

Hydro

# UNIVERSAL

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PORTÃO E GRADE





## Hydro – A empresa de energia e alumínio

A Hydro é uma líder industrial que constrói negócios e parcerias para um futuro mais sustentável. Desenvolvemos indústrias que fazem a diferença para as pessoas e para a sociedade. Desde 1905, a Hydro transforma recursos naturais em produtos e negócios relevantes para as pessoas, criando um local de trabalho seguro e protegido para nossos 31.000 empregados\*, em mais de 140 unidades, em 40 países.

Hoje, possuímos e operamos vários negócios, além de investirmos em indústrias sustentáveis.

A Hydro, por meio de seus negócios, está presente em uma ampla gama de segmentos do mercado de alumínio, energia, reciclagem de metais, energias renováveis e baterias, oferecendo conhecimentos e competências únicas.

A Hydro está comprometida em liderar o setor na criação de um futuro mais sustentável, criando sociedades mais viáveis ao desenvolver recursos naturais em produtos e soluções de maneiras inovadoras e eficientes.

## Hydro Bauxita & Alumina

A Hydro Bauxita & Alumina inclui uma das maiores minas de bauxita do mundo e a maior refinaria de alumina fora da China, ambas no Brasil, representando dois elos importantes na cadeia de produção do nosso alumínio. Nossos mais de 4.000 empregados\* trabalham nos escritórios do Brasil, na mina de Paragominas e na refinaria de alumina em Barcarena, no norte do país. Além disso, comercializamos alumina para clientes externos.



## Hydro Energia

A Hydro Energia tem mais de 100 anos de experiência em energia hidrelétrica, sendo uma das três maiores operadoras de produção de energia na Noruega e empregando 200 pessoas\*. Além disso, estamos envolvidos com energia eólica na Noruega e temos uma participação importante no mercado de energia na região nórdica e no Brasil.



# Hydro Extrusão

A Hydro Extrusão é uma empresa líder mundial em extrusão de alumínio, com cerca de 100 unidades de produção, em 40 países, e empregando 20.000 pessoas. Por meio de uma combinação exclusiva de

experiência local, rede global e recursos de P&D incomparáveis, podemos oferecer desde perfis padronizados até desenvolvimento e fabricação avançados para a maioria das indústrias.



# Portfólio Hydro

Para todos os tipos e padrões de obras.

Sistemas  
Comerciais

ECO <sup>2</sup>  
FAÇADE

 CITTÀ

 UNIT

 ELEGANCE  
MIRROR

 WIND  
FAÇADE

Sistemas  
Residenciais

 UNICA

 UNICA  
MINIMALIST

 INOVA

 PRODUTIVA25

 GOLD Slim

 NOVA  
GOLD

 MASTER

Complementos  
de Arquitetura

 ESPLENDOR

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VARANDA E GRADIL

 SKYLINE

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PORTÃO E GRADE

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BRISE



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# Universal Portão – Portões de Alumínio

A Universal Portão concilia segurança com tecnologia e versatilidade. Com design moderno, possui portões de correr, de giro e basculantes, com montagem a 45º ou 90º, além de grades de alumínio. Os perfis vêm preparados para receber anodização ou pintura eletrostática a pó, ganhando maior vida útil e diferenciais estéticos.

O sistema também oferece o Portão Fit, mais leve e competitivo. Essa tipologia entrega rapidez na fabricação e simplicidade na montagem em função do número reduzido de perfis, permite poucas usinagens, não requer utilização de estampos e pode integrar a porta social ao portão.



<b>Tipologias</b>	<b>B-01   B-05</b>
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<b>Diagramas</b>	<b>C-01   C-03</b>
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<b>Perfis</b>	<b>D-01   D-16</b>
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<b>Componentes</b>	<b>E-01   E-03</b>
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<b>Usinagens</b>	<b>F-01   F-05</b>
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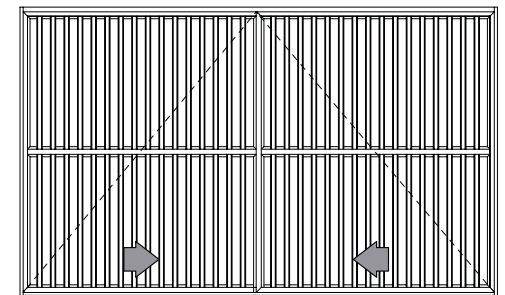
<b>Detalhes Construtivos</b>	<b>G-01   G-05</b>
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<b>Projetos de Montagem</b>	<b>H-01   H-21</b>
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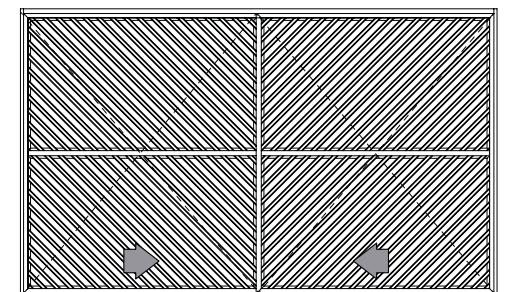


## Portões de Correr Universal e FIT

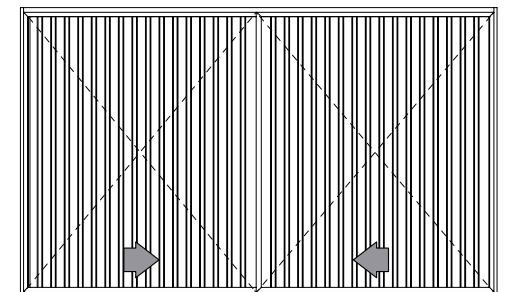
**Portão com barrotes verticais  
2 folhas de correr**



**Portão com barrotes inclinados  
2 folhas de correr**



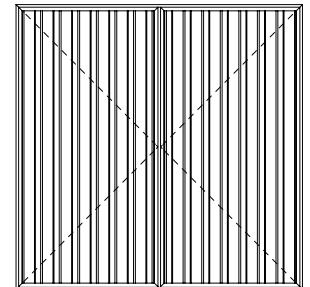
**Portão com lambris verticais  
2 folhas de correr**



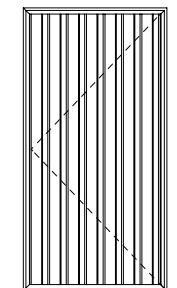
**Nota:** Estas tipologias poderão ser fabricadas com portão social

## Portões de Giro Universal

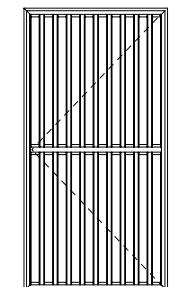
**Portão com lambris verticais  
2 folhas de giro**



**Portão com lambris verticais  
1 folha de giro**

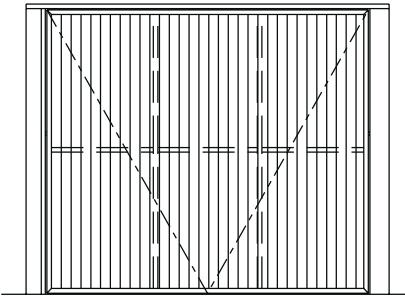


**Portão com barrotes verticais  
1 folha de giro**

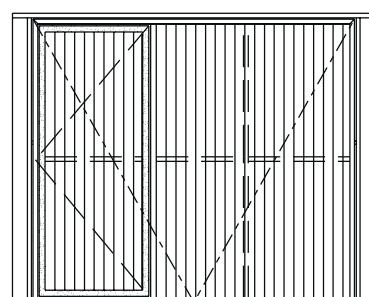


## Portão Basculante

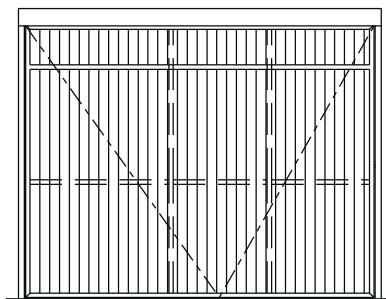
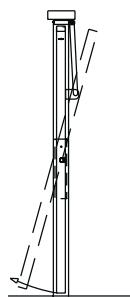
Basculante - Folha normal



Basculante - Folha com porta social

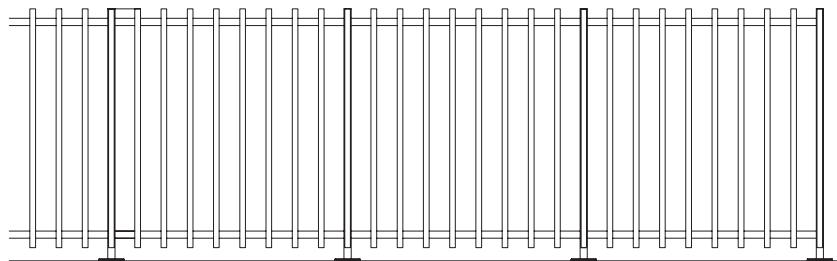


Basculante - Folha com bandeira

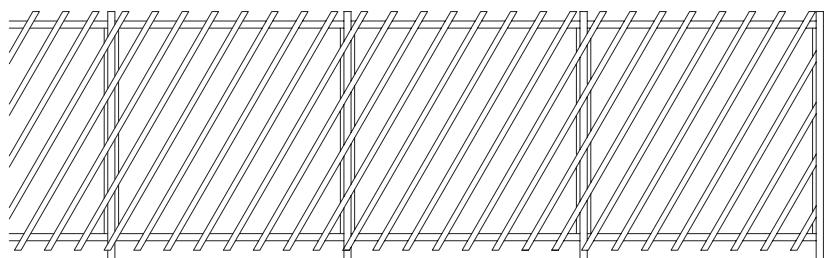


## Grade Universal

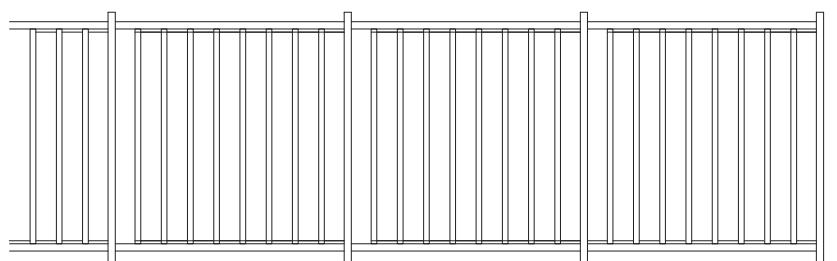
### Grade com barrotes verticais



### Grade com barrotes inclinados

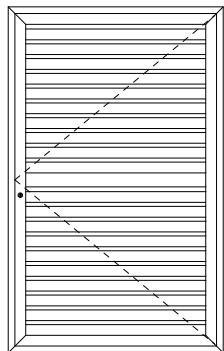


### Grade com barrotes verticais entre travessas

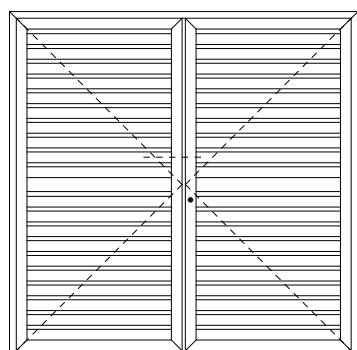


## Portinhola

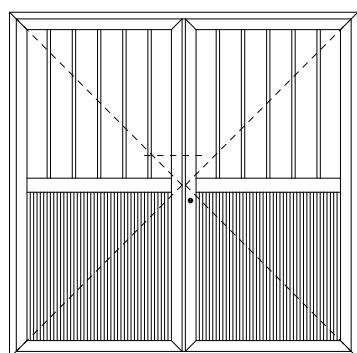
### Portinhola de 1 folha



### Portinhola de 2 folhas

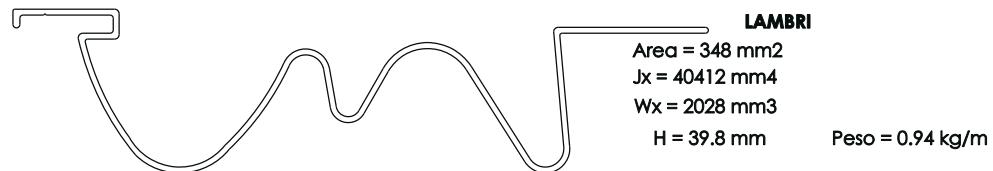
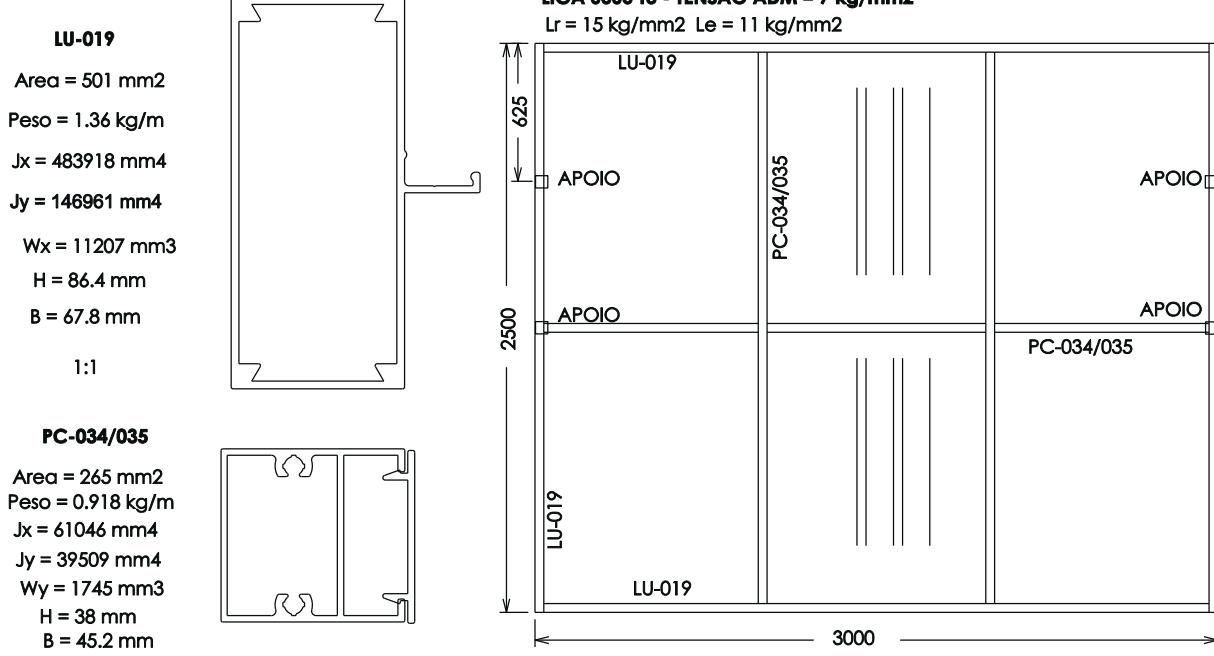


### Portinhola de 2 folhas com lambris

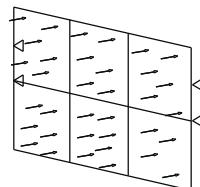




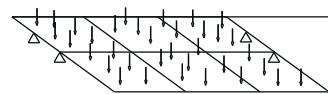
## Portão Basculante 3 Metros



**1) PRESSÃO DE ENSAIO = 50 kg/m<sup>2</sup>**  
**POR TÃO FECHADO**



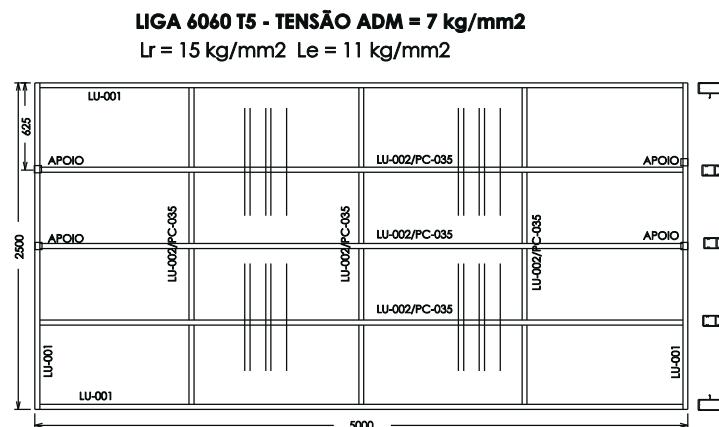
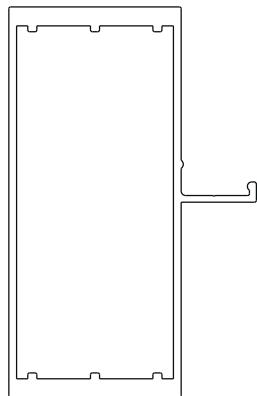
**2) PESO PRÓPRIO = 13 kg/m<sup>2</sup>**  
**POR TÃO ABERTO**



## Portão Basculante 5 Metros

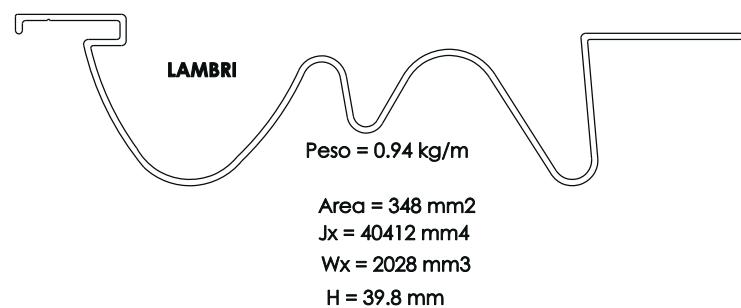
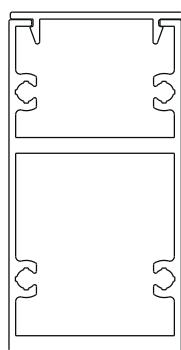
**LU-001**

Area = 629 mm<sup>2</sup>  
 Peso = 1.7 kg/m  
 Jx = 692255 mm<sup>4</sup>  
 Jy = 151629 mm<sup>4</sup>  
 Wx = 16042 mm<sup>3</sup>  
 H = 86.3 mm  
 B = 68.4 mm

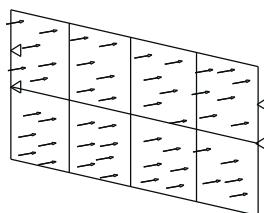


**LU-002/PC-035**

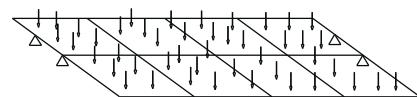
Area = 558 mm<sup>2</sup>  
 Peso = 1.71 kg/m  
 Jx = 291303 mm<sup>4</sup>  
 Jy = 120542 mm<sup>4</sup>  
 Wx = 6994 mm<sup>3</sup>  
 H = 83.3 mm  
 B = 38 mm



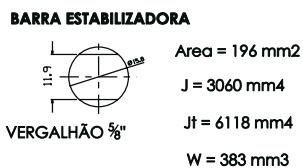
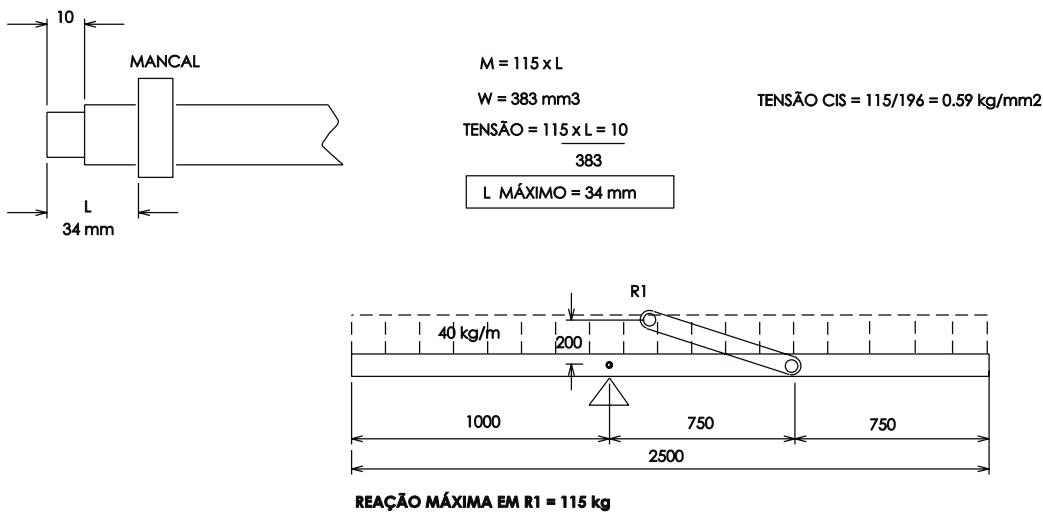
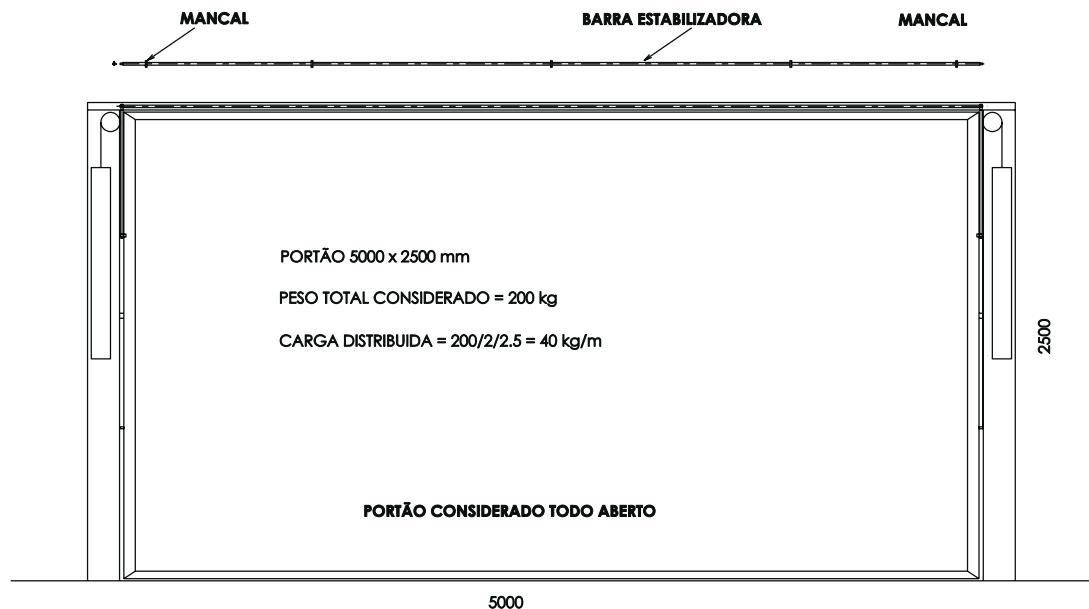
**1) PRESSÃO DE ENSAIO = 50 kg/m<sup>2</sup>  
 PORTÃO FECHADO**



**2) PESO PRÓPRIO = 13 kg/m<sup>2</sup>  
 PORTÃO ABERTO**



## Barra Estabilizadora

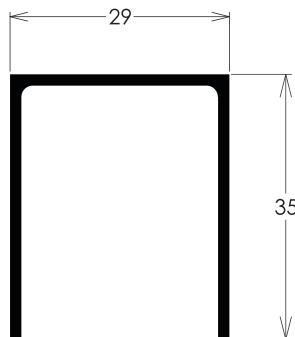
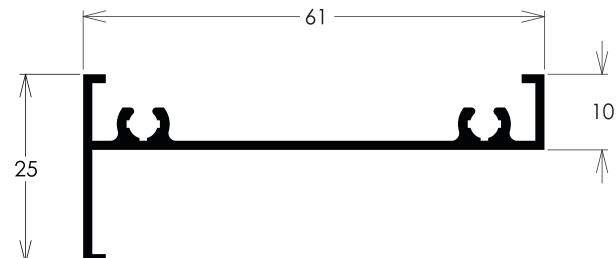
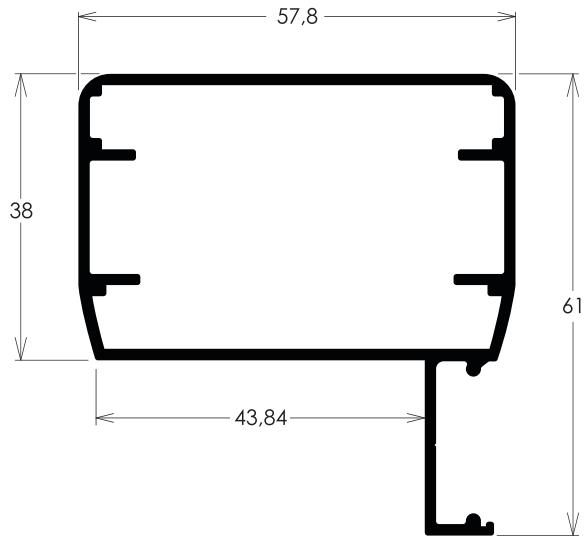
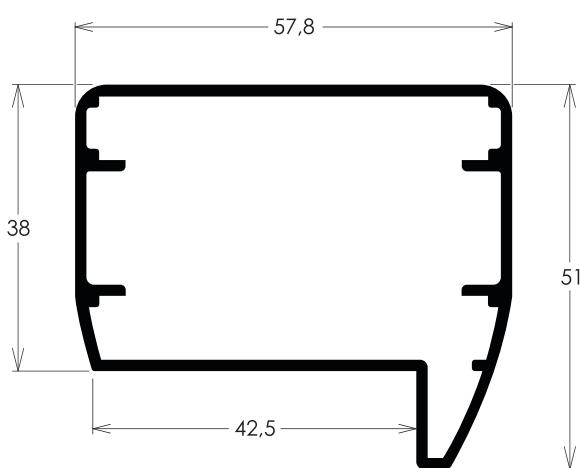
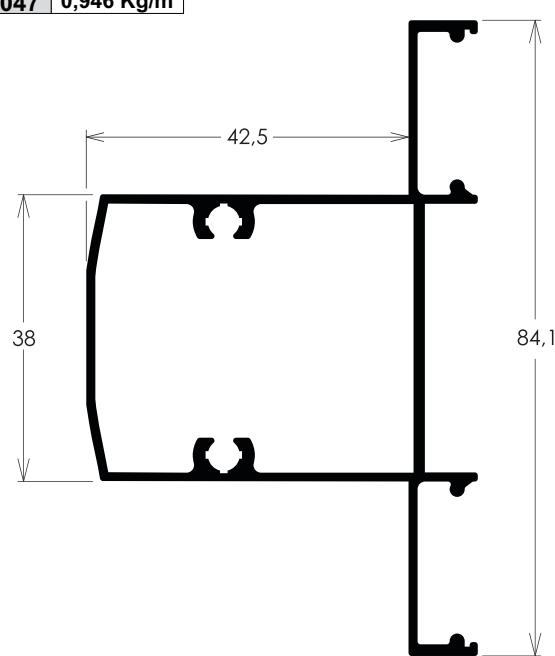
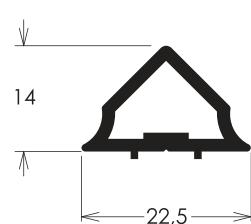
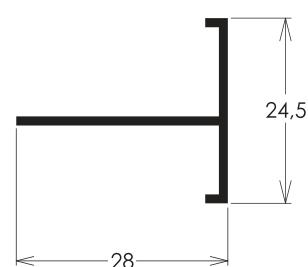
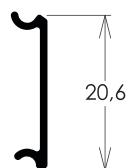


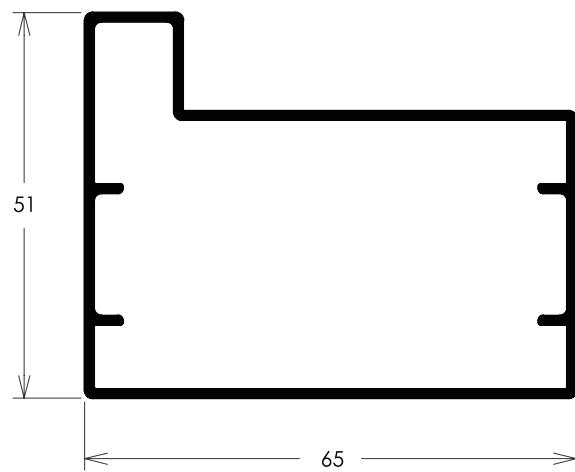
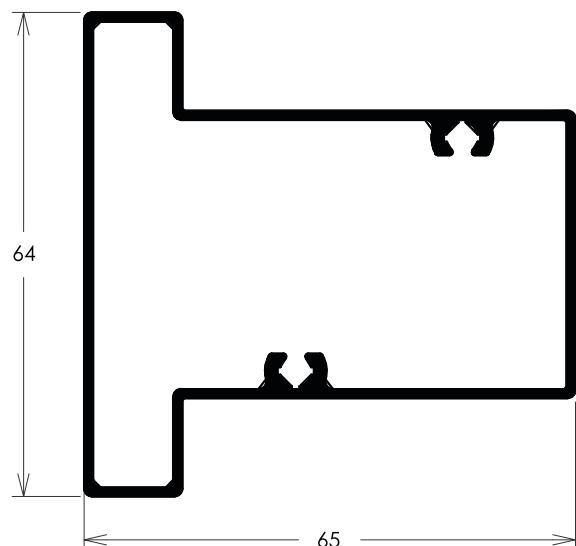
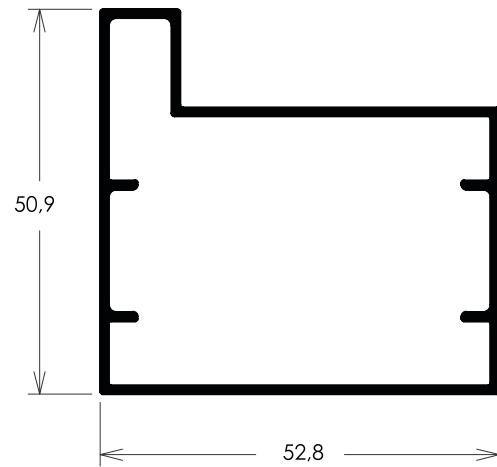
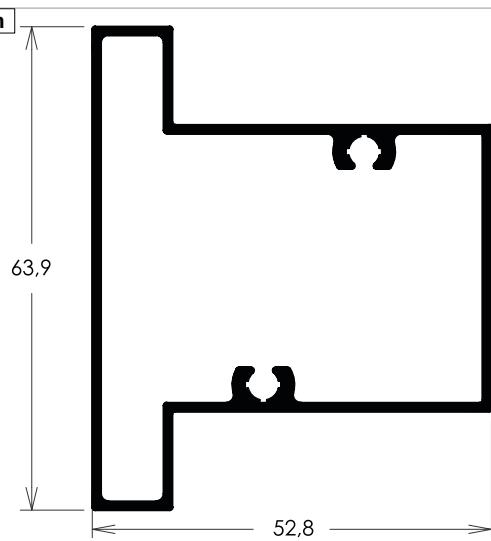
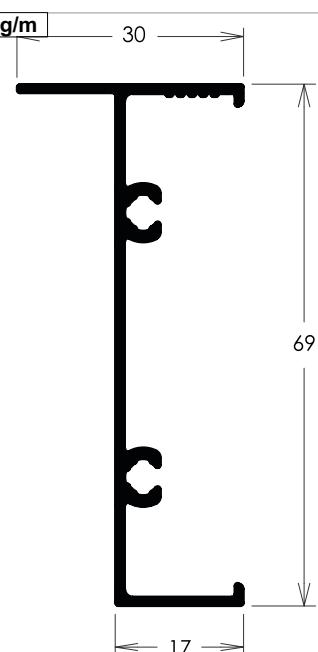
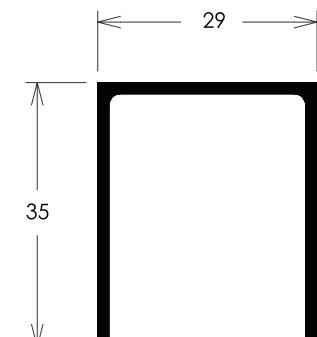
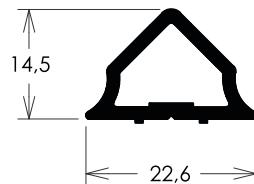
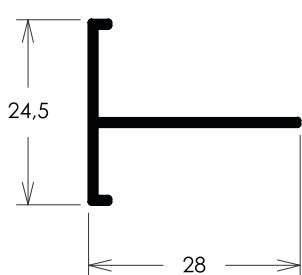
**LIGA 6063 T6**  
 $L_r = 205 \text{ MPa}$   $L_e = 170 \text{ MPa}$   $L_{cis} = 125 \text{ MPa}$   
 TENSÃO ADM = 10 kg/mm<sup>2</sup>

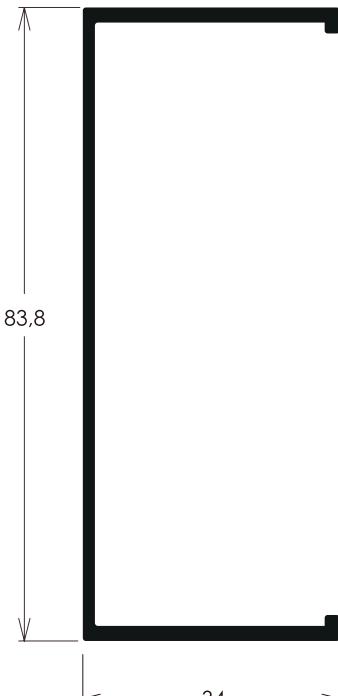
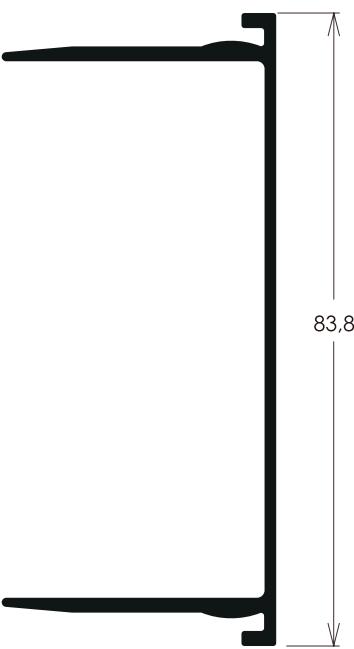
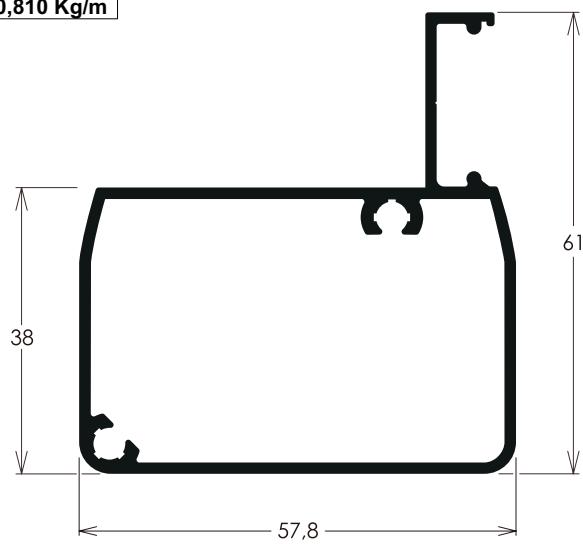
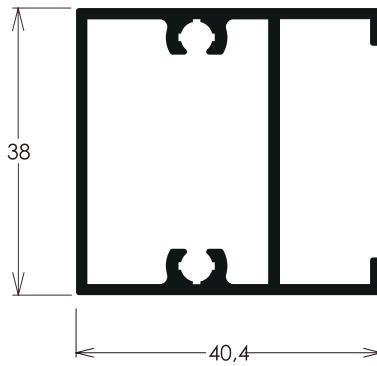
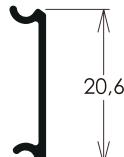
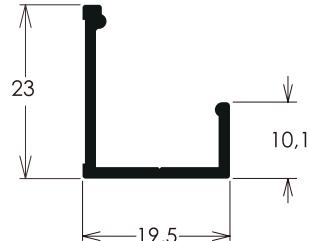


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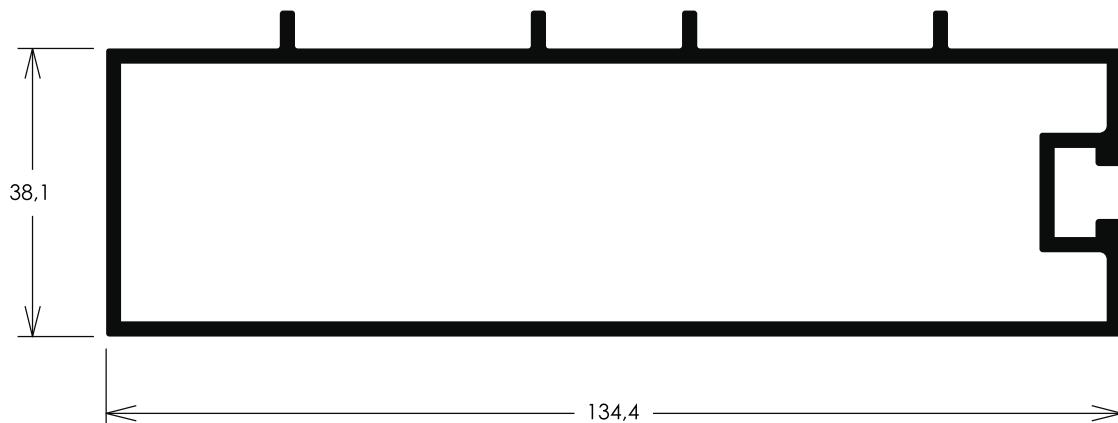
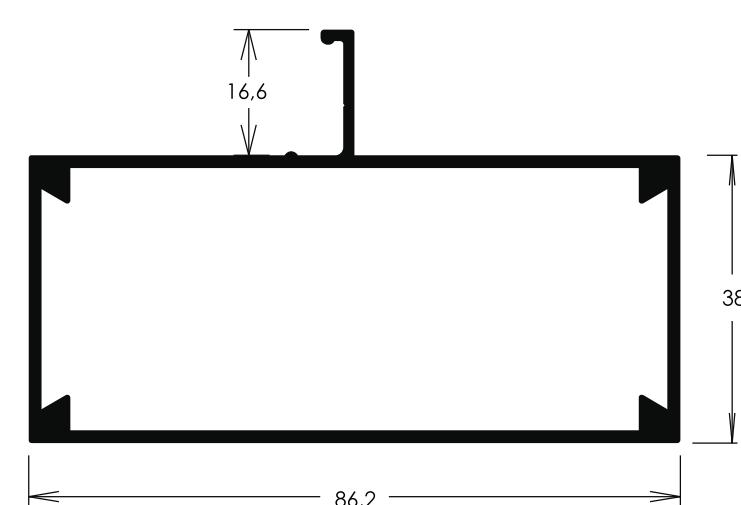
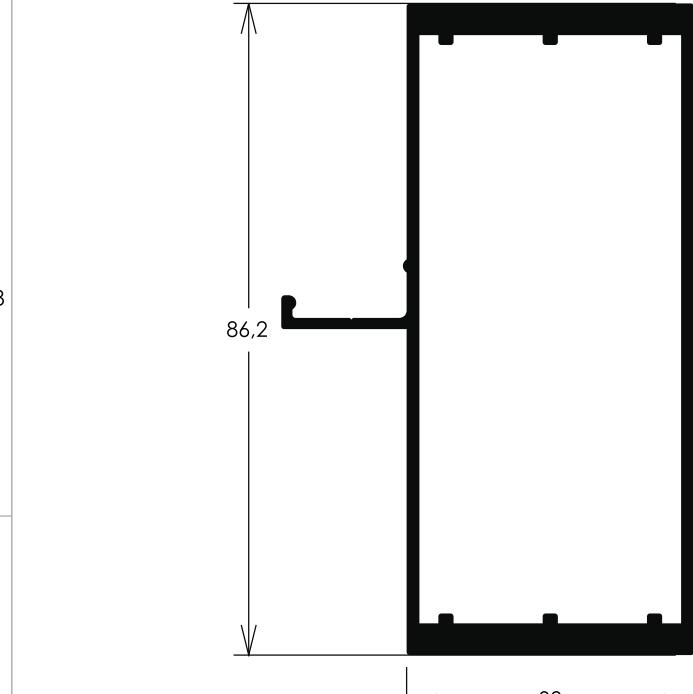
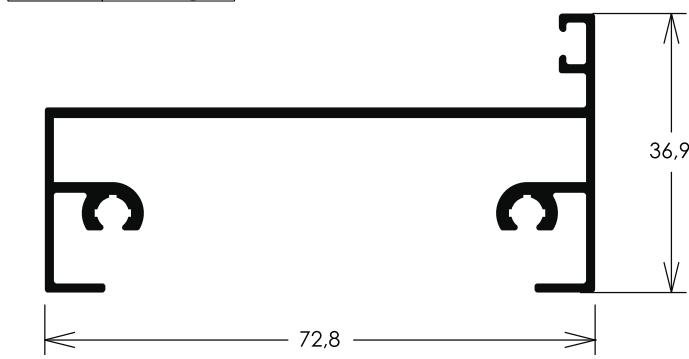
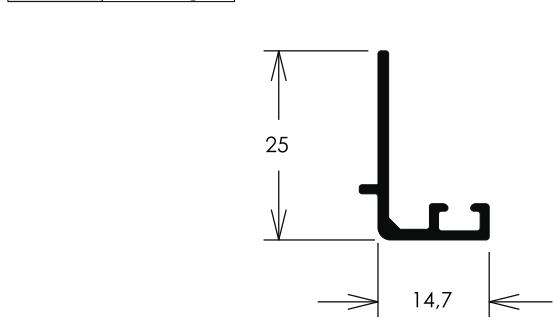
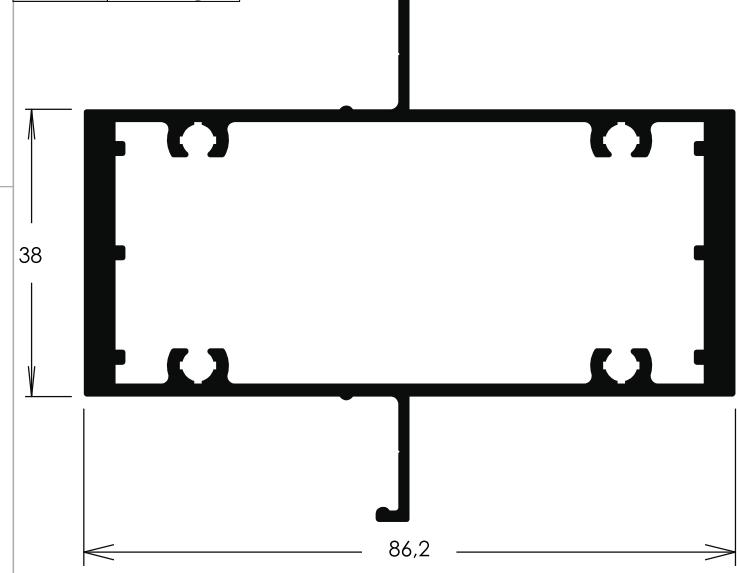
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PU639	D-01 D-02
RM013	D-01 D-02

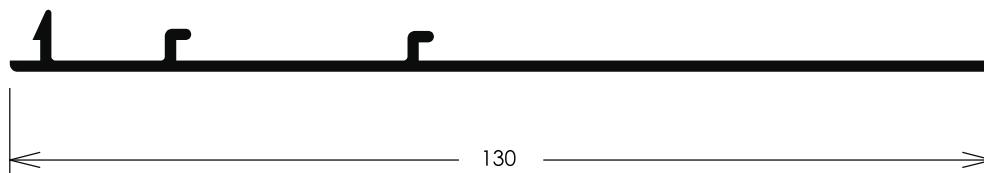
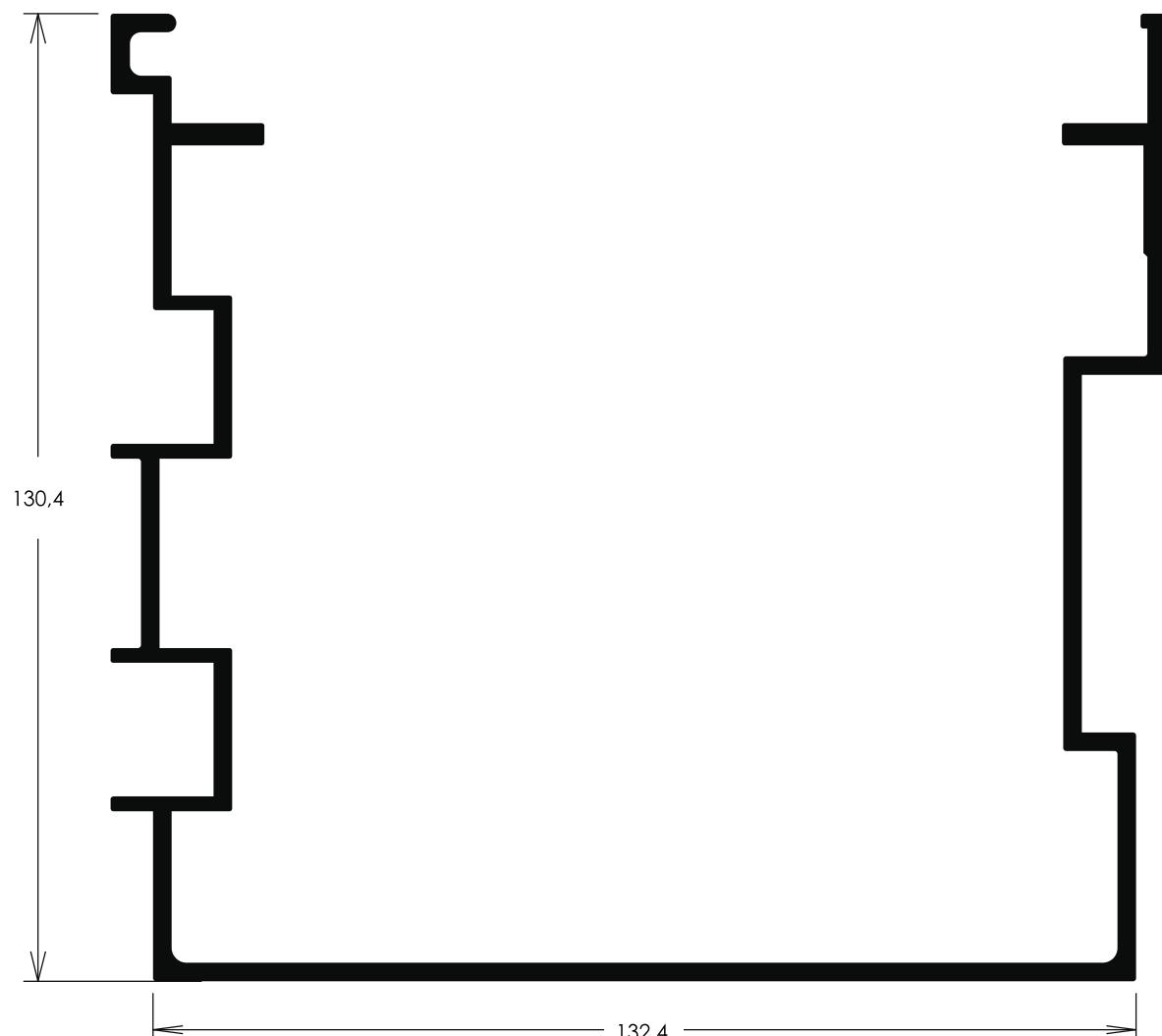
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**Portões Diversos****PC027 | 0,788 Kg/m****PC063 | 0,938 Kg/m****PC064 | 0,684 Kg/m****PC065 | 0,832 Kg/m****IN044 | 0,507 Kg/m****PU639 | 0,392 Kg/m****30044 | 0,242 Kg/m****RM013 | 0,177 Kg/m**

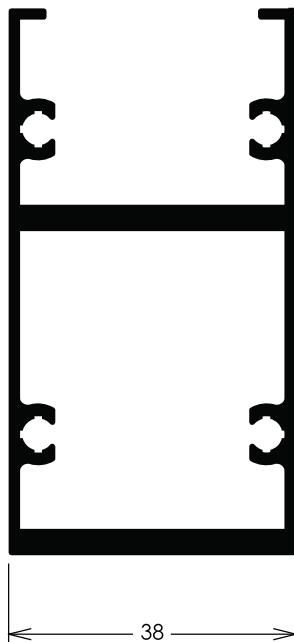
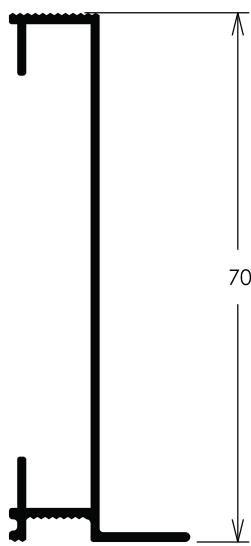
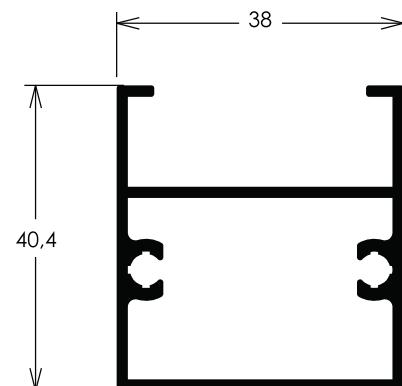
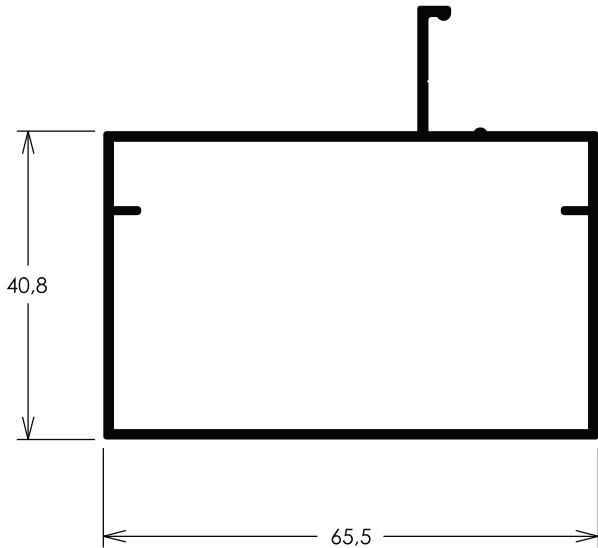
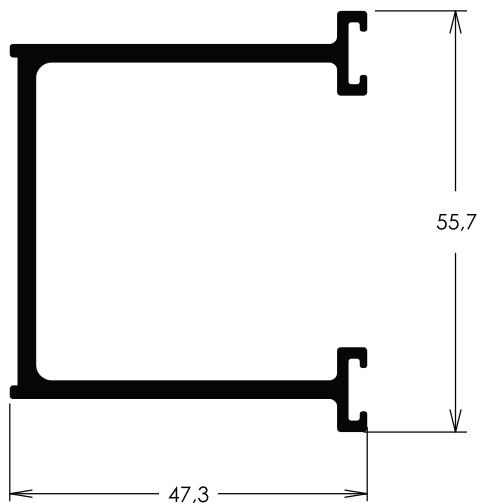
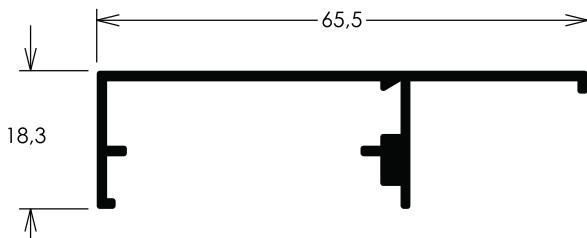
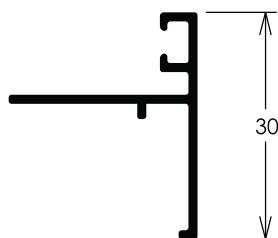
**PC037 | 0,579 Kg/m****PC039 | 0,615 Kg/m****PC045 | 0,810 Kg/m****PC034 | 0,718 Kg/m****PC032 | 0,080 Kg/m****PC035 | 0,199 Kg/m****PC040 | 0,202 Kg/m**

Projetos, perfis, componentes, códigos e sistemas estão sujeitos a alteração sem prévio aviso.

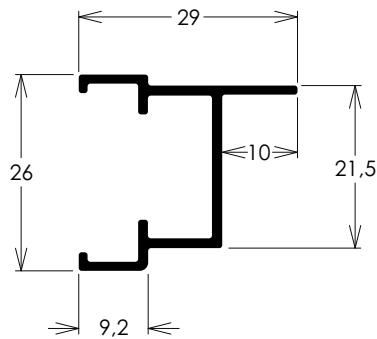
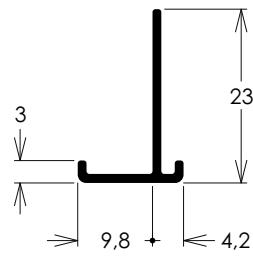
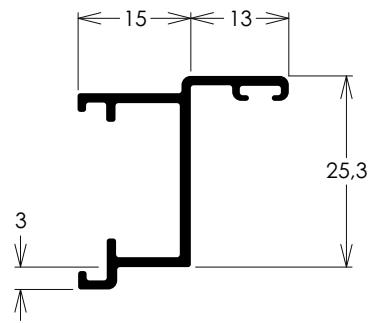
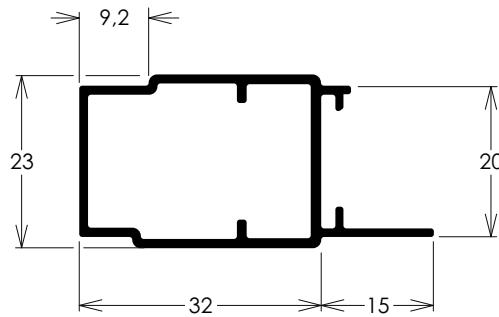
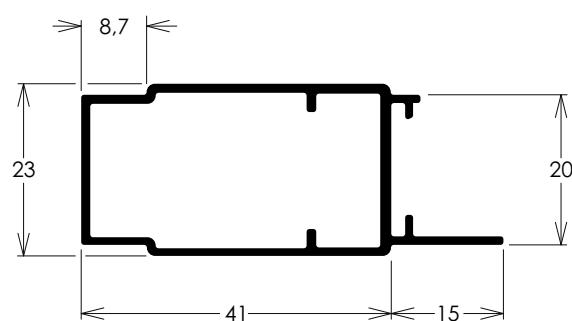
**Portões Basculantes****LU017 | 2,095 Kg/m****LU019 | 1,363 Kg/m****LU001 | 1,712 Kg/m****LU028 | 0,741 Kg/m****LU029 | 0,181 Kg/m****LU020 | 2,028 Kg/m**

**Portões Basculantes****CM175 | 0,602 Kg/m****LU012 | 1,293 Kg/m****LU011 | 3,406 Kg/m**

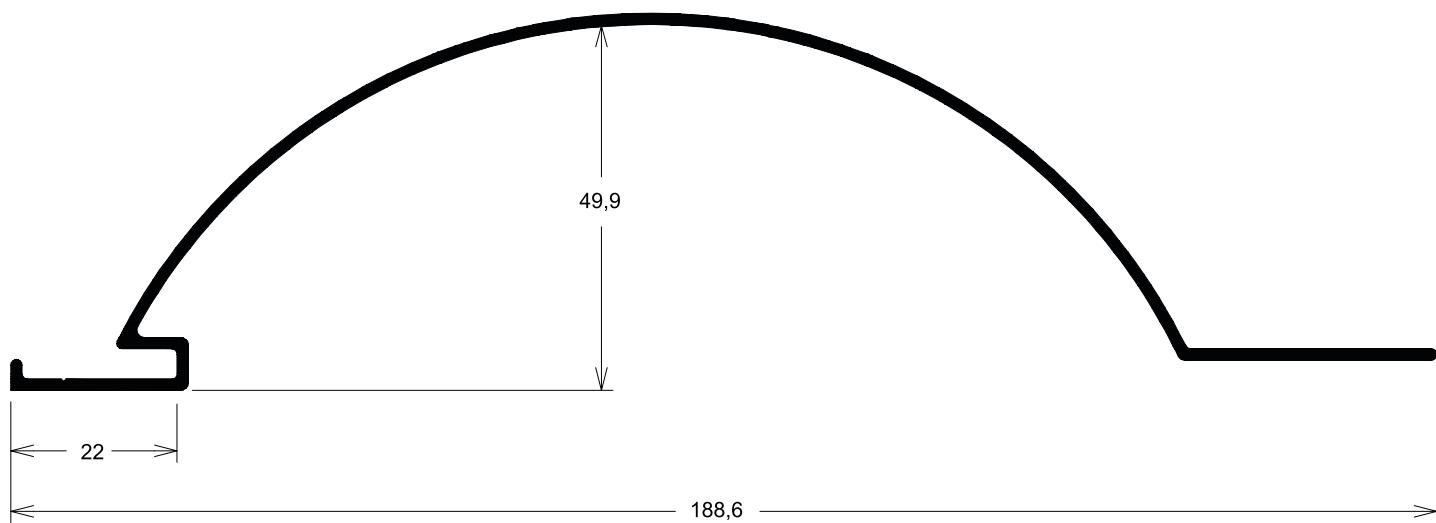
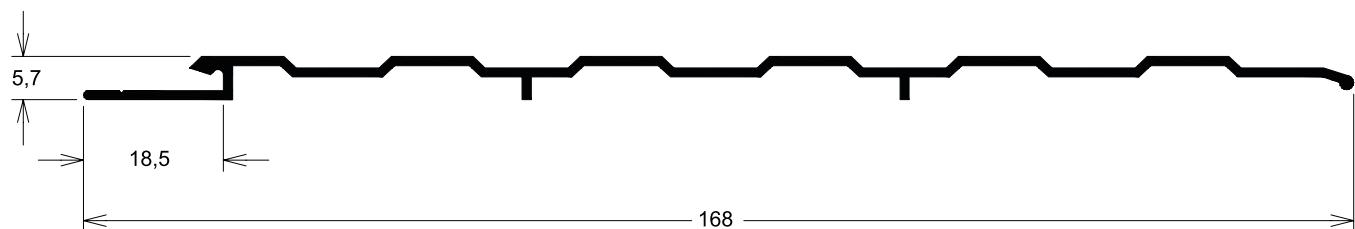
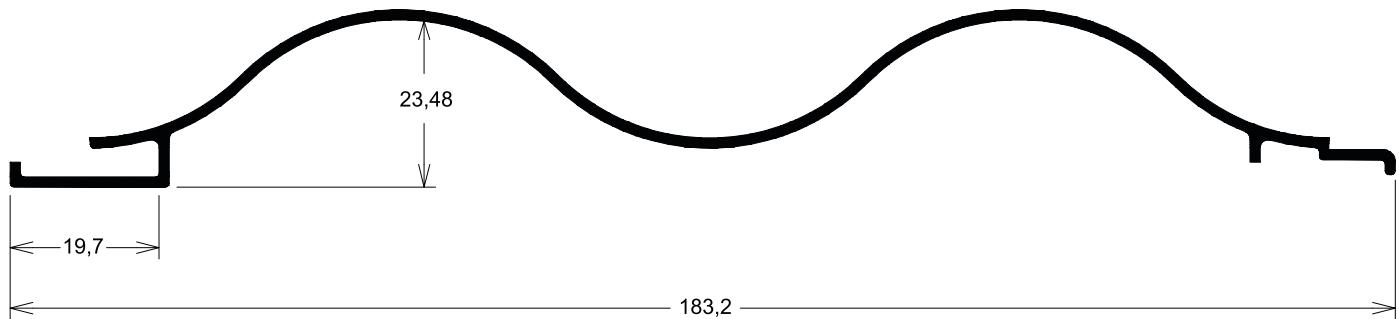
Projetos, perfis, componentes, códigos e sistemas estão sujeitos a alteração sem prévio aviso.

**Portões Basculantes****LU002** | 1,518 Kg/m**LU027** | 0,418 Kg/m**PC035** | 0,199 Kg/m**PC034** | 0,718 Kg/m**LU021** | 0,894 Kg/m**LU018** | 1,022 Kg/m**LU022** | 0,547 Kg/m**LU023** | 0,217 Kg/m**LU035** | 0,101 Kg/m

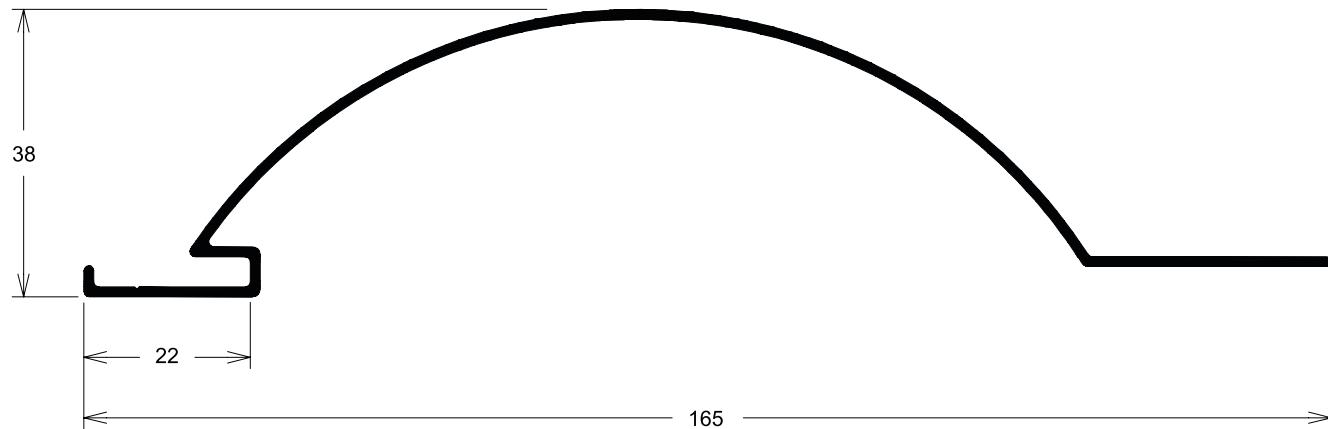
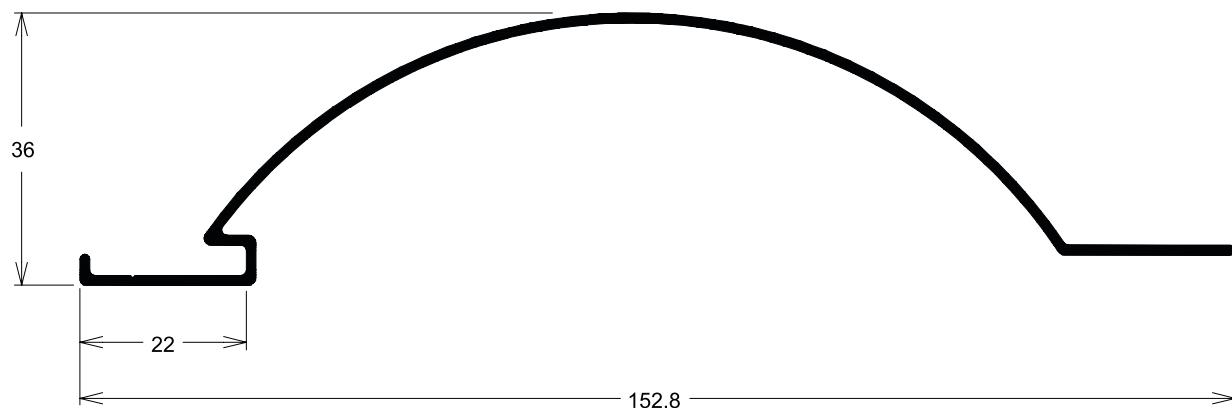
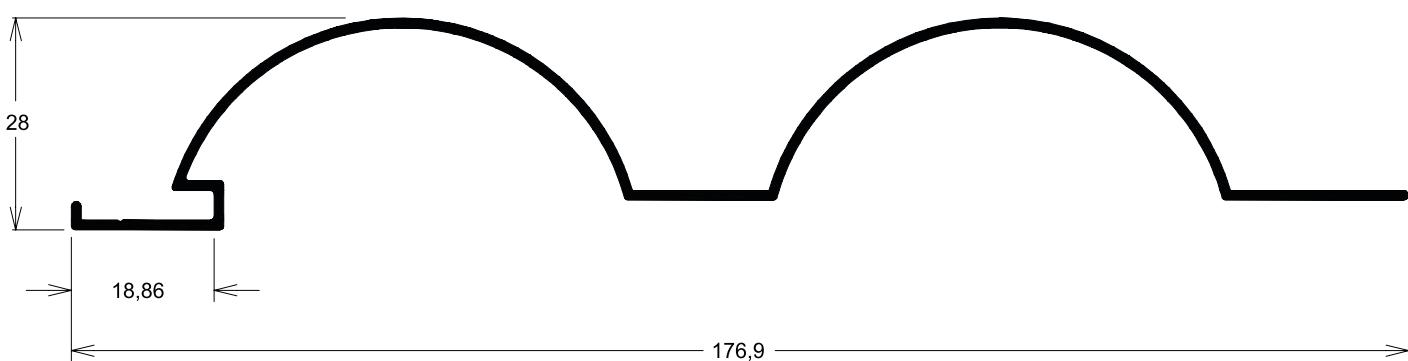
Projetos, perfis, componentes, códigos e sistemas estão sujeitos a alteração sem prévio aviso.

**Portinholas****LU006 | 0,269 Kg/m****LU005 | 0,126 Kg/m****LU003 | 0,274 Kg/m****LU007 | 0,441 Kg/m****LU004 | 0,499 Kg/m**

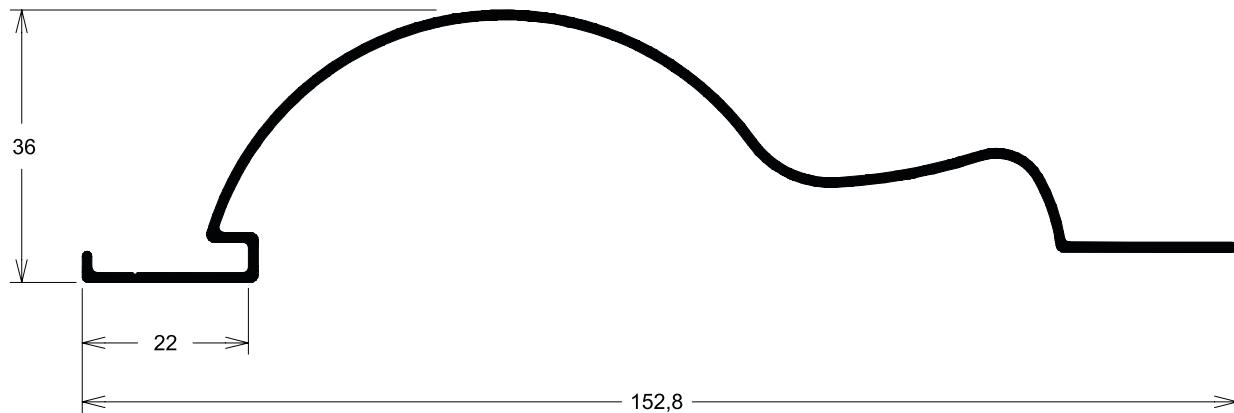
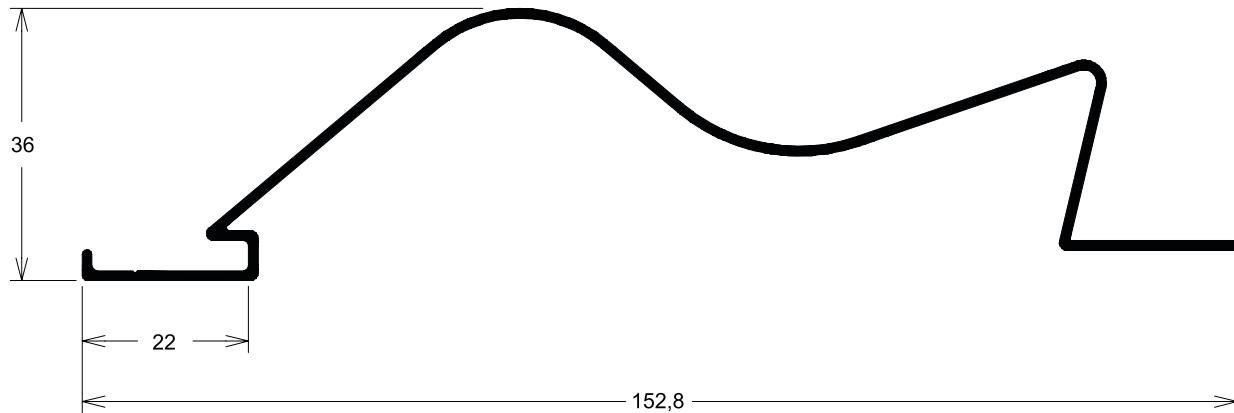
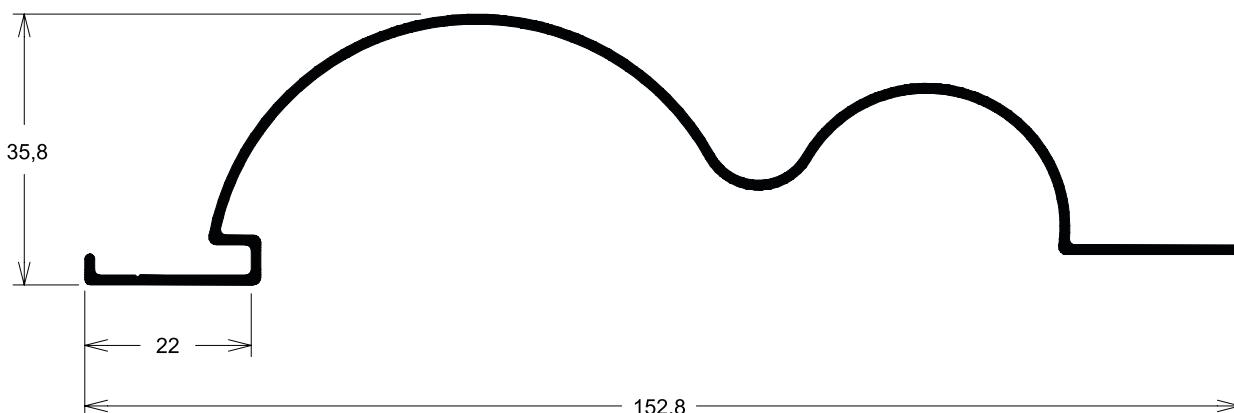
Projetos, perfis, componentes, códigos e sistemas estão sujeitos a alteração sem prévio aviso.

**LB038** | 1,001 Kg/m**LB050** | 0,624 Kg/m**LB071** | 0,830 Kg/m

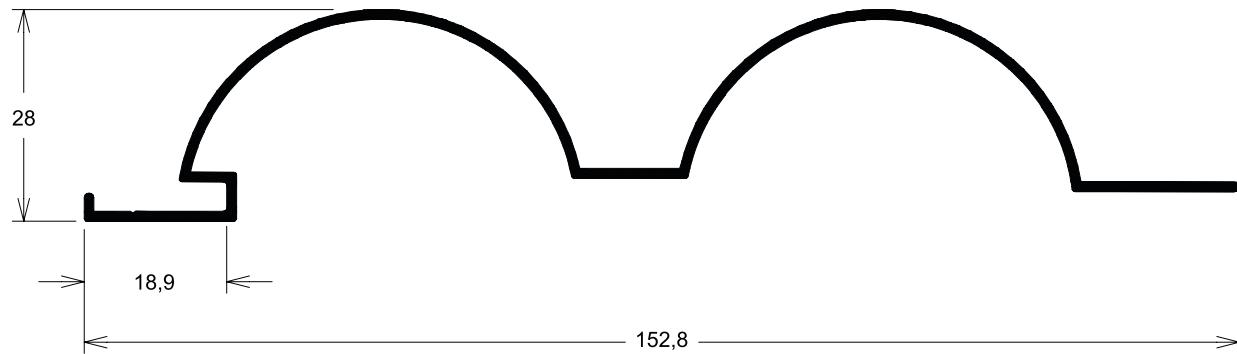
Projetos, perfis, componentes, códigos e sistemas estão sujeitos a alteração sem prévio aviso.

**LB072 | 0,742 Kg/m****LB073 | 0,676 Kg/m****LB074 | 0,831 Kg/m**

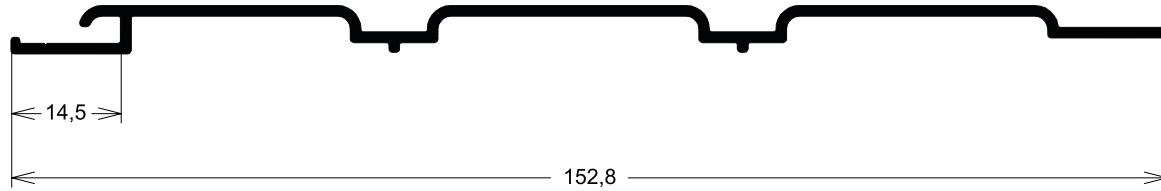
Projetos, perfis, componentes, códigos e sistemas estão sujeitos a alteração sem prévio aviso.

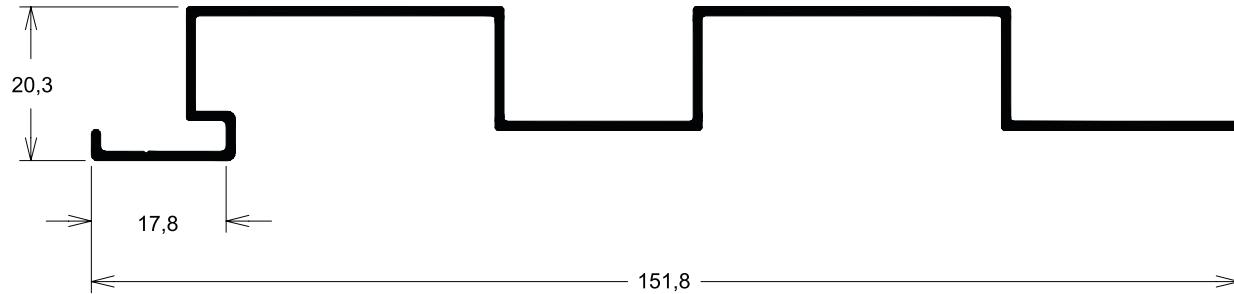
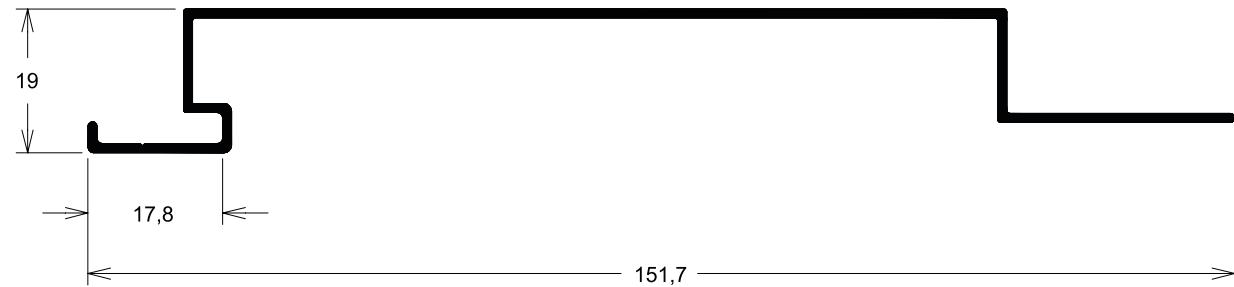
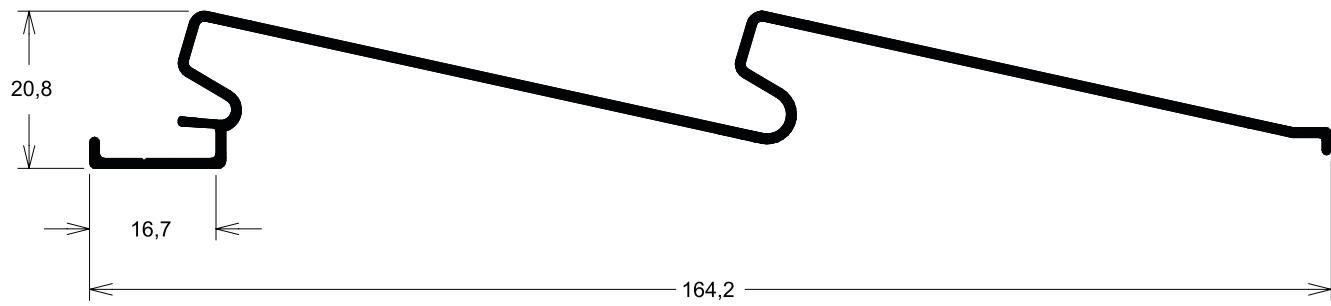
**LB075 | 0,706 Kg/m****LB076 | 0,766 Kg/m****LB077 | 0,749 Kg/m**

Projetos, perfis, componentes, códigos e sistemas estão sujeitos a alteração sem prévio aviso.

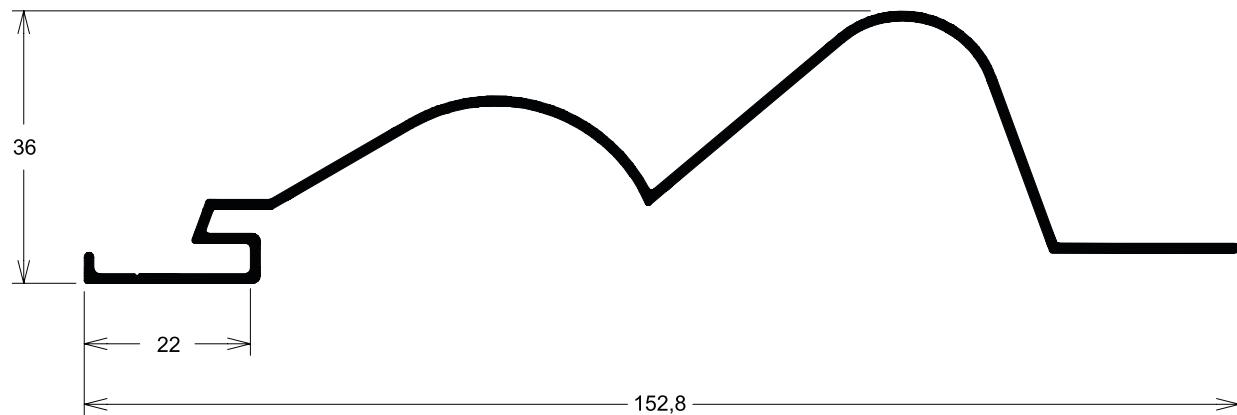
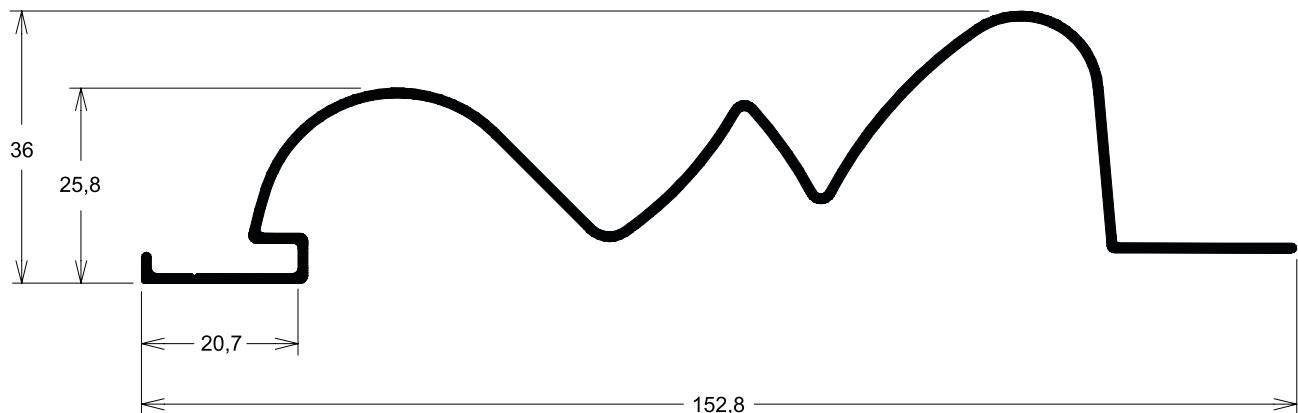
**LB082 | 0,758 Kg/m****LB088 | 0,745 Kg/m**

**Nota:** Este perfil substitui o LB036

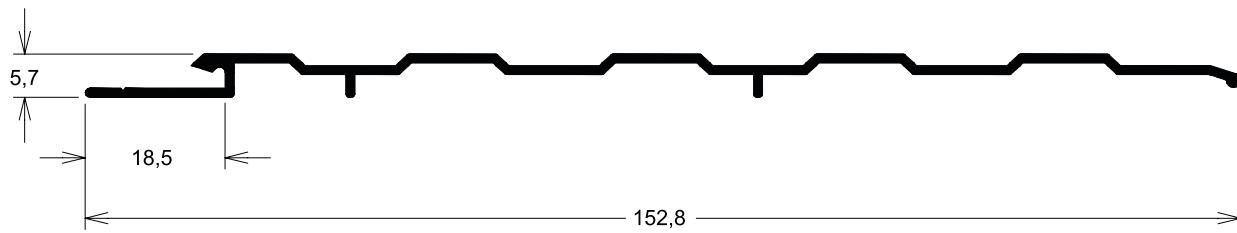
**LB089 | 0,581 Kg/m**

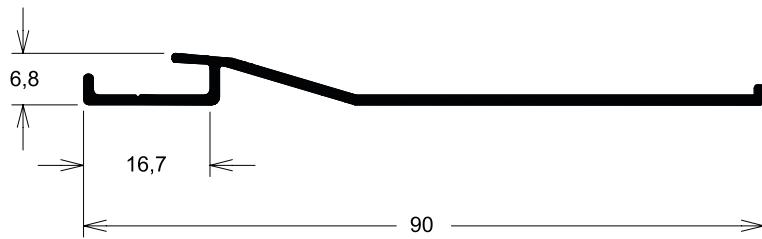
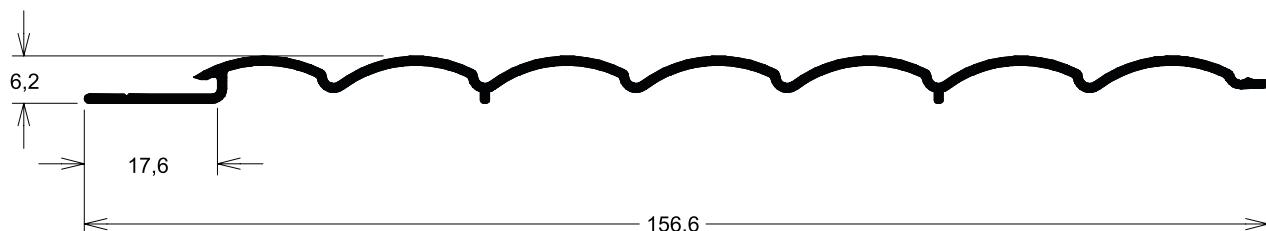
**LU030 | 0,745 Kg/m****LU031 | 0,637 Kg/m****LU032 | 0,800 Kg/m**

Projetos, perfis, componentes, códigos e sistemas estão sujeitos a alteração sem prévio aviso.

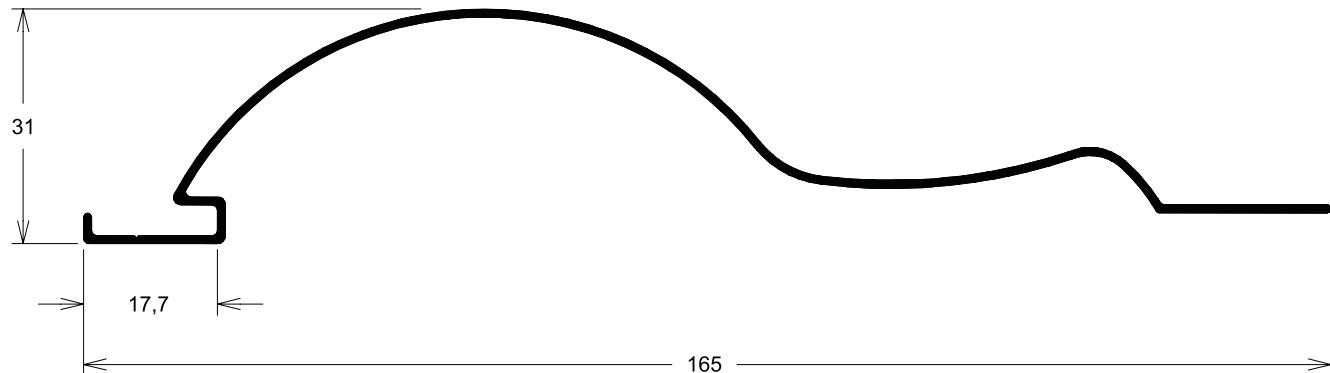
**LB079 | 0,758 Kg/m****LB080 | 0,845 Kg/m**

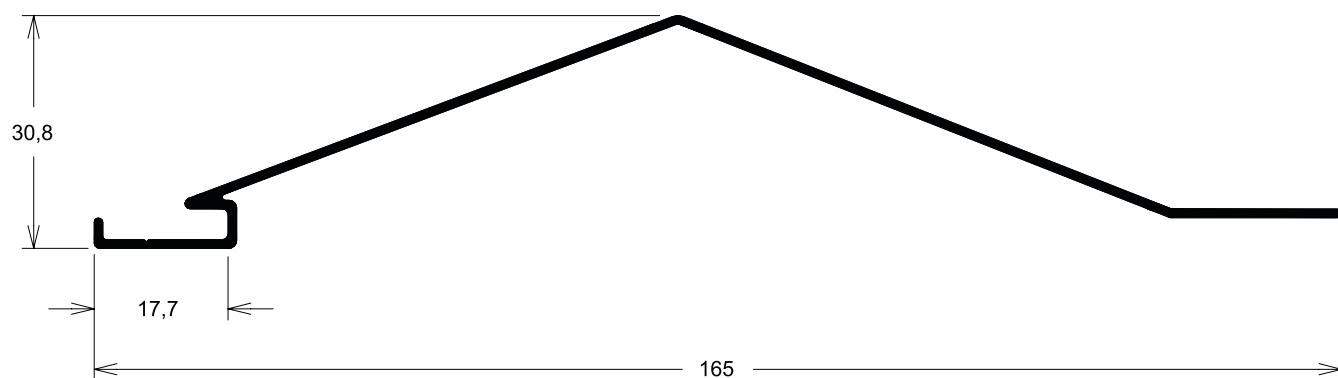
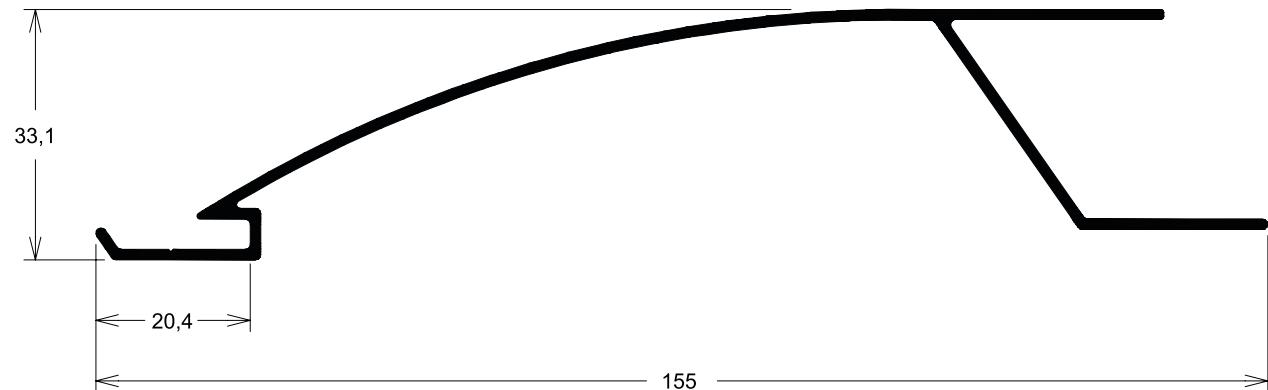
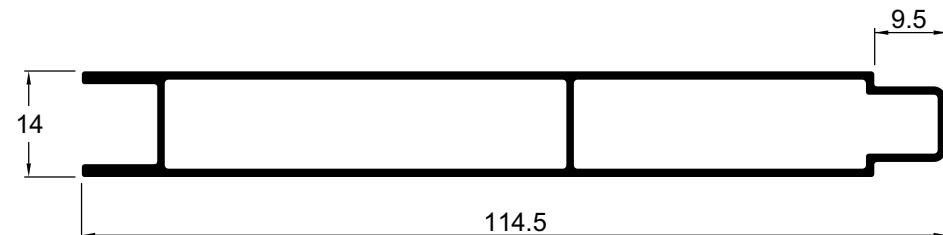
Projetos, perfis, componentes, códigos e sistemas estão sujeitos a alteração sem prévio aviso.

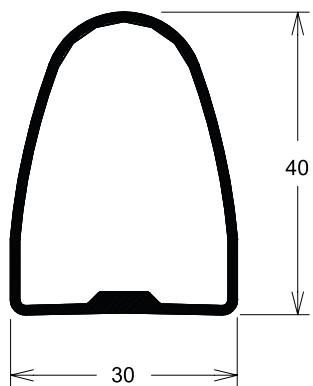
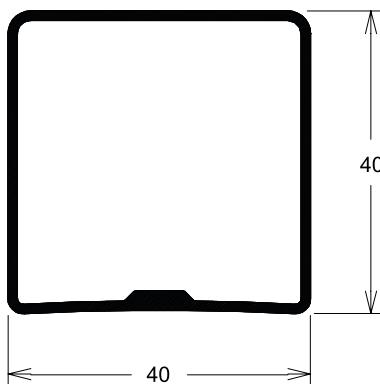
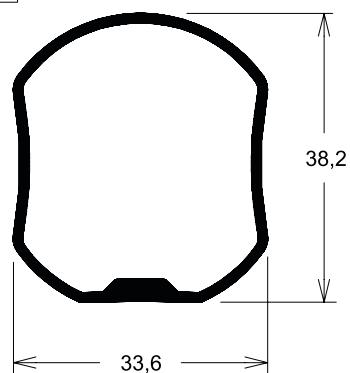
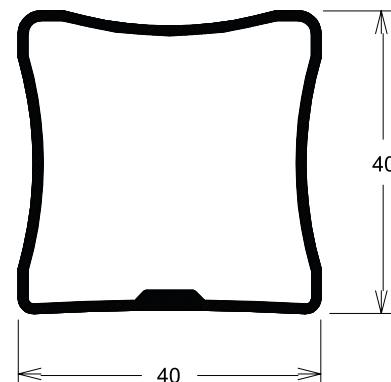
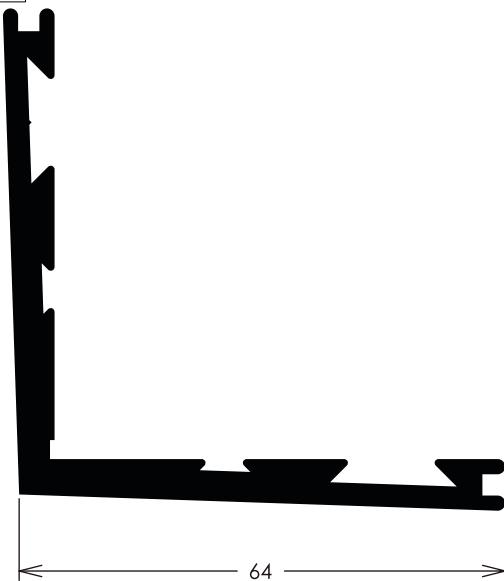
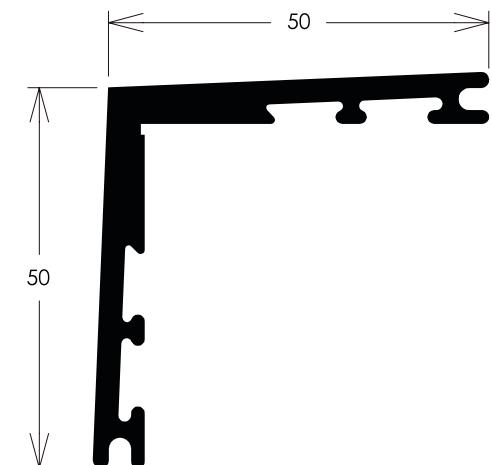
**LB081 | 0,570 Kg/m**

**LU033 | 0,033 Kg/m****LU067 | 0,582 Kg/m**

Projetos, perfis, componentes, códigos e sistemas estão sujeitos a alteração sem prévio aviso.

**LU072 | 0,581 Kg/m**

**LU073** | 0,602 Kg/m**LU074** | 0,596 Kg/m**LU083** | 0,839 Kg/m**IN205** | 0,812 Kg/m

**PC033 | 0,417 Kg/m****PC041 | 0,523 Kg/m****PC042 | 0,422 Kg/m****PC044 | 0,525 Kg/m****CL009 | 1,616 Kg/m****CL006 | 1,112 Kg/m****CL011 | 0,317 Kg/m****CL010 | 0,385 Kg/m**

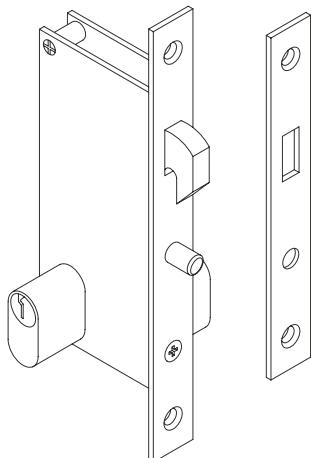
Projetos, perfis, componentes, códigos e sistemas estão sujeitos a alteração sem prévio aviso.



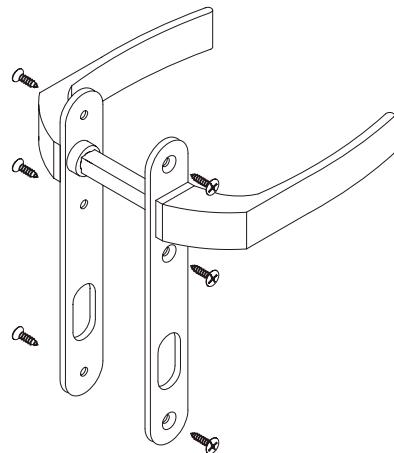
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DOB863	E-01
FEC1109	E-04
FEC335	E-04
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ROL318	E-01

**FRA2122**

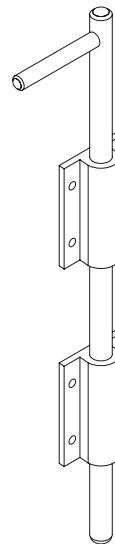
Fechadura - Cilindro 80 mm  
Latão Fumê

**MAC1001**

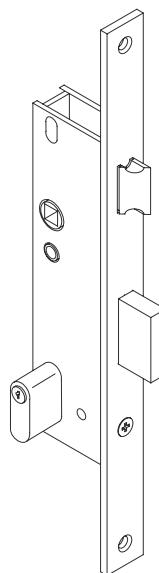
Maçaneta com Espelho  
Alumínio Preto

**FEC980**

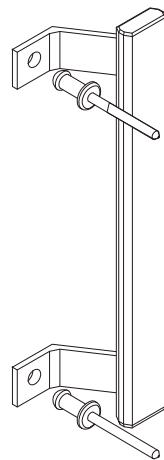
Fecho tipo Ferrolho  
Alumínio Preto

**FRA2080**

Fechadura - Cilindro 80 mm  
Latão Fumê

**PUX006**

Puxador - Porta de Correr  
Alumínio Branco e Preto

**PAR434**

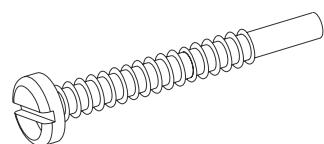
Parafuso AA Ø 3,9 x 9,5 mm  
Aço Inox

**PAR691**

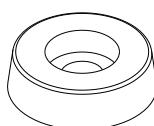
Parafuso AA Ø 4,8 x 13 mm  
Aço Inox

**PAR428**

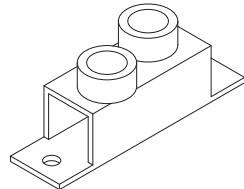
Parafuso AA Ø 4,8 x 32 mm  
Aço Inox

**NYL218**

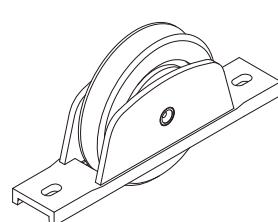
Batente da Folha  
Nylon Preto

**ROL303**

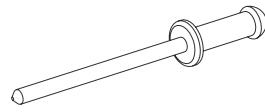
Rodízio com suporte  
Alumínio Natural

**ROL318**

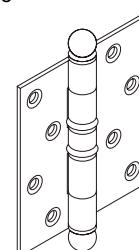
Rodízio com rolamento  
Alumínio Natural

**REB115**

Rebite Ø 4 x 10,2 mm  
Alumínio Natural

**DOB863**

Dobradiça  
Latão Fumê



**KITBAS001** Kit de acessórios para portão basculante 3 metros

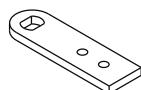
**KITBAS002** Kit de acessórios para portão basculante 4 metros

**KITBAS003** Kit de acessórios para portão basculante 5 metros

Cores: Preto, Branco e Fosco

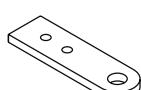
**Ponteira Superior do Braço**

02 peças  
02 Paraf. c/ Porca (PAR690)



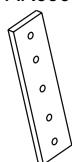
**Ponteira Inferior do Braço**

02 peças  
02 Paraf. c/ Porca (PAR690)



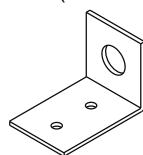
**Barra de Fixação da Travessa**

Portão até 3 mt = 02 peças  
Portão até 4 mt = 04 peças  
Portão até 5 mt = 09 peças  
05 Paraf. c / Porca (PAR690)



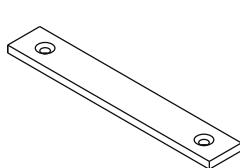
**Mancal**

Portão até 3 mt = 03 peças  
Portão até 4 mt = 04 peças  
Portão até 5 mt = 05 peças  
02 Paraf. c/ Porca (PAR690)



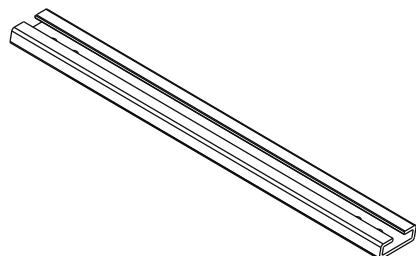
**Trava da Caixa**

06 peças  
02 Parafusos (PAR1058)



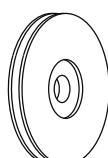
**Complemento do Braço**

02 peças



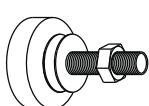
**Roldana com Rolamento**

02 peças



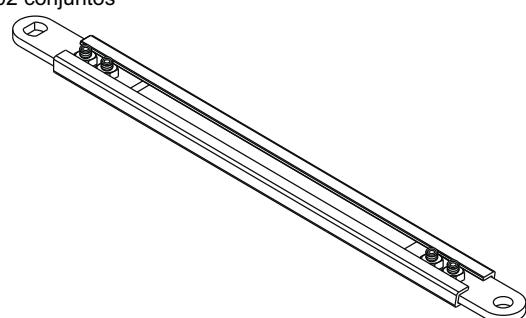
**Roldana Guia Lat. c/ Rolamento**

02 peças



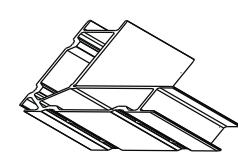
**Detalhe de Aplicação**

02 conjuntos



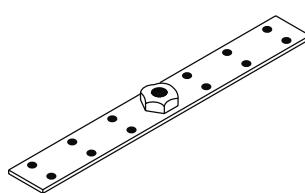
**Conexão**

04 peças  
08 Parafusos (PAR1059)



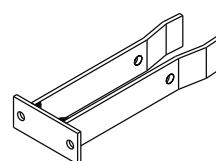
**Supporte para Guia Lateral**

02 peças  
12 Parafusos (PAR691)



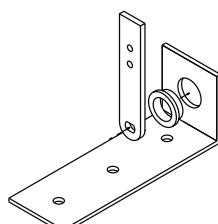
**Supporte para Roldana**

02 peças  
02 Paraf. c/ Porca (PAR690)



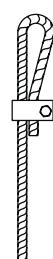
**Supporte do Estabilizador**

02 peças  
03 Paraf. c/ Porca (PAR690)



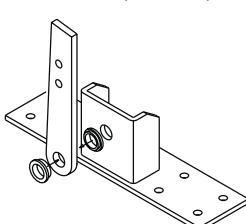
**Cabo de Aço**

02 conjuntos



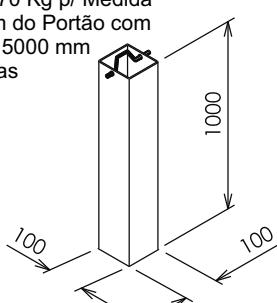
**Supporte do Braço Estabilizador**

02 peças  
08 Paraf. c/ Porca (PAR936)



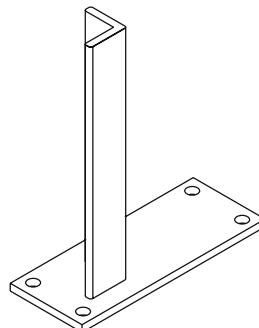
**Contrapeso**

Caixa c/ Capacidade  
de até 70 Kg p/ Medida  
Máxiam do Portão com  
2500 x 5000 mm  
02 peças



**Suporte do Motor**

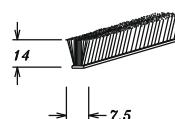
02 peças  
04 Paraf. c/ Porca (PAR690)

**KITBAS004 - Kit Motorização**  
Cores: Preto, Branco e Fosco**PAR1060**

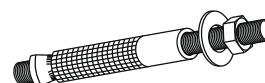
Paraf. Cab. Abaulada  
c/ Sext. Interno  
M6 x 15 Inox 304

**FIT316**

Fita Vedadora  
Base 7,5 x 14 mm  
Preta

**CHU795**

Chumbador c/ Porca  
Arruela e Prisioneiro  
9,5 x 80 mm

**PAR437**

Paraf. AA CP 3,5 x 9,5 mm  
Aço Inox Natural

**PAR1024**

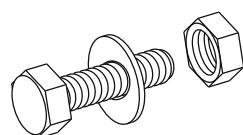
Paraf. AA CP Philips  
4,2 x 13 mm  
Aço Inox Natural

**PAR936**

Paraf. AA CP 4,5 x 16 mm  
Aço Inox Natural

**PAR1057**

Paraf. Sext. 1/2" x 1,1/2"  
Porca e Arruela  
Aço Inox Natural

**PAR1058**

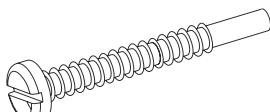
Paraf. AA CX Philips  
4,2 x 13 mm  
Aço Inox Natural

**PAR1056**

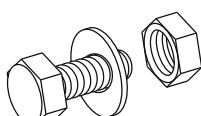
Paraf. AA CX Philips  
4,8 x 19 mm  
Aço Inox Natural

**PAR436**

Paraf. AA 3,9 x 28 mm  
Aço Inox

**PAR1059**

Paraf. Sext. 1/4" x 5/8"  
Porca e Arruela  
Aço Inox Natural

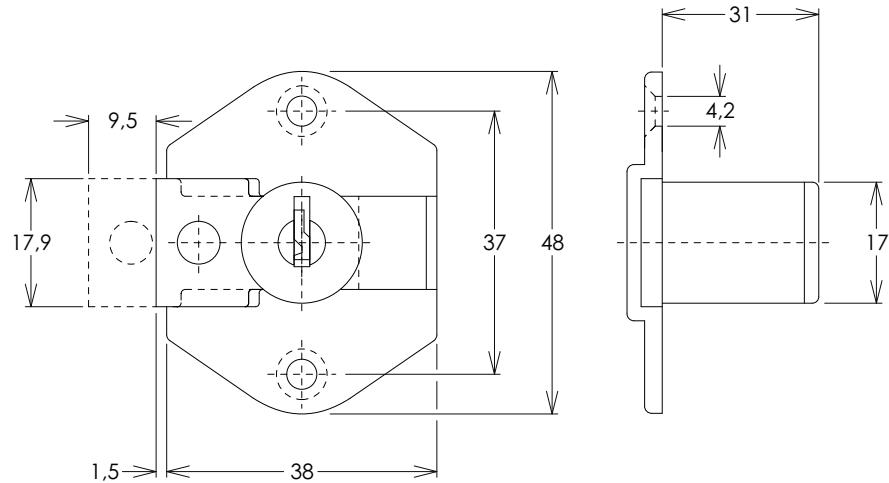
**PAR1050**

Paraf. AA 3,5 x 16 mm  
Aço Inox Natural

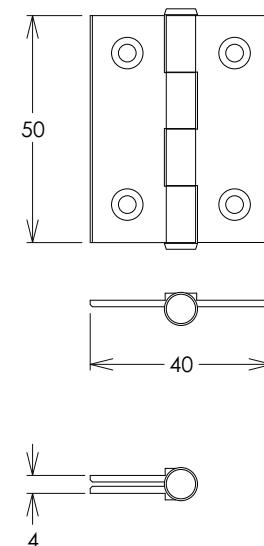


**FEC1109**

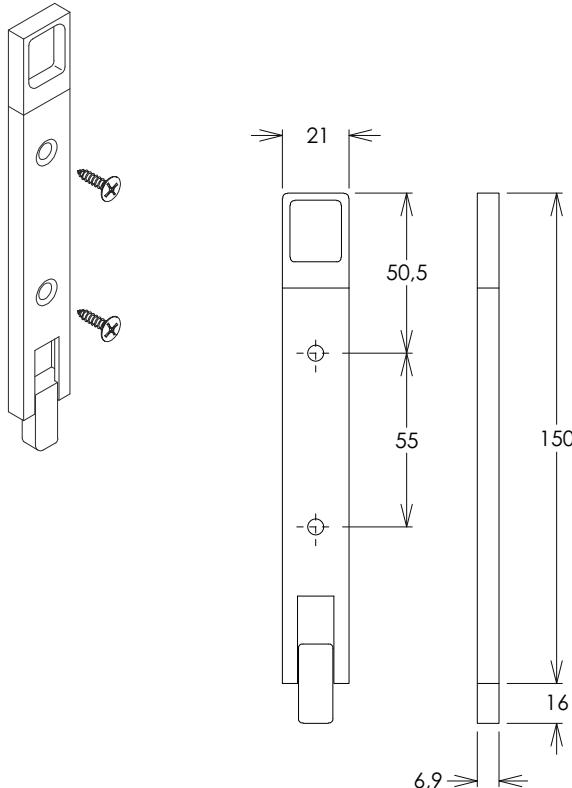
Fechadura de móveis  
Níquel, Fumê ou Latão

**DOB806**

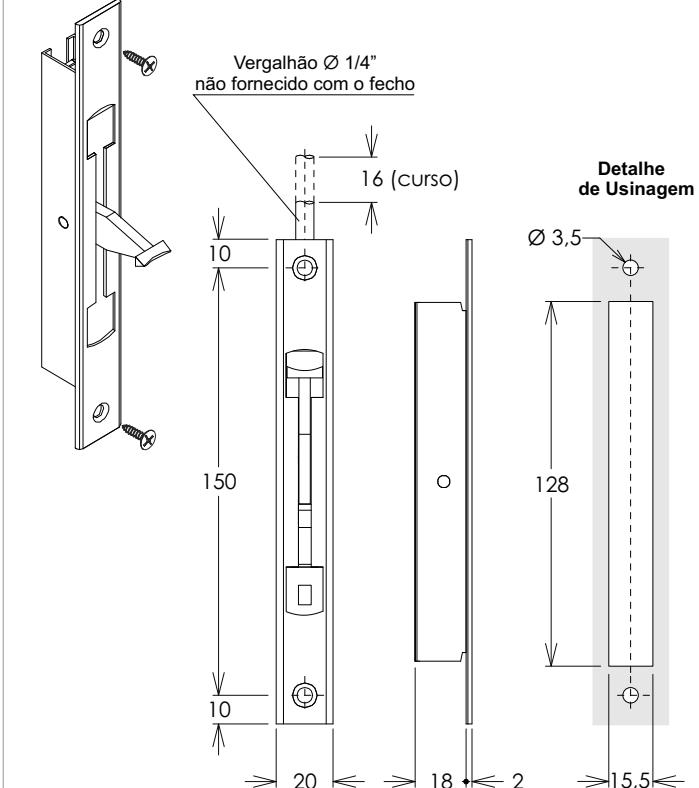
Dobradiça  
Alumínio Fosco

**FEC338**

Fecho unha de sobrepor  
Alumínio e Nylon Preto

**FEC335**

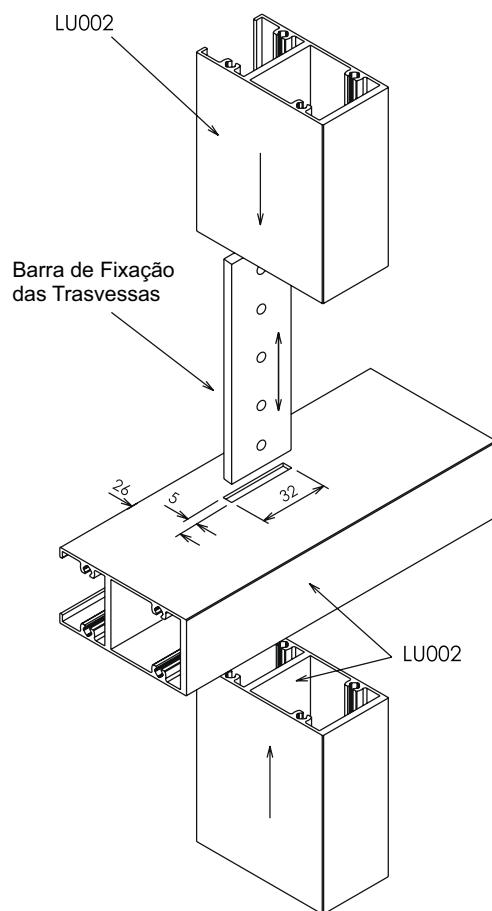
Fecho unha interno  
Alumínio e Nylon Preto



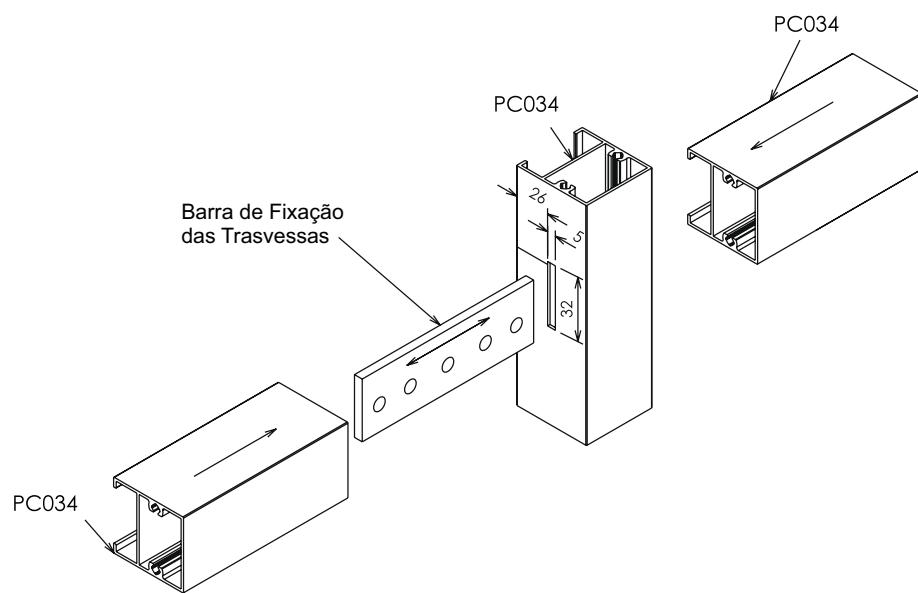


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INSTRUÇÕES DE USINAGEM E MONTAGEM PARA PORTÕES DE 5 METROS	F-01
INSTRUÇÕES DE USINAGEM E MONTAGEM PARA PORTÕES DE 3 METROS	F-01
BARRA ESTABILIZADORA	F-02
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DETERMINAR O PONTO DE GIRO	G-05

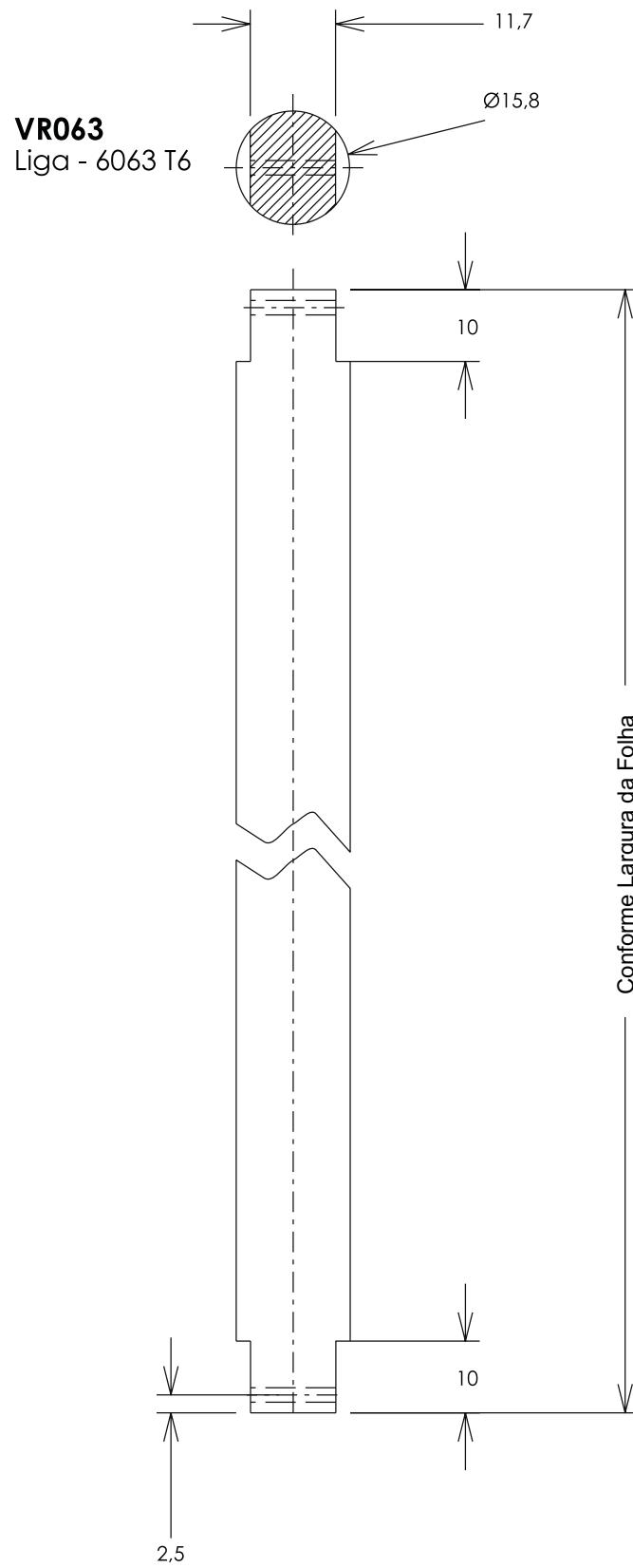
## Instruções de Usinagem e Montagem para Portões de 5 metros



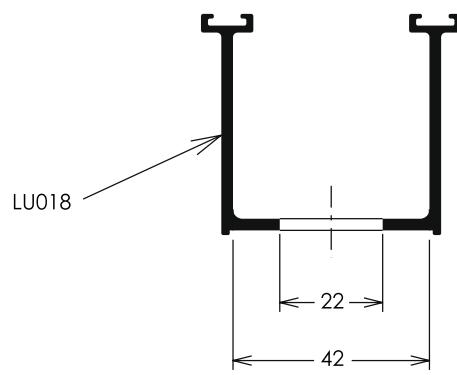
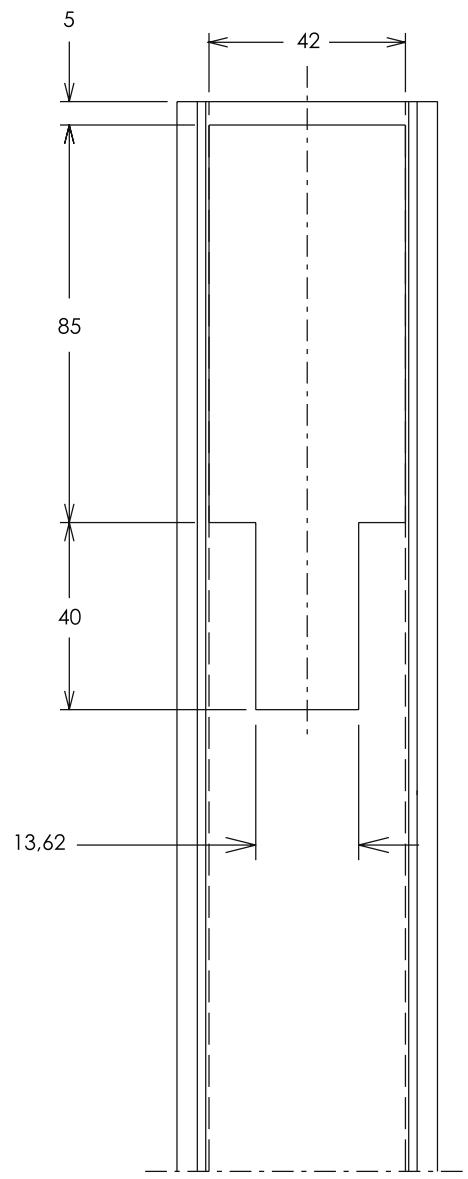
## Instruções de Usinagem e Montagem para Portões de 3 metros



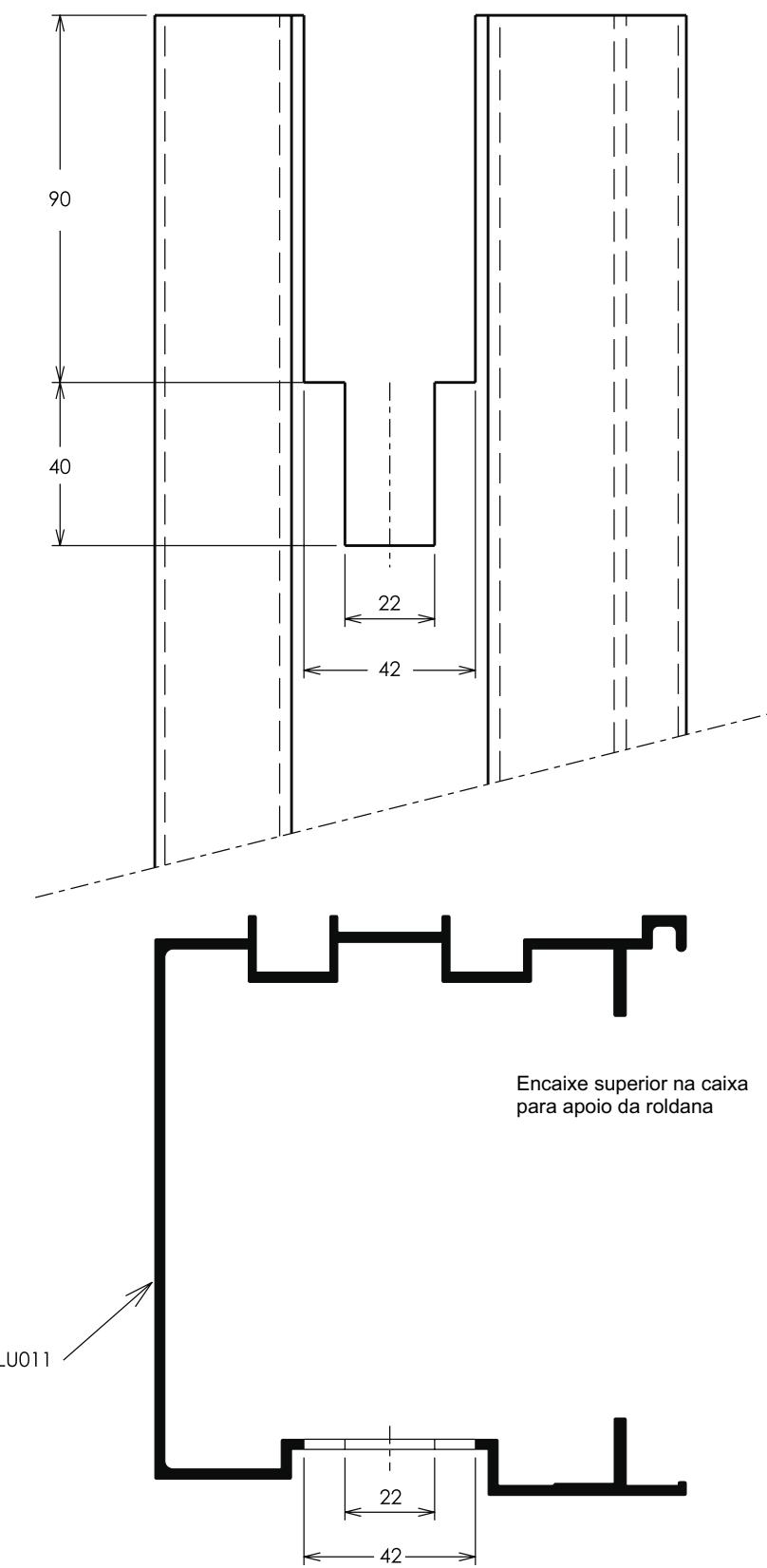
## Barra Estabilizadora



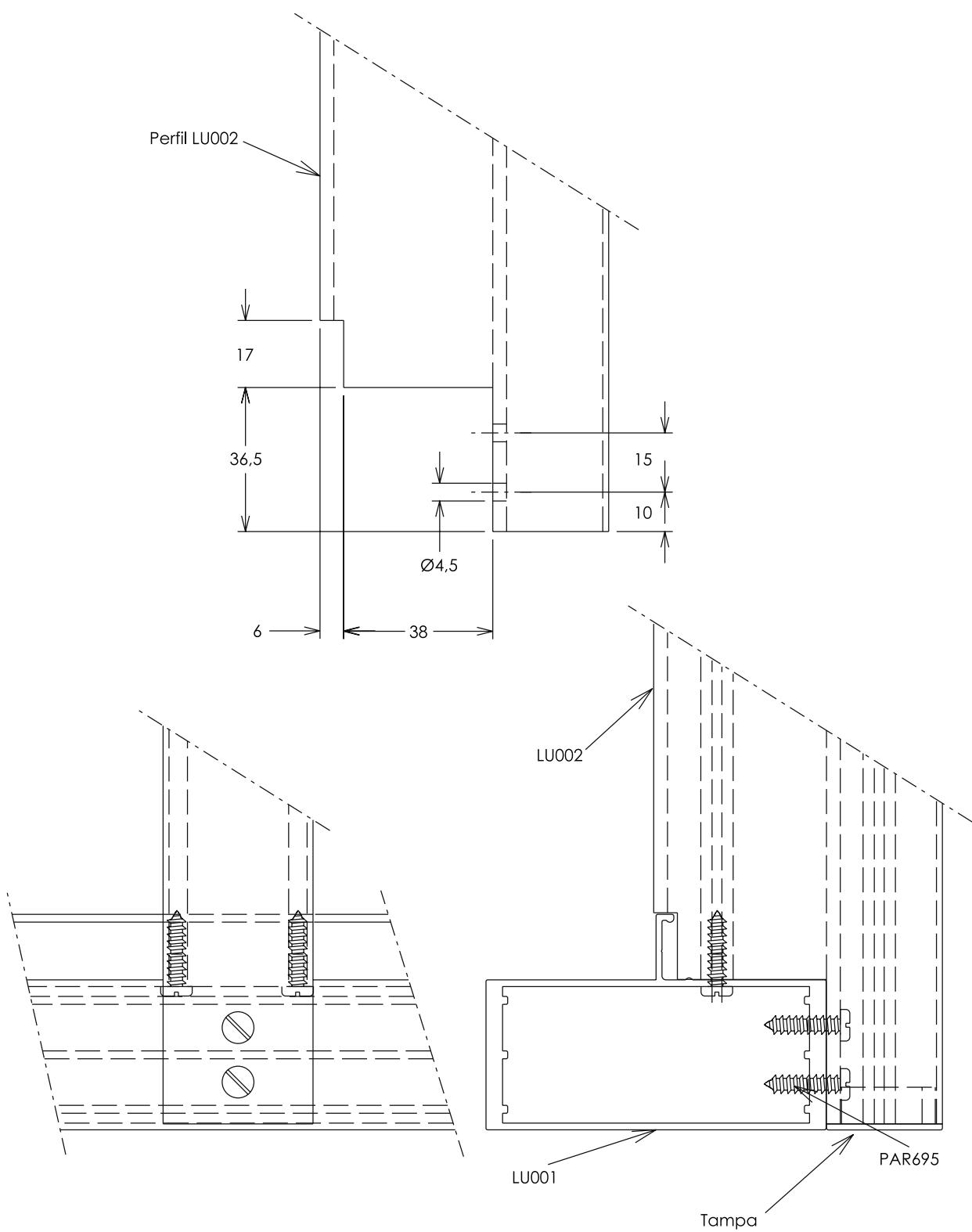
## Encaixe Superior na Guia para Apoio da Roldana



## Encaixe para Apoio da Roldana

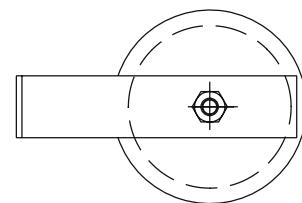
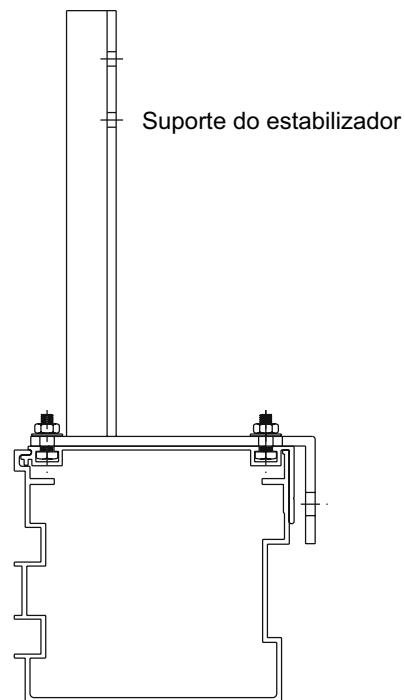
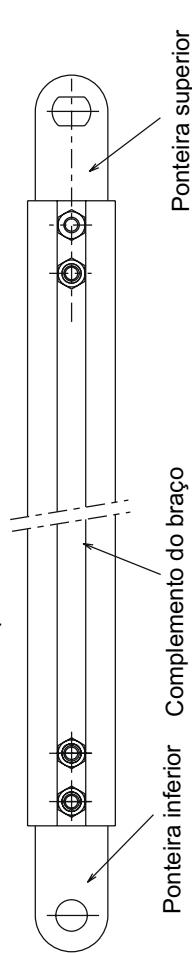
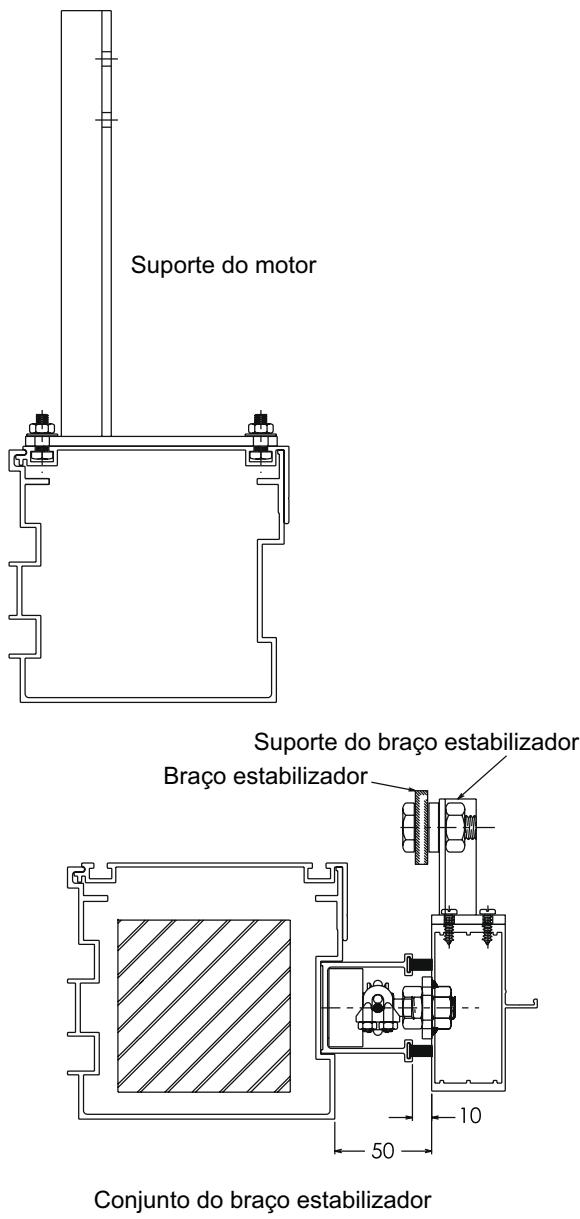
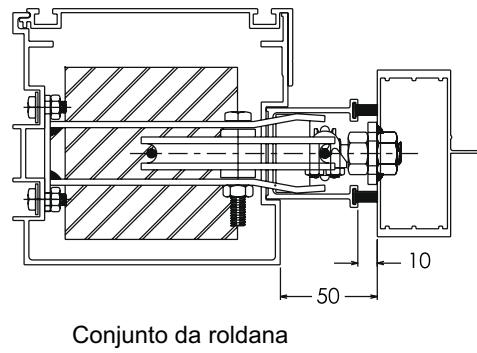
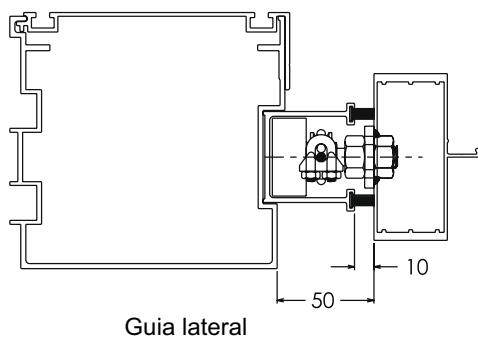


## Usinagem da Travessa

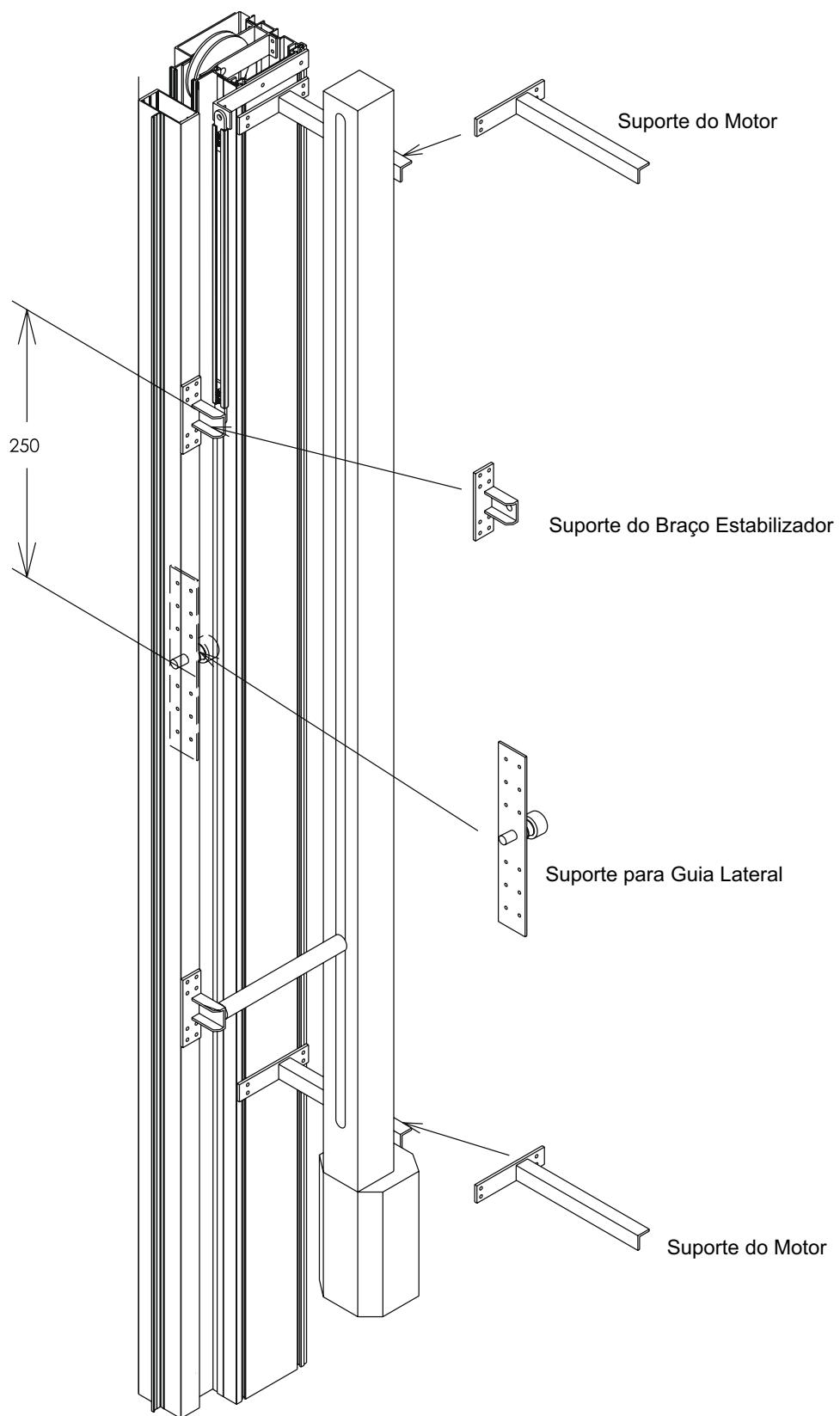




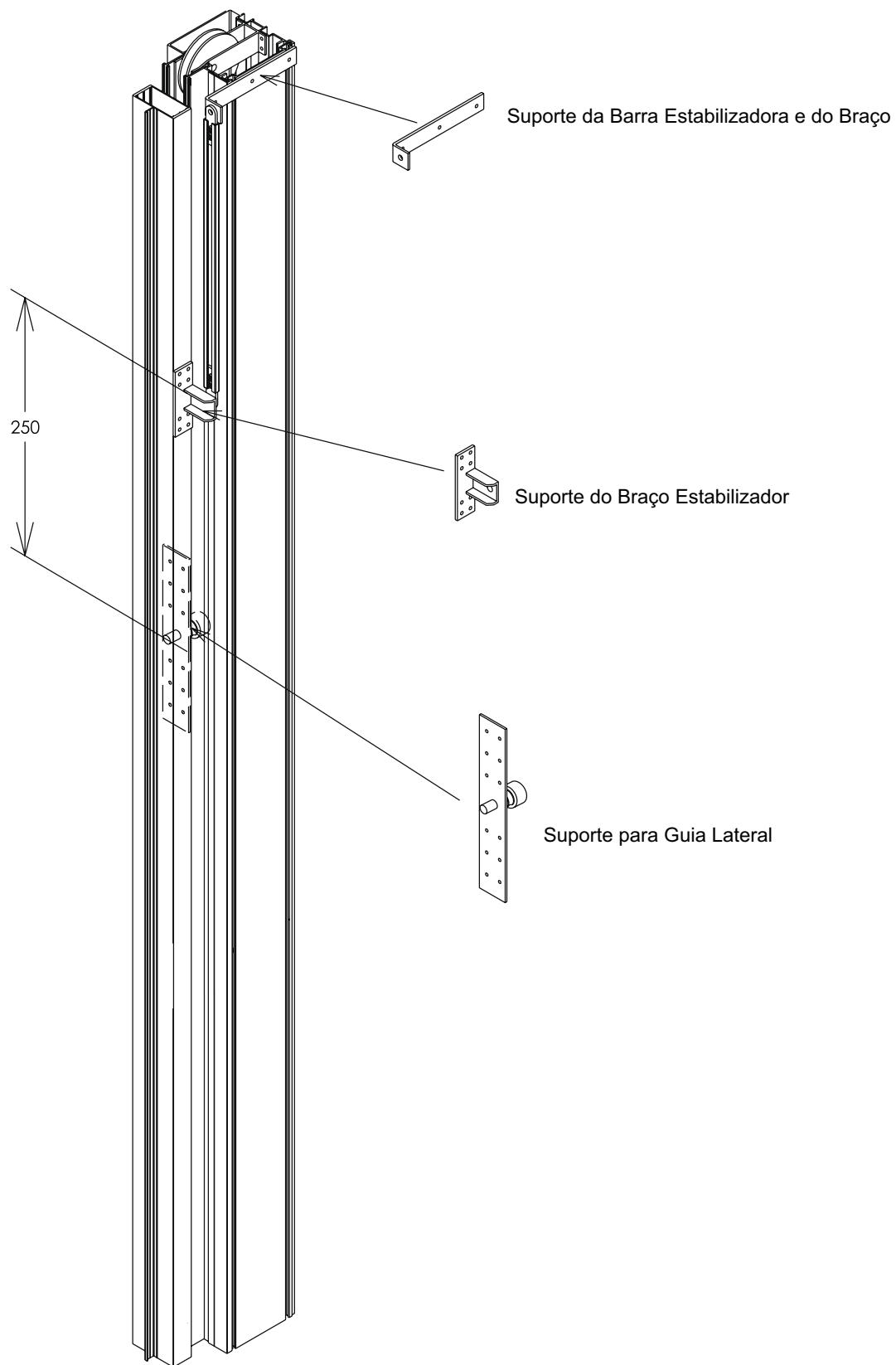
## Detalhe Construtivo Portão Basculante



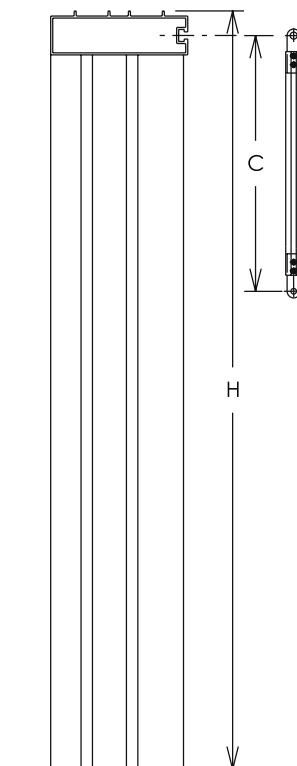
## Esquema Portão Motorizado



## Esquema Portão Manual



## Definição da Medida do Braço



### Fórmula

$$C = (H-20) \times 0,27$$

### Atenção:

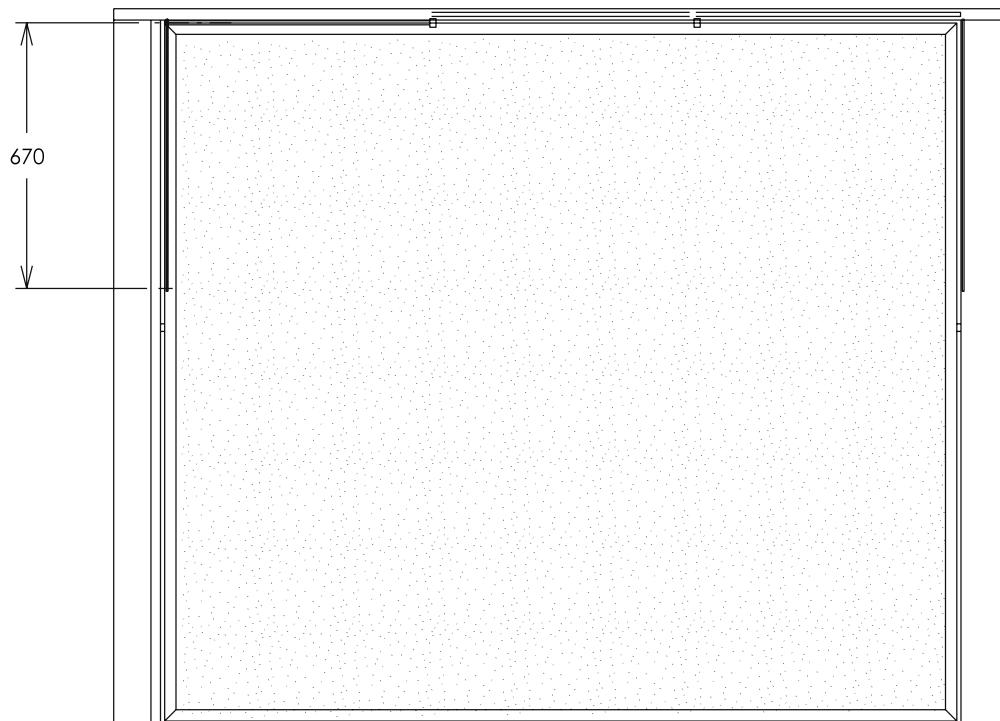
A Medida "C" é Entre Eixo dos Furos

### Exemplo

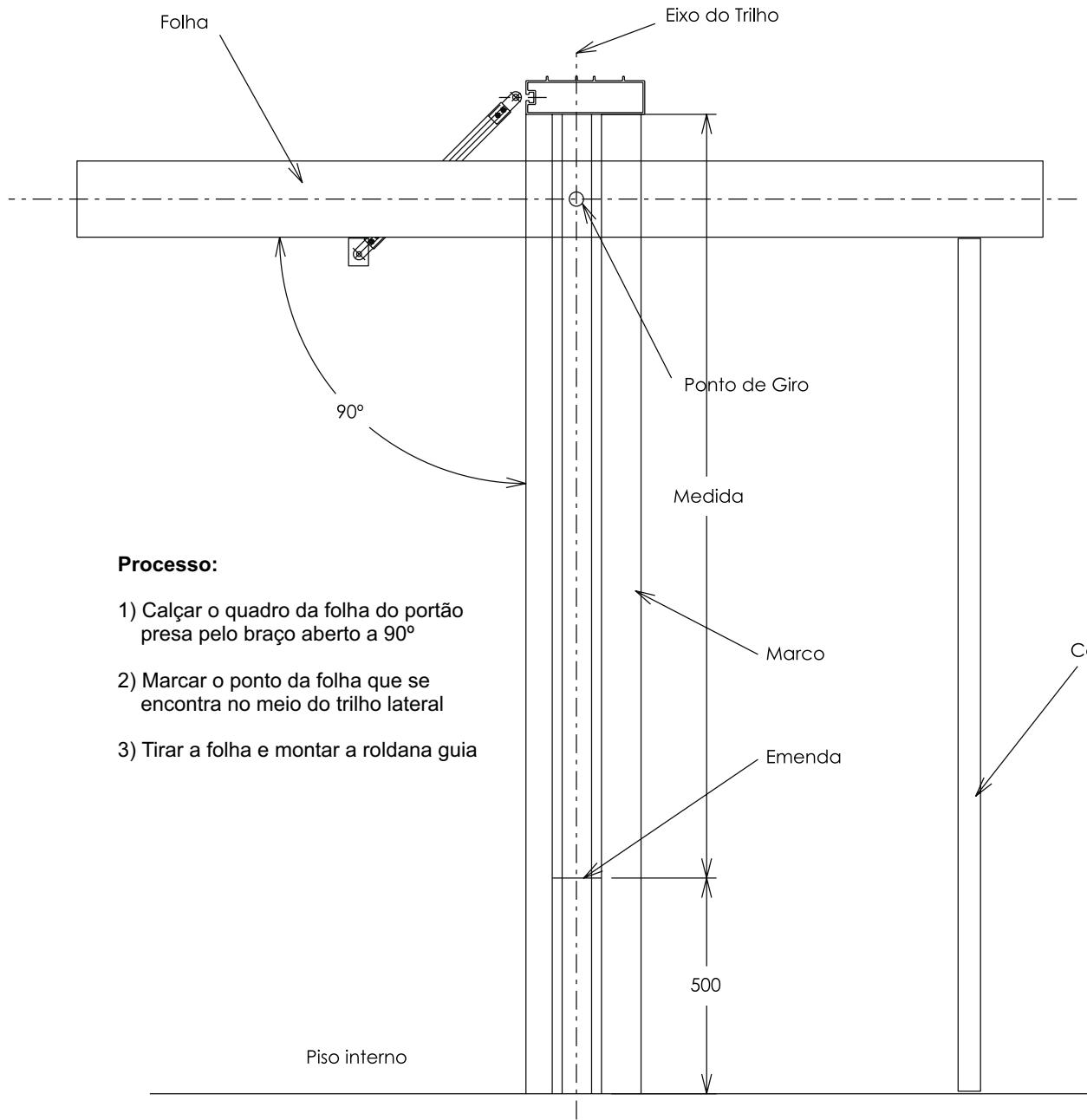
$$\begin{aligned} C &= 2500 - 20 = 2480 \\ C &= 2480 \times 0,27 = 670 \text{ (Arredondada)} \end{aligned}$$

### Medida de Corte do Complemento do Braço

$$670 - 74 = 596$$



## Determinar o Ponto de Giro

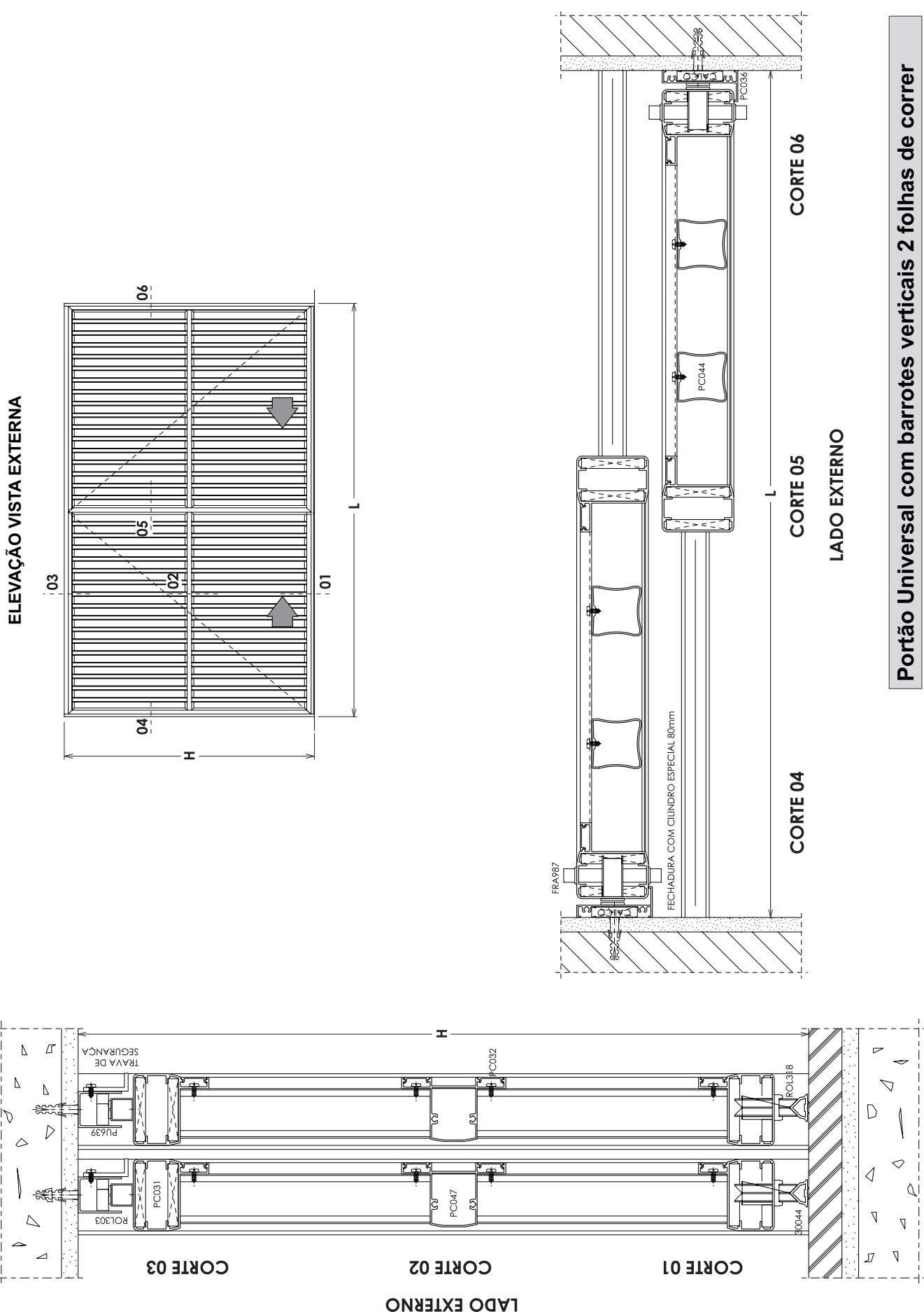
**Atenção:**

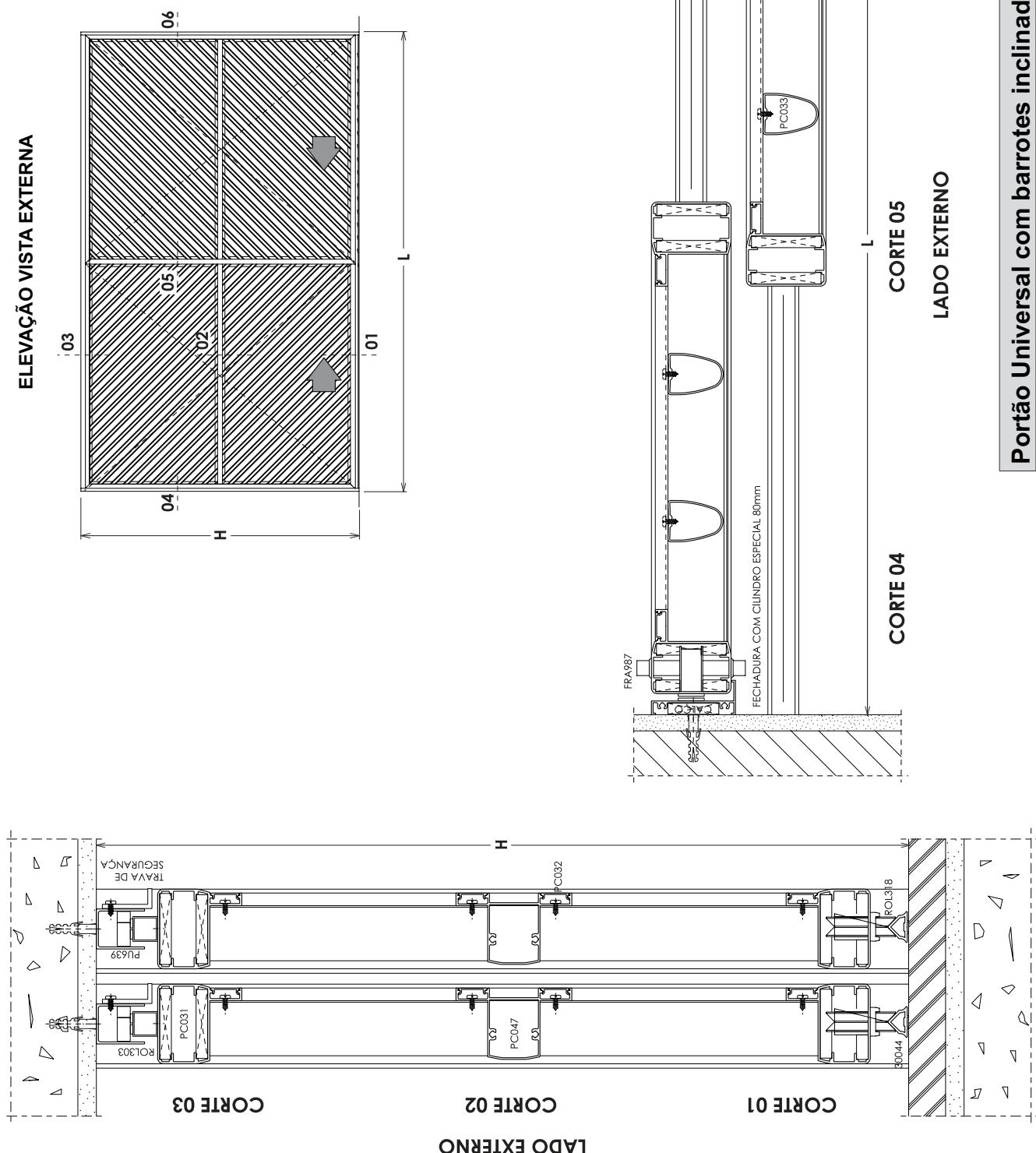
Para a colocação da folha já com as roldanas guia, o trilho (Lu018) deverá ser cortado de acordo com as medidas acima.

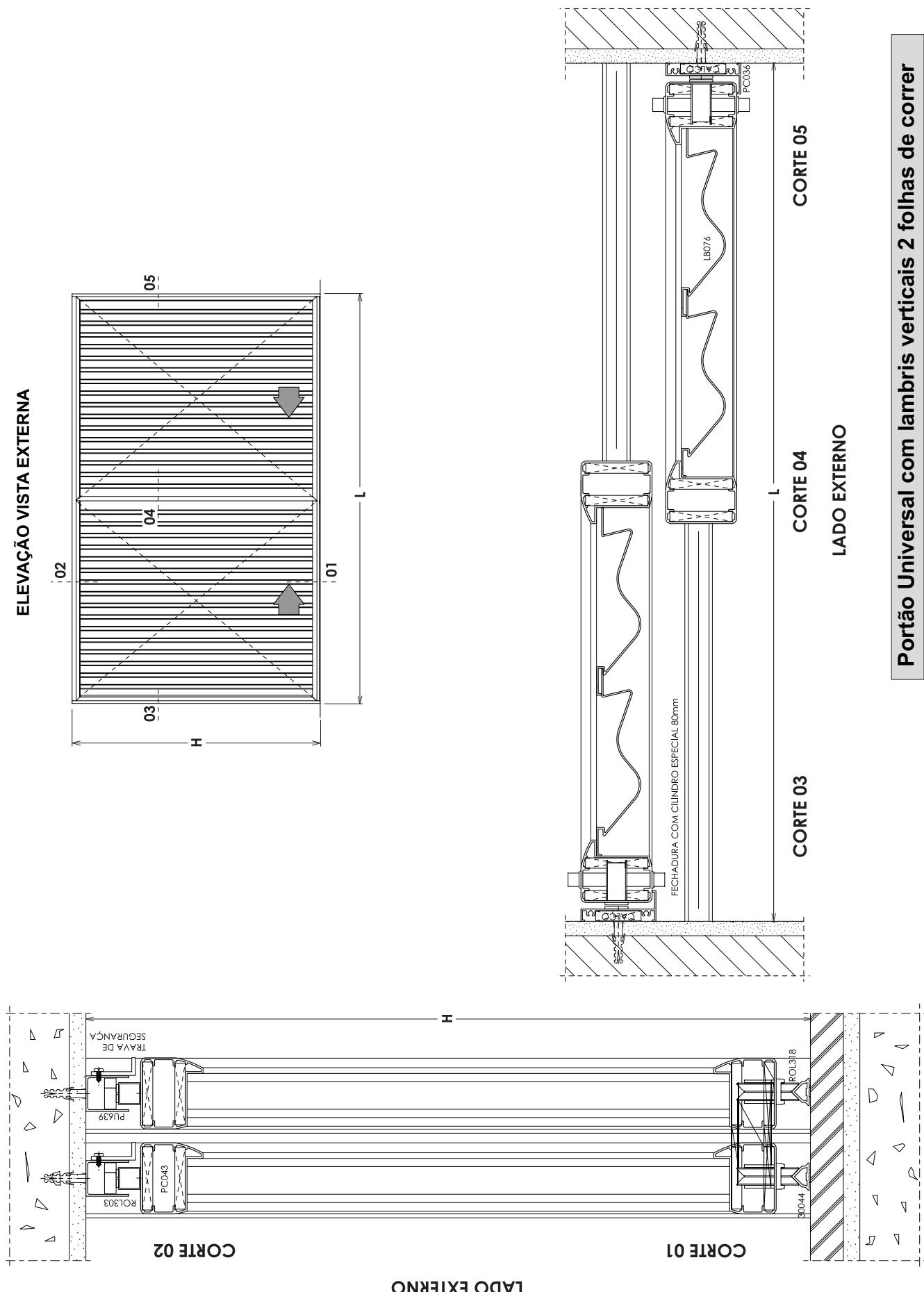
O trilho com 500 mm deverá se fixada após a colocação da folha com as roldanas no trilho de espera no marco.

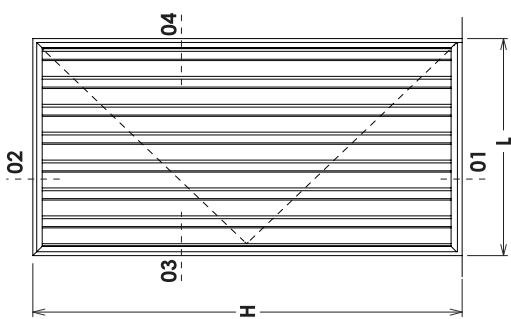
# Projetos de Montagem

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PORÃO UNIVERSAL COM BARROTES INCLINADOS 2 FOLHAS DE CORRER	H-02
PORÃO UNIVERSAL COM LAMBRIS VERTICAIS 2 FOLHAS DE CORRER	H-03
PORÃO UNIVERSAL COM LAMBRIS VERTICAIS 1 FOLHA DE GIRO	H-04
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PORÃO BASCULANTE DE 5 METROS – LAMBRIS NA HORIZONTAL	H-16
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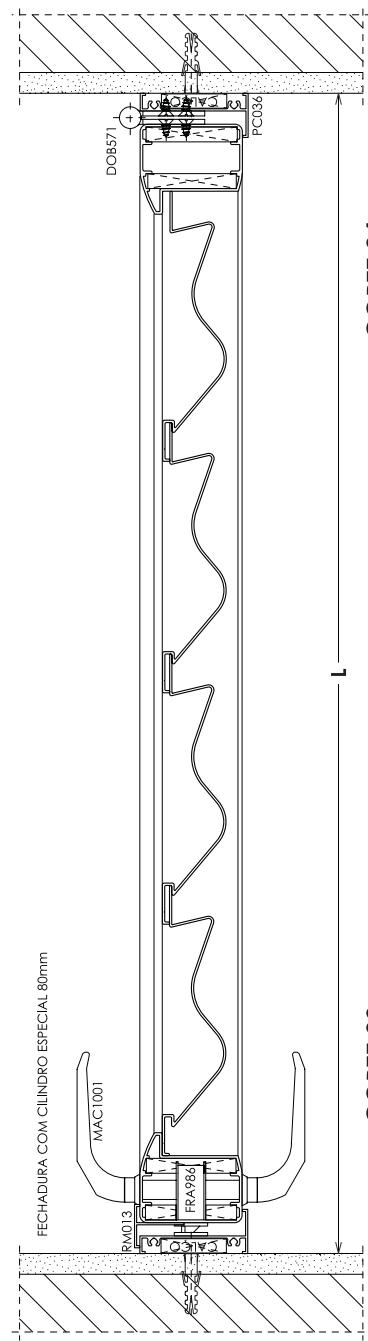
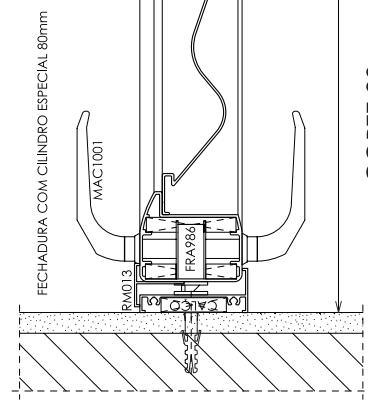
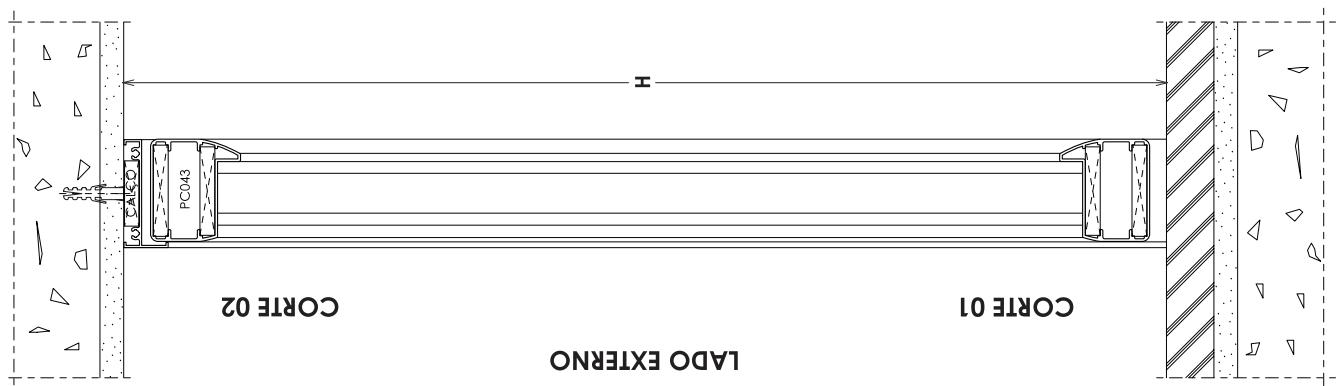




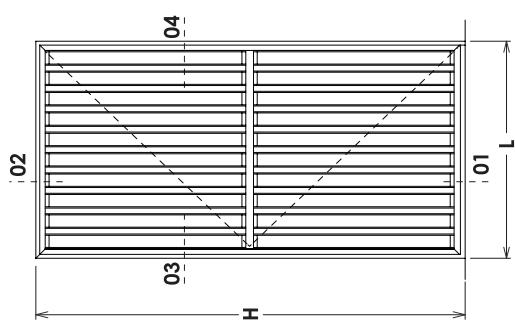


**ELEVAÇÃO VISTA EXTERNA****LADO EXTERNO**

**Portão Universal com lambris verticais 1 folha de giro**

**CORTE 04****CORTE 03****CORTE 04****LADO EXTERNO****CORTE 03****LADO EXTERNO**

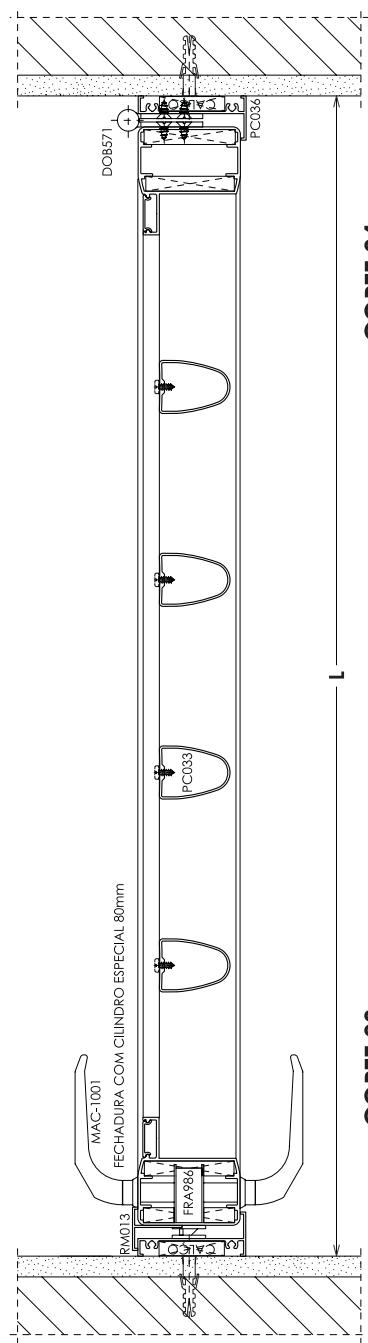
ELEVAÇÃO VISTA EXTERNA



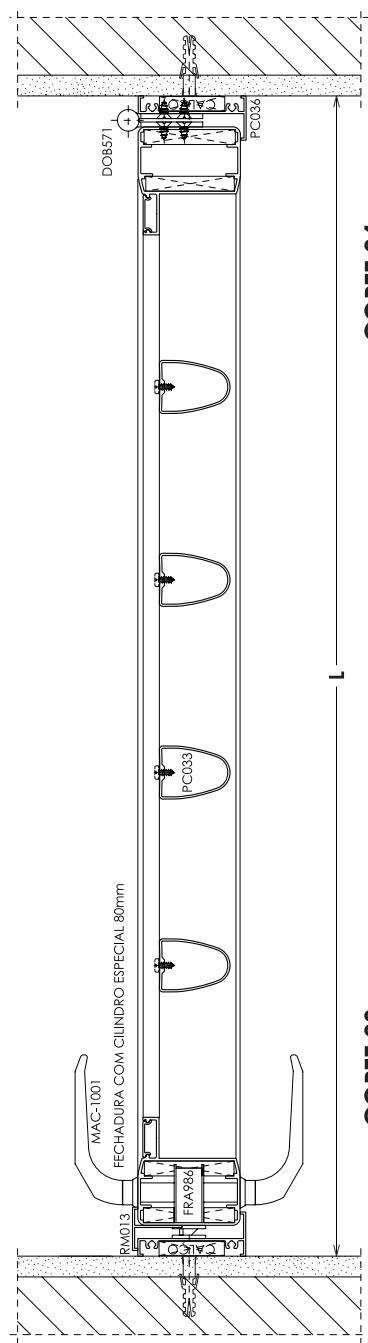
LADO EXTERNO

**Portão Universal com barreiros verticais 1 folha de giro**

CORTE 03

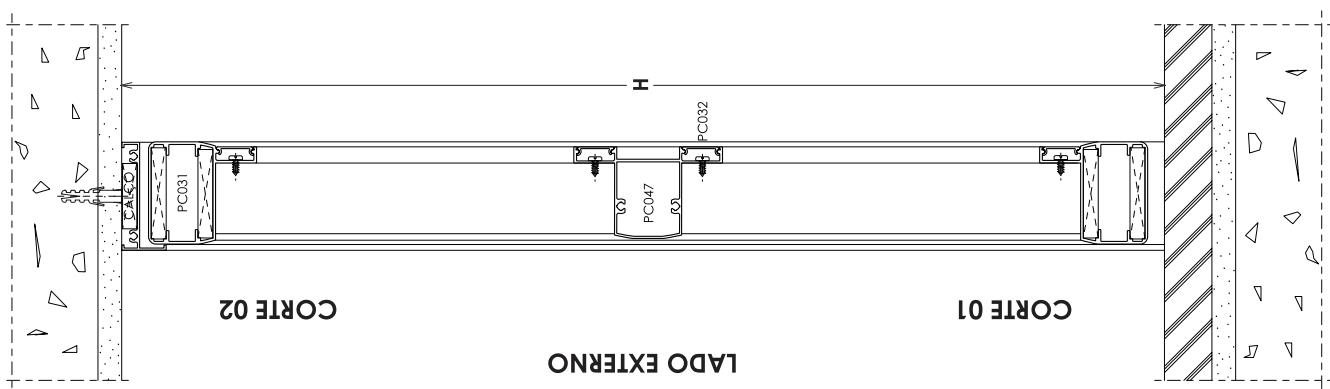


CORTE 04

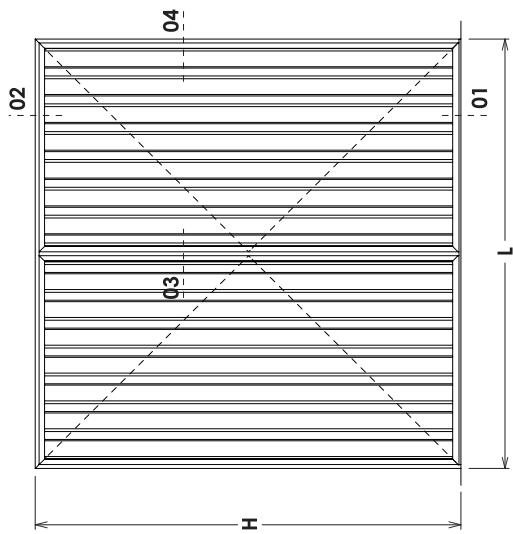


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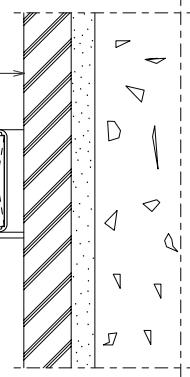
CORTE 01



ELEVAÇÃO VISTA EXTERNA

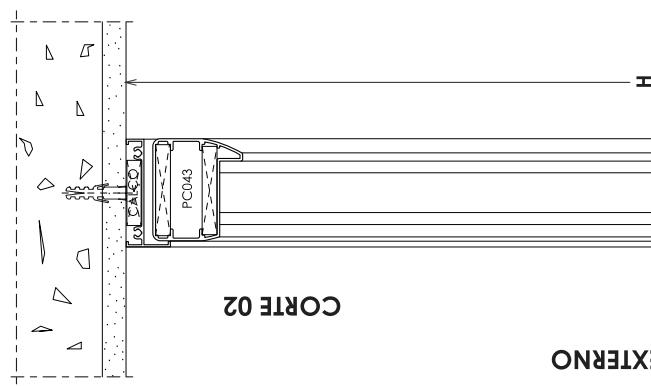


Corte 01



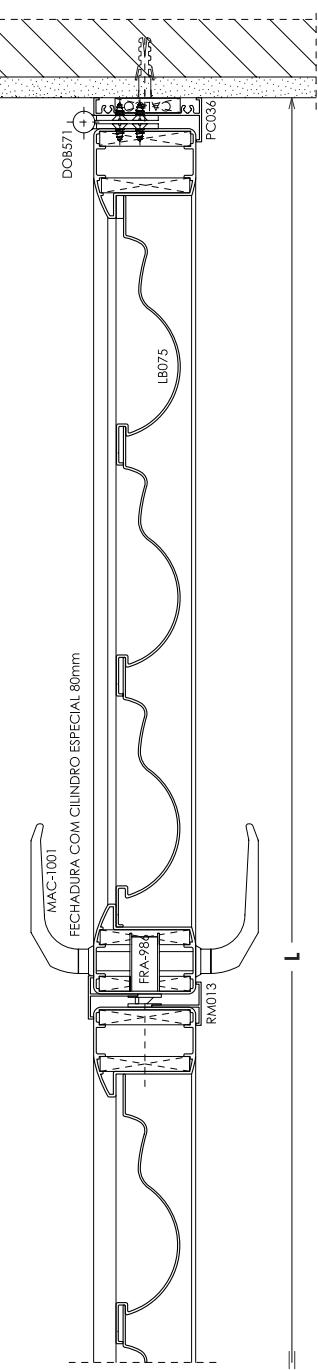
LADO EXTERNO

Corte 02



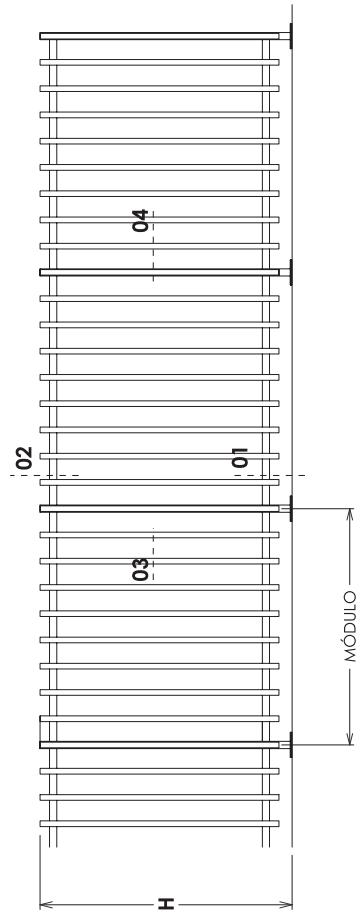
LADO EXTERNO

Corte 03

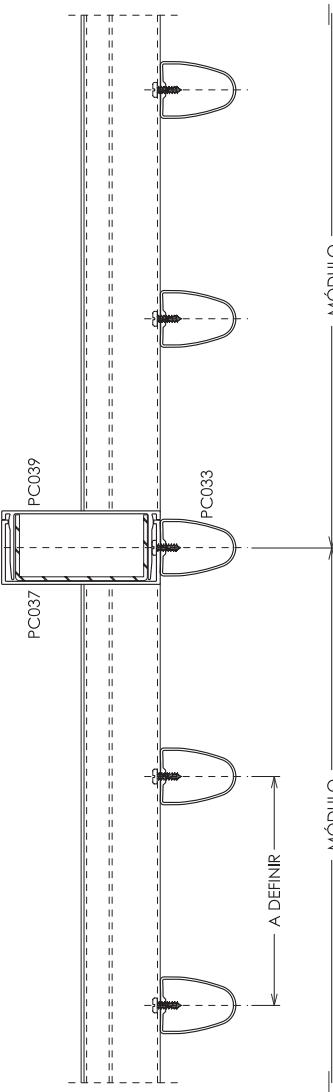


Corte 04

**Portão Universal com lambris verticais 2 folhas de giro**

**ELEVAÇÃO VISTA EXTERNA**

**ATENÇÃO**  
 Pontalete em chapa de aço galvanizada a fogo.  
 Para utilizar pontalete em alumínio, consultar a área técnica.

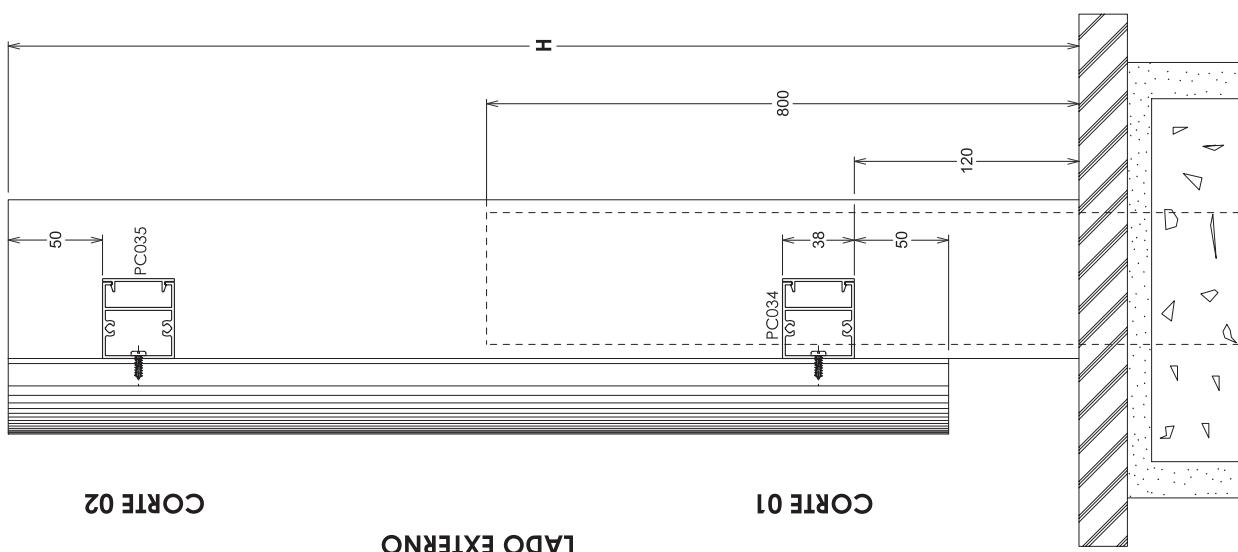


**CORTE 03**  
**LADO EXTERNO**



**CORTE 04**  
**LADO EXTERNO**

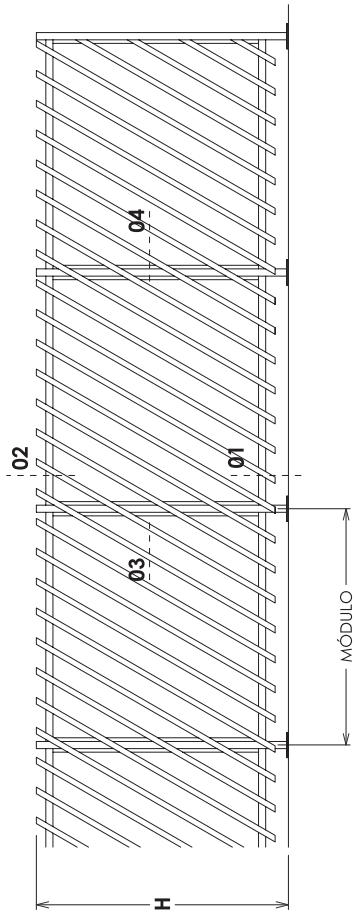
**Grade com barrotes verticais**



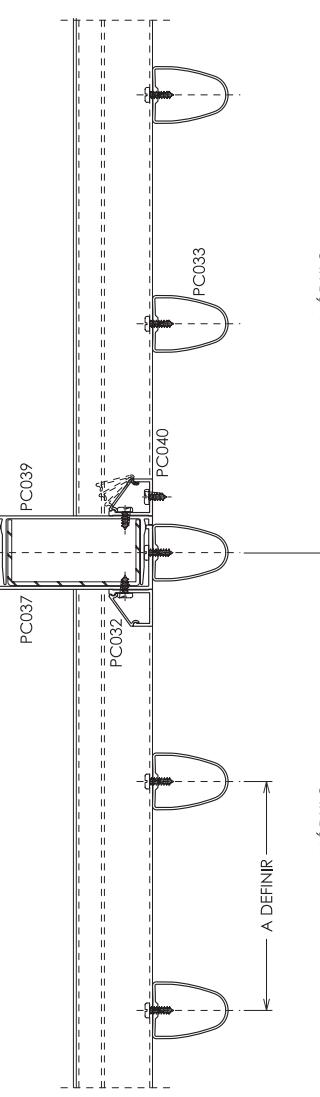
**CORTE 02**

**LADO EXTERNO**

**CORTE 01**

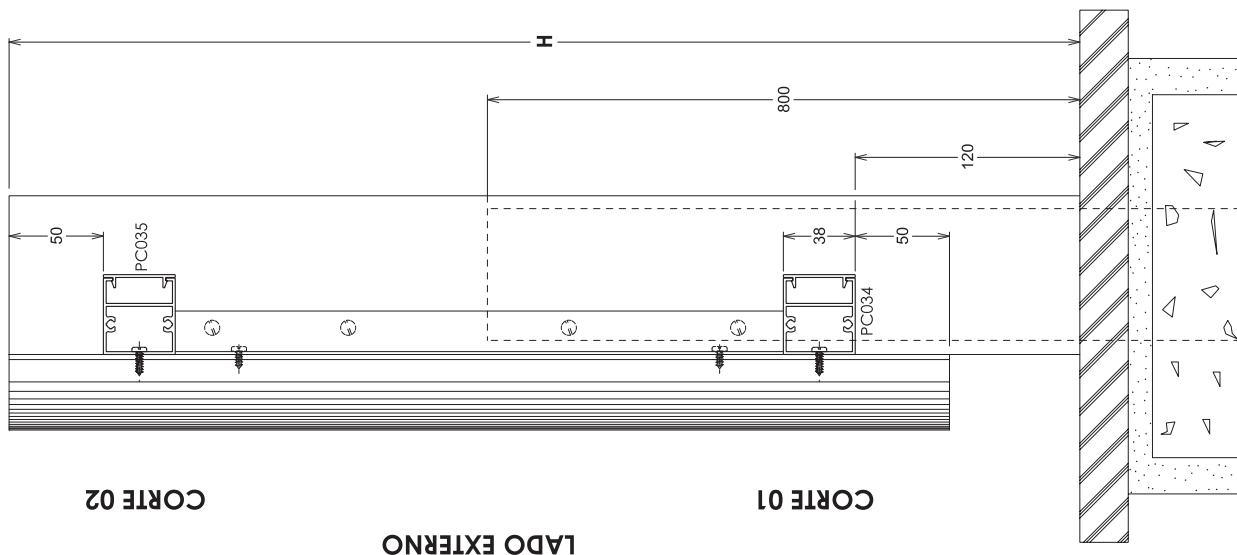
**ELEVAÇÃO VISTA EXTERNA**

**ATENÇÃO**  
 Pontalete em chapa de aço galvanizada a fogo.  
 Para utilizar pontalete em alumínio, consultar a área técnica.

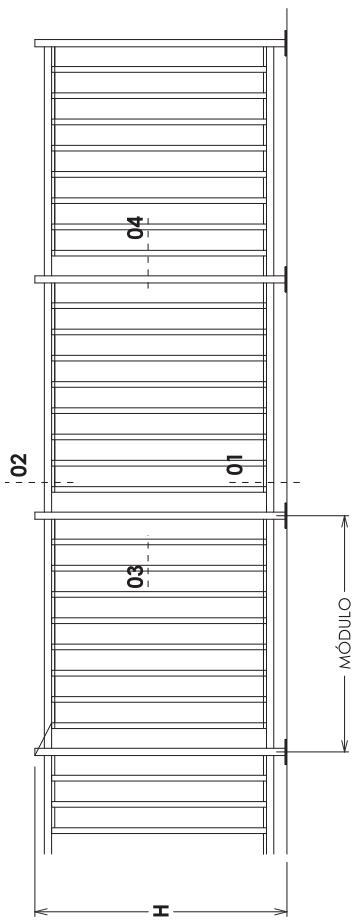


**CORTE 03**  
**LADO EXTERNO**

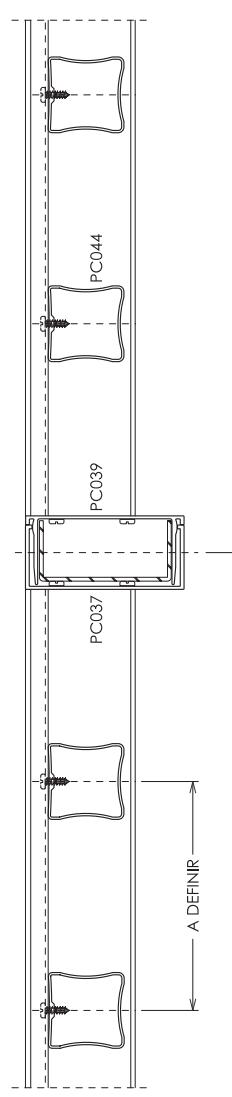
**Grade com barreiros inclinados**



**CORTE 01**  
**LADO EXTERNO**  
**CORTE 02**

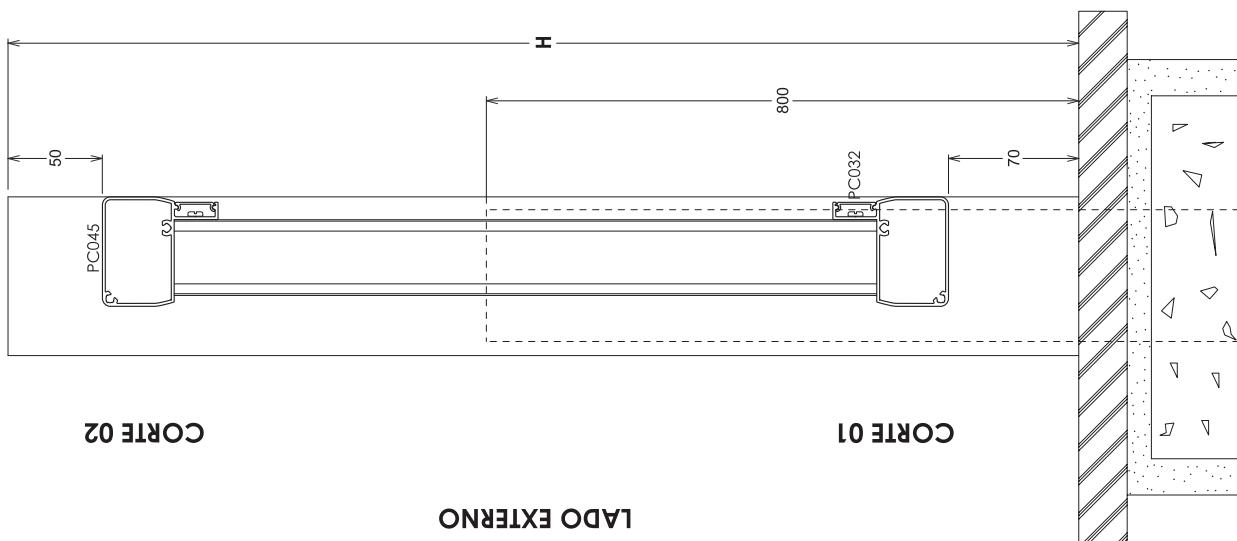
**ELEVAÇÃO VISTA EXTERNA**

**ATENÇÃO**  
 Pontalete em chapa de aço galvanizada a fogo.  
 Para utilizar pontalete em alumínio, consultar a área técnica.

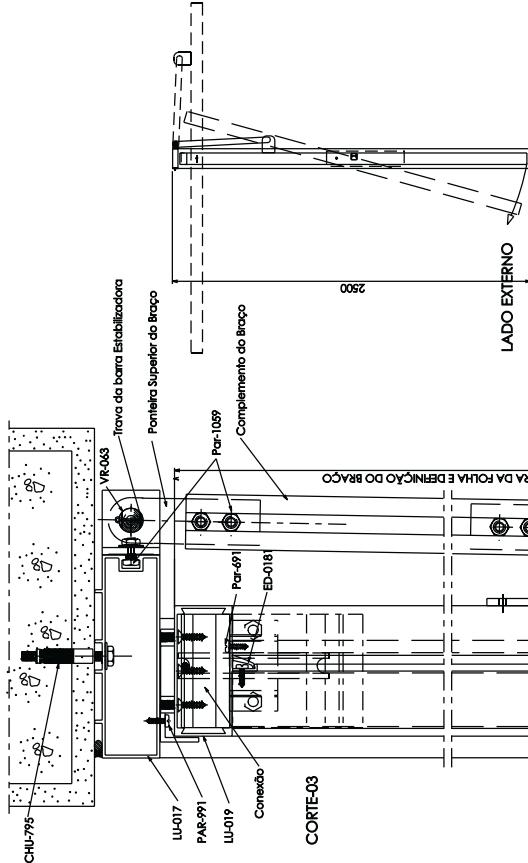


**CORTE 03**  
**LADO EXTERNO**

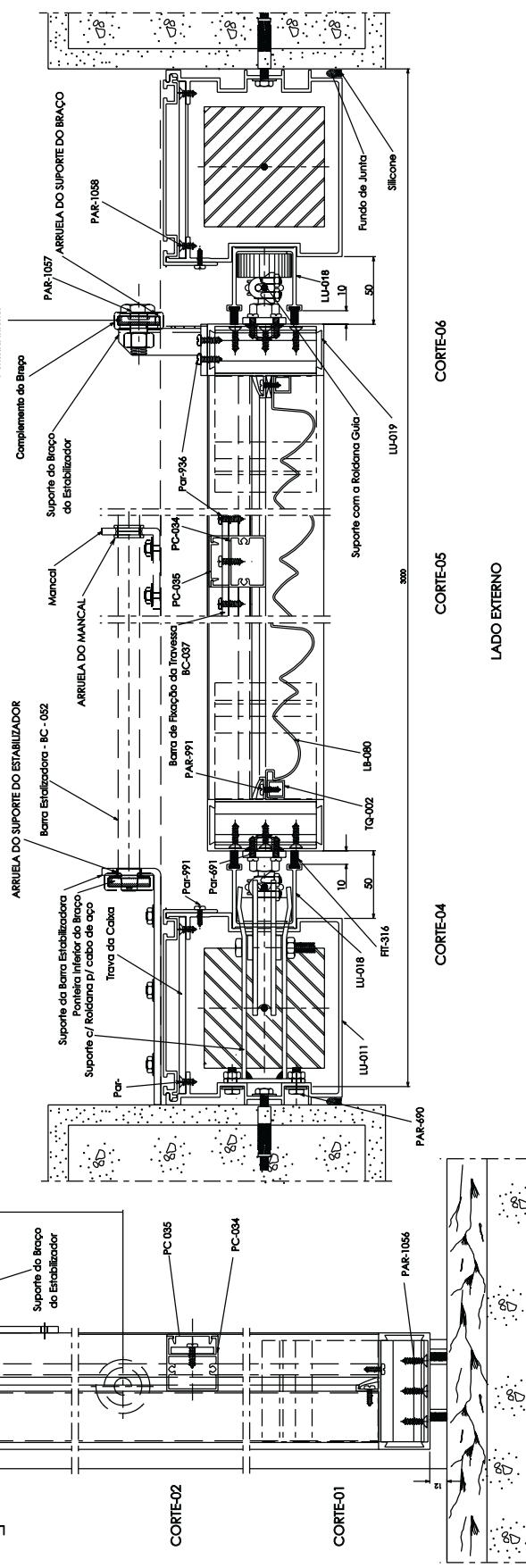
**Grade com barretes verticais entre travessas**



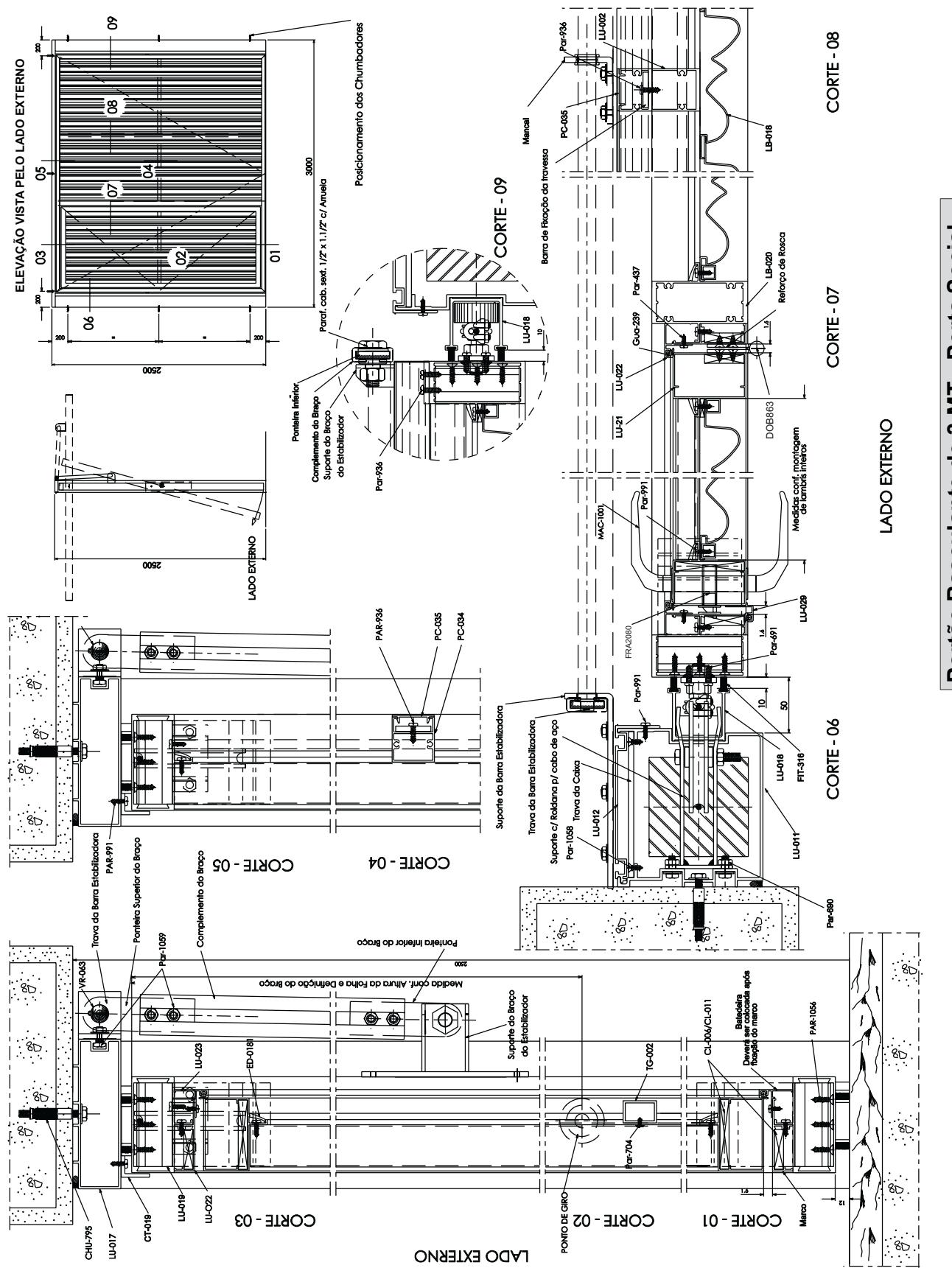
## ELEVACÃO VISTA PELO LADO EXTERNO



LADO EXTERNO

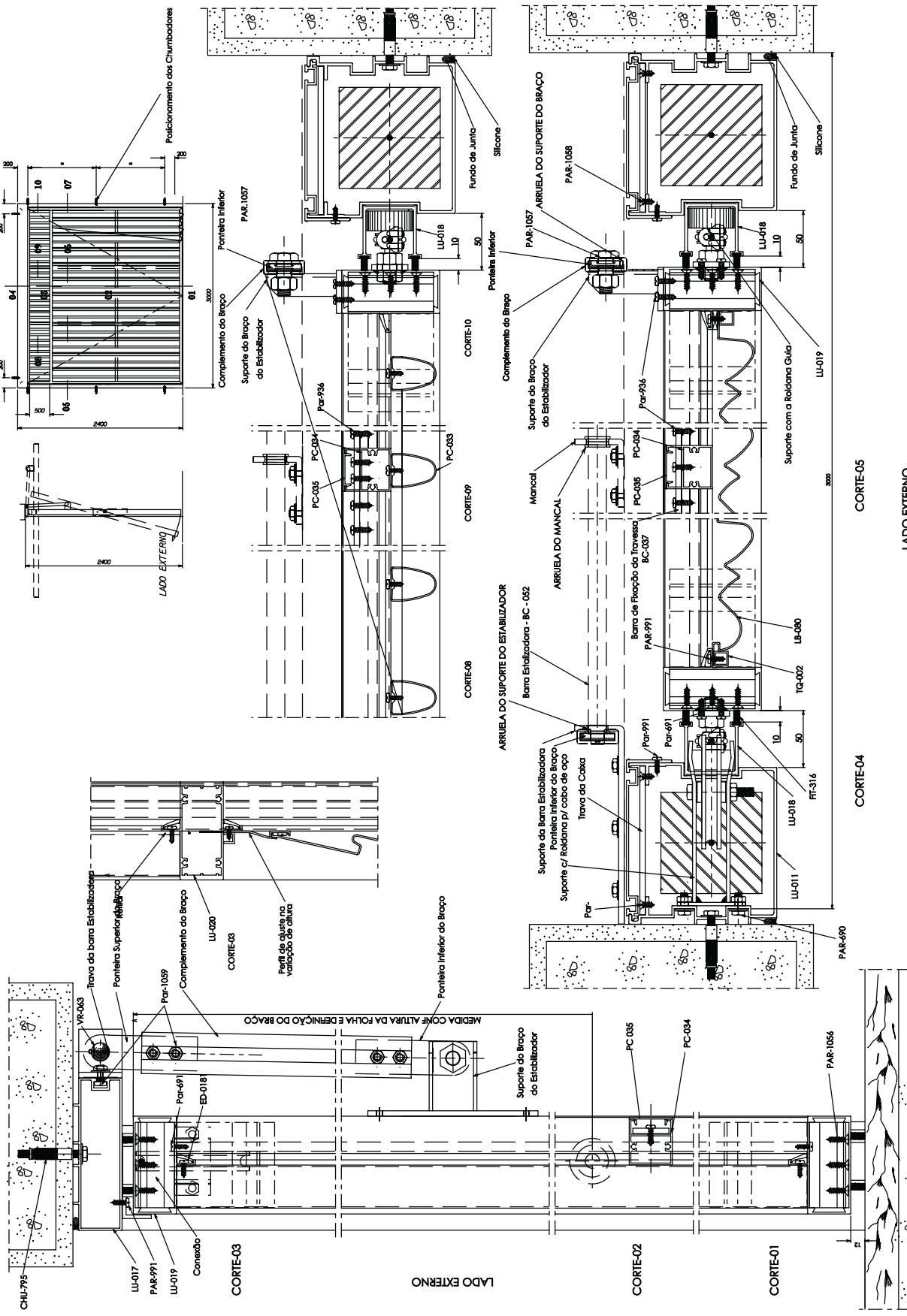


Portão Basculeante de 3 MT



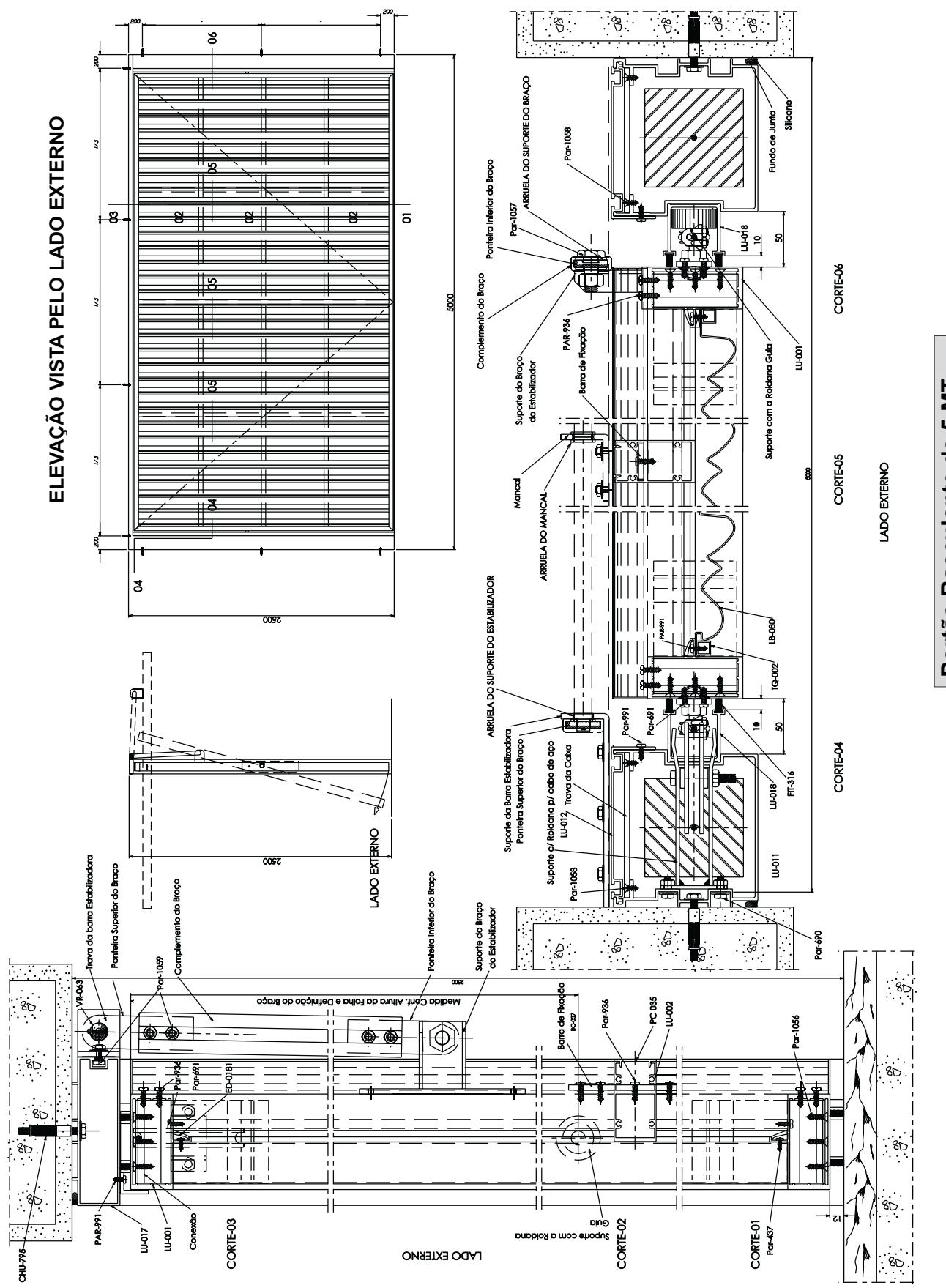
**Portão Basculante de 3 MT - Porta Social**

## ELEVACÃO VISTA PELO LADO EXTERNO

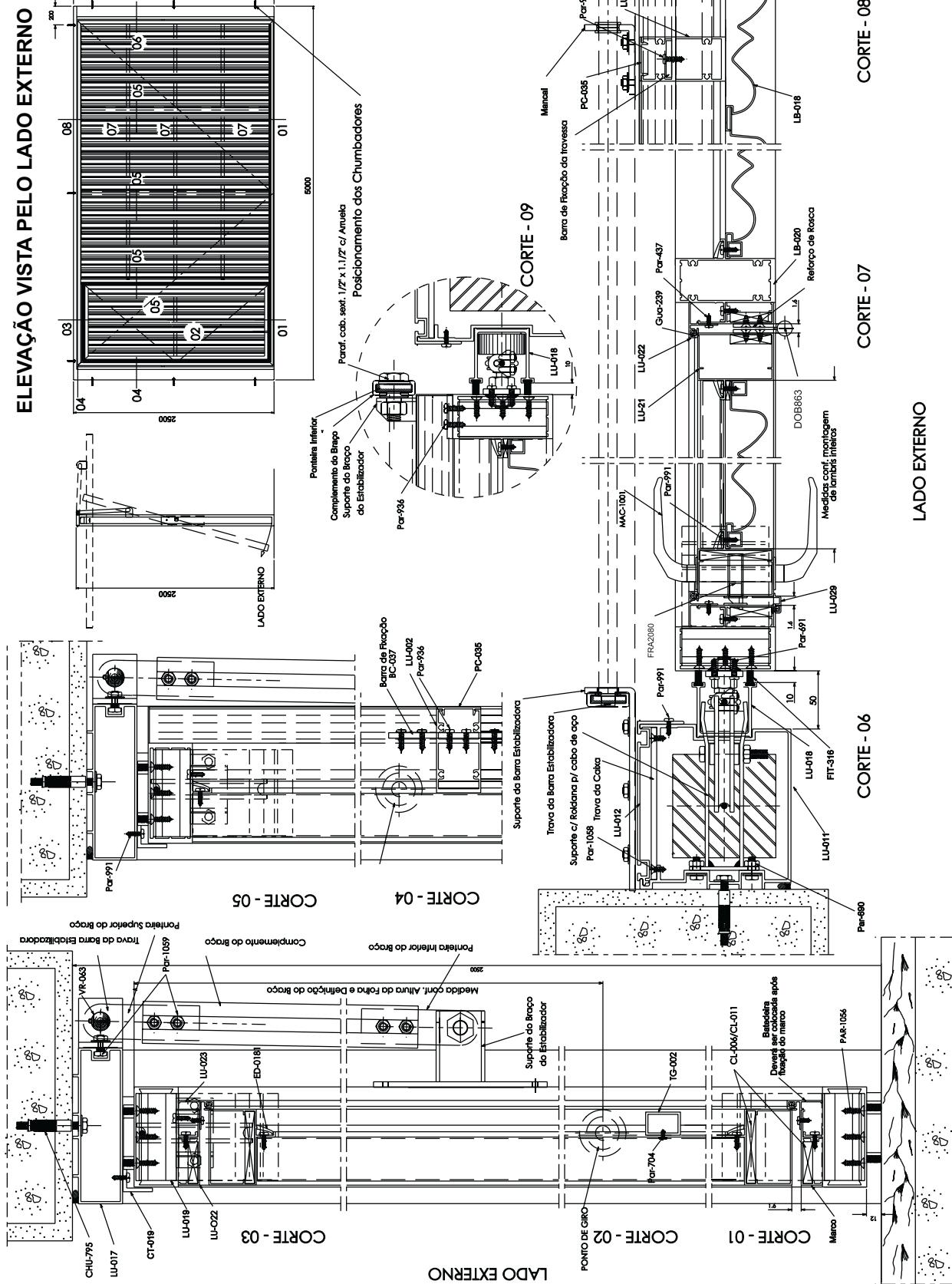


**Portão Basculeante de 3 MT - Bandeira**

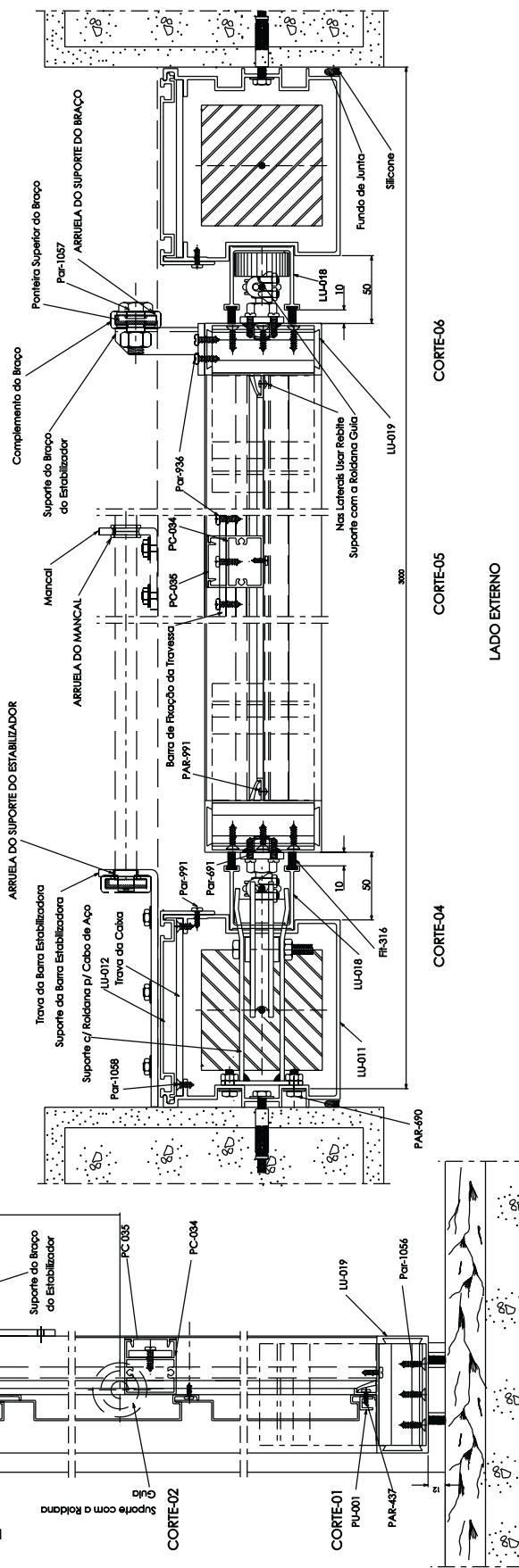
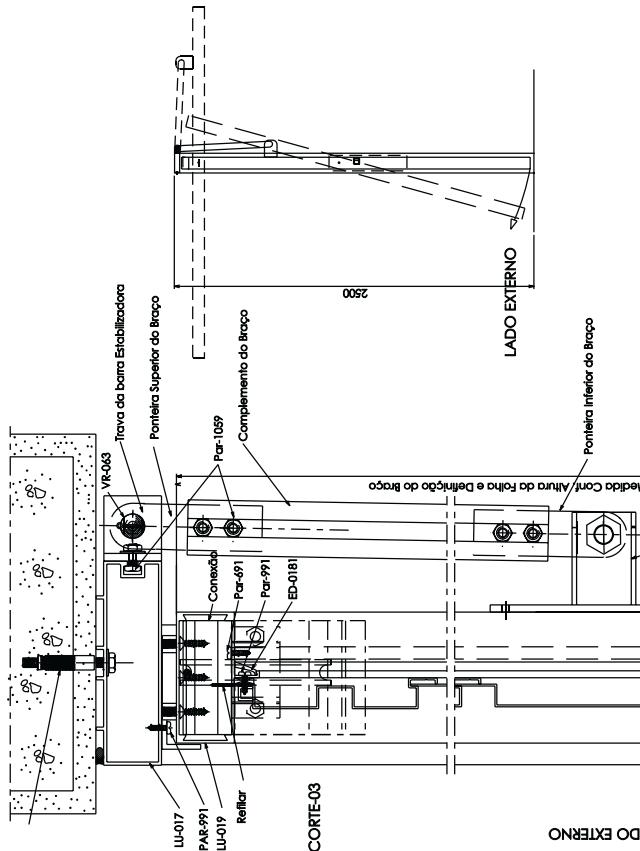
## ELEVACÃO VISTA PELO LADO EXTERNO



**Portão Basculante de 5 MT**

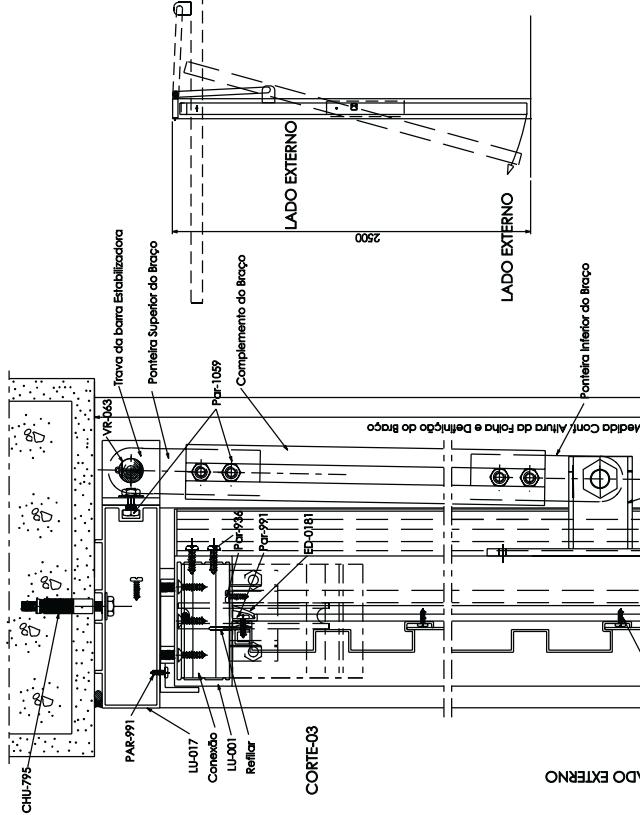


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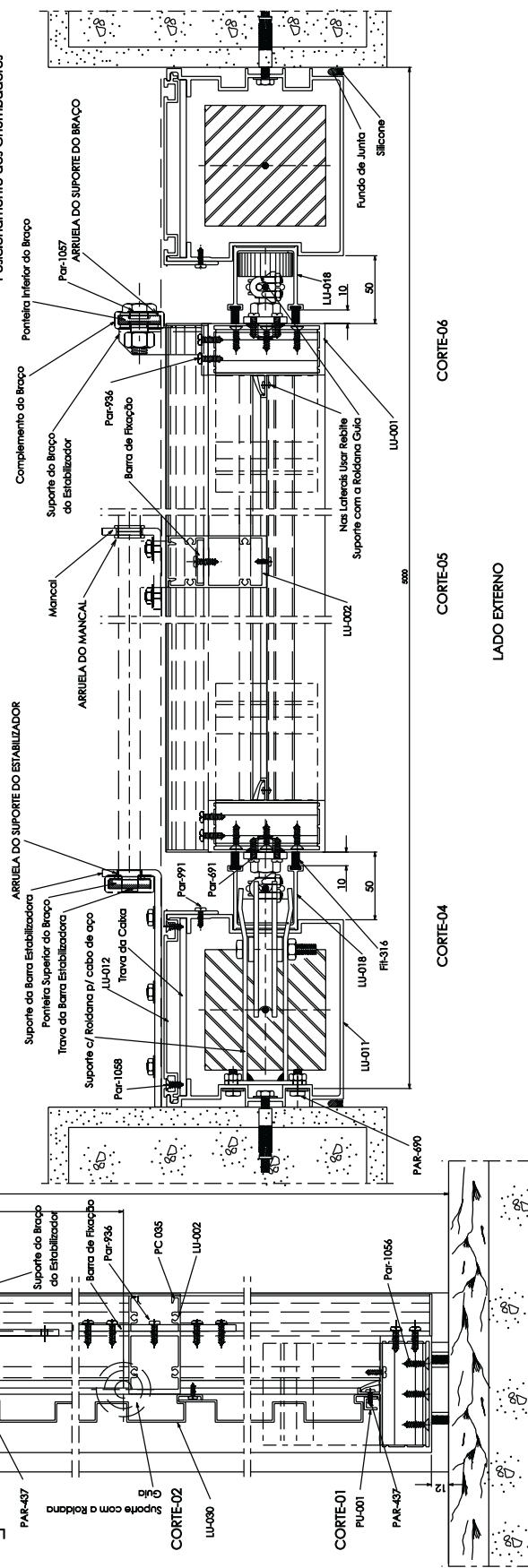


Portão Bassch | ante de 3 MT - Lambris na Horizontal

## ELEVAÇÃO VISTA PELO LADO EXTERNO

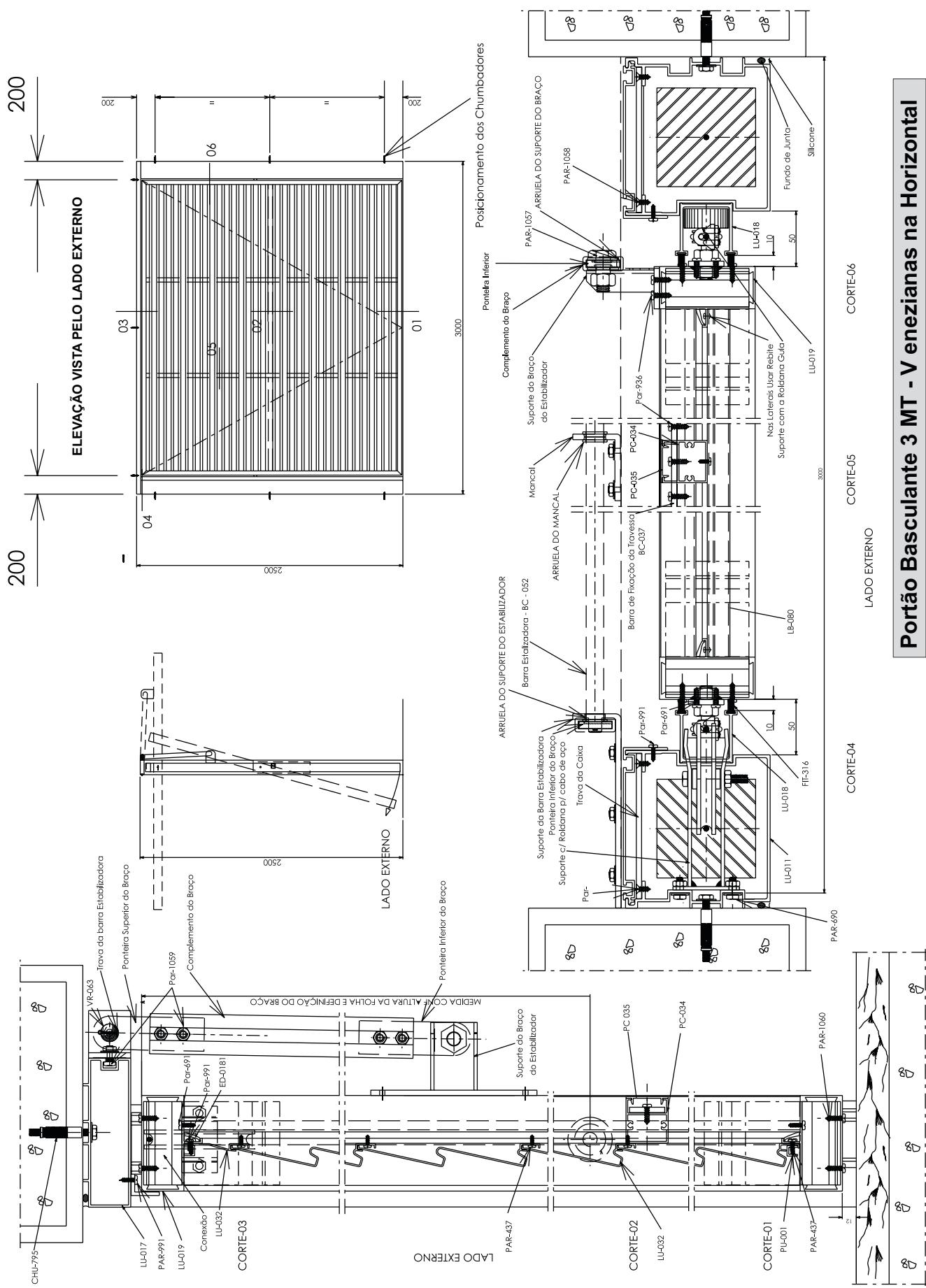


LADO EXTERNO

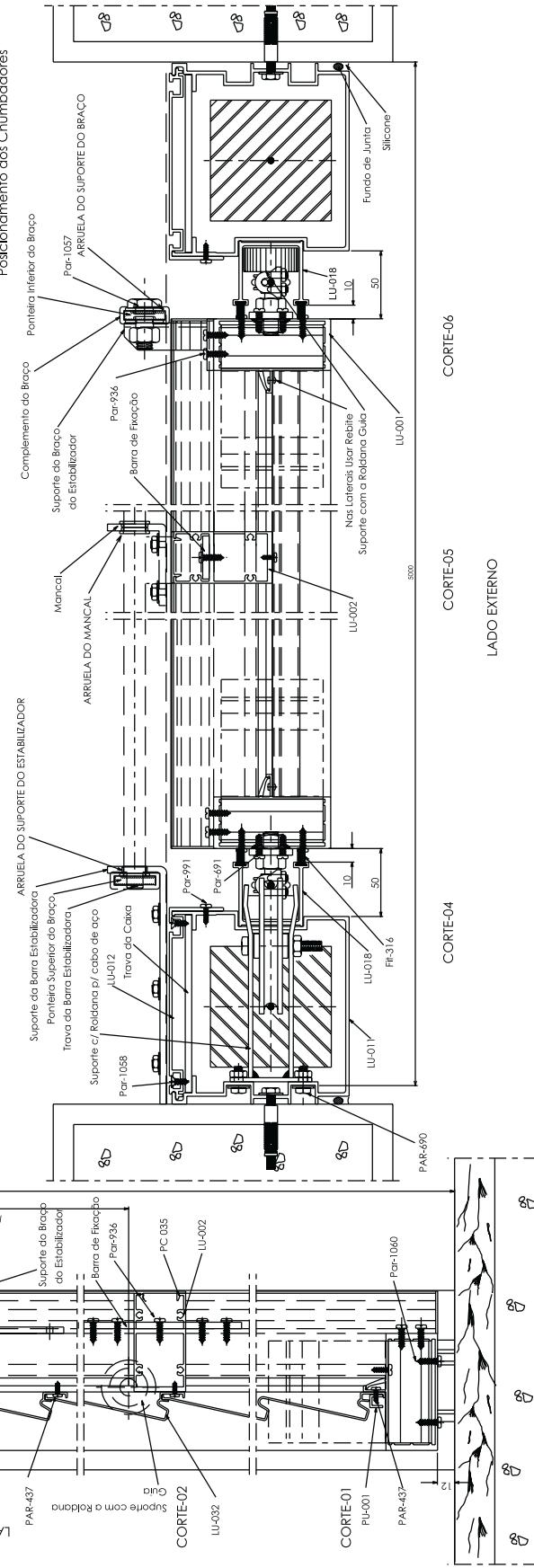
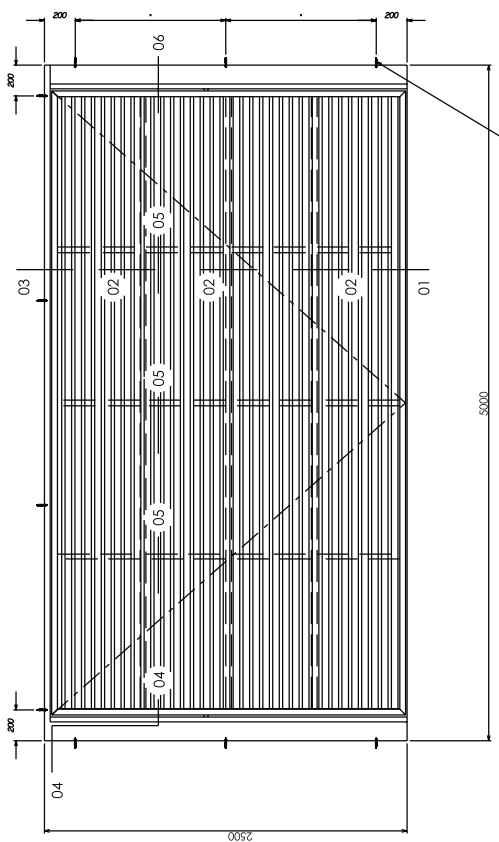
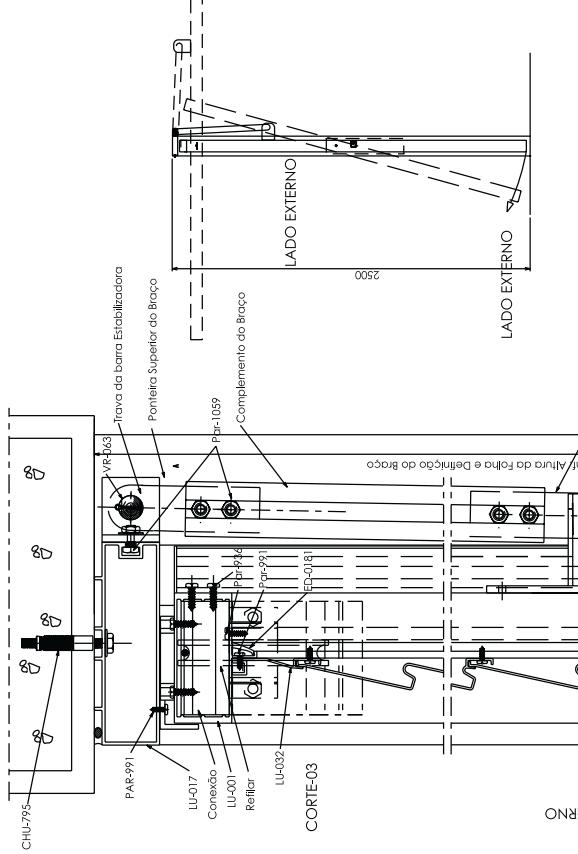


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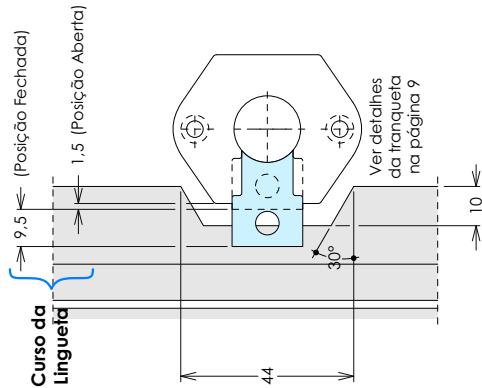
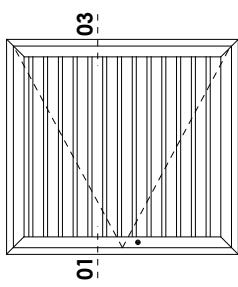
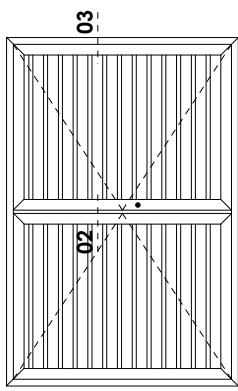
## **Portão Basculante de 5 MT - Lambris na Horizontal**



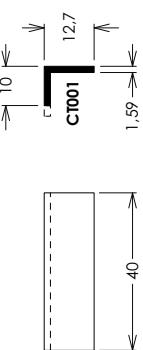
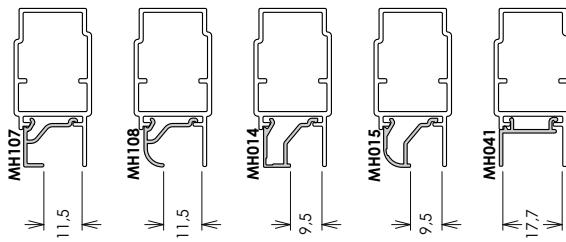
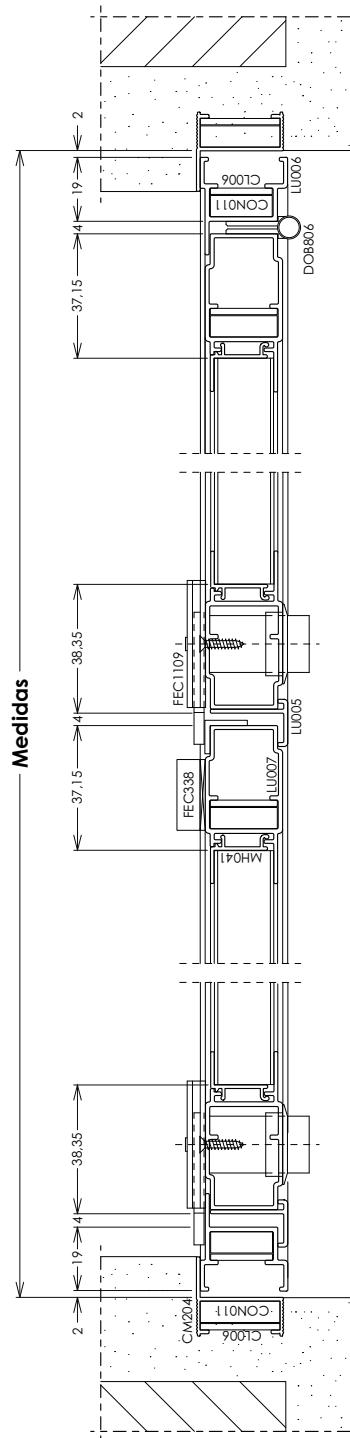
## ELEVAÇÃO VISTA PELO LADO EXTERNO



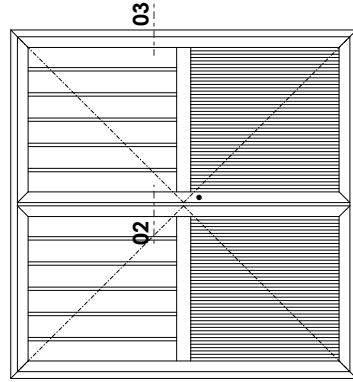
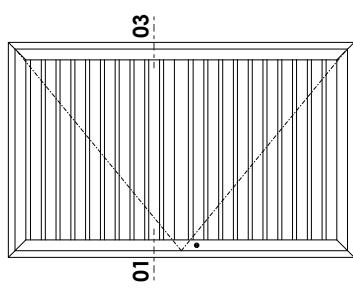
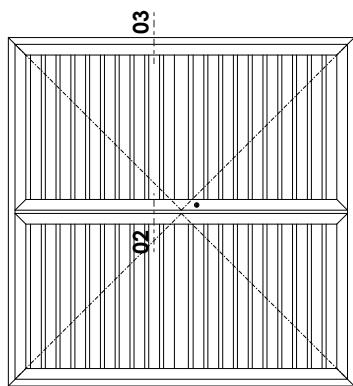
Portfólio Basschianté 5 MT - Venezianas na Horizontal

**ELEVAÇÕES VISTAS EXTERNAS**

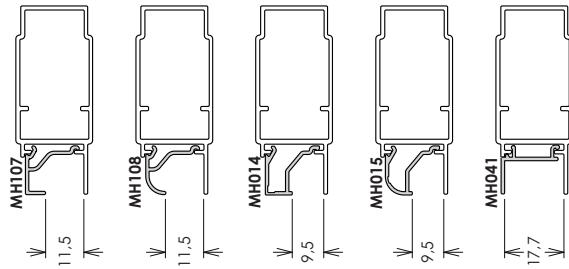
Perfil	Medida
CM204	23 mm
LU006	18,5 mm
LU007	20 mm

**Contrafecho****Uso do perfil LU007 com diferentes boguetes****Usinagem da aba do Marco****CORTE 03****CORTE 02****CORTE 01****LADO EXTERNO****Portinhola com tranqueta com chave**

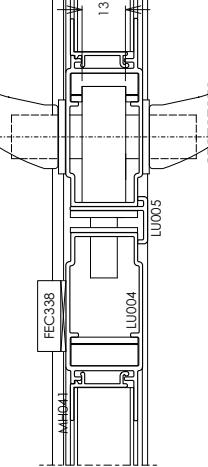
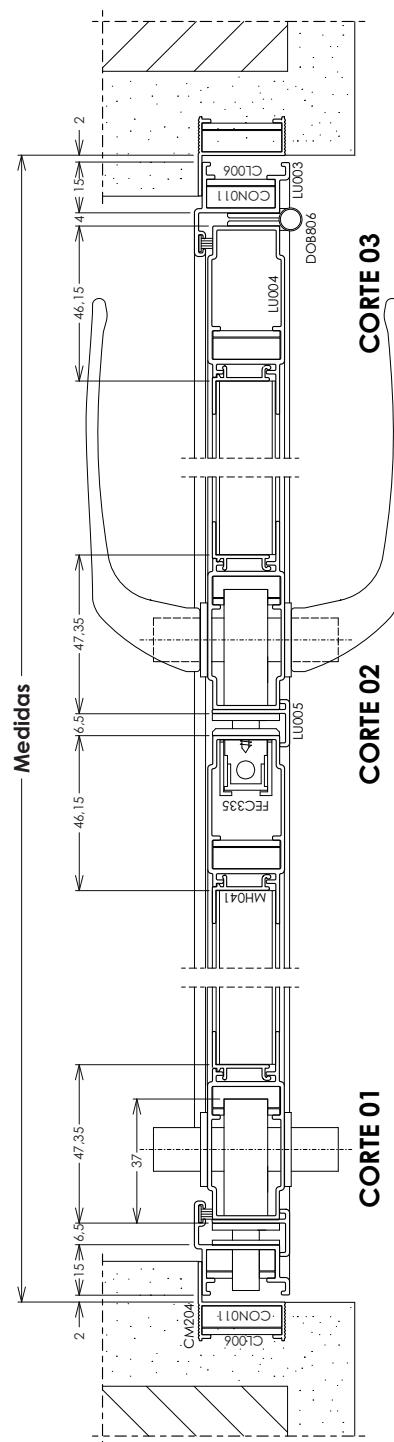
Produto destinado somente para portinholas, não podendo ser utilizado como portas de giro

**ELEVACÕES VISTAS EXTERNAS**

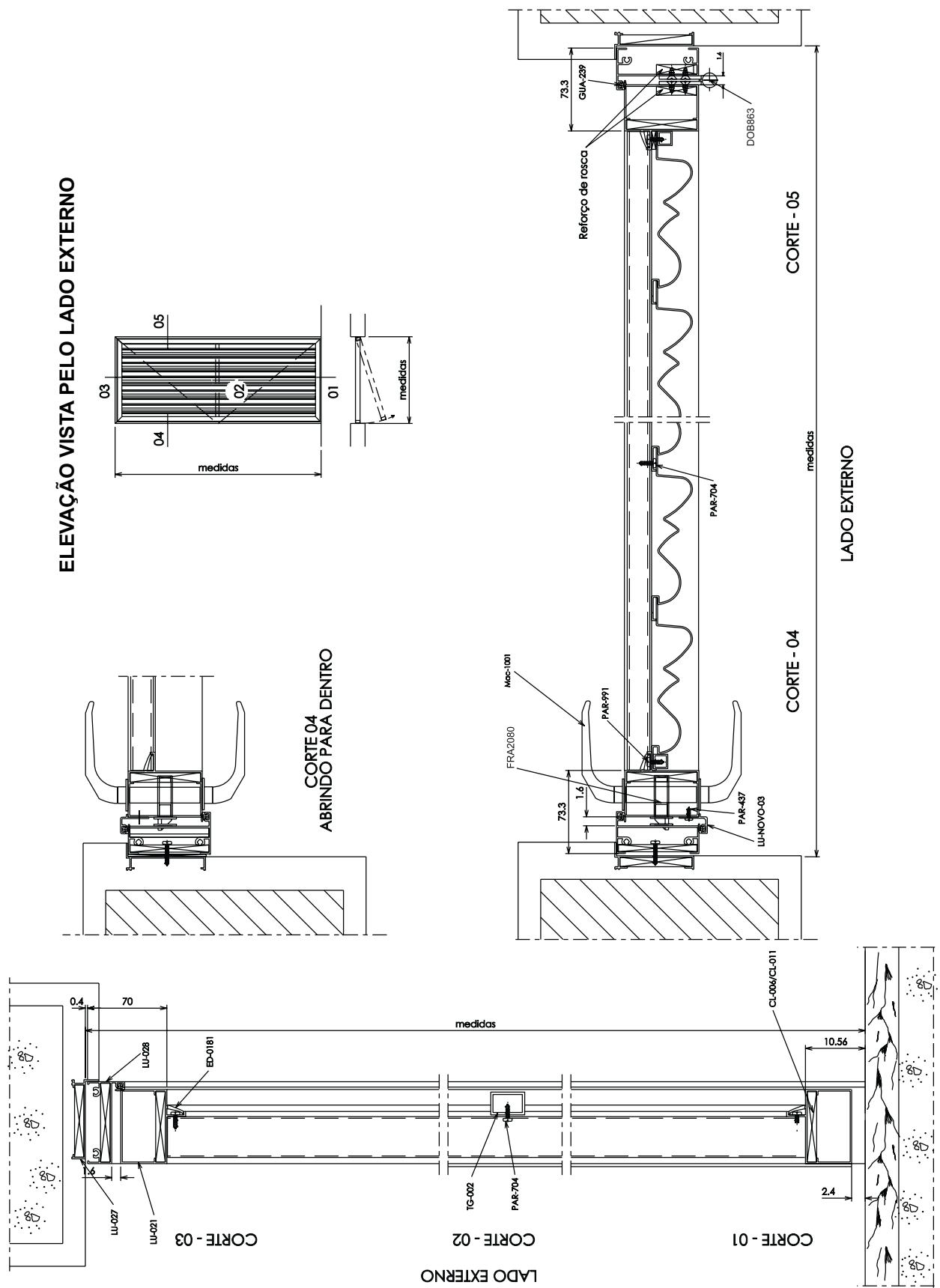
**Uso do perfil LU004  
com diferentes baguetes**



Perfil	Medida
CM204	23 mm
LU003	20 mm
LU004	20 mm

**CORTE 02 (Alternativa)****LADO EXTERNO****Portinhola com fechadura e maçaneta**

Produto destinado somente para portinholas, não podendo ser utilizado como portas de giro





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