F1= 63.6	TensLimP= 270.0 TensPil = 94.4 TensLimE= 270.0 TensEst = 181.9	dmin = 57.5 dmax = 81.6 dutil = 72.0 AnguloX= 51.4 AnguloY= 51.4
ARMADURAS [cm2,cm]	Peso Próprio:	3.7 tf (x1)	
Prin.X: 19.6 = 7 {20.0 C/ 10.0 P.Estr: 2.9 = 4 {10.0 C/ 20.0	SecndY: 3.3 = 17 { 5.0 C/ 12.5 Laterl: 3.9 = 5 {10.0 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 235.00 Fornecido: 220.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	123.52	.00	.00	
Caso	2:	123.52	.00	.00	
Caso	3:	123.52	.00	.00	
Caso	4:	122.75	.00	.00	
Caso	5:	123.52	.00	.00	
Caso	6:	123.52	.00	.00	

AVISO: Bloco 230 - Altura de ferro principal 1 excedida (97.0), limite = 70.0 cm.

BLOCO: 230 - BC58

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0 DisX= 145.0 Xbl = 220.0 Ybl = 75.0 Alt = 90.0 Vol = 1.485 Xpil= 60.0 Ypil= 60.0 Formas: 5.31 m2	FN= 119.2 MY= .0 FE= 122.9 F1= 61.4	TensLimP= 270.0 TensPil = 91.1 TensLimE= 270.0 TensEst = 175.7	dmin = 57.5 dmax = 81.6 dutil = 72.0 AnguloX= 51.4 AnguloY= 51.4
ARMADURAS [cm2,cm]	Peso Próprio:	3.7 tf (x1)	
Prin.X: 19.0 = 7 {20.0 C/ 10.0 P.Estr: 2.8 = 4 {10.0 C/ 20.0	SecndY: 3.2 = 17 { 5.0 C/ 12.5 Laterl: 3.8 = 5 {10.0 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 235.00 Fornecido: 220.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	119.17	.00	.00	
Caso	2:	119.16	.00	.00	
Caso	3:	119.16	.00	.00	
Caso	4:	119.16	.00	.00	
Caso	5:	119.16	.00	.00	
Caso	6:	119.16	.00	.00	

BLOCO: 231 - BC64

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0 DisX= 105.0 Xbl = 180.0 Ybl = 75.0 Alt = 90.0 Vol = 1.215 Xpil= 60.0 Ypil= 60.0 Formas: 4.59 m2 *****	FN= 60.8 MY= .0 FE= 63.8 F1= 31.9	TensLimP= 270.0 TensPil = 36.1 TensLimE= 270.0 TensEst = 70.9	dmin = 37.5 dmax = 53.3 dutil = 72.0 AnguloX= 62.5 AnguloY= 62.5 ****
ARMADURAS [cm2,cm]	Peso Próprio:	3.0 tf (x1)	
Prin.X: 6.4 = 6 {12.5 C/ 12.5 P.Estr: .9 = 5 { 5.0 C/ 15.0	SecndY: 1.1 = 7 { 5.0 C/ 25.0 Laterl: 1.1 = 6 { 5.0 C/ 12.5		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 180.00

Carregamentos:	6	N	Mx	My	[tf,m]
Caso	1:	60.81	.00	.00	

Caso	2:	59.52	.00	.00
Caso	3:	59.52	.00	.00
Caso	4:	59.52	.00	.00
Caso	5:	59.52	.00	.00
Caso	6:	59.52	.00	.00

BLOCO: 232 - BC59

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 46.7	TensLimP= 250.0 TensPil = 21.8	
Xbl = 70.0 Ybl = 70.0			dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 47.8	TensEst = 84.2	AnguloY= -85.0
Formas: 2.52 m2	F1= 47.8		
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .6	AsYfdZ: .6		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	46.75	.00	.00
Caso	2:	46.72	.00	.00
Caso	3:	46.72	.00	.00
Caso	4:	46.72	.00	.00
Caso	5:	46.72	.00	.00
Caso	6:	46.72	.00	.00

BLOCO: 233 - BC60

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 65.4	TensLimP= 250.0 TensPil = 30.5	
Xbl = 70.0 Ybl = 70.0			dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 66.5	TensEst = 116.9	AnguloY= -85.0
Formas: 2.52 m2	F1= 66.5		
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .9	AsYfdZ: .9		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	65.36	.00	.00
Caso	2:	65.33	.00	.00
Caso	3:	65.33	.00	.00
Caso	4:	65.33	.00	.00
Caso	5:	65.33	.00	.00
Caso	6:	65.33	.00	.00

BLOCO: 234 - BC61

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 61.8	TensLimP= 250.0 TensPil = 28.8	
Xbl = 70.0 Ybl = 70.0			dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 62.9	TensEst = 110.6	AnguloY= -85.0
Formas: 2.52 m2	F1= 62.9		
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	61.78	.00	.00
Caso	2:	61.75	.00	.00
Caso	3:	61.75	.00	.00
Caso	4:	61.75	.00	.00

Caso	5:	61.75	.00	.00
Caso	6:	61.75	.00	.00

BLOCO: 235 - BC62

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 61.7	TensLimP= 250.0	dutil = 72.0 AnguloX= -85.0 AnguloY= -85.0
Xbl = 70.0 Ybl = 70.0		TensPil = 28.8	
Alt = 90.0 Vol = .441		TensLimE= 270.0	
Xpil= 60.0 Ypil= 60.0	FE= 62.8	TensEst = 110.6	
Formas: 2.52 m2	F1= 62.8		
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .8	AsYfdZ: .8		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 9			

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	61.75	.00	.00
Caso	2:	61.72	.00	.00
Caso	3:	61.72	.00	.00
Caso	4:	61.72	.00	.00
Caso	5:	61.72	.00	.00
Caso	6:	61.72	.00	.00

BLOCO: 236 - BC63

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 1 fi = 35.0	FN= 39.2	TensLimP= 250.0	dutil = 72.0 AnguloX= -85.0 AnguloY= -85.0
Xbl = 70.0 Ybl = 70.0		TensPil = 18.3	
Alt = 90.0 Vol = .441		TensLimE= 270.0	
Xpil= 60.0 Ypil= 60.0	FE= 40.3	TensEst = 71.0	
Formas: 2.52 m2	F1= 40.3		
ARMADURAS [cm2,cm]	Peso Próprio:	1.1 tf (x1)	
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .5	AsYfdZ: .5		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0 Nro Plan.Fretag.= 9			

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	39.24	.00	.00
Caso	2:	39.24	.00	.00
Caso	3:	39.24	.00	.00
Caso	4:	39.12	.00	.00
Caso	5:	39.24	.00	.00
Caso	6:	39.24	.00	.00

AVISO: Bloco 237 - Altura de ferro principal 1 excedida (72.8), limite = 70.0 cm.

BLOCO: 237 - BC70

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF. [cm, graus]
Estacas= 2 fi = 35.0	FN= 78.3	TensLimP= 270.0	dmin = 37.5
DisX= 105.0		TensPil = 46.4	dmax = 53.3
Xbl = 180.0 Ybl = 75.0	MY= .0		dutil = 72.0
Alt = 90.0 Vol = 1.215		TensLimE= 270.0	AnguloX= 62.5
Xpil= 60.0 Ypil= 60.0	FE= 81.3	TensEst = 90.3	AnguloY= 62.5
Formas: 4.59 m2	F1= 40.7		****
ARMADURAS [cm2,cm]	Peso Próprio:	3.0 tf (x1)	
Prin.X: 8.2 = 5 {16.0 C/ 15.0	SecndY: 1.4 = 7 { 5.0 C/ 25.0		
P.Estr: 1.2 = 4 { 6.3 C/ 20.0	Laterl: 1.6 = 6 { 6.3 C/ 12.5		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 195.00 Fornecido: 180.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso	1:	78.28	.00	.00
Caso	2:	78.28	.00	.00
Caso	3:	78.28	.00	.00
Caso	4:	78.11	.00	.00
Caso	5:	78.28	.00	.00
Caso	6:	78.28	.00	.00

BLOC0: 258 - BC33

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 48.7	TensLimP= 250.0 TensPil = 22.7	
Xbl = 70.0 Ybl = 70.0			dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 49.8	TensEst = 87.7	AnguloY= -85.0
Formas: 2.52 m2	F1= 49.8		
ARMADURAS [cm2,cm]	Peso Próprio: 1.1 tf (x1)		
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .6	AsYfdZ: .6		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	48.73	.00	.00	
Caso 2:	48.73	.00	.00	
Caso 3:	48.73	.00	.00	
Caso 4:	48.12	.00	.00	
Caso 5:	48.73	.00	.00	
Caso 6:	48.73	.00	.00	

BLOC0: 283 - BC39

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 1 fi = 35.0	FN= 55.8	TensLimP= 250.0 TensPil = 26.1	
Xbl = 70.0 Ybl = 70.0			dutil = 72.0
Alt = 90.0 Vol = .441		TensLimE= 270.0	AnguloX= -85.0
Xpil= 60.0 Ypil= 60.0	FE= 56.9	TensEst = 100.2	AnguloY= -85.0
Formas: 2.52 m2	F1= 56.9		
ARMADURAS [cm2,cm]	Peso Próprio: 1.1 tf (x1)		
Prin.X: 1.1 = 3 {10.0 C/ 25.0	Prin.Y: 1.1 = 3 {10.0 C/ 25.0		
AsXfdZ: .7	AsYfdZ: .7		
AsXpln: .1 = 8 { 5.0 C/ 7.0	AsYpln: .1 = 8 { 5.0 C/ 7.0		
AsCin : .0	Nro Plan.Fretag.= 9		

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	55.83	.00	.00	
Caso 2:	55.83	.00	.00	
Caso 3:	55.83	.00	.00	
Caso 4:	55.43	.00	.00	
Caso 5:	55.83	.00	.00	
Caso 6:	55.83	.00	.00	

AVISO: Bloco 285 - Altura de ferro principal 1 excedida (97.0), limite = 70.0 cm.

BLOC0: 285 - BC40

Retang. (1x)

GEOMETRIA[cm,m3]	CARGAS[tf,m]	TENSOES[kgf/cm2]	VERIF.[cm, graus]
Estacas= 2 fi = 35.0	FN= 101.6	TensLimP= 270.0 TensPil = 77.6	dmin = 57.5 dmax = 81.6
DisX= 145.0	MY= .0		dutil = 72.0
Xbl = 220.0 Ybl = 75.0		TensLimE= 270.0	AnguloX= 51.4
Alt = 90.0 Vol = 1.485	FE= 105.3	TensEst = 150.6	AnguloY= 51.4
Xpil= 60.0 Ypil= 60.0	F1= 52.6		
Formas: 5.31 m2			
ARMADURAS [cm2,cm]	Peso Próprio: 3.7 tf (x1)		
Prin.X: 16.2 = 6 {20.0 C/ 12.5	SecndY: 2.7 = 15 { 5.0 C/ 15.0		
P.Estr: 2.4 = 5 { 8.0 C/ 15.0	Laterl: 3.2 = 5 {10.0 C/ 15.0		

ATENCAO: Xbl menor que o recomendado. - Recomendado: 235.00 Fornecido: 220.00

Carregamentos:	6	N	Mx	My [tf,m]
Caso 1:	101.58	.00	.00	
Caso 2:	101.50	.00	.00	
Caso 3:	101.50	.00	.00	
Caso 4:	101.50	.00	.00	
Caso 5:	101.50	.00	.00	
Caso 6:	101.50	.00	.00	

 Volume total de concreto: 148.65 m3.
 Area total de formas: 681.14 m2.

----- LISTAGEM DOS CRITÉRIOS DE PROJETO DE BLOCOS -----

* Coeficientes *

GamaC = 1.40
GamaS = 1.15
GamaF = 1.40
GamaN = 1.20
Coeficiente de efeito Rusch = .90
Coeficiente de redução de altura útil = .90

----- CRITÉRIOS DE CÁLCULO E DETALHAMENTO -----

Cobrimento para pilares (cm) = 4.500
Considerar seção do pilar: RETANGULAR
FCK para ESTACAS (kgf/cm²) <= 180.00 (usado para cálc. de fctd_inf_est)
Considerar Peso Próprio no dimens/detalhamento: SIM
Número de bitolas p/ traspasse = 40.00
Bitola da arm a partir da qual coloca raio de dobramento (mm) = 6
Espacamento maximo fretagem 1 estaca (cm) = 15.00
Lastro de concreto magro = 5.00
Critério de altura de dobra: 1
Valor minimo p/ arm principal (cm²/m) = 1.50
Valor min p/ arm suspensao ou malha (cm²/m) = 1.50
Valor min p/ arm lateral ou de pele (cm²/m) = 1.50
Valor min p/ arm de porta-estribo (cm²/m) = 1.50
Critério de armadura lateral: 2
Critério de armadura porta-estribo: 2

--- DIMENSÕES LIMITES ASSOCIADAS ÀS ESTACAS ---

Numero de dimensoes definidas = 8
Const p/ determ dist em função dos diâmetros da estaca = 25.00

diam lim sup estaca	dist lim inf borda est
20.00	30.00
25.00	35.00
30.00	40.00
35.00	45.00
40.00	50.00
45.00	55.00
50.00	65.00
60.00	75.00

----- BLOCOS SOBRE 1 ESTACA -----

Porc p/ As da arm lateral-pele sobre area As calc = .00
Coeficiente p/ tensao admissivel de compressao no concreto = 1.40
Verificação de tensão última: NBR 6118 - 2003.
Cálculo de Armaduras Principais: SIM

----- BLOCOS SOBRE 2 ESTACAS -----

ARMADURA PRINCIPAL: Distribuida uniforme, dobra 90
ARMADURA LATERAL-PELE: Fechada
Porc p/ As da arm transversal (estribo) sobre As calc = .20
Porc p/ As da arm lateral-pele sobre As calc = .20
Porc p/ As da arm porta-estribo sobre As calc = .15
Coeficiente p/ tensao admissivel de compressao no concreto = 1.40

----- BLOCOS APOIADOS EM 4 ESTACAS -----

ARMADURA PRINCIPAL: Concentrada s/ estacas,dobra 90
Porc p/ As da arm princ s/ area As calc = 1.00
Porc p/ As da arm suspensao-malha sobre As calc = .50
Porc p/ As da arm lateral-pele s/ As calc = .15
Coeficiente p/ tensao admissivel de compressao no concreto = 2.10

3.7 Vigas de Fundação

JOAO SOARES VIEGAS FILHO
) Pg 1
AV. REPUBLICA, 440 AREAL
32283060
T Q S Projeto: 0002 - Fundação
07/08/12
CAD/Vigas
02:07:41

R E L G E R - Relatorio geral de vigas (V15.7.1)
PELOTAS 96077-230 RS

fck=300.kgf/cm² - Aco: 50A

- Esforços

Caracteristicos

L E G E N D A

G E O M E T R I A

Eng.E : Engastamento a Esquerda / Eng.D : Engastamento a Direita / Repet :

Repeticoes

NAnd : N.de Andares / Red V Ext : Reducao de Cortante no Extremo / Fat.Alt :

Fator de Alternancia de Cargas

Cob : Cobrimento / TpS : Tipo da Secao / BCs :

Mesa Colaborante Superior

BCi : Mesa Colaborante Inferior / Esp.LS : Espessura Laje Superior / Esp.LI :

Espessura Laje Inferior

FSp.Ex : Distancia Face Superior Eixo / FLt.Ex : Distancia Face Lateral ao Eixo / Cob/S :

Cobrim/Cobr.superior adicional

C A R G A S

MEsq : Momento Adicional a Esquerda / MDir : Momento Adicional a Direita / Q :

Cortante Adicional (valor unico)

A R M A D U R A S - F L E X A O

SRAS : Secao Retangular Armad.Dupla / STAS :

Secao Te Armadura Simples

STAD : Secao Te Armadura Dupla / x/d : Profund. relativa da Linha Neutra / x/dMx :

Profund. relativa da LN Maxima

AsL : Armadura de Compressao / Bit.de Fiss.: Bitola de fissuracao / Asapo :

Armadura e/d que chega no extremo

A R M A D U R A S - C I S A L H A M E N T O

MdC : Modelo de Calculo (I ou II) / Ang. : Angulo da biela de compressao / Aswmin :

Armad.transv.minima-cisalhamento

Asw[C+T]: Arm.tran.calculada cisalh+torcao / Bit : Bitola selecionada / Esp :

Espacamento selecionado

NR : Numero de ramos do estribo / AsTrt : Armadura transversal de Tirante / AsSus :

Armadura transversal-Suspensao

A R M A D U R A S - T O R C A O

%dT : % limite de TRd2 para desprezar o M de torcao (Tsd) / he : Espessura do nucleo de

torcao

b-nuc : Largura do nucleo / h-nuc : Altura do nucleo

Asw-1R : Armadura de torcao calculada para 1 Ramo de estribo / AswmnNR : Armad.transv.minima-

torcao p/NR estribos selecionado

Asl-b : Armadura longitudinal de torcao no lado b / Asl-h : Armadura longitudinal

de torcao no lado h

ComDia : Valor da compressao diagonal (cisalhamento+torcao) / AdPla : Capacida/ adaptacao

plastica no vao - S[sim] N[nao]

R E A C O E S D E A P O I O

DEPEV : Distancia do eixo do pilar ao eixo efetivo de apoio -viga / Morte :Codigo se pilar morre /

segue / vigas

M.I.Mx : Momento Imposto Maximo / M.I.Mn : Momento Imposto Minimo

=====

Viga= 1 VFA10 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O

) - - - - -

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R

E I T A | M.[-] = 3.9 tf* m | M.[+] Max= 2.8 tf* m - Abcis.= 90 | M.[-]

= 20.1 tf* m | [tf,cm]| As = 9.08 -SRAS- [5 B 16.0mm] | AsL= .00 ----- | As =

10.87 -SRAS- [6 B 16.0mm] | | AsL=

| AsL= .00 ----- x/d = .05 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=

.00 ----- x/d = .06 | x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |

|

|

[tf,cm]| M[-]Min = 1902.9 | M[+]Min = 1858.3 | M[-

]Min = 2432.1 |

[cm2]| Asapo[+] = 10.43 |

Asapo[+]= 2.61 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus

M E N S A G E M

[tf,cm] 0.- 223. 35.33 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla

M E N S A G E M

[tf,cm] 0.- 223. .68 55.41 5 18.7 51.3 61.3 .2 .0 .0 .0 .15 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn

Pilares:

0	0	0	1	13.209	13.205	.70	.11	1	BA9	.00	.00	8097	0
0	0	0	2	25.239	25.235	1.75	.64	0	BA1	.00	.00	8176	0

Viga= 2 VFA11 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 4.3 tf* m | M.[+] Max= .3 tf* m - Abcis.= 90 | M.[-]
= 26.5 tf* m | [tf,cm] | As = 9.41 -SRAS- [5 B 16.0mm] | AsL= .00 ----- | As =
11.87 -SRAS- [6 B 16.0mm] | AsL= .00 ----- x/d = .05 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
.00 ----- x/d = .07 | x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
x/dMx= .50 | M[-]Min = 2039.3 | M[+]Min = 1858.3 | M[-]
[tf,cm] | M[-]Min = 2432.1 |
[cm2] | Asapo[+]= 3.48 |
Asapo[+]= 2.61 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 223. 38.18 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 223. .01 55.41 5 18.7 51.3 61.3 .0 .0 .0 .0 .14 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 10.852 10.852 .70 .11 1 BA10 .00 .00 8098 0
0 0 0 27.268 27.267 1.75 .64 0 BA2 .00 .00 8177 0
0 0 0

Viga= 3 VFA12 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 4.3 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
= 28.8 tf* m | [tf,cm] | As = 10.87 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
12.93 -SRAS- [4 B 20.0mm] | AsL= .00 ----- x/d = .06 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
.00 ----- x/d = .07 | x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
x/dMx= .50 | M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
[tf,cm] | M[-]Min = 2432.1 |
[cm2] | Asapo[+]= 3.48 |
Asapo[+]= 2.61 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 223. 39.38 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 223. .21 55.41 5 18.7 51.3 61.3 .1 .0 .0 .0 .15 N

REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:								
0 0 0 1	10.010	10.008	.70	.11	1	BA11	.00	.00 8099 0
0 0 0 2	28.128	28.126	1.75	.64	0	BA3	.00	.00 8178 0

Viga= 4 VFA13 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 3.9 tf* m | M.[+] Max= .4 tf* m - Abcis.= 67 | M.[-]
 = 26.8 tf* m
 [tf,cm] | As = 9.41 -SRAS- [5 B 16.0mm] | AsL= .00 ----- | As =
 12.01 -SRAS- [6 B 16.0mm] | AsL= .00 ----- x/d = .05 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
 .00 ----- x/d = .07 | x/dMx= .50 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.0 |
 x/dMx= .50
 [tf,cm] | M[-]Min = 2039.3 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1
 [cm2] | Asapo[+]= 3.48 |
 Asapo[+]= 2.61

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 223. 38.46 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 223. .25 55.41 5 18.7 51.3 61.3 .1 .0 .0 .0 .15 N

REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:								
0 0 0 1	10.531	10.527	.70	.11	1	BA12	.00	.00 8100 0
0 0 0 2	27.468	27.464	1.75	.64	0	BA4	.00	.00 8179 0

Viga= 5 VFA14 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 3.9 tf* m | M.[+] Max= 1.1 tf* m - Abcis.= 90 | M.[-]
 = 25.0 tf* m
 [tf,cm] | As = 9.08 -SRAS- [5 B 16.0mm] | AsL= .00 ----- | As =
 11.17 -SRAS- [6 B 16.0mm] | AsL= .00 ----- x/d = .05 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
 .00 ----- x/d = .06 | x/dMx= .50 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.0 |
 x/dMx= .50
 [tf,cm] | M[-]Min = 1902.9 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1
 [cm2] | Asapo[+]= 10.43 |
 Asapo[+]= 2.61

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 223. 37.61 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 223. 1.40 55.41 5 18.7 51.3 61.3 .5 .0 .0 .0 .17 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
 Pilares:
 1 11.254 11.252 .70 .11 1 BA13 .00 .00 8101 0
 0 0 0 0
 2 26.862 26.859 1.75 .64 0 BA5 .00 .00 8180 0
 0 0 0 0

Viga= 6 VFA15 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 3.7 tf* m | M.[+] Max= .2 tf* m - Abcis.= 67 | M.[-]
 = 23.9 tf* m
 [tf,cm] | As = 10.52 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
 11.98 -SRAS- [6 B 16.0mm]
 | AsL= .00 ----- x/d = .05 | As = 11.54 -STAS- [6 B 16.0mm] | AsL=
 .00 ----- x/d = .06
 x/dMx= .50 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.0 |
 [tf,cm] | M[-]Min = 2039.3 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1
 [cm2] | Asapo[+] = 3.85 |
 Asapo[+] = 2.88

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 223. 33.89 265.52 2 45. .0 8.1 8.6 6.3 12.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 223. 5.14 55.41 5 18.7 51.3 61.3 1.9 8.6 1.1 1.3 .22 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
 Pilares:
 1 9.248 9.244 .70 .11 1 BA14 .00 .00 8102 0
 0 0 0 0
 2 24.209 24.205 1.75 .64 0 BA6 .00 .00 8181 0
 0 0 0 0

Viga= 7 VFA1 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 18.4 tf* m | M.[+] Max= 1.0 tf* m - Abcis.= 157 | M.[-]
 = 6.7 tf* m
 [tf,cm] | As = 10.87 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
 9.41 -SRAS- [8 B 12.5mm]
 | AsL= .00 ----- x/d = .06 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
 .00 ----- x/d = .05
 x/dMx= .50 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.0 |
 [tf,cm] | M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2039.3
 [cm2] | Asapo[+] = 2.61 |
 Asapo[+] = 3.48

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	223.	31.65	265.52	2	45.	.0	8.1	8.1	6.3	15.0	4	.0	.0
T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	223.	.31	55.41	5	18.7	51.3	61.3	.1	.0	.0	.0	.12	N
REAC. APOIO -	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn					
Pilares:														
	1	22.578	22.560	1.75	.64	0	BA8	.00	.00	8103	0			
0	0	0	0	0	0	0	0	0	0	0	0			
	2	13.958	13.940	.70	.11	1	BA9	.00	.00	8097	0			
0	0	0	0	0	0	0	0	0	0	0	0			

Viga= 8 VFA2 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

 Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 20.6 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
 = 7.1 tf* m
 [tf,cm] | As = 10.87 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
 10.87 -SRAS- [6 B 16.0mm]
 | AsL= .00 ----- x/d = .06 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
 .00 ----- x/d = .06
 | x/dMx= .50 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.0 |
 [tf,cm] | M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1
 [cm2] | Asapo[+]= 2.61 |
 Asapo[+]= 3.48

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	223.	31.52	265.52	2	45.	.0	8.1	8.1	6.3	15.0	4	.0	.0
T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	223.	.46	55.41	5	18.7	51.3	61.3	.2	.0	.0	.0	.13	N
REAC. APOIO -	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn					
Pilares:														
	1	22.484	22.482	1.75	.64	0	BA15	.00	.00	8104	0			
0	0	0	0	0	0	0	0	0	0	0	0			
	2	12.535	12.533	.70	.11	1	BA16	.00	.00	8105	0			
0	0	0	0	0	0	0	0	0	0	0	0			

Viga= 9 VFA3 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

 Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 18.9 tf* m | M.[+] Max= .4 tf* m - Abcis.= 157 | M.[-]
 = 7.2 tf* m
 [tf,cm] | As = 10.87 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
 9.75 -SRAS- [8 B 12.5mm]
 | AsL= .00 ----- x/d = .06 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
 .00 ----- x/d = .06
 | x/dMx= .50 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.0 |
 [tf,cm] | M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2172.9

[cm2]| Asapo[+]= 2.61
 Asapo[+]= 3.48

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	223.	31.44	265.52	2	45.	.0	8.1	8.1	6.3	15.0	4	.0	.0
T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	223.	1.48	55.41	5	18.7	51.3	61.3	.5	.0	.0	.0	.15	N
REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn						
Pilares:														
1	22.424	22.416	1.75	.64	0	BA22	.00	.00	8111	0				
2	13.794	13.785	.70	.11	1	BA23	.00	.00	8113	0				

Viga= 10 VFA4 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

 Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 19.6 tf* m | M.[+] Max= .6 tf* m - Abcis.= 157 | M.[-]
 = 7.3 tf* m
 [tf,cm]| As = 10.87 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
 9.75 -SRAS- [8 B 12.5mm]
 | AsL= .00 ----- x/d = .06 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
 .00 ----- x/d = .06
 | x/dMx= .50 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.0 |
 [tf,cm]| M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2172.9
 [cm2]| Asapo[+]= 2.61
 Asapo[+]= 3.48

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	223.	32.65	265.52	2	45.	.0	8.1	8.1	6.3	15.0	4	.0	.0
T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	223.	.01	55.41	5	18.7	51.3	61.3	.0	.0	.0	.0	.12	N
REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn						
Pilares:														
1	23.290	23.280	1.75	.64	0	BA29	.00	.00	8112	0				
2	14.269	14.259	.70	.11	1	BA30	.00	.00	8121	0				

Viga= 11 VFA5 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

 Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 22.7 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
 = 7.3 tf* m
 [tf,cm]| As = 10.87 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
 10.87 -SRAS- [6 B 16.0mm]
 | AsL= .00 ----- x/d = .06 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
 .00 ----- x/d = .06
 | x/dMx= .50 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.0 |
 [tf,cm]| M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2172.9
 [cm2]| Asapo[+]= 2.61
 Asapo[+]= 3.48

```

[tf,cm] | M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1
[cm2 ] | Asapo[+]= 2.61 |
Asapo[+]= 3.48

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 223. 33.39 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 223. 1.48 55.41 5 18.7 51.3 61.3 .5 .0 .0 .0 .15 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 23.817 23.811 1.75 .64 0 BA36 .00 .00 8119 0
0 0 0 0
2 12.464 12.457 .70 .11 1 BA37 .00 .00 8130 0
0 0 0 0
=====

Viga= 12 VFA6 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 24.3 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
= 7.2 tf* m |
[tf,cm] | As = 10.87 -SRAS- [ 6 B 16.0mm] | AsL= .00 ----- | As =
10.87 -SRAS- [ 6 B 16.0mm] |
.00 | AsL= .00 ----- x/d = .06 | As = 10.43 -STAS- [ 6 B 16.0mm ] | AsL=
.00 ----- x/d = .06 | x/dMx= .50 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.0 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1 |
[cm2 ] | Asapo[+]= 2.61 |
Asapo[+]= 3.48 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 223. 33.32 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 223. .42 55.41 5 18.7 51.3 61.3 .2 .0 .0 .0 .13 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 23.765 23.757 1.75 .64 0 BA43 .00 .00 8120 0
0 0 0 0
2 11.179 11.171 .70 .11 1 BA44 .00 .00 8138 0
0 0 0 0
=====

Viga= 13 VFA7 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 24.5 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
= 7.2 tf* m |
[tf,cm] | As = 10.94 -SRAS- [ 6 B 16.0mm] | AsL= .00 ----- | As =
10.87 -SRAS- [ 6 B 16.0mm] |

```

```

      | AsL=      .00  -----      x/d = .06      | As = 10.43  -STAS-  [ 6 B 16.0mm ]      | AsL=
.00  -----      x/d = .06      |
      |
x/dMx= .50      | x/dMx= .50      | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.0      |
      |
[tf,cm] | M[-]Min = 2432.1      | M[+]Min = 1858.3      | M[-]
]Min = 2432.1      |
[cm2 ] | Asapo[+]= 2.61      |
Asapo[+]= 3.48      |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 223. 33.43 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 223. .16 55.41 5 18.7 51.3 61.3 .1 .0 .0 .0 .13 N

```

```

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
      1 23.847 23.838 1.75 .64 0 BA50 .00 .00 8124 0
0 0 0 0
      2 11.098 11.089 .70 .11 1 BA51 .00 .00 8146 0
0 0 0 0
=====
=====

```

Viga= 14 VFA8 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

```

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 24.9 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
= 7.2 tf* m |
[tf,cm] | As = 11.15 -SRAS- [ 6 B 16.0mm] | AsL= .00 ----- | As =
10.87 -SRAS- [ 6 B 16.0mm] |
      | AsL= .00 -----      x/d = .06      | As = 10.43  -STAS-  [ 6 B 16.0mm ]      | AsL=
.00 -----      x/d = .06      |
      |
x/dMx= .50      | x/dMx= .50      | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.0      |
      |
[tf,cm] | M[-]Min = 2432.1      | M[+]Min = 1858.3      | M[-]
]Min = 2432.1      |
[cm2 ] | Asapo[+]= 2.61      |
Asapo[+]= 3.48      |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 223. 33.71 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 223. .11 55.41 5 18.7 51.3 61.3 .0 .0 .0 .0 .13 N

```

```

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
      1 24.047 24.041 1.75 .64 0 BA57 .00 .00 8125 0
0 0 0 0
      2 10.943 10.937 .70 .11 1 BA58 .00 .00 8154 0
0 0 0 0
=====
=====

```

Viga= 15 VFA9 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

```

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A |

```

```

      | M.[-] =      20.9 tf* m      | M.[+] Max=      .1 tf* m - Abcis.= 180 | M.[-]
=      6.7 tf* m
[tf,cm]| As = 10.87 -SRAS- [ 6 B 16.0mm] | AsL=      .00 ----- | As =
9.75 -SRAS- [ 8 B 12.5mm] | AsL=      .00 ----- x/d = .06 | As = 10.43 -STAS- [ 6 B 16.0mm ] | AsL=
.00 ----- x/d = .06
x/dMx= .50
x/dMx= .50
| Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
|
[tf,cm]| M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2172.9
[cm2 ]| Asapo[+]= 2.61 |
Asapo[+]= 3.48

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 223. 32.96 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 223. .52 55.41 5 18.7 51.3 61.3 .2 .0 .0 .0 .13 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 23.510 23.502 1.75 .64 0 BA64 .00 .00 8126 0
0 0 0 0
2 13.022 13.013 .70 .11 1 BA65 .00 .00 8162 0
0 0 0 0
=====
=====

```

Viga= 16 VFFB12A Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

```

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] =      2.5 tf* m      | M.[+] Max=      1.3 tf* m - Abcis.= 79 | M.[-]
=      2.5 tf* m
[tf,cm]| As = 5.25 -SRAS- [ 7 B 10.0mm] | AsL=      .00 ----- | As =
5.07 -SRAS- [ 7 B 10.0mm] | AsL=      .00 ----- x/d = .10 | As = 4.48 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .09
x/dMx= .50
x/dMx= .50
| Arm.Lat.=[2 X 1 B 5.0mm] - LN= 1.1 |
|
[tf,cm]| M[-]Min = 201.3 | M[+]Min = 213.5 | M[-]
]Min = 213.5
[cm2 ]| Asapo[+]= 1.12 |
Asapo[+]= 3.35

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 148. 12.61 69.50 2 45. 1.2 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 148. .97 6.63 5 9.2 58.1 13.1 1.5 4.3 .9 .2 .33 N

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] =      2.5 tf* m      | M.[+] Max=      1.2 tf* m - Abcis.= 114 | M.[-]
=      3.0 tf* m
[tf,cm]| As = 4.40 -SRAS- [ 6 B 10.0mm] | AsL=      .00 ----- | As =
5.21 -SRAS- [ 7 B 10.0mm] | AsL=      .00 ----- x/d = .10 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11
x/dMx= .50
x/dMx= .50
|
|

```

[tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 12.81 69.50 2 45. 1.5 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .03 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .19 N

----- G E O M E T R I A E C A R G A S -----
 Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 2.9 tf* m | M.[+] Max= 1.6 tf* m - Abcis.= 118 | M.[-]
 = 1.9 tf* m
 [tf,cm] | As = 5.67 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As =
 3.85 -SRAS- [5 B 10.0mm]
 | AsL= .00 ----- x/d = .11 | As = 4.32 -STAS- [6 B 10.0mm] | AsL=
 .00 ----- x/d = .07
 x/dMx= .50 | Arm.Lat.= [2 X 1 B 5.0mm] - LN= 1.1 |
 [tf,cm] | M[-]Min = 217.7 | M.[+]Min = 217.7 | M[-]
]Min = 188.9
 [cm2] | Asapo[+]= 3.11 |
 Asapo[+]= 1.08

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 13.25 69.50 2 45. 2.2 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .46 6.63 5 9.2 58.1 13.1 .7 4.3 .6 .1 .26 N

REAC. APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:									
	1	8.997	8.997	1.85	.85	0	BB29	.00	.00 8035 0
0 0 0	2	17.346	17.344	.70	.28	1	BB22	.00	.00 8028 0
0 0 0	3	18.338	18.334	.70	.28	1	BB15	.00	.00 8021 0
0 0 0	4	8.202	8.199	.70	.28	1	BB8	.00	.00 8014 0
0 0 0									

Viga= 17 VFB2 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 3.9 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
 = 41.1 tf* m
 [tf,cm] | As = 10.87 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
 18.73 -SRAS- [6 B 20.0mm]
 | AsL= .00 ----- x/d = .06 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
 .00 ----- x/d = .11
 x/dMx= .50 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.0 |
 [tf,cm] | M[-]Min = 2432.1 | M.[+]Min = 1858.3 | M[-]
]Min = 2432.1
 [cm2] | Asapo[+]= 3.48 |
 Asapo[+]= 2.61

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	223.	45.65	265.52	2	45.	.1	8.1	8.1	6.3	15.0	4	.0	.0
T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	223.	1.13	55.41	5	18.7	51.3	61.3	.4	.0	.0	.0	.19	N
REAC. APOIO -	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn					
Pilares:														
	1	5.081	5.081	.70	.11	1	BB9	.00	.00	8015	0			
0 0 0	2	32.606	32.606	1.75	.64	0	BB2	.00	.00	8004	0			
0 0 0														

Viga= 18 VFB3 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

 Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 3.9 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
 = 42.3 tf* m
 [tf,cm]| As = 10.87 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
 19.27 -SRAS- [6 B 20.0mm]
 | AsL= .00 ----- x/d = .06 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
 .00 ----- x/d = .11
 | x/dMx= .50 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.0 |
 [tf,cm]| M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1
 [cm2]| Asapo[+]= 3.48 |
 Asapo[+]= 2.61

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	223.	46.24	265.52	2	45.	.4	8.1	8.1	6.3	15.0	4	.0	.0
T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	223.	.28	55.41	5	18.7	51.3	61.3	.1	.0	.0	.0	.18	N
REAC. APOIO -	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn					
Pilares:														
	1	4.711	4.661	.70	.11	1	BB10	.00	.00	8016	0			
0 0 0	2	33.025	32.975	1.75	.64	0	BB3	.00	.00	8005	0			
0 0 0														

Viga= 19 VFB4 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

 Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 3.9 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
 = 42.1 tf* m
 [tf,cm]| As = 10.87 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
 19.21 -SRAS- [6 B 20.0mm]
 | AsL= .00 ----- x/d = .06 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
 .00 ----- x/d = .11
 | x/dMx= .50 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.0 |
 [tf,cm]| M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1

[cm2]| Asapo[+]= 3.48
 Asapo[+]= 2.61

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	223.	46.17	265.52	2	45.	.4	8.1	8.1	6.3	15.0	4	.0	.0
T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	223.	.11	55.41	5	18.7	51.3	61.3	.0	.0	.0	.0	.18	N
REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn						
Pilares:														
1	4.790	4.710	.70	.11	1	BB11	.00	.00	8017	0				
2	32.976	32.897	1.75	.64	0	BB4	.00	.00	8006	0				

Viga= 20 VFB5 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

 Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 3.9 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
 = 42.5 tf* m
 [tf,cm]| As = 10.87 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
 19.37 -SRAS- [6 B 20.0mm]
 | AsL= .00 ----- x/d = .06 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
 .00 ----- x/d = .11 x/dMx= .50 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.0 |
 x/dMx= .50
 |
 [tf,cm]| M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1
 [cm2]| Asapo[+]= 3.48 |
 Asapo[+]= 2.61

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	223.	46.07	265.52	2	45.	.3	8.1	8.1	6.3	15.0	4	.0	.0
T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	223.	.86	55.41	5	18.7	51.3	61.3	.3	.0	.0	.0	.19	N
REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn						
Pilares:														
1	4.580	4.350	.70	.11	1	BB12	.00	.00	8018	0				
2	32.904	32.673	1.75	.64	0	BB5	.00	.00	8007	0				

Viga= 21 VFB6 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

 Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = .0 tf* m | M.[+] Max= 11.9 tf* m - Abcis.= 0 | M.[-]
 = 43.6 tf* m
 [tf,cm]| As = 1.72 -SRAS- [4 B 8.0mm] | AsL= .00 ----- | As =
 19.97 -SRAS- [4 B 25.0mm]
 | AsL= .00 ----- x/d = .00 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
 .00 ----- x/d = .12 x/dMx= .50 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.0 |
 x/dMx= .50

```

[tf,cm] | M[-]Min = 1621.3 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1
[cm2 ] | Asapo[+]= 10.43 |
Asapo[+]= 2.61

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 223. 54.38 265.52 2 45. 3.7 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 223. .51 55.41 5 18.7 51.3 61.3 .2 .0 .0 .0 .21 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 .488 -2.188 .70 .11 1 BB13 .00 .00 8019 0
0 0 0 0
2 38.844 36.168 1.75 .64 0 BB6 .00 .00 8008 0
0 0 0 0
=====
=====

Viga= 22 VFB7 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
-----
Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
) - - - - -
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 3.7 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
= 39.2 tf* m
[tf,cm] | As = 10.87 -SRAS- [ 6 B 16.0mm] | AsL= .00 ----- | As =
17.83 -SRAS- [ 6 B 20.0mm]
| AsL= .00 ----- x/d = .06 | As = 10.43 -STAS- [ 6 B 16.0mm ] | AsL=
.00 ----- x/d = .10 x/dMx= .50 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.0 |
x/dMx= .50
|
[tf,cm] | M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1
[cm2 ] | Asapo[+]= 3.48 |
Asapo[+]= 2.61

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 223. 41.29 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 223. 2.75 55.41 5 18.7 51.3 61.3 1.0 .0 .0 .0 .21 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 3.515 3.232 .70 .11 1 BB14 .00 .00 8020 0
0 0 0 0
2 29.494 29.211 1.75 .64 0 BB7 .00 .00 8010 0
0 0 0 0
=====
=====

Viga= 23 VFB8 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
-----
Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
) - - - - -
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 47.8 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
= 3.8 tf* m
[tf,cm] | As = 23.02 -SRAS- [ 8 B 20.0mm] | AsL= .00 ----- | As =
11.98 -SRAS- [ 6 B 16.0mm]

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      | AsL=      .00 -----      x/d = .13      | As = 11.54      -STAS-      [ 6 B 16.0mm ]      | AsL=
.00 -----      x/d = .06
      |
x/dMx= .50      | x/dMx= .50      | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.0      |
      |
[tf,cm] | M[-]Min = 2432.1      | M[+]Min = 1858.3      | M[-]
]Min = 2432.1
[cm2 ] | Asapo[+]= 2.88      |
Asapo[+]= 3.85

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M	0.-	223.	46.04	265.52	2	45.	.3	8.1	8.6	6.3	12.0	4	.0	.0
[tf,cm]														

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M	0.-	223.	4.46	55.41	5	18.7	51.3	61.3	1.6	8.6	1.1	1.3	.25	N
[tf,cm]														

REAC. APOIO -	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:									
	1	32.842	32.840	1.75	.64	0	BB71	.00	.00 8082 0
0 0 0	0	0							
	2	.388	.387	.70	.11	1	BB64	.00	.00 8076 0
0 0 0	0	0							

Viga= 24 VFB9 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO- | E S Q U E R D A      | M E I O D O V A O      | D I R
E I T A
      | M.[-] = 50.4 tf* m      | M.[+] Max= .0 tf* m - Abcis.= 270      | M.[-]
= 3.9 tf* m
[tf,cm] | As = 23.27 -SRAS- [ 5 B 25.0mm]      | AsL= .00 -----      | As =
10.87 -SRAS- [ 6 B 16.0mm]
      | AsL= .00 -----      x/d = .13      | As = 10.43 -STAS- [ 6 B 16.0mm ]      | AsL=
.00 -----      x/d = .06
      | x/dMx= .50      | x/dMx= .50      | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.0      |
      |
[tf,cm] | M[-]Min = 2432.1      | M[+]Min = 1858.3      | M[-]
]Min = 2432.1
[cm2 ] | Asapo[+]= 2.61      |
Asapo[+]= 3.48

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M	0.-	223.	50.36	265.52	2	45.	2.1	8.1	8.1	6.3	15.0	4	.0	.0
[tf,cm]														

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M	0.-	223.	1.09	55.41	5	18.7	51.3	61.3	.4	.0	.0	.0	.21	N
[tf,cm]														

REAC. APOIO -	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:									
	1	35.926	35.924	1.75	.64	0	BB72	.00	.00 8083 0
0 0 0	0	0							
	2	1.665	1.663	.70	.11	1	BB65	.00	.00 8075 0
0 0 0	0	0							

Viga= 25 VFB10 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO- | E S Q U E R D A      | M E I O D O V A O      | D I R
E I T A

```

```

      | M.[-] =      51.9 tf* m      | M.[+] Max=      .0 tf* m - Abcis.= 270 | M.[-]
=      3.9 tf* m
[tf,cm]| As = 24.04 -SRAS- [ 5 B 25.0mm] | AsL=      .00 ----- | As =
10.87 -SRAS- [ 6 B 16.0mm] | AsL=      .00 ----- | AsL=
      | AsL=      .00 ----- x/d = .14 | As = 10.43 -STAS- [ 6 B 16.0mm ] | AsL=
.00 ----- x/d = .06      x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
x/dMx= .50
      |
[tf,cm]| M[-]Min = 2432.1      | M[+]Min = 1858.3      | M[-]
]Min = 2432.1
[cm2 ]| Asapo[+]= 2.61      |
Asapo[+]= 3.48

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	223.	51.18	265.52	2	45.	2.4	8.1	8.1	6.3	15.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	223.	.24	55.41	5	18.7	51.3	61.3	.1	.0	.0	.0	.20	N

REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:								
1	36.507	36.507	1.75	.64	0	BB73	.00	.00 8084 0
2	1.082	1.082	.70	.11	1	BB66	.00	.00 8074 0

Viga= 26 VFB11 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
) - - - - -
FLEXAO-| E S Q U E R D A      | M E I O D O V A O      | D I R
E I T A | M.[-] =      51.7 tf* m      | M.[+] Max=      .0 tf* m - Abcis.= 270 | M.[-]
=      4.0 tf* m
[tf,cm]| As = 23.95 -SRAS- [ 5 B 25.0mm] | AsL=      .00 ----- | As =
10.87 -SRAS- [ 6 B 16.0mm] | AsL=      .00 ----- | AsL=
      | AsL=      .00 ----- x/d = .14 | As = 10.43 -STAS- [ 6 B 16.0mm ] | AsL=
.00 ----- x/d = .06      x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
x/dMx= .50
      |
[tf,cm]| M[-]Min = 2432.1      | M[+]Min = 1858.3      | M[-]
]Min = 2432.1
[cm2 ]| Asapo[+]= 2.61      |
Asapo[+]= 3.48

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	223.	51.08	265.52	2	45.	2.4	8.1	8.1	6.3	15.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	223.	.17	55.41	5	18.7	51.3	61.3	.1	.0	.0	.0	.20	N

REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:								
1	36.437	36.436	1.75	.64	0	BB74	.00	.00 8085 0
2	1.153	1.153	.70	.11	1	BB67	.00	.00 8073 0

Viga= 27 VFB12 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 52.7 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
= 3.9 tf* m
[tf,cm]| As = 24.41 -SRAS- [5 B 25.0mm] | AsL= .00 ----- | As =
10.87 -SRAS- [6 B 16.0mm]
| AsL= .00 ----- x/d = .14 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
.00 ----- x/d = .06
x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
[tf,cm]| M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1
[cm2]| Asapo[+]= 2.61 |
Asapo[+]= 3.48

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 223. 51.27 265.52 2 45. 2.5 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 223. .95 55.41 5 18.7 51.3 61.3 .3 .0 .0 .0 .21 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 36.569 36.569 1.75 .64 0 BB75 .00 .00 8086 0
0 0 0 0
2 .587 .587 .70 .11 1 BB68 .00 .00 8072 0
0 0 0 0

Viga= 28 VFB13 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 52.1 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
= 4.0 tf* m
[tf,cm]| As = 24.10 -SRAS- [5 B 25.0mm] | AsL= .00 ----- | As =
10.87 -SRAS- [6 B 16.0mm]
| AsL= .00 ----- x/d = .14 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
.00 ----- x/d = .06
x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
[tf,cm]| M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1
[cm2]| Asapo[+]= 2.61 |
Asapo[+]= 3.48

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 223. 50.58 265.52 2 45. 2.2 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 223. 1.01 55.41 5 18.7 51.3 61.3 .4 .0 .0 .0 .21 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 36.082 36.081 1.75 .64 0 BB76 .00 .00 8087 0
0 0 0 0
2 .575 .574 .70 .11 1 BB69 .00 .00 8071 0
0 0 0 0

Viga= 29 VFB14 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 49.0 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
= 3.8 tf* m | As = 23.62 -SRAS- [ 8 B 20.0mm] | AsL= .00 ----- | As =
[tf,cm]| As = 11.98 -SRAS- [ 6 B 16.0mm] | AsL= .00 ----- x/d = .13 | As = 11.54 -STAS- [ 6 B 16.0mm ] | AsL=
.00 ----- x/d = .06 | x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1 |
[cm2 ]| Asapo[+]= 2.88 |
Asapo[+]= 3.85 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 223. 46.31 265.52 2 45. .4 8.1 8.6 6.3 12.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 223. 3.20 55.41 5 18.7 51.3 61.3 1.2 8.6 1.1 1.3 .23 N

```

```

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 33.036 33.035 1.75 .64 0 BB77 .00 .00 8088 0
0 0 0 0
2 -.309 -.310 .70 .11 1 BB70 .00 .00 8070 0
0 0 0 0

```

Viga= 30 VFA16 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

```

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 23.5 tf* m | M.[+] Max= 2.0 tf* m - Abcis.= 180 | M.[-]
= 3.5 tf* m | As = 10.87 -SRAS- [ 6 B 16.0mm] | AsL= .00 ----- | As =
[tf,cm]| As = 9.08 -SRAS- [ 8 B 12.5mm] | AsL= .00 ----- x/d = .06 | As = 10.43 -STAS- [ 6 B 16.0mm ] | AsL=
.00 ----- x/d = .05 | x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 1902.9 |
[cm2 ]| Asapo[+]= 2.61 |
Asapo[+]= 10.43 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 223. 37.37 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 223. .83 55.41 5 18.7 51.3 61.3 .3 .0 .0 .0 .16 N

```

```

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 26.660 26.659 1.75 .64 0 BA72 .00 .00 8092 0
0 0 0 0
2 11.917 11.917 .70 .11 1 BA65 .00 .00 8162 0
0 0 0 0

```

Viga= 31 VFA17 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 30.0 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
 = 3.9 tf* m | [7 B 16.0mm] | AsL= .00 ----- | As =
 [tf,cm]| As = 13.50 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | AsL=
 10.87 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | AsL=
 .00 ----- x/d = .06 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
 | x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
 [tf,cm]| M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1 |
 [cm2]| Asapo[+]= 2.61 |
 Asapo[+]= 3.48 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 223. 40.19 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 223. .04 55.41 5 18.7 51.3 61.3 .0 .0 .0 .0 .15 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
 Pilares:
 1 28.671 28.669 1.75 .64 0 BA73 .00 .00 8077 0
 0 0 0 0
 2 9.388 9.387 .70 .11 1 BA66 .00 .00 8163 0
 0 0 0 0

Viga= 32 VFA18 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 30.3 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
 = 3.9 tf* m | [7 B 16.0mm] | AsL= .00 ----- | As =
 [tf,cm]| As = 13.65 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | AsL=
 10.87 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | AsL=
 .00 ----- x/d = .06 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
 | x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
 [tf,cm]| M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1 |
 [cm2]| Asapo[+]= 2.61 |
 Asapo[+]= 3.48 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 223. 40.37 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 223. .25 55.41 5 18.7 51.3 61.3 .1 .0 .0 .0 .16 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
 Pilares:
 1 28.794 28.792 1.75 .64 0 BA74 .00 .00 8078 0
 0 0 0 0
 2 9.293 9.290 .70 .11 1 BA67 .00 .00 8164 0
 0 0 0 0

Viga= 33 VFA19
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 31.5 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
 = 3.9 tf* m | [7 B 16.0mm] | AsL= .00 ----- | As =
 [tf,cm]| As = 14.19 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | AsL=
 10.87 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | AsL=
 .00 ----- x/d = .06 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
 x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
 [tf,cm]| M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1 |
 [cm2]| Asapo[+]= 2.61 |
 Asapo[+]= 3.48 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 223. 40.99 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 223. .22 55.41 5 18.7 51.3 61.3 .1 .0 .0 .0 .16 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
 Pilares:
 1 29.238 29.234 1.75 .64 0 BA75 .00 .00 8079 0
 0 0 0 0
 2 8.850 8.846 .70 .11 1 BA68 .00 .00 8165 0
 0 0 0 0

Viga= 34 VFA20
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 31.0 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
 = 3.9 tf* m | [7 B 16.0mm] | AsL= .00 ----- | As =
 [tf,cm]| As = 13.94 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | AsL=
 10.87 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | AsL=
 .00 ----- x/d = .06 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
 x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
 [tf,cm]| M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1 |
 [cm2]| Asapo[+]= 2.61 |
 Asapo[+]= 3.48 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 223. 40.71 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 223. 1.44 55.41 5 18.7 51.3 61.3 .5 .0 .0 .0 .18 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
 Pilares:
 1 29.042 29.040 1.75 .64 0 BA76 .00 .00 8080 0
 0 0 0 0
 2 9.044 9.042 .70 .11 1 BA69 .00 .00 8166 0
 0 0 0 0

Viga= 35 VFA21 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 31.1 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
= 3.7 tf* m | [tf,cm]| As = 15.13 -SRAS- [8 B 16.0mm] | AsL= .00 ----- | As =
11.98 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | AsL=
.00 ----- x/d = .06 | As = 11.54 -STAS- [6 B 16.0mm] | AsL=
x/dMx= .50 | x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
[tf,cm]| M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1 |
[cm2]| Asapo[+]= 2.88 |
Asapo[+]= 3.85 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M [tf,cm] 0.- 223. 37.62 265.52 2 45. .0 8.1 8.6 6.3 12.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M [tf,cm] 0.- 223. 5.12 55.41 5 18.7 51.3 61.3 1.9 8.6 1.1 1.3 .23 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 26.834 26.828 1.75 .64 0 BA77 .00 .00 8081 0
0 0 2 6.590 6.584 .70 .11 1 BA70 .00 .00 8167 0
0 0 0 0

Viga= 36 VFC12 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 27.1 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
= 3.7 tf* m | [tf,cm]| As = 13.28 -SRAS- [7 B 16.0mm] | AsL= .00 ----- | As =
11.98 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | AsL=
.00 ----- x/d = .07 | As = 11.54 -STAS- [6 B 16.0mm] | AsL=
x/dMx= .50 | x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
[tf,cm]| M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1 |
[cm2]| Asapo[+]= 2.88 |
Asapo[+]= 3.85 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M [tf,cm] 0.- 223. 35.45 265.52 2 45. .0 8.1 8.6 6.3 12.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M [tf,cm] 0.- 223. 5.12 55.41 5 18.7 51.3 61.3 1.9 8.6 1.1 1.3 .23 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:

		1	25.290	25.260	1.75	.64	0	BC65	.00	.00	8089	0
0	0	0	0									
		2	8.017	7.987	.70	.11	1	BC59	.00	.00	8232	0
0	0	0	0									

Viga= 37 VFC14 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

 Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 27.6 tf* m | M.[+] Max= .3 tf* m - Abcis.= 202 | M.[-]
 = 3.9 tf* m | [tf,cm] | As = 12.39 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
 9.41 -SRAS- [8 B 12.5mm] | AsL= .00 ----- x/d = .07 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
 .00 ----- x/d = .05 | x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2039.3
 [cm2] | Asapo[+]= 2.61 |
 Asapo[+]= 3.48

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 223. 38.99 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 223. 1.39 55.41 5 18.7 51.3 61.3 .5 .0 .0 .0 .17 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
 Pilares:
 1 27.813 27.786 1.75 .64 0 BC66 .00 .00 8090 0
 0 0 0 0
 2 10.328 10.301 .70 .11 1 BC60 .00 .00 8233 0
 0 0 0 0

Viga= 38 VFC16 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

 Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 28.9 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
 = 3.8 tf* m | [tf,cm] | As = 12.96 -SRAS- [7 B 16.0mm] | AsL= .00 ----- | As =
 9.41 -SRAS- [8 B 12.5mm] | AsL= .00 ----- x/d = .07 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
 .00 ----- x/d = .05 | x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2039.3
 [cm2] | Asapo[+]= 2.61 |
 Asapo[+]= 3.48

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 223. 39.67 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 223. .07 55.41 5 18.7 51.3 61.3 .0 .0 .0 .0 .15 N

REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:								
0 0 0 1	28.294	28.269	1.75	.64	0	BC67	.00	.00 8093 0
0 0 0 2	9.850	9.826	.70	.11	1	BC61	.00	.00 8234 0

Viga= 39 VFC18 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 29.0 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
 = 3.9 tf* m
 [tf,cm]| As = 13.03 -SRAS- [7 B 16.0mm] | AsL= .00 ----- | As =
 10.87 -SRAS- [6 B 16.0mm] | AsL= .00 ----- x/d = .08 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
 .00 ----- x/d = .06 | x/dMx= .50 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.0 |
 x/dMx= .50 |
 [tf,cm]| M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1
 [cm2]| Asapo[+]= 2.61 |
 Asapo[+]= 3.48 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 223. 37.80 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 223. .55 55.41 5 18.7 51.3 61.3 .2 .0 .0 .0 .15 N

REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:								
0 0 0 1	26.966	26.950	1.75	.64	0	BC68	.00	.00 8094 0
0 0 0 2	8.461	8.446	.70	.11	1	BC62	.00	.00 8235 0

Viga= 40 VFC20 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1 /L= 2.25 /B= .70 /H= .80 /BCs= 1.15 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 23.7 tf* m | M.[+] Max= 2.6 tf* m - Abcis.= 206 | M.[-]
 = .0 tf* m
 [tf,cm]| As = 10.57 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
 1.40 -SRAS- [4 B 8.0mm] | AsL= .00 ----- x/d = .06 | As = 10.09 -STAS- [8 B 12.5mm] | AsL=
 .00 ----- x/d = .00 | x/dMx= .50 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.1 |
 x/dMx= .50 |
 [tf,cm]| M[-]Min = 2304.0 | M[+]Min = 1827.9 | M[-]
]Min = 1621.3
 [cm2]| Asapo[+]= 2.52 |
 Asapo[+]= 10.09 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 178. 35.84 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 178. .50 55.41 5 18.7 51.3 61.3 .2 .0 .0 .0 .14 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
 Pilares:
 1 25.563 25.555 1.75 .64 0 BC69 .00 .00 8095 0
 0 0 0 0
 2 2.649 2.641 .70 .11 1 BC63 .00 .00 8236 0
 0 0 0 0

Viga= 41 VFC10 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1 /L= 2.88 /B= .70 /H= .80 /BCs= 1.28 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 5.0 tf* m | M.[+] Max= 3.4 tf* m - Abcis.= 120 | M.[-]
 = 18.9 tf* m
 [tf,cm]| As = 9.12 -SRAS- [5 B 16.0mm] | AsL= .00 ----- | As =
 10.47 -SRAS- [6 B 16.0mm]
 | AsL= .00 ----- x/d = .05 | As = 10.56 -STAS- [6 B 16.0mm] | AsL=
 .00 ----- x/d = .06
 x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 1.9 |
 [tf,cm]| M[-]Min = 1920.7 | M[+]Min = 1869.4 | M[-]
]Min = 2345.6
 [cm2]| Asapo[+]= 3.52 |
 Asapo[+]= 2.64

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 240. 33.32 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 240. .29 55.41 5 18.7 51.3 61.3 .1 .0 .0 .0 .13 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
 Pilares:
 1 14.370 14.178 .70 .11 1 BC57 .00 .00 8227 0
 0 0 0 0
 2 23.803 23.612 2.20 .86 0 BC58 .00 .00 8230 0
 0 0 0 0

Viga= 42 VFC11 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1 /L= 2.68 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 4.6 tf* m | M.[+] Max= 3.4 tf* m - Abcis.= 111 | M.[-]
 = 14.6 tf* m
 [tf,cm]| As = 9.07 -SRAS- [8 B 12.5mm] | AsL= .00 ----- | As =
 10.25 -SRAS- [5 B 16.0mm]
 | AsL= .00 ----- x/d = .05 | As = 10.41 -STAS- [6 B 16.0mm] | AsL=
 .00 ----- x/d = .06
 x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
 [tf,cm]| M[-]Min = 1900.3 | M[+]Min = 1856.7 | M[-]
]Min = 2297.8
 [cm2]| Asapo[+]= 10.41 |
 Asapo[+]= 2.60

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	220.	29.80	265.52	2	45.	.0	8.1	8.1	6.3	15.0	4	.0	.0
T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	220.	.44	55.41	5	18.7	51.3	61.3	.2	.0	.0	.0	.12	N
REAC. APOIO - Pilares:	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn					
	1	13.940	13.822	.70	.11	1	BC63	.00	.00	8236	0			
	2	21.288	21.169	1.80	.66	0	BC64	.00	.00	8231	0			

Viga= 43 VFC9 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1 /L= 2.88 /B= .70 /H= .80 /BCs= 1.28 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 6.6 tf* m | M.[+] Max= 2.1 tf* m - Abcis.= 120 | M.[-]
 = 18.5 tf* m | As = 9.48 -SRAS- [5 B 16.0mm] | AsL= .00 ----- | As =
 [tf,cm] | AsL= .00 ----- x/d = .05 | As = 10.56 -STAS- [6 B 16.0mm] | AsL=
 11.10 -SRAS- [6 B 16.0mm] x/d = .06 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 1.9 |
 .00 ----- x/dMx= .50 | M.[+]Min = 1869.4 | M[-]
 x/dMx= .50 | M.[+]Min = 1869.4 | M[-]
 [tf,cm] | M.[+]Min = 1869.4 | M[-]
]Min = 2481.2 | M.[+]Min = 1869.4 | M[-]
 [cm2] | Asapo[+]= 3.52 | M.[+]Min = 1869.4 | M[-]
 Asapo[+]= 2.64 | M.[+]Min = 1869.4 | M[-]

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	240.	31.20	265.52	2	45.	.0	8.1	8.1	6.3	15.0	4	.0	.0
T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	240.	.21	55.41	5	18.7	51.3	61.3	.1	.0	.0	.0	.12	N
REAC. APOIO - Pilares:	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn					
	1	14.257	13.988	.70	.11	1	BC51	.00	.00	8222	0			
	2	22.289	22.020	2.20	.86	0	BC52	.00	.00	8229	0			

Viga= 44 VFC8 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1 /L= 2.93 /B= .70 /H= .80 /BCs= 1.29 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 5.3 tf* m | M.[+] Max= 2.7 tf* m - Abcis.= 122 | M.[-]
 = 16.6 tf* m | As = 9.50 -SRAS- [5 B 16.0mm] | AsL= .00 ----- | As =
 [tf,cm] | AsL= .00 ----- x/d = .05 | As = 10.60 -STAS- [6 B 16.0mm] | AsL=
 10.53 -SRAS- [6 B 16.0mm] x/d = .06 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 1.9 |
 .00 ----- x/dMx= .50 | M.[+]Min = 1872.5 | M[-]
 x/dMx= .50 | M.[+]Min = 1872.5 | M[-]
 [tf,cm] | M.[+]Min = 1872.5 | M[-]
]Min = 2357.5 | M.[+]Min = 1872.5 | M[-]

[cm2]| Asapo[+]= 3.53
Asapo[+]= 2.65

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	245.	28.00	265.52	2	45.	.0	8.1	8.1	6.3	15.0	4	.0	.0

T O R C A O- M E N S A G E M	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
[tf,cm]	0.-	245.	.15	55.41	5	18.7	51.3	61.3	.1	.0	.0	.0	.11	N

REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:								
1	12.750	12.532	.70	.11	1	BC45	.00	.00 8217 0
2	20.001	19.783	1.80	.66	0	BC46	.00	.00 8228 0

Viga= 45 PAC6 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 1.46 /B= .20 /H= 1.05 /BCs= .00 /BCi= .20 /TpS= 9 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

----- A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) -----
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = .0 tf* m | M.[+] Max= 5.5 tf* m - Abcis.= 12 | M.[-]
= 3.2 tf* m | As = .45 -STAS- [2 B 6.3mm] | AsL= .00 ----- | As =
3.15 -STAS- [4 B 10.0mm] | AsL= .00 ----- | AsL=
| AsL= .00 ----- x/d = .04 | As = 3.15 -SRAS- [4 B 10.0mm] | AsL=
.00 ----- x/d = .04 | Arm.Lat.= [2 X 7 B 6.3mm] - LN= 4.4 |
x/dMx= .50 | M[-]Min = 798.0 | M[+]Min = 798.0 | M[-]
[tf,cm]| Min = 798.0 |
[cm2]| Asapo[+]= 3.15 |
Asapo[+]= 3.15

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	83.	14.46	101.32	2	45.	.0	2.3	2.3	6.3	25.0	2	.0	1.5

T O R C A O- M E N S A G E M	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
[tf,cm]	0.-	83.	.04	5.82	5	8.1	8.1	93.1	.1	.0	.0	.0	.15	N

REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:								
1	3.902	.615	2.20	.79	0	BC32	.00	.00 8172 0
2	10.325	7.056	.70	.04	0	BC77	.00	.00 8173 0

Viga= 46 VFC13 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

----- A R M A D U R A S (F L E X A O E C I S A L H A M E N T O) -----
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 3.7 tf* m | M.[+] Max= .6 tf* m - Abcis.= 90 | M.[-]
= 22.5 tf* m | As = 10.52 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
11.98 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | AsL=
| AsL= .00 ----- x/d = .05 | As = 11.54 -STAS- [6 B 16.0mm] | AsL=
.00 ----- x/d = .06 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.0 |
x/dMx= .50

```

[tf,cm] | M[-]Min = 2039.3 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1
[cm2 ] | Asapo[+]= 3.85 |
Asapo[+]= 2.88

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 223. 33.09 265.52 2 45. .0 8.1 8.6 6.3 12.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 223. 4.98 55.41 5 18.7 51.3 61.3 1.8 8.6 1.1 1.3 .21 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 9.693 9.669 .70 .11 1 BC6 .00 .00 8194 0
0 0 0 0
2 23.638 23.614 1.75 .64 0 BC1 .00 .00 8009 0
0 0 0 0
=====
=====

Viga= 47 VFC15 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
-----
Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
) - - - - -
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 3.8 tf* m | M.[+] Max= 1.6 tf* m - Abcis.= 90 | M.[-]
= 23.6 tf* m
[tf,cm] | As = 9.08 -SRAS- [ 5 B 16.0mm] | AsL= .00 ----- | As =
10.87 -SRAS- [ 6 B 16.0mm]
| AsL= .00 ----- x/d = .05 | As = 10.43 -STAS- [ 6 B 16.0mm ] | AsL=
.00 ----- x/d = .06 x/dMx= .50 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 2.0 |
x/dMx= .50
|
[tf,cm] | M[-]Min = 1902.9 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1
[cm2 ] | Asapo[+]= 10.43 |
Asapo[+]= 2.61

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 223. 36.90 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 223. 1.33 55.41 5 18.7 51.3 61.3 .5 .0 .0 .0 .16 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 11.790 11.763 .70 .11 1 BC7 .00 .00 8195 0
0 0 0 0
2 26.357 26.330 1.75 .64 0 BC2 .00 .00 8011 0
0 0 0 0
=====
=====

Viga= 48 VFC17 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
-----
Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
) - - - - -
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 3.8 tf* m | M.[+] Max= 1.1 tf* m - Abcis.= 90 | M.[-]
= 25.2 tf* m
[tf,cm] | As = 9.08 -SRAS- [ 5 B 16.0mm] | AsL= .00 ----- | As =
11.26 -SRAS- [ 6 B 16.0mm]

```

```

    | AsL= .00 ----- x/d = .05 | As = 10.43 -STAS- [ 6 B 16.0mm ] | AsL=
.00 ----- x/d = .06 | x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 1902.9 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1 |
[cm2 ] | Asapo[+]= 10.43 |
Asapo[+]= 2.61 |

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M	0.-	223.	37.71	265.52	2	45.	.0	8.1	8.1	6.3	15.0	4	.0	.0
[tf,cm]														

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M	0.-	223.	.12	55.41	5	18.7	51.3	61.3	.0	.0	.0	.0	.14	N
[tf,cm]														

REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:								
1	11.166	11.147	.70	.11	1	BC8	.00	.00 8197 0
2	26.937	26.918	1.75	.64	0	BC3	.00	.00 8012 0

Viga= 49 VFC19 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 3.8 tf* m | M.[+] Max= 1.5 tf* m - Abcis.= 90 | M.[-]
= 23.9 tf* m |
[tf,cm] | As = 9.08 -SRAS- [ 5 B 16.0mm] | AsL= .00 ----- | As =
10.87 -SRAS- [ 6 B 16.0mm] |
| AsL= .00 ----- x/d = .05 | As = 10.43 -STAS- [ 6 B 16.0mm ] | AsL=
.00 ----- x/d = .06 | x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 1902.9 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1 |
[cm2 ] | Asapo[+]= 10.43 |
Asapo[+]= 2.61 |

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M	0.-	223.	37.17	265.52	2	45.	.0	8.1	8.1	6.3	15.0	4	.0	.0
[tf,cm]														

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M	0.-	223.	1.05	55.41	5	18.7	51.3	61.3	.4	.0	.0	.0	.16	N
[tf,cm]														

REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:								
1	11.657	11.649	.70	.11	1	BC9	.00	.00 8190 0
2	26.552	26.544	1.75	.64	0	BC4	.00	.00 8013 0

Viga= 50 VFC22 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1 /L= 1.43 /B= .70 /H= .80 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 3.8 tf* m | M.[+] Max= 1.5 tf* m - Abcis.= 90 | M.[-]
= 23.9 tf* m |
[tf,cm] | As = 9.08 -SRAS- [ 5 B 16.0mm] | AsL= .00 ----- | As =
10.87 -SRAS- [ 6 B 16.0mm] |
| AsL= .00 ----- x/d = .05 | As = 10.43 -STAS- [ 6 B 16.0mm ] | AsL=
.00 ----- x/d = .06 | x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 1902.9 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1 |
[cm2 ] | Asapo[+]= 10.43 |
Asapo[+]= 2.61 |

```

```

      | M.[-] =      4.8 tf* m      | M.[+] Max=      1.6 tf* m - Abcis.= 103 | M.[-]
=      .0 tf* m
[tf,cm]| As =      9.17 -SRAS- [ 8 B 12.5mm] | AsL=      .00 ----- | As =
9.20 -SRAS- [ 8 B 12.5mm]
      | AsL=      .00 ----- x/d = .05 | As =      9.20 -STAS- [ 8 B 12.5mm ] | AsL=
.00 ----- x/d = .05
      | x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.6 |
x/dMx= .50
      |
[tf,cm]| M[-]Min = 1942.7 | M[+]Min = 1733.3 | M[-]
]Min = 1954.9
[cm2 ]| Asapo[+]= 3.07 |
Asapo[+]= 8.93

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 95. 16.49 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 95. .74 55.41 5 18.7 51.3 61.3 .3 .0 .0 .0 .08 N

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 2 /L= .91 /B= .70 /H= .80 /BCs= .81 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
      | M.[-] =      .0 tf* m      | M.[+] Max=      4.8 tf* m - Abcis.= 0 | M.[-]
=      5.4 tf* m
[tf,cm]| As =      8.81 -SRAS- [ 7 B 12.5mm] | AsL=      .00 ----- | As =
8.81 -SRAS- [ 7 B 12.5mm]
      | AsL=      .00 ----- x/d = .05 | As =      8.81 -STAS- [ 7 B 12.5mm ] | AsL=
.00 ----- x/d = .05
      | x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.9 |
x/dMx= .50
      |
[tf,cm]| M[-]Min = 1792.3 | M[+]Min = 1681.8 | M[-]
]Min = 1792.3
[cm2 ]| Asapo[+]= 8.54 |
Asapo[+]= 7.98

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 43. 21.69 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 43. .60 55.41 5 18.7 51.3 61.3 .2 .0 .0 .0 .09 N

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 3 /L= 1.93 /B= .70 /H= .80 /BCs= .93 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
      | M.[-] =      .0 tf* m      | M.[+] Max=      3.4 tf* m - Abcis.= 0 | M.[-]
=      17.0 tf* m
[tf,cm]| As =      9.27 -SRAS- [ 8 B 12.5mm] | AsL=      .00 ----- | As =
9.27 -SRAS- [ 5 B 16.0mm]
      | AsL=      .00 ----- x/d = .05 | As =      9.27 -STAS- [ 8 B 12.5mm ] | AsL=
.00 ----- x/d = .05
      | x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.5 |
x/dMx= .50
      |
[tf,cm]| M[-]Min = 1980.7 | M[+]Min = 1741.0 | M[-]
]Min = 1980.7
[cm2 ]| Asapo[+]= 8.99 |
Asapo[+]= 7.98

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 145. 29.22 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 145. .32 55.41 5 18.7 51.3 61.3 .1 .0 .0 .0 .12 N

```

----- G E O M E T R I A E C A R G A S -----
Vao= 4 /L= 3.50 /B= .70 /H= .80 /BCs= 1.23 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 15.9 tf* m | M.[+] Max= 12.7 tf* m - Abcis.= 180 | M.[-]
= 23.5 tf* m | AsL= .00 ----- | As =
[tf,cm]| As = 11.88 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
11.62 -SRAS- [6 B 16.0mm] | AsL= .00 ----- x/d = .06 | As = 11.48 -STAS- [6 B 16.0mm] | AsL=
.00 ----- x/d = .06 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 2410.6 | M[+]Min = 1853.3 | M[-]
]Min = 2174.1 |
[cm2]| Asapo[+]= 9.09 |
Asapo[+]= 2.87 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 110. 50.01 265.52 2 45. 1.9 8.1 10.5 6.3 10.0 4 .0 .0
110.- 303. 45.95 265.52 2 45. .3 8.1 8.1 6.3 15.0 4 .0 2.4

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 110. 5.88 55.41 5 18.7 51.3 61.3 2.1 8.6 1.1 1.3 .29 N
110.- 303. 2.57 55.41 5 18.7 51.3 61.3 .9 .0 .0 .0 .22 N

REAC. APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:									
0	0	1	11.760	11.180	1.85	.69	0 BC31	.00	.00 8145 0
0	0	2	-1.430	-2.819	1.75	.64	0 BC21	.00	.00 8033 0
0	0	3	15.143	14.192	.70	.11	1 BC15	.00	.00 8202 0
0	0	4	55.744	55.623	.70	.11	1 BC10	.00	.00 8196 0
0	0	5	32.819	32.775	1.75	.64	0 BC5	.00	.00 8091 0

Viga= 51 VCA1 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.52 /B= .70 /H= .70 /BCs= 1.08 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .35 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 6.7 tf* m | M.[+] Max= 6.6 tf* m - Abcis.= 133 | M.[-]
= 8.1 tf* m | AsL= .00 ----- | As =
[tf,cm]| As = 8.02 -SRAS- [4 B 16.0mm] | AsL= .00 ----- | As =
8.77 -SRAS- [7 B 12.5mm] | AsL= .00 ----- x/d = .05 | As = 8.77 -STAS- [7 B 12.5mm] | AsL=
.00 ----- x/d = .06 | Arm.Lat.=[2 X 4 B 12.5mm] - LN= 1.9 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 1461.3 | M[+]Min = 1377.5 | M[-]
]Min = 1697.1 |
[cm2]| Asapo[+]= 2.92 |
Asapo[+]= 6.98 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 210. 33.75 229.88 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 210. 1.30 45.48 5 17.5 52.5 52.5 .5 .0 .0 .0 .18 N

----- G E O M E T R I A E C A R G A S -----

 Vao= 2 /L= 2.52 /B= .70 /H= .70 /BCs= 1.00 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .35 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 9.4 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 140 | M.[-]
 = 9.2 tf* m
 [tf,cm] | As = 9.87 -SRAS- [8 B 12.5mm] | AsL= .00 ----- | As =
 9.87 -SRAS- [8 B 12.5mm]
 | AsL= .00 ----- x/d = .06 | As = 9.87 -STAS- [8 B 12.5mm] | AsL=
 .00 ----- x/d = .06
 | x/dMx= .50 | Arm.Lat.= [2 X 4 B 12.5mm] - LN= 2.1 |
 [tf,cm] | M[-]Min = 1609.8 | M[+]Min = 1355.0 | M[-]
]Min = 1609.8
 [cm2] | Asapo[+]= 8.37 |
 Asapo[+]= 8.37

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 210. 21.85 229.88 2 45. .0 8.1 10.5 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 210. 6.31 45.48 5 17.5 52.5 52.5 2.6 8.1 1.4 1.4 .23 N

----- G E O M E T R I A E C A R G A S -----

 Vao= 3 /L= 2.52 /B= .70 /H= .70 /BCs= 1.00 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .35 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 8.1 tf* m | M.[+] Max= 7.6 tf* m - Abcis.= 177 | M.[-]
 = 13.7 tf* m
 [tf,cm] | As = 9.87 -SRAS- [8 B 12.5mm] | AsL= .00 ----- | As =
 10.15 -SRAS- [9 B 12.5mm]
 | AsL= .00 ----- x/d = .06 | As = 9.87 -STAS- [8 B 12.5mm] | AsL=
 .00 ----- x/d = .06
 | x/dMx= .50 | Arm.Lat.= [2 X 4 B 12.5mm] - LN= 2.1 |
 [tf,cm] | M[-]Min = 1609.8 | M[+]Min = 1355.0 | M[-]
]Min = 1609.8
 [cm2] | Asapo[+]= 8.37 |
 Asapo[+]= 9.87

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 210. 26.73 229.88 2 45. .0 8.1 10.5 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 210. 6.31 45.48 5 17.5 52.5 52.5 2.6 8.1 1.4 1.4 .26 N

----- G E O M E T R I A E C A R G A S -----

 Vao= 4B /L= .94 /B= .70 /H= .70 /BCs= 1.08 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .35 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO | M[-]= 13.72 tf* m | As = 8.77 -SRAS- [7 B 12.5mm]
 BAL.DIR | x/d = .06 | AsL= .00 -Arm.Lat.= [2 X 4 B 12.5mm]
 .6
 [tf,cm] | M[-]Min= 1697.1 - x/dMx = 1.00 | %
 Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 46. 6.18 229.88 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M

[tf,cm]	0.-	46.	2.42	45.48	5	17.5	52.5	52.5	1.0	8.1	1.1	1.1	.08	N
REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn						
Pilares:														
1	17.856	17.519	.70	.14	1	BA32	.00	.00	8123	0				
0 0 0	2	39.043	38.762	.70	.14	0	BA33	.00	.00	8001	0			
0 0 0	3	34.048	33.980	.70	.14	0	BA34	.00	.00	8002	0			
0 0 0	4	16.156	16.139	.70	.14	0	BA35	.00	.00	8129	0			
0 0 0														

Viga= 52 VCB1 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1B /L= .95 /B= .70 /H= .70 /BCs= 1.08 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .35 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO | M[-]= 13.72 tf* m | As = 8.78 -SRAS- [7 B 12.5mm]
 BAL.ESQ | x/d = .06 | ASL= .00 -Arm.Lat.= [2 X 4 B 12.5mm]
 .6
 [tf,cm] | M[-]Min= 1701.6 - x/dMx = 1.00 | | %
 Baric.Armad.= 1

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	47.	6.37	229.88	2	45.	.0	8.1	8.1	6.3	15.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	47.	2.42	45.48	5	17.5	52.5	52.5	1.0	8.1	1.1	1.1	.08	N

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 2.42 /B= .70 /H= .70 /BCs= .99 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .35 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 13.7 tf* m | M.[+] Max= 6.3 tf* m - Abcis.= 85 | M.[-]
 = 7.9 tf* m
 [tf,cm] | As = 10.17 -SRAS- [9 B 12.5mm] | ASL= .00 ----- | As =
 9.82 -SRAS- [8 B 12.5mm]
 | ASL= .00 ----- x/d = .06 | As = 9.82 -STAS- [8 B 12.5mm] | ASL=
 .00 ----- x/d = .05 | x/dMx= .50 | Arm.Lat.= [2 X 4 B 12.5mm] - LN= 2.1 |
 x/dMx= .50
 [tf,cm] | M[-]Min = 1595.8 | M.[+]Min = 1351.3 | M[-]
]Min = 1595.8
 [cm2] | Asapo[+]= 9.82 |
 Asapo[+]= 8.37

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	200.	24.94	229.88	2	45.	.0	8.1	10.5	6.3	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	200.	6.31	45.48	5	17.5	52.5	52.5	2.6	8.1	1.4	1.4	.25	N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 2.42 /B= .70 /H= .70 /BCs= .99 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .35 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 8.7 tf* m | M.[+] Max= 2.3 tf* m - Abcis.= 157 | M.[-]
 = 5.6 tf* m

```

[tf,cm]| As = 9.82 -SRAS- [ 8 B 12.5mm] | AsL= .00 ----- | As =
9.82 -SRAS- [ 8 B 12.5mm] | AsL= .00 ----- x/d = .05 | As = 9.82 -STAS- [ 8 B 12.5mm ] | AsL=
.00 ----- x/d = .05 | x/dMx= .50 | Arm.Lat.=[2 X 4 B 12.5mm] - LN= 2.1 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 1595.8 | M[+]Min = 1351.3 | M[-]
]Min = 1595.8 |
[cm2 ]| Asapo[+]= 8.37 |
Asapo[+]= 8.37 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 21.89 229.88 2 45. .0 8.1 10.5 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 200. 6.31 45.48 5 17.5 52.5 52.5 2.6 8.1 1.4 1.4 .23 N

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 4 /L= 2.42 /B= .70 /H= .70 /BCs= .99 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .35 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R

E I T A | M.[-] = 5.4 tf* m | M.[+] Max= 3.2 tf* m - Abcis.= 135 | M.[-]

= 6.9 tf* m |

[tf,cm]| As = 9.82 -SRAS- [8 B 12.5mm] | AsL= .00 ----- | As =

9.82 -SRAS- [8 B 12.5mm] | AsL= .00 ----- x/d = .05 | As = 9.82 -STAS- [8 B 12.5mm] | AsL=

.00 ----- x/d = .05 | x/dMx= .50 | Arm.Lat.=[2 X 4 B 12.5mm] - LN= 2.1 |

x/dMx= .50 |

[tf,cm]| M[-]Min = 1595.8 | M[+]Min = 1351.3 | M[-]

]Min = 1595.8 |

[cm2]| Asapo[+]= 8.37 |

Asapo[+]= 8.37 |

----- G E O M E T R I A E C A R G A S -----

```

Vao= 5 /L= 2.42 /B= .70 /H= .70 /BCs= .99 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .35 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R

E I T A | M.[-] = 6.8 tf* m | M.[+] Max= 3.4 tf* m - Abcis.= 135 | M.[-]

= 5.2 tf* m |

[tf,cm]| As = 9.82 -SRAS- [8 B 12.5mm] | AsL= .00 ----- | As =

9.82 -SRAS- [8 B 12.5mm] | AsL= .00 ----- x/d = .05 | As = 9.82 -STAS- [8 B 12.5mm] | AsL=

.00 ----- x/d = .05 | x/dMx= .50 | Arm.Lat.=[2 X 4 B 12.5mm] - LN= 2.1 |

x/dMx= .50 |

[tf,cm]| M[-]Min = 1595.8 | M[+]Min = 1351.3 | M[-]

]Min = 1595.8 |

[cm2]| Asapo[+]= 8.37 |

Asapo[+]= 8.37 |

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 21.06 229.88 2 45. .0 8.1 10.5 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 200. 6.31 45.48 5 17.5 52.5 52.5 2.6 8.1 1.4 1.4 .23 N

```

----- G E O M E T R I A E C A R G A S -----

 Vao= 6 /L= 2.22 /B= .70 /H= .70 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .35 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 5.7 tf* m | M.[+] Max= 1.9 tf* m - Abcis.= 125 | M.[-]
 = 5.5 tf* m | | | |
 [tf,cm] | As = 9.54 -SRAS- [8 B 12.5mm] | AsL= .00 ----- | As =
 9.54 -SRAS- [8 B 12.5mm] | | | |
 | AsL= .00 ----- x/d = .05 | As = 9.54 -STAS- [8 B 12.5mm] | AsL=
 .00 ----- x/d = .05 | | | |
 | x/dMx= .50 | Arm.Lat.= [2 X 4 B 12.5mm] - LN= 2.2 | |
 [tf,cm] | M[-]Min = 1567.6 | M[+]Min = 1343.6 | M[-]
]Min = 1567.6 | | | |
 [cm2] | Asapo[+]= 8.17 | | | |
 Asapo[+]= 8.17 | | | |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 180. 17.36 229.88 2 45. .0 8.1 9.1 6.3 12.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 180. 5.44 45.48 5 17.5 52.5 52.5 2.3 8.1 1.2 1.2 .20 N

----- G E O M E T R I A E C A R G A S -----

 Vao= 7 /L= 2.22 /B= .70 /H= .70 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .35 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 6.5 tf* m | M.[+] Max= 4.3 tf* m - Abcis.= 157 | M.[-]
 = 13.7 tf* m | | | |
 [tf,cm] | As = 9.54 -SRAS- [8 B 12.5mm] | AsL= .00 ----- | As =
 9.97 -SRAS- [8 B 12.5mm] | | | |
 | AsL= .00 ----- x/d = .05 | As = 9.54 -STAS- [8 B 12.5mm] | AsL=
 .00 ----- x/d = .06 | | | |
 | x/dMx= .50 | Arm.Lat.= [2 X 4 B 12.5mm] - LN= 2.2 | |
 [tf,cm] | M[-]Min = 1567.6 | M[+]Min = 1343.6 | M[-]
]Min = 1567.6 | | | |
 [cm2] | Asapo[+]= 8.17 | | | |
 Asapo[+]= 9.54 | | | |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 180. 20.75 229.88 2 45. .0 8.1 9.1 6.3 12.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 180. 5.44 45.48 5 17.5 52.5 52.5 2.3 8.1 1.2 1.2 .21 N

----- G E O M E T R I A E C A R G A S -----

 Vao= 8B /L= .95 /B= .70 /H= .70 /BCs= 1.08 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .35 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO | M[-]= 13.72 tf* m | As = 8.78 -SRAS- [7 B 12.5mm]
 BAL.DIR | x/d = .06 | AsL= .00 -Arm.Lat.= [2 X 4 B 12.5mm]
 .6 | | | |
 [tf,cm] | M[-]Min= 1701.6 - x/dMx = 1.00 | | %
 Baric.Armad.= 1 | | | |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 47. 6.31 229.88 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M

[tf,cm]	0.-	47.	2.42	45.48	5	17.5	52.5	52.5	1.0	8.1	1.1	1.1	.08	N
REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn						
Pilares:														
1	15.318	15.284	.70	.14	0	BB29	.00	.00	8035	0				
0 0 0	2	32.961	32.909	.70	.14	0	BB30	.00	.00	8036	0			
0 0 0	3	26.440	26.411	.70	.14	0	BB31	.00	.00	8037	0			
0 0 0	4	29.582	29.560	.70	.14	0	BB32	.00	.00	8038	0			
0 0 0	5	25.695	25.664	.70	.14	0	BB33	.00	.00	8039	0			
0 0 0	6	26.702	26.668	.70	.14	0	BB34	.00	.00	8040	0			
0 0 0	7	13.879	13.865	.70	.14	0	BB35	.00	.00	8041	0			
0 0 0	0	0												

Viga= 53 VCC1 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1B /L= .94 /B= .70 /H= .70 /BCs= 1.08 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .35 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO | M[-]= 13.72 tf* m | As = 8.77 -SRAS- [7 B 12.5mm]
 BAL.ESQ | x/d = .06 | AsL= .00 -Arm.Lat.= [2 X 4 B 12.5mm]
 .6
 [tf,cm] | M[-]Min= 1697.1 - x/dMx =1.00 | %
 Baric.Armad.= 1

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	46.	6.24	229.88	2	45.	.0	8.1	8.1	6.3	15.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	46.	2.42	45.48	5	17.5	52.5	52.5	1.0	8.1	1.1	1.1	.08	N

----- G E O M E T R I A E C A R G A S -----
 Vao= 2 /L= 2.52 /B= .70 /H= .70 /BCs= 1.00 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .35 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 13.7 tf* m | M.[+] Max= 9.4 tf* m - Abcis.= 88 | M.[-]
 = 14.7 tf* m | M.[+] = 9.4 tf* m - Abcis.= 88 | M.[+]
 [tf,cm] | As = 9.83 -SRAS- [8 B 12.5mm] | AsL= .00 ----- | As =
 9.55 -SRAS- [8 B 12.5mm] | AsL= .00 ----- | AsL=
 .00 ----- x/d = .06 | As = 9.55 -STAS- [8 B 12.5mm] | AsL=
 .00 ----- x/d = .06 | Arm.Lat.= [2 X 4 B 12.5mm] - LN= 2.1 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 1609.8 | M[+]Min = 1355.0 | M[-]
]Min = 1609.8 |
 [cm2] | Asapo[+]= 9.55 |
 Asapo[+]= 8.05 |

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	105.	14.08	229.88	2	45.	.0	8.1	8.1	6.3	15.0	4	.0	.0
	105.-	210.	49.16	229.88	2	45.	4.7	8.1	9.3	6.3	12.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	105.	1.57	45.48	5	17.5	52.5	52.5	.7	.0	.0	.0	.10	N
	105.-	210.	2.71	45.48	5	17.5	52.5	52.5	1.1	8.1	1.1	1.1	.27	N

----- G E O M E T R I A E C A R G A S -----
 Vao= 3 /L= 2.52 /B= .70 /H= .70 /BCs= 1.00 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .35 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 10.2 tf* m | M.[+] Max= 5.5 tf* m - Abcis.= 186 | M.[-]
= 13.3 tf* m | | |
[tf,cm]| As = 8.48 -SRAS- [ 7 B 12.5mm] | AsL= .00 ----- | As =
8.48 -SRAS- [ 7 B 12.5mm] | | |
| AsL= .00 ----- x/d = .06 | As = 8.48 -STAS- [ 7 B 12.5mm ] | AsL=
.00 ----- x/d = .06 | | |
| x/dMx= .50 | Arm.Lat.=[2 X 4 B 12.5mm] - LN= 2.1 |
| | |
[tf,cm]| M[-]Min = 1609.8 | M[+]Min = 1355.0 | M[-]
]Min = 1609.8 | | |
[cm2 ]| Asapo[+]= 6.98 | | |
Asapo[+]= 6.98 | | |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 210. 36.72 229.88 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 210. 1.55 45.48 5 17.5 52.5 52.5 .6 .0 .0 .0 .19 N

```

----- G E O M E T R I A E C A R G A S -----

Vao= 4 /L= 2.52 /B= .70 /H= .70 /BCs= 1.00 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .35 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 9.5 tf* m | M.[+] Max= 13.0 tf* m - Abcis.= 163 | M.[-]
= 18.3 tf* m | | |
[tf,cm]| As = 8.48 -SRAS- [ 7 B 12.5mm] | AsL= .00 ----- | As =
9.47 -SRAS- [ 8 B 12.5mm] | | |
| AsL= .00 ----- x/d = .06 | As = 8.48 -STAS- [ 7 B 12.5mm ] | AsL=
.00 ----- x/d = .06 | | |
| x/dMx= .50 | Arm.Lat.=[2 X 4 B 12.5mm] - LN= 2.1 |
| | |
[tf,cm]| M[-]Min = 1609.8 | M[+]Min = 1355.0 | M[-]
]Min = 1609.8 | | |
[cm2 ]| Asapo[+]= 6.98 | | |
Asapo[+]= 6.98 | | |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 210. 47.75 229.88 2 45. 4.1 8.1 8.1 6.3 15.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 210. 1.43 45.48 5 17.5 52.5 52.5 .6 .0 .0 .0 .23 N

```

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 2.52 /B= .70 /H= .70 /BCs= 1.08 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .35 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 14.1 tf* m | M.[+] Max= 9.3 tf* m - Abcis.= 199 | M.[-]
= 6.3 tf* m | | |
[tf,cm]| As = 8.77 -SRAS- [ 7 B 12.5mm] | AsL= .00 ----- | As =
8.02 -SRAS- [ 4 B 16.0mm] | | |
| AsL= .00 ----- x/d = .06 | As = 8.77 -STAS- [ 7 B 12.5mm ] | AsL=
.00 ----- x/d = .05 | | |
| x/dMx= .50 | Arm.Lat.=[2 X 4 B 12.5mm] - LN= 1.9 |
| | |
[tf,cm]| M[-]Min = 1697.1 | M[+]Min = 1377.5 | M[-]
]Min = 1461.3 | | |
[cm2 ]| Asapo[+]= 6.98 | | |
Asapo[+]= 8.77 | | |

```

CISALHAMENTO- M E N S A G E M														
[tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	210.	30.44	229.88	2	45.	.0	8.1	8.1	6.3	15.0	4	.0	.0
T O R C A O- M E N S A G E M														
[tf,cm]	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	210.	1.07	45.48	5	17.5	52.5	52.5	.4	.0	.0	.0	.16	N
REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn														
Pilares:														
	1	14.497	13.860	.70	.14	0	BC27		.00	.00	8127		0	
0	0	0	0											
	2	48.445	47.988	.70	.14	0	BC28		.00	.00	8136		0	
0	0	0	0											
	3	44.469	40.787	.70	.14	0	BC29		.00	.00	8137		0	
0	0	0	0											
	4	55.035	46.387	.70	.14	0	BC30		.00	.00	8144		0	
0	0	0	0											
	5	18.928	13.949	.70	.14	0	BC31		.00	.00	8145		0	
0	0	0	0											
=====														
=====														
Viga= 54 VFFB4 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao														
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM														
----- G E O M E T R I A E C A R G A S -----														

Vao= 1B /L= 1.09 /B= .70 /H= .25 /BCs= 1.14 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00														
FSp.Ex= .13 /FLt.Ex= .35 [M]														
-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----														
- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)														
FLEXAO M[-]= 1.75 tf* m As = 4.44 -SRAS- [6 B 10.0mm]														
BAL.ESQ x/d = .10 AsL= .00 -														
.7														
[tf,cm] M[-]Min= 257.0 - x/dMx =1.00 %														
Baric.Armad.= 1														
CISALHAMENTO- M E N S A G E M														
[tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	47.	5.84	69.50	2	45.	.0	8.1	8.1	6.3	10.0	4	.0	.0
----- G E O M E T R I A E C A R G A S -----														

Vao= 2 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00														
FSp.Ex= .13 /FLt.Ex= .35 [M]														
-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----														
- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)														
FLEXAO- E S Q U E R D A M E I O D O V A O D I R														
E I T A														
M.[-] = 1.8 tf* m M.[+] Max= 4.1 tf* m - Abcis.= 80 M.[-]														
= 6.0 tf* m														
[tf,cm] As = 4.44 -SRAS- [6 B 10.0mm] AsL= .00 ----- As =														
11.33 -SRAS- [6 B 16.0mm] AsL= .00 ----- As =														
AsL= .00 ----- x/d = .10 As = 7.16 -STAS- [6 B 12.5mm] AsL=														
.00 ----- x/d = .25														
x/dMx= .50														
x/dMx= .50														
[tf,cm] M[-]Min = 216.7 M.[+]Min = 216.7 M[-]														
]Min = 216.7														
[cm2] Asapo[+]= 3.66														
Asapo[+]= 2.49														
CISALHAMENTO- M E N S A G E M														
[tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	100.	14.01	69.50	2	45.	3.4	8.1	8.1	6.3	10.0	4	.0	.0
	100.-	200.	21.71	69.50	2	45.	15.6	8.1	15.6	8.0	10.0	4	.0	.0
T O R C A O- M E N S A G E M														
[tf,cm]	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	100.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.20	N
	100.-	200.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.31	N
----- G E O M E T R I A E C A R G A S -----														

Vao= 3 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00														
FSp.Ex= .13 /FLt.Ex= .35 [M]														
-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----														

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M. [-] = 6.3 tf* m | M. [+] Max= 1.8 tf* m - Abcis.= 135 | M. [-]
 = 4.1 tf* m | | |
 [tf,cm] | As = 11.86 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
 7.40 -SRAS- [6 B 12.5mm] | | |
 | AsL= .00 ----- x/d = .26 | As = 3.68 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .16 | | |
 | x/dMx= .50 | | |
 [tf,cm] | M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7 | | |
 [cm2] | Asapo[+]= 2.49 | | |
 Asapo[+]= 2.49 | | |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 200. 19.36 69.50 2 45. 11.8 8.1 11.8 6.3 10.0 4 .0 .0

----- G E O M E T R I A E C A R G A S -----

Vao= 4 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M. [-] = 4.1 tf* m | M. [+] Max= 2.4 tf* m - Abcis.= 135 | M. [-]
 = 5.2 tf* m | | |
 [tf,cm] | As = 7.28 -SRAS- [6 B 12.5mm] | AsL= .00 ----- | As =
 9.50 -SRAS- [8 B 12.5mm] | | |
 | AsL= .00 ----- x/d = .16 | As = 4.08 -STAS- [6 B 10.0mm] | AsL=
 .00 ----- x/d = .21 | | |
 | x/dMx= .50 | | |
 [tf,cm] | M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7 | | |
 [cm2] | Asapo[+]= 2.49 | | |
 Asapo[+]= 2.49 | | |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 200. 18.68 69.50 2 45. 10.8 8.1 10.8 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 200. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .27 N

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M. [-] = 5.2 tf* m | M. [+] Max= 2.6 tf* m - Abcis.= 135 | M. [-]
 = 3.6 tf* m | | |
 [tf,cm] | As = 9.45 -SRAS- [8 B 12.5mm] | AsL= .00 ----- | As =
 6.38 -SRAS- [6 B 12.5mm] | | |
 | AsL= .00 ----- x/d = .21 | As = 4.45 -STAS- [6 B 10.0mm] | AsL=
 .00 ----- x/d = .14 | | |
 | x/dMx= .50 | | |
 [tf,cm] | M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7 | | |
 [cm2] | Asapo[+]= 2.49 | | |
 Asapo[+]= 2.49 | | |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 200. 18.89 69.50 2 45. 11.1 8.1 11.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 200. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .27 N

----- G E O M E T R I A E C A R G A S -----
 Vao= 6 /L= 1.43 /B= .70 /H= .25 /BCs= .87 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 3.9 tf* m | M.[+] Max= .8 tf* m - Abcis.= 125 | M.[-]
 = .8 tf* m | As = 7.04 -SRAS- [6 B 12.5mm] | AsL= .00 ----- | As =
 3.39 -SRAS- [4 B 12.5mm] | AsL= .00 ----- x/d = .16 | As = 3.35 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .08 | x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 197.0 | M[+]Min = 197.0 | M[-]
]Min = 197.0 |
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 127. 14.35 69.50 2 45. 3.9 8.1 8.1 6.3 10.0 4 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 127. .02 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .21 N

----- G E O M E T R I A E C A R G A S -----
 Vao= 7 /L= 1.43 /B= .70 /H= .25 /BCs= .87 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 2.8 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 166 | M.[-]
 = 1.8 tf* m | As = 4.80 -SRAS- [4 B 12.5mm] | AsL= .00 ----- | As =
 4.44 -SRAS- [6 B 10.0mm] | AsL= .00 ----- x/d = .11 | As = 3.35 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .10 | x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 197.0 | M[+]Min = 197.0 | M[-]
]Min = 197.0 |
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 3.33 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 128. 13.11 69.50 2 45. 2.0 8.1 8.1 6.3 10.0 4 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 128. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .19 N

----- G E O M E T R I A E C A R G A S -----
 Vao= 8B /L= 1.09 /B= .70 /H= .25 /BCs= 1.14 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO | M[-]= 1.75 tf* m | As = 4.44 -SRAS- [6 B 10.0mm]
 BAL.DIR | x/d = .10 | AsL= .00 -
 .7 |
 [tf,cm] | M[-]Min= 257.0 - x/dMx = 1.00 | %
 Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 47. 5.77 69.50 2 45. .0 8.1 8.1 6.3 10.0 4 .0 .0

REAC.	AP010	- No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn		
Pilares:												
0	0	1	14.162	14.146	.70	.28	1	BB22	.00	.00	8028	0
0	0	2	28.902	28.877	.70	.28	1	BB23	.00	.00	8029	0
0	0	3	23.772	23.755	.70	.28	1	BB24	.00	.00	8030	0
0	0	4	26.443	26.430	.70	.28	1	BB25	.00	.00	8031	0
0	0	5	21.938	21.915	.70	.28	1	BB26	.00	.00	8032	0
0	0	6	14.893	14.869	1.75	.80	0	BB27	.00	.00	8026	0
0	0	7	10.448	10.440	.70	.28	1	BB28	.00	.00	8034	0

Viga= 55 VFFB5 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1B /L= 1.09 /B= .70 /H= .25 /BCs= 1.14 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO | M[-]= 1.75 tf* m | As = 4.44 -SRAS- [6 B 10.0mm]
BAL.ESQ | x/d = .10 | ASL= .00 -
.7
[tf,cm] | M[-]Min= 257.0 - x/dMx = 1.00 | %
Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 47. 5.92 69.50 2 45. .0 8.1 8.1 6.3 10.0 4 .0 .0

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 1.8 tf* m | M.[+] Max= 4.1 tf* m - Abcis.= 80 | M.[-]
6.0 tf* m
[tf,cm] | As = 4.44 -SRAS- [6 B 10.0mm] | ASL= .00 ----- | As =
11.20 -SRAS- [6 B 16.0mm]
| ASL= .00 ----- x/d = .10 | As = 7.11 -STAS- [6 B 12.5mm] | ASL=
.00 ----- x/d = .25 x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7
[cm2] | Asapo[+]= 3.66 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 100. 13.90 69.50 2 45. 3.2 8.1 8.1 6.3 10.0 4 .0 .0
100.- 200. 21.52 69.50 2 45. 15.3 8.1 15.3 8.0 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 100. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .20 N
100.- 200. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .31 N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A

```

      | M.[-] =      6.2 tf* m      | M.[+] Max=      1.8 tf* m - Abcis.= 135 | M.[-]
=      4.1 tf* m
[tf,cm]| As = 11.77 -SRAS- [ 6 B 16.0mm] | AsL=      .00 ----- | As =
7.33 -SRAS- [ 6 B 12.5mm] | AsL=      .00 ----- x/d = .26 | As = 3.68 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .16 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7 |
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 19.19 69.50 2 45. 11.6 8.1 11.6 6.3 10.0 4 .0 .0

```

```

----- G E O M E T R I A E C A R G A S -----

```

```

Vao= 4 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
      | M.[-] =      4.0 tf* m      | M.[+] Max=      2.4 tf* m - Abcis.= 135 | M.[-]
=      5.2 tf* m
[tf,cm]| As = 7.20 -SRAS- [ 6 B 12.5mm] | AsL=      .00 ----- | As =
9.42 -SRAS- [ 8 B 12.5mm] | AsL=      .00 ----- x/d = .16 | As = 4.05 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .21 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7 |
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 18.54 69.50 2 45. 10.6 8.1 10.6 6.3 10.0 4 .0 .0

```

```

----- G E O M E T R I A E C A R G A S -----

```

```

Vao= 5 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
      | M.[-] =      5.1 tf* m      | M.[+] Max=      2.6 tf* m - Abcis.= 135 | M.[-]
=      3.6 tf* m
[tf,cm]| As = 9.37 -SRAS- [ 8 B 12.5mm] | AsL=      .00 ----- | As =
6.43 -SRAS- [ 6 B 12.5mm] | AsL=      .00 ----- x/d = .21 | As = 4.41 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .14 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7 |
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 18.78 69.50 2 45. 10.9 8.1 10.9 6.3 10.0 4 .0 .0

```

```

----- G E O M E T R I A E C A R G A S -----

```

```

Vao= 6 /L= 1.95 /B= .70 /H= .25 /BCs= .93 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A

```

```

=      | M.[-] =      3.9 tf* m      | M.[+] Max=      1.2 tf* m - Abcis.= 125 | M.[-]
=      4.7 tf* m      |
[tf,cm]| As =      6.94 -SRAS- [ 6 B 12.5mm] | AsL=      .00 ----- | As =
8.57 -SRAS- [ 5 B 16.0mm] | AsL=      .00 ----- x/d = .15 | As =      3.59 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .19 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min =      211.3 | M[+]Min =      211.3 | M[-]
]Min =      211.3 |
[cm2 ]| Asapo[+]=      2.49 |
Asapo[+]=      2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 180. 15.89 69.50 2 45. 6.4 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 180. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .23 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 7 /L= 1.95 /B= .70 /H= .25 /BCs= .93 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] =      4.4 tf* m      | M.[+] Max=      3.2 tf* m - Abcis.= 148 | M.[-]
=      1.8 tf* m      |
[tf,cm]| As =      8.00 -SRAS- [ 4 B 16.0mm] | AsL=      .00 ----- | As =
4.44 -SRAS- [ 6 B 10.0mm] | AsL=      .00 ----- x/d = .18 | As =      5.48 -STAS- [ 7 B 10.0mm ] | AsL=
.00 ----- x/d = .10 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min =      211.3 | M[+]Min =      211.3 | M[-]
]Min =      211.3 |
[cm2 ]| Asapo[+]=      2.49 |
Asapo[+]=      3.57 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 180. 18.22 69.50 2 45. 10.0 8.1 10.0 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 180. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .26 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 8B /L= 1.09 /B= .70 /H= .25 /BCs= 1.14 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO | M[-]=      1.75 tf* m      | As =      4.44 -SRAS- [ 6 B 10.0mm]
BAL.DIR | x/d = .10 | AsL=      .00 -
.7
[tf,cm] | M[-]Min=      257.0 - x/dMx= 1.00 | | %
Baric.Armad.= 1

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 47. 5.87 69.50 2 45. .0 8.1 8.1 6.3 10.0 4 .0 .0

```

```

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
0 0 0 14.141 14.125 .70 .28 1 BB36 .00 .00 8042 0
0 0 2 28.652 28.627 .70 .28 1 BB37 .00 .00 8043 0
0 0 3 23.553 23.539 .70 .28 1 BB38 .00 .00 8044 0
0 0 4 26.264 26.254 .70 .28 1 BB39 .00 .00 8045 0
0 0 5 22.222 22.213 .70 .28 1 BB40 .00 .00 8046 0
0 0 0 0

```

0	0	6	24.007	23.992	.70	.28	1	BB41	.00	.00	8047	0
0	0	7	12.955	12.944	.70	.28	1	BB42	.00	.00	8048	0

Viga= 56 VFB1 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 3.7 tf* m | M.[+] Max= .0 tf* m - Abcis.= 270 | M.[-]
= 38.7 tf* m | [tf,cm] | As = 11.98 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
18.67 -SRAS- [6 B 20.0mm] | AsL= .00 ----- x/d = .06 | As = 11.54 -STAS- [6 B 16.0mm] | AsL=
.00 ----- x/d = .10 | x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
x/dMx= .50 | M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
[tf,cm] | M[-]Min = 2432.1 | M[+]Min = 1858.3 | M[-]
[cm2] | Asapo[+]= 3.85 | Asapo[+]= 2.88 |

CISALHAMENTO- Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M													
[tf,cm]	0.-	223.	41.34	265.52	2	45.	.0	8.1	8.6	6.3	12.0	4	.0 .0

T O R C A O- Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M													
[tf,cm]	0.-	223.	4.46	55.41	5	18.7	51.3	61.3	1.6	8.6	1.1	1.3	.24 N

REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:								
1	3.748	3.699	.70	.11	1	BB8	.00	.00 8014 0
0 0 0	0							
2	29.529	29.481	1.75	.64	0	BB1	.00	.00 8003 0
0 0 0	0							

Viga= 57 VFC21 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 1.84 /B= .70 /H= .80 /BCs= .84 /BCi= .00 /TpS= 5 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = .0 tf* m | M.[+] Max= 7.9 tf* m - Abcis.= 0 | M.[-]
= 15.1 tf* m | [tf,cm] | As = 1.40 -SRAS- [4 B 8.0mm] | AsL= .00 ----- | As =
8.92 -SRAS- [8 B 12.5mm] | AsL= .00 ----- x/d = .00 | As = 8.92 -STAS- [8 B 12.5mm] | AsL=
.00 ----- x/d = .05 | x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.8 |
x/dMx= .50 | M[-]Min = 1621.3 | M[+]Min = 1696.8 | M[-]
[tf,cm] | M[-]Min = 1621.3 | M[+]Min = 1696.8 | M[-]
[cm2] | Asapo[+]= 8.92 | Asapo[+]= 7.98 |

CISALHAMENTO- Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M													
[tf,cm]	0.-	136.	30.93	265.52	2	45.	.0	8.1	8.1	6.3	15.0	4	.0 .0

T O R C A O- Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M													
[tf,cm]	0.-	136.	.17	55.41	5	18.7	51.3	61.3	.1	.0	.0	.0	.12 N

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 2.77 /B= .70 /H= .80 /BCs= 1.03 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 5.0 tf* m | M.[+] Max= 6.7 tf* m - Abcis.= 149 | M.[-]
= 6.8 tf* m | [tf,cm] | As = 9.65 -SRAS- [8 B 12.5mm] | AsL= .00 ----- | As =
9.65 -SRAS- [8 B 12.5mm] | AsL= .00 ----- x/d = .05 | As = 9.65 -STAS- [8 B 12.5mm] | AsL=
.00 ----- x/d = .05 | x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.3 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 2131.2 | M[+]Min = 1783.5 | M[-]
]Min = 2131.2 |
[cm2] | Asapo[+]= 7.98 |
Asapo[+]= 7.98 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 229. 25.27 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0
T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 229. .17 55.41 5 18.7 51.3 61.3 .1 .0 .0 .0 .10 N

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 1.53 /B= .70 /H= .80 /BCs= .88 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 7.4 tf* m | M.[+] Max= .0 tf* m - Abcis.= 175 | M.[-]
= 3.0 tf* m | [tf,cm] | As = 9.09 -SRAS- [8 B 12.5mm] | AsL= .00 ----- | As =
9.09 -SRAS- [8 B 12.5mm] | AsL= .00 ----- x/d = .05 | As = 9.09 -STAS- [8 B 12.5mm] | AsL=
.00 ----- x/d = .05 | x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.7 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 1908.8 | M[+]Min = 1719.2 | M[-]
]Min = 1908.8 |
[cm2] | Asapo[+]= 7.98 |
Asapo[+]= 7.98 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 106. 14.48 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0
T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 106. .26 55.41 5 18.7 51.3 61.3 .1 .0 .0 .0 .06 N

----- G E O M E T R I A E C A R G A S -----
Vao= 4 /L= 1.53 /B= .70 /H= .80 /BCs= .93 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = .0 tf* m | M.[+] Max= 5.0 tf* m - Abcis.= 0 | M.[-]
= 7.6 tf* m | [tf,cm] | As = 9.26 -SRAS- [8 B 12.5mm] | AsL= .00 ----- | As =
9.26 -SRAS- [8 B 12.5mm] | AsL= .00 ----- x/d = .05 | As = 9.26 -STAS- [8 B 12.5mm] | AsL=
.00 ----- x/d = .05 | x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.5 |
x/dMx= .50 |
| |

[tf,cm] | M[-]Min = 1978.7 | M[+]Min = 1740.4 | M[-]
]Min = 1978.7
[cm2] | Asapo[+]= 8.99 |
Asapo[+]= 3.09

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 106. 21.93 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 106. .45 55.41 5 18.7 51.3 61.3 .2 .0 .0 .0 .09 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:

1	-3.732	-3.735	.70	.11	1	BC63	.00	.00	8236	0
2	38.317	38.315	.70	.11	1	BC57	.00	.00	8227	0
3	27.975	27.973	.70	.11	1	BC51	.00	.00	8222	0
4	3.755	3.747	.70	.11	1	BC45	.00	.00	8217	0
5	15.665	15.657	.70	.11	1	BC39	.00	.00	8283	0

Viga= 58 VFFC9 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1B /L= 1.08 /B= .70 /H= .25 /BCs= 1.13 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO | M[-]= 1.75 tf* m | As = 4.42 -SRAS- [6 B 10.0mm]
BAL.ESQ | x/d = .10 | ASL= .00 -
[tf,cm] | M[-]Min= 256.0 - x/dMx =1.00 | %
Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 46. 5.80 69.50 2 45. .0 8.1 8.1 6.3 10.0 4 .0 .0

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 1.8 tf* m | M.[+] Max= 4.2 tf* m - Abcis.= 84 | M.[-]
[tf,cm] | As = 4.42 -SRAS- [6 B 10.0mm] | ASL= .00 ----- | As =
10.28 -SRAS- [5 B 16.0mm] | ASL= .00 ----- | ASL=
.00 ----- x/d = .23 x/dMx = .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
[cm2] | Asapo[+]= 3.71 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 105. 13.49 69.50 2 45. 2.6 8.1 8.1 6.3 10.0 4 .0 .0
105.- 210. 20.20 69.50 2 45. 13.2 8.1 13.2 8.0 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 105. .14 6.63 5 9.2 58.1 13.1 .2 .0 .0 .0 .22 N
105.- 210. .14 6.63 5 9.2 58.1 13.1 .2 .0 .0 .0 .31 N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 2.25 /B= .70 /H= .25 /BCs= .83 /BCi= .00 /TpS= 5 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 5.5 tf* m | M.[+] Max= 1.1 tf* m - Abcis.= 163 | M.[-]
= 1.8 tf* m | | |
[tf,cm]| As = 10.17 -SRAS- [ 5 B 16.0mm] | AsL= .00 ----- | As =
3.23 -SRAS- [ 4 B 10.0mm] | | |
| AsL= .00 ----- x/d = .23 | As = 3.21 -STAS- [ 4 B 10.0mm ] | AsL=
.00 ----- x/d = .07 | | |
| x/dMx= .50 | | |
| [tf,cm]| M[-]Min = 188.9 | M[+]Min = 188.9 | M[-]
]Min = 188.9 | | |
[cm2 ]| Asapo[+]= 2.49 | | |
Asapo[+]= 2.49 | | |

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	210.	13.42	69.50	2	45.	2.5	8.1	8.1	6.3	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	210.	.04	6.63	5	9.2	58.1	13.1	.1	.0	.0	.0	.20	N

----- G E O M E T R I A E C A R G A S -----

Vao= 4 /L= 2.25 /B= .70 /H= .25 /BCs= .83 /BCi= .00 /TpS= 5 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 1.8 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 116 | M.[-]
= 5.2 tf* m | | |
[tf,cm]| As = 3.23 -SRAS- [ 4 B 10.0mm] | AsL= .00 ----- | As =
9.44 -SRAS- [ 8 B 12.5mm] | | |
| AsL= .00 ----- x/d = .07 | As = 3.21 -STAS- [ 4 B 10.0mm ] | AsL=
.00 ----- x/d = .21 | | |
| x/dMx= .50 | | |
| [tf,cm]| M[-]Min = 188.9 | M[+]Min = 188.9 | M[-]
]Min = 188.9 | | |
[cm2 ]| Asapo[+]= 2.49 | | |
Asapo[+]= 2.49 | | |

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	210.	13.24	69.50	2	45.	2.2	8.1	8.1	6.3	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	210.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.19	N

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 2.45 /B= .70 /H= .25 /BCs= 1.07 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 5.4 tf* m | M.[+] Max= 3.8 tf* m - Abcis.= 158 | M.[-]
= 3.3 tf* m | | |
[tf,cm]| As = 9.86 -SRAS- [ 8 B 12.5mm] | AsL= .00 ----- | As =
5.83 -SRAS- [ 5 B 12.5mm] | | |
| AsL= .00 ----- x/d = .22 | As = 6.65 -STAS- [ 6 B 12.5mm ] | AsL=
.00 ----- x/d = .13 | | |
| x/dMx= .50 | | |
| [tf,cm]| M[-]Min = 241.5 | M[+]Min = 241.5 | M[-]
]Min = 199.4 | | |

```

[cm2] | Asapo[+]= 2.49
 Asapo[+]= 1.66

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	230.	19.02	69.50	2	45.	11.3	8.1	11.3	6.3	10.0	4	.0	.0

T O R C A O- M E N S A G E M	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
[tf,cm]	0.-	230.	.09	6.63	5	9.2	58.1	13.1	.1	.0	.0	.0	.29	N

REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:								
1	13.768	13.753	.70	.28	1	BC35	.00	.00 8208 0
2	23.663	23.644	.70	.28	1	BC36	.00	.00 8209 0
3	12.611	12.602	.70	.28	1	BC37	.00	.00 8210 0
4	22.702	22.688	.70	.28	1	BC38	.00	.00 8211 0
5	11.997	11.987	.30	.07	2	VFFC38_	.00	.00 0 0

Viga= 59 VFFC6 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1B /L= 1.08 /B= .70 /H= .25 /BCs= 1.13 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO | M[-]= 1.75 tf* m | As = 4.42 -SRAS- [6 B 10.0mm]
 BAL.ESQ | x/d = .10 | ASL= .00 -
 .7
 [tf,cm] | M[-]Min= 256.0 - x/dMx =1.00 | %
 Baric.Armad.= 1

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	46.	5.70	69.50	2	45.	.0	8.1	8.1	6.3	10.0	4	.0	.0

----- G E O M E T R I A E C A R G A S -----
 Vao= 2 /L= .58 /B= .70 /H= .25 /BCs= .77 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 1.8 tf* m | M.[+] Max= .4 tf* m - Abcis.= 35 | M.[-]
 = .0 tf* m
 [tf,cm] | As = 4.42 -SRAS- [6 B 10.0mm] | ASL= .00 ----- | As =
 2.97 -SRAS- [4 B 10.0mm] | ASL= .00 ----- | ASL=
 .00 ----- x/d = .10 | As = 2.98 -STAS- [4 B 10.0mm] | ASL=
 .00 ----- x/d = .07
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 174.2 | M[+]Min = 174.2 | M[-]
]Min = 174.2
 [cm2] | Asapo[+]= 2.95 |
 Asapo[+]= 2.86

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	44.	5.77	69.50	2	45.	.0	8.1	8.1	6.3	10.0	4	.0	.0

T O R C A O- M E N S A G E M	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
[tf,cm]	0.-	44.	.02	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.09	N

----- G E O M E T R I A E C A R G A S -----
 Vao= 3 /L= 1.12 /B= .70 /H= .25 /BCs= .83 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = .0 tf* m | M.[+] Max= .6 tf* m - Abcis.= 55 | M.[-]
= 4.0 tf* m | | |
[tf,cm]| As = 3.22 -SRAS- [ 4 B 10.0mm] | AsL= .00 ----- | As =
7.10 -SRAS- [ 6 B 12.5mm] | | |
| AsL= .00 ----- x/d = .07 | As = 3.21 -STAS- [ 4 B 10.0mm ] | AsL=
.00 ----- x/d = .16 | | |
| x/dMx= .50 | | |
| [tf,cm]| M[-]Min = 188.6 | M[+]Min = 188.6 | M[-]
]Min = 188.6 | | |
[cm2 ]| Asapo[+]= 3.09 | | |
Asapo[+]= 2.49 | | |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 97. 14.59 69.50 2 45. 4.3 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 97. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .21 N

----- G E O M E T R I A E C A R G A S -----
Vao= 4 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 4.0 tf* m | M.[+] Max= 2.9 tf* m - Abcis.= 140 | M.[-]
= 6.0 tf* m | | |
[tf,cm]| As = 7.16 -SRAS- [ 6 B 12.5mm] | AsL= .00 ----- | As =
11.32 -SRAS- [ 6 B 16.0mm] | | |
| AsL= .00 ----- x/d = .16 | As = 4.92 -STAS- [ 4 B 12.5mm ] | AsL=
.00 ----- x/d = .25 | | |
| x/dMx= .50 | | |
| [tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4 | | |
[cm2 ]| Asapo[+]= 2.49 | | |
Asapo[+]= 2.49 | | |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 105. 17.99 69.50 2 45. 9.7 8.1 9.7 6.3 10.0 4 .0 .0
105.- 210. 20.51 69.50 2 45. 13.7 8.1 13.7 8.0 10.0 4 .0 .0

----- G E O M E T R I A E C A R G A S -----
Vao= 5 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 6.0 tf* m | M.[+] Max= 2.9 tf* m - Abcis.= 140 | M.[-]
= 4.0 tf* m | | |
[tf,cm]| As = 11.16 -SRAS- [ 6 B 16.0mm] | AsL= .00 ----- | As =
7.16 -SRAS- [ 6 B 12.5mm] | | |
| AsL= .00 ----- x/d = .25 | As = 4.96 -STAS- [ 4 B 12.5mm ] | AsL=
.00 ----- x/d = .16 | | |
| x/dMx= .50 | | |
| [tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4 | | |
[cm2 ]| Asapo[+]= 2.49 | | |
Asapo[+]= 2.49 | | |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 105. 20.41 69.50 2 45. 13.5 8.1 13.5 8.0 10.0 4 .0 .0
105.- 210. 17.99 69.50 2 45. 9.7 8.1 9.7 6.3 10.0 4 .0 .0

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 105. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .29 N
105.- 210. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .26 N

----- G E O M E T R I A E C A R G A S -----

Vao= 6 /L= 1.36 /B= .70 /H= .25 /BCs= .90 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 4.0 tf* m | M.[+] Max= .7 tf* m - Abcis.= 109 | M.[-]
= .8 tf* m
[tf,cm]| As = 7.11 -SRAS- [6 B 12.5mm] | AsL= .00 ----- | As =
3.12 -SRAS- [4 B 10.0mm] | AsL= .00 ----- x/d = .16 | As = 3.48 -STAS- [5 B 10.0mm] | AsL=
.00 ----- x/d = .07 x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 204.5 | M[+]Min = 204.5 | M[-]
]Min = 183.0
[cm2]| Asapo[+]= 2.49 |
Asapo[+]= 1.16 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M

[tf,cm] 0.- 121. 14.66 69.50 2 45. 4.4 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 121. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .21 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 8.191 8.146 .70 .28 1 BC20 .00 .00 8203 0
0 0 2 5.214 5.159 .70 .28 0 BC22 .00 .00 8152 0
0 0 3 22.934 22.922 .70 .28 0 BC23 .00 .00 8204 0
0 0 4 28.797 28.787 .70 .28 0 BC24 .00 .00 8205 0
0 0 5 22.978 22.925 .70 .28 0 BC25 .00 .00 8206 0
0 0 6 5.746 5.705 1.75 .80 0 BC21 .00 .00 8033 0
0 0 0 0

Viga= 60 PARL6 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 2.36 /B= .20 /H= 1.55 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00
FSp.Ex= .78 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = .0 tf* m | M.[+] Max= 5.1 tf* m - Abcis.= 0 | M.[-]
= 15.0 tf* m
[tf,cm]| As = .00 -SRAS- [0 B 6.3mm] | AsL= .00 ----- | As =
4.65 -SRAS- [4 B 12.5mm] | AsL= .00 ----- x/d = .00 | As = 4.65 -SRAS- [4 B 12.5mm] | AsL=
.00 ----- x/d = .04 | Grampos Esq.= 3B 8.0mm x/dMx= .50 | Arm.Lat.= [2 X 10 B 6.3mm] - LN= 6.3 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 1739.0 | M[+]Min = 1739.0 | M[-]
]Min = 1739.0
[cm2]| Asapo[+]= 4.65 |
Asapo[+]= 1.16 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 175. 18.16 152.23 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	175.	.04	8.94	5	8.1	8.1	143.1	.0	.0	.0	.0	.12	N
REAC. APOIO - No.	Maximos		Minimos		Largura		DEPEV		Morte		Nome		M.I.Mx	M.I.Mn
Pilares:	1	-2.941	-2.949	.28	.00	2	PARL1	.00	.00	0	0			
0 0 0	2	12.970	12.962	1.00	.03	0	BC31	.00	.00	8145	0			
0 0 0														

Viga= 74 VFFC38 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1 /L= 2.15 /B= .30 /H= .80 /BCs= .62 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .15 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 7.5 tf* m | M.[+] Max= 5.0 tf* m - Abcis.= 94 | M.[-]
 [tf,cm] | As = 5.05 -SRAS- [4 B 12.5mm] | AsL= .00 ----- | As =
 5.66 -SRAS- [3 B 16.0mm] | AsL= .00 ----- x/d = .06 | As = 5.24 -STAS- [3 B 16.0mm] | AsL=
 .00 ----- x/d = .07 | x/dMx= .50 | Arm.Lat.= [2 X 8 B 6.3mm] - LN= 1.7 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 1034.8 | M[+]Min = 823.3 | M[-]
]Min = 1168.2 |
 [cm2] | Asapo[+]= 1.31 |
 Asapo[+]= 3.85 |

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	84.	24.73	113.79	2	45.	2.2	3.5	6.9	8.0	12.0	2	.0	.0
	84.-	168.	20.40	113.79	2	45.	.4	3.5	4.6	6.3	12.0	2	.0	.0

T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	84.	2.52	12.71	5	10.9	18.1	68.1	2.3	2.5	.4	1.6	.42	N
	84.-	168.	2.23	12.71	5	10.9	18.1	68.1	2.1	2.5	.4	1.4	.35	N

----- G E O M E T R I A E C A R G A S -----
 Vao= 2 /L= .67 /B= .30 /H= .80 /BCs= .35 /BCi= .00 /TpS= 5 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .15 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 5.5 tf* m | M.[+] Max= 2.9 tf* m - Abcis.= 78 | M.[-]
 .0 tf* m |
 [tf,cm] | As = 3.79 -SRAS- [2 B 16.0mm] | AsL= .00 ----- | As =
 .53 -SRAS- [2 B 8.0mm] | AsL= .00 ----- x/d = .05 | As = 3.79 -STAS- [3 B 12.5mm] | AsL=
 .00 ----- x/d = .00 | x/dMx= .50 | Arm.Lat.= [2 X 8 B 6.3mm] - LN= 2.9 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 773.9 | M[+]Min = 722.7 | M[-]
]Min = 694.9 |
 [cm2] | Asapo[+]= 3.42 |
 Asapo[+]= 3.79 |

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	19.	20.01	113.79	2	45.	.2	3.5	3.5	6.3	17.0	2	.0	.0

T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	19.	.13	12.71	5	10.9	18.1	68.1	.1	.0	.0	.0	.19	N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
 Pilares:

0	0	0	1	17.638	17.634	.70	.11	1	BC39	.00	.00	8283	0
0	0	0	2	28.442	28.403	.70	.11	1	BC33	.00	.00	8258	0
0	0	0	3	-10.565	-10.610	1.85	.69	0	BC31	.00	.00	8145	0

Viga= 75 VCB2 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 1.90 /B= .70 /H= .70 /BCs= .98 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .35 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 5.5 tf* m | M.[+] Max= 2.6 tf* m - Abcis.= 101 | M.[-]
 = 1.9 tf* m
 [tf,cm]| As = 8.11 -SRAS- [4 B 16.0mm] | AsL= .00 ----- | As =
 8.42 -SRAS- [5 B 16.0mm] | AsL= .00 ----- | AsL=
 | AsL= .00 ----- x/d = .05 | As = 8.42 -STAS- [7 B 12.5mm] | AsL=
 .00 ----- x/d = .05 | Arm.Lat.=[2 X 4 B 12.5mm] - LN= 2.1 |
 |
 x/dMx= .50 |
 |
 [tf,cm]| M[-]Min = 1492.8 | M[+]Min = 1349.4 | M[-]
]Min = 1588.6
 [cm2]| Asapo[+]= 2.81 |
 Asapo[+]= 6.98

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 148. 21.22 229.88 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 148. 2.12 45.48 5 17.5 52.5 52.5 .9 .0 .0 .0 .14 N

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 2.02 /B= .70 /H= .70 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .35 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 4.2 tf* m | M.[+] Max= 1.7 tf* m - Abcis.= 76 | M.[-]
 = 7.5 tf* m
 [tf,cm]| As = 8.26 -SRAS- [4 B 16.0mm] | AsL= .00 ----- | As =
 8.26 -SRAS- [4 B 16.0mm] | AsL= .00 ----- | AsL=
 | AsL= .00 ----- x/d = .05 | As = 8.26 -STAS- [4 B 16.0mm] | AsL=
 .00 ----- x/d = .05 | Arm.Lat.=[2 X 4 B 12.5mm] - LN= 2.2 |
 |
 x/dMx= .50 |
 |
 [tf,cm]| M[-]Min = 1539.2 | M[+]Min = 1335.8 | M[-]
]Min = 1539.2
 [cm2]| Asapo[+]= 6.98 |
 Asapo[+]= 6.98

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 16.53 229.88 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. 2.27 45.48 5 17.5 52.5 52.5 .9 .0 .0 .0 .11 N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 2.02 /B= .70 /H= .70 /BCs= 1.00 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .35 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
) - - - - -

```

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 8.7 tf* m | M.[+] Max= 12.3 tf* m - Abcis.= 216 | M.[-]
= .0 tf* m
[tf,cm]| As = 8.49 -SRAS- [ 5 B 16.0mm] | AsL= .00 ----- | As =
1.23 -SRAS- [ 4 B 8.0mm] | AsL= .00 ----- x/d = .06 | As = 8.49 -STAS- [ 7 B 12.5mm ] | AsL=
.00 ----- x/d = .00 | x/dMx= .50 | Arm.Lat.=[2 X 4 B 12.5mm] - LN= 2.1 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 1610.5 | M[+]Min = 1355.2 | M[-]
]Min = 1241.3 |
[cm2 ]| Asapo[+]= 6.98 |
Asapo[+]= 8.49 |
    
```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 30.67 229.88 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0
    
```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. 1.09 45.48 5 17.5 52.5 52.5 .5 .0 .0 .0 .16 N
    
```

```

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
0 0 0 1 15.134 14.481 1.85 .71 0 BB34 .00 .00 8040 0
0 0 0 2 18.803 16.731 .70 .14 0 BB27 .00 .00 8026 0
0 0 0 3 31.938 26.347 .70 .14 0 BB20 .00 .00 8153 0
0 0 0 4 3.746 -.426 .70 .14 1 BB13 .00 .00 8019 0
0 0 0
    
```

```

Viga= 76 VFFB18 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM
    
```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]
    
```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 2.8 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 79 | M.[-]
= 2.6 tf* m
[tf,cm]| As = 4.90 -SRAS- [ 4 B 12.5mm] | AsL= .00 ----- | As =
4.55 -SRAS- [ 4 B 12.5mm] | AsL= .00 ----- x/d = .11 | As = 3.63 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .10 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 201.3 | M[+]Min = 213.5 | M[-]
]Min = 213.5 |
[cm2 ]| Asapo[+]= .91 |
Asapo[+]= 2.49 |
    
```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 148. 13.84 69.50 2 45. 3.1 8.1 8.1 6.3 10.0 4 .0 .0
    
```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 148. .21 6.63 5 9.2 58.1 13.1 .3 .0 .0 .0 .23 N
    
```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]
    
```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 2.7 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 114 | M.[-]
= 3.1 tf* m
    
```

```
[tf,cm] | As = 4.80 -SRAS- [ 4 B 12.5mm ] | AsL= .00 ----- | As =
5.49 -SRAS- [ 7 B 10.0mm ] | AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .12 | x/dMx= .50 |
|
x/dMx= .50 |
|
[tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 2.49 |
```

```
CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.53 69.50 2 45. 2.6 8.1 8.1 6.3 10.0 4 .0 .0
```

```
T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .02 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .20 N
```

----- G E O M E T R I A E C A R G A S -----

```
Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]
```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

```
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
```

```
| M.[-] = 3.1 tf* m | M.[+] Max= 1.7 tf* m - Abcis.= 118 | M.[-]
= 2.0 tf* m
```

```
[tf,cm] | As = 5.36 -SRAS- [ 7 B 10.0mm ] | AsL= .00 ----- | As =
3.44 -SRAS- [ 5 B 10.0mm ] | AsL= .00 ----- x/d = .12 | As = 3.70 -STAS- [ 5 B 10.0mm ] | AsL=
```

```
.00 ----- x/d = .08 | x/dMx= .50 |
|
x/dMx= .50 |
```

```
|
[tf,cm] | M[-]Min = 217.7 | M[+]Min = 217.7 | M[-]
]Min = 188.9 |
```

```
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= .93 |
```

```
CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 14.04 69.50 2 45. 3.4 8.1 8.1 6.3 10.0 4 .0 .0
```

```
T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .13 6.63 5 9.2 58.1 13.1 .2 .0 .0 .0 .22 N
```

REAC. APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:									
0	0	1	9.873	9.866	1.85	.85	BB33	.00	.00 8039 0
		2	18.671	18.656	.70	.28	BB26	.00	.00 8032 0
0	0	3	19.405	19.385	.70	.28	BB19	.00	.00 8025 0
0	0	4	8.702	8.690	.70	.28	BB12	.00	.00 8018 0
0	0								

```
Viga= 77 VFFB21 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM
```

----- G E O M E T R I A E C A R G A S -----

```
Vao= 1 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]
```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

```
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
```

```
| M.[-] = 2.5 tf* m | M.[+] Max= 1.2 tf* m - Abcis.= 79 | M.[-]
= 2.5 tf* m
```

```
[tf,cm] | As = 4.37 -SRAS- [ 6 B 10.0mm ] | AsL= .00 ----- | As =
4.25 -SRAS- [ 6 B 10.0mm ] | AsL= .00 ----- x/d = .10 | As = 3.63 -STAS- [ 5 B 10.0mm ] | AsL=
```

```
.00 ----- x/d = .09 |
```

```

x/dMx= .50
[tf,cm] | M[-]Min = 201.3 | M[+]Min = 213.5 | M[-]
]Min = 213.5
[cm2 ] | Asapo[+]= .91 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 148. 12.54 69.50 2 45. 1.1 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 148. .13 6.63 5 9.2 58.1 13.1 .2 .0 .0 .0 .20 N

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.5 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 114 | M.[-]
= 3.0 tf* m |
[tf,cm] | As = 4.39 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- | As =
5.23 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- x/d = .10 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 12.85 69.50 2 45. 1.6 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .04 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .19 N

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.9 tf* m | M.[+] Max= 1.6 tf* m - Abcis.= 118 | M.[-]
= 1.9 tf* m |
[tf,cm] | As = 5.11 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- | As =
3.23 -SRAS- [ 4 B 10.0mm] | AsL= .00 ----- x/d = .11 | As = 3.70 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .07 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 217.7 | M[+]Min = 217.7 | M[-]
]Min = 188.9
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= .93

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.33 69.50 2 45. 2.3 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .14 6.63 5 9.2 58.1 13.1 .2 .0 .0 .0 .21 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
0 0 1 8.948 8.940 1.85 .85 0 BB35 .00 .00 8041 0

```

0	0	0	2	17.344	17.326	.70	.28	1	BB28	.00	.00	8034	0
0	0	0	3	18.424	18.399	.70	.28	1	BB21	.00	.00	8027	0
0	0	0	4	8.212	8.197	.70	.28	1	BB14	.00	.00	8020	0

Viga= 78 VFFB2 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1 /L= 1.95 /B= .70 /H= .25 /BCs= .99 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 4.0 tf* m | M.[+] Max= 1.6 tf* m - Abcis.= 92 | M.[-]
 = 3.7 tf* m | | |
 [tf,cm]| As = 7.06 -SRAS- [6 B 12.5mm] | AsL= .00 ----- | As =
 6.68 -SRAS- [4 B 16.0mm] | | |
 | AsL= .00 ----- x/d = .16 | As = 3.82 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .15 | | |
 | x/dMx= .50 | | |
 | | |
 [tf,cm]| M[-]Min = 208.7 | M[+]Min = 224.5 | M[-]
]Min = 224.5 | | |
 [cm2]| Asapo[+]= .95 | | |
 Asapo[+]= 2.49 | | |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 180. 15.33 69.50 2 45. 5.5 8.1 8.1 6.3 10.0 4 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 180. .11 6.63 5 9.2 58.1 13.1 .2 .0 .0 .0 .24 N

----- G E O M E T R I A E C A R G A S -----
 Vao= 2 /L= 1.95 /B= .70 /H= .25 /BCs= .93 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 4.5 tf* m | M.[+] Max= 2.3 tf* m - Abcis.= 129 | M.[-]
 = 1.8 tf* m | | |
 [tf,cm]| As = 8.11 -SRAS- [4 B 16.0mm] | AsL= .00 ----- | As =
 4.44 -SRAS- [6 B 10.0mm] | | |
 | AsL= .00 ----- x/d = .18 | As = 3.98 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .10 | | |
 | x/dMx= .50 | | |
 | | |
 [tf,cm]| M[-]Min = 211.3 | M[+]Min = 211.3 | M[-]
]Min = 211.3 | | |
 [cm2]| Asapo[+]= 2.49 | | |
 Asapo[+]= .99 | | |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 180. 17.22 69.50 2 45. 8.5 8.1 8.5 6.3 10.0 4 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 180. .10 6.63 5 9.2 58.1 13.1 .2 .0 .0 .0 .26 N

----- G E O M E T R I A E C A R G A S -----
 Vao= 3B /L= 1.09 /B= .70 /H= .25 /BCs= 1.14 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
) - - - - -

FLEXAO | M[-]= 1.75 tf* m | As = 4.44 -SRAS- [6 B 10.0mm]
 BAL.DIR | x/d = .10 | ASL= .00 -
 .7
 [tf,cm] | M[-]Min= 257.0 - x/dMx =1.00 | %
 Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 47. 5.85 69.50 2 45. .0 8.1 8.1 6.3 10.0 4 .0 .0

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
 Pilares:
 1 10.935 10.929 .70 .28 1 BB12 .00 .00 8018 0
 0 0 0 0
 2 22.761 22.746 .70 .28 1 BB13 .00 .00 8019 0
 0 0 0 0
 3 13.646 13.637 .70 .28 1 BB14 .00 .00 8020 0
 0 0 0 0

Viga= 80 PAA1 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1 /L= 2.86 /B= .20 /H= 1.05 /BCs= .00 /BCi= .34 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 6.1 tf* m | M.[+] Max= 4.2 tf* m - Abcis.= 144 | M.[-]
 = 5.2 tf* m
 [tf,cm] | As = 3.69 -STAS- [3 B 12.5mm] | ASL= .00 ----- | As =
 3.69 -STAS- [3 B 12.5mm]
 | AsL= .00 ----- x/d = .03 | As = 3.77 -SRAS- [3 B 12.5mm] | ASL=
 .00 ----- x/d = .03
 x/dMx= .50 x/dMx= .50 | Arm.Lat.= [2 X 7 B 6.3mm] - LN= 5.6 |
 [tf,cm] | M[-]Min = 907.2 | M.[+]Min = 1132.9 | M[-]
]Min = 907.2
 [cm2] | Asapo[+]= .94 |
 Asapo[+]= 2.99

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 223. 19.83 101.32 2 45. .8 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 223. .04 5.82 5 8.1 8.1 93.1 .1 .0 .0 .0 .20 N

----- G E O M E T R I A E C A R G A S -----
 Vao= 2 /L= 2.73 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 7.8 tf* m | M.[+] Max= 2.1 tf* m - Abcis.= 163 | M.[-]
 = 3.0 tf* m
 [tf,cm] | As = 3.56 -STAS- [3 B 12.5mm] | ASL= .00 ----- | As =
 3.56 -STAS- [3 B 12.5mm]
 | AsL= .00 ----- x/d = .03 | As = 3.56 -SRAS- [3 B 12.5mm] | ASL=
 .00 ----- x/d = .03
 x/dMx= .50 x/dMx= .50 | Arm.Lat.= [2 X 7 B 6.3mm] - LN= 5.2 |
 [tf,cm] | M[-]Min = 886.1 | M.[+]Min = 1056.4 | M[-]
]Min = 886.1
 [cm2] | Asapo[+]= 2.99 |
 Asapo[+]= 2.99

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 210. 17.50 101.32 2 45. .1 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 210. .03 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .18 N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 2.73 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 6.6 tf* m | M.[+] Max= 2.5 tf* m - Abcis.= 163 | M.[-]
 = 3.3 tf* m
 [tf,cm]| As = 3.56 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =
 3.56 -STAS- [3 B 12.5mm]
 | AsL= .00 ----- x/d = .03 | As = 3.56 -SRAS- [3 B 12.5mm] | AsL=
 .00 ----- x/d = .03
 | x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.2 |
 x/dMx= .50
 |
 [tf,cm]| M[-]Min = 886.1 | M[+]Min = 1056.4 | M[-]
]Min = 886.1
 [cm2]| Asapo[+]= 2.99 |
 Asapo[+]= 2.99

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 210. 16.82 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 210. .01 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .17 N

----- G E O M E T R I A E C A R G A S -----

Vao= 4 /L= 2.73 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 7.4 tf* m | M.[+] Max= 2.7 tf* m - Abcis.= 163 | M.[-]
 = 2.4 tf* m
 [tf,cm]| As = 3.56 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =
 3.56 -STAS- [3 B 12.5mm]
 | AsL= .00 ----- x/d = .03 | As = 3.56 -SRAS- [3 B 12.5mm] | AsL=
 .00 ----- x/d = .03
 | x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.2 |
 x/dMx= .50
 |
 [tf,cm]| M[-]Min = 886.1 | M[+]Min = 1056.4 | M[-]
]Min = 886.1
 [cm2]| Asapo[+]= 2.99 |
 Asapo[+]= 2.99

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 210. 17.77 101.32 2 45. .1 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 210. .01 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .18 N

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 2.73 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 6.8 tf* m | M.[+] Max= 2.1 tf* m - Abcis.= 163 | M.[-]
 = 3.8 tf* m
 [tf,cm]| As = 3.56 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =
 3.56 -STAS- [3 B 12.5mm]
 | AsL= .00 ----- x/d = .03 | As = 3.56 -SRAS- [3 B 12.5mm] | AsL=
 .00 ----- x/d = .03

```

x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.2 |
[tf,cm] | M[-]Min = 886.1 | M[+]Min = 1056.4 | M[-]
]Min = 886.1
[cm2 ] | Asapo[+]= 2.99 |
Asapo[+]= 2.99

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 210. 16.67 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 210. .01 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .17 N

----- G E O M E T R I A E C A R G A S -----
Vao= 6 /L= 2.73 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 8.4 tf* m | M.[+] Max= 5.0 tf* m - Abcis.= 184 | M.[-]
= 8.8 tf* m
[tf,cm] | As = 3.56 -STAS- [ 3 B 12.5mm] | AsL= .00 ----- | As =
4.41 -STAS- [ 4 B 12.5mm] | AsL= .00 ----- | AsL=
.00 ----- x/d = .02 | As = 3.56 -SRAS- [ 3 B 12.5mm ] | AsL=
x/d = .02 x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.2 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 886.1 | M[+]Min = 1056.4 | M[-]
]Min = 886.1
[cm2 ] | Asapo[+]= 2.99 |
Asapo[+]= 3.56

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 210. 20.52 101.32 2 45. 1.0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 210. .00 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .20 N

----- G E O M E T R I A E C A R G A S -----
Vao= 7B /L= .84 /B= .20 /H= 1.05 /BCs= .00 /BCi= .54 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO | M[-]= 8.82 tf* m | As = 4.41 -STAS- [ 4 B 12.5mm]
BAL.DIR | x/d = .02 | AsL= .00 -Arm.Lat.=[ 2 X 7 B 6.3mm]
.6
[tf,cm] | M[-]Min= 996.3 - x/dMx=1.00 | | %
Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 46. 4.60 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
0 0 1 14.148 14.133 1.75 .56 0 BA7 .00 .00 8096 0
0 0 2 25.764 25.757 .70 .04 0 BA1 .00 .00 8176 0
0 0 3 20.710 20.708 .70 .04 0 BA2 .00 .00 8177 0
0 0 4 22.005 22.004 .70 .04 0 BA3 .00 .00 8178 0
0 0 5 20.623 20.622 .70 .04 0 BA4 .00 .00 8179 0
0 0 6 24.048 24.048 .70 .04 0 BA5 .00 .00 8180 0
0 0 7 10.141 10.133 .70 .04 0 BA6 .00 .00 8181 0
=====
=====

```

Viga= 81 PAB1
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao

----- G E O M E T R I A E C A R G A S -----

Vao= 1B /L= .85 /B= .20 /H= 1.05 /BCs= .00 /BCi= .54 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | M[-]= 8.82 tf* m | As = 4.42 -STAS- [4 B 12.5mm]
 BAL.ESQ | x/d = .02 | ASL= .00 -Arm.Lat.= [2 X 7 B 6.3mm]
 .6
 [tf,cm] | M[-]Min= 997.7 - x/dMx =1.00 | %
 Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 47. 4.84 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 2.63 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 8.8 tf* m | M.[+] Max= 3.6 tf* m - Abcis.= 111 | M.[-]
 = 5.3 tf* m | As = 4.42 -STAS- [4 B 12.5mm] | ASL= .00 ----- | As =
 [tf,cm] | AsL= .00 ----- x/d = .02 | As = 3.54 -SRAS- [3 B 12.5mm] | ASL=
 3.54 -STAS- [3 B 12.5mm] | AsL= .00 ----- x/d = .03 | Arm.Lat.= [2 X 7 B 6.3mm] - LN= 5.2 |
 .00 ----- x/dMx= .50 | M.[+]Min = 1047.1 | M[-]
 x/dMx= .50 | M[-]Min = 883.4 |
 [tf,cm] | M[-]Min = 883.4 |
]Min = 883.4 |
 [cm2] | Asapo[+]= 3.54 |
 Asapo[+]= 2.99 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 200. 16.46 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 200. .00 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .16 N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 2.63 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 5.4 tf* m | M.[+] Max= 1.8 tf* m - Abcis.= 135 | M.[-]
 = 4.3 tf* m | As = 3.54 -STAS- [3 B 12.5mm] | ASL= .00 ----- | As =
 [tf,cm] | AsL= .00 ----- x/d = .03 | As = 3.54 -SRAS- [3 B 12.5mm] | ASL=
 3.54 -STAS- [3 B 12.5mm] | AsL= .00 ----- x/d = .03 | Arm.Lat.= [2 X 7 B 6.3mm] - LN= 5.2 |
 .00 ----- x/dMx= .50 | M.[+]Min = 1047.1 | M[-]
 x/dMx= .50 | M[-]Min = 883.4 |
 [tf,cm] | M[-]Min = 883.4 |
]Min = 883.4 |
 [cm2] | Asapo[+]= 2.99 |
 Asapo[+]= 2.99 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 200. 14.70 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 200. .00 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .15 N

----- G E O M E T R I A E C A R G A S -----
 Vao= 4 /L= 2.63 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 4.2 tf* m | M.[+] Max= 2.3 tf* m - Abcis.= 135 | M.[-]
 = 4.6 tf* m | [tf,cm] | As = 3.54 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =
 3.54 -STAS- [3 B 12.5mm] | AsL= .00 ----- x/d = .03 | As = 3.54 -SRAS- [3 B 12.5mm] | AsL=
 .00 ----- x/d = .03 | x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.2 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 883.4 | M[+]Min = 1047.1 | M[-]
]Min = 883.4 |
 [cm2] | Asapo[+]= 2.99 |
 Asapo[+]= 2.99 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 200. 14.37 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 200. .00 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .14 N

----- G E O M E T R I A E C A R G A S -----
 Vao= 5 /L= 2.63 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 4.5 tf* m | M.[+] Max= 2.3 tf* m - Abcis.= 135 | M.[-]
 = 4.3 tf* m | [tf,cm] | As = 3.54 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =
 3.54 -STAS- [3 B 12.5mm] | AsL= .00 ----- x/d = .03 | As = 3.54 -SRAS- [3 B 12.5mm] | AsL=
 .00 ----- x/d = .03 | x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.2 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 883.4 | M[+]Min = 1047.1 | M[-]
]Min = 883.4 |
 [cm2] | Asapo[+]= 2.99 |
 Asapo[+]= 2.99 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 200. 14.35 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 200. .00 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .14 N

----- G E O M E T R I A E C A R G A S -----
 Vao= 6 /L= 2.43 /B= .20 /H= 1.05 /BCs= .00 /BCi= .30 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 4.5 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 125 | M.[-]
 = 3.5 tf* m | [tf,cm] | As = 3.51 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =
 3.51 -STAS- [3 B 12.5mm] | AsL= .00 ----- x/d = .03 | As = 3.51 -SRAS- [3 B 12.5mm] | AsL=
 .00 ----- x/d = .03 | x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.1 |
 x/dMx= .50 |
 | |

[tf,cm] | M[-]Min = 878.0 | M[+]Min = 1028.6 | M[-]
]Min = 878.0
 [cm2] | Asapo[+]= 2.99 |
 Asapo[+]= 2.99

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 180. 12.97 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 180. .03 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .13 N

----- G E O M E T R I A E C A R G A S -----

Vao= 7 /L= 2.43 /B= .20 /H= 1.05 /BCs= .00 /BCi= .30 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R

E I T A | M.[-] = 3.6 tf* m | M.[+] Max= 2.9 tf* m - Abcis.= 143 | M.[-]

= 8.8 tf* m | [tf,cm] | As = 3.51 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =

4.42 -STAS- [4 B 12.5mm] | AsL= .00 ----- x/d = .03 | As = 3.51 -SRAS- [3 B 12.5mm] | AsL=

.00 ----- x/d = .02 | x/dMx= .50 | Arm.Lat.= [2 X 7 B 6.3mm] - LN= 5.1 |

x/dMx= .50 | [tf,cm] | M[-]Min = 878.0 | M[+]Min = 1028.6 | M[-]

]Min = 878.0
 [cm2] | Asapo[+]= 2.99 |
 Asapo[+]= 3.51

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 180. 13.44 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 180. .02 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .14 N

----- G E O M E T R I A E C A R G A S -----

Vao= 8B /L= .85 /B= .20 /H= 1.05 /BCs= .00 /BCi= .54 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25

FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO | M[-]= 8.82 tf* m | As = 4.42 -STAS- [4 B 12.5mm]

BAL.DIR | x/d = .02 | AsL= .00 -Arm.Lat.= [2 X 7 B 6.3mm]

.6 [tf,cm] | M[-]Min= 997.7 - x/dMx = 1.00 | | %

Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 47. 4.74 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn

Pilares:

0 0 0 1 11.803 11.801 .70 .04 0 BB1 .00 .00 8003 0

0 0 0 2 21.935 21.934 .70 .04 0 BB2 .00 .00 8004 0

0 0 0 3 19.344 19.332 .70 .04 0 BB3 .00 .00 8005 0

0 0 0 4 20.219 20.125 .70 .04 0 BB4 .00 .00 8006 0

0 0 0 5 18.977 18.634 .70 .04 0 BB5 .00 .00 8007 0

0 0 0 6 17.711 17.251 .70 .04 0 BB6 .00 .00 8008 0

0 0 0 7 11.242 11.042 .70 .04 0 BB7 .00 .00 8010 0

0 0 0 0

=====

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Viga= 82 PAC1 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao

/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1B /L= .84 /B= .20 /H= 1.05 /BCs= .00 /BCi= .54 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO | M[-]= 8.82 tf* m | As = 4.41 -STAS- [4 B 12.5mm]
BAL.ESQ | x/d = .02 | ASL= .00 -Arm.Lat.= [2 X 7 B 6.3mm]
.6
[tf,cm] | M[-]Min= 996.3 - x/dMx =1.00 | | %
Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 46. 4.65 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 2.73 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 8.8 tf* m | M.[+] Max= 5.6 tf* m - Abcis.= 69 | M.[-]
= 9.5 tf* m
[tf,cm] | As = 4.41 -STAS- [4 B 12.5mm] | ASL= .00 ----- | As =
3.56 -STAS- [3 B 12.5mm]
| ASL= .00 ----- x/d = .02 | As = 3.56 -SRAS- [3 B 12.5mm] | ASL=
.00 ----- x/d = .03
x/dMx= .50 | Arm.Lat.= [2 X 7 B 6.3mm] - LN= 5.2 |
[tf,cm] | M[-]Min = 886.1 | M[+]Min = 1056.4 | M[-]
]Min = 886.1
[cm2] | Asapo[+]= 3.56 |
Asapo[+]= 2.99

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 210. 21.74 101.32 2 45. 1.4 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 210. .00 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .21 N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 2.73 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 3.1 tf* m | M.[+] Max= 2.2 tf* m - Abcis.= 116 | M.[-]
= 7.6 tf* m
[tf,cm] | As = 3.56 -STAS- [3 B 12.5mm] | ASL= .00 ----- | As =
3.56 -STAS- [3 B 12.5mm]
| ASL= .00 ----- x/d = .03 | As = 3.56 -SRAS- [3 B 12.5mm] | ASL=
.00 ----- x/d = .03
x/dMx= .50 | Arm.Lat.= [2 X 7 B 6.3mm] - LN= 5.2 |
[tf,cm] | M[-]Min = 886.1 | M[+]Min = 1056.4 | M[-]
]Min = 886.1
[cm2] | Asapo[+]= 2.99 |
Asapo[+]= 2.99

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 210. 17.54 101.32 2 45. .1 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 210. .01 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .17 N

----- G E O M E T R I A E C A R G A S -----

Vao= 4 /L= 2.73 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 1.7 tf* m | M.[+] Max= 2.6 tf* m - Abcis.= 116 | M.[-]
= 8.7 tf* m
[tf,cm]| As = 3.56 -STAS- [ 3 B 12.5mm] | AsL= .00 ----- | As =
3.56 -STAS- [ 3 B 12.5mm] | AsL= .00 ----- x/d = .03 | As = 3.56 -SRAS- [ 3 B 12.5mm ] | AsL=
.00 ----- x/d = .03 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.2 |
x/dMx= .50 |
| M[-]Min = 886.1 | M[+]Min = 1056.4 | M[-]
[tf,cm]|
]Min = 886.1
[cm2 ]| Asapo[+]= 2.99 |
Asapo[+]= 2.99

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	210.	18.81	101.32	2	45.	.5	2.3	2.3	6.3	25.0	2	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	210.	.00	5.82	5	8.1	8.1	93.1	.0	.0	.0	.0	.19	N

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 2.73 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 3.1 tf* m | M.[+] Max= 2.6 tf* m - Abcis.= 116 | M.[-]
= 6.7 tf* m
[tf,cm]| As = 3.56 -STAS- [ 3 B 12.5mm] | AsL= .00 ----- | As =
3.56 -STAS- [ 3 B 12.5mm] | AsL= .00 ----- x/d = .03 | As = 3.56 -SRAS- [ 3 B 12.5mm ] | AsL=
.00 ----- x/d = .03 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.2 |
x/dMx= .50 |
| M[-]Min = 886.1 | M[+]Min = 1056.4 | M[-]
[tf,cm]|
]Min = 886.1
[cm2 ]| Asapo[+]= 2.99 |
Asapo[+]= 2.99

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	210.	17.03	101.32	2	45.	.0	2.3	2.3	6.3	25.0	2	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	210.	.05	5.82	5	8.1	8.1	93.1	.1	.0	.0	.0	.18	N

----- G E O M E T R I A E C A R G A S -----

Vao= 6 /L= 2.86 /B= .20 /H= 1.05 /BCs= .00 /BCi= .27 /TpS= 6 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 2.0 tf* m | M.[+] Max= 3.3 tf* m - Abcis.= 120 | M.[-]
= 8.9 tf* m
[tf,cm]| As = 3.42 -STAS- [ 3 B 12.5mm] | AsL= .00 ----- | As =
3.42 -STAS- [ 3 B 12.5mm] | AsL= .00 ----- x/d = .03 | As = 3.42 -SRAS- [ 3 B 12.5mm ] | AsL=
.00 ----- x/d = .03 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 4.8 |
x/dMx= .50 |
| M[-]Min = 859.4 | M[+]Min = 968.5 | M[-]
[tf,cm]|
]Min = 859.4

```

[cm2]| Asapo[+]= 2.99
Asapo[+]= .85

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	223.	18.00	101.32	2	45.	.2	2.3	2.3	6.3	25.0	2	.0	.0

T O R C A O- M E N S A G E M	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
[tf,cm]	0.-	223.	.01	5.82	5	8.1	8.1	93.1	.0	.0	.0	.0	.18	N

REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:								
1	9.408	9.311	.70	.04	0	BC1	.00	.00 8009 0
2	24.288	24.272	.70	.04	0	BC2	.00	.00 8011 0
3	20.450	20.443	.70	.04	0	BC3	.00	.00 8012 0
4	22.527	22.516	.70	.04	0	BC4	.00	.00 8013 0
5	21.272	21.201	.70	.04	0	BC5	.00	.00 8091 0
6	12.859	12.713	1.75	.56	0	BC16	.00	.00 8160 0

Viga= 83 PAA3 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.88 /B= .20 /H= 1.05 /BCs= .00 /BCi= .34 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)			
FLEXAO- E S Q U E R D A	M E I O D O V A O		D I R
E I T A			
M.[-] = 5.2 tf* m	M.[+] Max= 3.7 tf* m - Abcis.= 145		M.[-]
= 5.7 tf* m			
[tf,cm] As = 3.69 -STAS- [3 B 12.5mm]	AsL= .00 -----		As =
3.69 -STAS- [3 B 12.5mm]			
AsL= .00 ----- x/d = .03	As = 3.78 -SRAS- [3 B 12.5mm]		AsL=
.00 ----- x/d = .03			
x/dMx= .50	x/dMx= .50 Arm.Lat.= [2 X 7 B 6.3mm] - LN= 5.6		
[tf,cm] M[-]Min = 907.9	M[+]Min = 1135.8		M[-]
]Min = 907.9			
[cm2] Asapo[+]= .95			
Asapo[+]= 2.99			

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	225.	18.21	101.32	2	45.	.3	2.3	2.3	6.3	25.0	2	.0	.0

T O R C A O- M E N S A G E M	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
[tf,cm]	0.-	225.	.04	5.82	5	8.1	8.1	93.1	.1	.0	.0	.0	.19	N

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 2.23 /B= .20 /H= 1.05 /BCs= .00 /BCi= .29 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)			
FLEXAO- E S Q U E R D A	M E I O D O V A O		D I R
E I T A			
M.[-] = 4.4 tf* m	M.[+] Max= .7 tf* m - Abcis.= 134		M.[-]
= 2.4 tf* m			
[tf,cm] As = 3.48 -STAS- [3 B 12.5mm]	AsL= .00 -----		As =
3.48 -STAS- [3 B 12.5mm]			
AsL= .00 ----- x/d = .03	As = 3.48 -SRAS- [3 B 12.5mm]		AsL=
.00 ----- x/d = .03			
x/dMx= .50	x/dMx= .50 Arm.Lat.= [2 X 7 B 6.3mm] - LN= 5.0		
[tf,cm] M[-]Min = 872.4	M[+]Min = 1010.1		M[-]
]Min = 872.4			

[cm2]| Asapo[+]= 2.99
 Asapo[+]= 2.99

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	160.	11.49	101.32	2	45.	.0	2.3	2.3	6.3	25.0	2	.0	.0

T O R C A O- M E N S A G E M	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
[tf,cm]	0.-	160.	.02	5.82	5	8.1	8.1	93.1	.0	.0	.0	.0	.12	N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 2.23 /B= .20 /H= 1.05 /BCs= .00 /BCi= .29 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)														
FLEXAO- E S Q U E R D A					M E I O D O V A O					D I R				
E I T A														
M.[-] = 3.1 tf* m					M.[+] Max= 1.3 tf* m - Abcis.= 115					M.[-]				
= 2.5 tf* m														
[tf,cm] As = 3.48 -STAS- [3 B 12.5mm]					AsL= .00 -----					As =				
3.48 -STAS- [3 B 12.5mm]														
AsL= .00 -----					x/d = .03					As = 3.48 -SRAS- [3 B 12.5mm]				
.00 -----					x/d = .03					AsL=				
					x/dMx= .50					Arm.Lat.= [2 X 7 B 6.3mm] - LN= 5.0				
x/dMx= .50														
[tf,cm] M[-]Min = 872.4					M[+]Min = 1010.1					M[-]				
]Min = 872.4														
[cm2] Asapo[+]= 2.99														
Asapo[+]= 2.99														

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	160.	10.73	101.32	2	45.	.0	2.3	2.3	6.3	25.0	2	.0	.0

T O R C A O- M E N S A G E M	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
[tf,cm]	0.-	160.	.00	5.82	5	8.1	8.1	93.1	.0	.0	.0	.0	.11	N

----- G E O M E T R I A E C A R G A S -----

Vao= 4 /L= 2.23 /B= .20 /H= 1.05 /BCs= .00 /BCi= .29 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)														
FLEXAO- E S Q U E R D A					M E I O D O V A O					D I R				
E I T A														
M.[-] = 3.2 tf* m					M.[+] Max= 1.5 tf* m - Abcis.= 115					M.[-]				
= 2.1 tf* m														
[tf,cm] As = 3.48 -STAS- [3 B 12.5mm]					AsL= .00 -----					As =				
3.48 -STAS- [3 B 12.5mm]														
AsL= .00 -----					x/d = .03					As = 3.48 -SRAS- [3 B 12.5mm]				
.00 -----					x/d = .03					AsL=				
					x/dMx= .50					Arm.Lat.= [2 X 7 B 6.3mm] - LN= 5.0				
x/dMx= .50														
[tf,cm] M[-]Min = 872.4					M[+]Min = 1010.1					M[-]				
]Min = 872.4														
[cm2] Asapo[+]= 2.99														
Asapo[+]= 2.99														

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	160.	10.98	101.32	2	45.	.0	2.3	2.3	6.3	25.0	2	.0	.0

T O R C A O- M E N S A G E M	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
[tf,cm]	0.-	160.	.00	5.82	5	8.1	8.1	93.1	.0	.0	.0	.0	.11	N

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 2.23 /B= .20 /H= 1.05 /BCs= .00 /BCi= .29 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)														

```

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 3.0 tf* m | M.[+] Max= .9 tf* m - Abcis.= 115 | M.[-]
= 3.4 tf* m | | |
[tf,cm]| As = 3.48 -STAS- [ 3 B 12.5mm] | AsL= .00 ----- | As =
3.48 -STAS- [ 3 B 12.5mm] | | |
| AsL= .00 ----- x/d = .03 | As = 3.48 -SRAS- [ 3 B 12.5mm ] | AsL=
.00 ----- x/d = .03 | | |
| x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.0 |
x/dMx= .50 | | |
[tf,cm]| M[-]Min = 872.4 | M[+]Min = 1010.1 | M[-]
]Min = 872.4 | | |
[cm2 ]| Asapo[+]= 2.99 | | |
Asapo[+]= 2.99 | | |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 10.59 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .01 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .11 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 6 /L= 2.68 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .53 /FLt.Ex= .10 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 4.0 tf* m | M.[+] Max= 2.6 tf* m - Abcis.= 137 | M.[-]
= 4.8 tf* m | | |
[tf,cm]| As = 3.55 -STAS- [ 3 B 12.5mm] | AsL= .00 ----- | As =
3.55 -STAS- [ 3 B 12.5mm] | | |
| AsL= .00 ----- x/d = .03 | As = 3.55 -SRAS- [ 3 B 12.5mm ] | AsL=
.00 ----- x/d = .03 | | |
| x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.2 |
x/dMx= .50 | | |
[tf,cm]| M[-]Min = 884.8 | M[+]Min = 1051.7 | M[-]
]Min = 884.8 | | |
[cm2 ]| Asapo[+]= 2.99 | | |
Asapo[+]= 2.99 | | |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 205. 15.02 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 205. .01 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .15 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 7 /L= 2.68 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .53 /FLt.Ex= .10 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 5.4 tf* m | M.[+] Max= 2.7 tf* m - Abcis.= 137 | M.[-]
= 3.3 tf* m | | |
[tf,cm]| As = 3.55 -STAS- [ 3 B 12.5mm] | AsL= .00 ----- | As =
3.55 -STAS- [ 3 B 12.5mm] | | |
| AsL= .00 ----- x/d = .03 | As = 3.55 -SRAS- [ 3 B 12.5mm ] | AsL=
.00 ----- x/d = .03 | | |
| x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.2 |
x/dMx= .50 | | |
[tf,cm]| M[-]Min = 884.8 | M[+]Min = 1051.7 | M[-]
]Min = 884.8 | | |
[cm2 ]| Asapo[+]= 2.99 | | |
Asapo[+]= 2.99 | | |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 205. 15.87 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 205. .00 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .16 N

----- G E O M E T R I A E C A R G A S -----

Vao= 8 /L= 2.23 /B= .20 /H= 1.05 /BCs= .00 /BCi= .29 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 4.1 tf* m | M.[+] Max= 1.1 tf* m - Abcis.= 134 | M.[-]
 = 2.1 tf* m
 [tf,cm]| As = 3.48 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =
 3.48 -STAS- [3 B 12.5mm]
 | AsL= .00 ----- x/d = .03 | As = 3.48 -SRAS- [3 B 12.5mm] | AsL=
 .00 ----- x/d = .03
 | x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.0 |
 x/dMx= .50
 |
 [tf,cm]| M[-]Min = 872.4 | M[+]Min = 1010.1 | M[-]
]Min = 872.4
 [cm2]| Asapo[+]= 2.99 |
 Asapo[+]= 2.99

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 11.61 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .01 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .12 N

----- G E O M E T R I A E C A R G A S -----

Vao= 9 /L= 2.23 /B= .20 /H= 1.05 /BCs= .00 /BCi= .29 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 2.8 tf* m | M.[+] Max= .8 tf* m - Abcis.= 115 | M.[-]
 = 3.8 tf* m
 [tf,cm]| As = 3.48 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =
 3.48 -STAS- [3 B 12.5mm]
 | AsL= .00 ----- x/d = .03 | As = 3.48 -SRAS- [3 B 12.5mm] | AsL=
 .00 ----- x/d = .03
 | x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.0 |
 x/dMx= .50
 |
 [tf,cm]| M[-]Min = 872.4 | M[+]Min = 1010.1 | M[-]
]Min = 872.4
 [cm2]| Asapo[+]= 2.99 |
 Asapo[+]= 2.99

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 10.94 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .01 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .11 N

----- G E O M E T R I A E C A R G A S -----

Vao=10 /L= 2.88 /B= .20 /H= 1.05 /BCs= .00 /BCi= .34 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 6.6 tf* m | M.[+] Max= 3.7 tf* m - Abcis.= 145 | M.[-]
 = 4.3 tf* m
 [tf,cm]| As = 3.69 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =
 3.69 -STAS- [3 B 12.5mm]
 | AsL= .00 ----- x/d = .03 | As = 3.78 -SRAS- [3 B 12.5mm] | AsL=
 .00 ----- x/d = .03

x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.6 |
 [tf,cm] | M[-]Min = 907.9 | M[+]Min = 1135.8 | M[-]
]Min = 907.9
 [cm2] | Asapo[+]= 2.99 |
 Asapo[+]= 3.79 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 225. 19.03 101.32 2 45. .5 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 225. .03 5.82 5 8.1 8.1 93.1 .1 .0 .0 .0 .19 N

REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:								
1	12.482	12.480	.70	.04	0	BA71	.00	.00 8128 0
2	20.911	20.911	.70	.04	0	BA64	.00	.00 8126 0
3	13.843	13.842	.70	.04	0	BA57	.00	.00 8125 0
4	14.728	14.727	.70	.04	0	BA50	.00	.00 8124 0
5	13.934	13.930	.70	.04	0	BA43	.00	.00 8120 0
6	17.473	17.469	.70	.04	0	BA36	.00	.00 8119 0
7	21.746	21.744	.70	.04	0	BA29	.00	.00 8112 0
8	17.805	17.804	.70	.04	0	BA22	.00	.00 8111 0
9	13.139	13.138	.70	.04	0	BA15	.00	.00 8104 0
10	21.097	21.095	.70	.04	0	BA8	.00	.00 8103 0
11	11.860	11.858	.70	.04	0	BA7	.00	.00 8096 0

Viga= 84 PAA2 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1 /L= 2.86 /B= .20 /H= 1.05 /BCs= .00 /BCi= .34 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 6.9 tf* m | M.[+] Max= 4.1 tf* m - Abcis.= 144 | M.[-]
 = 4.7 tf* m | M.[+] Min = 1132.9 | M.[+]
 [tf,cm] | As = 3.69 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =
 3.69 -STAS- [3 B 12.5mm] | AsL= .00 ----- | AsL=
 .00 ----- x/d = .03 | As = 3.77 -SRAS- [3 B 12.5mm] | AsL=
 x/d = .03 x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.6 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 907.2 | M[+]Min = 1132.9 | M[-]
]Min = 907.2
 [cm2] | Asapo[+]= .94 |
 Asapo[+]= 2.99 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 223. 20.38 101.32 2 45. 1.0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 223. .04 5.82 5 8.1 8.1 93.1 .1 .0 .0 .0 .21 N

----- G E O M E T R I A E C A R G A S -----
 Vao= 2 /L= 2.73 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M. [-] = 8.1 tf* m | M. [+] Max= 2.1 tf* m - Abcis.= 163 | M. [-]
 = 2.8 tf* m
 [tf,cm] | As = 3.56 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =
 3.56 -STAS- [3 B 12.5mm]
 | AsL= .00 ----- x/d = .03 | As = 3.56 -SRAS- [3 B 12.5mm] | AsL=
 .00 ----- x/d = .03
 | x/dMx= .50 | Arm.Lat.= [2 X 7 B 6.3mm] - LN= 5.2 |
 [tf,cm] | M[-]Min = 886.1 | M[+]Min = 1056.4 | M[-]
]Min = 886.1
 [cm2] | Asapo[+]= 2.99 |
 Asapo[+]= 2.99

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 210. 17.79 101.32 2 45. .2 2.3 2.3 6.3 25.0 2 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 210. .03 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .18 N
 ----- G E O M E T R I A E C A R G A S -----
 Vao= 3 /L= 2.73 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M. [-] = 7.2 tf* m | M. [+] Max= 2.6 tf* m - Abcis.= 163 | M. [-]
 = 2.6 tf* m
 [tf,cm] | As = 3.56 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =
 3.56 -STAS- [3 B 12.5mm]
 | AsL= .00 ----- x/d = .03 | As = 3.56 -SRAS- [3 B 12.5mm] | AsL=
 .00 ----- x/d = .03
 | x/dMx= .50 | Arm.Lat.= [2 X 7 B 6.3mm] - LN= 5.2 |
 [tf,cm] | M[-]Min = 886.1 | M[+]Min = 1056.4 | M[-]
]Min = 886.1
 [cm2] | Asapo[+]= 2.99 |
 Asapo[+]= 2.99

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 210. 17.51 101.32 2 45. .1 2.3 2.3 6.3 25.0 2 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 210. .00 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .17 N
 ----- G E O M E T R I A E C A R G A S -----
 Vao= 4 /L= 2.73 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M. [-] = 7.5 tf* m | M. [+] Max= 2.8 tf* m - Abcis.= 163 | M. [-]
 = 2.1 tf* m
 [tf,cm] | As = 3.56 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =
 3.56 -STAS- [3 B 12.5mm]
 | AsL= .00 ----- x/d = .03 | As = 3.56 -SRAS- [3 B 12.5mm] | AsL=
 .00 ----- x/d = .03
 | x/dMx= .50 | Arm.Lat.= [2 X 7 B 6.3mm] - LN= 5.2 |
 [tf,cm] | M[-]Min = 886.1 | M[+]Min = 1056.4 | M[-]
]Min = 886.1
 [cm2] | Asapo[+]= 2.99 |
 Asapo[+]= 2.99

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 210. 17.87 101.32 2 45. .2 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 210. .00 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .18 N

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 2.73 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

| M.[-] = 7.3 tf* m | M.[+] Max= 2.1 tf* m - Abcis.= 163 | M.[-]

= 3.4 tf* m | As = 3.56 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =

[tf,cm]| As = 3.56 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =

.00 ----- x/d = .03 | As = 3.56 -SRAS- [3 B 12.5mm] | AsL=

| x/dMx= .50 | Arm.Lat.= [2 X 7 B 6.3mm] - LN= 5.2 |

[tf,cm]| M[-]Min = 886.1 | M[+]Min = 1056.4 | M[-]

]Min = 886.1 |

[cm2]| Asapo[+]= 2.99 |

Asapo[+]= 2.99 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus

M E N S A G E M
 [tf,cm] 0.- 210. 17.14 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla

M E N S A G E M
 [tf,cm] 0.- 210. .00 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .17 N

----- G E O M E T R I A E C A R G A S -----

Vao= 6 /L= 2.73 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25

FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

| M.[-] = 8.9 tf* m | M.[+] Max= 5.3 tf* m - Abcis.= 184 | M.[-]

= 8.8 tf* m | As = 3.56 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =

[tf,cm]| As = 4.41 -STAS- [4 B 12.5mm] | AsL= .00 ----- | As =

.00 ----- x/d = .03 | As = 3.56 -SRAS- [3 B 12.5mm] | AsL=

| x/dMx= .50 | Arm.Lat.= [2 X 7 B 6.3mm] - LN= 5.2 |

[tf,cm]| M[-]Min = 886.1 | M[+]Min = 1056.4 | M[-]

]Min = 886.1 |

[cm2]| Asapo[+]= 2.99 |

Asapo[+]= 3.56 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus

M E N S A G E M
 [tf,cm] 0.- 210. 21.06 101.32 2 45. 1.2 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla

M E N S A G E M
 [tf,cm] 0.- 210. .01 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .21 N

----- G E O M E T R I A E C A R G A S -----

Vao= 7B /L= .84 /B= .20 /H= 1.05 /BCs= .00 /BCi= .54 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25

FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO | M[-]= 8.82 tf* m | As = 4.41 -STAS- [4 B 12.5mm]

BAL.DIR | x/d = .02 | AsL= .00 -Arm.Lat.= [2 X 7 B 6.3mm]

.6 |

[tf,cm] | M[-]Min= 996.3 - x/dMx =1.00 | %

Baric.Armad.= 1

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	46.	4.51	101.32	2	45.	.0	2.3	2.3	6.3	25.0	2	.0	.0

REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:								
0 0 0 1	14.537	14.525	1.75	.56	0	BA71	.00	.00 8128 0
0 0 0 2	25.504	25.497	.70	.04	0	BA72	.00	.00 8092 0
0 0 0 3	21.060	21.058	.70	.04	0	BA73	.00	.00 8077 0
0 0 0 4	21.557	21.555	.70	.04	0	BA74	.00	.00 8078 0
0 0 0 5	20.795	20.792	.70	.04	0	BA75	.00	.00 8079 0
0 0 0 6	24.066	24.065	.70	.04	0	BA76	.00	.00 8080 0
0 0 0 7	9.704	9.699	.70	.04	0	BA77	.00	.00 8081 0

Viga= 85 PAB2 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

 Vao= 1B /L= .85 /B= .20 /H= 1.05 /BCs= .00 /BCi= .54 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO | M[-]= 8.82 tf* m | As = 4.42 -STAS- [4 B 12.5mm]
 BAL.Esq | x/d = .02 | AsL= .00 -Arm.Lat.= [2 X 7 B 6.3mm]
 .6
 [tf,cm] | M[-]Min= 997.7 - x/dMx =1.00 | %
 Baric.Armad.= 1

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	47.	4.93	101.32	2	45.	.0	2.3	2.3	6.3	25.0	2	.0	.0

----- G E O M E T R I A E C A R G A S -----

 Vao= 2 /L= 2.63 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 8.8 tf* m | M.[+] Max= 3.6 tf* m - Abcis.= 111 | M.[-]
 = 5.3 tf* m
 [tf,cm] | As = 4.42 -STAS- [4 B 12.5mm] | AsL= .00 ----- | As =
 3.54 -STAS- [3 B 12.5mm] | AsL= .00 ----- | AsL=
 | AsL= .00 ----- x/d = .02 | As = 3.54 -SRAS- [3 B 12.5mm] | AsL=
 .00 ----- x/d = .03
 | x/dMx= .50 | Arm.Lat.= [2 X 7 B 6.3mm] - LN= 5.2 |
 [tf,cm] | M[-]Min = 883.4 | M.[+]Min = 1047.1 | M[-]
]Min = 883.4
 [cm2] | Asapo[+]= 3.54 |
 Asapo[+]= 2.99

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	200.	16.47	101.32	2	45.	.0	2.3	2.3	6.3	25.0	2	.0	.0

T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	200.	.00	5.82	5	8.1	8.1	93.1	.0	.0	.0	.0	.16	N

----- G E O M E T R I A E C A R G A S -----

 Vao= 3 /L= 2.63 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
) - - - - -

```

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 5.3 tf* m | M.[+] Max= 1.8 tf* m - Abcis.= 135 | M.[-]
| 4.3 tf* m
[tf,cm]| As = 3.54 -STAS- [ 3 B 12.5mm] | AsL= .00 ----- | As =
3.54 -STAS- [ 3 B 12.5mm]
| AsL= .00 ----- x/d = .03 | As = 3.54 -SRAS- [ 3 B 12.5mm ] | AsL=
.00 ----- x/d = .03
| x/dMx= .50 | Arm.Lat.= [2 X 7 B 6.3mm] - LN= 5.2 |
x/dMx= .50
|
[tf,cm]| M[-]Min = 883.4 | M[+]Min = 1047.1 | M[-]
]Min = 883.4
[cm2 ]| Asapo[+]= 2.99 |
Asapo[+]= 2.99

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 14.71 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 200. .01 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .15 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 4 /L= 2.63 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .53 /FLt.Ex= .10 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 4.2 tf* m | M.[+] Max= 2.2 tf* m - Abcis.= 135 | M.[-]
| 4.6 tf* m
[tf,cm]| As = 3.54 -STAS- [ 3 B 12.5mm] | AsL= .00 ----- | As =
3.54 -STAS- [ 3 B 12.5mm]
| AsL= .00 ----- x/d = .03 | As = 3.54 -SRAS- [ 3 B 12.5mm ] | AsL=
.00 ----- x/d = .03
| x/dMx= .50 | Arm.Lat.= [2 X 7 B 6.3mm] - LN= 5.2 |
x/dMx= .50
|
[tf,cm]| M[-]Min = 883.4 | M[+]Min = 1047.1 | M[-]
]Min = 883.4
[cm2 ]| Asapo[+]= 2.99 |
Asapo[+]= 2.99

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 14.37 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 200. .00 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .14 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 5 /L= 2.63 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .53 /FLt.Ex= .10 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 4.6 tf* m | M.[+] Max= 2.4 tf* m - Abcis.= 135 | M.[-]
| 3.8 tf* m
[tf,cm]| As = 3.54 -STAS- [ 3 B 12.5mm] | AsL= .00 ----- | As =
3.54 -STAS- [ 3 B 12.5mm]
| AsL= .00 ----- x/d = .03 | As = 3.54 -SRAS- [ 3 B 12.5mm ] | AsL=
.00 ----- x/d = .03
| x/dMx= .50 | Arm.Lat.= [2 X 7 B 6.3mm] - LN= 5.2 |
x/dMx= .50
|
[tf,cm]| M[-]Min = 883.4 | M[+]Min = 1047.1 | M[-]
]Min = 883.4
[cm2 ]| Asapo[+]= 2.99 |
Asapo[+]= 2.99

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 14.56 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 200. .00 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .14 N

----- G E O M E T R I A E C A R G A S -----

Vao= 6 /L= 2.43 /B= .20 /H= 1.05 /BCs= .00 /BCi= .30 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

| M.[-] = 3.9 tf* m | M.[+] Max= 1.2 tf* m - Abcis.= 125 | M.[-]
 = 4.2 tf* m
 [tf,cm] | As = 3.51 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =
 3.51 -STAS- [3 B 12.5mm]
 | AsL= .00 ----- x/d = .03 | As = 3.51 -SRAS- [3 B 12.5mm] | AsL=
 .00 ----- x/d = .03
 | x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.1 |
 x/dMx= .50
 |
 [tf,cm] | M[-]Min = 878.0 | M[+]Min = 1028.6 | M[-]
]Min = 878.0
 [cm2] | Asapo[+]= 2.99 |
 Asapo[+]= 2.99

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 180. 12.21 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 180. .00 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .12 N

----- G E O M E T R I A E C A R G A S -----

Vao= 7 /L= 2.43 /B= .20 /H= 1.05 /BCs= .00 /BCi= .30 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

| M.[-] = 4.1 tf* m | M.[+] Max= 2.8 tf* m - Abcis.= 143 | M.[-]
 = 8.8 tf* m
 [tf,cm] | As = 3.51 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =
 4.42 -STAS- [4 B 12.5mm]
 | AsL= .00 ----- x/d = .03 | As = 3.51 -SRAS- [3 B 12.5mm] | AsL=
 .00 ----- x/d = .02
 | x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.1 |
 x/dMx= .50
 |
 [tf,cm] | M[-]Min = 878.0 | M[+]Min = 1028.6 | M[-]
]Min = 878.0
 [cm2] | Asapo[+]= 2.99 |
 Asapo[+]= 3.51

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 180. 13.87 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 180. .01 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .14 N

----- G E O M E T R I A E C A R G A S -----

Vao= 8B /L= .85 /B= .20 /H= 1.05 /BCs= .00 /BCi= .54 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO | M[-]= 8.82 tf* m | As = 4.42 -STAS- [4 B 12.5mm]
 BAL.DIR | x/d = .02 | AsL= .00 -Arm.Lat.=[2 X 7 B 6.3mm]

.6
 [tf,cm] | M[-]Min= 997.7 - x/dMx= 1.00 | %
 Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M

[tf,cm]	0.-	47.	4.58	101.32	2	45.	.0	2.3	2.3	6.3	25.0	2	.0	.0
REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn						
Pilares:														
1	11.838	11.836	.70	.04	0	BB71	.00	.00	8082	0				
0 0 0	2	21.950	21.949	.70	.04	0	BB72	.00	.00	8083	0			
0 0 0	3	19.347	19.347	.70	.04	0	BB73	.00	.00	8084	0			
0 0 0	4	20.368	20.368	.70	.04	0	BB74	.00	.00	8085	0			
0 0 0	5	18.073	18.072	.70	.04	0	BB75	.00	.00	8086	0			
0 0 0	6	18.360	18.359	.70	.04	0	BB76	.00	.00	8087	0			
0 0 0	7	10.520	10.518	.70	.04	0	BB77	.00	.00	8088	0			
0 0 0	0	0												

Viga= 86 PAC2 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1B /L= .84 /B= .20 /H= 1.05 /BCs= .00 /BCi= .54 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO | M[-]= 8.82 tf* m | As = 4.41 -STAS- [4 B 12.5mm]
 BAL.ESQ | x/d = .02 | AsL= .00 -Arm.Lat.= [2 X 7 B 6.3mm]
 .6
 [tf,cm] | M[-]Min= 996.3 - x/dMx =1.00 | %
 Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 46. 4.76 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

----- G E O M E T R I A E C A R G A S -----
 Vao= 2 /L= 2.73 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 8.8 tf* m | M.[+] Max= 5.2 tf* m - Abcis.= 92 | M.[-]
 = 8.8 tf* m
 [tf,cm] | As = 4.41 -STAS- [4 B 12.5mm] | AsL= .00 ----- | As =
 3.56 -STAS- [3 B 12.5mm] | AsL= .00 ----- x/d = .02 | As = 3.56 -SRAS- [3 B 12.5mm] | AsL=
 .00 ----- x/d = .03 | Arm.Lat.= [2 X 7 B 6.3mm] - LN= 5.2 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 886.1 | M[+]Min = 1056.4 | M[-]
]Min = 886.1
 [cm2] | Asapo[+]= 3.56 |
 Asapo[+]= 2.99

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 210. 20.94 101.32 2 45. 1.1 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 210. .00 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .21 N

----- G E O M E T R I A E C A R G A S -----
 Vao= 3 /L= 2.73 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

```

      | M.[-] =      3.6 tf* m      | M.[+] Max=      2.1 tf* m - Abcis.= 116 | M.[-]
=      7.1 tf* m      |
[tf,cm]| As =      3.56 -STAS- [ 3 B 12.5mm] | AsL=      .00 ----- | As =
3.56 -STAS- [ 3 B 12.5mm] | AsL=      .00 ----- x/d = .03 | As =      3.56 -SRAS- [ 3 B 12.5mm ] | AsL=
.00 ----- x/d = .03      x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.2 |
x/dMx= .50      |
[tf,cm]| M[-]Min =      886.1      | M[+]Min =      1056.4      | M[-]
]Min =      886.1      |
[cm2 ]| Asapo[+]=      2.99      |
Asapo[+]=      2.99      |

```

```

CISALHAMENTO- Xi   Xf   Vsd   VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit   Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm]      0.- 210.  16.91 101.32  2 45.   .0   2.3   2.3 6.3 25.0 2   .0   .0

```

```

T O R C A O- Xi   Xf   Tsd   TRd2 %dT   he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm]      0.- 210.   .00   5.82  5 8.1  8.1 93.1   .0   .0   .0   .0   .17  N

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 4 /L= 2.73 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .53 /FLt.Ex= .10 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
) - - - - -
FLEXAO-| E S Q U E R D A      | M E I O D O V A O      | D I R
E I T A
      | M.[-] =      2.3 tf* m      | M.[+] Max=      2.8 tf* m - Abcis.= 116 | M.[-]
=      7.3 tf* m      |
[tf,cm]| As =      3.56 -STAS- [ 3 B 12.5mm] | AsL=      .00 ----- | As =
3.56 -STAS- [ 3 B 12.5mm] | AsL=      .00 ----- x/d = .03 | As =      3.56 -SRAS- [ 3 B 12.5mm ] | AsL=
.00 ----- x/d = .03      x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.2 |
x/dMx= .50      |
[tf,cm]| M[-]Min =      886.1      | M[+]Min =      1056.4      | M[-]
]Min =      886.1      |
[cm2 ]| Asapo[+]=      2.99      |
Asapo[+]=      2.99      |

```

```

CISALHAMENTO- Xi   Xf   Vsd   VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit   Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm]      0.- 210.  17.74 101.32  2 45.   .1   2.3   2.3 6.3 25.0 2   .0   .0

```

```

T O R C A O- Xi   Xf   Tsd   TRd2 %dT   he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm]      0.- 210.   .00   5.82  5 8.1  8.1 93.1   .0   .0   .0   .0   .18  N

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 5 /L= 2.73 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .53 /FLt.Ex= .10 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
) - - - - -
FLEXAO-| E S Q U E R D A      | M E I O D O V A O      | D I R
E I T A
      | M.[-] =      2.6 tf* m      | M.[+] Max=      1.9 tf* m - Abcis.= 116 | M.[-]
=      8.0 tf* m      |
[tf,cm]| As =      3.56 -STAS- [ 3 B 12.5mm] | AsL=      .00 ----- | As =
3.56 -STAS- [ 3 B 12.5mm] | AsL=      .00 ----- x/d = .03 | As =      3.56 -SRAS- [ 3 B 12.5mm ] | AsL=
.00 ----- x/d = .03      x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.2 |
x/dMx= .50      |
[tf,cm]| M[-]Min =      886.1      | M[+]Min =      1056.4      | M[-]
]Min =      886.1      |
[cm2 ]| Asapo[+]=      2.99      |
Asapo[+]=      2.99      |

```

```

CISALHAMENTO- Xi   Xf   Vsd   VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit   Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm]      0.- 210.  16.88 101.32  2 45.   .0   2.3   2.3 6.3 25.0 2   .0   .0

```

```

T O R C A O- Xi   Xf   Tsd   TRd2 %dT   he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm]      0.- 210.   .02   5.82  5 8.1  8.1 93.1   .0   .0   .0   .0   .17  N

```

----- G E O M E T R I A E C A R G A S -----
 Vao= 6 /L= 2.83 /B= .20 /H= 1.05 /BCs= .00 /BCi= .27 /TpS= 9 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 4.9 tf* m | M.[+] Max= 4.2 tf* m - Abcis.= 143 | M.[-]
 = 6.9 tf* m
 [tf,cm]| As = 3.42 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =
 3.42 -STAS- [3 B 12.5mm]
 | AsL= .00 ----- x/d = .03 | As = 3.42 -SRAS- [3 B 12.5mm] | AsL=
 .00 ----- x/d = .03
 | x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 4.8 |
 [tf,cm]| M[-]Min = 858.9 | M[+]Min = 967.0 | M[-]
]Min = 858.9
 [cm2]| Asapo[+]= 2.99 |
 Asapo[+]= .85

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 220. 19.21 101.32 2 45. .6 2.3 2.3 6.3 25.0 2 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 220. .05 5.82 5 8.1 8.1 93.1 .1 .0 .0 .0 .20 N

REAC. APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:									
0	0	10.033	9.968	.70	.04	0	BC65	.00	.00 8089 0
0	0	24.103	24.091	.70	.04	0	BC66	.00	.00 8090 0
0	0	20.726	20.719	.70	.04	0	BC67	.00	.00 8093 0
0	0	20.434	20.417	.70	.04	0	BC68	.00	.00 8094 0
0	0	25.361	25.309	.70	.04	0	BC69	.00	.00 8095 0
0	0	13.464	13.369	1.80	.58	0	BC70	.00	.00 8237 0

Viga= 87 PAC3 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1 /L= 2.38 /B= .30 /H= 1.05 /BCs= .00 /BCi= .42 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .15 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 3.5 tf* m | M.[+] Max= 3.7 tf* m - Abcis.= 122 | M.[-]
 = 4.9 tf* m
 [tf,cm]| As = 5.17 -STAS- [3 B 16.0mm] | AsL= .00 ----- | As =
 5.17 -STAS- [3 B 16.0mm]
 | AsL= .00 ----- x/d = .03 | As = 5.17 -SRAS- [3 B 16.0mm] | AsL=
 .00 ----- x/d = .03
 | x/dMx= .50 | Arm.Lat.=[2 X 11 B 6.3mm] - LN= 4.9 |
 [tf,cm]| M[-]Min = 1298.0 | M[+]Min = 1480.6 | M[-]
]Min = 1298.0
 [cm2]| Asapo[+]= 5.17 |
 Asapo[+]= 4.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 175. 19.63 151.98 2 45. .0 3.5 3.5 6.3 17.0 2 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 175. .05 18.59 5 11.7 18.1 93.1 .0 .0 .0 .0 .13 N

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 1.94 /B= .30 /H= 1.05 /BCs= .00 /BCi= .38 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .15 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 1.4 tf* m | M.[+] Max= .5 tf* m - Abcis.= 68 | M.[-]
 = 5.8 tf* m
 [tf,cm]| As = 5.02 -STAS- [3 B 16.0mm] | AsL= .00 ----- | As =
 5.02 -STAS- [3 B 16.0mm]
 | AsL= .00 ----- x/d = .03 | As = 5.02 -SRAS- [4 B 12.5mm] | AsL=
 .00 ----- x/d = .03
 | x/dMx= .50 | Arm.Lat.=[2 X 11 B 6.3mm] - LN= 4.6 |
 [tf,cm]| M[-]Min = 1266.1 | M[+]Min = 1383.3 | M[-]
]Min = 1266.1
 [cm2]| Asapo[+]= 4.49 |
 Asapo[+]= 4.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 131. 14.12 151.98 2 45. .0 3.5 3.5 6.3 17.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 131. .04 18.59 5 11.7 18.1 93.1 .0 .0 .0 .0 .10 N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 2.87 /B= .30 /H= 1.05 /BCs= .00 /BCi= .41 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .15 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 5.9 tf* m | M.[+] Max= 3.7 tf* m - Abcis.= 149 | M.[-]
 = 6.3 tf* m
 [tf,cm]| As = 5.16 -STAS- [3 B 16.0mm] | AsL= .00 ----- | As =
 5.16 -STAS- [3 B 16.0mm]
 | AsL= .00 ----- x/d = .03 | As = 5.16 -SRAS- [3 B 16.0mm] | AsL=
 .00 ----- x/d = .03
 | x/dMx= .50 | Arm.Lat.=[2 X 11 B 6.3mm] - LN= 4.9 |
 [tf,cm]| M[-]Min = 1294.9 | M[+]Min = 1470.8 | M[-]
]Min = 1294.9
 [cm2]| Asapo[+]= 4.49 |
 Asapo[+]= 4.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 224. 19.29 151.98 2 45. .0 3.5 3.5 6.3 17.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 224. .01 18.59 5 11.7 18.1 93.1 .0 .0 .0 .0 .13 N

----- G E O M E T R I A E C A R G A S -----

Vao= 4 /L= 1.64 /B= .30 /H= 1.05 /BCs= .00 /BCi= .37 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .15 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 5.5 tf* m | M.[+] Max= 1.6 tf* m - Abcis.= 175 | M.[-]
 = .0 tf* m
 [tf,cm]| As = 4.97 -STAS- [3 B 16.0mm] | AsL= .00 ----- | As =
 4.97 -STAS- [4 B 12.5mm]
 | AsL= .00 ----- x/d = .03 | As = 4.97 -SRAS- [4 B 12.5mm] | AsL=
 .00 ----- x/d = .03
 | x/dMx= .50 | Arm.Lat.=[2 X 11 B 6.3mm] - LN= 4.5 |
 [tf,cm]| M[-]Min = 1294.9 | M[+]Min = 1470.8 | M[-]
]Min = 1294.9
 [cm2]| Asapo[+]= 4.49 |
 Asapo[+]= 4.49

```

[tf,cm]| M[-]Min = 1256.2 | M[+]Min = 1354.3 | M[-]
]Min = 1256.2
[cm2 ]| Asapo[+]= 4.49 |
Asapo[+]= 4.82

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 100. 13.29 151.98 2 45. .0 3.5 3.5 6.3 17.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 100. .02 18.59 5 11.7 18.1 93.1 .0 .0 .0 .0 .09 N

----- G E O M E T R I A E C A R G A S -----
Vao= 5 /L= 1.64 /B= .30 /H= 1.05 /BCs= .00 /BCi= .37 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .53 /FLt.Ex= .15 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
) - - - - -
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = .0 tf* m | M.[+] Max= 1.6 tf* m - Abcis.= 29 | M.[-]
= 4.2 tf* m |
[tf,cm]| As = 4.97 -STAS- [ 4 B 12.5mm] | AsL= .00 ----- | As =
4.97 -STAS- [ 3 B 16.0mm] | AsL= .00 ----- | AsL=
.00 ----- x/d = .03 | As = 4.97 -SRAS- [ 4 B 12.5mm ] | AsL=
.00 ----- x/d = .03 |
x/dMx= .50 | Arm.Lat.=[2 X 11 B 6.3mm] - LN= 4.5 |
[tf,cm]| M[-]Min = 1256.2 | M[+]Min = 1354.3 | M[-]
]Min = 1256.2
[cm2 ]| Asapo[+]= 4.82 |
Asapo[+]= 4.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 100. 11.96 151.98 2 45. .0 3.5 3.5 6.3 17.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 100. .00 18.59 5 11.7 18.1 93.1 .0 .0 .0 .0 .08 N

----- G E O M E T R I A E C A R G A S -----
Vao= 6 /L= 2.25 /B= .30 /H= 1.05 /BCs= .00 /BCi= .39 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .53 /FLt.Ex= .15 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
) - - - - -
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 5.1 tf* m | M.[+] Max= 2.4 tf* m - Abcis.= 138 | M.[-]
= 1.6 tf* m |
[tf,cm]| As = 5.06 -STAS- [ 3 B 16.0mm] | AsL= .00 ----- | As =
5.06 -STAS- [ 3 B 16.0mm] | AsL= .00 ----- | AsL=
.00 ----- x/d = .03 | As = 5.06 -SRAS- [ 3 B 16.0mm ] | AsL=
.00 ----- x/d = .03 |
x/dMx= .50 | Arm.Lat.=[2 X 11 B 6.3mm] - LN= 4.7 |
[tf,cm]| M[-]Min = 1276.2 | M[+]Min = 1413.0 | M[-]
]Min = 1276.2
[cm2 ]| Asapo[+]= 4.49 |
Asapo[+]= 4.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 163. 15.66 151.98 2 45. .0 3.5 3.5 6.3 17.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 163. .03 18.59 5 11.7 18.1 93.1 .0 .0 .0 .0 .10 N

----- G E O M E T R I A E C A R G A S -----
Vao= 7 /L= 1.35 /B= .30 /H= 1.05 /BCs= .00 /BCi= .35 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .53 /FLt.Ex= .15 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M. [-] = 1.6 tf* m | M. [+] Max= .0 tf* m - Abcis.= 146 | M. [-]
 = 2.9 tf* m
 [tf,cm] | As = 4.93 -STAS- [3 B 16.0mm] | AsL= .00 ----- | As =
 4.93 -STAS- [4 B 12.5mm] | AsL= .00 ----- x/d = .04 | As = 4.93 -SRAS- [4 B 12.5mm] | AsL=
 .00 ----- x/d = .04 | x/dMx= .50 | Arm.Lat.= [2 X 11 B 6.3mm] - LN= 4.4 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 1246.4 | M[+]Min = 1326.7 | M[-]
]Min = 1246.4
 [cm2] | Asapo[+]= 4.49 |
 Asapo[+]= 4.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 72. 7.15 151.98 2 45. .0 3.5 3.5 6.3 17.0 2 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 72. .03 18.59 5 11.7 18.1 93.1 .0 .0 .0 .0 .05 N

----- G E O M E T R I A E C A R G A S -----

 Vao= 8 /L= 2.15 /B= .30 /H= 1.05 /BCs= .00 /BCi= .39 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .15 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M. [-] = 4.4 tf* m | M. [+] Max= 1.8 tf* m - Abcis.= 112 | M. [-]
 = 2.1 tf* m
 [tf,cm] | As = 5.05 -STAS- [4 B 12.5mm] | AsL= .00 ----- | As =
 5.05 -STAS- [4 B 12.5mm] | AsL= .00 ----- x/d = .03 | As = 5.05 -SRAS- [4 B 12.5mm] | AsL=
 .00 ----- x/d = .03 | x/dMx= .50 | Arm.Lat.= [2 X 11 B 6.3mm] - LN= 4.6 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 1273.0 | M[+]Min = 1403.6 | M[-]
]Min = 1273.0
 [cm2] | Asapo[+]= 4.49 |
 Asapo[+]= 4.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 153. 13.23 151.98 2 45. .0 3.5 3.5 6.3 17.0 2 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 153. .05 18.59 5 11.7 18.1 93.1 .0 .0 .0 .0 .09 N

----- G E O M E T R I A E C A R G A S -----

 Vao= 9 /L= 2.08 /B= .30 /H= 1.05 /BCs= .00 /BCi= .38 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .15 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M. [-] = 2.8 tf* m | M. [+] Max= 1.8 tf* m - Abcis.= 107 | M. [-]
 = 1.7 tf* m
 [tf,cm] | As = 5.04 -STAS- [4 B 12.5mm] | AsL= .00 ----- | As =
 5.04 -STAS- [4 B 12.5mm] | AsL= .00 ----- x/d = .03 | As = 5.04 -SRAS- [4 B 12.5mm] | AsL=
 .00 ----- x/d = .03 | x/dMx= .50 | Arm.Lat.= [2 X 11 B 6.3mm] - LN= 4.6 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 1270.6 | M[+]Min = 1396.5 | M[-]
]Min = 1270.6
 [cm2] | Asapo[+]= 4.49 |
 Asapo[+]= 4.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 145. 11.18 151.98 2 45. .0 3.5 3.5 6.3 17.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 145. .02 18.59 5 11.7 18.1 93.1 .0 .0 .0 .0 .07 N

----- G E O M E T R I A E C A R G A S -----

Vao=10 /L= 2.08 /B= .30 /H= 1.05 /BCs= .00 /BCi= .38 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .15 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

| M.[-] = 1.8 tf* m | M.[+] Max= 1.1 tf* m - Abcis.= 89 | M.[-]
 = 3.7 tf* m
 [tf,cm]| As = 5.04 -STAS- [4 B 12.5mm] | AsL= .00 ----- | As =
 5.04 -STAS- [4 B 12.5mm] | AsL= .00 ----- x/d = .03 | As = 5.04 -SRAS- [4 B 12.5mm] | AsL=
 .00 ----- x/d = .03 | x/dMx= .50 | Arm.Lat.= [2 X 11 B 6.3mm] - LN= 4.6 |
 x/dMx= .50 |
 [tf,cm]| M[-]Min = 1270.6 | M[+]Min = 1396.5 | M[-]
]Min = 1270.6
 [cm2]| Asapo[+]= 4.49 |
 Asapo[+]= 4.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 145. 11.52 151.98 2 45. .0 3.5 3.5 6.3 17.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 145. .10 18.59 5 11.7 18.1 93.1 .1 .0 .0 .0 .08 N

----- G E O M E T R I A E C A R G A S -----

Vao=11 /L= 2.11 /B= .30 /H= 1.05 /BCs= .00 /BCi= .38 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .15 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

| M.[-] = 4.7 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 126 | M.[-]
 = 1.8 tf* m
 [tf,cm]| As = 5.04 -STAS- [4 B 12.5mm] | AsL= .00 ----- | As =
 5.04 -STAS- [4 B 12.5mm] | AsL= .00 ----- x/d = .03 | As = 5.04 -SRAS- [4 B 12.5mm] | AsL=
 .00 ----- x/d = .03 | x/dMx= .50 | Arm.Lat.= [2 X 11 B 6.3mm] - LN= 4.6 |
 x/dMx= .50 |
 [tf,cm]| M[-]Min = 1271.4 | M[+]Min = 1398.9 | M[-]
]Min = 1271.4
 [cm2]| Asapo[+]= 4.49 |
 Asapo[+]= 4.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 148. 13.89 151.98 2 45. .0 3.5 3.5 6.3 17.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 148. .05 18.59 5 11.7 18.1 93.1 .0 .0 .0 .0 .09 N

----- G E O M E T R I A E C A R G A S -----

Vao=12 /L= 1.50 /B= .30 /H= 1.05 /BCs= .00 /BCi= .38 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .15 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

| M.[-] = 1.4 tf* m | M.[+] Max= .0 tf* m - Abcis.= 154 | M.[-]
 = 1.4 tf* m
 [tf,cm]| As = 5.01 -STAS- [4 B 12.5mm] | AsL= .00 ----- | As =
 5.01 -STAS- [4 B 12.5mm]

AsL= .00 ----- x/d = .03 | As = 5.01 -SRAS- [4 B 12.5mm] | AsL=
 .00 ----- x/d = .03 | x/dMx= .50 | Arm.Lat.= [2 X 11 B 6.3mm] - LN= 4.5 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 1264.2 | M[+]Min = 1377.7 | M[-]
]Min = 1264.2 |
 [cm2] | Asapo[+]= 4.49 |
 Asapo[+]= 1.67 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 88. 5.35 151.98 2 45. .0 3.5 3.5 6.3 17.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 88. .07 18.59 5 11.7 18.1 93.1 .0 .0 .0 .0 .04 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
 Pilares:
 1 12.770 12.756 .75 .06 0 BC70 .00 .00 8237 0
 2 19.262 19.165 .75 .06 0 BC64 .00 .00 8231 0
 3 23.259 23.188 .75 .06 0 BC58 .00 .00 8230 0
 4 22.933 22.634 .75 .06 0 BC52 .00 .00 8229 0
 5 3.111 2.473 .75 .06 0 BC46 .00 .00 8228 0
 6 19.445 18.629 .75 .06 0 BC40 .00 .00 8285 0
 7 11.122 8.877 .75 .06 0 BC34 .00 .00 8171 0
 8 14.348 11.351 .75 .06 0 BC32 .00 .00 8172 0
 9 15.405 13.903 .70 .04 0 BC26 .00 .00 8170 0
 10 13.304 13.022 .70 .04 0 BC19 .00 .00 8169 0
 11 17.888 17.884 .70 .04 0 BC18 .00 .00 8168 0
 12 10.843 10.824 .70 .04 0 BC17 .00 .00 8161 0
 13 3.793 3.765 .70 .04 0 BC16 .00 .00 8160 0

Viga= 88 VFC5 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

 Vao= 1 /L= 2.88 /B= .70 /H= .80 /BCs= 1.28 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 8.5 tf* m | M.[+] Max= 6.4 tf* m - Abcis.= 168 | M.[-]
 = 44.0 tf* m |
 [tf,cm] | As = 9.84 -SRAS- [5 B 16.0mm] | AsL= .00 ----- | As =
 20.16 -SRAS- [4 B 25.0mm] |
 | AsL= .00 ----- x/d = .06 | As = 10.56 -STAS- [6 B 16.0mm] | AsL=
 .00 ----- x/d = .12 | x/dMx= .50 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 1.9 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 2207.0 | M[+]Min = 1869.4 | M[-]
]Min = 2481.2 |
 [cm2] | Asapo[+]= 3.52 |
 Asapo[+]= 2.64 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 240. 57.65 265.52 2 45. 5.1 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 240. 1.17 55.41 5 18.7 51.3 61.3 .4 .0 .0 .0 .24 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
 Pilares:

0	0	0	1	14.637	5.142	.70	.11	0	BC31	.00	.00	8145	0
0	0	0	2	41.177	31.681	2.20	.86	0	BC32	.00	.00	8172	0
0	0	0	0	0									
=====													
=====													

Viga= 92 VFFA2 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.25 /B= .70 /H= .25 /BCs= 1.04 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 4.9 tf* m | M.[+] Max= 2.6 tf* m - Abcis.= 105 | M.[-]
= 5.1 tf* m
[tf,cm]| As = 8.85 -SRAS- [7 B 12.5mm] | AsL= .00 ----- | As =
9.35 -SRAS- [8 B 12.5mm]
| AsL= .00 ----- x/d = .20 | As = 4.38 -STAS- [6 B 10.0mm] | AsL=
.00 ----- x/d = .21
x/dMx= .50 |
x/dMx= .50
[tf,cm]| M[-]Min = 215.4 | M[+]Min = 234.7 | M[-]
]Min = 234.7
[cm2]| Asapo[+]= 1.10 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 210. 18.89 69.50 2 45. 11.1 8.1 11.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 210. .04 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .28 N

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 5.2 tf* m | M.[+] Max= 2.4 tf* m - Abcis.= 140 | M.[-]
= 5.4 tf* m
[tf,cm]| As = 9.41 -SRAS- [8 B 12.5mm] | AsL= .00 ----- | As =
9.79 -SRAS- [8 B 12.5mm]
| AsL= .00 ----- x/d = .21 | As = 4.15 -STAS- [6 B 10.0mm] | AsL=
.00 ----- x/d = .22
x/dMx= .50 |
x/dMx= .50
[tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
[cm2]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 210. 18.90 69.50 2 45. 11.1 8.1 11.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 210. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .27 N

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A

```

      | M.[-] =      5.3 tf* m      | M.[+] Max=      2.8 tf* m - Abcis.= 140 | M.[-]
=      4.5 tf* m
[tf,cm]| As =      9.70 -SRAS- [ 8 B 12.5mm] | AsL=      .00 ----- | As =
8.12 -SRAS- [ 7 B 12.5mm] | AsL=      .00 ----- x/d = .21 | As =      4.76 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .18 x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min =      219.4 | M[+]Min =      219.4 | M[-]
]Min =      219.4 |
[cm2 ]| Asapo[+]=      2.49 |
Asapo[+]=      2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 210. 19.28 69.50 2 45. 11.7 8.1 11.7 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 210. .06 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .29 N

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 4 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
) - - - - -
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
      | M.[-] =      4.6 tf* m      | M.[+] Max=      1.9 tf* m - Abcis.= 140 | M.[-]
=      7.0 tf* m
[tf,cm]| As =      8.35 -SRAS- [ 7 B 12.5mm] | AsL=      .00 ----- | As =
13.59 -SRAS- [ 5 B 20.0mm] | AsL=      .00 ----- x/d = .18 | As =      3.73 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .31 x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min =      219.4 | M[+]Min =      219.4 | M[-]
]Min =      219.4 |
[cm2 ]| Asapo[+]=      2.49 |
Asapo[+]=      2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 105. 17.31 69.50 2 45. 8.6 8.1 8.6 6.3 10.0 4 .0 .0
105.- 210. 20.25 69.50 2 45. 13.3 8.1 13.3 8.0 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 105. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .25 N
105.- 210. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .29 N

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 5 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
) - - - - -
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
      | M.[-] =      6.7 tf* m      | M.[+] Max=      4.7 tf* m - Abcis.= 168 | M.[-]
=      1.8 tf* m
[tf,cm]| As =      12.82 -SRAS- [ 4 B 20.0mm] | AsL=      .00 ----- | As =
4.42 -SRAS- [ 6 B 10.0mm] | AsL=      .00 ----- x/d = .29 | As =      8.40 -STAS- [ 7 B 12.5mm ] | AsL=
.00 ----- x/d = .10 x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min =      219.4 | M[+]Min =      219.4 | M[-]
]Min =      219.4 |
[cm2 ]| Asapo[+]=      2.49 |
Asapo[+]=      3.71 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 105. 23.03 69.50 2 45. 17.6 8.1 17.6 8.0 10.0 4 .0 .0
105.- 210. 14.38 69.50 2 45. 4.0 8.1 8.1 6.3 10.0 4 .0 .0

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 105. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .33 N
105.- 210. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .21 N

----- G E O M E T R I A E C A R G A S -----

Vao= 6B /L= 1.08 /B= .70 /H= .25 /BCs= 1.13 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO | M[-]= 1.75 tf* m | As = 4.42 -SRAS- [6 B 10.0mm]
BAL.DIR | x/d = .10 | ASL= .00 -
.7
[tf,cm] | M[-]Min= 256.0 - x/dMx = 1.00 | %
Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 46. 5.71 69.50 2 45. .0 8.1 8.1 6.3 10.0 4 .0 .0

REAC.	POIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:										
0	0	1	13.134	13.134	.70	.28	1	BA16	.00	.00 8105 0
0	0	2	26.431	26.429	.70	.28	1	BA17	.00	.00 8106 0
0	0	3	26.867	26.865	.70	.28	1	BA18	.00	.00 8107 0
0	0	4	25.050	25.048	.70	.28	1	BA19	.00	.00 8108 0
0	0	5	30.459	30.456	.70	.28	1	BA20	.00	.00 8109 0
0	0	6	14.349	14.347	.70	.28	1	BA21	.00	.00 8110 0

Viga= 93 VFFA3 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 2.25 /B= .70 /H= .25 /BCs= 1.04 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 5.0 tf* m | M.[+] Max= 2.6 tf* m - Abcis.= 105 | M.[-]
= 5.2 tf* m | As = 9.18 -SRAS- [8 B 12.5mm] | ASL= .00 ----- | As =
[tf,cm] | AsL= .00 ----- x/d = .20 | As = 4.44 -STAS- [6 B 10.0mm] | ASL=
9.53 -SRAS- [8 B 12.5mm] | ASL= .00 ----- x/d = .21 x/dMx= .50 |
.00 ----- x/d = .21 x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 215.4 | M[+]Min = 234.7 | M[-]
]Min = 234.7 |
[cm2] | Asapo[+]= 1.11 |
Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 210. 19.26 69.50 2 45. 11.7 8.1 11.7 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 210. .06 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .29 N

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
- - - - -

```

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 5.3 tf* m | M.[+] Max= 2.5 tf* m - Abcis.= 140 | M.[-]
| 5.5 tf* m
[tf,cm]| As = 9.60 -SRAS- [ 8 B 12.5mm] | AsL= .00 ----- | As =
10.15 -SRAS- [ 5 B 16.0mm]
| AsL= .00 ----- x/d = .21 | As = 4.26 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .23 x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 210. 19.33 69.50 2 45. 11.8 8.1 11.8 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 210. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .28 N

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 5.4 tf* m | M.[+] Max= 2.8 tf* m - Abcis.= 140 | M.[-]
| 4.7 tf* m
[tf,cm]| As = 10.03 -SRAS- [ 5 B 16.0mm] | AsL= .00 ----- | As =
8.44 -SRAS- [ 7 B 12.5mm]
| AsL= .00 ----- x/d = .22 | As = 4.90 -STAS- [ 4 B 12.5mm ] | AsL=
.00 ----- x/d = .19 x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 210. 19.72 69.50 2 45. 12.4 8.1 12.4 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 210. .17 6.63 5 9.2 58.1 13.1 .3 .0 .0 .0 .31 N

----- G E O M E T R I A E C A R G A S -----
Vao= 4 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 4.8 tf* m | M.[+] Max= 2.0 tf* m - Abcis.= 140 | M.[-]
| 7.0 tf* m
[tf,cm]| As = 8.63 -SRAS- [ 7 B 12.5mm] | AsL= .00 ----- | As =
13.48 -SRAS- [ 7 B 16.0mm]
| AsL= .00 ----- x/d = .19 | As = 3.73 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .30 x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 105. 17.80 69.50 2 45. 9.4 8.1 9.4 6.3 10.0 4 .0 .0
105.- 210. 20.60 69.50 2 45. 13.8 8.1 13.8 8.0 10.0 4 .0 .0

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 105. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .26 N
105.- 210. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .30 N

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 6.8 tf* m | M.[+] Max= 4.7 tf* m - Abcis.= 168 | M.[-]
= 1.8 tf* m
[tf,cm] | As = 12.86 -SRAS- [7 B 16.0mm] | AsL= .00 ----- | As =
4.42 -SRAS- [6 B 10.0mm] | AsL= .00 ----- x/d = .29 | As = 8.34 -STAS- [7 B 12.5mm] | AsL=
.00 ----- x/d = .10 x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
[cm2] | Asapo[+]= 2.49 |
Asapo[+]= 3.71

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 105. 23.36 69.50 2 45. 18.2 8.1 18.2 8.0 10.0 4 .0 .0
105.- 210. 14.90 69.50 2 45. 4.8 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 105. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .34 N
105.- 210. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .22 N

----- G E O M E T R I A E C A R G A S -----

Vao= 6B /L= 1.08 /B= .70 /H= .25 /BCs= 1.13 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO | M[-]= 1.75 tf* m | As = 4.42 -SRAS- [6 B 10.0mm]
BAL.DIR | x/d = .10 | AsL= .00 -
.7
[tf,cm] | M[-]Min= 256.0 - x/dMx= 1.00 | %
Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 46. 5.65 69.50 2 45. .0 8.1 8.1 6.3 10.0 4 .0 .0

REAC. APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:									
0	0	1	13.461	13.457	.70	.28	1 BA23	.00	.00 8113 0
0	0	2	26.973	26.963	.70	.28	1 BA24	.00	.00 8114 0
0	0	3	27.483	27.470	.70	.28	1 BA25	.00	.00 8115 0
0	0	4	25.746	25.732	.70	.28	1 BA26	.00	.00 8116 0
0	0	5	30.933	30.908	.70	.28	1 BA27	.00	.00 8117 0
0	0	6	14.677	14.659	.70	.28	1 BA28	.00	.00 8118 0
0	0	0	0						

Viga= 94 VFFA4 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 2.25 /B= .70 /H= .25 /BCs= 1.04 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 5.1 tf* m | M.[+] Max= 2.7 tf* m - Abcis.= 105 | M.[-]
= 5.4 tf* m | [tf,cm] | As = 9.34 -SRAS- [ 8 B 12.5mm] | AsL= .00 ----- | As =
10.03 -SRAS- [ 5 B 16.0mm] | AsL= .00 ----- x/d = .21 | As = 4.53 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .22 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 215.4 | M[+]Min = 234.7 | M[-]
]Min = 234.7 |
[cm2 ] | Asapo[+]= 1.13 |
Asapo[+]= 2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 105. 19.24 69.50 2 45. 11.7 8.1 11.7 6.3 10.0 4 .0 .0
105.- 210. 19.76 69.50 2 45. 12.5 8.1 12.5 8.0 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 105. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .28 N
105.- 210. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .28 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 2.25 /B= .70 /H= .25 /BCs= 1.04 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 5.5 tf* m | M.[+] Max= 2.5 tf* m - Abcis.= 147 | M.[-]
= 5.4 tf* m | [tf,cm] | As = 10.11 -SRAS- [ 5 B 16.0mm] | AsL= .00 ----- | As =
9.84 -SRAS- [ 8 B 12.5mm] | AsL= .00 ----- x/d = .23 | As = 4.34 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .22 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 234.7 | M[+]Min = 234.7 | M[-]
]Min = 215.4 |
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 1.08 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 210. 19.68 69.50 2 45. 12.4 8.1 12.4 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 210. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .29 N

```

```

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 13.723 13.693 .70 .28 1 BA30 .00 .00 8121 0
0 0 0 0
2 27.756 27.656 .70 .28 1 BA31 .00 .00 8122 0
0 0 0 0
3 13.818 13.747 .70 .28 1 BA32 .00 .00 8123 0
0 0 0 0

```

```

Viga= 95 VFFA5 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.25 /B= .70 /H= .25 /BCs= 1.04 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A

```

```

      | M.[-] =      5.0 tf* m      | M.[+] Max=      2.6 tf* m - Abcis.= 105 | M.[-]
=      5.3 tf* m      |
[tf,cm]| As =      9.00 -SRAS- [ 8 B 12.5mm] | AsL=      .00 ----- | As =
9.59 -SRAS- [ 8 B 12.5mm] |
      | AsL=      .00 ----- x/d = .20 | As =      4.51 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .21      |
      | x/dMx= .50      |
      |
[tf,cm]| M[-]Min =      215.4      | M[+]Min =      234.7      | M[-]
]Min =      234.7      |
[cm2 ]| Asapo[+]=      1.13      |
Asapo[+]=      2.49      |

```

```

CISALHAMENTO- Xi   Xf   Vsd   VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit   Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm]      0.- 210.  19.34 69.50  2 45.  11.8  8.1  11.8 6.3 10.0 4   .0   .0

```

```

T O R C A O- Xi   Xf   Tsd   TRd2 %dT   he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm]      0.- 210.   .06  6.63  5 9.2 58.1 13.1   .1   .0   .0   .0   .29  N

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 2 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A      | M E I O D O V A O      | D I R
E I T A
      | M.[-] =      5.3 tf* m      | M.[+] Max=      2.5 tf* m - Abcis.= 140 | M.[-]
=      5.5 tf* m      |
[tf,cm]| As =      9.68 -SRAS- [ 8 B 12.5mm] | AsL=      .00 ----- | As =
10.12 -SRAS- [ 5 B 16.0mm] |
      | AsL=      .00 ----- x/d = .21 | As =      4.24 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .23      |
      | x/dMx= .50      |
      |
[tf,cm]| M[-]Min =      219.4      | M[+]Min =      219.4      | M[-]
]Min =      219.4      |
[cm2 ]| Asapo[+]=      2.49      |
Asapo[+]=      2.49      |

```

```

CISALHAMENTO- Xi   Xf   Vsd   VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit   Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm]      0.- 210.  19.29 69.50  2 45.  11.7  8.1  11.7 6.3 10.0 4   .0   .0

```

```

T O R C A O- Xi   Xf   Tsd   TRd2 %dT   he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm]      0.- 210.   .00  6.63  5 9.2 58.1 13.1   .0   .0   .0   .0   .28  N

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 3 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A      | M E I O D O V A O      | D I R
E I T A
      | M.[-] =      5.4 tf* m      | M.[+] Max=      2.8 tf* m - Abcis.= 140 | M.[-]
=      4.7 tf* m      |
[tf,cm]| As =      9.99 -SRAS- [ 5 B 16.0mm] | AsL=      .00 ----- | As =
8.41 -SRAS- [ 7 B 12.5mm] |
      | AsL=      .00 ----- x/d = .22 | As =      4.85 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .19      |
      | x/dMx= .50      |
      |
[tf,cm]| M[-]Min =      219.4      | M[+]Min =      219.4      | M[-]
]Min =      219.4      |
[cm2 ]| Asapo[+]=      2.49      |
Asapo[+]=      2.49      |

```

```

CISALHAMENTO- Xi   Xf   Vsd   VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit   Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm]      0.- 210.  19.66 69.50  2 45.  12.3  8.1  12.3 6.3 10.0 4   .0   .0

```

```

T O R C A O- Xi   Xf   Tsd   TRd2 %dT   he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm]      0.- 210.   .17  6.63  5 9.2 58.1 13.1   .3   .0   .0   .0   .31  N

```

----- G E O M E T R I A E C A R G A S -----

 Vao= 4 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 4.8 tf* m | M.[+] Max= 2.0 tf* m - Abcis.= 140 | M.[-]
 = 7.0 tf* m
 [tf,cm] | As = 8.63 -SRAS- [7 B 12.5mm] | AsL= .00 ----- | As =
 13.49 -SRAS- [7 B 16.0mm] | AsL= .00 ----- x/d = .19 | As = 3.73 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .30 | x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 105. 17.79 69.50 2 45. 9.4 8.1 9.4 6.3 10.0 4 .0 .0
 105.- 210. 20.60 69.50 2 45. 13.8 8.1 13.8 8.0 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 105. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .26 N
 105.- 210. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .30 N

----- G E O M E T R I A E C A R G A S -----

 Vao= 5 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 6.7 tf* m | M.[+] Max= 4.7 tf* m - Abcis.= 168 | M.[-]
 = 1.8 tf* m
 [tf,cm] | As = 12.83 -SRAS- [7 B 16.0mm] | AsL= .00 ----- | As =
 4.42 -SRAS- [6 B 10.0mm] | AsL= .00 ----- x/d = .29 | As = 8.34 -STAS- [7 B 12.5mm] | AsL=
 .00 ----- x/d = .10 | x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 3.71

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 105. 23.32 69.50 2 45. 18.1 8.1 18.1 8.0 10.0 4 .0 .0
 105.- 210. 14.87 69.50 2 45. 4.7 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 105. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .34 N
 105.- 210. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .22 N

----- G E O M E T R I A E C A R G A S -----

 Vao= 6B /L= 1.08 /B= .70 /H= .25 /BCs= 1.13 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO | M[-]= 1.75 tf* m | As = 4.42 -SRAS- [6 B 10.0mm]
 BAL.DIR | x/d = .10 | AsL= .00 -
 .7
 [tf,cm] | M[-]Min= 256.0 - x/dMx= 1.00 | %
 Baric.Armad.= 1

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	210.	18.89	69.50	2	45.	11.1	8.1	11.1	6.3	10.0	4	.0	.0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 210. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .27 N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 5.3 tf* m | M.[+] Max= 2.8 tf* m - Abcis.= 140 | M.[-]
 = 4.4 tf* m
 [tf,cm] | As = 9.69 -SRAS- [8 B 12.5mm] | AsL= .00 ----- | As =
 8.04 -SRAS- [4 B 16.0mm] | AsL= .00 ----- x/d = .21 | As = 4.83 -STAS- [6 B 10.0mm] | AsL=
 .00 ----- x/d = .18
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 210. 19.33 69.50 2 45. 11.8 8.1 11.8 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 210. .06 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .29 N

----- G E O M E T R I A E C A R G A S -----

Vao= 4 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 4.6 tf* m | M.[+] Max= 1.8 tf* m - Abcis.= 140 | M.[-]
 = 7.2 tf* m
 [tf,cm] | As = 8.41 -SRAS- [5 B 16.0mm] | AsL= .00 ----- | As =
 13.98 -SRAS- [5 B 20.0mm] | AsL= .00 ----- x/d = .19 | As = 3.73 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .32
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 105. 17.19 69.50 2 45. 8.4 8.1 8.4 6.3 10.0 4 .0 .0
 105.- 210. 20.37 69.50 2 45. 13.4 8.1 13.4 8.0 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 105. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .25 N
 105.- 210. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .29 N

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 6.7 tf* m | M.[+] Max= 4.9 tf* m - Abcis.= 168 | M.[-]
 = 1.8 tf* m
 [tf,cm] | As = 12.83 -SRAS- [4 B 20.0mm] | AsL= .00 ----- | As =
 4.42 -SRAS- [6 B 10.0mm]

```

    | AsL= .00 ----- x/d = .29 | As = 8.65 -STAS- [ 7 B 12.5mm ] | AsL=
.00 ----- x/d = .10 |
x/dMx= .50 |
|
| [tf,cm] | M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
|Min = 219.4 |
| [cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 3.71 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 105. 23.19 69.50 2 45. 17.9 8.1 17.9 8.0 10.0 4 .0 .0
105.- 210. 14.16 69.50 2 45. 3.6 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 105. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .33 N
105.- 210. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .20 N

----- G E O M E T R I A E C A R G A S -----
Vao= 6B /L= 1.08 /B= .70 /H= .25 /BCs= 1.13 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO | M[-]= 1.75 tf* m | As = 4.42 -SRAS- [ 6 B 10.0mm]
BAL.DIR | x/d = .10 | AsL= .00 -
.7
[tf,cm] | M[-]Min= 256.0 - x/dMx =1.00 | | %
Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 46. 5.71 69.50 2 45. .0 8.1 8.1 6.3 10.0 4 .0 .0

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 13.147 13.146 .70 .28 1 BA44 .00 .00 8138 0
0 0 2 26.500 26.499 .70 .28 1 BA45 .00 .00 8139 0
0 0 3 26.897 26.896 .70 .28 1 BA46 .00 .00 8140 0
0 0 4 24.927 24.925 .70 .28 1 BA47 .00 .00 8141 0
0 0 5 30.657 30.654 .70 .28 1 BA48 .00 .00 8142 0
0 0 6 14.187 14.185 .70 .28 1 BA49 .00 .00 8143 0
0 0 0 0

=====
=====

Viga= 97 VFFA7 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.25 /B= .70 /H= .25 /BCs= 1.04 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 4.8 tf* m | M.[+] Max= 2.6 tf* m - Abcis.= 105 | M.[-]
= 5.1 tf* m |
[tf,cm] | As = 8.69 -SRAS- [ 7 B 12.5mm] | AsL= .00 ----- | As =
9.35 -SRAS- [ 8 B 12.5mm] |
| AsL= .00 ----- x/d = .19 | As = 4.46 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .21 |
x/dMx= .50 |
|
| [tf,cm] | M[-]Min = 215.4 | M[+]Min = 234.7 | M[-]
|Min = 234.7 |
| [cm2 ] | Asapo[+]= 1.12 |
Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 210. 18.95 69.50 2 45. 11.2 8.1 11.2 6.3 10.0 4 .0 .0

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 210. .02 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .28 N

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

= | M.[-] = 5.2 tf* m | M.[+] Max= 2.4 tf* m - Abcis.= 140 | M.[-]
 = 5.4 tf* m

[tf,cm]| As = 9.47 -SRAS- [8 B 12.5mm] | AsL= .00 ----- | As =
 9.86 -SRAS- [8 B 12.5mm]

| AsL= .00 ----- x/d = .21 | As = 4.10 -STAS- [6 B 10.0mm] | AsL=
 .00 ----- x/d = .22

| x/dMx= .50 |
 x/dMx= .50

[tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4

[cm2]| Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 210. 18.90 69.50 2 45. 11.1 8.1 11.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 210. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .27 N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

= | M.[-] = 5.3 tf* m | M.[+] Max= 2.8 tf* m - Abcis.= 140 | M.[-]
 = 4.4 tf* m

[tf,cm]| As = 9.70 -SRAS- [8 B 12.5mm] | AsL= .00 ----- | As =
 8.03 -SRAS- [4 B 16.0mm]

| AsL= .00 ----- x/d = .21 | As = 4.83 -STAS- [6 B 10.0mm] | AsL=
 .00 ----- x/d = .18

| x/dMx= .50 |
 x/dMx= .50

[tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4

[cm2]| Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 210. 19.33 69.50 2 45. 11.8 8.1 11.8 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 210. .02 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .28 N

----- G E O M E T R I A E C A R G A S -----

Vao= 4 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

= | M.[-] = 4.6 tf* m | M.[+] Max= 1.8 tf* m - Abcis.= 140 | M.[-]
 = 7.2 tf* m

[tf,cm]| As = 8.40 -SRAS- [5 B 16.0mm] | AsL= .00 ----- | As =
 14.01 -SRAS- [5 B 20.0mm]

```

    | AsL= .00 ----- x/d = .19 | As = 3.73 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .32 |
x/dMx= .50 |
|
[tf,cm] | M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4 |
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	105.	17.18	69.50	2	45.	8.4	8.1	8.4	6.3	10.0	4	.0	.0
	105.-	210.	20.38	69.50	2	45.	13.5	8.1	13.5	8.0	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	105.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.25	N
	105.-	210.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.29	N

```

----- G E O M E T R I A E C A R G A S -----
-----
Vao= 5 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A |
| M.[-] = 6.7 tf* m | M.[+] Max= 4.9 tf* m - Abcis.= 168 | M.[-]
= 1.8 tf* m |
[tf,cm] | As = 12.83 -SRAS- [ 4 B 20.0mm ] | AsL= .00 ----- | As =
4.42 -SRAS- [ 6 B 10.0mm ] |
| AsL= .00 ----- x/d = .29 | As = 8.67 -STAS- [ 7 B 12.5mm ] | AsL=
.00 ----- x/d = .10 |
x/dMx= .50 |
|
[tf,cm] | M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4 |
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 3.71 |

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	105.	23.20	69.50	2	45.	17.9	8.1	17.9	8.0	10.0	4	.0	.0
	105.-	210.	14.14	69.50	2	45.	3.6	8.1	8.1	6.3	10.0	4	.0	.0

```

----- G E O M E T R I A E C A R G A S -----
-----
Vao= 6B /L= 1.08 /B= .70 /H= .25 /BCs= 1.13 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO | M[-]= 1.75 tf* m | As = 4.42 -SRAS- [ 6 B 10.0mm ]
BAL.DIR | x/d = .10 | AsL= .00 -
.7 |
[tf,cm] | M[-]Min= 256.0 - x/dMx=1.00 | | %
Baric.Armad.= 1

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	46.	5.71	69.50	2	45.	.0	8.1	8.1	6.3	10.0	4	.0	.0

REAC. APOIO -	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:									
	1	13.104	13.103	.70	.28	1	BA51	.00	.00 8146 0
0 0	0	0							
	2	26.466	26.466	.70	.28	1	BA52	.00	.00 8147 0
0 0	0	0							
	3	26.905	26.905	.70	.28	1	BA53	.00	.00 8148 0
0 0	0	0							
	4	24.916	24.915	.70	.28	1	BA54	.00	.00 8149 0
0 0	0	0							
	5	30.671	30.670	.70	.28	1	BA55	.00	.00 8150 0
0 0	0	0							
	6	14.177	14.176	.70	.28	1	BA56	.00	.00 8151 0
0 0	0	0							

```

=====
=====

```

Viga= 98 VFFA8
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao

----- G E O M E T R I A E C A R G A S -----

 Vao= 1 /L= 2.25 /B= .70 /H= .25 /BCs= 1.04 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 4.8 tf* m | M.[+] Max= 2.6 tf* m - Abcis.= 105 | M.[-]
 = 5.2 tf* m
 [tf,cm]| As = 8.67 -SRAS- [7 B 12.5mm] | AsL= .00 ----- | As =
 9.40 -SRAS- [8 B 12.5mm] | AsL= .00 ----- x/d = .19 | As = 4.47 -STAS- [6 B 10.0mm] | AsL=
 .00 ----- x/d = .21 | x/dMx= .50 |
 x/dMx= .50
 [tf,cm]| M[-]Min = 215.4 | M[+]Min = 234.7 | M[-]
]Min = 234.7
 [cm2]| Asapo[+]= 1.12 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 210. 19.00 69.50 2 45. 11.3 8.1 11.3 6.3 10.0 4 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 210. .02 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .28 N

----- G E O M E T R I A E C A R G A S -----

 Vao= 2 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 5.2 tf* m | M.[+] Max= 2.4 tf* m - Abcis.= 140 | M.[-]
 = 5.3 tf* m
 [tf,cm]| As = 9.49 -SRAS- [8 B 12.5mm] | AsL= .00 ----- | As =
 9.77 -SRAS- [8 B 12.5mm] | AsL= .00 ----- x/d = .21 | As = 4.12 -STAS- [6 B 10.0mm] | AsL=
 .00 ----- x/d = .22 | x/dMx= .50 |
 x/dMx= .50
 [tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
 [cm2]| Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 210. 18.87 69.50 2 45. 11.1 8.1 11.1 6.3 10.0 4 .0 .0

----- G E O M E T R I A E C A R G A S -----

 Vao= 3 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 5.3 tf* m | M.[+] Max= 2.8 tf* m - Abcis.= 140 | M.[-]
 = 4.5 tf* m
 [tf,cm]| As = 9.67 -SRAS- [8 B 12.5mm] | AsL= .00 ----- | As =
 8.18 -SRAS- [4 B 16.0mm] | AsL= .00 ----- x/d = .21 | As = 4.78 -STAS- [6 B 10.0mm] | AsL=
 .00 ----- x/d = .18 | x/dMx= .50 |
 x/dMx= .50
 [tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4

[cm2]| Asapo[+]= 2.49
 Asapo[+]= 2.49

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	210.	19.27	69.50	2	45.	11.7	8.1	11.7	6.3	10.0	4	.0	.0

T O R C A O- M E N S A G E M	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
[tf,cm]	0.-	210.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.28	N

----- G E O M E T R I A E C A R G A S -----

Vao= 4 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 4.6 tf* m | M.[+] Max= 1.9 tf* m - Abcis.= 140 | M.[-]
 = 7.0 tf* m
 [tf,cm]| As = 8.45 -SRAS- [5 B 16.0mm] | AsL= .00 ----- | As =
 13.64 -SRAS- [5 B 20.0mm] | AsL= .00 ----- | AsL=
 .00 ----- x/d = .31 x/dMx= .50 |
 x/dMx= .50
 [tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
 [cm2]| Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	105.	17.29	69.50	2	45.	8.6	8.1	8.6	6.3	10.0	4	.0	.0
	105.-	210.	20.27	69.50	2	45.	13.3	8.1	13.3	8.0	10.0	4	.0	.0

T O R C A O- M E N S A G E M	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
[tf,cm]	0.-	105.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.25	N
	105.-	210.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.29	N

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 6.6 tf* m | M.[+] Max= 4.7 tf* m - Abcis.= 168 | M.[-]
 = 1.8 tf* m
 [tf,cm]| As = 12.81 -SRAS- [4 B 20.0mm] | AsL= .00 ----- | As =
 4.42 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | AsL=
 .00 ----- x/d = .10 x/dMx= .50 |
 x/dMx= .50
 [tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
 [cm2]| Asapo[+]= 2.49 |
 Asapo[+]= 3.71

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	105.	23.02	69.50	2	45.	17.6	8.1	17.6	8.0	10.0	4	.0	.0
	105.-	210.	14.32	69.50	2	45.	3.9	8.1	8.1	6.3	10.0	4	.0	.0

T O R C A O- M E N S A G E M	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
[tf,cm]	0.-	105.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.33	N
	105.-	210.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.21	N

----- G E O M E T R I A E C A R G A S -----

Vao= 6B /L= 1.08 /B= .70 /H= .25 /BCs= 1.13 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | M[-]= 1.75 tf* m | As = 4.42 -SRAS- [6 B 10.0mm]
 BAL.DIR | x/d = .10 | AsL= .00 -
 .7
 [tf,cm] | M[-]Min= 256.0 - x/dMx =1.00 | %
 Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 46. 5.71 69.50 2 45. .0 8.1 8.1 6.3 10.0 4 .0 .0

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
 Pilares:
 1 13.101 13.101 .70 .28 1 BA58 .00 .00 8154 0
 0 0 0 0
 2 26.524 26.524 .70 .28 1 BA59 .00 .00 8155 0
 0 0 0 0
 3 26.840 26.840 .70 .28 1 BA60 .00 .00 8156 0
 0 0 0 0
 4 25.035 25.035 .70 .28 1 BA61 .00 .00 8157 0
 0 0 0 0
 5 30.465 30.465 .70 .28 1 BA62 .00 .00 8158 0
 0 0 0 0
 6 14.302 14.302 .70 .28 1 BA63 .00 .00 8159 0
 0 0 0 0

Viga= 99 VFFA9 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

- - - - - G E O M E T R I A E C A R G A S - - - - -
 Vao= 1 /L= 2.25 /B= .70 /H= .25 /BCs= 1.04 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

- - - - -Solicitacoes provenientes de modelo de grelha e/ou portico espacial - - - - -

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 5.0 tf* m | M.[+] Max= 2.6 tf* m - Abcis.= 105 | M.[-]
 = 5.3 tf* m | As = 9.04 -SRAS- [8 B 12.5mm] | AsL= .00 - - - - - | As =
 [tf,cm] | AsL= .00 - - - - - x/d = .20 | As = 4.44 -STAS- [6 B 10.0mm] | AsL=
 9.70 -SRAS- [8 B 12.5mm] | x/d = .21 x/dMx= .50 |
 .00 - - - - - x/d = .21 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 215.4 | M.[+]Min = 234.7 | M[-]
]Min = 234.7 |
 [cm2] | Asapo[+]= 1.11 |
 Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 210. 19.36 69.50 2 45. 11.8 8.1 11.8 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 210. .03 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .28 N

- - - - - G E O M E T R I A E C A R G A S - - - - -
 Vao= 2 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

- - - - -Solicitacoes provenientes de modelo de grelha e/ou portico espacial - - - - -

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 5.3 tf* m | M.[+] Max= 2.6 tf* m - Abcis.= 140 | M.[-]
 = 5.2 tf* m | As = 9.74 -SRAS- [8 B 12.5mm] | AsL= .00 - - - - - | As =
 [tf,cm] | AsL= .00 - - - - - x/d = .22 | As = 4.36 -STAS- [6 B 10.0mm] | AsL=
 9.56 -SRAS- [8 B 12.5mm] | x/d = .21 x/dMx= .50 |
 .00 - - - - - x/d = .21 |
 x/dMx= .50 |
 |

```

[tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 210. 19.20 69.50 2 45. 11.6 8.1 11.6 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 210. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .28 N

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 5.3 tf* m | M.[+] Max= 2.7 tf* m - Abcis.= 140 | M.[-]
= 5.0 tf* m |
[tf,cm]| As = 9.76 -SRAS- [ 8 B 12.5mm] | AsL= .00 ----- | As =
9.15 -SRAS- [ 8 B 12.5mm] | AsL= .00 ----- x/d = .22 | As = 4.54 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .20 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 210. 19.34 69.50 2 45. 11.8 8.1 11.8 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 210. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .28 N

----- G E O M E T R I A E C A R G A S -----
Vao= 4 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 5.0 tf* m | M.[+] Max= 2.4 tf* m - Abcis.= 140 | M.[-]
= 5.9 tf* m |
[tf,cm]| As = 9.13 -SRAS- [ 8 B 12.5mm] | AsL= .00 ----- | As =
11.08 -SRAS- [ 6 B 16.0mm] | AsL= .00 ----- x/d = .20 | As = 4.04 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .25 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 210. 19.71 69.50 2 45. 12.4 8.1 12.4 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 210. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .28 N

----- G E O M E T R I A E C A R G A S -----
Vao= 5 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 6.4 tf* m | M.[+] Max= 3.5 tf* m - Abcis.= 147 | M.[-]
 = 2.3 tf* m
 [tf,cm] | As = 12.07 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
 4.42 -SRAS- [6 B 10.0mm] | AsL= .00 ----- x/d = .27 | As = 6.10 -STAS- [5 B 12.5mm] | AsL=
 .00 ----- x/d = .10
 | x/dMx= .50 |
 x/dMx= .50
 |
 [tf,cm] | M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 1.53

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 105. 21.67 69.50 2 45. 15.5 8.1 15.5 8.0 10.0 4 .0 .0
 105.- 210. 16.38 69.50 2 45. 7.1 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 105. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .31 N
 105.- 210. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .24 N

----- G E O M E T R I A E C A R G A S -----

 Vao= 6B /L= 1.08 /B= .70 /H= .25 /BCs= 1.13 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | M[-]= 1.75 tf* m | As = 4.42 -SRAS- [6 B 10.0mm]
 BAL.DIR | x/d = .10 | AsL= .00 -
 .7
 [tf,cm] | M[-]Min= 256.0 - x/dMx= 1.00 | | %
 Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 46. 5.68 69.50 2 45. .0 8.1 8.1 6.3 10.0 4 .0 .0

REAC. APOIO		No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn		
Pilares:												
		1	13.395	13.394	.70	.28	1	BA65	.00	.00	8162	0
0	0	0	0									
		2	27.137	27.137	.70	.28	1	BA66	.00	.00	8163	0
0	0	0	0									
		3	27.045	27.045	.70	.28	1	BA67	.00	.00	8164	0
0	0	0	0									
		4	26.425	26.425	.70	.28	1	BA68	.00	.00	8165	0
0	0	0	0									
		5	29.117	29.117	.70	.28	1	BA69	.00	.00	8166	0
0	0	0	0									
		6	15.760	15.760	.70	.28	1	BA70	.00	.00	8167	0
0	0	0	0									

Viga= 100 VFFA10 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

 Vao= 1 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 2.6 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 84 | M.[-]
 = 2.9 tf* m
 [tf,cm] | As = 4.56 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As =
 5.00 -SRAS- [7 B 10.0mm] | AsL= .00 ----- x/d = .10 | As = 3.70 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .11
 | x/dMx= .50 |
 x/dMx= .50
 |

```

[tf,cm]| M[-]Min = 204.1 | M[+]Min = 217.7 | M[-]
]Min = 217.7
[cm2 ]| Asapo[+]= .93 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.38 69.50 2 45. 2.4 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .03 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .20 N

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.9 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 114 | M.[-]
= 2.9 tf* m |
[tf,cm]| As = 4.97 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- | As =
5.04 -SRAS- [ 7 B 10.0mm] |
| AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11 |
| x/dMx= .50 |
x/dMx= .50 |
|
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.22 69.50 2 45. 2.2 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .19 N

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.9 tf* m | M.[+] Max= 1.5 tf* m - Abcis.= 114 | M.[-]
= 2.6 tf* m |
[tf,cm]| As = 5.11 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- | As =
4.42 -SRAS- [ 6 B 10.0mm] |
| AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .10 |
| x/dMx= .50 |
x/dMx= .50 |
|
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.53 69.50 2 45. 2.6 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .19 N

----- G E O M E T R I A E C A R G A S -----
Vao= 4 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 2.5 tf* m | M.[+] Max= 1.1 tf* m - Abcis.= 114 | M.[-]
 = 3.9 tf* m
 [tf,cm] | As = 4.23 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As =
 6.94 -SRAS- [4 B 16.0mm] | AsL= .00 ----- x/d = .09 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .15 x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 14.32 69.50 2 45. 3.9 8.1 8.1 6.3 10.0 4 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .21 N
 ----- G E O M E T R I A E C A R G A S -----
 Vao= 5 /L= 2.20 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 4.2 tf* m | M.[+] Max= 2.7 tf* m - Abcis.= 137 | M.[-]
 = 5.7 tf* m
 [tf,cm] | As = 7.50 -SRAS- [4 B 16.0mm] | AsL= .00 ----- | As =
 10.54 -SRAS- [6 B 16.0mm] | AsL= .00 ----- x/d = .17 | As = 4.64 -STAS- [6 B 10.0mm] | AsL=
 .00 ----- x/d = .24 x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 218.0 | M[+]Min = 218.0 | M[-]
]Min = 218.0
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 102. 18.08 69.50 2 45. 9.8 8.1 9.8 6.3 10.0 4 .0 .0
 102.- 205. 20.01 69.50 2 45. 12.9 8.1 12.9 8.0 10.0 4 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 102. .02 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .26 N
 102.- 205. .02 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .29 N

----- G E O M E T R I A E C A R G A S -----
 Vao= 6 /L= 2.20 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 5.7 tf* m | M.[+] Max= 2.7 tf* m - Abcis.= 137 | M.[-]
 = 4.2 tf* m
 [tf,cm] | As = 10.54 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
 7.55 -SRAS- [4 B 16.0mm] | AsL= .00 ----- x/d = .24 | As = 4.67 -STAS- [6 B 10.0mm] | AsL=
 .00 ----- x/d = .17 x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 218.0 | M[+]Min = 218.0 | M[-]
]Min = 218.0
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 102. 20.06 69.50 2 45. 13.0 8.1 13.0 8.0 10.0 4 .0 .0
 102.- 205. 18.17 69.50 2 45. 10.0 8.1 10.0 6.3 10.0 4 .0 .0

----- G E O M E T R I A E C A R G A S -----

Vao= 7 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 3.9 tf* m | M.[+] Max= 1.1 tf* m - Abcis.= 114 | M.[-]
 = 2.4 tf* m
 [tf,cm] | As = 7.00 -SRAS- [4 B 16.0mm] | AsL= .00 ----- | As =
 4.21 -SRAS- [6 B 10.0mm] | AsL= .00 ----- x/d = .16 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .09 x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 14.39 69.50 2 45. 4.0 8.1 8.1 6.3 10.0 4 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .21 N

----- G E O M E T R I A E C A R G A S -----

Vao= 8 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 2.6 tf* m | M.[+] Max= 1.5 tf* m - Abcis.= 118 | M.[-]
 = 2.9 tf* m
 [tf,cm] | As = 4.45 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As =
 5.01 -SRAS- [7 B 10.0mm] | AsL= .00 ----- x/d = .10 | As = 3.70 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .11 x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 217.7 | M[+]Min = 217.7 | M[-]
]Min = 204.1
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= .93

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 13.31 69.50 2 45. 2.3 8.1 8.1 6.3 10.0 4 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .02 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .19 N

REAC. APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:									
0	0	1	9.184	9.184	.70	.28	1 BA65	.00	.00 8162 0
0	0	2	18.683	18.683	.70	.28	1 BA58	.00	.00 8154 0
0	0	3	18.829	18.829	.70	.28	1 BA51	.00	.00 8146 0
0	0	4	17.590	17.590	.70	.28	1 BA44	.00	.00 8138 0
0	0	5	22.805	22.805	.70	.28	1 BA37	.00	.00 8130 0
0	0	6	28.202	28.202	.70	.28	1 BA30	.00	.00 8121 0
0	0	7	22.916	22.916	.70	.28	1 BA23	.00	.00 8113 0

0	0	8	17.599	17.598	.70	.28	1	BA16	.00	.00	8105	0
0	0	9	9.507	9.507	.70	.28	1	BA9	.00	.00	8097	0
0	0	0	0	0								
=====												
=====												

Viga= 101 VFFA11 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 2.5 tf* m | M.[+] Max= 1.6 tf* m - Abcis.= 84 | M.[-]
= 2.9 tf* m
[tf,cm] | As = 4.23 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As =
4.97 -SRAS- [7 B 10.0mm] | AsL= .00 ----- x/d = .09 | As = 3.70 -STAS- [5 B 10.0mm] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 188.9 | M[+]Min = 217.7 | M[-]
]Min = 217.7
[cm2] | Asapo[+]= .93 |
Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.52 69.50 2 45. 2.6 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .03 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .20 N

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 2.9 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 114 | M.[-]
= 3.0 tf* m
[tf,cm] | As = 5.08 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As =
5.25 -SRAS- [7 B 10.0mm] | AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
.00 ----- x/d = .12 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
[cm2] | Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.28 69.50 2 45. 2.2 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .19 N

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A

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      | M.[-] =      2.9 tf* m      | M.[+] Max=      1.6 tf* m - Abcis.= 114 | M.[-]
=      2.3 tf* m
[tf,cm]| As =      5.11 -SRAS- [ 7 B 10.0mm] | AsL=      .00 ----- | As =
3.99 -SRAS- [ 5 B 10.0mm]
      | AsL=      .00 ----- x/d = .11 | As =      3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .09
      | x/dMx= .50 |
x/dMx= .50
      |
[tf,cm]| M[-]Min =      205.8 | M[+]Min =      205.8 | M[-]
]Min =      205.8
[cm2 ]| Asapo[+]=      2.49 |
Asapo[+]=      2.49

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CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.74 69.50 2 45. 3.0 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .20 N

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 4 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
      | M.[-] =      2.5 tf* m      | M.[+] Max=      .9 tf* m - Abcis.= 114 | M.[-]
=      4.3 tf* m
[tf,cm]| As =      4.27 -SRAS- [ 6 B 10.0mm] | AsL=      .00 ----- | As =
7.70 -SRAS- [ 4 B 16.0mm]
      | AsL=      .00 ----- x/d = .09 | As =      3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .17
      | x/dMx= .50 |
x/dMx= .50
      |
[tf,cm]| M[-]Min =      205.8 | M[+]Min =      205.8 | M[-]
]Min =      205.8
[cm2 ]| Asapo[+]=      2.49 |
Asapo[+]=      2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 14.63 69.50 2 45. 4.4 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .21 N

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 5 /L= 2.20 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
      | M.[-] =      3.7 tf* m      | M.[+] Max=      2.8 tf* m - Abcis.= 137 | M.[-]
=      5.9 tf* m
[tf,cm]| As =      6.64 -SRAS- [ 4 B 16.0mm] | AsL=      .00 ----- | As =
11.10 -SRAS- [ 6 B 16.0mm]
      | AsL=      .00 ----- x/d = .15 | As =      4.83 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .25
      | x/dMx= .50 |
x/dMx= .50
      |
[tf,cm]| M[-]Min =      218.0 | M[+]Min =      218.0 | M[-]
]Min =      218.0
[cm2 ]| Asapo[+]=      2.49 |
Asapo[+]=      2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 102. 17.67 69.50 2 45. 9.2 8.1 9.2 6.3 10.0 4 .0 .0
102.- 205. 20.51 69.50 2 45. 13.7 8.1 13.7 8.0 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M

```

[tf,cm]	0.- 102.	.02	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.26	N
	102.- 205.	.02	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.30	N

----- G E O M E T R I A E C A R G A S -----

Vao= 6 /L= 2.20 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 5.9 tf* m | M.[+] Max= 2.8 tf* m - Abcis.= 137 | M.[-]
 = 3.7 tf* m
 [tf,cm]| As = 11.12 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
 6.63 -SRAS- [4 B 16.0mm]
 | AsL= .00 ----- x/d = .25 | As = 4.83 -STAS- [6 B 10.0mm] | AsL=
 .00 ----- x/d = .15 x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm]| M[-]Min = 218.0 | M[+]Min = 218.0 | M[-]
]Min = 218.0
 [cm2]| Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.- 102.	20.52	69.50	2	45.	13.7	8.1	13.7	8.0	10.0	4	.0	.0	
	102.- 205.	17.67	69.50	2	45.	9.2	8.1	9.2	6.3	10.0	4	.0	.0	

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.- 102.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.30	N	
	102.- 205.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.26	N	

----- G E O M E T R I A E C A R G A S -----

Vao= 7 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 4.2 tf* m | M.[+] Max= .9 tf* m - Abcis.= 114 | M.[-]
 = 2.5 tf* m
 [tf,cm]| As = 7.69 -SRAS- [4 B 16.0mm] | AsL= .00 ----- | As =
 4.31 -SRAS- [6 B 10.0mm]
 | AsL= .00 ----- x/d = .17 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .09 x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
 [cm2]| Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.- 160.	14.64	69.50	2	45.	4.4	8.1	8.1	6.3	10.0	4	.0	.0	

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.- 160.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.21	N	

----- G E O M E T R I A E C A R G A S -----

Vao= 8 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 2.3 tf* m | M.[+] Max= 1.6 tf* m - Abcis.= 118 | M.[-]
 = 2.8 tf* m
 [tf,cm]| As = 4.03 -SRAS- [5 B 10.0mm] | AsL= .00 ----- | As =
 4.93 -SRAS- [7 B 10.0mm]

```

      | AsL=      .00 -----      x/d = .09      | As =      3.70      -STAS-      [ 5 B 10.0mm ]      | AsL=
.00 -----      x/d = .11
      |      x/dMx= .50      |
x/dMx= .50
      |
[tf,cm] | M[-]Min =      217.7      | M[+]Min =      217.7      | M[-]
]Min =      204.1
[cm2 ] | Asapo[+]=      2.49      |
Asapo[+]=      .93

```

```

CISALHAMENTO- Xi      Xf      Vsd      VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit      Esp NR AsTrt AsSus
M E N S A G E M      0.- 160.      13.48 69.50 2 45.      2.6      8.1      8.1 6.3 10.0 4      .0      .0
[tf,cm]
T O R C A O- Xi      Xf      Tsd      TRd2 %dT      he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M      0.- 160.      .02 6.63 5 9.2 58.1 13.1      .0      .0      .0      .0      .20 N
[tf,cm]

```

```

REAC. APOIO - No.      Maximos      Minimos      Largura      DEPEV      Morte      Nome      M.I.Mx M.I.Mn
Pilares:
      1      9.088      9.088      .70      .28      1      BA66      .00      .00 8163      0
0      0      0      0
      2      18.758      18.758      .70      .28      1      BA59      .00      .00 8155      0
0      0      0      0
      3      19.016      19.016      .70      .28      1      BA52      .00      .00 8147      0
0      0      0      0
      4      17.262      17.262      .70      .28      1      BA45      .00      .00 8139      0
0      0      0      0
      5      22.736      22.736      .70      .28      1      BA38      .00      .00 8131      0
0      0      0      0
      6      28.876      28.875      .70      .28      1      BA31      .00      .00 8122      0
0      0      0      0
      7      22.740      22.740      .70      .28      1      BA24      .00      .00 8114      0
0      0      0      0
      8      17.347      17.347      .70      .28      1      BA17      .00      .00 8106      0
0      0      0      0
      9      9.627      9.627      .70      .28      1      BA10      .00      .00 8098      0
0      0      0      0
=====
=====

```

Viga= 103 VFFA12 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

```

----- G E O M E T R I A E C A R G A S -----
-----
Vao= 1 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] =      2.4 tf* m | M.[+] Max=      1.6 tf* m - Abcis.= 84 | M.[-]
=      2.9 tf* m |
[tf,cm] | As =      4.22 -SRAS- [ 6 B 10.0mm ] | AsL=      .00 ----- | As =
4.99 -SRAS- [ 7 B 10.0mm ]
      | AsL=      .00 -----      x/d = .09      | As =      3.70      -STAS- [ 5 B 10.0mm ] | AsL=
.00 -----      x/d = .11      x/dMx= .50      |
x/dMx= .50
      |
[tf,cm] | M[-]Min =      188.9      | M[+]Min =      217.7      | M[-]
]Min =      217.7
[cm2 ] | Asapo[+]=      .93      |
Asapo[+]=      2.49

```

```

CISALHAMENTO- Xi      Xf      Vsd      VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit      Esp NR AsTrt AsSus
M E N S A G E M      0.- 160.      13.56 69.50 2 45.      2.7      8.1      8.1 6.3 10.0 4      .0      .0
[tf,cm]
T O R C A O- Xi      Xf      Tsd      TRd2 %dT      he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M      0.- 160.      .05 6.63 5 9.2 58.1 13.1      .1      .0      .0      .0      .20 N
[tf,cm]

```

```

----- G E O M E T R I A E C A R G A S -----
-----
Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
) - - - - -

```

```

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 2.9 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 114 | M.[-]
| 3.0 tf* m
[tf,cm]| As = 5.12 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- | As =
5.24 -SRAS- [ 7 B 10.0mm]
| AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .12 x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.30 69.50 2 45. 2.3 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .19 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 2.9 tf* m | M.[+] Max= 1.6 tf* m - Abcis.= 114 | M.[-]
| 2.3 tf* m
[tf,cm]| As = 5.11 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- | As =
4.01 -SRAS- [ 5 B 10.0mm]
| AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .09 x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.73 69.50 2 45. 3.0 8.1 8.1 6.3 10.0 4 .0 .0

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 4 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 2.5 tf* m | M.[+] Max= .9 tf* m - Abcis.= 114 | M.[-]
| 4.3 tf* m
[tf,cm]| As = 4.26 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- | As =
7.71 -SRAS- [ 4 B 16.0mm]
| AsL= .00 ----- x/d = .09 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .17 x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 14.67 69.50 2 45. 4.4 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .21 N

```

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 2.20 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 3.8 tf* m | M.[+] Max= 2.8 tf* m - Abcis.= 137 | M.[-]
 5.8 tf* m
 [tf,cm]| As = 6.77 -SRAS- [4 B 16.0mm] | AsL= .00 ----- | As =
 10.87 -SRAS- [6 B 16.0mm]
 | AsL= .00 ----- x/d = .15 | As = 4.90 -STAS- [4 B 12.5mm] | AsL=
 .00 ----- x/d = .24 x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm]| M[-]Min = 218.0 | M[+]Min = 218.0 | M[-]
]Min = 218.0
 [cm2]| Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M	0.-	102.	17.79	69.50	2	45.	9.4	8.1	9.4	6.3	10.0	4	.0	.0
[tf,cm]	102.-	205.	20.40	69.50	2	45.	13.5	8.1	13.5	8.0	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M	0.-	102.	.04	6.63	5	9.2	58.1	13.1	.1	.0	.0	.0	.26	N
[tf,cm]	102.-	205.	.04	6.63	5	9.2	58.1	13.1	.1	.0	.0	.0	.30	N

----- G E O M E T R I A E C A R G A S -----

Vao= 6 /L= 2.20 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 6.0 tf* m | M.[+] Max= 2.8 tf* m - Abcis.= 137 | M.[-]
 3.7 tf* m
 [tf,cm]| As = 11.28 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
 6.60 -SRAS- [4 B 16.0mm]
 | AsL= .00 ----- x/d = .25 | As = 4.77 -STAS- [6 B 10.0mm] | AsL=
 .00 ----- x/d = .15 x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm]| M[-]Min = 218.0 | M[+]Min = 218.0 | M[-]
]Min = 218.0
 [cm2]| Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M	0.-	102.	20.58	69.50	2	45.	13.8	8.1	13.8	8.0	10.0	4	.0	.0
[tf,cm]	102.-	205.	17.61	69.50	2	45.	9.1	8.1	9.1	6.3	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M	0.-	102.	.04	6.63	5	9.2	58.1	13.1	.1	.0	.0	.0	.30	N
[tf,cm]	102.-	205.	.04	6.63	5	9.2	58.1	13.1	.1	.0	.0	.0	.26	N

----- G E O M E T R I A E C A R G A S -----

Vao= 7 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 4.2 tf* m | M.[+] Max= .9 tf* m - Abcis.= 114 | M.[-]
 2.5 tf* m
 [tf,cm]| As = 7.55 -SRAS- [4 B 16.0mm] | AsL= .00 ----- | As =
 4.38 -SRAS- [6 B 10.0mm]
 | AsL= .00 ----- x/d = .17 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .10

```

x/dMx= .50
[tf,cm] M[-]Min = 205.8
]Min = 205.8
[cm2 ] Asapo[+]= 2.49
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 14.52 69.50 2 45. 4.2 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .21 N

----- G E O M E T R I A E C A R G A S -----
Vao= 8 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.4 tf* m | M.[+] Max= 1.6 tf* m - Abcis.= 118 | M.[-]
= 2.8 tf* m |
[tf,cm] | As = 4.10 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- | As =
4.82 -SRAS- [ 4 B 12.5mm] |
| AsL= .00 ----- x/d = .09 | As = 3.70 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11
| x/dMx= .50 |
[tf,cm] | M[-]Min = 217.7 | M.[+]Min = 217.7 | M[-]
]Min = 204.1
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= .93

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.38 69.50 2 45. 2.4 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .05 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .20 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 9.098 9.098 .70 .28 1 BA67 .00 .00 8164 0
0 0 0 0
2 18.824 18.824 .70 .28 1 BA60 .00 .00 8156 0
0 0 0 0
3 19.019 19.019 .70 .28 1 BA53 .00 .00 8148 0
0 0 0 0
4 17.290 17.290 .70 .28 1 BA46 .00 .00 8140 0
0 0 0 0
5 22.846 22.846 .70 .28 1 BA39 .00 .00 8132 0
0 0 0 0
6 28.837 28.837 .70 .28 1 BA32 .00 .00 8123 0
0 0 0 0
7 22.611 22.611 .70 .28 1 BA25 .00 .00 8115 0
0 0 0 0
8 17.457 17.456 .70 .28 1 BA18 .00 .00 8107 0
0 0 0 0
9 9.556 9.556 .70 .28 1 BA11 .00 .00 8099 0
0 0 0 0

=====
Viga= 104 VFFA14 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A |

```

```

      | M.[-] =      2.8 tf* m      | M.[+] Max=      1.4 tf* m - Abcis.= 79 | M.[-]
=      2.6 tf* m      |
[tf,cm]| As =      4.93 -SRAS- [ 7 B 10.0mm] | AsL=      .00 ----- | As =
4.54 -SRAS- [ 6 B 10.0mm] |
      | AsL=      .00 ----- x/d = .11 | As =      3.63 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .10      x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min =      201.3      | M[+]Min =      213.5      | M[-]
]Min =      213.5      |
[cm2 ]| Asapo[+]=      .91      |
Asapo[+]=      2.49      |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 148. 14.00 69.50 2 45. 3.4 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 148. .14 6.63 5 9.2 58.1 13.1 .2 .0 .0 .0 .22 N

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
      | M.[-] =      2.9 tf* m      | M.[+] Max=      1.3 tf* m - Abcis.= 114 | M.[-]
=      3.0 tf* m      |
[tf,cm]| As =      4.97 -SRAS- [ 7 B 10.0mm] | AsL=      .00 ----- | As =
5.14 -SRAS- [ 7 B 10.0mm] |
      | AsL=      .00 ----- x/d = .11 | As =      3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11      x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min =      205.8      | M[+]Min =      205.8      | M[-]
]Min =      205.8      |
[cm2 ]| Asapo[+]=      2.49      |
Asapo[+]=      2.49      |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.28 69.50 2 45. 2.2 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .19 N

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
      | M.[-] =      2.9 tf* m      | M.[+] Max=      1.5 tf* m - Abcis.= 118 | M.[-]
=      2.5 tf* m      |
[tf,cm]| As =      5.00 -SRAS- [ 7 B 10.0mm] | AsL=      .00 ----- | As =
4.37 -SRAS- [ 6 B 10.0mm] |
      | AsL=      .00 ----- x/d = .11 | As =      3.70 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .10      x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min =      217.7      | M[+]Min =      217.7      | M[-]
]Min =      188.9      |
[cm2 ]| Asapo[+]=      2.49      |
Asapo[+]=      .93      |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.49 69.50 2 45. 2.6 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .10 6.63 5 9.2 58.1 13.1 .2 .0 .0 .0 .21 N

```

REAC.	AP010	- No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn	
Pilares:											
		1	9.989	9.989	1.85	.85	0	BA33	.00	.00	8001 0
0	0	0	0								
		2	18.923	18.923	.70	.28	1	BA26	.00	.00	8116 0
0	0	0	0								
		3	18.843	18.843	.70	.28	1	BA19	.00	.00	8108 0
0	0	0	0								
		4	9.145	9.144	.70	.28	1	BA12	.00	.00	8100 0
0	0	0	0								

Viga= 105 VFFA16 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 2.8 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 79 | M.[-]
= 2.7 tf* m
[tf,cm]| As = 5.51 -SRAS- [5 B 12.5mm] | AsL= .00 ----- | As =
5.29 -SRAS- [7 B 10.0mm] | AsL= .00 ----- x/d = .11 | As = 4.25 -STAS- [6 B 10.0mm] | AsL=
.00 ----- x/d = .10 | x/dMx= .50 | Arm.Lat.=[2 X 1 B 5.0mm] - LN= 1.1 |
x/dMx= .50
[tf,cm]| M[-]Min = 201.3 | M[+]Min = 213.5 | M[-]
]Min = 213.5
[cm2]| Asapo[+]= 1.06 |
Asapo[+]= 3.11

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 148. 13.91 69.50 2 45. 3.2 8.1 8.1 6.3 10.0 4 .0 .0
T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 148. .41 6.63 5 9.2 58.1 13.1 .6 4.3 .6 .1 .26 N

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 2.8 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 114 | M.[-]
= 2.9 tf* m
[tf,cm]| As = 4.92 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As =
5.10 -SRAS- [7 B 10.0mm] | AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 |
x/dMx= .50
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
[cm2]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.29 69.50 2 45. 2.3 8.1 8.1 6.3 10.0 4 .0 .0
T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .02 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .19 N

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 2.9 tf* m | M.[+] Max= 1.5 tf* m - Abcis.= 118 | M.[-]
= 2.6 tf* m
[tf,cm]| As = 5.03 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- | As =
4.45 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- x/d = .11 | As = 3.70 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .10 x/dMx= .50 |
x/dMx= .50
|
[tf,cm]| M[-]Min = 217.7 | M[+]Min = 217.7 | M[-]
]Min = 204.1
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= .93

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.47 69.50 2 45. 2.5 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .26 6.63 5 9.2 58.1 13.1 .4 .0 .0 .0 .23 N

```

```

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 9.922 9.922 1.85 .85 0 BA34 .00 .00 8002 0
0 0 0 0
2 18.987 18.987 .70 .28 1 BA27 .00 .00 8117 0
0 0 0 0
3 18.829 18.829 .70 .28 1 BA20 .00 .00 8109 0
0 0 0 0
4 9.160 9.160 .70 .28 1 BA13 .00 .00 8101 0
0 0 0 0

```

Viga= 106 VFFA18 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

```

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 2.5 tf* m | M.[+] Max= 1.2 tf* m - Abcis.= 79 | M.[-]
= 2.5 tf* m
[tf,cm]| As = 5.35 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- | As =
5.39 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- x/d = .09 | As = 4.67 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .10 x/dMx= .50 | Arm.Lat.=[2 X 1 B 6.3mm] - LN= 1.1 |
x/dMx= .50
|
[tf,cm]| M[-]Min = 201.3 | M[+]Min = 213.5 | M[-]
]Min = 213.5
[cm2 ]| Asapo[+]= 1.17 |
Asapo[+]= 3.53

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 148. 12.63 69.50 2 45. 1.2 8.1 8.4 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 148. 1.19 6.63 5 9.2 58.1 13.1 1.8 4.3 1.0 .2 .36 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )

```

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 2.6 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 114 | M.[-]
 = 2.8 tf* m
 [tf,cm]| As = 4.50 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As =
 4.90 -SRAS- [4 B 12.5mm]
 | AsL= .00 ----- x/d = .10 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .11 x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
 [cm2]| Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 12.58 69.50 2 45. 1.1 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .04 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .19 N

----- G E O M E T R I A E C A R G A S -----
 Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 2.8 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 118 | M.[-]
 = 2.4 tf* m
 [tf,cm]| As = 5.46 -SRAS- [5 B 12.5mm] | AsL= .00 ----- | As =
 4.67 -SRAS- [6 B 10.0mm]
 | AsL= .00 ----- x/d = .11 | As = 4.32 -STAS- [6 B 10.0mm] | AsL=
 .00 ----- x/d = .09 x/dMx= .50 | Arm.Lat.= [2 X 1 B 5.0mm] - LN= 1.1 |
 x/dMx= .50 |
 [tf,cm]| M[-]Min = 217.7 | M[+]Min = 217.7 | M[-]
]Min = 188.9
 [cm2]| Asapo[+]= 3.11 |
 Asapo[+]= 1.08

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 12.75 69.50 2 45. 1.4 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .57 6.63 5 9.2 58.1 13.1 .9 4.3 .6 .1 .27 N

REAC. APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:									
	1	8.899	8.899	1.85	.85	0	BA35	.00	.00 8129 0
0 0 0	2	17.505	17.504	.70	.28	1	BA28	.00	.00 8118 0
0 0 0	3	17.825	17.825	.70	.28	1	BA21	.00	.00 8110 0
0 0 0	4	8.541	8.541	.70	.28	1	BA14	.00	.00 8102 0
0 0 0									

Viga= 107 VFFA13 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 2.4 tf* m | M.[+] Max= 1.6 tf* m - Abcis.= 84 | M.[-]
 = 3.0 tf* m

```

[tf,cm] | As = 4.09 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- | As =
5.14 -SRAS- [ 7 B 10.0mm] |
| AsL= .00 ----- x/d = .09 | As = 3.70 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 |
| x/dMx= .50 |
| [tf,cm] | M[-]Min = 188.9 | M[+]Min = 217.7 | M[-]
]Min = 217.7 |
[cm2 ] | Asapo[+]= .93 |
Asapo[+]= 2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.68 69.50 2 45. 2.9 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .11 6.63 5 9.2 58.1 13.1 .2 .0 .0 .0 .21 N

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
) - - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A

```

```

| M.[-] = 3.0 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 114 | M.[-]
= 2.8 tf* m
[tf,cm] | As = 5.25 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- | As =
4.93 -SRAS- [ 4 B 12.5mm] |
| AsL= .00 ----- x/d = .12 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 |
| x/dMx= .50 |
| [tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.40 69.50 2 45. 2.4 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .02 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .20 N

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
) - - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A

```

```

| M.[-] = 2.8 tf* m | M.[+] Max= 1.5 tf* m - Abcis.= 114 | M.[-]
= 2.8 tf* m
[tf,cm] | As = 4.86 -SRAS- [ 4 B 12.5mm] | AsL= .00 ----- | As =
4.94 -SRAS- [ 4 B 12.5mm] |
| AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 |
| x/dMx= .50 |
| [tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.27 69.50 2 45. 2.2 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .19 N

```

----- G E O M E T R I A E C A R G A S -----

 Vao= 4 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 2.9 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 114 | M.[-]
 = 2.9 tf* m
 [tf,cm]| As = 5.03 -SRAS- [4 B 12.5mm] | AsL= .00 ----- | As =
 5.04 -SRAS- [7 B 10.0mm]
 | AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .11
 | x/dMx= .50 |
 [tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
 [cm2]| Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 13.26 69.50 2 45. 2.2 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .03 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .20 N

----- G E O M E T R I A E C A R G A S -----

 Vao= 5 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 2.7 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 110 | M.[-]
 = 2.8 tf* m
 [tf,cm]| As = 4.62 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As =
 4.91 -SRAS- [4 B 12.5mm]
 | AsL= .00 ----- x/d = .10 | As = 3.63 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .11
 | x/dMx= .50 |
 [tf,cm]| M[-]Min = 213.5 | M[+]Min = 213.5 | M[-]
]Min = 201.3
 [cm2]| Asapo[+]= 2.49 |
 Asapo[+]= .91

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 148. 13.93 69.50 2 45. 3.3 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 148. .14 6.63 5 9.2 58.1 13.1 .2 .0 .0 .0 .22 N

REAC. APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:									
	1	9.009	9.009	.70	.28	1	BA68	.00	.00 8165 0
0 0	0	0							
	2	19.059	19.058	.70	.28	1	BA61	.00	.00 8157 0
0 0	0	0							
	3	18.508	18.508	.70	.28	1	BA54	.00	.00 8149 0
0 0	0	0							
	4	18.649	18.649	.70	.28	1	BA47	.00	.00 8141 0
0 0	0	0							
	5	19.054	19.054	.70	.28	1	BA40	.00	.00 8133 0
0 0	0	0							
	6	9.948	9.948	1.85	.85	0	BA33	.00	.00 8001 0
0 0	0	0							

Viga= 108 VFFA15
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 2.4 tf* m | M.[+] Max= 1.6 tf* m - Abcis.= 84 | M.[-]
 = 3.0 tf* m | [tf,cm] | As = 4.11 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As =
 5.15 -SRAS- [7 B 10.0mm] | AsL= .00 ----- x/d = .09 | As = 3.70 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .11 x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 188.9 | M[+]Min = 217.7 | M[-]
]Min = 217.7 |
 [cm2] | Asapo[+]= .93 |
 Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 13.68 69.50 2 45. 2.9 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .27 6.63 5 9.2 58.1 13.1 .4 .0 .0 .0 .24 N

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 3.0 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 114 | M.[-]
 = 2.8 tf* m | [tf,cm] | As = 5.25 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As =
 4.90 -SRAS- [4 B 12.5mm] | AsL= .00 ----- x/d = .12 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .11 x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 13.41 69.50 2 45. 2.4 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .04 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .20 N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 2.8 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 114 | M.[-]
 = 2.9 tf* m | [tf,cm] | As = 4.86 -SRAS- [4 B 12.5mm] | AsL= .00 ----- | As =
 4.96 -SRAS- [7 B 10.0mm] | AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .11 x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 13.41 69.50 2 45. 2.4 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .04 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .20 N

[tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 13.30 69.50 2 45. 2.3 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .19 N

----- G E O M E T R I A E C A R G A S -----

Vao= 4 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

| M.[-] = 2.9 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 114 | M.[-]
 = 2.9 tf* m

[tf,cm] | As = 4.98 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As =
 5.01 -SRAS- [4 B 12.5mm]

| AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .11

| x/dMx= .50 |
 x/dMx= .50

[tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8

[cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 13.24 69.50 2 45. 2.2 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .06 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .20 N

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

| M.[-] = 2.7 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 110 | M.[-]
 = 2.8 tf* m

[tf,cm] | As = 5.39 -SRAS- [5 B 12.5mm] | AsL= .00 ----- | As =
 5.46 -SRAS- [5 B 12.5mm]

| AsL= .00 ----- x/d = .11 | As = 4.25 -STAS- [6 B 10.0mm] | AsL=
 .00 ----- x/d = .11

| x/dMx= .50 |
 x/dMx= .50

[tf,cm] | M[-]Min = 213.5 | M[+]Min = 213.5 | M[-]
]Min = 201.3

[cm2] | Asapo[+]= 3.11 |
 Asapo[+]= 1.06

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 148. 13.91 69.50 2 45. 3.2 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 148. .41 6.63 5 9.2 58.1 13.1 .6 4.3 .6 .1 .26 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
 Pilares:

0	0	1	9.014	9.014	.70	.28	1	BA69	.00	.00	8166	0
0	0	2	19.063	19.063	.70	.28	1	BA62	.00	.00	8158	0
0	0	3	18.481	18.481	.70	.28	1	BA55	.00	.00	8150	0
0	0	0	0	0								

0	0	0	4	18.681	18.681	.70	.28	1	BA48	.00	.00	8142	0
0	0	0	5	19.105	19.105	.70	.28	1	BA41	.00	.00	8134	0
0	0	0	6	9.883	9.883	1.85	.85	0	BA34	.00	.00	8002	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0

Viga= 109 VFFA17 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.1 tf* m | M.[+] Max= 1.5 tf* m - Abcis.= 84 | M.[-]
= 2.8 tf* m | As = 4.29 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As =
[tf,cm] | AsL= .00 ----- x/d = .08 | As = 4.32 -STAS- [6 B 10.0mm] | AsL=
5.55 -SRAS- [5 B 12.5mm] | x/d = .11 | Arm.Lat.=[2 X 1 B 5.0mm] - LN= 1.1 |
.00 ----- x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 188.9 | M[+]Min = 217.7 | M[-]
]Min = 217.7 |
[cm2] | Asapo[+]= 1.08 |
Asapo[+]= 3.11 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 12.97 69.50 2 45. 1.8 8.1 8.1 6.3 10.0 4 .0 .0
T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .58 6.63 5 9.2 58.1 13.1 .9 4.3 .6 .1 .27 N

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.9 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 114 | M.[-]
= 2.6 tf* m | As = 5.04 -SRAS- [4 B 12.5mm] | AsL= .00 ----- | As =
[tf,cm] | AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
4.53 -SRAS- [6 B 10.0mm] | x/d = .10 | x/dMx= .50 |
.00 ----- x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
[cm2] | Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 12.65 69.50 2 45. 1.3 8.1 8.1 6.3 10.0 4 .0 .0
T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .07 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .19 N

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
)

```

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 2.6 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 114 | M.[-]
| 2.7 tf* m
[tf,cm]| As = 4.49 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- | As =
4.71 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- x/d = .10 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .10 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 12.54 69.50 2 45. 1.1 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .18 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 4 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 2.7 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 114 | M.[-]
| 2.6 tf* m
[tf,cm]| As = 4.72 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- | As =
4.55 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- x/d = .10 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .10 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 12.52 69.50 2 45. 1.0 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .12 6.63 5 9.2 58.1 13.1 .2 .0 .0 .0 .20 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 5 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 2.6 tf* m | M.[+] Max= 1.2 tf* m - Abcis.= 110 | M.[-]
| 2.5 tf* m
[tf,cm]| As = 5.47 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- | As =
5.29 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- x/d = .10 | As = 4.67 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .09 | x/dMx= .50 | Arm.Lat.= [2 X 1 B 6.3mm] - LN= 1.1 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 213.5 | M[+]Min = 213.5 | M[-]
]Min = 201.3
[cm2 ]| Asapo[+]= 3.54 |
Asapo[+]= 1.17

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 148. 12.69 69.50 2 45. 1.3 8.1 8.5 6.3 10.0 4 .0 .0

```

T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2 %dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	148.	1.19	6.63	5	9.2	58.1	13.1	1.8	4.3	1.0	.2	.36 N
REAC. APOIO - Pilares:	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn				
0	0	1	8.387	8.387	.70	.28	1 BA70	.00	.00	8167	0		
0	0	2	18.034	18.033	.70	.28	1 BA63	.00	.00	8159	0		
0	0	3	17.303	17.303	.70	.28	1 BA56	.00	.00	8151	0		
0	0	4	17.632	17.632	.70	.28	1 BA49	.00	.00	8143	0		
0	0	5	17.638	17.638	.70	.28	1 BA42	.00	.00	8135	0		
0	0	6	8.854	8.854	1.85	.85	0 BA35	.00	.00	8129	0		

Viga= 110 VFFB1 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1B /L= 1.09 /B= .70 /H= .25 /BCs= 1.14 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO | M[-]= 1.75 tf* m | As = 4.44 -SRAS- [6 B 10.0mm]
 BAL.ESQ | x/d = .10 | AsL= .00 -
 .7
 [tf,cm] | M[-]Min= 257.0 - x/dMx =1.00 | %
 Baric.Armad.= 1

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	47.	5.90	69.50	2	45.	.0	8.1	8.1	6.3	10.0	4	.0	.0

----- G E O M E T R I A E C A R G A S -----
 Vao= 2 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 2.2 tf* m | M.[+] Max= 3.1 tf* m - Abcis.= 101 | M.[-]
 = 5.6 tf* m | As = 4.44 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As =
 [tf,cm] | AsL= .00 ----- x/d = .10 | As = 5.36 -STAS- [7 B 10.0mm] | AsL=
 10.51 -SRAS- [6 B 16.0mm] | AsL= .00 ----- x/d = .23 | AsL= .00 -----
 .00 ----- x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7 |
 [cm2] | Asapo[+]= 1.34 |
 Asapo[+]= 2.49 |

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	100.	15.52	69.50	2	45.	5.8	8.1	8.1	6.3	10.0	4	.0	.0
	100.-	200.	20.19	69.50	2	45.	13.2	8.1	13.2	8.0	10.0	4	.0	.0

T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2 %dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	100.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.22	N
	100.-	200.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.29	N

----- G E O M E T R I A E C A R G A S -----
 Vao= 3 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
) - - - - -

```

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 5.3 tf* m | M.[+] Max= 2.1 tf* m - Abcis.= 135 | M.[-]
| 4.4 tf* m
[tf,cm]| As = 9.84 -SRAS- [ 5 B 16.0mm] | AsL= .00 ----- | As =
8.02 -SRAS- [ 4 B 16.0mm] | AsL= .00 ----- x/d = .22 | As = 3.68 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .18 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 18.41 69.50 2 45. 10.3 8.1 10.3 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 200. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .27 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 4 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 4.5 tf* m | M.[+] Max= 2.4 tf* m - Abcis.= 135 | M.[-]
| 4.9 tf* m
[tf,cm]| As = 8.15 -SRAS- [ 4 B 16.0mm] | AsL= .00 ----- | As =
8.84 -SRAS- [ 7 B 12.5mm] | AsL= .00 ----- x/d = .18 | As = 4.01 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .20 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 18.21 69.50 2 45. 10.0 8.1 10.0 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 200. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .26 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 5 /L= 2.15 /B= .70 /H= .25 /BCs= 1.02 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 4.9 tf* m | M.[+] Max= 2.4 tf* m - Abcis.= 141 | M.[-]
| 4.1 tf* m
[tf,cm]| As = 8.92 -SRAS- [ 8 B 12.5mm] | AsL= .00 ----- | As =
7.36 -SRAS- [ 6 B 12.5mm] | AsL= .00 ----- x/d = .20 | As = 4.06 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .16 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 231.3 | M[+]Min = 231.3 | M[-]
]Min = 213.2
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 1.01

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 18.30 69.50 2 45. 10.2 8.1 10.2 6.3 10.0 4 .0 .0

```

T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2 %dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	200.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.26	N
REAC. APOIO - Pilares:	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn				
0	0	1	15.280	15.280	.70	.28	1 BB8	.00	.00	8014	0		
0	0	2	27.160	27.160	.70	.28	1 BB9	.00	.00	8015	0		
0	0	3	24.575	24.573	.70	.28	1 BB10	.00	.00	8016	0		
0	0	4	25.691	25.688	.70	.28	1 BB11	.00	.00	8017	0		
0	0	5	12.200	12.198	.70	.28	1 BB12	.00	.00	8018	0		

Viga= 111 VFFB3 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1B /L= 1.09 /B= .70 /H= .25 /BCs= 1.14 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO | M[-]= 1.75 tf* m | As = 4.44 -SRAS- [6 B 10.0mm]
 BAL.ESQ | x/d = .10 | ASL= .00 -
 .7
 [tf,cm] | M[-]Min= 257.0 - x/dMx = 1.00 | %
 Baric.Armad.= 1

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	47.	5.90	69.50	2	45.	.0	8.1	8.1	6.3	10.0	4	.0	.0

----- G E O M E T R I A E C A R G A S -----
 Vao= 2 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 1.8 tf* m | M.[+] Max= 4.1 tf* m - Abcis.= 80 | M.[-]
 6.0 tf* m
 [tf,cm] | As = 4.44 -SRAS- [6 B 10.0mm] | ASL= .00 ----- | As =
 11.16 -SRAS- [6 B 16.0mm]
 .00 | ASL= .00 ----- x/d = .10 | As = 7.21 -STAS- [6 B 12.5mm] | ASL=
 .00 ----- x/d = .25 x/dMx = .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7
 [cm2] | Asapo[+]= 3.66 |
 Asapo[+]= 2.49

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	100.	13.57	69.50	2	45.	2.7	8.1	8.1	6.3	10.0	4	.0	.0
	100.-	200.	21.44	69.50	2	45.	15.1	8.1	15.1	8.0	10.0	4	.0	.0

T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2 %dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	100.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.20	N
	100.-	200.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.31	N

----- G E O M E T R I A E C A R G A S -----
 Vao= 3 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

```

      | M.[-] =      6.3 tf* m      | M.[+] Max=      1.8 tf* m - Abcis.= 135 | M.[-]
=      4.0 tf* m
[tf,cm]| As = 11.82 -SRAS- [ 6 B 16.0mm] | AsL=      .00 ----- | As =
7.17 -SRAS- [ 6 B 12.5mm] | AsL=      .00 ----- x/d = .26 | As = 3.68 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .16 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7 |
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 19.07 69.50 2 45. 11.4 8.1 11.4 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 200. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .27 N

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 4 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
) - - - - -
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
      | M.[-] =      3.9 tf* m      | M.[+] Max=      2.3 tf* m - Abcis.= 135 | M.[-]
=      5.2 tf* m
[tf,cm]| As = 7.01 -SRAS- [ 6 B 12.5mm] | AsL=      .00 ----- | As =
9.42 -SRAS- [ 8 B 12.5mm] | AsL=      .00 ----- x/d = .16 | As = 3.99 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .21 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7 |
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 18.39 69.50 2 45. 10.3 8.1 10.3 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 200. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .26 N

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 5 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
) - - - - -
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
      | M.[-] =      5.1 tf* m      | M.[+] Max=      2.6 tf* m - Abcis.= 135 | M.[-]
=      3.4 tf* m
[tf,cm]| As = 9.36 -SRAS- [ 8 B 12.5mm] | AsL=      .00 ----- | As =
6.09 -SRAS- [ 5 B 12.5mm] | AsL=      .00 ----- x/d = .21 | As = 4.45 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .13 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7 |
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 18.70 69.50 2 45. 10.8 8.1 10.8 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 200. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .27 N

```

----- G E O M E T R I A E C A R G A S -----
 Vao= 6 /L= 1.43 /B= .70 /H= .25 /BCs= .87 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 3.9 tf* m | M.[+] Max= .6 tf* m - Abcis.= 125 | M.[-]
 = .9 tf* m | As = 6.86 -SRAS- [6 B 12.5mm] | AsL= .00 ----- | As =
 3.37 -SRAS- [5 B 10.0mm] | AsL= .00 ----- x/d = .15 | As = 3.35 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .07 | x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 197.0 | M[+]Min = 197.0 | M[-]
]Min = 197.0 |
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 127. 13.87 69.50 2 45. 3.2 8.1 8.1 6.3 10.0 4 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 127. .05 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .21 N

----- G E O M E T R I A E C A R G A S -----
 Vao= 7 /L= 1.43 /B= .70 /H= .25 /BCs= .87 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 2.6 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 166 | M.[-]
 = 1.8 tf* m | As = 4.53 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As =
 4.44 -SRAS- [6 B 10.0mm] | AsL= .00 ----- x/d = .10 | As = 3.35 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .10 | x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 197.0 | M[+]Min = 197.0 | M[-]
]Min = 197.0 |
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 3.33 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 128. 13.04 69.50 2 45. 1.9 8.1 8.1 6.3 10.0 4 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 128. .05 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .20 N

----- G E O M E T R I A E C A R G A S -----
 Vao= 8B /L= 1.09 /B= .70 /H= .25 /BCs= 1.14 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO | M[-]= 1.75 tf* m | As = 4.44 -SRAS- [6 B 10.0mm]
 BAL.DIR | x/d = .10 | AsL= .00 -
 .7 |
 [tf,cm] | M[-]Min= 257.0 - x/dMx= 1.00 | %
 Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 47. 5.82 69.50 2 45. .0 8.1 8.1 6.3 10.0 4 .0 .0

REAC.	AP010	- No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn		
Pilares:												
0	0	1	13.892	13.890	.70	.28	1	BB15	.00	.00	8021	0
		2	28.507	28.504	.70	.28	1	BB16	.00	.00	8022	0
0	0	3	23.169	23.167	.70	.28	1	BB17	.00	.00	8023	0
0	0	4	26.108	26.106	.70	.28	1	BB18	.00	.00	8024	0
0	0	5	21.377	21.374	.70	.28	1	BB19	.00	.00	8025	0
0	0	6	14.894	14.893	1.75	.80	0	BB20	.00	.00	8153	0
0	0	7	10.466	10.465	.70	.28	1	BB21	.00	.00	8027	0

Viga= 113 VFFB12 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 2.9 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 79 | M.[-]
 = 2.6 tf* m | [tf,cm] | As = 4.96 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As =
 4.54 -SRAS- [4 B 12.5mm] | AsL= .00 ----- x/d = .11 | As = 3.63 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .10 x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 201.3 | M[+]Min = 213.5 | M[-]
]Min = 213.5 |
 [cm2] | Asapo[+]= .91 |
 Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 148. 14.04 69.50 2 45. 3.4 8.1 8.1 6.3 10.0 4 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 148. .33 6.63 5 9.2 58.1 13.1 .5 .0 .0 .0 .25 N

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 2.8 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 114 | M.[-]
 = 3.1 tf* m | [tf,cm] | As = 4.83 -SRAS- [4 B 12.5mm] | AsL= .00 ----- | As =
 5.46 -SRAS- [7 B 10.0mm] | AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .12 x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 13.47 69.50 2 45. 2.5 8.1 8.1 6.3 10.0 4 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .02 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .20 N

----- G E O M E T R I A E C A R G A S -----
 Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 3.0 tf* m | M.[+] Max= 1.7 tf* m - Abcis.= 118 | M.[-]
 = 2.1 tf* m
 [tf,cm]| As = 5.29 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As =
 3.51 -SRAS- [5 B 10.0mm]
 | AsL= .00 ----- x/d = .12 | As = 3.70 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .08
 | x/dMx= .50 |
 [tf,cm]| M[-]Min = 217.7 | M[+]Min = 217.7 | M[-]
]Min = 188.9
 [cm2]| Asapo[+]= 2.49 |
 Asapo[+]= .93

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 13.96 69.50 2 45. 3.3 8.1 8.1 6.3 10.0 4 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .20 6.63 5 9.2 58.1 13.1 .3 .0 .0 .0 .23 N

REAC. APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:									
	1	10.017	10.017	1.85	.85	0	BB30	.00	.00 8036 0
0 0	0	0							
	2	18.745	18.745	.70	.28	1	BB23	.00	.00 8029 0
0 0	0	0							
	3	19.306	19.306	.70	.28	1	BB16	.00	.00 8022 0
0 0	0	0							
	4	8.748	8.748	.70	.28	1	BB9	.00	.00 8015 0
0 0	0	0							

Viga= 114 VFFB14 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 2.9 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 79 | M.[-]
 = 2.6 tf* m
 [tf,cm]| As = 4.95 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As =
 4.55 -SRAS- [4 B 12.5mm]
 | AsL= .00 ----- x/d = .11 | As = 3.63 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .10
 | x/dMx= .50 |
 [tf,cm]| M[-]Min = 201.3 | M[+]Min = 213.5 | M[-]
]Min = 213.5
 [cm2]| Asapo[+]= .91 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 148. 14.04 69.50 2 45. 3.4 8.1 8.1 6.3 10.0 4 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 148. .09 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .22 N

----- G E O M E T R I A E C A R G A S -----
 Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 2.8 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 114 | M.[-]
= 3.2 tf* m
[tf,cm]| As = 4.84 -SRAS- [ 4 B 12.5mm] | AsL= .00 ----- | As =
5.49 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .12 | x/dMx= .50 |
x/dMx= .50
|
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M	[tf,cm]	0.- 160.	13.54	69.50	2	45.	2.7	8.1	8.1	6.3	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M	[tf,cm]	0.- 160.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.20	N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 3.1 tf* m | M.[+] Max= 1.7 tf* m - Abcis.= 118 | M.[-]
= 2.0 tf* m
[tf,cm]| As = 5.32 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- | As =
3.45 -SRAS- [ 5 B 10.0mm] | AsL= .00 ----- x/d = .12 | As = 3.70 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .08 | x/dMx= .50 |
x/dMx= .50
|
[tf,cm]| M[-]Min = 217.7 | M[+]Min = 217.7 | M[-]
]Min = 188.9
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= .93

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M	[tf,cm]	0.- 160.	14.01	69.50	2	45.	3.4	8.1	8.1	6.3	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M	[tf,cm]	0.- 160.	.06	6.63	5	9.2	58.1	13.1	.1	.0	.0	.0	.21	N

REAC. APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:									
0	0	1	10.014	10.013	1.85	.85	0	BB31	.00 .00 8037 0
0	0	2	18.777	18.775	.70	.28	1	BB24	.00 .00 8030 0
0	0	3	19.390	19.386	.70	.28	1	BB17	.00 .00 8023 0
0	0	4	8.722	8.719	.70	.28	1	BB10	.00 .00 8016 0

Viga= 115 VFFB16 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )

```

```

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 2.9 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 79 | M.[-]
| 2.6 tf* m
[tf,cm]| As = 4.97 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- | As =
4.53 -SRAS- [ 4 B 12.5mm] | AsL= .00 ----- x/d = .11 | As = 3.63 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .10 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 201.3 | M[+]Min = 213.5 | M[-]
]Min = 213.5
[cm2 ]| Asapo[+]= .91 |
Asapo[+]= 2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 148. 14.07 69.50 2 45. 3.5 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 148. .04 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .21 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 2.8 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 114 | M.[-]
| 3.1 tf* m
[tf,cm]| As = 4.83 -SRAS- [ 4 B 12.5mm] | AsL= .00 ----- | As =
5.48 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .12 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.49 69.50 2 45. 2.6 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .20 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 3.0 tf* m | M.[+] Max= 1.7 tf* m - Abcis.= 118 | M.[-]
| 2.0 tf* m
[tf,cm]| As = 5.30 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- | As =
3.47 -SRAS- [ 5 B 10.0mm] | AsL= .00 ----- x/d = .12 | As = 3.70 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .08 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 217.7 | M[+]Min = 217.7 | M[-]
]Min = 188.9
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= .93

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.99 69.50 2 45. 3.4 8.1 8.1 6.3 10.0 4 .0 .0

```

T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2 %dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	160.	.03	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.21 N
REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn					
Pilares:													
0 0 0	1	10.038	10.037	1.85	.85	0	BB32	.00	.00	8038	0		
0 0 0	2	18.742	18.739	.70	.28	1	BB25	.00	.00	8031	0		
0 0 0	3	19.339	19.332	.70	.28	1	BB18	.00	.00	8024	0		
0 0 0	4	8.736	8.731	.70	.28	1	BB11	.00	.00	8017	0		
0 0 0	0	0											

Viga= 116 VFFB6 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1B /L= 1.09 /B= .70 /H= .25 /BCs= 1.14 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO | M[-]= 1.75 tf* m | As = 4.44 -SRAS- [6 B 10.0mm]
BAL.ESQ | x/d = .10 | AsL= .00 -
.7
[tf,cm] | M[-]Min= 257.0 - x/dMx = 1.00 | %
Baric.Armad.= 1

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	47.	5.87	69.50	2	45.	.0	8.1	8.1	6.3	10.0	4	.0	.0

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 1.8 tf* m | M.[+] Max= 4.3 tf* m - Abcis.= 80 | M.[-]
= 6.0 tf* m
[tf,cm] | As = 4.44 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As =
11.21 -SRAS- [6 B 16.0mm]
| AsL= .00 ----- x/d = .10 | As = 7.49 -STAS- [6 B 12.5mm] | AsL=
.00 ----- x/d = .25
x/dMx= .50 x/dMx= .50
[tf,cm] | M[-]Min = 216.7 | M.[+]Min = 216.7 | M[-]
]Min = 216.7
[cm2] | Asapo[+] = 3.66 |
Asapo[+] = 2.49

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	100.	13.39	69.50	2	45.	2.4	8.1	8.1	6.3	10.0	4	.0	.0
	100.-	200.	21.62	69.50	2	45.	15.4	8.1	15.4	8.0	10.0	4	.0	.0

T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2 %dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	100.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.19	N
	100.-	200.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.31	N

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 6.4 tf* m | M.[+] Max= 1.7 tf* m - Abcis.= 135 | M.[-]
= 4.0 tf* m

```
[tf,cm] | As = 12.15 -SRAS- [ 6 B 16.0mm ] | AsL= .00 ----- | As =
7.13 -SRAS- [ 6 B 12.5mm ] | AsL= .00 ----- x/d = .27 | As = 3.68 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .16 x/dMx= .50 |
|
x/dMx= .50 |
|
[tf,cm] | M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 2.49
```

```
CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 19.22 69.50 2 45. 11.6 8.1 11.6 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 200. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .28 N
```

```
----- G E O M E T R I A E C A R G A S -----
Vao= 4 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]
```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 3.9 tf* m | M.[+] Max= 2.4 tf* m - Abcis.= 135 | M.[-]
= 5.2 tf* m
[tf,cm] | As = 6.89 -SRAS- [ 6 B 12.5mm ] | AsL= .00 ----- | As =
9.46 -SRAS- [ 8 B 12.5mm ] | AsL= .00 ----- x/d = .15 | As = 4.03 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .21 x/dMx= .50 |
|
x/dMx= .50 |
|
[tf,cm] | M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 2.49
```

```
CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 18.45 69.50 2 45. 10.4 8.1 10.4 6.3 10.0 4 .0 .0

----- G E O M E T R I A E C A R G A S -----
Vao= 5 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]
```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 5.1 tf* m | M.[+] Max= 2.6 tf* m - Abcis.= 135 | M.[-]
= 3.5 tf* m
[tf,cm] | As = 9.37 -SRAS- [ 8 B 12.5mm ] | AsL= .00 ----- | As =
6.14 -SRAS- [ 5 B 12.5mm ] | AsL= .00 ----- x/d = .21 | As = 4.42 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .14 x/dMx= .50 |
|
x/dMx= .50 |
|
[tf,cm] | M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 2.49
```

```
CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 18.69 69.50 2 45. 10.8 8.1 10.8 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 200. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .27 N
```

```
----- G E O M E T R I A E C A R G A S -----
Vao= 6 /L= 1.95 /B= .70 /H= .25 /BCs= .93 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]
```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 3.9 tf* m | M.[+] Max= 1.1 tf* m - Abcis.= 125 | M.[-]
= 4.8 tf* m | AsL= .00 ----- | As =
[tf,cm]| As = 6.86 -SRAS- [ 6 B 12.5mm] | AsL= .00 ----- | As =
8.85 -SRAS- [ 5 B 16.0mm] | AsL= .00 ----- x/d = .15 | As = 3.59 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .20 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 211.3 | M[+]Min = 211.3 | M[-]
]Min = 211.3 |
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	180.	15.91	69.50	2	45.	6.4	8.1	8.1	6.3	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	180.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.23	N

----- G E O M E T R I A E C A R G A S -----

Vao= 7 /L= 1.95 /B= .70 /H= .25 /BCs= .93 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 4.4 tf* m | M.[+] Max= 3.3 tf* m - Abcis.= 148 | M.[-]
= 1.8 tf* m | AsL= .00 ----- | As =
[tf,cm]| As = 7.96 -SRAS- [ 4 B 16.0mm] | AsL= .00 ----- | As =
4.44 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- x/d = .18 | As = 5.80 -STAS- [ 5 B 12.5mm ] | AsL=
.00 ----- x/d = .10 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 211.3 | M[+]Min = 211.3 | M[-]
]Min = 211.3 |
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 3.57 |

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	180.	18.31	69.50	2	45.	10.2	8.1	10.2	6.3	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	180.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.26	N

----- G E O M E T R I A E C A R G A S -----

Vao= 8B /L= 1.09 /B= .70 /H= .25 /BCs= 1.14 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO | M[-]= 1.75 tf* m | As = 4.44 -SRAS- [ 6 B 10.0mm]
BAL.DIR | x/d = .10 | AsL= .00 -
.7 |
[tf,cm] | M[-]Min= 257.0 - x/dMx= 1.00 | | %
Baric.Armad.= 1

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	47.	5.90	69.50	2	45.	.0	8.1	8.1	6.3	10.0	4	.0	.0

REAC. APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:									
0	0	13.742	13.741	.70	.28	1	BB43	.00	.00 8049 0
0	0	28.745	28.742	.70	.28	1	BB44	.00	.00 8050 0

0	0	3	23.086	23.084	.70	.28	1	BB45	.00	.00	8051	0
0	0	4	26.136	26.135	.70	.28	1	BB46	.00	.00	8052	0
0	0	5	21.832	21.831	.70	.28	1	BB47	.00	.00	8053	0
0	0	6	24.082	24.081	.70	.28	1	BB48	.00	.00	8054	0
0	0	7	12.734	12.734	.70	.28	1	BB49	.00	.00	8055	0

Viga= 117 VFFB7 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1B /L= 1.09 /B= .70 /H= .25 /BCs= 1.14 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO | M[-]= 1.75 tf* m | As = 4.44 -SRAS- [6 B 10.0mm]
BAL.ESQ | x/d = .10 | ASL= .00 -
.7
[tf,cm] | M[-]Min= 257.0 - x/dMx =1.00 | %
Baric.Armad.= 1

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M	0.-	47.	5.87	69.50	2	45.	.0	8.1	8.1	6.3	10.0	4	.0	.0
[tf,cm]														

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 1.8 tf* m | M.[+] Max= 4.3 tf* m - Abcis.= 80 | M.[-]
6.0 tf* m
[tf,cm] | As = 4.44 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As =
11.21 -SRAS- [6 B 16.0mm]
.00 | AsL= .00 ----- x/d = .10 | As = 7.52 -STAS- [6 B 12.5mm] | AsL=
.00 ----- x/d = .25 x/dMx = .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7
[cm2] | Asapo[+] = 3.66 |
Asapo[+] = 2.49

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M	0.-	100.	13.37	69.50	2	45.	2.4	8.1	8.1	6.3	10.0	4	.0	.0
[tf,cm]														
	100.-	200.	21.64	69.50	2	45.	15.4	8.1	15.4	8.0	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M	0.-	100.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.19	N
[tf,cm]														
	100.-	200.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.31	N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 6.4 tf* m | M.[+] Max= 1.7 tf* m - Abcis.= 135 | M.[-]
4.0 tf* m
[tf,cm] | As = 12.17 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
7.14 -SRAS- [6 B 12.5mm]
.00 | AsL= .00 ----- x/d = .27 | As = 3.68 -STAS- [5 B 10.0mm] | AsL=
.00 ----- x/d = .16

```

x/dMx= .50
|
[tf,cm] | M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 19.23 69.50 2 45. 11.6 8.1 11.6 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 200. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .28 N

----- G E O M E T R I A E C A R G A S -----
Vao= 4 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
) - - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 3.9 tf* m | M.[+] Max= 2.4 tf* m - Abcis.= 135 | M.[-]
= 5.2 tf* m
[tf,cm] | As = 6.89 -SRAS- [ 6 B 12.5mm] | AsL= .00 ----- | As =
9.48 -SRAS- [ 8 B 12.5mm]
| AsL= .00 ----- x/d = .15 | As = 4.05 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .21
| x/dMx= .50 |
x/dMx= .50
|
[tf,cm] | M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 18.51 69.50 2 45. 10.5 8.1 10.5 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 200. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .27 N

----- G E O M E T R I A E C A R G A S -----
Vao= 5 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
) - - - - -
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 5.2 tf* m | M.[+] Max= 2.6 tf* m - Abcis.= 135 | M.[-]
= 3.5 tf* m
[tf,cm] | As = 9.40 -SRAS- [ 8 B 12.5mm] | AsL= .00 ----- | As =
6.11 -SRAS- [ 5 B 12.5mm]
| AsL= .00 ----- x/d = .21 | As = 4.42 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .14
| x/dMx= .50 |
x/dMx= .50
|
[tf,cm] | M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 18.71 69.50 2 45. 10.8 8.1 10.8 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 200. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .27 N

----- G E O M E T R I A E C A R G A S -----
Vao= 6 /L= 1.95 /B= .70 /H= .25 /BCs= .93 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 3.8 tf* m | M.[+] Max= 1.1 tf* m - Abcis.= 125 | M.[-]
= 4.9 tf* m | | |
[tf,cm]| As = 6.85 -SRAS- [ 6 B 12.5mm] | AsL= .00 ----- | As =
8.91 -SRAS- [ 5 B 16.0mm] | | |
| AsL= .00 ----- x/d = .15 | As = 3.59 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .20 | | |
| x/dMx= .50 | | |
| [tf,cm]| M[-]Min = 211.3 | M[+]Min = 211.3 | M[-]
]Min = 211.3 | | |
[cm2 ]| Asapo[+]= 2.49 | | |
Asapo[+]= 2.49 | | |

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	180.	15.96	69.50	2	45.	6.5	8.1	8.1	6.3	10.0	4	.0	.0

----- G E O M E T R I A E C A R G A S -----

Vao= 7 /L= 1.95 /B= .70 /H= .25 /BCs= .93 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 4.4 tf* m | M.[+] Max= 3.4 tf* m - Abcis.= 148 | M.[-]
= 1.8 tf* m | | |
[tf,cm]| As = 7.99 -SRAS- [ 4 B 16.0mm] | AsL= .00 ----- | As =
4.44 -SRAS- [ 6 B 10.0mm] | | |
| AsL= .00 ----- x/d = .18 | As = 5.85 -STAS- [ 5 B 12.5mm ] | AsL=
.00 ----- x/d = .10 | | |
| x/dMx= .50 | | |
| [tf,cm]| M[-]Min = 211.3 | M[+]Min = 211.3 | M[-]
]Min = 211.3 | | |
[cm2 ]| Asapo[+]= 2.49 | | |
Asapo[+]= 3.57 | | |

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	180.	18.37	69.50	2	45.	10.3	8.1	10.3	6.3	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	180.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.27	N

----- G E O M E T R I A E C A R G A S -----

Vao= 8B /L= 1.09 /B= .70 /H= .25 /BCs= 1.14 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| M[-]= 1.75 tf* m | As = 4.44 -SRAS- [ 6 B 10.0mm]
BAL.DIR | x/d = .10 | AsL= .00 -
.7 |
[tf,cm] | M[-]Min= 257.0 - x/dMx =1.00 | | %
Baric.Armad.= 1

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	47.	5.90	69.50	2	45.	.0	8.1	8.1	6.3	10.0	4	.0	.0

REAC. APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:	1	13.730	13.729	.70	.28	1	BB50	.00	.00
0	0	0	0						
0	0	28.758	28.758	.70	.28	1	BB51	.00	.00
0	0	0	0						
0	0	23.112	23.111	.70	.28	1	BB52	.00	.00
0	0	0	0						
0	0	26.191	26.191	.70	.28	1	BB53	.00	.00
0	0	0	0						

0	0	5	21.816	21.816	.70	.28	1	BB54	.00	.00	8058	0
0	0	6	24.156	24.156	.70	.28	1	BB55	.00	.00	8057	0
0	0	7	12.729	12.728	.70	.28	1	BB56	.00	.00	8056	0

Viga= 118 VFFB8 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1B /L= 1.09 /B= .70 /H= .25 /BCs= 1.14 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO | M[-]= 1.75 tf* m | As = 4.44 -SRAS- [6 B 10.0mm]
 BAL.ESQ | x/d = .10 | ASL= .00 -
 .7
 [tf,cm] | M[-]Min= 257.0 - x/dMx =1.00 | %
 Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 47. 5.69 69.50 2 45. .0 8.1 8.1 6.3 10.0 4 .0 .0

----- G E O M E T R I A E C A R G A S -----
 Vao= 2 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 1.8 tf* m | M.[+] Max= 4.2 tf* m - Abcis.= 80 | M.[-]
 = 6.0 tf* m
 [tf,cm] | As = 4.44 -SRAS- [6 B 10.0mm] | ASL= .00 ----- | As =
 11.20 -SRAS- [6 B 16.0mm]
 | AsL= .00 ----- x/d = .10 | As = 7.34 -STAS- [6 B 12.5mm] | ASL=
 .00 ----- x/d = .25
 x/dMx= .50 x/dMx= .50 |
 [tf,cm] | M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7
 [cm2] | Asapo[+]= 3.66 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 100. 13.47 69.50 2 45. 2.5 8.1 8.1 6.3 10.0 4 .0 .0
 100.- 200. 21.53 69.50 2 45. 15.3 8.1 15.3 8.0 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 100. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .19 N
 100.- 200. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .31 N

----- G E O M E T R I A E C A R G A S -----
 Vao= 3 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 6.3 tf* m | M.[+] Max= 1.7 tf* m - Abcis.= 135 | M.[-]
 = 4.0 tf* m
 [tf,cm] | As = 11.92 -SRAS- [6 B 16.0mm] | ASL= .00 ----- | As =
 7.15 -SRAS- [6 B 12.5mm]
 | AsL= .00 ----- x/d = .27 | As = 3.68 -STAS- [5 B 10.0mm] | ASL=
 .00 ----- x/d = .16
 x/dMx= .50 x/dMx= .50 |
 [tf,cm] | M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7
 [cm2] | Asapo[+]= 3.66 |
 Asapo[+]= 2.49

```

[tf,cm] | M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 19.10 69.50 2 45. 11.4 8.1 11.4 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 200. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .28 N

----- G E O M E T R I A E C A R G A S -----
Vao= 4 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 3.9 tf* m | M.[+] Max= 2.4 tf* m - Abcis.= 135 | M.[-]
= 5.2 tf* m |
[tf,cm] | As = 6.98 -SRAS- [ 6 B 12.5mm] | AsL= .00 ----- | As =
9.40 -SRAS- [ 8 B 12.5mm] | AsL= .00 ----- x/d = .15 | As = 4.02 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .21 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 18.40 69.50 2 45. 10.3 8.1 10.3 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 200. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .26 N

----- G E O M E T R I A E C A R G A S -----
Vao= 5 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 5.1 tf* m | M.[+] Max= 2.6 tf* m - Abcis.= 135 | M.[-]
= 3.5 tf* m |
[tf,cm] | As = 9.33 -SRAS- [ 8 B 12.5mm] | AsL= .00 ----- | As =
6.19 -SRAS- [ 5 B 12.5mm] | AsL= .00 ----- x/d = .21 | As = 4.40 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .14 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 200. 18.65 69.50 2 45. 10.7 8.1 10.7 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 200. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .27 N

----- G E O M E T R I A E C A R G A S -----
Vao= 6 /L= 1.95 /B= .70 /H= .25 /BCs= .93 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 3.8 tf* m | M.[+] Max= 1.1 tf* m - Abcis.= 125 | M.[-]
 = 4.8 tf* m | [6 B 12.5mm] | AsL= .00 ----- | As =
 [tf,cm] | As = 6.82 -SRAS- [5 B 16.0mm] | AsL= .00 ----- | AsL=
 8.85 -SRAS- [5 B 16.0mm] | AsL= .00 ----- | AsL=
 .00 ----- x/d = .15 | As = 3.59 -STAS- [5 B 10.0mm] | AsL=
 ----- x/d = .20 | x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 211.3 | M[+]Min = 211.3 | M[-]
]Min = 211.3 |
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 180. 15.95 69.50 2 45. 6.5 8.1 8.1 6.3 10.0 4 .0 .0

----- G E O M E T R I A E C A R G A S -----

Vao= 7 /L= 1.95 /B= .70 /H= .25 /BCs= .93 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 4.5 tf* m | M.[+] Max= 3.4 tf* m - Abcis.= 148 | M.[-]
 = 1.8 tf* m | [4 B 16.0mm] | AsL= .00 ----- | As =
 [tf,cm] | As = 8.13 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | AsL=
 4.44 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | AsL=
 .00 ----- x/d = .18 | As = 5.87 -STAS- [5 B 12.5mm] | AsL=
 ----- x/d = .10 | x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 211.3 | M[+]Min = 211.3 | M[-]
]Min = 211.3 |
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 3.57 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 180. 18.46 69.50 2 45. 10.4 8.1 10.4 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 180. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .27 N

----- G E O M E T R I A E C A R G A S -----

Vao= 8B /L= 1.09 /B= .70 /H= .25 /BCs= 1.14 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO | M[-]= 1.75 tf* m | As = 4.44 -SRAS- [6 B 10.0mm]
 BAL.DIR | x/d = .10 | AsL= .00 -
 .7
 [tf,cm] | M[-]Min= 257.0 - x/dMx= 1.00 | | %
 Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 47. 5.26 69.50 2 45. .0 8.1 8.1 6.3 10.0 4 .0 .0

REAC. APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:									
0	0	13.675	13.675	.70	.28	1	BB57	.00	.00 8063 0
0	0	28.592	28.592	.70	.28	1	BB58	.00	.00 8064 0
0	0	23.138	23.138	.70	.28	1	BB59	.00	.00 8065 0
0	0	26.075	26.075	.70	.28	1	BB60	.00	.00 8066 0
0	0	21.850	21.850	.70	.28	1	BB61	.00	.00 8067 0

0	0	6	24.217	24.217	.70	.28	1	BB62	.00	.00	8068	0
0	0	7	12.210	12.210	.70	.28	1	BB63	.00	.00	8069	0
0	0	0	0	0								

Viga= 119 VFFB9 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1B /L= 1.09 /B= .70 /H= .25 /BCs= 1.14 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO | M[-]= 1.75 tf* m | As = 4.44 -SRAS- [6 B 10.0mm]
BAL.ESQ | x/d = .10 | ASL= .00 -
[tf,cm] | M[-]Min= 257.0 - x/dMx =1.00 | | %
Baric.Armad.= 1

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M	0.-	47.	5.85	69.50	2	45.	.0	8.1	8.1	6.3	10.0	4	.0	.0
[tf,cm]														

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.2 tf* m | M.[+] Max= 3.1 tf* m - Abcis.= 101 | M.[-]
= 5.7 tf* m | | |
[tf,cm] | As = 4.44 -SRAS- [6 B 10.0mm] | ASL= .00 ----- | As =
10.53 -SRAS- [6 B 16.0mm] | | |
| ASL= .00 ----- x/d = .10 | As = 5.35 -STAS- [7 B 10.0mm] | ASL=
.00 ----- x/d = .23 | x/dMx= .50 | |
x/dMx= .50 | | |
[tf,cm] | M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7 | | |
[cm2] | Asapo[+]= 1.34 | | |
Asapo[+]= 2.49 | | |

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M	0.-	100.	15.44	69.50	2	45.	5.7	8.1	8.1	6.3	10.0	4	.0	.0
[tf,cm]														
	100.-	200.	20.16	69.50	2	45.	13.1	8.1	13.1	8.0	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M	0.-	100.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.22	N
[tf,cm]														
	100.-	200.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.29	N

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 5.3 tf* m | M.[+] Max= 2.1 tf* m - Abcis.= 135 | M.[-]
= 4.4 tf* m | | |
[tf,cm] | As = 9.88 -SRAS- [5 B 16.0mm] | ASL= .00 ----- | As =
8.03 -SRAS- [4 B 16.0mm] | | |
| ASL= .00 ----- x/d = .22 | As = 3.68 -STAS- [5 B 10.0mm] | ASL=
.00 ----- x/d = .18 | x/dMx= .50 | |
x/dMx= .50 | | |
[tf,cm] | M[-]Min = 216.7 | M[+]Min = 216.7 | M[-]
]Min = 216.7 | | |

[cm2]| Asapo[+]= 2.49
 Asapo[+]= 2.49

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	200.	18.51	69.50	2	45.	10.5	8.1	10.5	6.3	10.0	4	.0	.0

T O R C A O- M E N S A G E M	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
[tf,cm]	0.-	200.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.27	N

----- G E O M E T R I A E C A R G A S -----

Vao= 4 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)			
FLEXAO- E I T A	E S Q U E R D A	M E I O D O V A O	D I R
M.[-] =	4.5 tf* m	M.[+] Max=	2.3 tf* m - Abcis.= 135
[tf,cm] As =	8.14 -SRAS- [4 B 16.0mm]	AsL=	.00
8.87 -SRAS- [8 B 12.5mm]		As =	3.97
AsL=	.00	-STAS- [5 B 10.0mm]	AsL=
x/d =	.20	x/dMx=	.50
x/dMx=	.50		
[tf,cm] M[-]Min =	216.7	M[+]Min =	216.7
]Min =	216.7		
[cm2] Asapo[+]=	2.49		
Asapo[+]=	2.49		

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	200.	18.18	69.50	2	45.	10.0	8.1	10.0	6.3	10.0	4	.0	.0

T O R C A O- M E N S A G E M	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
[tf,cm]	0.-	200.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.26	N

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 2.15 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)			
FLEXAO- E I T A	E S Q U E R D A	M E I O D O V A O	D I R
M.[-] =	5.0 tf* m	M.[+] Max=	2.5 tf* m - Abcis.= 135
[tf,cm] As =	8.99 -SRAS- [8 B 12.5mm]	AsL=	.00
7.38 -SRAS- [6 B 12.5mm]		As =	4.22
AsL=	.00	-STAS- [6 B 10.0mm]	AsL=
x/d =	.16	x/dMx=	.50
x/dMx=	.50		
[tf,cm] M[-]Min =	216.7	M[+]Min =	216.7
]Min =	216.7		
[cm2] Asapo[+]=	2.49		
Asapo[+]=	2.49		

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	200.	18.44	69.50	2	45.	10.4	8.1	10.4	6.3	10.0	4	.0	.0

T O R C A O- M E N S A G E M	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
[tf,cm]	0.-	200.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.27	N

----- G E O M E T R I A E C A R G A S -----

Vao= 6 /L= 1.95 /B= .70 /H= .25 /BCs= .93 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)			
FLEXAO- E I T A	E S Q U E R D A	M E I O D O V A O	D I R
M.[-] =		M.[+] Max=	
[tf,cm] As =		AsL=	
		As =	
AsL=		-STAS- [6 B 10.0mm]	AsL=
x/d =		x/dMx=	
x/dMx=			
[tf,cm] M[-]Min =		M[+]Min =	
]Min =			
[cm2] Asapo[+]=			
Asapo[+]=			

```

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 3.9 tf* m | M.[+] Max= 1.5 tf* m - Abcis.= 125 | M.[-]
4.0 tf* m
[tf,cm]| As = 6.99 -SRAS- [ 6 B 12.5mm] | AsL= .00 ----- | As =
7.25 -SRAS- [ 4 B 16.0mm]
| AsL= .00 ----- x/d = .15 | As = 3.59 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .16 x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 211.3 | M[+]Min = 211.3 | M[-]
]Min = 211.3
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 180. 15.44 69.50 2 45. 5.7 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 180. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .22 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 7 /L= 1.95 /B= .70 /H= .25 /BCs= .93 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 4.3 tf* m | M.[+] Max= 2.5 tf* m - Abcis.= 129 | M.[-]
1.8 tf* m
[tf,cm]| As = 7.76 -SRAS- [ 4 B 16.0mm] | AsL= .00 ----- | As =
4.44 -SRAS- [ 6 B 10.0mm]
| AsL= .00 ----- x/d = .17 | As = 4.20 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .10 x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 211.3 | M[+]Min = 211.3 | M[-]
]Min = 211.3
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 1.05

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 180. 17.17 69.50 2 45. 8.4 8.1 8.4 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 180. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .25 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 8B /L= 1.09 /B= .70 /H= .25 /BCs= 1.14 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO | M[-]= 1.75 tf* m | As = 4.44 -SRAS- [ 6 B 10.0mm]
BAL.DIR | x/d = .10 | AsL= .00 -
.7
[tf,cm] | M[-]Min= 257.0 - x/dMx =1.00 | | %
Baric.Armad.= 1

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 47. 5.85 69.50 2 45. .0 8.1 8.1 6.3 10.0 4 .0 .0

```

REAC. APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:	1	15.194	15.194	.70	.28	1	BB64	.00	.00 8076 0
0 0	0	0	0						
0 0	2	27.212	27.212	.70	.28	1	BB65	.00	.00 8075 0
0 0	0	0	0						
0 0	3	24.590	24.590	.70	.28	1	BB66	.00	.00 8074 0
0 0	0	0	0						
0 0	4	25.771	25.771	.70	.28	1	BB67	.00	.00 8073 0
0 0	0	0	0						

0	0	0	5	22.996	22.996	.70	.28	1	BB68	.00	.00	8072	0
0	0	0	6	22.953	22.953	.70	.28	1	BB69	.00	.00	8071	0
0	0	0	7	13.732	13.732	.70	.28	1	BB70	.00	.00	8070	0

Viga= 120 VFFB10 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 1.6 tf* m | M.[+] Max= 1.7 tf* m - Abcis.= 84 | M.[-]
= 3.0 tf* m | [tf,cm]| As = 3.85 -SRAS- [5 B 10.0mm] | AsL= .00 ----- | As =
5.78 -SRAS- [8 B 10.0mm] | AsL= .00 ----- x/d = .07 | As = 4.32 -STAS- [6 B 10.0mm] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 | Arm.Lat.=[2 X 1 B 5.0mm] - LN= 1.1 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 188.9 | M[+]Min = 217.7 | M[-]
]Min = 217.7 |
[cm2]| Asapo[+]= 1.08 |
Asapo[+]= 3.11 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.53 69.50 2 45. 2.6 8.1 8.1 6.3 10.0 4 .0 .0
T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .49 6.63 5 9.2 58.1 13.1 .7 4.3 .6 .1 .27 N

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 3.1 tf* m | M.[+] Max= 1.2 tf* m - Abcis.= 114 | M.[-]
= 2.6 tf* m | [tf,cm]| As = 5.39 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As =
4.45 -SRAS- [6 B 10.0mm] | AsL= .00 ----- x/d = .12 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
.00 ----- x/d = .10 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
[cm2]| Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 12.89 69.50 2 45. 1.6 8.1 8.1 6.3 10.0 4 .0 .0
T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .04 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .19 N

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
)

```

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 2.5 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 114 | M.[-]
| 2.7 tf* m
[tf,cm]| As = 4.36 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- | As =
4.79 -SRAS- [ 4 B 12.5mm] | AsL= .00 ----- x/d = .10 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 12.65 69.50 2 45. 1.2 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .18 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 4 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 2.8 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 114 | M.[-]
| 2.6 tf* m
[tf,cm]| As = 4.82 -SRAS- [ 4 B 12.5mm] | AsL= .00 ----- | As =
4.55 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .10 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 12.58 69.50 2 45. 1.1 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .10 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .20 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 5 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 2.6 tf* m | M.[+] Max= 1.2 tf* m - Abcis.= 110 | M.[-]
| 2.5 tf* m
[tf,cm]| As = 5.26 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- | As =
5.12 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- x/d = .10 | As = 4.47 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .09 | x/dMx= .50 | Arm.Lat.= [2 X 1 B 5.0mm] - LN= 1.1 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 213.5 | M[+]Min = 213.5 | M[-]
]Min = 201.3
[cm2 ]| Asapo[+]= 3.34 |
Asapo[+]= 1.12

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 148. 12.70 69.50 2 45. 1.3 8.1 8.1 6.3 10.0 4 .0 .0

```

T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2 %dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	148.	.97	6.63	5	9.2	58.1	13.1	1.5	4.3	.8	.2	.33 N
REAC. APOIO - Pilares:	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn				
0	0	1	8.035	8.035	.70	.28	1 BB64	.00	.00	8076	0		
0	0	2	18.595	18.595	.70	.28	1 BB57	.00	.00	8063	0		
0	0	3	17.140	17.140	.70	.28	1 BB50	.00	.00	8062	0		
0	0	4	17.756	17.756	.70	.28	1 BB43	.00	.00	8049	0		
0	0	5	17.644	17.644	.70	.28	1 BB36	.00	.00	8042	0		
0	0	6	8.892	8.892	1.85	.85	0 BB29	.00	.00	8035	0		

Viga= 121 VFFB11 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 1.8 tf* m | M.[+] Max= 1.8 tf* m - Abcis.= 84 | M.[-]
 = 3.1 tf* m | As = 3.23 -SRAS- [4 B 10.0mm] | AsL= .00 ----- | As =
 [tf,cm] | AsL= .00 ----- x/d = .07 | As = 3.70 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .12 x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 188.9 | M[+]Min = 217.7 | M[-]
]Min = 217.7 |
 [cm2] | Asapo[+]= .93 |
 Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 14.27 69.50 2 45. 3.8 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .21 6.63 5 9.2 58.1 13.1 .3 .0 .0 .0 .24 N

----- G E O M E T R I A E C A R G A S -----
 Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 3.3 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 114 | M.[-]
 = 2.7 tf* m | As = 5.72 -SRAS- [5 B 12.5mm] | AsL= .00 ----- | As =
 [tf,cm] | AsL= .00 ----- x/d = .13 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .11 x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 13.61 69.50 2 45. 2.8 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .02 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .20 N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

| M.[-] = 2.7 tf* m | M.[+] Max= 1.5 tf* m - Abcis.= 114 | M.[-]
 = 2.9 tf* m
 [tf,cm]| As = 4.67 -SRAS- [4 B 12.5mm] | AsL= .00 ----- | As =
 4.99 -SRAS- [7 B 10.0mm] | AsL= .00 ----- x/d = .10 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .11
 x/dMx= .50 |
 [tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
 [cm2]| Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 13.35 69.50 2 45. 2.4 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .19 N

----- G E O M E T R I A E C A R G A S -----

Vao= 4 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

| M.[-] = 2.9 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 114 | M.[-]
 = 2.9 tf* m
 [tf,cm]| As = 5.03 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As =
 4.95 -SRAS- [7 B 10.0mm] | AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .11
 x/dMx= .50 |
 [tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
 [cm2]| Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 13.25 69.50 2 45. 2.2 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .05 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .20 N

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

| M.[-] = 2.7 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 110 | M.[-]
 = 2.8 tf* m
 [tf,cm]| As = 4.71 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As =
 4.87 -SRAS- [4 B 12.5mm] | AsL= .00 ----- x/d = .10 | As = 3.63 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .11

x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 213.5 | M[+]Min = 213.5 | M[-]
]Min = 201.3 |
[cm2] | Asapo[+]= 2.49 |
Asapo[+]= .91 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 148. 13.89 69.50 2 45. 3.2 8.1 8.1 6.3 10.0 4 .0 .0
T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 148. .33 6.63 5 9.2 58.1 13.1 .5 .0 .0 .0 .25 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 8.560 8.560 .70 .28 1 BB65 .00 .00 8075 0
0 0 2 19.625 19.625 .70 .28 1 BB58 .00 .00 8064 0
0 0 3 18.167 18.167 .70 .28 1 BB51 .00 .00 8061 0
0 0 4 18.723 18.723 .70 .28 1 BB44 .00 .00 8050 0
0 0 5 19.057 19.057 .70 .28 1 BB37 .00 .00 8043 0
0 0 6 9.909 9.909 1.85 .85 0 BB30 .00 .00 8036 0
0 0 0 0

Viga= 122 VFFB13 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 1.7 tf* m | M.[+] Max= 1.8 tf* m - Abcis.= 84 | M.[-]
= 3.1 tf* m |
[tf,cm] | As = 3.23 -SRAS- [4 B 10.0mm] | AsL= .00 ----- | As =
5.49 -SRAS- [5 B 12.5mm] | AsL= .00 ----- | AsL=
| AsL= .00 ----- x/d = .07 | As = 3.70 -STAS- [5 B 10.0mm] | AsL=
.00 ----- x/d = .12 x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 188.9 | M[+]Min = 217.7 | M[-]
]Min = 217.7 |
[cm2] | Asapo[+]= .93 |
Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 14.32 69.50 2 45. 3.9 8.1 8.1 6.3 10.0 4 .0 .0
T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .07 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .22 N

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 3.3 tf* m | M.[+] Max= 1.2 tf* m - Abcis.= 114 | M.[-]
= 2.7 tf* m |
[tf,cm] | As = 5.75 -SRAS- [5 B 12.5mm] | AsL= .00 ----- | As =
4.72 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | AsL=
| AsL= .00 ----- x/d = .13 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
.00 ----- x/d = .10

```

x/dMx= .50
|
[tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.60 69.50 2 45. 2.8 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .20 N

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 2.7 tf* m | M.[+] Max= 1.5 tf* m - Abcis.= 114 | M.[-]
= 2.9 tf* m
[tf,cm] | As = 4.62 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- | As =
5.00 -SRAS- [ 7 B 10.0mm]
| AsL= .00 ----- x/d = .10 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11
x/dMx= .50
|
[tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.36 69.50 2 45. 2.4 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .19 N

----- G E O M E T R I A E C A R G A S -----
Vao= 4 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 2.9 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 114 | M.[-]
= 2.9 tf* m
[tf,cm] | As = 5.03 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- | As =
4.95 -SRAS- [ 7 B 10.0mm]
| AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11
x/dMx= .50
|
[tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.26 69.50 2 45. 2.2 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .02 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .19 N

----- G E O M E T R I A E C A R G A S -----
Vao= 5 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 2.7 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 110 | M.[-]
= 2.8 tf* m
[tf,cm]| As = 4.70 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- | As =
4.87 -SRAS- [ 4 B 12.5mm] | AsL= .00 ----- x/d = .10 | As = 3.63 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 213.5 | M[+]Min = 213.5 | M[-]
]Min = 201.3 |
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= .91 |

```

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	148.	13.89	69.50	2	45.	3.2	8.1	8.1	6.3	10.0	4	.0	.0

T O R C A O- M E N S A G E M	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
[tf,cm]	0.-	148.	.09	6.63	5	9.2	58.1	13.1	.1	.0	.0	.0	.21	N

REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:								
1	8.528	8.528	.70	.28	1	BB66	.00	.00 8074 0
2	19.652	19.652	.70	.28	1	BB59	.00	.00 8065 0
3	18.130	18.130	.70	.28	1	BB52	.00	.00 8060 0
4	18.733	18.733	.70	.28	1	BB45	.00	.00 8051 0
5	19.050	19.050	.70	.28	1	BB38	.00	.00 8044 0
6	9.913	9.913	1.85	.85	0	BB31	.00	.00 8037 0

Viga= 123 VFFB15 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 1.7 tf* m | M.[+] Max= 1.8 tf* m - Abcis.= 84 | M.[-]
= 3.1 tf* m
[tf,cm]| As = 3.23 -SRAS- [ 4 B 10.0mm] | AsL= .00 ----- | As =
5.50 -SRAS- [ 5 B 12.5mm] | AsL= .00 ----- x/d = .07 | As = 3.70 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .12 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 188.9 | M[+]Min = 217.7 | M[-]
]Min = 217.7 |
[cm2 ]| Asapo[+]= .93 |
Asapo[+]= 2.49 |

```

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	160.	14.32	69.50	2	45.	3.9	8.1	8.1	6.3	10.0	4	.0	.0

T O R C A O- M E N S A G E M	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
[tf,cm]	0.-	160.	.02	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.21	N

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 3.3 tf* m | M.[+] Max= 1.2 tf* m - Abcis.= 114 | M.[-]
= 2.7 tf* m |
[tf,cm]| As = 5.75 -SRAS- [ 5 B 12.5mm] | AsL= .00 ----- | As =
4.72 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- x/d = .13 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .10 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M [tf,cm] 0.- 160. 13.63 69.50 2 45. 2.8 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M [tf,cm] 0.- 160. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .20 N

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.7 tf* m | M.[+] Max= 1.5 tf* m - Abcis.= 114 | M.[-]
= 2.9 tf* m |
[tf,cm]| As = 4.62 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- | As =
4.99 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- x/d = .10 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M [tf,cm] 0.- 160. 13.35 69.50 2 45. 2.3 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M [tf,cm] 0.- 160. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .19 N

----- G E O M E T R I A E C A R G A S -----
Vao= 4 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.9 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 114 | M.[-]
= 2.9 tf* m |
[tf,cm]| As = 5.03 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- | As =
4.95 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M

```

```

[tf,cm]          0.- 160.  13.25  69.50  2 45.   2.2   8.1   8.1 6.3 10.0 4  .0  .0

T O R C A O- Xi   Xf   Tsd   TRd2 %dT   he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm]          0.- 160.   .00   6.63  5 9.2 58.1 13.1   .0   .0   .0   .0   .19  N

----- G E O M E T R I A E C A R G A S -----
Vao= 5 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.7 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 110 | M.[-]
= 2.8 tf* m | M.[+] Min = 213.5 | M.[+] Min = 213.5 | M[-]
[tf,cm]| As = 4.70 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- | As =
4.87 -SRAS- [ 4 B 12.5mm] | AsL= .00 ----- x/d = .10 | As = 3.63 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11 x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 213.5 | M.[+]Min = 213.5 | M[-]
]Min = 201.3 |
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= .91 |

CISALHAMENTO- Xi   Xf   Vsd   VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm]          0.- 148.  13.89  69.50  2 45.   3.2   8.1   8.1 6.3 10.0 4  .0  .0

T O R C A O- Xi   Xf   Tsd   TRd2 %dT   he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm]          0.- 148.   .04   6.63  5 9.2 58.1 13.1   .1   .0   .0   .0   .21  N

REAC. APOIO - No.   Maximos   Minimos   Largura   DEPEV   Morte   Nome   M.I.Mx M.I.Mn
Pilares:
1 8.529 8.529 .70 .28 1 BB67 .00 .00 8073 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0
2 19.669 19.669 .70 .28 1 BB60 .00 .00 8066 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0
3 18.144 18.144 .70 .28 1 BB53 .00 .00 8059 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0
4 18.721 18.721 .70 .28 1 BB46 .00 .00 8052 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0
5 19.053 19.053 .70 .28 1 BB39 .00 .00 8045 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0
6 9.913 9.913 1.85 .85 0 BB32 .00 .00 8038 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0
=====
=====

Viga= 124 VFFB17 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 1.7 tf* m | M.[+] Max= 1.8 tf* m - Abcis.= 84 | M.[-]
= 3.1 tf* m | M.[+] Min = 188.9 | M.[+] Min = 217.7 | M[-]
[tf,cm]| As = 3.23 -SRAS- [ 4 B 10.0mm] | AsL= .00 ----- | As =
5.51 -SRAS- [ 5 B 12.5mm] | AsL= .00 ----- x/d = .07 | As = 3.70 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .12 x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 188.9 | M.[+]Min = 217.7 | M[-]
]Min = 217.7 |
[cm2 ]| Asapo[+]= .93 |
Asapo[+]= 2.49 |

CISALHAMENTO- Xi   Xf   Vsd   VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm]          0.- 160.  14.34  69.50  2 45.   3.9   8.1   8.1 6.3 10.0 4  .0  .0

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .10 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .22 N

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 3.3 tf* m | M.[+] Max= 1.2 tf* m - Abcis.= 114 | M.[-]
 = 2.7 tf* m
 [tf,cm]| As = 5.77 -SRAS- [5 B 12.5mm] | AsL= .00 ----- | As =
 4.76 -SRAS- [4 B 12.5mm] | AsL= .00 ----- x/d = .13 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .11 x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
 [cm2]| Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 13.63 69.50 2 45. 2.8 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .20 N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 2.7 tf* m | M.[+] Max= 1.5 tf* m - Abcis.= 114 | M.[-]
 = 2.9 tf* m
 [tf,cm]| As = 4.66 -SRAS- [4 B 12.5mm] | AsL= .00 ----- | As =
 4.99 -SRAS- [7 B 10.0mm] | AsL= .00 ----- x/d = .10 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .11 x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
 [cm2]| Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 13.37 69.50 2 45. 2.4 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .19 N

----- G E O M E T R I A E C A R G A S -----

Vao= 4 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 2.9 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 114 | M.[-]
 = 2.8 tf* m
 [tf,cm]| As = 5.04 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As =
 4.93 -SRAS- [7 B 10.0mm]

```

    | AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11 |
x/dMx= .50 |
|
[tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.23 69.50 2 45. 2.2 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .02 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .19 N

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 5 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

```

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 2.7 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 110 | M.[-]
= 2.8 tf* m |
[tf,cm] | As = 4.68 -SRAS- [ 6 B 10.0mm ] | AsL= .00 ----- | As =
4.87 -SRAS- [ 4 B 12.5mm ] |
| AsL= .00 ----- x/d = .10 | As = 3.63 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11 |
x/dMx= .50 |
|
[tf,cm] | M[-]Min = 213.5 | M[+]Min = 213.5 | M[-]
]Min = 201.3 |
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= .91 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 148. 13.85 69.50 2 45. 3.1 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 148. .20 6.63 5 9.2 58.1 13.1 .3 .0 .0 .0 .23 N

```

REAC. APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:									
	1	8.482	8.482	.70	.28	1	BB68	.00	.00 8072 0
0 0	2	19.683	19.683	.70	.28	1	BB61	.00	.00 8067 0
0 0	3	18.160	18.160	.70	.28	1	BB54	.00	.00 8058 0
0 0	4	18.723	18.723	.70	.28	1	BB47	.00	.00 8053 0
0 0	5	18.996	18.996	.70	.28	1	BB40	.00	.00 8046 0
0 0	6	9.896	9.896	1.85	.85	0	BB33	.00	.00 8039 0

```

Viga= 125 VFFB19 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 1 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

```

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 1.7 tf* m | M.[+] Max= 1.8 tf* m - Abcis.= 84 | M.[-]
= 3.1 tf* m |
[tf,cm] | As = 3.23 -SRAS- [ 4 B 10.0mm ] | AsL= .00 ----- | As =
5.49 -SRAS- [ 5 B 12.5mm ] |

```

```

    | AsL= .00 ----- x/d = .07 | As = 3.70 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .12 |
x/dMx= .50 |
|
[tf,cm] | M[-]Min = 188.9 | M[+]Min = 217.7 | M[-]
]Min = 217.7 |
[cm2 ] | Asapo[+]= .93 |
Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 14.29 69.50 2 45. 3.8 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .18 6.63 5 9.2 58.1 13.1 .3 .0 .0 .0 .23 N

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 3.3 tf* m | M.[+] Max= 1.2 tf* m - Abcis.= 114 | M.[-]
= 2.7 tf* m |
[tf,cm] | As = 5.74 -SRAS- [ 5 B 12.5mm ] | AsL= .00 ----- | As =
4.70 -SRAS- [ 6 B 10.0mm ] | AsL= .00 ----- x/d = .13 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .10 |
x/dMx= .50 |
|
[tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.57 69.50 2 45. 2.7 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .20 N

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.7 tf* m | M.[+] Max= 1.5 tf* m - Abcis.= 114 | M.[-]
= 2.9 tf* m |
[tf,cm] | As = 4.60 -SRAS- [ 6 B 10.0mm ] | AsL= .00 ----- | As =
4.99 -SRAS- [ 7 B 10.0mm ] | AsL= .00 ----- x/d = .10 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11 |
x/dMx= .50 |
|
[tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.34 69.50 2 45. 2.3 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .19 N

----- G E O M E T R I A E C A R G A S -----

```

Vao= 4 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 2.9 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 114 | M.[-]
= 2.8 tf* m
[tf,cm] | As = 5.02 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As =
4.95 -SRAS- [4 B 12.5mm] | AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
[cm2] | Asapo[+]= 2.49 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.20 69.50 2 45. 2.1 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .04 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .20 N

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 2.7 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 110 | M.[-]
= 2.8 tf* m
[tf,cm] | As = 4.71 -SRAS- [4 B 12.5mm] | AsL= .00 ----- | As =
4.83 -SRAS- [4 B 12.5mm] | AsL= .00 ----- x/d = .10 | As = 3.63 -STAS- [5 B 10.0mm] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 213.5 | M[+]Min = 213.5 | M[-]
]Min = 201.3
[cm2] | Asapo[+]= 2.49 |
Asapo[+]= .91

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 148. 13.80 69.50 2 45. 3.1 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 148. .28 6.63 5 9.2 58.1 13.1 .4 .0 .0 .0 .24 N

REAC.	AP010	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn		
		1	8.474	8.474	.70	.28	1	BB69	.00	.00	8071	0
0	0	0	0	0								
		2	19.609	19.609	.70	.28	1	BB62	.00	.00	8068	0
0	0	0	0	0								
		3	18.081	18.081	.70	.28	1	BB55	.00	.00	8057	0
0	0	0	0	0								
		4	18.679	18.679	.70	.28	1	BB48	.00	.00	8054	0
0	0	0	0	0								
		5	18.934	18.934	.70	.28	1	BB41	.00	.00	8047	0
0	0	0	0	0								
		6	9.839	9.839	1.85	.85	0	BB34	.00	.00	8040	0
0	0	0	0	0								

Viga= 126 VFFB20 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 1.6 tf* m | M.[+] Max= 1.7 tf* m - Abcis.= 84 | M.[-]
= 3.0 tf* m | AsL= .00 ----- | As =
[tf,cm]| As = 3.85 -SRAS- [ 5 B 10.0mm] | AsL= .00 ----- | As =
5.82 -SRAS- [ 8 B 10.0mm] | AsL= .00 ----- x/d = .07 | As = 4.32 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .11 | Arm.Lat.=[2 X 1 B 5.0mm] - LN= 1.1 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 188.9 | M[+]Min = 217.7 | M[-]
]Min = 217.7 |
[cm2 ]| Asapo[+]= 1.08 |
Asapo[+]= 3.11 |

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	160.	13.59	69.50	2	45.	2.7	8.1	8.1	6.3	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	160.	.37	6.63	5	9.2	58.1	13.1	.6	4.3	.6	.1	.25	N

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 3.1 tf* m | M.[+] Max= 1.2 tf* m - Abcis.= 114 | M.[-]
= 2.6 tf* m | AsL= .00 ----- | As =
[tf,cm]| As = 5.44 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- | As =
4.41 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- x/d = .12 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .10 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	160.	12.94	69.50	2	45.	1.7	8.1	8.1	6.3	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	160.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.19	N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.5 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 114 | M.[-]
= 2.7 tf* m | AsL= .00 ----- | As =
[tf,cm]| As = 4.34 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- | As =
4.78 -SRAS- [ 4 B 12.5mm] | AsL= .00 ----- x/d = .10 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |

```

[cm2]| Asapo[+]= 2.49
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 12.58 69.50 2 45. 1.1 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .18 N

----- G E O M E T R I A E C A R G A S -----

Vao= 4 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

| M.[-] = 2.7 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 114 | M.[-]

= 2.6 tf* m | As = 4.80 -SRAS- [4 B 12.5mm] | AsL= .00 ----- | As =

[tf,cm]| As = 4.80 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As =

4.54 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As = 3.50 -STAS- [5 B 10.0mm] | AsL=

.00 ----- x/d = .10 | x/d = .11 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=

| x/dMx= .50 | x/dMx= .50 |

[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]

]Min = 205.8 |

[cm2]| Asapo[+]= 2.49 |

Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 12.56 69.50 2 45. 1.1 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .07 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .19 N

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

| M.[-] = 2.6 tf* m | M.[+] Max= 1.2 tf* m - Abcis.= 110 | M.[-]

= 2.5 tf* m | As = 5.04 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As =

[tf,cm]| As = 5.04 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As =

4.87 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As = 4.25 -STAS- [6 B 10.0mm] | AsL=

.00 ----- x/d = .09 | x/d = .10 | As = 4.25 -STAS- [6 B 10.0mm] | AsL=

| x/dMx= .50 | x/dMx= .50 | Arm.Lat.= [2 X 1 B 5.0mm] - LN= 1.1 |

[tf,cm]| M[-]Min = 213.5 | M[+]Min = 213.5 | M[-]

]Min = 201.3 |

[cm2]| Asapo[+]= 3.11 |

Asapo[+]= 1.06 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 148. 12.67 69.50 2 45. 1.3 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 148. .68 6.63 5 9.2 58.1 13.1 1.0 4.3 .6 .1 .28 N

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

| M.[-] = 2.6 tf* m | M.[+] Max= 1.2 tf* m - Abcis.= 110 | M.[-]

= 2.5 tf* m | As = 5.04 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As =

[tf,cm]| As = 5.04 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As =

4.87 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As = 4.25 -STAS- [6 B 10.0mm] | AsL=

.00 ----- x/d = .09 | x/d = .10 | As = 4.25 -STAS- [6 B 10.0mm] | AsL=

| x/dMx= .50 | x/dMx= .50 | Arm.Lat.= [2 X 1 B 5.0mm] - LN= 1.1 |

[tf,cm]| M[-]Min = 213.5 | M[+]Min = 213.5 | M[-]

]Min = 201.3 |

[cm2]| Asapo[+]= 3.11 |

Asapo[+]= 1.06 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 148. 12.67 69.50 2 45. 1.3 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 148. .68 6.63 5 9.2 58.1 13.1 1.0 4.3 .6 .1 .28 N

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

| M.[-] = 2.6 tf* m | M.[+] Max= 1.2 tf* m - Abcis.= 110 | M.[-]

= 2.5 tf* m | As = 5.04 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As =

[tf,cm]| As = 5.04 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As =

4.87 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As = 4.25 -STAS- [6 B 10.0mm] | AsL=

.00 ----- x/d = .09 | x/d = .10 | As = 4.25 -STAS- [6 B 10.0mm] | AsL=

| x/dMx= .50 | x/dMx= .50 | Arm.Lat.= [2 X 1 B 5.0mm] - LN= 1.1 |

[tf,cm]| M[-]Min = 213.5 | M[+]Min = 213.5 | M[-]

]Min = 201.3 |

[cm2]| Asapo[+]= 3.11 |

Asapo[+]= 1.06 |

		5	17.623	17.623	.70	.28	1	BB42	.00	.00	8048	0
0	0	0	0									
		6	8.845	8.845	1.85	.85	0	BB35	.00	.00	8041	0
0	0	0	0									

Viga= 127 VFFC2 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1B /L= 1.08 /B= .70 /H= .25 /BCs= 1.13 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO | M[-]= 1.75 tf* m | As = 4.42 -SRAS- [6 B 10.0mm]
BAL.ESQ | x/d = .10 | ASL= .00 -
[tf,cm] | M[-]Min= 256.0 - x/dMx =1.00 | %
Baric.Armad.= 1

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M	0.-	46.	5.78	69.50	2	45.	.0	8.1	8.1	6.3	10.0	4	.0	.0
[tf,cm]														

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.3 tf* m | M.[+] Max= 3.5 tf* m - Abcis.= 105 | M.[-]
= 6.4 tf* m | As = 4.42 -SRAS- [6 B 10.0mm] | ASL= .00 ----- | As =
[tf,cm] | As = 11.18 -SRAS- [6 B 16.0mm] | ASL= .00 ----- | As =
12.18 -SRAS- [6 B 16.0mm] | ASL= .00 ----- | As =
.00 | ASL= .00 ----- | ASL= .00 ----- | ASL= .00 -----
x/d = .27 | x/d = .10 | As = 6.05 -STAS- [5 B 12.5mm] | ASL=
x/dMx= .50 | x/dMx= .50 |
[tf,cm] | M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4 |
[cm2] | Asapo[+]= 1.51 |
Asapo[+]= 2.49 |

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M	0.-	105.	16.43	69.50	2	45.	7.2	8.1	8.1	6.3	10.0	4	.0	.0
[tf,cm]														
	105.-	210.	21.72	69.50	2	45.	15.6	8.1	15.6	8.0	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M	0.-	105.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.24	N
[tf,cm]														
	105.-	210.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.31	N

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 6.0 tf* m | M.[+] Max= 2.4 tf* m - Abcis.= 140 | M.[-]
= 4.9 tf* m | As = 11.18 -SRAS- [6 B 16.0mm] | ASL= .00 ----- | As =
[tf,cm] | As = 8.85 -SRAS- [7 B 12.5mm] | ASL= .00 ----- | As =
8.85 -SRAS- [7 B 12.5mm] | ASL= .00 ----- | ASL= .00 -----
.00 | ASL= .00 ----- | ASL= .00 ----- | ASL= .00 -----
x/d = .20 | x/d = .25 | As = 4.15 -STAS- [6 B 10.0mm] | ASL=
x/dMx= .50 | x/dMx= .50 |
[tf,cm] | M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4 |

[cm2] | Asapo[+]= 2.49
 Asapo[+]= 2.49

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	105.	19.87	69.50	2	45.	12.7	8.1	12.7	8.0	10.0	4	.0	.0
	105.-	210.	18.52	69.50	2	45.	10.5	8.1	10.5	6.3	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	105.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.29	N
	105.-	210.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.27	N

----- G E O M E T R I A E C A R G A S -----
 Vao= 4 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 4.8 tf* m | M.[+] Max= 2.4 tf* m - Abcis.= 140 | M.[-]
 = 6.1 tf* m
 [tf,cm] | As = 8.65 -SRAS- [7 B 12.5mm] | AsL= .00 ----- | As =
 11.51 -SRAS- [4 B 20.0mm] | AsL= .00 ----- x/d = .19 | As = 4.18 -STAS- [6 B 10.0mm] | AsL=
 .00 ----- x/d = .26
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	105.	18.41	69.50	2	45.	10.4	8.1	10.4	6.3	10.0	4	.0	.0
	105.-	210.	20.00	69.50	2	45.	12.9	8.1	12.9	8.0	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	105.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.27	N
	105.-	210.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.29	N

----- G E O M E T R I A E C A R G A S -----
 Vao= 5 /L= 2.25 /B= .70 /H= .25 /BCs= 1.04 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 6.5 tf* m | M.[+] Max= 3.5 tf* m - Abcis.= 147 | M.[-]
 = 6.0 tf* m
 [tf,cm] | As = 12.44 -SRAS- [4 B 20.0mm] | AsL= .00 ----- | As =
 11.31 -SRAS- [6 B 16.0mm] | AsL= .00 ----- x/d = .28 | As = 6.06 -STAS- [5 B 12.5mm] | AsL=
 .00 ----- x/d = .25
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 234.7 | M[+]Min = 234.7 | M[-]
]Min = 215.4
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 1.51

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	210.	21.78	69.50	2	45.	15.7	8.1	15.7	8.0	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	210.	.08	6.63	5	9.2	58.1	13.1	.1	.0	.0	.0	.33	N

REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:								
1	15.850	15.848	.70	.28	1	BC6	.00	.00 8194 0
2	29.269	29.268	.70	.28	1	BC7	.00	.00 8195 0

0	0	3	25.995	25.994	.70	.28	1	BC8	.00	.00	8197	0
0	0	4	29.402	29.399	.70	.28	1	BC9	.00	.00	8190	0
0	0	5	15.381	15.381	.70	.28	2	VFC22_	.00	.00	0	0

Viga= 128 VFFC4 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1B /L= 1.08 /B= .70 /H= .25 /BCs= 1.13 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO | M[-]= 1.75 tf* m | As = 4.42 -SRAS- [6 B 10.0mm]
 BAL.ESQ | x/d = .10 | AsL= .00 -
 [tf,cm] | M[-]Min= 256.0 - x/dMx =1.00 | %
 Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 46. 5.75 69.50 2 45. .0 8.1 8.1 6.3 10.0 4 .0 .0

----- G E O M E T R I A E C A R G A S -----
 Vao= 2 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 1.8 tf* m | M.[+] Max= 4.4 tf* m - Abcis.= 84 | M.[-]
 = 6.7 tf* m | As = 4.42 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As =
 [tf,cm] | AsL= .00 ----- x/d = .10 | As = 7.74 -STAS- [4 B 16.0mm] | AsL=
 12.96 -SRAS- [4 B 20.0mm] | AsL= .00 ----- x/d = .29 | As = 7.74 -STAS- [4 B 16.0mm] | AsL=
 .00 ----- x/d = .29 | As = 7.74 -STAS- [4 B 16.0mm] | AsL=
 x/dMx= .50 | x/dMx= .50 |
 [tf,cm] | M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4 | M[+]Min = 219.4 | M[-]
 [cm2] | Asapo[+]= 3.71 | Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 105. 14.72 69.50 2 45. 4.5 8.1 8.1 6.3 10.0 4 .0 .0
 105.- 210. 22.75 69.50 2 45. 17.2 8.1 17.2 8.0 10.0 4 .0 .0

----- G E O M E T R I A E C A R G A S -----
 Vao= 3 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 6.7 tf* m | M.[+] Max= 2.1 tf* m - Abcis.= 140 | M.[-]
 = 4.5 tf* m | As = 12.95 -SRAS- [4 B 20.0mm] | AsL= .00 ----- | As =
 [tf,cm] | AsL= .00 ----- x/d = .29 | As = 3.73 -STAS- [5 B 10.0mm] | AsL=
 8.17 -SRAS- [4 B 16.0mm] | AsL= .00 ----- x/d = .18 | As = 3.73 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .18 | As = 3.73 -STAS- [5 B 10.0mm] | AsL=
 x/dMx= .50 | x/dMx= .50 |
 [tf,cm] | M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4 | M[+]Min = 219.4 | M[-]
 [cm2] | Asapo[+]= 2.49 | Asapo[+]= 2.49

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	105.	20.17	69.50	2	45.	13.1	8.1	13.1	8.0	10.0	4	.0	.0
	105.-	210.	17.40	69.50	2	45.	8.8	8.1	8.8	6.3	10.0	4	.0	.0
T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	105.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.29	N
	105.-	210.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.25	N
----- G E O M E T R I A E C A R G A S -----														

Vao= 4 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00														
FSp.Ex= .13 /FLt.Ex= .35 [M]														
-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----														
- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)														
FLEXAO- E S Q U E R D A M E I O D O V A O D I R														
E I T A														
M.[-] = 4.5 tf* m M.[+] Max= 2.5 tf* m - Abcis.= 140 M.[-]														
= 5.9 tf* m														
[tf,cm] As = 8.13 -SRAS- [4 B 16.0mm] AsL= .00 ----- As =														
11.13 -SRAS- [6 B 16.0mm]														
AsL= .00 ----- x/d = .18 As = 4.28 -STAS- [6 B 10.0mm] AsL=														
.00 ----- x/d = .25														
x/dMx= .50														
[tf,cm] M[-]Min = 219.4 M[+]Min = 219.4 M[-														
]Min = 219.4														
[cm2] Asapo[+]= 2.49														
Asapo[+]= 2.49														
CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	105.	17.92	69.50	2	45.	9.6	8.1	9.6	6.3	10.0	4	.0	.0
	105.-	210.	19.76	69.50	2	45.	12.5	8.1	12.5	8.0	10.0	4	.0	.0
T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	105.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.26	N
	105.-	210.	.00	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.28	N
----- G E O M E T R I A E C A R G A S -----														

Vao= 5 /L= 2.52 /B= .70 /H= .25 /BCs= 1.08 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00														
FSp.Ex= .13 /FLt.Ex= .35 [M]														
-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----														
- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)														
FLEXAO- E S Q U E R D A M E I O D O V A O D I R														
E I T A														
M.[-] = 6.0 tf* m M.[+] Max= 3.2 tf* m - Abcis.= 140 M.[-]														
= 6.7 tf* m														
[tf,cm] As = 11.19 -SRAS- [6 B 16.0mm] AsL= .00 ----- As =														
12.95 -SRAS- [4 B 20.0mm]														
AsL= .00 ----- x/d = .25 As = 5.44 -STAS- [7 B 10.0mm] AsL=														
.00 ----- x/d = .29														
x/dMx= .50														
Grampos Dir.= 2B 6.3mm x/dMx= .50														
[tf,cm] M[-]Min = 244.0 M[+]Min = 244.0 M[-														
]Min = 221.7														
[cm2] Asapo[+]= 2.49														
Asapo[+]= 1.36														
CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	240.	21.76	69.50	2	45.	15.6	8.1	15.6	8.0	10.0	4	.0	.0
T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	240.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.31	N
REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn						
Pilares:														
1	14.612	14.611	.70	.28	1	BC11	.00	.00	8200	0				
0 0 0	0													
2	30.203	30.202	.70	.28	1	BC12	.00	.00	8198	0				
0 0 0	0													
3	24.858	24.855	.70	.28	1	BC13	.00	.00	8199	0				
0 0 0	0													

0	0	0	4	28.457	28.450	.70	.28	1	BC14	.00	.00	8201	0
0	0	0	5	15.542	15.538	.10	.00	1	BC15	.00	.00	8202	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0

Viga= 129 VFFC22 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.5 tf* m | M.[+] Max= 1.2 tf* m - Abcis.= 79 | M.[-]
= 2.5 tf* m | [tf,cm] | As = 4.27 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As =
4.37 -SRAS- [6 B 10.0mm] | AsL= .00 ----- x/d = .09 | As = 3.63 -STAS- [5 B 10.0mm] | AsL=
.00 ----- x/d = .10 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 201.3 | M[+]Min = 213.5 | M[-]
]Min = 213.5 |
[cm2] | Asapo[+]= .91 |
Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 148. 12.60 69.50 2 45. 1.2 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 148. .05 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .19 N

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.6 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 114 | M.[-]
= 2.8 tf* m | [tf,cm] | As = 5.37 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As =
5.73 -SRAS- [5 B 12.5mm] | AsL= .00 ----- x/d = .10 | As = 4.37 -STAS- [6 B 10.0mm] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 | Arm.Lat.= [2 X 1 B 5.0mm] - LN= 1.1 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
[cm2] | Asapo[+]= 3.36 |
Asapo[+]= 3.36 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 12.57 69.50 2 45. 1.1 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .99 6.63 5 9.2 58.1 13.1 1.5 4.3 .9 .2 .33 N

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A |

```

=      | M.[-] =      2.8 tf* m      | M.[+] Max=      1.4 tf* m - Abcis.= 118 | M.[-]
=      2.4 tf* m
[tf,cm]| As =      5.44 -SRAS- [ 5 B 12.5mm] | AsL=      .00 ----- | As =
4.71 -SRAS- [ 6 B 10.0mm] | AsL=      .00 ----- x/d = .11 | As =      4.32 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .09
x/dMx= .50
x/dMx= .50 | Arm.Lat.= [2 X 1 B 5.0mm] - LN= 1.1 |
[tf,cm]| M[-]Min =      217.7 | M[+]Min =      217.7 | M[-]
]Min =      204.1
[cm2 ]| Asapo[+]=      3.11 |
Asapo[+]=      1.08

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 12.67 69.50 2 45. 1.3 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .43 6.63 5 9.2 58.1 13.1 .6 4.3 .6 .1 .25 N

```

```

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 8.840 8.838 1.85 .85 0 BC27 .00 .00 8127 0
0 0 0 0
2 17.511 17.509 .70 .28 1 BC20 .00 .00 8203 0
0 0 0 0
3 17.762 17.761 .70 .28 1 BC11 .00 .00 8200 0
0 0 0 0
4 8.520 8.518 .70 .28 1 BC6 .00 .00 8194 0
0 0 0 0
=====
=====

```

Viga= 130 VFFC26 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

```

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
=      | M.[-] =      2.8 tf* m      | M.[+] Max=      1.4 tf* m - Abcis.= 79 | M.[-]
=      2.7 tf* m
[tf,cm]| As =      4.85 -SRAS- [ 4 B 12.5mm] | AsL=      .00 ----- | As =
4.78 -SRAS- [ 4 B 12.5mm] | AsL=      .00 ----- x/d = .11 | As =      3.63 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11
x/dMx= .50
x/dMx= .50 |
[tf,cm]| M[-]Min =      201.3 | M[+]Min =      213.5 | M[-]
]Min =      213.5
[cm2 ]| Asapo[+]=      .91 |
Asapo[+]=      2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 148. 13.91 69.50 2 45. 3.2 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 148. .24 6.63 5 9.2 58.1 13.1 .4 .0 .0 .0 .24 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
=      | M.[-] =      2.8 tf* m      | M.[+] Max=      1.4 tf* m - Abcis.= 114 | M.[-]
=      2.9 tf* m
[tf,cm]| As =      5.55 -SRAS- [ 5 B 12.5mm] | AsL=      .00 ----- | As =
5.69 -SRAS- [ 8 B 10.0mm]

```

```

      | AsL= .00 ----- x/d = .11 | As = 4.12 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 | Arm.Lat.=[2 X 1 B 5.0mm] - LN= 1.1 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
[cm2 ] | Asapo[+]= 3.11 |
Asapo[+]= 3.11 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.29 69.50 2 45. 2.3 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .52 6.63 5 9.2 58.1 13.1 .8 4.3 .6 .1 .27 N

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

```

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.9 tf* m | M.[+] Max= 1.5 tf* m - Abcis.= 118 | M.[-]
= 2.6 tf* m |
[tf,cm] | As = 5.02 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- | As =
4.50 -SRAS- [ 6 B 10.0mm] |
| AsL= .00 ----- x/d = .11 | As = 3.70 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .10 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 217.7 | M[+]Min = 217.7 | M[-]
]Min = 204.1 |
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= .93 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.41 69.50 2 45. 2.4 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .18 6.63 5 9.2 58.1 13.1 .3 .0 .0 .0 .22 N

```

REAC. APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:									
	1	9.880	9.880	1.85	.85	0	BC28	.00	.00 8136 0
0 0 0	2	19.031	19.030	.70	.28	0	BC23	.00	.00 8204 0
0 0 0	3	18.787	18.785	.70	.28	1	BC12	.00	.00 8198 0
0 0 0	4	9.154	9.153	.70	.28	1	BC7	.00	.00 8195 0
0 0 0									

```

Viga= 131 VFFC30 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 1 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

```

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.8 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 79 | M.[-]
= 2.7 tf* m |
[tf,cm] | As = 4.85 -SRAS- [ 4 B 12.5mm] | AsL= .00 ----- | As =
4.78 -SRAS- [ 4 B 12.5mm] |
| AsL= .00 ----- x/d = .11 | As = 3.63 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 |
x/dMx= .50 |
|

```

[tf,cm] | M[-]Min = 201.3 | M[+]Min = 213.5 | M[-]
]Min = 213.5
 [cm2] | Asapo[+]= .91 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 148. 13.92 69.50 2 45. 3.2 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 148. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .20 N

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

| M.[-] = 2.8 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 114 | M.[-]
 = 2.9 tf* m

[tf,cm] | As = 4.91 -SRAS- [4 B 12.5mm] | AsL= .00 ----- | As =
 5.11 -SRAS- [7 B 10.0mm]

| AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .11

| x/dMx= .50 |
 x/dMx= .50

[tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8

[cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 13.31 69.50 2 45. 2.3 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .06 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .20 N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

| M.[-] = 2.9 tf* m | M.[+] Max= 1.5 tf* m - Abcis.= 118 | M.[-]
 = 2.6 tf* m

[tf,cm] | As = 5.06 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As =
 4.41 -SRAS- [6 B 10.0mm]

| AsL= .00 ----- x/d = .11 | As = 3.70 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .10

| x/dMx= .50 |
 x/dMx= .50

[tf,cm] | M[-]Min = 217.7 | M[+]Min = 217.7 | M[-]
]Min = 204.1

[cm2] | Asapo[+]= 2.49 |
 Asapo[+]= .93

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 13.47 69.50 2 45. 2.5 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .06 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .20 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
 Pilares:

0 0 1 9.882 9.877 1.85 .85 0 BC29 .00 .00 8137 0

0 0 2 19.013 19.012 .70 .28 0 BC24 .00 .00 8205 0

0 0 3 18.848 18.842 .70 .28 1 BC13 .00 .00 8199 0

0 0 0

0 0 0 4 9.114 9.112 .70 .28 1 BC8 .00 .00 8197 0
=====

Viga= 132 VFFC34 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A

= | M.[-] = 2.8 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 79 | M.[-]

[tf,cm]| As = 4.85 -SRAS- [4 B 12.5mm] | AsL= .00 ----- | As =

4.82 -SRAS- [4 B 12.5mm] | AsL= .00 ----- x/d = .11 | As = 3.63 -STAS- [5 B 10.0mm] | AsL=

.00 ----- x/d = .11 | x/dMx= .50 |

x/dMx= .50 |

[tf,cm]| M[-]Min = 201.3 | M[+]Min = 213.5 | M[-]

]Min = 213.5 |

[cm2]| Asapo[+]= .91 |

Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus

M E N S A G E M [tf,cm] 0.- 148. 13.97 69.50 2 45. 3.3 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla

M E N S A G E M [tf,cm] 0.- 148. .24 6.63 5 9.2 58.1 13.1 .4 .0 .0 .0 .24 N

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A

= | M.[-] = 2.8 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 114 | M.[-]

[tf,cm]| As = 4.94 -SRAS- [4 B 12.5mm] | AsL= .00 ----- | As =

5.08 -SRAS- [7 B 10.0mm] | AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=

.00 ----- x/d = .11 | x/dMx= .50 |

x/dMx= .50 |

[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]

]Min = 205.8 |

[cm2]| Asapo[+]= 2.49 |

Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus

M E N S A G E M [tf,cm] 0.- 160. 13.32 69.50 2 45. 2.3 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla

M E N S A G E M [tf,cm] 0.- 160. .32 6.63 5 9.2 58.1 13.1 .5 .0 .0 .0 .24 N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A

= | M.[-] = 2.9 tf* m | M.[+] Max= 1.5 tf* m - Abcis.= 118 | M.[-]

[tf,cm]| As = 4.94 -SRAS- [4 B 12.5mm] | AsL= .00 ----- | As =

5.08 -SRAS- [7 B 10.0mm] | AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=

```

[tf,cm] | As = 5.05 -SRAS- [ 7 B 10.0mm ] | AsL= .00 ----- | As =
4.47 -SRAS- [ 6 B 10.0mm ] | AsL= .00 ----- x/d = .11 | As = 3.70 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .10 x/dMx= .50 | |
| |
[tf,cm] | M[-]Min = 217.7 | M[+]Min = 217.7 | M[-]
]Min = 204.1
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= .93

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.43 69.50 2 45. 2.5 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .03 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .20 N

```

```

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 9.902 9.899 1.85 .85 0 BC30 .00 .00 8144 0
0 0 0 0
2 19.096 19.095 .70 .28 0 BC25 .00 .00 8206 0
0 0 0 0
3 18.829 18.826 .70 .28 1 BC14 .00 .00 8201 0
0 0 0 0
4 9.139 9.137 .70 .28 1 BC9 .00 .00 8190 0
0 0 0 0
=====
=====

```

Viga= 134 PAC4 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

```

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.21 /B= .20 /H= 1.05 /BCs= .00 /BCi= .26 /TpS= 6 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .53 /FLt.Ex= .10 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = .0 tf* m | M.[+] Max= 6.2 tf* m - Abcis.= 0 | M.[-]
= 10.6 tf* m | |
[tf,cm] | As = .53 -STAS- [ 2 B 6.3mm ] | AsL= .00 ----- | As =
3.59 -STAS- [ 3 B 12.5mm ] | AsL= .00 ----- x/d = .00 | As = 3.43 -SRAS- [ 3 B 12.5mm ] | AsL=
.00 ----- x/d = .04 x/dMx= .50 | Arm.Lat.= [2 X 7 B 6.3mm] - LN= 4.6 |
| |
[tf,cm] | M[-]Min = 846.8 | M[+]Min = 930.2 | M[-]
]Min = 846.8
[cm2 ] | Asapo[+]= 3.43 |
Asapo[+]= 3.07

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 158. 22.56 101.32 2 45. 1.6 2.3 4.1 6.3 15.0 2 .0 2.4

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 158. .57 5.82 5 8.1 8.1 93.1 .9 1.9 .1 .9 .32 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 1.88 /B= .20 /H= 1.05 /BCs= .00 /BCi= .29 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .53 /FLt.Ex= .10 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 7.2 tf* m | M.[+] Max= .0 tf* m - Abcis.= 191 | M.[-]
= .2 tf* m | |
[tf,cm] | As = 3.58 -STAS- [ 3 B 12.5mm ] | AsL= .00 ----- | As =
3.58 -STAS- [ 3 B 12.5mm ] | AsL= .00 ----- x/d = .03 | As = 3.58 -SRAS- [ 3 B 12.5mm ] | AsL=
.00 ----- x/d = .03

```

```

x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.1 |
[tf,cm] | M[-]Min = 875.8 | M[+]Min = 1021.2 | M[-]
]Min = 875.8
[cm2 ] | Asapo[+]= 3.07 |
Asapo[+]= 1.19 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 125. 11.07 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 125. .33 5.82 5 8.1 8.1 93.1 .5 1.9 .1 .9 .17 N

```

```

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 -.046 -.203 1.75 .56 0 BC17 .00 .00 8161 0
0 0 0 0
2 23.673 23.473 .70 .04 0 BC71 .00 .00 8184 0
0 0 0 0
3 .498 .463 .70 .04 0 BC72 .00 .00 8185 0
0 0 0 0
=====
=====

```

```

Viga= 135 PAC7 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.06 /B= .20 /H= 1.05 /BCs= .00 /BCi= .30 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .53 /FLt.Ex= .10 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = .0 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 71 | M.[-]
= 3.3 tf* m | As = .53 -STAS- [ 2 B 6.3mm] | AsL= .00 ----- | As =
[tf,cm] | As = 3.54 -STAS- [ 3 B 12.5mm] | AsL= .00 ----- | AsL=
.00 ----- x/d = .03 x/d = .00 | As = 3.54 -SRAS- [ 3 B 12.5mm ] | AsL=
.00 ----- x/d = .03 x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.2 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 881.8 | M[+]Min = 1041.5 | M[-]
]Min = 881.8
[cm2 ] | Asapo[+]= 3.54 |
Asapo[+]= 2.99 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 143. 9.52 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 143. .17 5.82 5 8.1 8.1 93.1 .3 .0 .0 .0 .12 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 1.98 /B= .20 /H= 1.05 /BCs= .00 /BCi= .24 /TpS= 9 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .53 /FLt.Ex= .10 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 4.6 tf* m | M.[+] Max= 1.0 tf* m - Abcis.= 161 | M.[-]
= .0 tf* m | As = 3.30 -STAS- [ 3 B 12.5mm] | AsL= .00 ----- | As =
[tf,cm] | As = 3.30 -STAS- [ 3 B 12.5mm] | AsL= .00 ----- | AsL=
.00 ----- x/d = .03 x/d = .00 | As = 3.30 -SRAS- [ 3 B 12.5mm ] | AsL=
.00 ----- x/d = .03 x/dMx= .50 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 4.4 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 834.1 | M[+]Min = 893.3 | M[-]
]Min = 834.1
[cm2 ] | Asapo[+]= 2.99 |
Asapo[+]= 3.20 |

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	135.	9.46	101.32	2	45.	.0	2.3	2.3	6.3	25.0	2	.0	.0
T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	135.	.01	5.82	5	8.1	8.1	93.1	.0	.0	.0	.0	.09	N
----- G E O M E T R I A E C A R G A S -----														

Vao= 3 /L= 2.50 /B= .20 /H= 1.05 /BCs= .00 /BCi= .26 /TpS= 9 /Esp.LS= .00 /Esp.LI= .25														
FSp.Ex= .53 /FLt.Ex= .10 [M]														
-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----														
- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)														
FLEXAO- E S Q U E R D A M E I O D O V A O D I R														
E I T A M.[-] = .0 tf* m M.[+] Max= 3.5 tf* m - Abcis.= 129 M.[-]														
= 5.0 tf* m As = 3.60 -STAS- [3 B 12.5mm] AsL= .00 ----- As =														
[tf,cm] As = 3.60 -STAS- [3 B 12.5mm] AsL= .00 ----- AsL=														
.00 ----- x/d = .03 As = 3.60 -SRAS- [3 B 12.5mm] AsL=														
.00 ----- x/d = .03 Arm.Lat.=[2 X 8 B 6.3mm] - LN= 4.7														
x/dMx= .50														
[tf,cm] M[-]Min = 852.7 M[+]Min = 947.9 M[-]														
]Min = 852.7														
[cm2] Asapo[+]= 3.50														
Asapo[+]= .90														
CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	94.	7.34	101.32	2	45.	.0	2.3	2.3	5.0	17.0	2	.0	.0
	94.-	188.	23.10	101.32	2	45.	1.8	2.3	7.1	8.0	12.0	2	.0	.0
T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	94.	.37	5.82	5	8.1	8.1	93.1	.6	1.9	.1	.9	.14	N
	94.-	188.	1.74	5.82	5	8.1	8.1	93.1	2.6	1.9	.2	2.5	.53	N
REAC. APOIO -	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn					
Pilares:														
	1	3.405	3.364	.70	.04	0	BC77	.00	.00	8173	0			
0 0	0	0												
	2	13.360	13.244	.80	.09	0	BC76	.00	.00	8174	0			
0 0	0	0												
	3	7.106	7.052	.80	.09	0	BC75	.00	.00	8175	0			
0 0	0	0												
	4	16.502	16.349	.70	.04	0	BC74	.00	.00	8183	0			
0 0	0	0												
=====														
=====														
Viga= 137 PAC8 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao														
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM														
----- G E O M E T R I A E C A R G A S -----														

Vao= 1 /L= 1.63 /B= .20 /H= 1.05 /BCs= .00 /BCi= .20 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25														
FSp.Ex= .53 /FLt.Ex= .10 [M]														
-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----														
- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)														
FLEXAO- E S Q U E R D A M E I O D O V A O D I R														
E I T A M.[-] = .0 tf* m M.[+] Max= 2.4 tf* m - Abcis.= 54 M.[-]														
= .8 tf* m As = .45 -STAS- [2 B 6.3mm] AsL= .00 ----- As =														
[tf,cm] As = 3.15 -STAS- [4 B 10.0mm] AsL= .00 ----- AsL=														
.00 ----- x/d = .04 As = 3.15 -SRAS- [4 B 10.0mm] AsL=														
.00 ----- x/d = .04 Arm.Lat.=[2 X 7 B 6.3mm] - LN= 4.4														
x/dMx= .50														
[tf,cm] M[-]Min = 798.0 M[+]Min = 798.0 M[-]														
]Min = 798.0														
[cm2] Asapo[+]= 3.15														
Asapo[+]= 3.15														
CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														

[tf,cm] 0.- 100. 8.02 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 100. .13 5.82 5 8.1 8.1 93.1 .2 .0 .0 .0 .10 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:

No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
1	2.600	2.547	.70	.04	0	BC74	.00	.00 8183 0
2	5.730	5.677	.70	.04	0	BC72	.00	.00 8185 0

Viga= 138 VFFC40 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.08 /B= .20 /H= .50 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00
FSp.Ex= .25 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = .7 tf* m | M.[+] Max= 7.6 tf* m - Abcis.= 103 | M.[-]
= 1.5 tf* m | As = 1.50 -SRAS- [2 B 10.0mm] | AsL= .00 ----- | As =
[tf,cm] | As = 1.50 -SRAS- [2 B 10.0mm] | AsL= .00 ----- | As =
1.50 -SRAS- [2 B 10.0mm] | AsL= .00 ----- | As =
| AsL= .00 ----- x/d = .05 | As = 6.04 -SRAS- [3 B 16.0mm] | AsL=
.00 ----- x/d = .05 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 181.0 | M[+]Min = 181.0 | M[-]
]Min = 181.0 |
[cm2] | Asapo[+]= 2.95 |
Asapo[+]= 2.01 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 122. 16.54 45.31 2 45. 6.1 2.3 6.1 6.3 10.0 2 7.6 5.4
122.- 183. 14.55 45.31 2 45. 4.7 2.3 4.7 6.3 12.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 122. .06 2.09 5 7.1 8.1 38.1 .2 .0 .0 .0 .38 N
122.- 183. .06 2.09 5 7.1 8.1 38.1 .2 .0 .0 .0 .35 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:

No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
1	11.798	11.606	1.75	.72	0	BC18	.00	.00 8168 0
2	10.395	10.263	.20	.00	2	PAC7	.00	.00 0 0

Viga= 139 VFFC41 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.19 /B= .30 /H= .60 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00
FSp.Ex= .30 /FLt.Ex= .15 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = .0 tf* m | M.[+] Max= 11.0 tf* m - Abcis.= 36 | M.[-]
= 19.0 tf* m | As = 2.03 -SRAS- [3 B 10.0mm] | AsL= .00 ----- | As =
[tf,cm] | As = 2.03 -SRAS- [3 B 10.0mm] | AsL= .00 ----- | As =
12.53 -SRAS- [4 B 20.0mm] | AsL= .00 ----- | As =
| AsL= .00 ----- x/d = .00 | As = 6.90 -SRAS- [4 B 16.0mm] | AsL=
.00 ----- x/d = .23 | x/dMx= .50 | Arm.Lat.= [2 X 6 B 6.3mm] - LN= 6.9 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 390.9 | M[+]Min = 390.9 | M[-]
]Min = 390.9 |

[cm2]| Asapo[+]= 6.85
Asapo[+]= 1.73

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	53.	4.32	83.25	2	45.	.0	3.5	3.5	6.3	17.0	2	.0	.0
	53.-	127.	34.47	83.25	2	45.	11.5	3.5	11.5	10.0	12.0	2	12.2	7.6
	127.-	183.	37.86	83.25	2	45.	13.4	3.5	13.4	10.0	10.0	2	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	53.	.27	8.23	5	10.0	18.1	48.1	.4	.0	.0	.0	.08	N
	53.-	127.	.27	8.23	5	10.0	18.1	48.1	.4	.0	.0	.0	.45	N
	127.-	183.	.08	8.23	5	10.0	18.1	48.1	.1	.0	.0	.0	.46	N

REAC. APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:									
	1	3.079	2.810	1.75	.69	0	BC19	.00	.00 8169 0
	2	27.042	26.679	.80	.22	0	BC75	.00	.00 8175 0

Viga= 140 VFFC42 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.19 /B= .20 /H= .60 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00
FSp.Ex= .30 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = .0 tf* m | M.[+] Max= 6.9 tf* m - Abcis.= 72 | M.[-]
= 14.3 tf* m | As = 1.58 -SRAS- [2 B 10.0mm] | AsL= .00 ----- | As =
[tf,cm]| As = 1.58 -SRAS- [5 B 16.0mm] | AsL= .00 ----- | AsL=
10.14 -SRAS- [5 B 16.0mm] | AsL= .00 ----- | AsL=
.00 ----- x/d = .29 | As = 4.31 -SRAS- [4 B 12.5mm] | AsL=
x/dMx= .50 | Arm.Lat.= [2 X 4 B 6.3mm] - LN= 6.4 |
[tf,cm]| M[-]Min = 260.6 | M[+]Min = 260.6 | M[-]
]Min = 260.6
[cm2]| Asapo[+]= 3.44
Asapo[+]= 1.08

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	53.	9.43	55.50	2	45.	.0	2.3	2.3	5.0	17.0	2	.0	.0
	53.-	127.	25.54	55.50	2	45.	9.1	2.3	9.1	8.0	10.0	2	10.3	6.4
	127.-	183.	28.76	55.50	2	45.	10.9	2.3	10.9	10.0	12.0	2	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	53.	.05	2.77	5	7.5	8.1	48.1	.1	.0	.0	.0	.19	N
	53.-	127.	.05	2.77	5	7.5	8.1	48.1	.1	.0	.0	.0	.48	N
	127.-	183.	.00	2.77	5	7.5	8.1	48.1	.0	.0	.0	.0	.52	N

REAC. APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:									
	1	6.725	5.903	1.75	.69	0	BC26	.00	.00 8170 0
	2	20.540	19.741	.80	.22	0	BC76	.00	.00 8174 0

Viga= 141 VFC4 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.54 /B= .70 /H= .80 /BCs= 1.21 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A

```

      | M.[-] =      .1 tf* m      | M.[+] Max=      5.4 tf* m - Abcis.= 84 | M.[-]
=    13.6 tf* m
[tf,cm]| As =      8.72 -SRAS- [ 7 B 12.5mm] | AsL=      .00 ----- | As =
9.67 -SRAS- [ 8 B 12.5mm] | AsL=      .00 ----- x/d = .04 | As = 10.31 -STAS- [ 5 B 16.0mm ] | AsL=
.00 ----- x/d = .06      x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
x/dMx= .50
|
[tf,cm]| M[-]Min = 1755.3      | M[+]Min = 1847.8      | M[-]
]Min = 2141.5
[cm2 ]| Asapo[+]= 10.31      |
Asapo[+]= 2.58

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```

CISALHAMENTO- Xi   Xf   Vsd   VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit   Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm]      0.- 207. 30.07 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi   Xf   Tsd   TRd2 %dT   he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm]      0.- 207. .04 55.41 5 18.7 51.3 61.3 .0 .0 .0 .0 .11 N

REAC. APOIO - No.   Maximos   Minimos   Largura   DEPEV   Morte   Nome   M.I.Mx M.I.Mn
Pilares:
      1   11.295   10.728   1.75   .64   0   BC21   .00   .00 8033   0
0   0   0   0
      2   21.480   20.914   1.75   .64   0   BC26   .00   .00 8170   0
0   0   0   0
=====
=====

```

Viga= 142 VFC3 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

```

----- G E O M E T R I A E C A R G A S -----
-----
Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
) - - - - -
FLEXAO-| E S Q U E R D A      | M E I O D O V A O      | D I R
E I T A | M.[-] =      5.0 tf* m      | M.[+] Max=      3.9 tf* m - Abcis.= 112 | M.[-]
=    12.3 tf* m
[tf,cm]| As =      9.08 -SRAS- [ 8 B 12.5mm] | AsL=      .00 ----- | As =
9.75 -SRAS- [ 8 B 12.5mm] | AsL=      .00 ----- x/d = .05 | As = 10.43 -STAS- [ 6 B 16.0mm ] | AsL=
.00 ----- x/d = .06      x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
x/dMx= .50
|
[tf,cm]| M[-]Min = 1902.9      | M[+]Min = 1858.3      | M[-]
]Min = 2172.9
[cm2 ]| Asapo[+]= 10.43      |
Asapo[+]= 2.61

```

```

CISALHAMENTO- Xi   Xf   Vsd   VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit   Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm]      0.- 223. 27.59 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0

T O R C A O- Xi   Xf   Tsd   TRd2 %dT   he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm]      0.- 223. .06 55.41 5 18.7 51.3 61.3 .0 .0 .0 .0 .10 N

REAC. APOIO - No.   Maximos   Minimos   Largura   DEPEV   Morte   Nome   M.I.Mx M.I.Mn
Pilares:
      1   14.401   14.303   .70   .11   1   BC15   .00   .00 8202   0
0   0   0   0
      2   19.707   19.609   1.75   .64   0   BC19   .00   .00 8169   0
0   0   0   0
=====
=====

```

Viga= 143 VFC2 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

```

----- G E O M E T R I A E C A R G A S -----
-----
Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.8 tf* m | M.[+] Max= 2.4 tf* m - Abcis.= 90 | M.[-]
= 20.0 tf* m | [5 B 16.0mm] | AsL= .00 ----- | As =
[tf,cm]| As = 9.08 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | AsL=
10.87 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | AsL=
.00 ----- x/d = .06 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
[tf,cm]| M[-]Min = 1902.9 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1 |
[cm2]| Asapo[+]= 10.43 |
Asapo[+]= 2.61 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 223. 32.84 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0
T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 223. .64 55.41 5 18.7 51.3 61.3 .2 .0 .0 .0 .14 N
REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 10.799 10.722 .70 .11 1 BC10 .00 .00 8196 0
0 0 0 0
2 23.459 23.382 1.75 .64 0 BC18 .00 .00 8168 0
0 0 0 0
=====

Viga= 144 VFC1 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.71 /B= .70 /H= .80 /BCs= 1.24 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 1.0 tf* m | M.[+] Max= 3.3 tf* m - Abcis.= 90 | M.[-]
= 22.1 tf* m | [5 B 16.0mm] | AsL= .00 ----- | As =
[tf,cm]| As = 8.74 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | AsL=
10.87 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | AsL=
.00 ----- x/d = .06 | As = 10.43 -STAS- [6 B 16.0mm] | AsL=
x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
[tf,cm]| M[-]Min = 1763.6 | M[+]Min = 1858.3 | M[-]
]Min = 2432.1 |
[cm2]| Asapo[+]= 10.43 |
Asapo[+]= 2.61 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 223. 34.33 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0
T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 223. .50 55.41 5 18.7 51.3 61.3 .2 .0 .0 .0 .14 N
REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 10.624 10.559 .70 .11 2 VFC22_ .00 .00 0 0
0 0 0 0
2 24.525 24.460 1.75 .64 0 BC17 .00 .00 8161 0
0 0 0 0
=====

Viga= 145 VFFC12 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1B /L= 1.08 /B= .70 /H= .25 /BCs= 1.13 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | M[-]= 1.75 tf* m | As = 4.42 -SRAS- [6 B 10.0mm]
 BAL.ESQ | x/d = .10 | AsL= .00 -
 .7
 [tf,cm] | M[-]Min= 256.0 - x/dMx =1.00 | %
 Baric.Armad.= 1

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	46.	5.75	69.50	2	45.	.0	8.1	8.1	6.3	10.0	4	.0	.0

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 1.8 tf* m | M.[+] Max= 4.8 tf* m - Abcis.= 84 | M.[-]
 = 6.8 tf* m
 [tf,cm] | As = 4.42 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As =
 12.93 -SRAS- [7 B 16.0mm]
 | AsL= .00 ----- x/d = .10 | As = 8.51 -STAS- [7 B 12.5mm] | AsL=
 .00 ----- x/d = .29
 | x/dMx= .50 |
 [tf,cm] | M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
 [cm2] | Asapo[+]= 3.71 |
 Asapo[+]= 2.49

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	105.	14.17	69.50	2	45.	3.6	8.1	8.1	6.3	10.0	4	.0	.0
	105.-	210.	23.26	69.50	2	45.	18.0	8.1	18.0	8.0	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	105.	.03	6.63	5	9.2	58.1	13.1	.1	.0	.0	.0	.21	N
	105.-	210.	.03	6.63	5	9.2	58.1	13.1	.1	.0	.0	.0	.34	N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 7.3 tf* m | M.[+] Max= 2.0 tf* m - Abcis.= 140 | M.[-]
 = 4.4 tf* m
 [tf,cm] | As = 14.04 -SRAS- [7 B 16.0mm] | AsL= .00 ----- | As =
 7.98 -SRAS- [4 B 16.0mm]
 | AsL= .00 ----- x/d = .31 | As = 3.73 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .18
 | x/dMx= .50 |
 [tf,cm] | M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	105.	20.90	69.50	2	45.	14.3	8.1	14.3	8.0	10.0	4	.0	.0
	105.-	210.	17.31	69.50	2	45.	8.6	8.1	8.6	6.3	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	105.	.03	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.30	N
	105.-	210.	.03	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.25	N

----- G E O M E T R I A E C A R G A S -----

Vao= 4 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 4.3 tf* m | M.[+] Max= 2.5 tf* m - Abcis.= 140 | M.[-]
= 6.2 tf* m | | |
[tf,cm]| As = 7.79 -SRAS- [4 B 16.0mm] | AsL= .00 ----- | As =
11.75 -SRAS- [6 B 16.0mm] | | |
| AsL= .00 ----- x/d = .17 | As = 4.34 -STAS- [6 B 10.0mm] | AsL=
.00 ----- x/d = .26 | | |
| x/dMx= .50 | | |
[tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4 | | |
[cm2]| Asapo[+]= 2.49 | | |
Asapo[+]= 2.49 | | |

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	105.	17.87	69.50	2	45.	9.5	8.1	9.5	6.3	10.0	4	.0	.0
	105.-	210.	20.28	69.50	2	45.	13.3	8.1	13.3	8.0	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	105.	.02	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.26	N
	105.-	210.	.02	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.29	N

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 2.52 /B= .70 /H= .25 /BCs= 1.08 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 6.0 tf* m | M.[+] Max= 3.3 tf* m - Abcis.= 140 | M.[-]
= 6.8 tf* m | | |
[tf,cm]| As = 11.31 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
12.90 -SRAS- [7 B 16.0mm] | | |
| AsL= .00 ----- x/d = .25 | As = 5.61 -STAS- [7 B 10.0mm] | AsL=
.00 ----- x/d = .29 | | |
| Grampos Dir.= 2B 6.3mm x/dMx= .50 | | |
[tf,cm]| M[-]Min = 244.0 | M[+]Min = 244.0 | M[-]
]Min = 221.7 | | |
[cm2]| Asapo[+]= 2.49 | | |
Asapo[+]= 1.40 | | |

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	240.	22.10	69.50	2	45.	16.2	8.1	16.2	8.0	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	240.	.04	6.63	5	9.2	58.1	13.1	.1	.0	.0	.0	.32	N

REAC. APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:									
	1	14.217	14.215	.70	.28	1	BC41	.00	.00 8213 0
0 0	0	0							
	2	31.080	31.077	.70	.28	1	BC42	.00	.00 8214 0
0 0	0	0							
	3	24.755	24.751	.70	.28	1	BC43	.00	.00 8215 0
0 0	0	0							
	4	29.065	29.055	.70	.28	1	BC44	.00	.00 8216 0
0 0	0	0							
	5	15.783	15.776	.10	.00	1	BC45	.00	.00 8217 0
0 0	0	0							

Viga= 146 VFFC43 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 2.17 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = .0 tf* m | M.[+] Max= 2.3 tf* m - Abcis.= 90 | M.[-]
= 3.4 tf* m
[tf,cm]| As = 3.56 -STAS- [ 3 B 12.5mm] | AsL= .00 ----- | As =
3.56 -STAS- [ 3 B 12.5mm] | AsL= .00 ----- x/d = .03 | As = 3.56 -SRAS- [ 3 B 12.5mm ] | AsL=
.00 ----- x/d = .03 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.2 |
| Grampos Esq.= 2B 6.3mm x/dMx= .50 |
x/dMx= .50 |
| M[-]Min = 885.8 | M[+]Min = 1055.3 |
[tf,cm]| M[-]Min = 885.8 | M[+]Min = 1055.3 |
]Min = 885.8 |
[cm2 ]| Asapo[+]= 3.56 |
Asapo[+]= 2.99 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 198. 12.05 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 198. .02 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .12 N

```

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 2.15 /B= .20 /H= 1.05 /BCs= .00 /BCi= .29 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 3.3 tf* m | M.[+] Max= .0 tf* m - Abcis.= 215 | M.[-]
= 5.0 tf* m
[tf,cm]| As = 3.47 -STAS- [ 3 B 12.5mm] | AsL= .00 ----- | As =
3.47 -STAS- [ 3 B 12.5mm] | AsL= .00 ----- x/d = .03 | As = 3.47 -SRAS- [ 3 B 12.5mm ] | AsL=
.00 ----- x/d = .03 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.0 |
| x/dMx= .50 |
x/dMx= .50 |
| M[-]Min = 870.1 | M[+]Min = 1002.6 |
[tf,cm]| M[-]Min = 870.1 | M[+]Min = 1002.6 |
]Min = 870.1 |
[cm2 ]| Asapo[+]= 2.99 |
Asapo[+]= 2.99 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 190. 10.65 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 190. .00 5.82 5 8.1 8.1 93.1 .0 .0 .0 .0 .11 N

```

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 2.15 /B= .20 /H= 1.05 /BCs= .00 /BCi= .29 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 5.2 tf* m | M.[+] Max= 2.5 tf* m - Abcis.= 161 | M.[-]
= .0 tf* m
[tf,cm]| As = 3.47 -STAS- [ 3 B 12.5mm] | AsL= .00 ----- | As =
3.47 -STAS- [ 3 B 12.5mm] | AsL= .00 ----- x/d = .03 | As = 3.47 -SRAS- [ 3 B 12.5mm ] | AsL=
.00 ----- x/d = .03 | Arm.Lat.=[2 X 7 B 6.3mm] - LN= 5.0 |
| x/dMx= .50 |
x/dMx= .50 |
| M[-]Min = 870.1 | M[+]Min = 1002.6 |
[tf,cm]| M[-]Min = 870.1 | M[+]Min = 1002.6 |
]Min = 870.1 |

```

[cm2]| Asapo[+]= 2.99
 Asapo[+]= 3.37

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 190. 13.83 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 190. .04 5.82 5 8.1 8.1 93.1 .1 .0 .0 .0 .14 N

----- G E O M E T R I A E C A R G A S -----

Vao= 4 /L= 2.17 /B= .20 /H= 1.05 /BCs= .00 /BCi= .31 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
 FSp.Ex= .53 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

| M.[-] = .0 tf* m | M.[+] Max= 4.8 tf* m - Abcis.= 90 | M.[-]

= .5 tf* m | As = 3.56 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =

[tf,cm]| As = 3.56 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =

3.56 -STAS- [3 B 12.5mm] | AsL= .00 ----- | As =

.00 ----- x/d = .03 | As = 3.56 -SRAS- [3 B 12.5mm] | AsL=

| x/dMx= .50 | Arm.Lat.= [2 X 7 B 6.3mm] - LN= 5.2 |

Grampos Dir.= 2B 6.3mm x/dMx= .50 |

[tf,cm]| M[-]Min = 885.8 | M[+]Min = 1055.3 | M[-]

]Min = 885.8 |

[cm2]| Asapo[+]= 3.45 |

Asapo[+]= 3.56 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 198. 12.26 101.32 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 198. .06 5.82 5 8.1 8.1 93.1 .1 .0 .0 .0 .13 N

REAC.	AP010	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn		
0	0	1	5.546	5.527	.20	.00	2	PAC6	.00	.00	0	0
0	0	2	14.710	14.687	.20	.00	2	VFFC42_	.00	.00	0	0
0	0	3	17.486	17.392	.30	.00	2	VFFC41_	.00	.00	0	0
0	0	4	10.842	10.782	.20	.00	2	VFFC40_	.00	.00	0	0
0	0	5	8.755	8.748	.20	.00	2	PAC4	.00	.00	0	0
0	0	0	0									

Viga= 147 VFFC14 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1B /L= 1.08 /B= .70 /H= .25 /BCs= 1.13 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO | M[-]= 1.75 tf* m | As = 4.42 -SRAS- [6 B 10.0mm]

BAL.ESQ | x/d = .10 | AsL= .00 -

.7 |

[tf,cm] | M[-]Min= 256.0 - x/dMx =1.00 | %

Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 46. 5.75 69.50 2 45. .0 8.1 8.1 6.3 10.0 4 .0 .0

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 1.8 tf* m | M.[+] Max= 4.9 tf* m - Abcis.= 84 | M.[-]
 6.7 tf* m
 [tf,cm] | As = 4.42 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As =
 12.94 -SRAS- [4 B 20.0mm]
 | AsL= .00 ----- x/d = .10 | As = 8.63 -STAS- [7 B 12.5mm] | AsL=
 .00 ----- x/d = .29 x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
 [cm2] | Asapo[+]= 3.71 |
 Asapo[+]= 2.49

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	105.	14.18	69.50	2	45.	3.7	8.1	8.1	6.3	10.0	4	.0	.0
	105.-	210.	23.25	69.50	2	45.	18.0	8.1	18.0	8.0	10.0	4	.0	.0

T O R C A O- M E N S A G E M	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
[tf,cm]	0.-	105.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.21	N
	105.-	210.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.34	N

----- G E O M E T R I A E C A R G A S -----

 Vao= 3 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 7.2 tf* m | M.[+] Max= 1.9 tf* m - Abcis.= 140 | M.[-]
 4.5 tf* m
 [tf,cm] | As = 14.04 -SRAS- [5 B 20.0mm] | AsL= .00 ----- | As =
 8.22 -SRAS- [4 B 16.0mm]
 | AsL= .00 ----- x/d = .32 | As = 3.73 -STAS- [5 B 10.0mm] | AsL=
 .00 ----- x/d = .18 x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
 [cm2] | Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	105.	20.48	69.50	2	45.	13.6	8.1	13.6	8.0	10.0	4	.0	.0
	105.-	210.	17.15	69.50	2	45.	8.4	8.1	8.4	6.3	10.0	4	.0	.0

T O R C A O- M E N S A G E M	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
[tf,cm]	0.-	105.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.30	N
	105.-	210.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.25	N

----- G E O M E T R I A E C A R G A S -----

 Vao= 4 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 4.4 tf* m | M.[+] Max= 2.7 tf* m - Abcis.= 140 | M.[-]
 5.5 tf* m
 [tf,cm] | As = 8.00 -SRAS- [4 B 16.0mm] | AsL= .00 ----- | As =
 10.21 -SRAS- [5 B 16.0mm]
 | AsL= .00 ----- x/d = .18 | As = 4.68 -STAS- [6 B 10.0mm] | AsL=
 .00 ----- x/d = .23 x/dMx= .50 |
 x/dMx= .50 |
 [tf,cm] | M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4

[cm2]| Asapo[+]= 2.49
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 210. 19.46 69.50 2 45. 12.0 8.1 12.0 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 210. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .28 N

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 2.25 /B= .70 /H= .25 /BCs= 1.04 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A

| M.[-] = 5.4 tf* m | M.[+] Max= 2.5 tf* m - Abcis.= 147 | M.[-]

= 4.9 tf* m | As = 9.95 -SRAS- [5 B 16.0mm] | AsL= .00 ----- | As =

[tf,cm]| As = 8.79 -SRAS- [7 B 12.5mm] | AsL= .00 ----- | AsL=

.00 ----- x/d = .19 x/d = .22 | As = 4.25 -STAS- [6 B 10.0mm] | AsL=

| x/dMx= .50 |

|

[tf,cm]| M[-]Min = 234.7 | M[+]Min = 234.7 | M[-]

]Min = 215.4

[cm2]| Asapo[+]= 2.49 |

Asapo[+]= 1.06

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 210. 19.10 69.50 2 45. 11.4 8.1 11.4 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 210. .04 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .28 N

REAC.	AP010	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
0	0	1	14.227	14.226	.70	.28	1	BC47	.00	.00 8218 0
0	0	2	30.774	30.772	.70	.28	1	BC48	.00	.00 8219 0
0	0	3	24.804	24.799	.70	.28	1	BC49	.00	.00 8220 0
0	0	4	27.142	27.126	.70	.28	1	BC50	.00	.00 8221 0
0	0	5	13.045	13.033	.70	.28	1	BC51	.00	.00 8222 0

Viga= 148 VFFC16 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1B /L= 1.08 /B= .70 /H= .25 /BCs= 1.13 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO | M[-]= 1.75 tf* m | As = 4.42 -SRAS- [6 B 10.0mm]

BAL.ESQ | x/d = .10 | AsL= .00 -

.7

[tf,cm] | M[-]Min= 256.0 - x/dMx =1.00 | %

Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 46. 5.75 69.50 2 45. .0 8.1 8.1 6.3 10.0 4 .0 .0

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 1.8 tf* m | M.[+] Max= 4.7 tf* m - Abcis.= 84 | M.[-]
= 6.7 tf* m |
[tf,cm]| As = 4.42 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- | As =
12.81 -SRAS- [ 7 B 16.0mm] | AsL= .00 ----- x/d = .10 | As = 8.40 -STAS- [ 7 B 12.5mm ] | AsL=
.00 ----- x/d = .29 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4 |
[cm2 ]| Asapo[+]= 3.71 |
Asapo[+]= 2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 105. 14.33 69.50 2 45. 3.9 8.1 8.1 6.3 10.0 4 .0 .0
105.- 210. 23.10 69.50 2 45. 17.8 8.1 17.8 8.0 10.0 4 .0 .0

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 7.1 tf* m | M.[+] Max= 2.0 tf* m - Abcis.= 140 | M.[-]
= 4.4 tf* m |
[tf,cm]| As = 13.62 -SRAS- [ 7 B 16.0mm] | AsL= .00 ----- | As =
7.94 -SRAS- [ 4 B 16.0mm] | AsL= .00 ----- x/d = .30 | As = 3.73 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .18 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4 |
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 105. 20.47 69.50 2 45. 13.6 8.1 13.6 8.0 10.0 4 .0 .0
105.- 210. 17.09 69.50 2 45. 8.3 8.1 8.3 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 105. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .29 N
105.- 210. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .25 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 4 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 4.3 tf* m | M.[+] Max= 2.5 tf* m - Abcis.= 140 | M.[-]
= 6.1 tf* m |
[tf,cm]| As = 7.73 -SRAS- [ 4 B 16.0mm] | AsL= .00 ----- | As =
11.44 -SRAS- [ 6 B 16.0mm] | AsL= .00 ----- x/d = .17 | As = 4.31 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .26 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4 |
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 105. 17.68 69.50 2 45. 9.2 8.1 9.2 6.3 10.0 4 .0 .0

```

```

105.- 210. 19.94 69.50 2 45. 12.8 8.1 12.8 8.0 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 105. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .26 N
105.- 210. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .29 N

----- G E O M E T R I A E C A R G A S -----
Vao= 5 /L= 2.52 /B= .70 /H= .25 /BCs= 1.08 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 6.0 tf* m | M.[+] Max= 3.2 tf* m - Abcis.= 140 | M.[-]
= 6.6 tf* m
[tf,cm]| As = 11.34 -SRAS- [ 6 B 16.0mm] | AsL= .00 ----- | As =
12.72 -SRAS- [ 4 B 20.0mm] | AsL= .00 ----- | AsL=
.00 ----- x/d = .25 | As = 5.48 -STAS- [ 7 B 10.0mm ] | AsL=
.00 ----- x/d = .29
| x/dMx= .50 |
Grampos Dir.= 2B 6.3mm x/dMx= .50
|
[tf,cm]| M[-]Min = 244.0 | M[+]Min = 244.0 | M[-]
]Min = 221.7
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 1.37

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 240. 21.70 69.50 2 45. 15.6 8.1 15.6 8.0 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 240. .05 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .32 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 14.331 14.330 .70 .28 1 BC53 .00 .00 8223 0
0 0 0 30.664 30.663 .70 .28 1 BC54 .00 .00 8224 0
0 0 0 24.468 24.466 .70 .28 1 BC55 .00 .00 8225 0
0 0 0 28.686 28.678 .70 .28 1 BC56 .00 .00 8226 0
0 0 0 15.502 15.496 .10 .00 1 BC57 .00 .00 8227 0
0 0 0

=====
Viga= 149 VFFC18 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1B /L= 1.08 /B= .70 /H= .25 /BCs= 1.13 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO | M[-]= 1.75 tf* m | As = 4.42 -SRAS- [ 6 B 10.0mm]
BAL.ESQ | x/d = .10 | AsL= .00 -
.7
[tf,cm] | M[-]Min= 256.0 - x/dMx= 1.00 | %
Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 46. 5.68 69.50 2 45. .0 8.1 8.1 6.3 10.0 4 .0 .0

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )

```

```

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 2.3 tf* m | M.[+] Max= 3.5 tf* m - Abcis.= 105 | M.[-]
6.4 tf* m
[tf,cm]| As = 4.42 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- | As =
12.10 -SRAS- [ 6 B 16.0mm]
| AsL= .00 ----- x/d = .10 | As = 6.09 -STAS- [ 5 B 12.5mm ] | AsL=
.00 ----- x/d = .27 x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
[cm2 ]| Asapo[+]= 1.52 |
Asapo[+]= 2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 105. 16.40 69.50 2 45. 7.2 8.1 8.1 6.3 10.0 4 .0 .0
105.- 210. 21.67 69.50 2 45. 15.5 8.1 15.5 8.0 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 105. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .24 N
105.- 210. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .31 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
) - - - - -
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 6.0 tf* m | M.[+] Max= 2.4 tf* m - Abcis.= 140 | M.[-]
4.9 tf* m
[tf,cm]| As = 11.14 -SRAS- [ 6 B 16.0mm] | AsL= .00 ----- | As =
8.94 -SRAS- [ 8 B 12.5mm]
| AsL= .00 ----- x/d = .25 | As = 4.08 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .20 x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 105. 19.76 69.50 2 45. 12.5 8.1 12.5 8.0 10.0 4 .0 .0
105.- 210. 18.49 69.50 2 45. 10.5 8.1 10.5 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 105. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .29 N
105.- 210. .00 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .27 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 4 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
) - - - - -
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 4.9 tf* m | M.[+] Max= 2.5 tf* m - Abcis.= 140 | M.[-]
5.7 tf* m
[tf,cm]| As = 8.87 -SRAS- [ 8 B 12.5mm] | AsL= .00 ----- | As =
10.67 -SRAS- [ 6 B 16.0mm]
| AsL= .00 ----- x/d = .20 | As = 4.34 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .24 x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

```

```

CISALHAMENTO- Xi   Xf   Vsd   VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit   Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm]         0.- 210.  19.70 69.50  2 45.  12.4  8.1  12.4 6.3 10.0 4   .0   .0

T O R C A O- Xi   Xf   Tsd   TRd2 %dT   he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm]         0.- 210.   .01  6.63  5 9.2 58.1 13.1   .0   .0   .0   .0   .28  N

----- G E O M E T R I A E C A R G A S -----
Vao= 5 /L= 2.52 /B= .70 /H= .25 /BCs= 1.08 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 6.0 tf* m | M.[+] Max= 3.0 tf* m - Abcis.= 163 | M.[-]
= 6.4 tf* m | As = 11.22 -SRAS- [ 6 B 16.0mm] | AsL= .00 ----- | As =
11.99 -SRAS- [ 6 B 16.0mm] | AsL= .00 ----- x/d = .25 | As = 5.21 -STAS- [ 7 B 10.0mm ] | AsL=
.00 ----- x/d = .27 | x/dMx= .50 |
Grampos Dir.= 1B 6.3mm x/dMx= .50 |
[tf,cm] | M[-]Min = 244.0 | M[+]Min = 244.0 | M[-]
]Min = 221.7
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 1.30

CISALHAMENTO- Xi   Xf   Vsd   VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit   Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm]         0.- 240.  20.70 69.50  2 45.  14.0  8.1  14.0 8.0 10.0 4   .0   .0

T O R C A O- Xi   Xf   Tsd   TRd2 %dT   he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm]         0.- 240.   .03  6.63  5 9.2 58.1 13.1   .0   .0   .0   .0   .30  N

REAC. APOIO - No.   Maximos   Minimos   Largura   DEPEV   Morte   Nome   M.I.Mx M.I.Mn
Pilares:
0   0   1   15.756   15.755   .70   .28   1   BC59   .00   .00   8232   0
0   0   2   29.162   29.161   .70   .28   1   BC60   .00   .00   8233   0
0   0   3   26.148   26.147   .70   .28   1   BC61   .00   .00   8234   0
0   0   4   28.094   28.089   .70   .28   1   BC62   .00   .00   8235   0
0   0   5   14.785   14.782   .10   .00   1   BC63   .00   .00   8236   0
=====
=====

Viga= 150 VFFC21 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----
- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.3 tf* m | M.[+] Max= 1.5 tf* m - Abcis.= 84 | M.[-]
= 2.8 tf* m | As = 4.51 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- | As =
5.46 -SRAS- [ 5 B 12.5mm] | AsL= .00 ----- x/d = .09 | As = 4.32 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 | Arm.Lat.=[2 X 1 B 5.0mm] - LN= 1.1 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 188.9 | M[+]Min = 217.7 | M[-]
]Min = 217.7
[cm2 ] | Asapo[+]= 1.08 |
Asapo[+]= 3.11

CISALHAMENTO- Xi   Xf   Vsd   VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit   Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm]         0.- 160.  12.81 69.50  2 45.  1.5  8.1  8.1 6.3 10.0 4   .0   .0

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .57 6.63 5 9.2 58.1 13.1 .9 4.3 .6 .1 .27 N

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 2.8 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 114 | M.[-]
= 2.6 tf* m
[tf,cm]| As = 4.94 -SRAS- [4 B 12.5mm] | AsL= .00 ----- | As =
4.56 -SRAS- [6 B 10.0mm] | AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
.00 ----- x/d = .10 x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
[cm2]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 12.54 69.50 2 45. 1.1 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .07 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .19 N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 2.6 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 114 | M.[-]
= 2.7 tf* m
[tf,cm]| As = 4.51 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As =
4.67 -SRAS- [6 B 10.0mm] | AsL= .00 ----- x/d = .10 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
.00 ----- x/d = .10 x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
[cm2]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 12.49 69.50 2 45. 1.0 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .03 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .18 N

----- G E O M E T R I A E C A R G A S -----

Vao= 4 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 2.7 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 114 | M.[-]
= 2.6 tf* m
[tf,cm]| As = 4.72 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As =
4.53 -SRAS- [6 B 10.0mm] | AsL= .00 -----

```

    | AsL= .00 ----- x/d = .10 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .10
    | x/dMx= .50 |
    | [tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
    | Min = 205.8 |
    | [cm2 ] | Asapo[+]= 2.49 |
    Asapo[+]= 2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 12.47 69.50 2 45. 1.0 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .19 6.63 5 9.2 58.1 13.1 .3 .0 .0 .0 .21 N

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 5 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

```

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
    | M.[-] = 2.5 tf* m | M.[+] Max= 1.2 tf* m - Abcis.= 110 | M.[-]
= 2.4 tf* m
[tf,cm] | As = 5.26 -SRAS- [ 7 B 10.0mm ] | AsL= .00 ----- | As =
5.10 -SRAS- [ 7 B 10.0mm ]
    | AsL= .00 ----- x/d = .09 | As = 4.57 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .09
    | x/dMx= .50 | Arm.Lat.=[2 X 1 B 6.3mm] - LN= 1.1 |
    | [tf,cm] | M[-]Min = 213.5 | M[+]Min = 213.5 | M[-]
    | Min = 201.3 |
    | [cm2 ] | Asapo[+]= 3.43 |
    Asapo[+]= 1.14

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 148. 12.39 69.50 2 45. .8 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 148. 1.07 6.63 5 9.2 58.1 13.1 1.6 4.3 .9 .2 .34 N

```

REAC. APOIO	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn
Pilares:									
	1	8.474	8.472	.70	.28	1	BC59	.00	.00 8232 0
0 0	2	17.838	17.835	.70	.28	1	BC53	.00	.00 8223 0
0 0	3	17.306	17.304	.70	.28	1	BC47	.00	.00 8218 0
0 0	4	17.570	17.569	.70	.28	1	BC41	.00	.00 8213 0
0 0	5	17.377	17.376	.70	.28	1	BC35	.00	.00 8208 0
0 0	6	8.657	8.655	1.85	.85	0	BC27	.00	.00 8127 0

```

Viga= 151 VFFC25 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 1 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

```

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
    | M.[-] = 2.5 tf* m | M.[+] Max= 1.5 tf* m - Abcis.= 84 | M.[-]
= 2.9 tf* m
[tf,cm] | As = 4.34 -SRAS- [ 6 B 10.0mm ] | AsL= .00 ----- | As =
5.02 -SRAS- [ 7 B 10.0mm ]

```

```

    | AsL= .00 ----- x/d = .10 | As = 3.70 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11 |
x/dMx= .50 |
|
[tf,cm] | M[-]Min = 188.9 | M[+]Min = 217.7 | M[-]
]Min = 217.7 |
[cm2 ] | Asapo[+]= .93 |
Asapo[+]= 2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.52 69.50 2 45. 2.6 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .25 6.63 5 9.2 58.1 13.1 .4 .0 .0 .0 .23 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitações provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.9 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 114 | M.[-]
= 2.9 tf* m |
[tf,cm] | As = 5.12 -SRAS- [ 7 B 10.0mm ] | AsL= .00 ----- | As =
5.05 -SRAS- [ 7 B 10.0mm ] |
| AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11 |
x/dMx= .50 |
|
[tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.24 69.50 2 45. 2.2 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .04 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .20 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitações provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.9 tf* m | M.[+] Max= 1.5 tf* m - Abcis.= 114 | M.[-]
= 2.6 tf* m |
[tf,cm] | As = 4.98 -SRAS- [ 7 B 10.0mm ] | AsL= .00 ----- | As =
4.50 -SRAS- [ 6 B 10.0mm ] |
| AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .10 |
x/dMx= .50 |
|
[tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
[cm2 ] | Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.43 69.50 2 45. 2.5 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .03 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .20 N

```

```

----- G E O M E T R I A E C A R G A S -----

```

Vao= 4 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 2.6 tf* m | M.[+] Max= 1.2 tf* m - Abcis.= 114 | M.[-]
= 4.2 tf* m
[tf,cm] | As = 4.47 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As =
7.56 -SRAS- [4 B 16.0mm] | AsL= .00 ----- x/d = .10 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
.00 ----- x/d = .17 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
[cm2] | Asapo[+]= 2.49 |
Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 15.38 69.50 2 45. 5.6 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .02 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .22 N

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 1.63 /B= .70 /H= .25 /BCs= .82 /BCi= .00 /TpS= 8 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 3.0 tf* m | M.[+] Max= 2.0 tf* m - Abcis.= 79 | M.[-]
= 3.5 tf* m
[tf,cm] | As = 6.59 -SRAS- [4 B 16.0mm] | AsL= .00 ----- | As =
7.51 -SRAS- [6 B 12.5mm] | AsL= .00 ----- x/d = .12 | As = 4.71 -STAS- [6 B 10.0mm] | AsL=
.00 ----- x/d = .14 | x/dMx= .50 | Arm.Lat.= [2 X 1 B 6.3mm] - LN= 1.2 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 185.9 | M[+]Min = 185.9 | M[-]
]Min = 179.8
[cm2] | Asapo[+]= 3.80 |
Asapo[+]= 1.18

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 148. 22.14 69.50 2 45. 16.2 8.1 25.2 10.0 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 148. 1.49 6.63 5 9.2 58.1 13.1 2.2 4.3 1.3 .3 .54 N

REAC.	AP010	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn		
		1	9.129	9.125	.70	.28	1	BC60	.00	.00	8233	0
0	0	2	18.833	18.825	.70	.28	1	BC54	.00	.00	8224	0
0	0	3	18.726	18.711	.70	.28	1	BC48	.00	.00	8219	0
0	0	4	18.192	18.156	.70	.28	1	BC42	.00	.00	8214	0
0	0	5	26.407	26.242	.70	.28	1	BC36	.00	.00	8209	0
0	0	6	9.869	9.778	1.85	.85	0	BC28	.00	.00	8136	0

=====

Viga= 152 VFFC29 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

Vao= 1 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 2.4 tf* m | M.[+] Max= 1.5 tf* m - Abcis.= 84 | M.[-]
= 2.9 tf* m
[tf,cm]| As = 4.22 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- | As =
5.11 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- x/d = .09 | As = 3.70 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 |
x/dMx= .50 |
|
[tf,cm]| M[-]Min = 188.9 | M[+]Min = 217.7 | M[-]
]Min = 217.7
[cm2 ]| Asapo[+]= .93 |
Asapo[+]= 2.49

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	160.	13.58	69.50	2	45.	2.7	8.1	8.1	6.3	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	160.	.07	6.63	5	9.2	58.1	13.1	.1	.0	.0	.0	.21	N

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 3.0 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 114 | M.[-]
= 2.8 tf* m
[tf,cm]| As = 5.19 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- | As =
4.95 -SRAS- [ 4 B 12.5mm] | AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 |
x/dMx= .50 |
|
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

```

CISALHAMENTO-	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
M E N S A G E M														
[tf,cm]	0.-	160.	13.37	69.50	2	45.	2.4	8.1	8.1	6.3	10.0	4	.0	.0

T O R C A O-	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
M E N S A G E M														
[tf,cm]	0.-	160.	.05	6.63	5	9.2	58.1	13.1	.1	.0	.0	.0	.20	N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O
)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 2.8 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 114 | M.[-]
= 2.8 tf* m
[tf,cm]| As = 4.89 -SRAS- [ 4 B 12.5mm] | AsL= .00 ----- | As =
4.93 -SRAS- [ 4 B 12.5mm] | AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 |
x/dMx= .50 |
|
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8

```

[cm2]| Asapo[+]= 2.49
 Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 160. 13.23 69.50 2 45. 2.2 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 160. .05 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .20 N

----- G E O M E T R I A E C A R G A S -----

Vao= 4 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A

| M.[-] = 2.7 tf* m | M.[+] Max= 1.4 tf* m - Abcis.= 114 | M.[-]

= 4.2 tf* m | As = 4.75 -SRAS- [4 B 12.5mm] | AsL= .00 ----- | As =

[tf,cm]| As = 4.75 -SRAS- [4 B 16.0mm] | AsL= .00 ----- | As =

7.55 -SRAS- [4 B 16.0mm] | AsL= .00 ----- | As = 3.50 -STAS- [5 B 10.0mm] | AsL=

.00 ----- x/d = .17 | x/d = .11 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=

| x/dMx= .50 |

|

[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-

]Min = 205.8

[cm2]| Asapo[+]= 2.49

Asapo[+]= 2.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus

M E N S A G E M

[tf,cm] 0.- 160. 16.20 69.50 2 45. 6.9 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla

M E N S A G E M

[tf,cm] 0.- 160. .07 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .24 N

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 1.63 /B= .70 /H= .25 /BCs= .94 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00

FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R

E I T A

| M.[-] = 3.2 tf* m | M.[+] Max= 1.8 tf* m - Abcis.= 95 | M.[-]

= 3.3 tf* m | As = 5.65 -SRAS- [4 B 16.0mm] | AsL= .00 ----- | As =

[tf,cm]| As = 5.65 -SRAS- [5 B 12.5mm] | AsL= .00 ----- | As =

5.83 -SRAS- [5 B 12.5mm] | AsL= .00 ----- | As = 3.63 -STAS- [5 B 10.0mm] | AsL=

.00 ----- x/d = .13 | x/d = .13 | As = 3.63 -STAS- [5 B 10.0mm] | AsL=

| x/dMx= .50 |

|

[tf,cm]| M[-]Min = 213.5 | M[+]Min = 213.5 | M[-

]Min = 201.3

[cm2]| Asapo[+]= 2.49

Asapo[+]= .91

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus

M E N S A G E M

[tf,cm] 0.- 148. 21.11 69.50 2 45. 14.6 8.1 14.6 8.0 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla

M E N S A G E M

[tf,cm] 0.- 148. .09 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .32 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn

Pilares:

1 9.038 9.034 .70 .28 1 BC61 .00 .00 8234 0

0 0 0 0

2 18.964 18.954 .70 .28 1 BC55 .00 .00 8225 0

0 0 0 0

3 18.529 18.510 .70 .28 1 BC49 .00 .00 8220 0

0 0 0 0

0	0	0	4	19.092	19.046	.70	.28	1	BC43	.00	.00	8215	0
0	0	0	5	26.258	26.051	.70	.28	1	BC37	.00	.00	8210	0
0	0	0	6	9.698	9.580	1.85	.85	0	BC29	.00	.00	8137	0

Viga= 153 VF3C33 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 1.75 /B= .70 /H= .25 /BCs= .96 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 2.4 tf* m | M.[+] Max= 1.5 tf* m - Abcis.= 84 | M.[-]
= 2.9 tf* m | As = 4.13 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | As =
[tf,cm]| As = 5.12 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | AsL=
| AsL= .00 ----- x/d = .09 | As = 3.70 -STAS- [5 B 10.0mm] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 188.9 | M[+]Min = 217.7 | M[-]
]Min = 217.7 |
[cm2]| Asapo[+]= .93 |
Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.62 69.50 2 45. 2.8 8.1 8.1 6.3 10.0 4 .0 .0
T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .04 6.63 5 9.2 58.1 13.1 .1 .0 .0 .0 .20 N

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 3.0 tf* m | M.[+] Max= 1.3 tf* m - Abcis.= 114 | M.[-]
= 2.9 tf* m | As = 5.17 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | As =
[tf,cm]| As = 4.99 -SRAS- [7 B 10.0mm] | AsL= .00 ----- | AsL=
| AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [5 B 10.0mm] | AsL=
.00 ----- x/d = .11 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8 |
[cm2]| Asapo[+]= 2.49 |
Asapo[+]= 2.49 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.29 69.50 2 45. 2.3 8.1 8.1 6.3 10.0 4 .0 .0
T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .13 6.63 5 9.2 58.1 13.1 .2 .0 .0 .0 .21 N

----- G E O M E T R I A E C A R G A S -----
Vao= 3 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)

```

FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 2.9 tf* m | M.[+] Max= 1.5 tf* m - Abcis.= 114 | M.[-]
| 2.7 tf* m
[tf,cm]| As = 4.95 -SRAS- [ 7 B 10.0mm] | AsL= .00 ----- | As =
4.65 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- x/d = .11 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .10 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 13.40 69.50 2 45. 2.4 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .14 6.63 5 9.2 58.1 13.1 .2 .0 .0 .0 .21 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 4 /L= 1.75 /B= .70 /H= .25 /BCs= .91 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 2.7 tf* m | M.[+] Max= 1.2 tf* m - Abcis.= 114 | M.[-]
| 4.0 tf* m
[tf,cm]| As = 4.60 -SRAS- [ 6 B 10.0mm] | AsL= .00 ----- | As =
7.05 -SRAS- [ 6 B 12.5mm] | AsL= .00 ----- x/d = .10 | As = 3.50 -STAS- [ 5 B 10.0mm ] | AsL=
.00 ----- x/d = .16 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 205.8 | M[+]Min = 205.8 | M[-]
]Min = 205.8
[cm2 ]| Asapo[+]= 2.49 |
Asapo[+]= 2.49

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 160. 15.09 69.50 2 45. 5.1 8.1 8.1 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 160. .22 6.63 5 9.2 58.1 13.1 .3 .0 .0 .0 .25 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 5 /L= 1.63 /B= .70 /H= .25 /BCs= .82 /BCi= .00 /TpS= 5 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A
= | M.[-] = 3.0 tf* m | M.[+] Max= 1.8 tf* m - Abcis.= 95 | M.[-]
| 3.3 tf* m
[tf,cm]| As = 6.33 -SRAS- [ 5 B 12.5mm] | AsL= .00 ----- | As =
6.97 -SRAS- [ 6 B 12.5mm] | AsL= .00 ----- x/d = .11 | As = 4.29 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .13 | x/dMx= .50 | Arm.Lat.= [2 X 1 B 6.3mm] - LN= 1.1 |
x/dMx= .50 |
[tf,cm]| M[-]Min = 185.9 | M[+]Min = 185.9 | M[-]
]Min = 179.8
[cm2 ]| Asapo[+]= 3.62 |
Asapo[+]= 1.07

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 148. 20.52 69.50 2 45. 13.7 8.1 21.5 10.0 10.0 4 .0 .0

```

T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2 %dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	148.	1.29	6.63	5	9.2	58.1	13.1	1.9	4.3	1.1	.3	.49 N
REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn					
Pilares:													
0 0 0	1	9.006	9.002	.70	.28	1 BC62	.00	.00	8235	0			
0 0 0	2	18.942	18.931	.70	.28	1 BC56	.00	.00	8226	0			
0 0 0	3	18.668	18.643	.70	.28	1 BC50	.00	.00	8221	0			
0 0 0	4	18.411	18.346	.70	.28	1 BC44	.00	.00	8216	0			
0 0 0	5	25.059	24.738	.70	.28	1 BC38	.00	.00	8211	0			
0 0 0	6	9.626	9.466	1.85	.85	0 BC30	.00	.00	8144	0			

Viga= 156 VFC7 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1 /L= 2.88 /B= .70 /H= .80 /BCs= 1.28 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = .9 tf* m | M.[+] Max= 5.0 tf* m - Abcis.= 96 | M.[-]
 = 20.3 tf* m | As = 8.76 -SRAS- [5 B 16.0mm] | AsL= .00 ----- | As =
 [tf,cm] | AsL= .00 ----- x/d = .05 | As = 10.56 -STAS- [6 B 16.0mm] | AsL=
 .00 ----- x/d = .06 x/dMx= .50 | Arm.Lat.= [2 X 5 B 12.5mm] - LN= 1.9 |
 x/dMx= .50 | M[-]Min = 1772.7 | M[+]Min = 1869.4 | M[-]
 [tf,cm] | Asapo[+]= 10.56 |
]Min = 2345.6 |
 [cm2] | Asapo[+]= 2.64 |

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	240.	34.36	265.52	2	45.	.0	8.1	8.1	6.3	15.0	4	.0	.0

T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2 %dT	he	b-nuc	h-nuc	Asw-1R	AswmnNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	240.	.04	55.41	5	18.7	51.3	61.3	.0	.0	.0	.0	.13 N

REAC. APOIO - No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn					
Pilares:													
0 0 0	1	11.441	11.060	.70	.11	1 BC39	.00	.00	8283	0			
0 0 0	2	24.546	24.164	2.20	.86	0 BC40	.00	.00	8285	0			

Viga= 157 PARL1 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
 Vao= 1B /L= .88 /B= .20 /H= 1.55 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00
 FSp.Ex= .78 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO | M[-]= 19.22 tf* m | As = 4.65 -SRAS- [4 B 12.5mm]
 BAL.ESQ | x/d = .04 | AsL= .00 -Arm.Lat.= [2 X 10 B 6.3mm]
 .6 | M[-]Min= 1739.0 - x/dMx= 1.00 | %
 [tf,cm] | Baric.Armad.= 0

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	53.	9.43	152.23	2	45.	.0	2.3	3.3	6.3	17.0	2	.0	1.7

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 53. .76 8.94 5 8.1 8.1 143.1 .8 1.9 .1 1.3 .15 N

----- G E O M E T R I A E C A R G A S -----

Vao= 2 /L= 2.80 /B= .20 /H= 1.55 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00
 FSp.Ex= .78 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 19.2 tf* m | M.[+] Max= .7 tf* m - Abcis.= 163 | M.[-]
 = 3.8 tf* m
 [tf,cm] | As = 4.73 -SRAS- [4 B 12.5mm] | AsL= .00 ----- | As =
 4.73 -SRAS- [4 B 12.5mm]
 | AsL= .00 ----- x/d = .04 | As = 4.73 -SRAS- [4 B 12.5mm] | AsL=
 .00 ----- x/d = .04
 | x/dMx= .50 | Arm.Lat.= [2 X 10 B 6.3mm] - LN= 6.3 |
 x/dMx= .50
 [tf,cm] | M[-]Min = 1739.0 | M[+]Min = 1739.0 | M[-]
]Min = 1739.0
 [cm2] | Asapo[+]= 1.58 |
 Asapo[+]= 4.49

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 210. 7.86 152.23 2 45. .0 2.3 2.3 6.3 25.0 2 4.1 1.1

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 210. .50 8.94 5 8.1 8.1 143.1 .5 1.9 .1 1.3 .10 N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 2.80 /B= .20 /H= 1.55 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00
 FSp.Ex= .78 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 | M.[-] = 3.7 tf* m | M.[+] Max= 2.9 tf* m - Abcis.= 140 | M.[-]
 = 19.2 tf* m
 [tf,cm] | As = 4.65 -SRAS- [4 B 12.5mm] | AsL= .00 ----- | As =
 4.65 -SRAS- [4 B 12.5mm]
 | AsL= .00 ----- x/d = .04 | As = 4.65 -SRAS- [4 B 12.5mm] | AsL=
 .00 ----- x/d = .04
 | x/dMx= .50 | Arm.Lat.= [2 X 10 B 6.3mm] - LN= 6.3 |
 x/dMx= .50
 [tf,cm] | M[-]Min = 1739.0 | M[+]Min = 1739.0 | M[-]
]Min = 1739.0
 [cm2] | Asapo[+]= 4.42 |
 Asapo[+]= 1.55

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 210. 8.42 152.23 2 45. .0 2.3 2.3 6.3 25.0 2 4.2 1.2

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 210. .38 8.94 5 8.1 8.1 143.1 .4 .0 .0 .0 .10 N

----- G E O M E T R I A E C A R G A S -----

Vao= 4B /L= 1.23 /B= .20 /H= 1.55 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00
 FSp.Ex= .78 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO | M[-]= 19.22 tf* m | As = 4.65 -SRAS- [4 B 12.5mm]
 BAL.DIR | x/d = .04 | AsL= .00 -Arm.Lat.= [2 X 10 B 6.3mm]
 .8
 [tf,cm] | M[-]Min= 1739.0 - x/dMx =1.00 | %
 Baric.Armad.= 0

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	88.	7.89	152.23	2	45.	.0	2.3	2.3	6.3	25.0	2	.0	.9
T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	88.	.50	8.94	5	8.1	8.1	143.1	.5	1.9	.1	1.3	.11	N
REAC. APOIO - Pilares:	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn					
	1	12.339	12.108	.70	.00	2	VFFC25_	.00	.00	0	0			
	2	11.124	10.832	.70	.00	2	VFFC29_	.00	.00	0	0			
	3	10.712	10.279	.70	.00	2	VFFC33_	.00	.00	0	0			

Viga= 158 PARL2 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.10 /B= .20 /H= 1.55 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00
FSp.Ex= .78 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = .0 tf* m | M.[+] Max= 2.8 tf* m - Abcis.= 87 | M.[-]
= 1.6 tf* m | As = .00 -SRAS- [0 B 6.3mm] | AsL= .00 ----- | As =
4.65 -SRAS- [4 B 12.5mm] | AsL= .00 ----- x/d = .00 | As = 4.65 -SRAS- [4 B 12.5mm] | AsL=
.00 ----- x/d = .04 | Grampos Esq.= 3B 8.0mm x/dMx= .50 | Arm.Lat.= [2 X 10 B 6.3mm] - LN= 6.3 |
x/dMx= .50 | M[-]Min = 1739.0 | M[+]Min = 1739.0 | M[-]
[tf,cm] | M[-]Min = 1739.0 | M[+]Min = 1739.0 | M[-]
[cm2] | Asapo[+]= 4.65 | Asapo[+]= 4.65 |

CISALHAMENTO- M E N S A G E M [tf,cm]	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
	0.-	165.	9.80	152.23	2	45.	.0	2.3	2.3	6.3	25.0	2	.0	.0
T O R C A O- M E N S A G E M [tf,cm]	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
	0.-	165.	.03	8.94	5	8.1	8.1	143.1	.0	.0	.0	.0	.07	N
REAC. APOIO - Pilares:	No.	Maximos	Minimos	Largura	DEPEV	Morte	Nome	M.I.Mx	M.I.Mn					
	1	5.124	4.946	.20	.00	2	PARL1_	.00	.00	0	0			
	2	6.999	6.821	.70	.00	2	VCC1	.00	.00	0	0			

Viga= 159 PARL3 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.10 /B= .20 /H= 1.60 /BCs= .00 /BCi= .20 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .80 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = .0 tf* m | M.[+] Max= 3.4 tf* m - Abcis.= 105 | M.[-]
= .5 tf* m | As = .00 -STAS- [0 B 6.3mm] | AsL= .00 ----- | As =
4.80 -STAS- [4 B 12.5mm] | AsL= .00 ----- x/d = .00 | As = 4.80 -SRAS- [4 B 12.5mm] | AsL=
.00 ----- x/d = .04 | Grampos Esq.= 4B 8.0mm x/dMx= .50 | Arm.Lat.= [2 X 11 B 6.3mm] - LN= 6.5 |
x/dMx= .50 |

[tf,cm] | M[-]Min = 1853.0 | M[+]Min = 1853.0 | M[-]
]Min = 1853.0
[cm2] | Asapo[+]= 4.80 |
Asapo[+]= 4.80

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 165. 9.59 157.33 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 165. .01 9.25 5 8.1 8.1 148.1 .0 .0 .0 .0 .06 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 5.896 5.806 .20 .00 2 PARL1_ .00 .00 0 0
0 0 0 0
2 6.848 6.758 .70 .00 2 VCC1 .00 .00 0 0
0 0 0 0

Viga= 160 PARL4 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.10 /B= .20 /H= 1.60 /BCs= .00 /BCi= .20 /TpS= 3 /Esp.LS= .00 /Esp.LI= .25
FSp.Ex= .80 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = .0 tf* m | M.[+] Max= 3.5 tf* m - Abcis.= 105 | M.[-]
= 1.0 tf* m
[tf,cm] | As = .00 -STAS- [0 B 6.3mm] | AsL= .00 ----- | As =
4.80 -STAS- [4 B 12.5mm] | AsL= .00 ----- x/d = .00 | As = 4.80 -SRAS- [4 B 12.5mm] | AsL=
.00 ----- x/d = .04 | Arm.Lat.= [2 X 11 B 6.3mm] - LN= 6.5 |
x/dMx= .50 | Grampos Esq.= 4B 8.0mm x/dMx= .50 |
[tf,cm] | M[-]Min = 1853.0 | M[+]Min = 1853.0 | M[-]
]Min = 1853.0
[cm2] | Asapo[+]= 4.80 |
Asapo[+]= 4.80

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 165. 10.00 157.33 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 165. .02 9.25 5 8.1 8.1 148.1 .0 .0 .0 .0 .07 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 6.075 5.673 .20 .00 2 PARL1_ .00 .00 0 0
0 0 0 0
2 7.145 6.743 .70 .00 2 VCC1 .00 .00 0 0
0 0 0 0

Viga= 161 PARL5 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
/Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.10 /B= .20 /H= 1.55 /BCs= .00 /BCi= .00 /TpS= 1 /Esp.LS= .00 /Esp.LI= .00
FSp.Ex= .78 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A
| M.[-] = 3.3 tf* m | M.[+] Max= .4 tf* m - Abcis.= 122 | M.[-]
= 1.3 tf* m
[tf,cm] | As = 4.65 -SRAS- [4 B 12.5mm] | AsL= .00 ----- | As =
4.65 -SRAS- [4 B 12.5mm] | AsL= .00 ----- x/d = .04 | As = 4.65 -SRAS- [4 B 12.5mm] | AsL=
.00 ----- x/d = .04

x/dMx= .50 | Arm.Lat.=[2 X 10 B 6.3mm] - LN= 6.3 |
 [tf,cm] | M[-]Min = 1739.0 | M[+]Min = 1739.0 | M[-]
]Min = 1739.0
 [cm2] | Asapo[+]= 1.55 |
 Asapo[+]= 1.55

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 165. 7.94 152.23 2 45. .0 2.3 2.3 6.3 25.0 2 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 165. .04 8.94 5 8.1 8.1 143.1 .0 .0 .0 .0 .06 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
 Pilares:
 1 5.663 5.386 .20 .00 2 PARL1_ .00 .00 0 0
 0 0 0 0
 2 3.837 3.560 .70 .00 2 VCC1 .00 .00 0 0
 0 0 0 0

Viga= 162 VFC6 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

 Vao= 1 /L= 2.73 /B= .70 /H= .80 /BCs= 1.25 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .40 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = .5 tf* m | M.[+] Max= 4.7 tf* m - Abcis.= 91 | M.[-]
 = 17.3 tf* m | As = 8.74 -SRAS- [7 B 12.5mm] | AsL= .00 ----- | As =
 [tf,cm] | AsL= .00 ----- x/d = .05 | As = 10.45 -STAS- [6 B 16.0mm] | AsL=
 10.31 -SRAS- [5 B 16.0mm] | AsL= .00 ----- x/d = .06
 .00 ----- x/d = .06
 x/dMx= .50 | Arm.Lat.=[2 X 5 B 12.5mm] - LN= 2.0 |
 [tf,cm] | M[-]Min = 1764.9 | M[+]Min = 1859.9 | M[-]
]Min = 2309.8
 [cm2] | Asapo[+]= 10.45 |
 Asapo[+]= 2.61

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
 M E N S A G E M
 [tf,cm] 0.- 225. 30.84 265.52 2 45. .0 8.1 8.1 6.3 15.0 4 .0 .0
 T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
 M E N S A G E M
 [tf,cm] 0.- 225. .14 55.41 5 18.7 51.3 61.3 .0 .0 .0 .0 .12 N

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
 Pilares:
 1 10.395 9.752 .70 .11 1 BC33 .00 .00 8258 0
 0 0 0 0
 2 22.030 21.387 2.20 .86 0 BC34 .00 .00 8171 0
 0 0 0 0

Viga= 163 VFFC44 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

----- G E O M E T R I A E C A R G A S -----

 Vao= 1 /L= 1.50 /B= .20 /H= .50 /BCs= .50 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .25 /FLt.Ex= .10 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
 E I T A | M.[-] = 3.0 tf* m | M.[+] Max= .0 tf* m - Abcis.= 150 | M.[-]
 = 3.8 tf* m

```

[tf,cm] | As = 2.64 -SRAS- [ 4 B 10.0mm ] | AsL= .00 ----- | As =
2.94 -SRAS- [ 4 B 10.0mm ] | AsL= .00 ----- x/d = .09 | As = 2.63 -STAS- [ 4 B 10.0mm ] | AsL=
.00 ----- x/d = .10 x/dMx= .50 | |
| |
x/dMx= .50 | |
| |
[tf,cm] | M[-]Min = 347.5 | M[+]Min = 224.9 | M[-]
]Min = 347.5 |
[cm2 ] | Asapo[+]= .66 |
Asapo[+]= .66 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 120. 7.46 45.31 2 45. .0 2.3 2.3 5.0 17.0 2 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 120. .08 2.09 5 7.1 8.1 38.1 .3 .0 .0 .0 .20 N

```

```

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
1 4.225 4.130 .70 .20 0 BC74 .00 .00 8183 0
0 0 0 0
2 5.328 5.232 .70 .20 0 BC71 .00 .00 8184 0
0 0 0 0
=====
=====

```

Viga= 601 VFFA1 Eng.E=Nao /Eng.D=Nao /Repet= 1 /NAnd= 1 /Red V Ext=Nao
 /Fat.Alt=1.00 /Cob/S=4.5 .0 CM

```

----- G E O M E T R I A E C A R G A S -----
Vao= 1 /L= 2.25 /B= .70 /H= .25 /BCs= 1.04 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 5.0 tf* m | M.[+] Max= 2.6 tf* m - Abcis.= 105 | M.[-]
= 5.3 tf* m |
[tf,cm] | As = 9.14 -SRAS- [ 8 B 12.5mm ] | AsL= .00 ----- | As =
9.67 -SRAS- [ 8 B 12.5mm ] | AsL= .00 ----- x/d = .20 | As = 4.39 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .21 x/dMx= .50 | |
| |
x/dMx= .50 | |
| |
[tf,cm] | M[-]Min = 215.4 | M[+]Min = 234.7 | M[-]
]Min = 234.7 |
[cm2 ] | Asapo[+]= 1.10 |
Asapo[+]= 2.49 |

```

```

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 210. 19.30 69.50 2 45. 11.7 8.1 11.7 6.3 10.0 4 .0 .0

```

```

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswminNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 210. .03 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .28 N

```

```

----- G E O M E T R I A E C A R G A S -----
Vao= 2 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

```

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

```

- - - - - A R M A D U R A S ( F L E X A O E C I S A L H A M E N T O )
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 5.3 tf* m | M.[+] Max= 2.6 tf* m - Abcis.= 140 | M.[-]
= 5.3 tf* m |
[tf,cm] | As = 9.71 -SRAS- [ 8 B 12.5mm ] | AsL= .00 ----- | As =
9.61 -SRAS- [ 8 B 12.5mm ] | AsL= .00 ----- x/d = .21 | As = 4.39 -STAS- [ 6 B 10.0mm ] | AsL=
.00 ----- x/d = .21 x/dMx= .50 | |
| |
x/dMx= .50 | |
| |
[tf,cm] | M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4 |

```

[cm2]| Asapo[+]= 2.49
 Asapo[+]= 2.49

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	210.	19.23	69.50	2	45.	11.6	8.1	11.6	6.3	10.0	4	.0	.0

T O R C A O- M E N S A G E M	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
[tf,cm]	0.-	210.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.28	N

----- G E O M E T R I A E C A R G A S -----

Vao= 3 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 5.3 tf* m | M.[+] Max= 2.7 tf* m - Abcis.= 140 | M.[-]
 = 5.1 tf* m
 [tf,cm]| As = 9.77 -SRAS- [8 B 12.5mm] | AsL= .00 ----- | As =
 9.20 -SRAS- [8 B 12.5mm] x/d = .22 | As = 4.54 -STAS- [6 B 10.0mm] | AsL=
 .00 ----- x/d = .20 x/dMx= .50 |
 x/dMx= .50
 [tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
 [cm2]| Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	210.	19.36	69.50	2	45.	11.9	8.1	11.9	6.3	10.0	4	.0	.0

T O R C A O- M E N S A G E M	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
[tf,cm]	0.-	210.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.28	N

----- G E O M E T R I A E C A R G A S -----

Vao= 4 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
 FLEXAO-| E S Q U E R D A | M E I O D O V A O | D I R
 E I T A
 = | M.[-] = 5.0 tf* m | M.[+] Max= 2.4 tf* m - Abcis.= 140 | M.[-]
 = 5.9 tf* m
 [tf,cm]| As = 9.13 -SRAS- [8 B 12.5mm] | AsL= .00 ----- | As =
 11.11 -SRAS- [6 B 16.0mm] x/d = .20 | As = 4.06 -STAS- [6 B 10.0mm] | AsL=
 .00 ----- x/d = .25 x/dMx= .50 |
 x/dMx= .50
 [tf,cm]| M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4
 [cm2]| Asapo[+]= 2.49 |
 Asapo[+]= 2.49

CISALHAMENTO- M E N S A G E M	Xi	Xf	Vsd	VRd2	MdC	Ang.	Asw[C]	Aswmin	Asw[C+T]	Bit	Esp	NR	AsTrt	AsSus
[tf,cm]	0.-	105.	18.63	69.50	2	45.	10.7	8.1	10.7	6.3	10.0	4	.0	.0
	105.-	210.	19.77	69.50	2	45.	12.5	8.1	12.5	8.0	10.0	4	.0	.0

T O R C A O- M E N S A G E M	Xi	Xf	Tsd	TRd2	%dT	he	b-nuc	h-nuc	Asw-1R	AswminNR	Asl-b	Asl-h	ComDia	AdPla
[tf,cm]	0.-	105.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.27	N
	105.-	210.	.01	6.63	5	9.2	58.1	13.1	.0	.0	.0	.0	.29	N

----- G E O M E T R I A E C A R G A S -----

Vao= 5 /L= 2.25 /B= .70 /H= .25 /BCs= .97 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
 FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO- | E S Q U E R D A | M E I O D O V A O | D I R
E I T A | M.[-] = 6.4 tf* m | M.[+] Max= 3.5 tf* m - Abcis.= 147 | M.[-]
= 2.3 tf* m | As = 12.07 -SRAS- [6 B 16.0mm] | AsL= .00 ----- | As =
[tf,cm] | As = 12.07 -SRAS- [6 B 10.0mm] | AsL= .00 ----- | AsL=
4.42 -SRAS- [6 B 10.0mm] | AsL= .00 ----- x/d = .27 | As = 6.09 -STAS- [5 B 12.5mm] | AsL=
.00 ----- x/d = .10 | x/dMx= .50 |
x/dMx= .50 |
[tf,cm] | M[-]Min = 219.4 | M[+]Min = 219.4 | M[-]
]Min = 219.4 |
[cm2] | Asapo[+]= 2.49 |
Asapo[+]= 1.52 |

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 105. 21.68 69.50 2 45. 15.5 8.1 15.5 8.0 10.0 4 .0 .0
105.- 210. 16.43 69.50 2 45. 7.2 8.1 8.1 6.3 10.0 4 .0 .0

T O R C A O- Xi Xf Tsd TRd2 %dT he b-nuc h-nuc Asw-1R AswmnNR Asl-b Asl-h ComDia AdPla
M E N S A G E M
[tf,cm] 0.- 105. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .31 N
105.- 210. .01 6.63 5 9.2 58.1 13.1 .0 .0 .0 .0 .24 N

----- G E O M E T R I A E C A R G A S -----
Vao= 6B /L= 1.08 /B= .70 /H= .25 /BCs= 1.13 /BCi= .00 /TpS= 2 /Esp.LS= .25 /Esp.LI= .00
FSp.Ex= .13 /FLt.Ex= .35 [M]

-----Solicitacoes provenientes de modelo de grelha e/ou portico espacial -----

- - - - - A R M A D U R A S (F L E X A O E C I S A L H A M E N T O)
FLEXAO | M[-]= 1.75 tf* m | As = 4.42 -SRAS- [6 B 10.0mm]
BAL.DIR | x/d = .10 | AsL= .00 -
.7
[tf,cm] | M[-]Min= 256.0 - x/dMx =1.00 | %
Baric.Armad.= 1

CISALHAMENTO- Xi Xf Vsd VRd2 MdC Ang. Asw[C] Aswmin Asw[C+T] Bit Esp NR AsTrt AsSus
M E N S A G E M
[tf,cm] 0.- 46. 5.73 69.50 2 45. .0 8.1 8.1 6.3 10.0 4 .0 .0

REAC. APOIO - No. Maximos Minimos Largura DEPEV Morte Nome M.I.Mx M.I.Mn
Pilares:
0 0 1 13.411 13.411 .70 .28 1 BA9 .00 .00 8097 0
0 0 2 27.114 27.113 .70 .28 1 BA10 .00 .00 8098 0
0 0 3 27.117 27.116 .70 .28 1 BA11 .00 .00 8099 0
0 0 4 26.490 26.490 .70 .28 1 BA12 .00 .00 8100 0
0 0 5 29.167 29.167 .70 .28 1 BA13 .00 .00 8101 0
0 0 6 15.829 15.829 .70 .28 1 BA14 .00 .00 8102 0
0 0 0 0

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