

Hydro

UNIVERSAL
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.

*Informação referente a data de fechamento do material.

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	ECO² FAÇADE UNIT CITTÀ ELEGANCE MIRROR WIND FAÇADE
Sistemas Residenciais	UNICA UNICA MINIMALIST INOVA PRODUTIVA25 GOLD Slim NOVA GOLD MASTER
Complementos de Arquitetura	ESPLENDOOR SKYLINE UNIVERSAL VARANDA E GRADIL UNIVERSAL PORTÃO E GRADE UNIVERSAL 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 45° ou 90°, além de grades de alumínio. Os perfis vêm preparados para receber anodização ou pintura eletrostática a pó, ganhando maior vida útil e diferenciais estéticos.

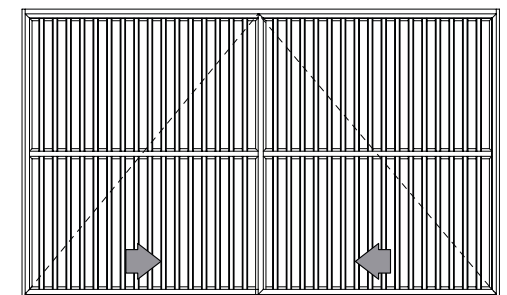
O sistema também oferece o Portão Fit, mais leve e competitivo. Essa tipologia entrega rapidez na fabricação e simplicidade na montagem em função do número reduzido de perfis, permite poucas usinagens, não requer utilização de estampos e pode integrar a porta social ao portão.



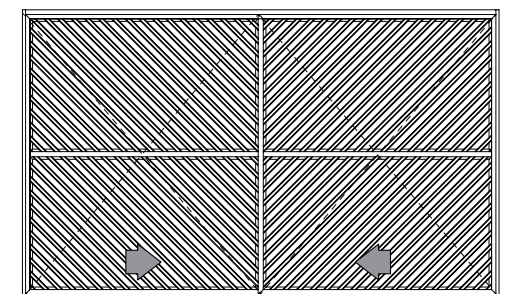
Tipologias	B-01 B-05
Diagramas	C-01 C-03
Perfis	D-01 D-16
Componentes	E-01 E-03
Usinagens	F-01 F-05
Detalhes Construtivos	G-01 G-05
Projetos de Montagem	H-01 H-21

Portões de Correr Universal e FIT

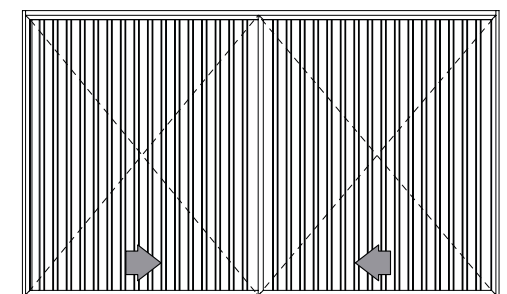
Portão com barrotes verticais 2 folhas de correr



Portão com barrotes inclinados 2 folhas de correr



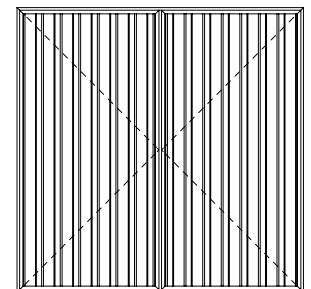
Portão com lambris verticais 2 folhas de correr



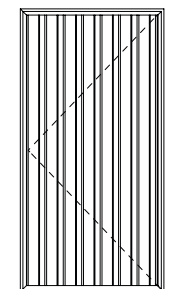
Nota: Estas tipologias poderão ser fabricadas com portão social

Portões de Giro Universal

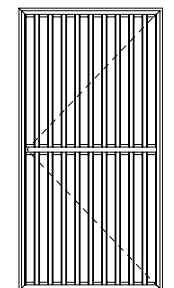
Portão com lambris verticais 2 folhas de giro



Portão com lambris verticais 1 folha de giro

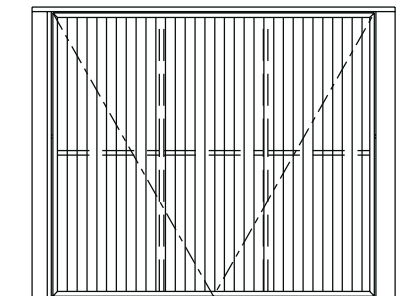
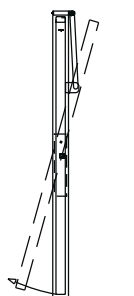


Portão com barrotes verticais 1 folha de giro

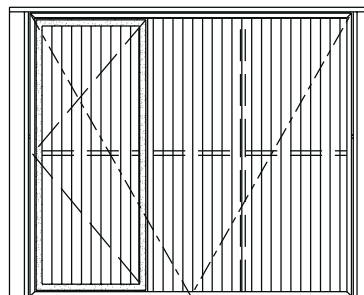


Portão Basculante

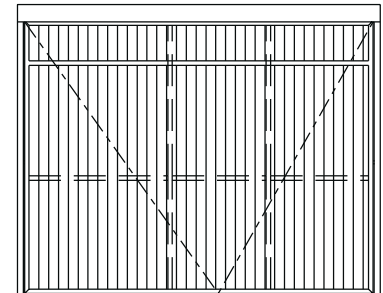
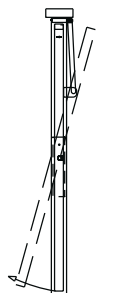
Basculante - Folha normal



Basculante - Folha com porta social

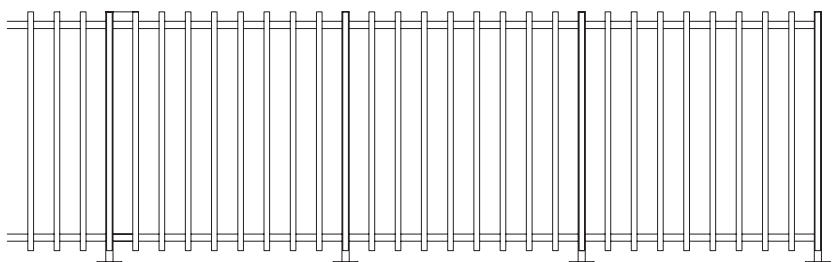


Basculante - Folha com bandeira

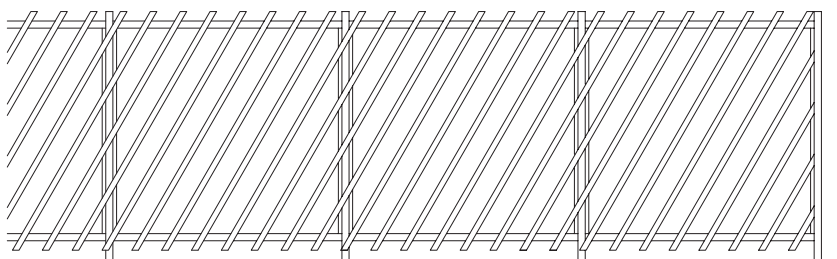


Grade Universal

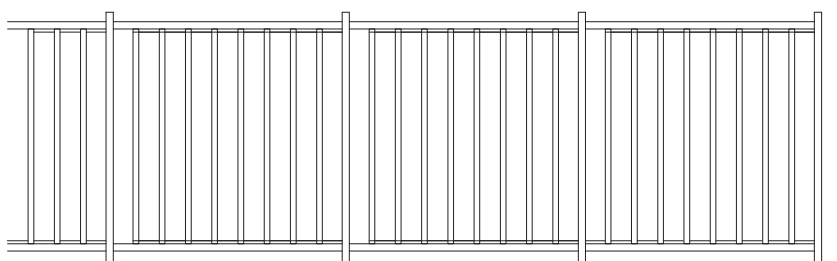
Grade com barrotes verticais



Grade com barrotes inclinados

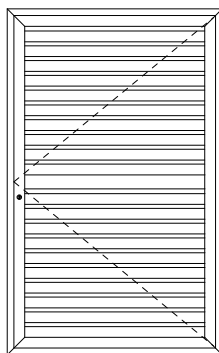


Grade com barrotes verticais entre travessas

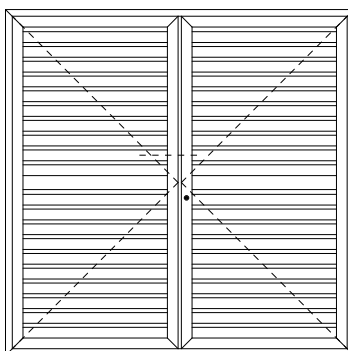


Portinhola

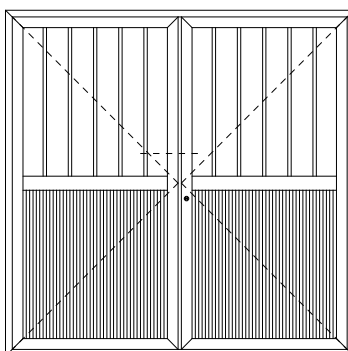
Portinhola de 1 folha



Portinhola de 2 folhas

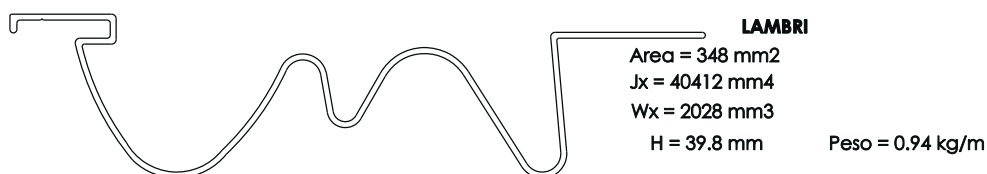
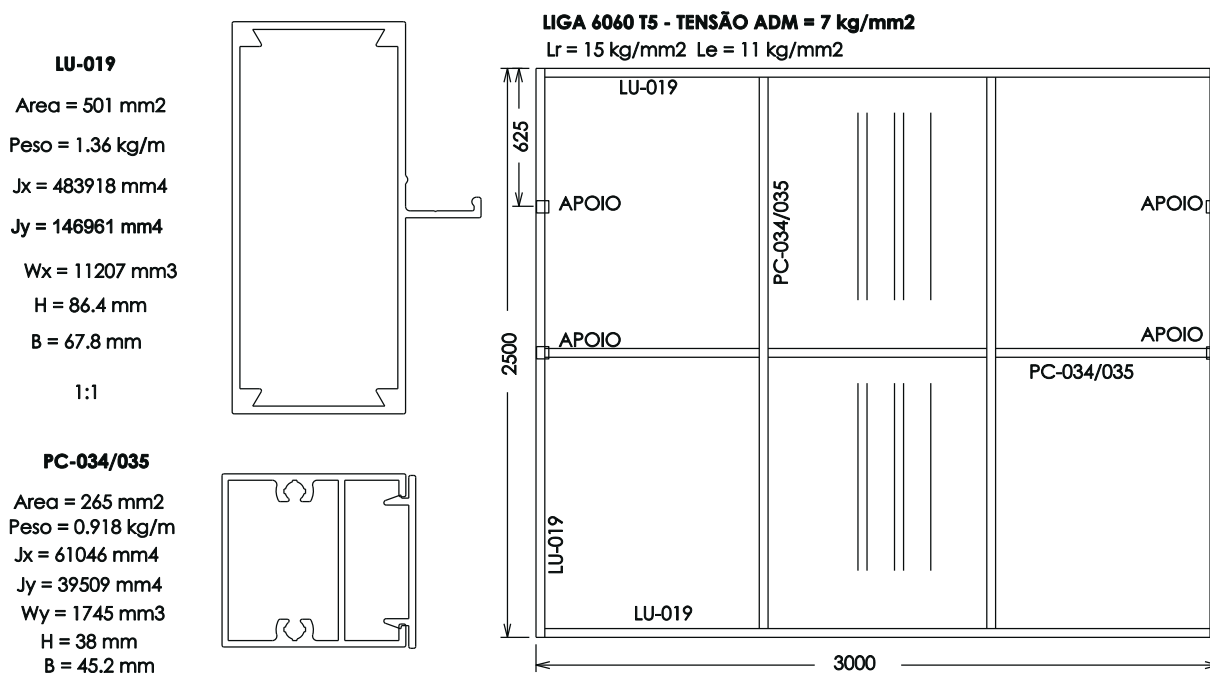


Portinhola de 2 folhas com lambris

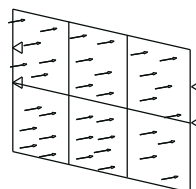


Diagramas de Dimensões

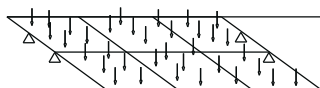
Portão Basculante 3 Metros



1) PRESSÃO DE ENSAIO = 50 kg/m²
PORTÃO FECHADO



2) PESO PRÓPRIO = 13 kg/m²
PORTÃO ABERTO



Portão Basculante 5 Metros

LU-001

Area = 629 mm²

Peso = 1.7 kg/m

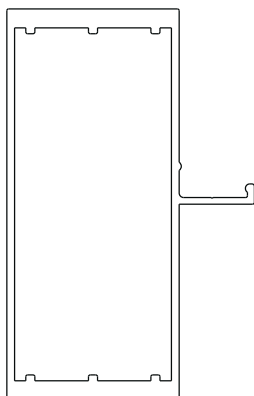
Jx = 692255 mm⁴

Jy = 151629 mm⁴

Wx = 16042 mm³

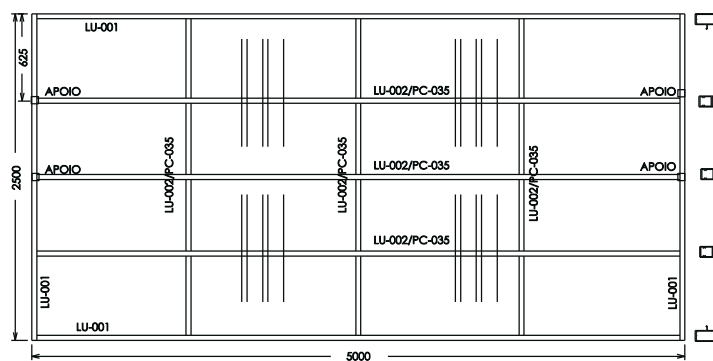
H = 86.3 mm

B = 68.4 mm



LIGA 6060 T5 - TENSÃO ADM = 7 kg/mm²

Lr = 15 kg/mm² Le = 11 kg/mm²



LU-002/PC-035

Area = 558 mm²

Peso = 1.71 kg/m

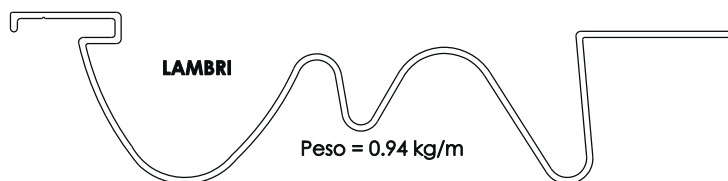
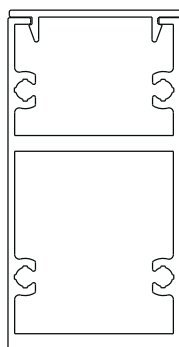
Jx = 291303 mm⁴

Jy = 120542 mm⁴

Wx = 6994 mm³

H = 83.3 mm

B = 38 mm



LAMBRI

Peso = 0.94 kg/m

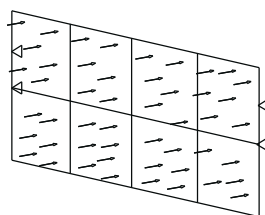
Area = 348 mm²

Jx = 40412 mm⁴

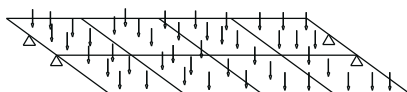
Wx = 2028 mm³

H = 39.8 mm

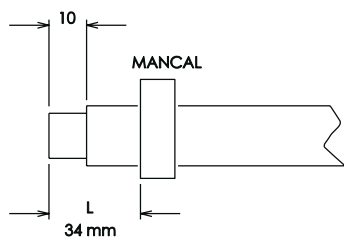
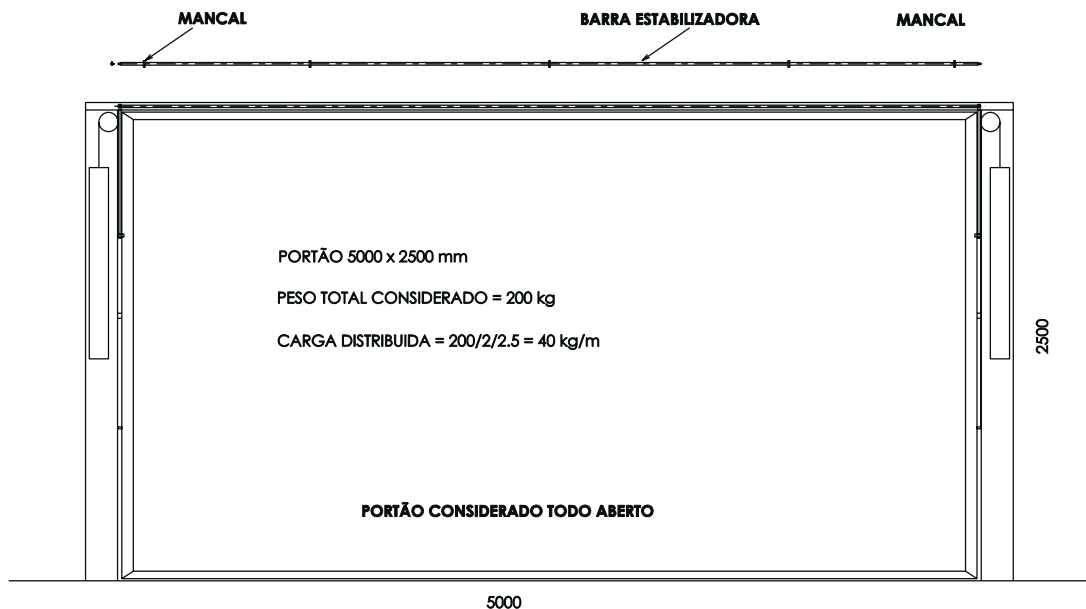
1) PRESSÃO DE ENSAIO = 50 kg/m² PORTÃO FECHADO



2) PESO PRÓPRIO = 13 kg/m² PORTÃO ABERTO



Barra Estabilizadora



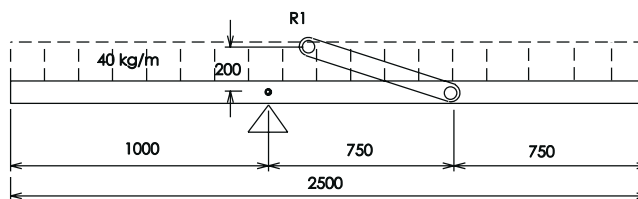
$$M = 115 \times L$$

$$W = 383 \text{ mm}^3$$

$$\text{TENSÃO} = \frac{115 \times L = 10}{383}$$

$$L \text{ MÁXIMO} = 34 \text{ mm}$$

$$\text{TENSÃO CIS} = 115/196 = 0.59 \text{ kg/mm}^2$$



REAÇÃO MÁXIMA EM R1 = 115 kg

BARRA ESTABILIZADORA



$$\text{Area} = 196 \text{ mm}^2$$

$$J = 3060 \text{ mm}^4$$

$$Jt = 6118 \text{ mm}^4$$

$$W = 383 \text{ mm}^3$$

LIGA 6063 T6

$$Lr = 205 \text{ MPa} \quad Le = 170 \text{ MPa} \quad Lcis = 125 \text{ MPa}$$

$$\text{TENSÃO ADM} = 10 \text{ kg/mm}^2$$

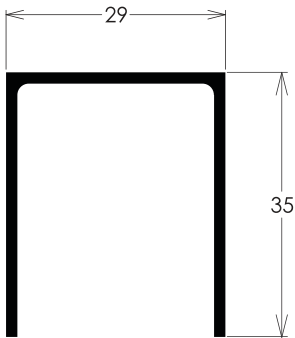
Perfis

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LB072	D-09
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LB074	D-09
LB075	D-10
LB076	D-10
LB077	D-10
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LB080	D-13
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LB088	D-11
LB089	D-11
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LU005	D-07
LU006	D-07
LU007	D-07
LU011	D-05
LU012	D-05
LU017	D-04
LU018	D-06
LU019	D-04
LU020	D-04
LU021	D-06

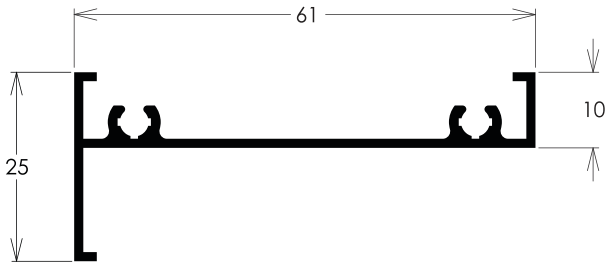
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LU083	D-15
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PC037	D-03
PC039	D-03
PC040	D-03
PC041	D-16
PC042	D-16
PC043	D-01
PC044	D-16
PC045	D-03
PC047	D-01
PC063	D-02
PC064	D-02
PC065	D-02
PU639	D-01 D-02
RM013	D-01 D-02

Portões de Correr

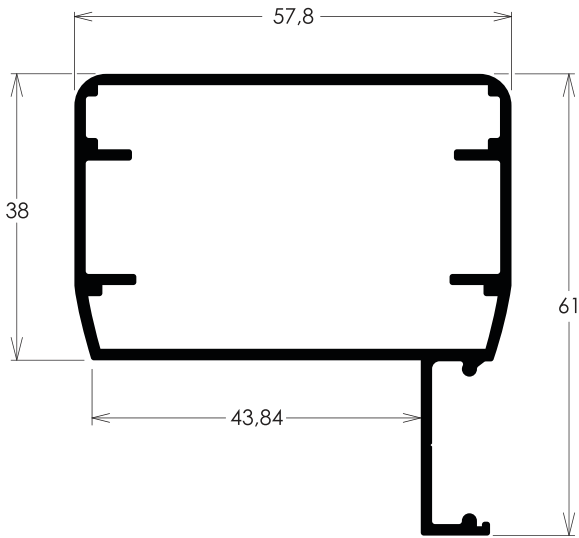
PU639 0,392 Kg/m



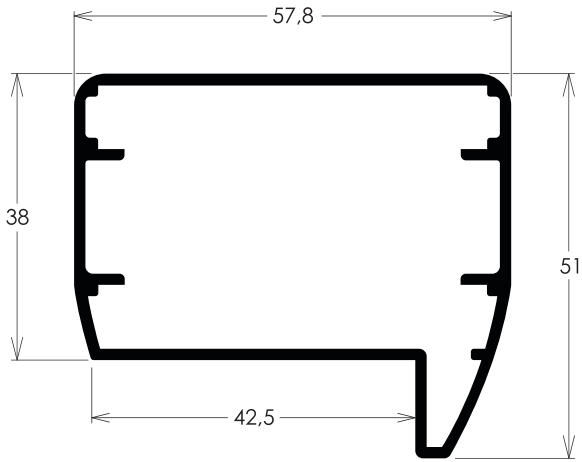
PC036 0,442 Kg/m



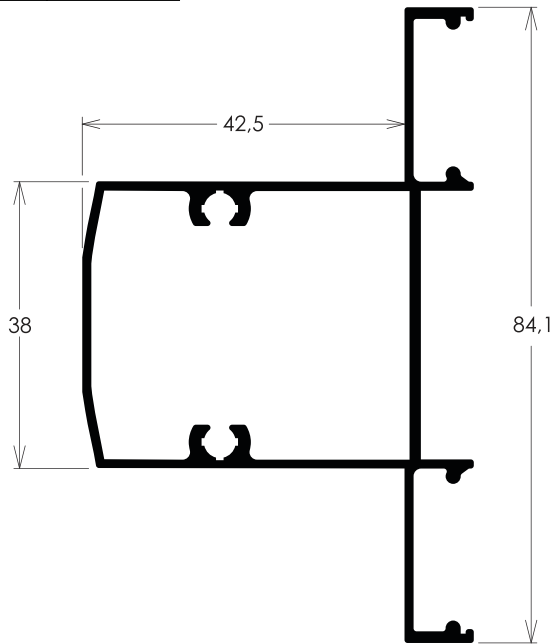
PC031 0,807 Kg/m



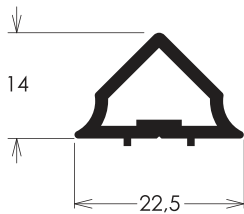
PC043 0,761 Kg/m



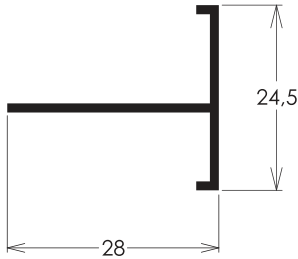
PC047 0,946 Kg/m



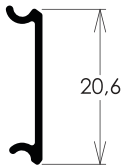
30044 0,242 Kg/m



RM013 0,177 Kg/m



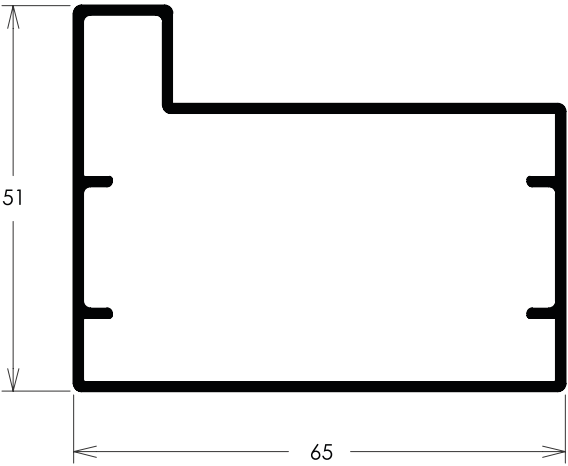
PC032 0,080 Kg/m



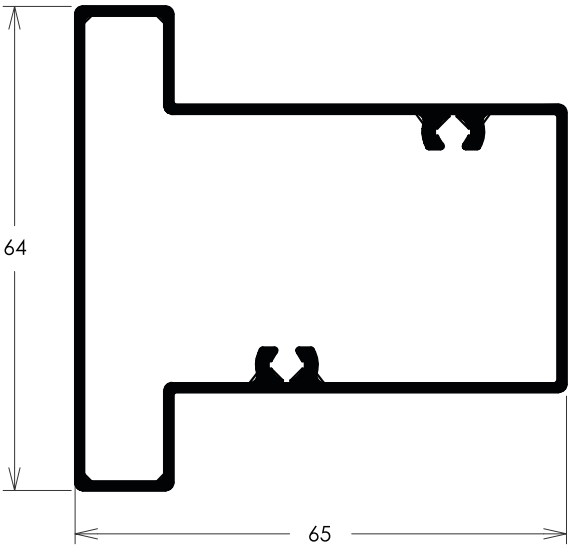
Projetos, perfis, componentes, códigos e sistemas estão sujeitos a alteração sem prévio aviso.

Portões Diversos

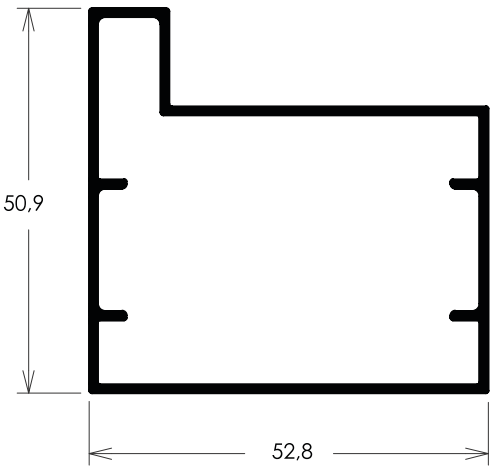
PC027 0,795 Kg/m



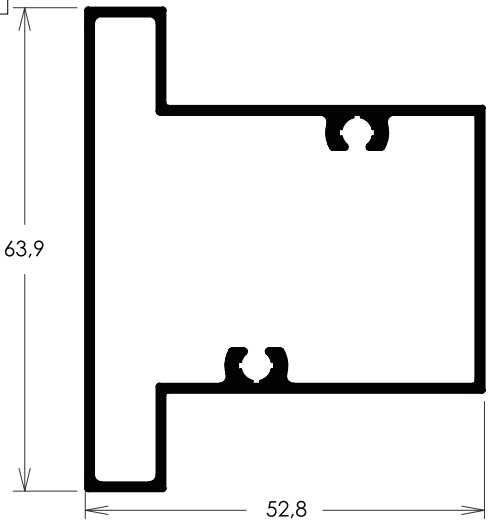
PC063 0,938 Kg/m



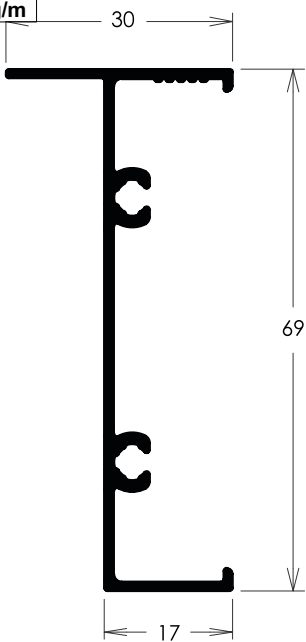
PC064 0,684 Kg/m



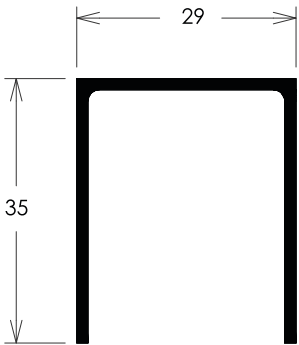
PC065 0,832 Kg/m



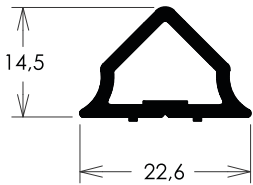
IN044 0,507 Kg/m



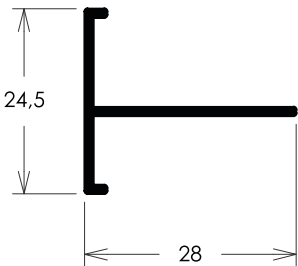
PU639 0,392 Kg/m



30044 0,242 Kg/m



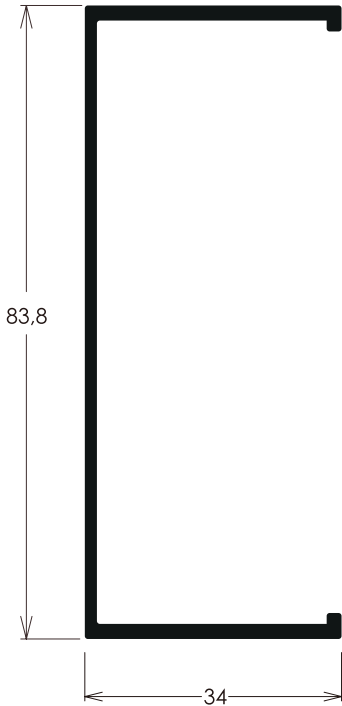
RM013 0,177 Kg/m



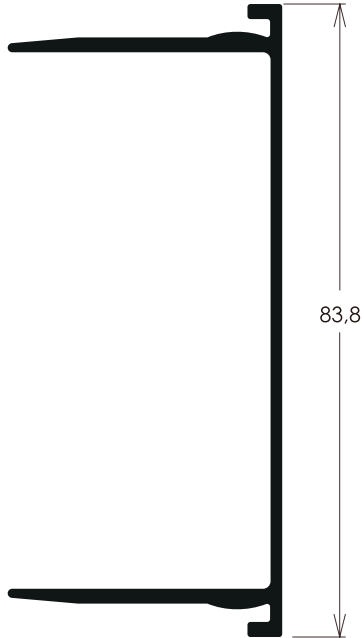
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Grades

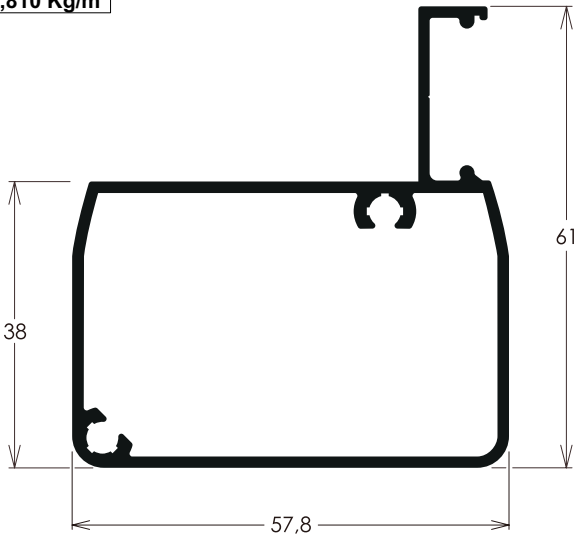
PC037 0,579 Kg/m



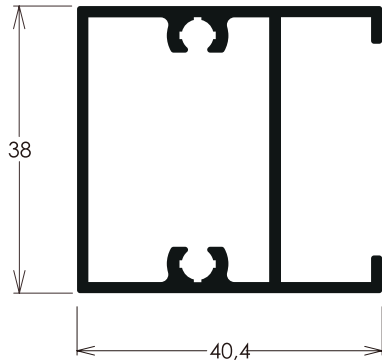
PC039 0,615 Kg/m



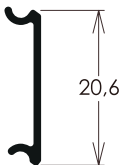
PC045 0,810 Kg/m



PC034 0,718 Kg/m



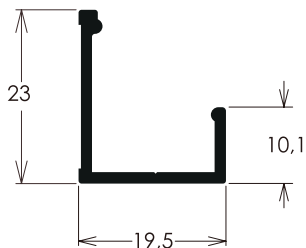
PC032 0,080 Kg/m



PC035 0,199 Kg/m



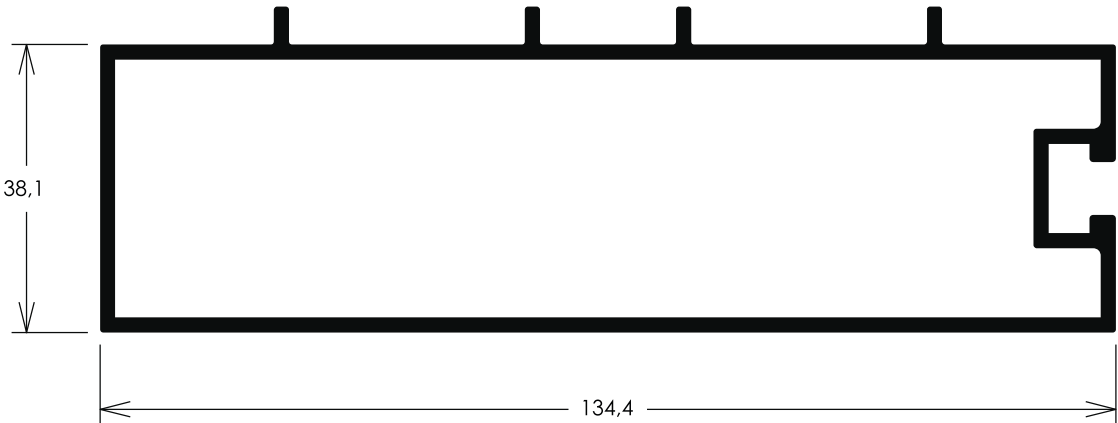
PC040 0,202 Kg/m



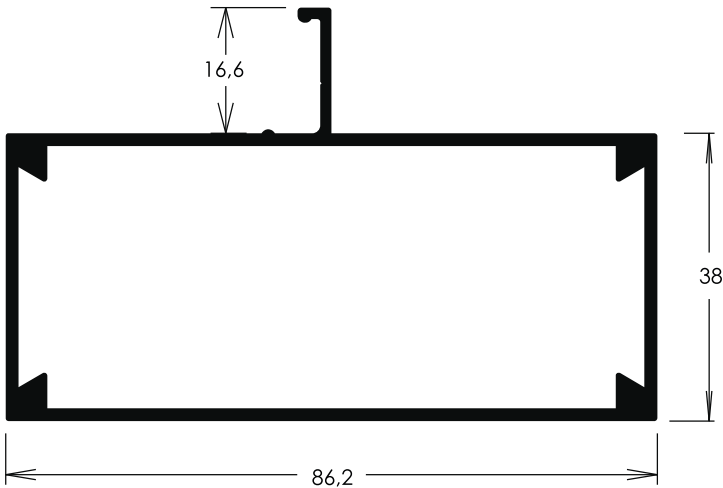
Projetos, perfis, componentes, códigos e sistemas estão sujeitos a alteração sem prévio aviso.

Portões Basculantes

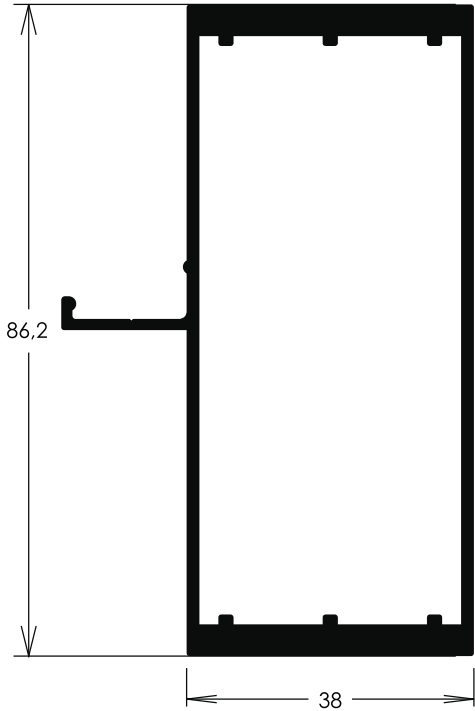
LU017 2,095 Kg/m



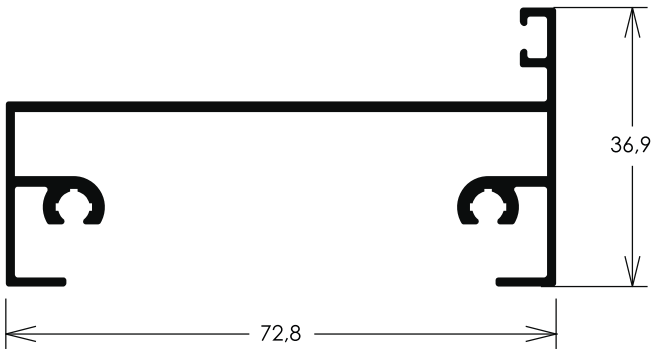
LU019 1,363 Kg/m



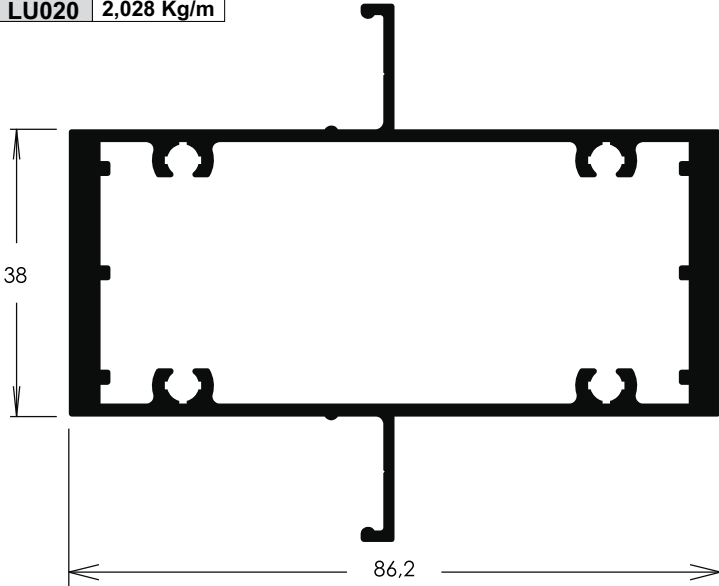
LU001 1,712 Kg/m



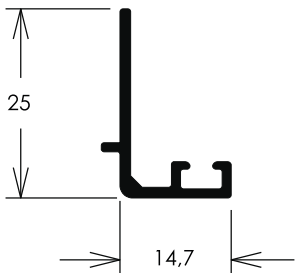
LU028 0,741 Kg/m



LU020 2,028 Kg/m



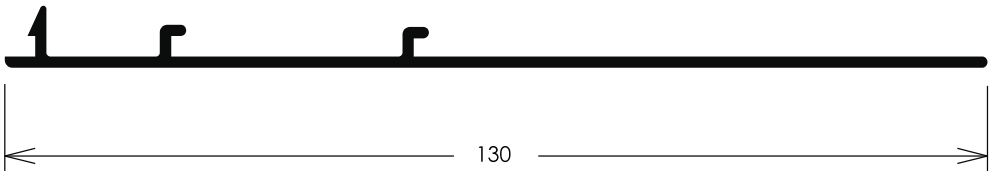
LU029 0,181 Kg/m



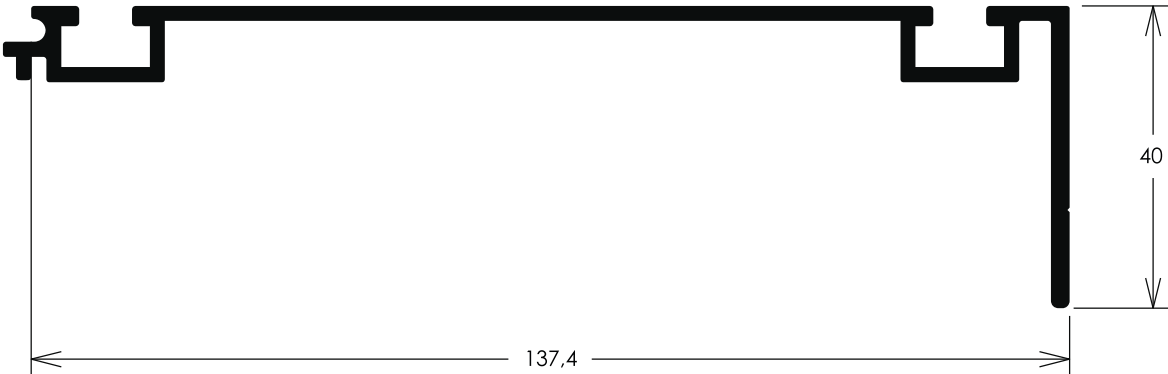
Projetos, perfis, componentes, códigos e sistemas estão sujeitos a alteração sem prévio aviso.

Portões Basculantes

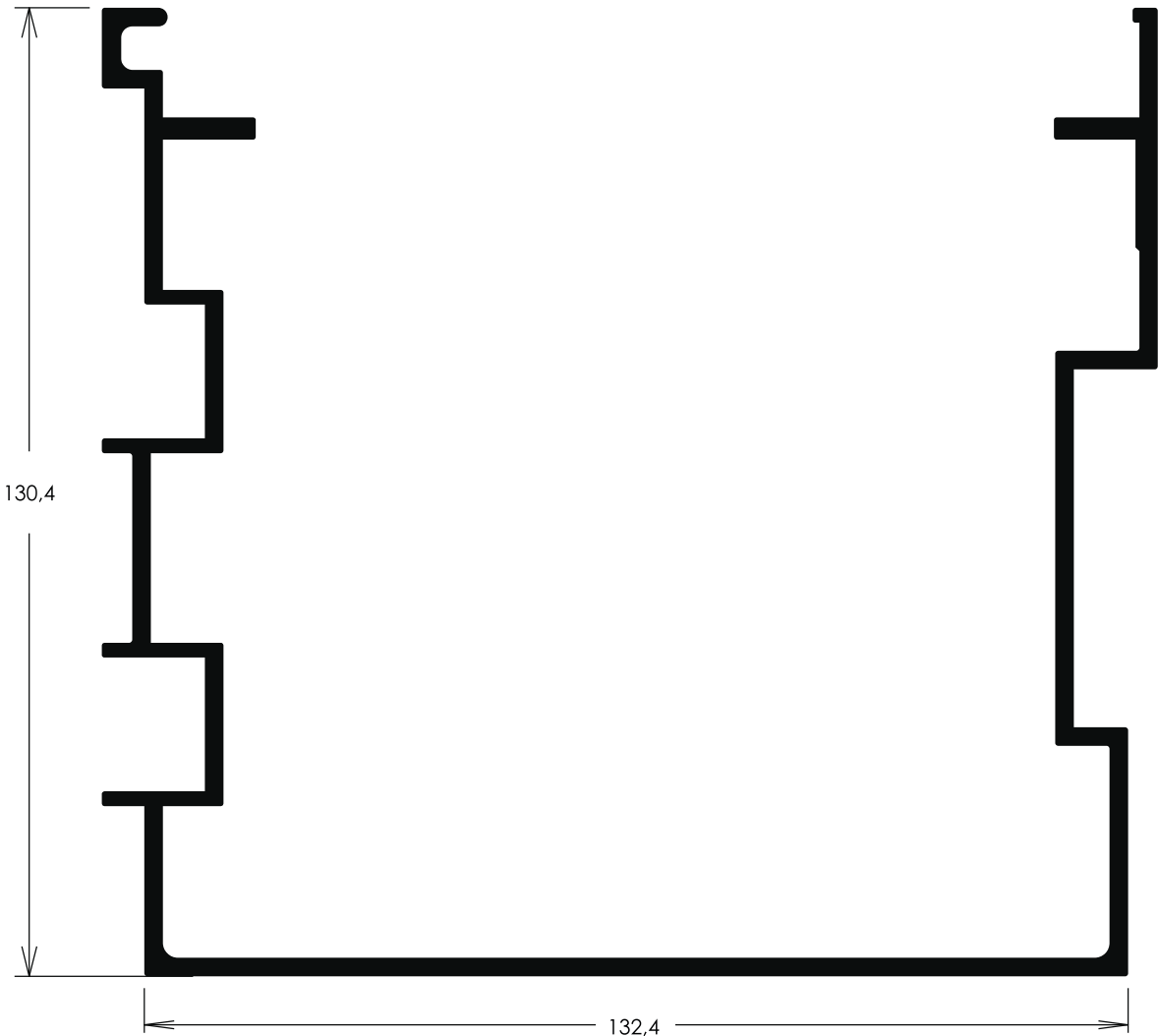
CM175 0,602 Kg/m



LU012 1,293 Kg/m



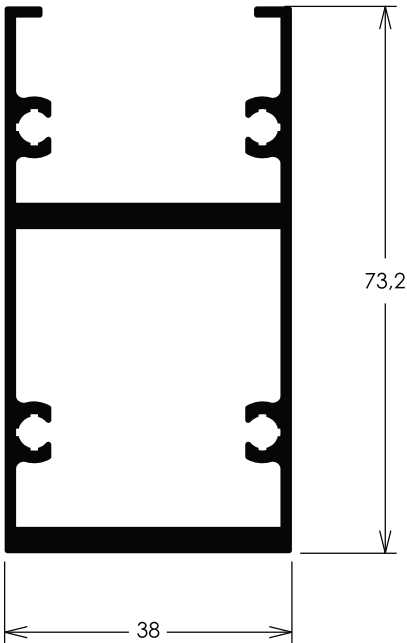
LU011 3,406 Kg/m



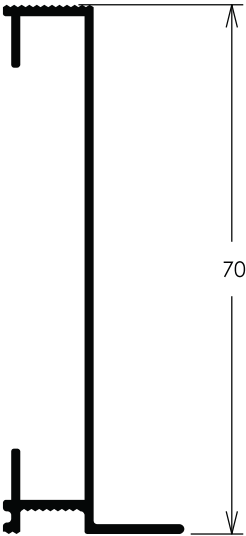
Projetos, perfis, componentes, códigos e sistemas estão sujeitos a alteração sem prévio aviso.

Portões Basculantes

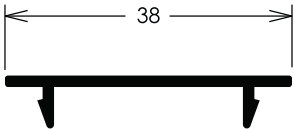
LU002 1,518 Kg/m



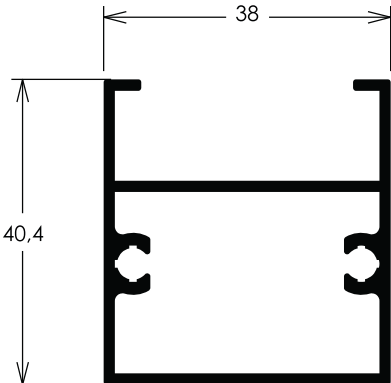
LU027 0,408 Kg/m



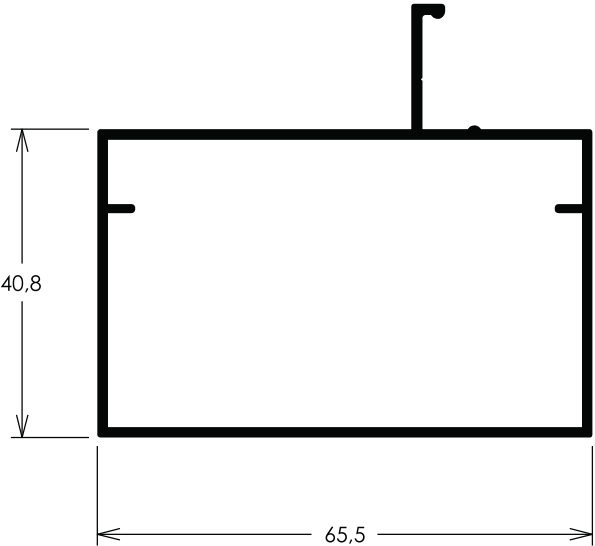
PC035 0,199 Kg/m



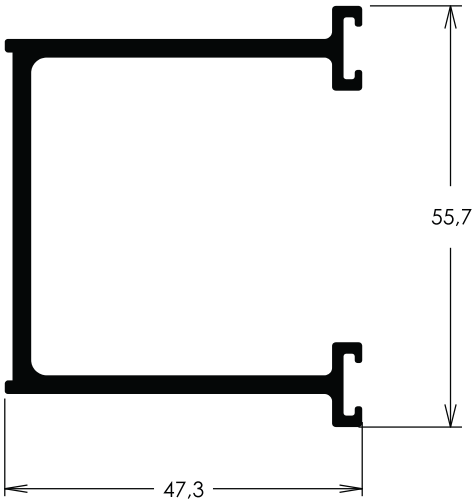
PC034 0,718 Kg/m



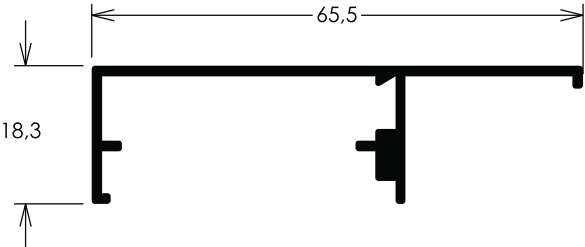
LU021 0,894 Kg/m



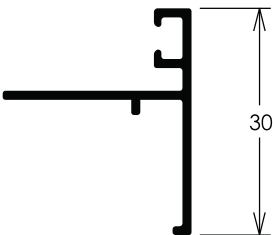
LU018 1,022 Kg/m



LU022 0,457 Kg/m



LU023 0,217 Kg/m



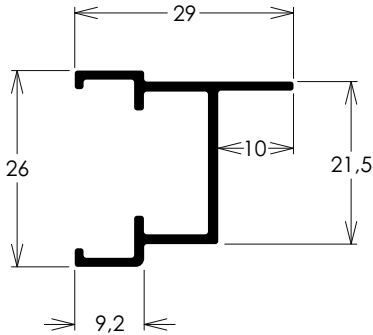
LU035 0,101 Kg/m



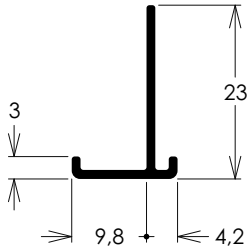
Projetos, perfis, componentes, códigos e sistemas estão sujeitos a alteração sem prévio aviso.

Portinholas

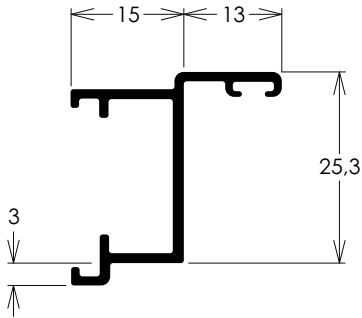
LU006 0,269 Kg/m



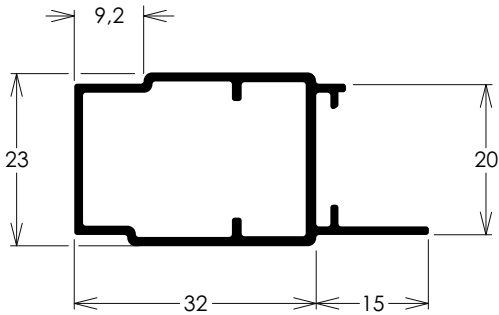
LU005 0,126 Kg/m



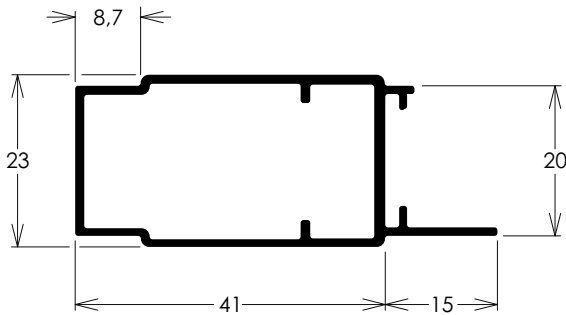
LU003 0,274 Kg/m



LU007 0,441 Kg/m



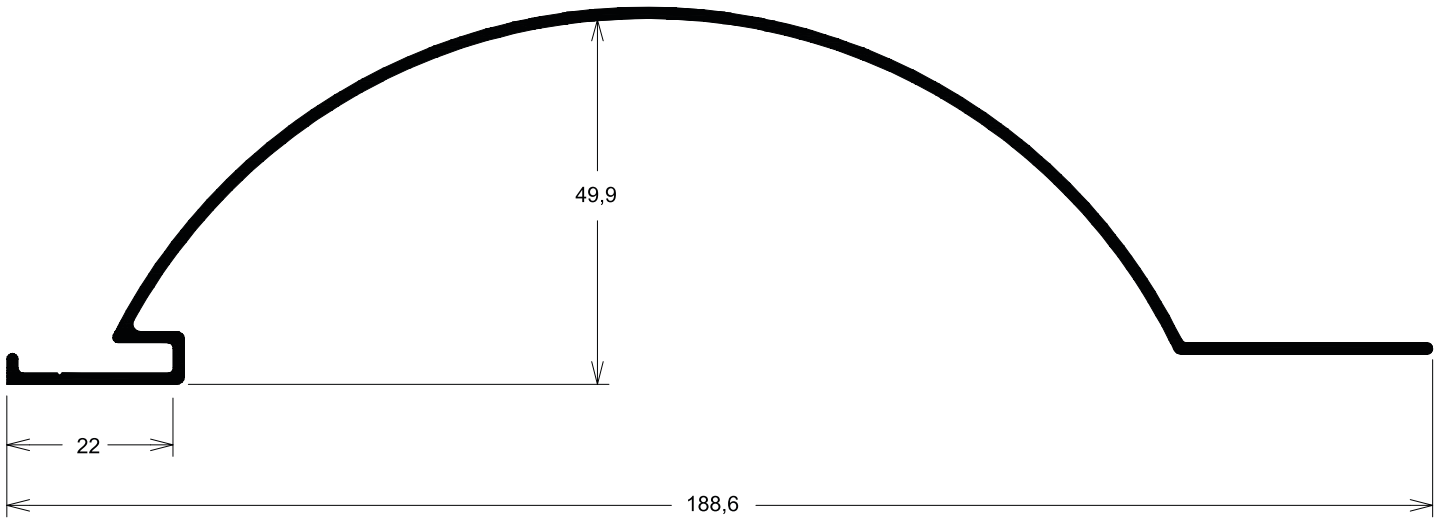
LU004 0,499 Kg/m



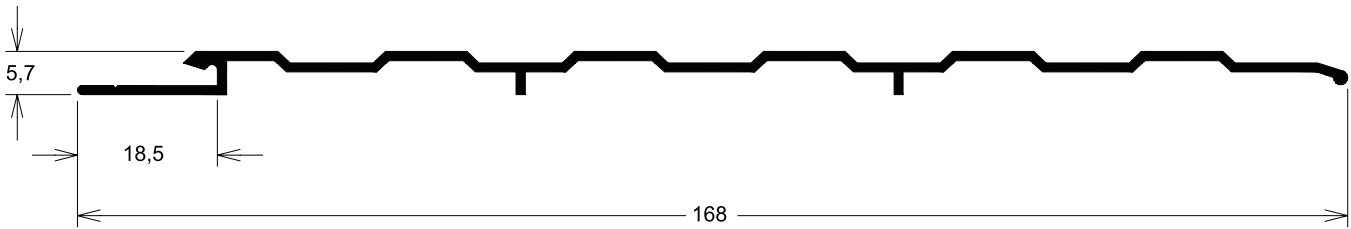
Projetos, perfis, componentes, códigos e sistemas estão sujeitos a alteração sem prévio aviso.

Lambris

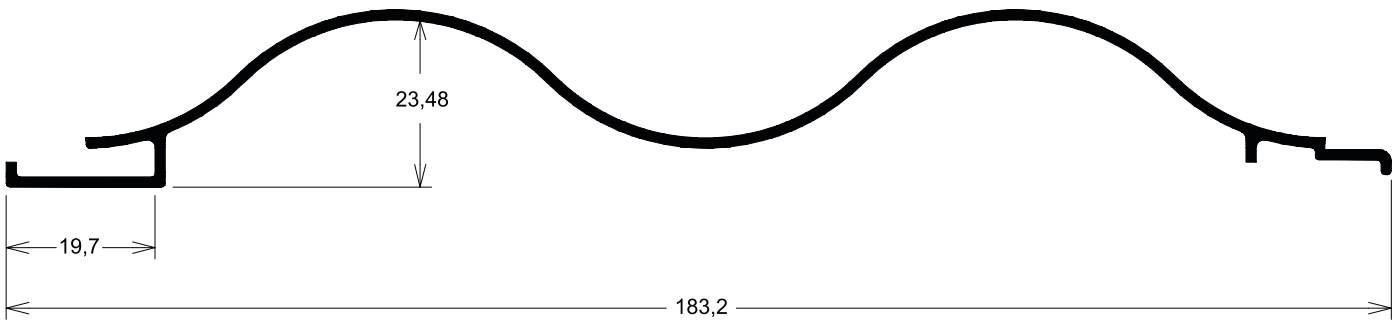
LB038 1,001 Kg/m



LB050 0,624 Kg/m



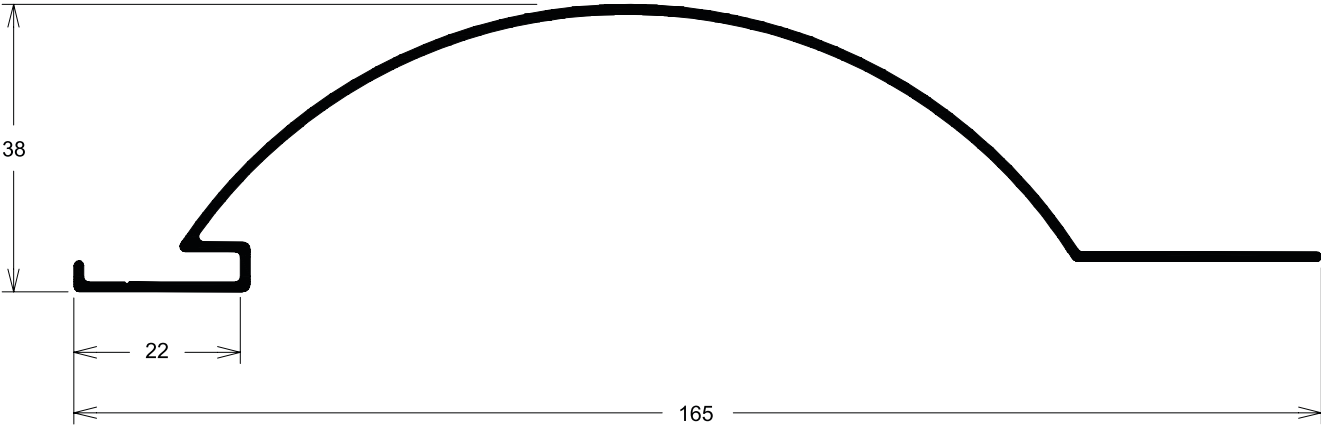
LB071 0,830 Kg/m



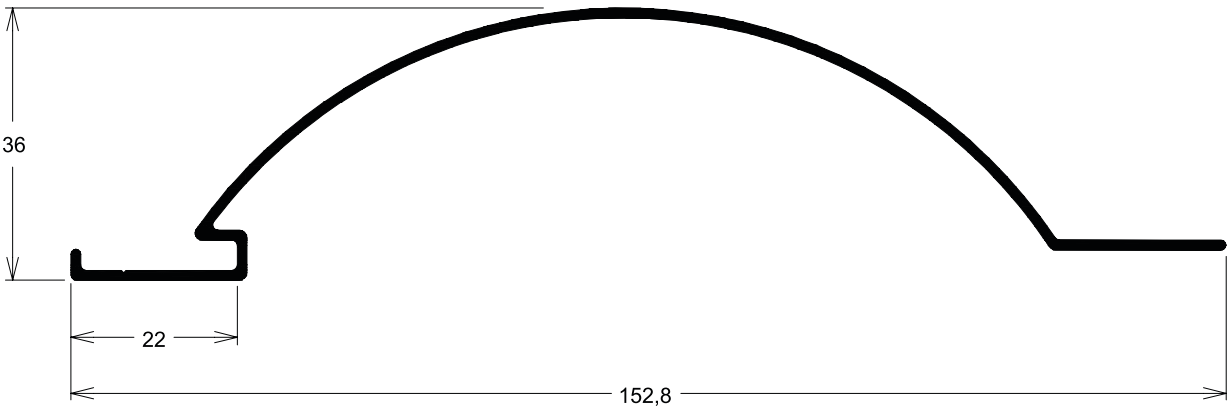
Projetos, perfis, componentes, códigos e sistemas estão sujeitos a alteração sem prévio aviso.

Lambris

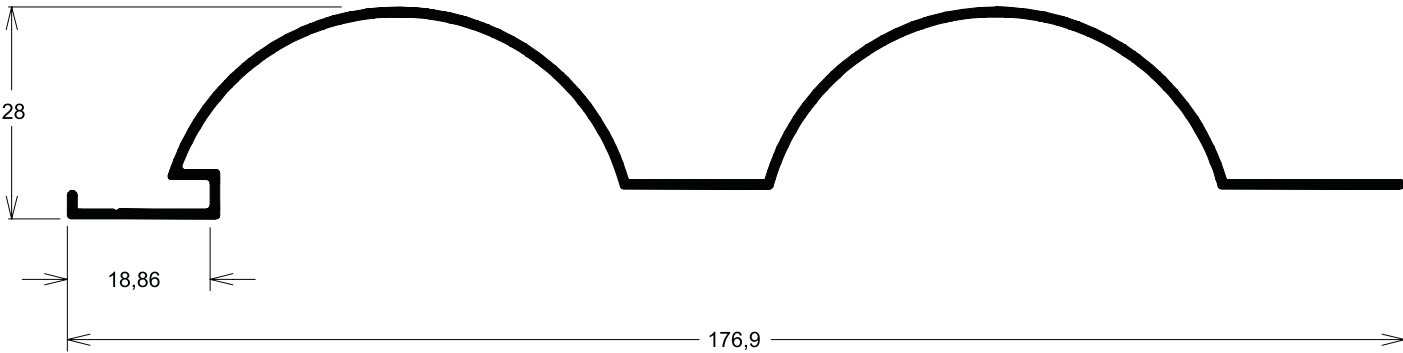
LB072 0,742 Kg/m



LB073 0,676 Kg/m



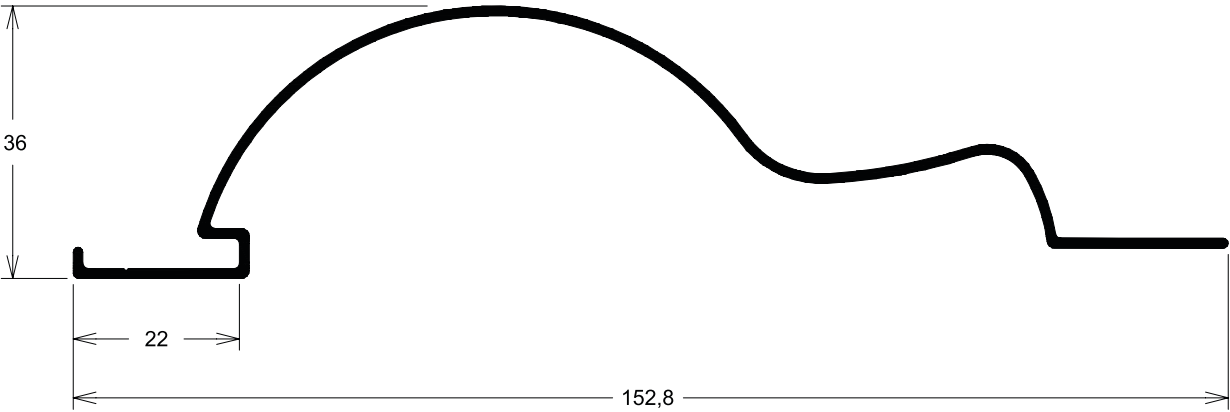
LB074 0,831 Kg/m



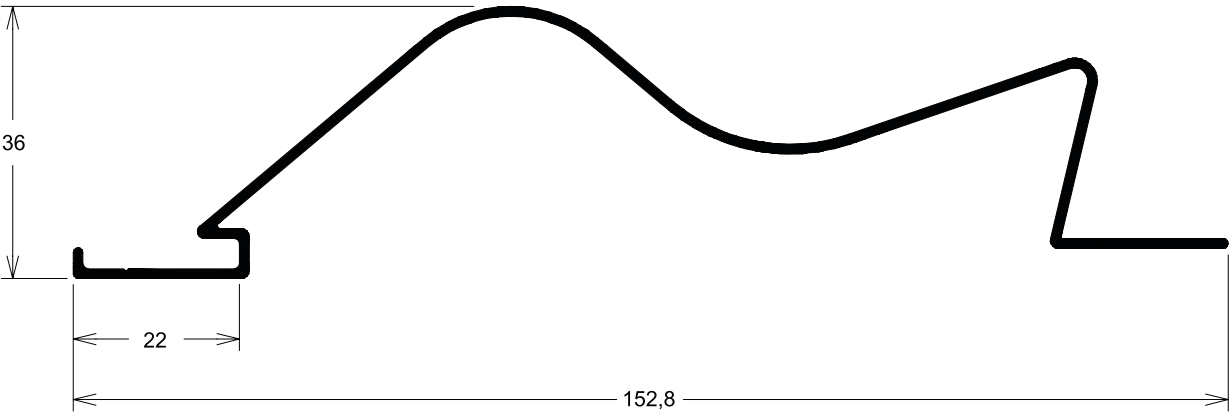
Projetos, perfis, componentes, códigos e sistemas estão sujeitos a alteração sem prévio aviso.

Lambris

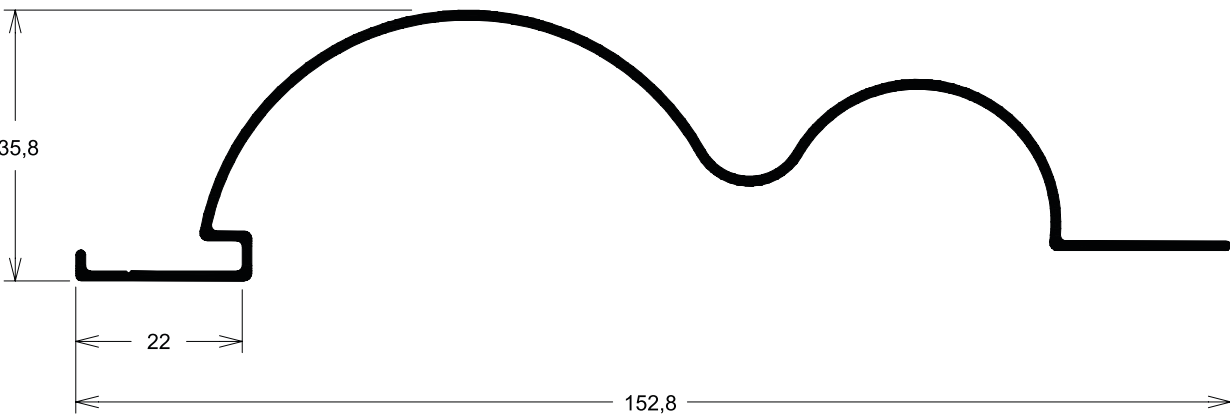
LB075 0,706 Kg/m



LB076 0,766 Kg/m



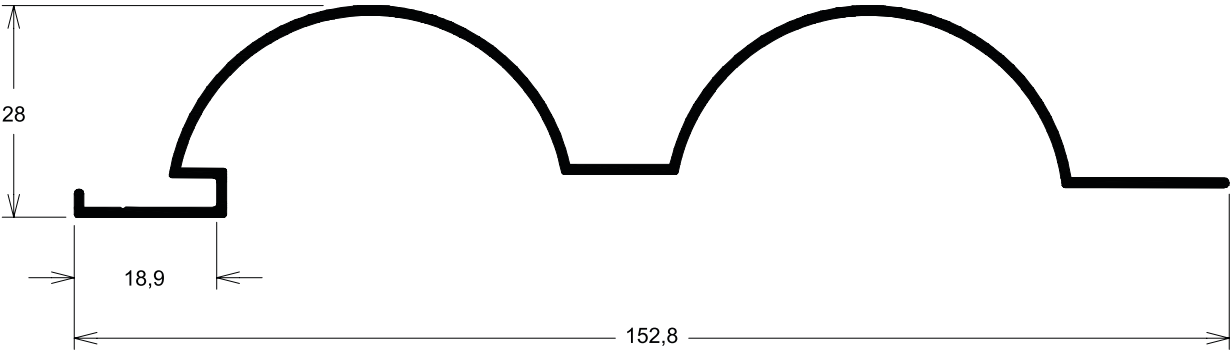
LB077 0,749 Kg/m



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

Lambris

LB082 0,758 Kg/m

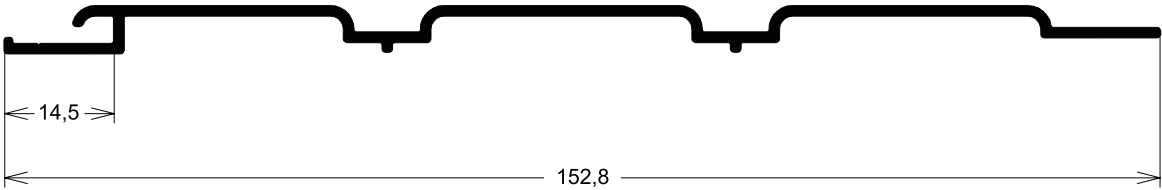


LB088 0,745 Kg/m



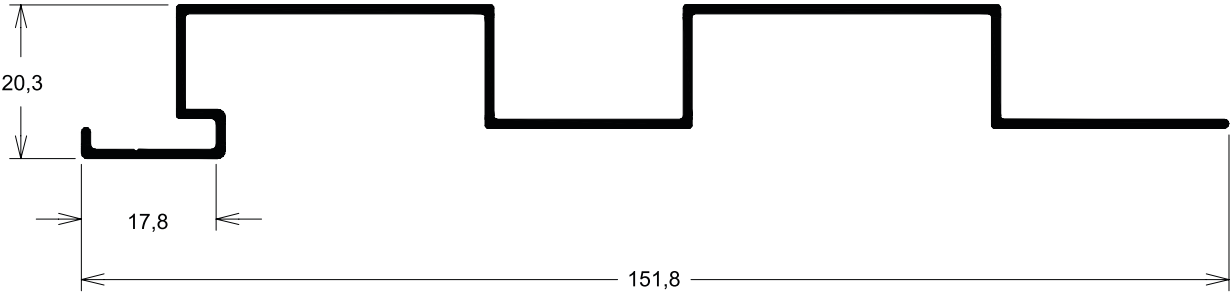
Nota: Este perfil substitui o LB036

LB089 0,581 Kg/m

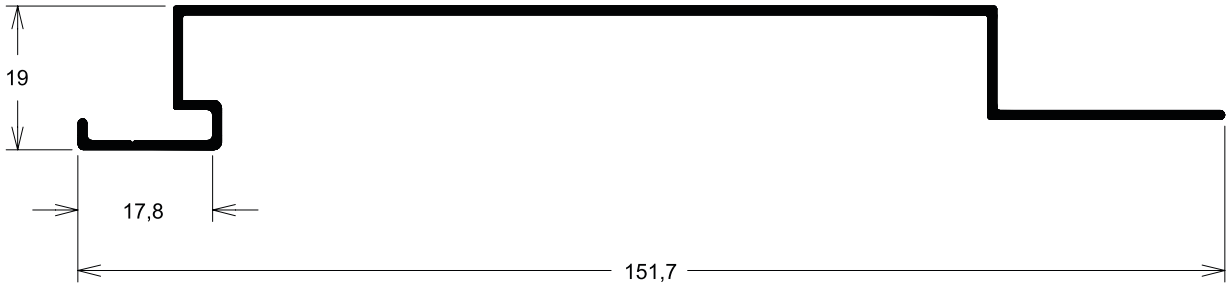


Lambris

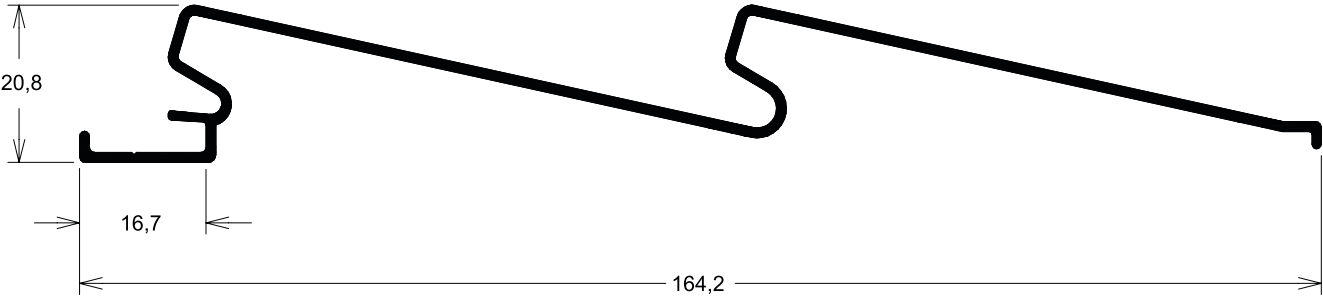
LU030 0,745 Kg/m



LU031 0,637 Kg/m



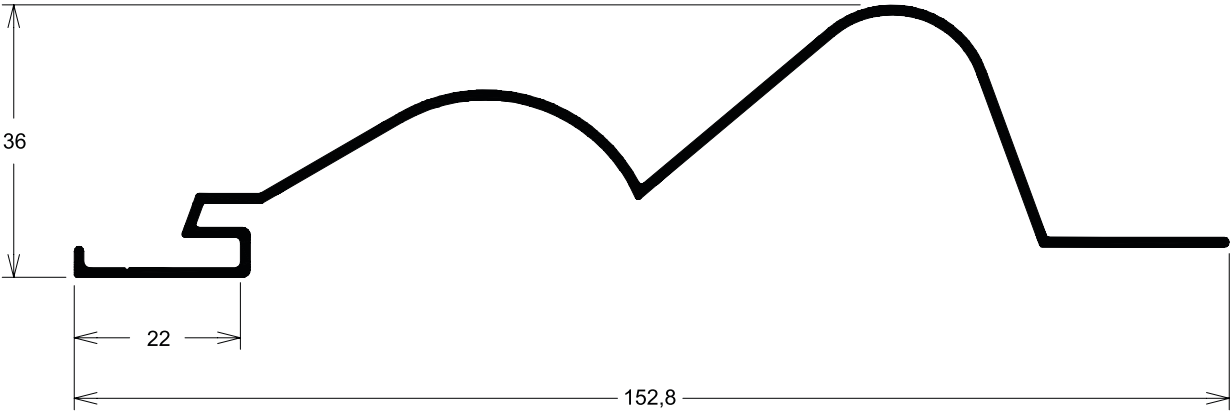
LU032 0,800 Kg/m



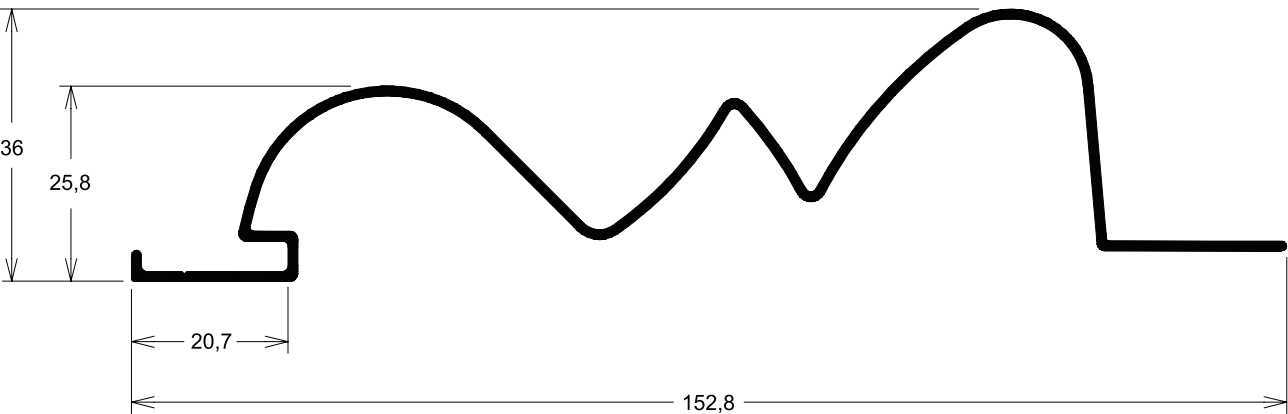
Projetos, perfis, componentes, códigos e sistemas estão sujeitos a alteração sem prévio aviso.

Lambris

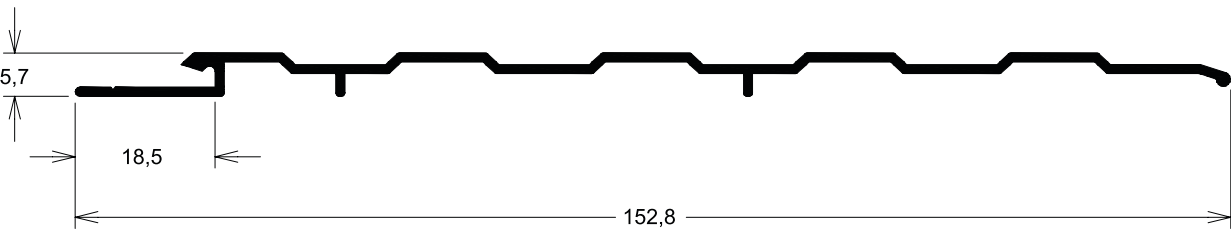
LB079 0,758 Kg/m



LB080 0,845 Kg/m



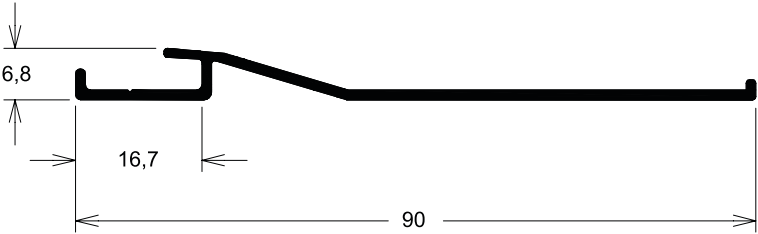
LB081 0,570 Kg/m



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

Lambris

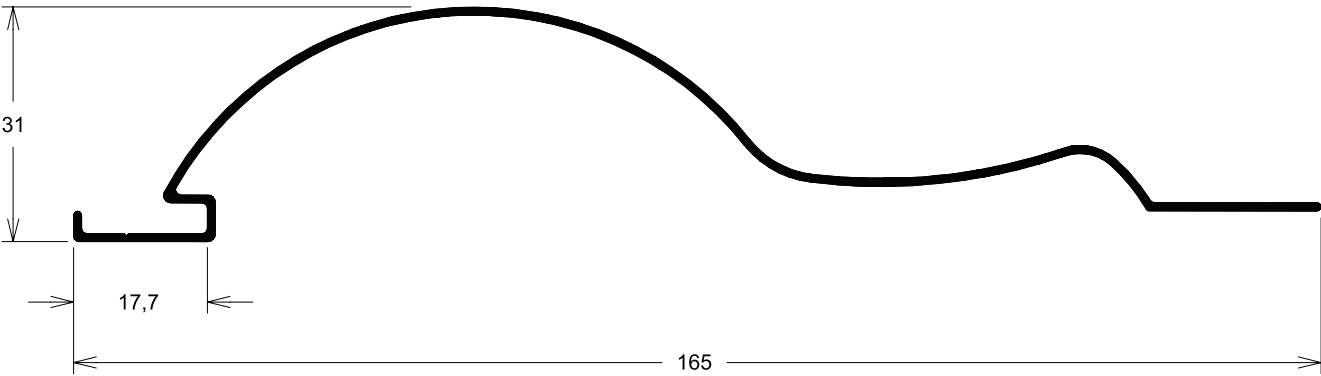
LU033 0,367 Kg/m



LU067 0,582 Kg/m



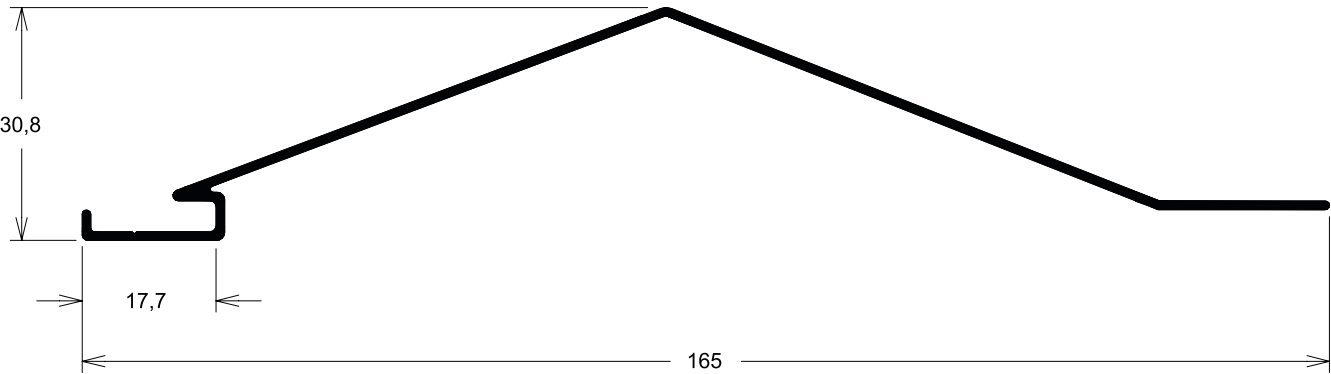
LU072 0,581 Kg/m



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

Lambris

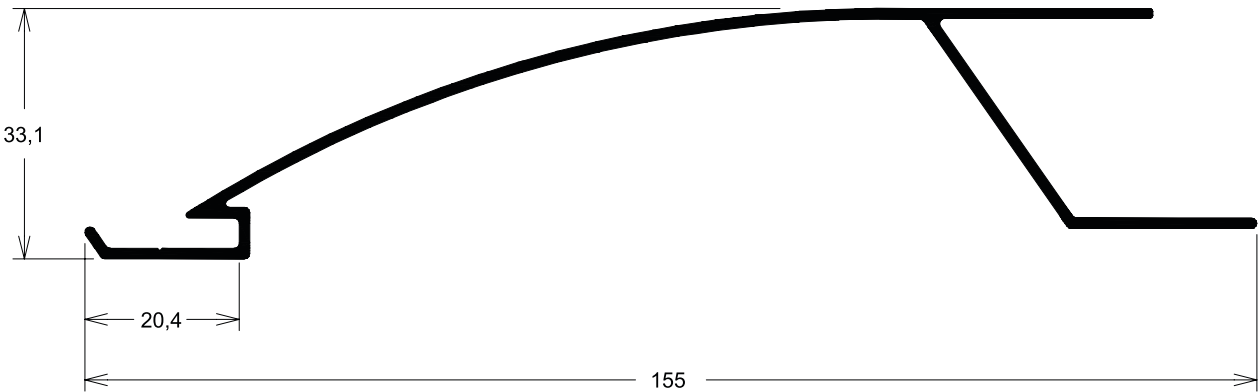
LU073 0,602 Kg/m



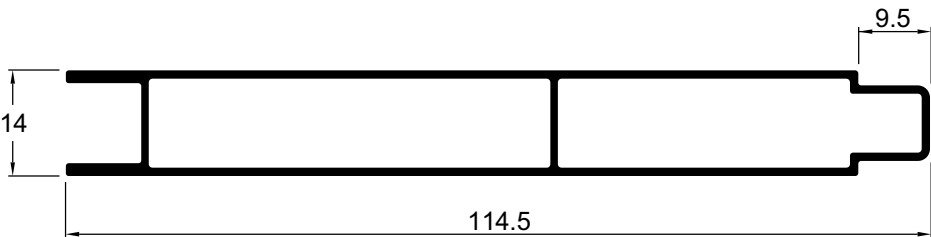
LU074 0,596 Kg/m



LU083 0,839 Kg/m



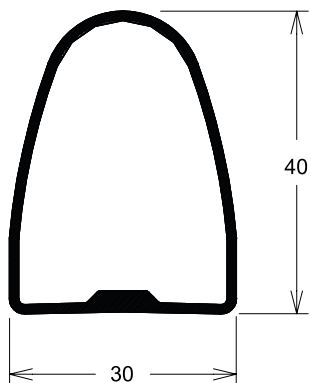
IN205 0,812 Kg/m



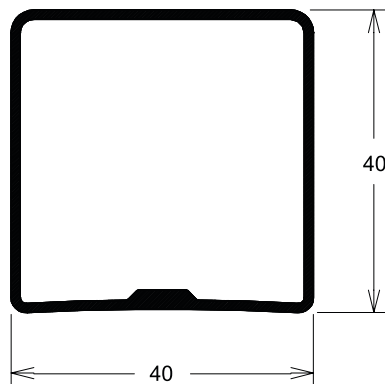
Projetos, perfis, componentes, códigos e sistemas estão sujeitos a alteração sem prévio aviso.

Barrotes e Conexões

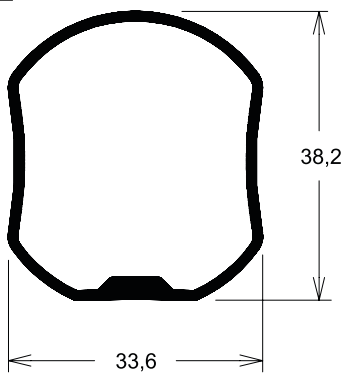
PC033 0,417 Kg/m



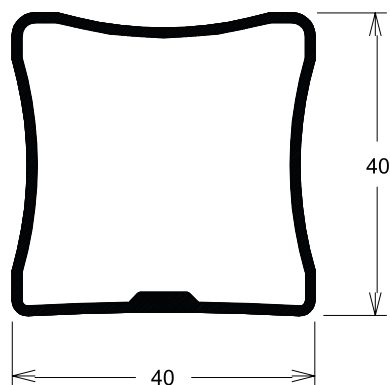
PC041 0,523 Kg/m



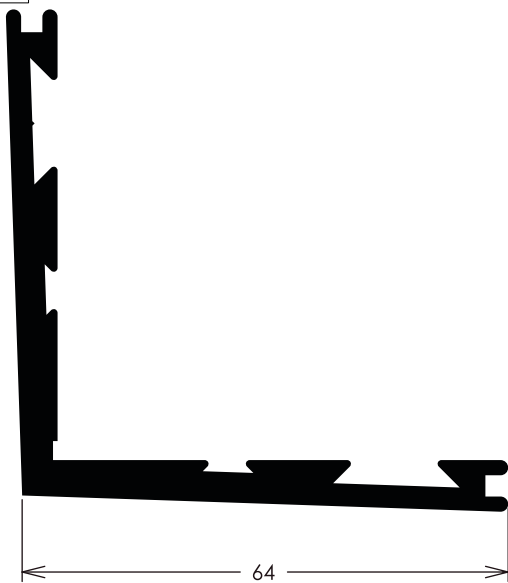
PC042 0,422 Kg/m



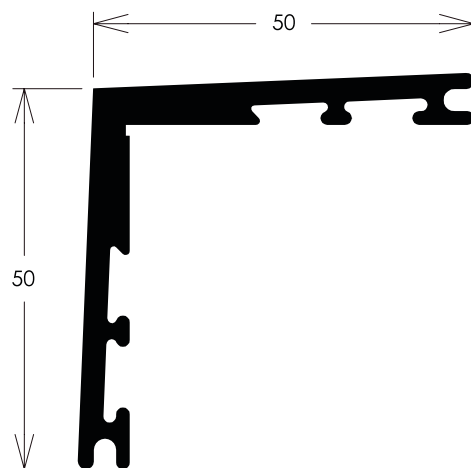
PC044 0,525 Kg/m



CL009 1,616 Kg/m



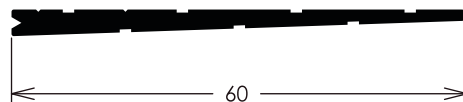
CL006 1,112 Kg/m



CL011 0,317 Kg/m



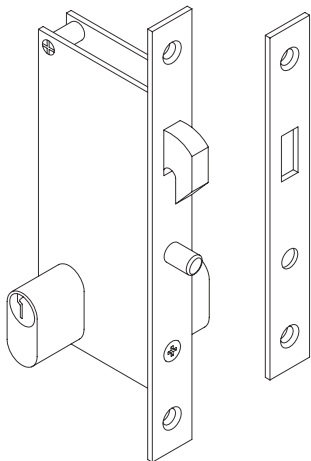
CL010 0,385 Kg/m



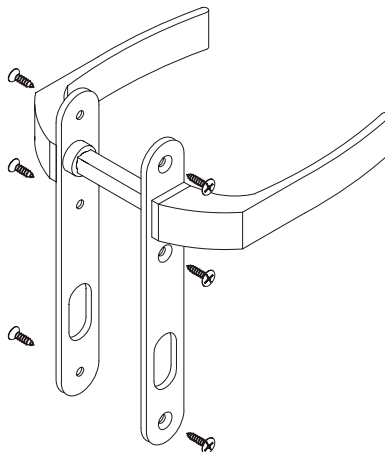
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DOB806	E-04
DOB863	E-01
FEC1109	E-04
FEC335	E-04
FEC338	E-04
FEC980	E-01
FIT316	E-03
FRA2080	E-01
FRA2122	E-01
KITBAS001	E-02
KITBAS002	E-02
KITBAS003	E-02
KITBAS004	E-03
MAC1001	E-01
NYL218	E-01
PAR1024	E-03
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PAR1056	E-03
PAR1057	E-03
PAR1058	E-03
PAR1059	E-03
PAR1060	E-03
PAR428	E-01
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PAR691	E-01
PAR936	E-03
PUX006	E-01
REB115	E-01
ROL303	E-01
ROL318	E-01

FRA2122

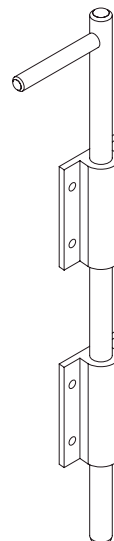
Fechadura - Cilindro 80 mm
Latão Fumê

**MAC1001**

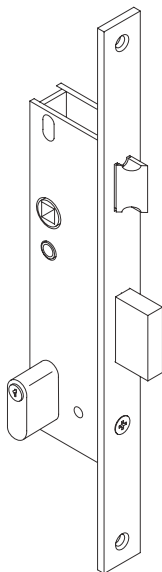
Maçaneta com Espelho
Alumínio Preto

**FEC980**

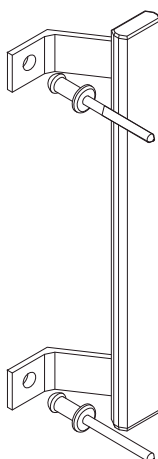
Fecho tipo Ferrolho
Alumínio Preto

**FRA2080**

Fechadura - Cilindro 80 mm
Latão Fumê

**PUX006**

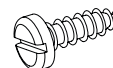
Puxador - Porta de Correr
Alumínio Branco e Preto

**PAR434**

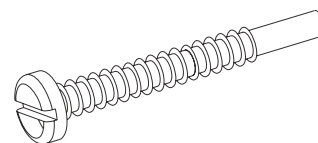
Parafuso AA Ø 3,9 x 9,5 mm
Aço Inox

**PAR691**

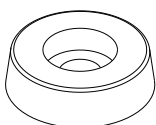
Parafuso AA Ø 4,8 x 13 mm
Aço Inox

**PAR428**

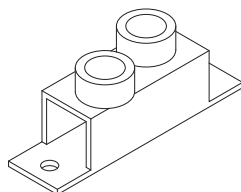
Parafuso AA Ø 4,8 x 32 mm
Aço Inox

**NYL218**

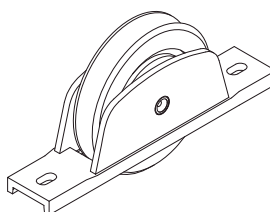
Batente daFolha
Nylon Preto

**ROL303**

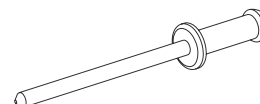
Rodízio com suporte
Alumínio Natural

**ROL318**

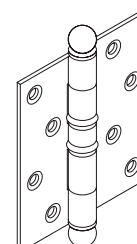
Rodízio com rolamento
Alumínio Natural

**REB115**

Rebite Ø 4 x 10,2 mm
Alumínio Natural

**DOB863**

Dobradiça
Latão Fumê



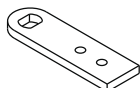
KITBAS001 Kit de acessórios para portão basculante 3 metros

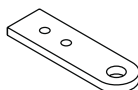
KITBAS002 Kit de acessórios para portão basculante 4 metros

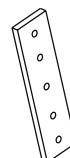
KITBAS003 Kit de acessórios para portão basculante 5 metros

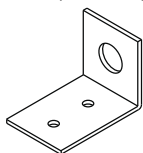
Cores: Preto, Branco e Fosco

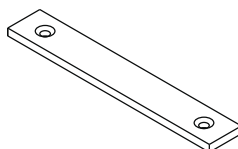
Ponteira Superior do Braço

 02 peças
 02 Paraf. c/ Porca (PAR690)

Ponteira Inferior do Braço

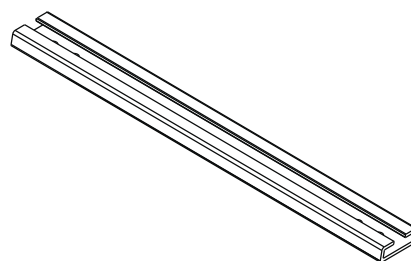
 02 peças
 02 Paraf. c/ Porca (PAR690)

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

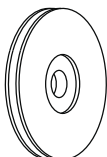
 Portão até 3 mt = 03 peças
 Portão até 4 mt = 04 peças
 Portão até 5 mt = 05 peças
 02 Paraf. c/ Porca (PAR690)

Trava da Caixa

 06 peças
 02 Parafusos (PAR1058)

Complemento do Braço

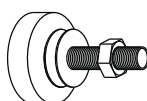
02 peças


Roldana com Rolamento

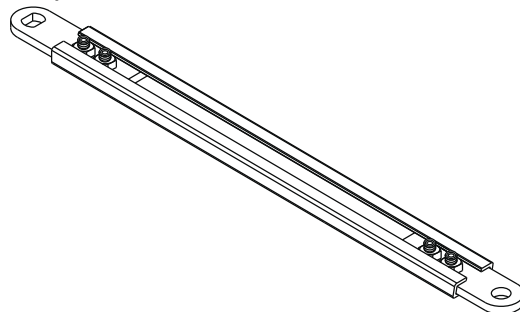
02 peças

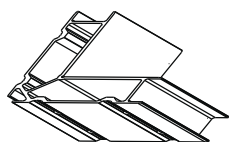

Roldana Guia Lat. c/ Rolamento

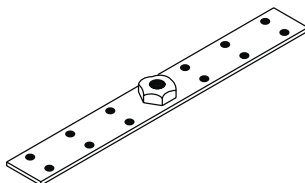
02 peças

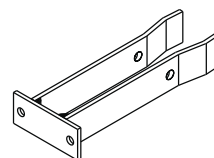

Detalhe de Aplicação

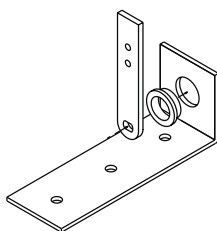
02 conjuntos


Conexão

 04 peças
 08 Parafusos (PAR1059)

Suporte para Guia Lateral

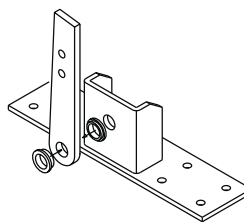
 02 peças
 12 Parafusos (PAR691)

Suporte para Roldana

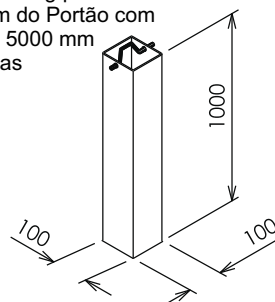
 02 peças
 02 Paraf. c/ Porca (PAR690)

Suporte do Estabilizador

 02 peças
 03 Paraf. c/ Porca (PAR690)

Cabo de Aço

02 conjuntos


Suporte do Braço Estabilizador

 02 peças
 08 Paraf. c/ Porca (PAR936)

Contrapeso

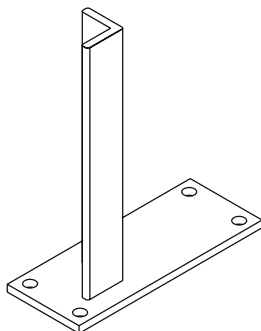
 Caixa c/ Capacidade
 de até 70 Kg p/ Medida
 Máxiam do Portão com
 2500 x 5000 mm
 02 peças


Suporte do Motor

02 peças

04 Paraf. c/ Porca (PAR690)

KITBAS004 - Kit Motorização
Cores: Preto, Branco e Fosco



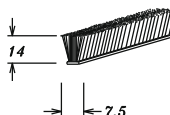
PAR1060

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



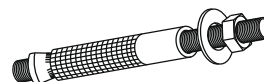
FIT316

Fita Vedadora
Base 7,5 x 14 mm
Preta



CHU795

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



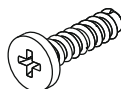
PAR437

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



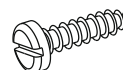
PAR1024

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



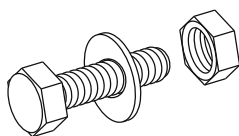
PAR936

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



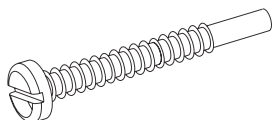
PAR1056

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



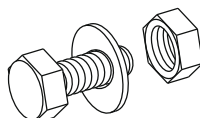
PAR436

Paraf. AA 3,9 x 28 mm
Aço Inox



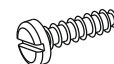
PAR1059

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



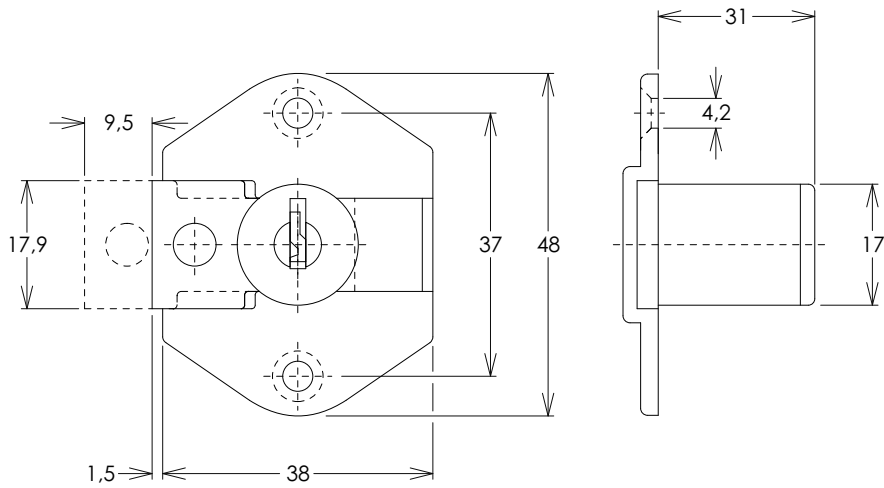
PAR1050

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

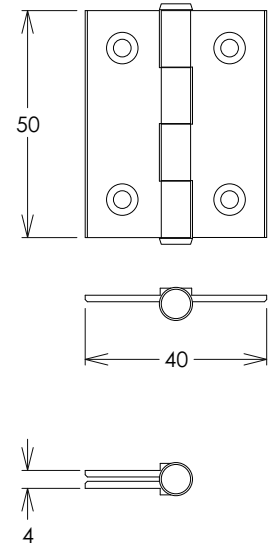


FEC1109

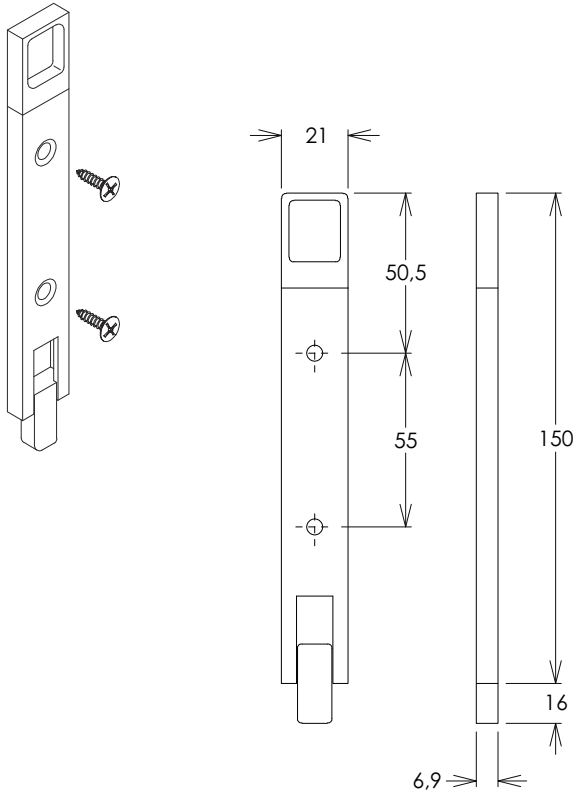
Fechadura de móveis
Níquel, Fumê ou Latão

**DOB806**

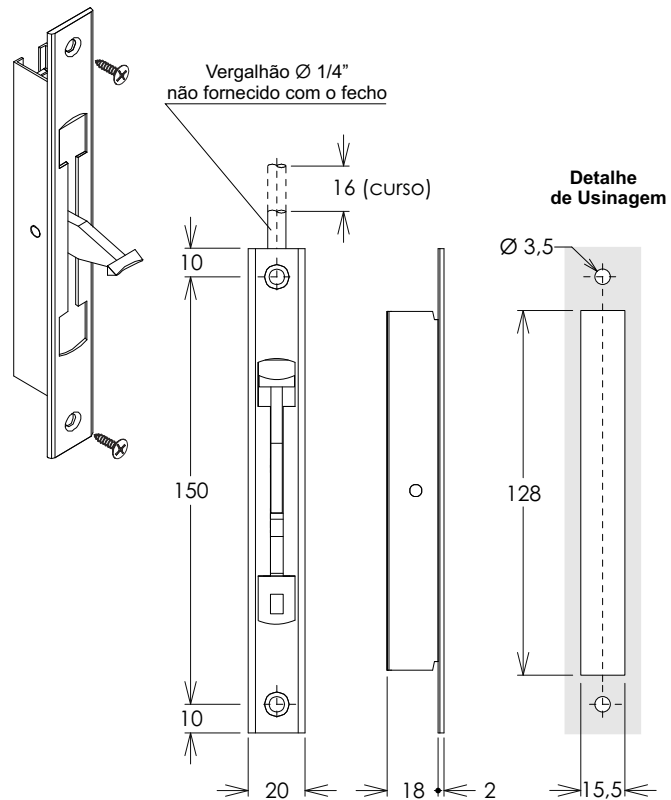
Dobradiça
Alumínio Fosco

**FEC338**

Fecho unha de sobrepor
Alumínio e Nylon Preto

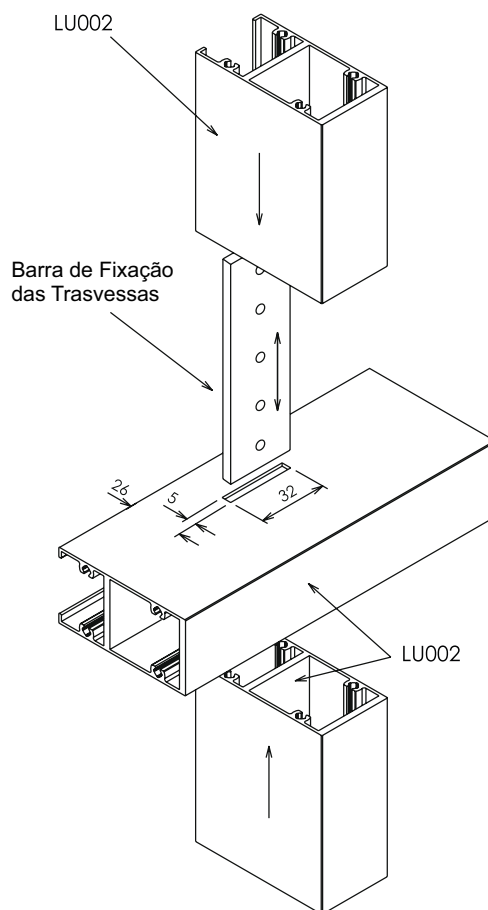
**FEC335**

Fecho unha interno
Alumínio e Nylon Preto

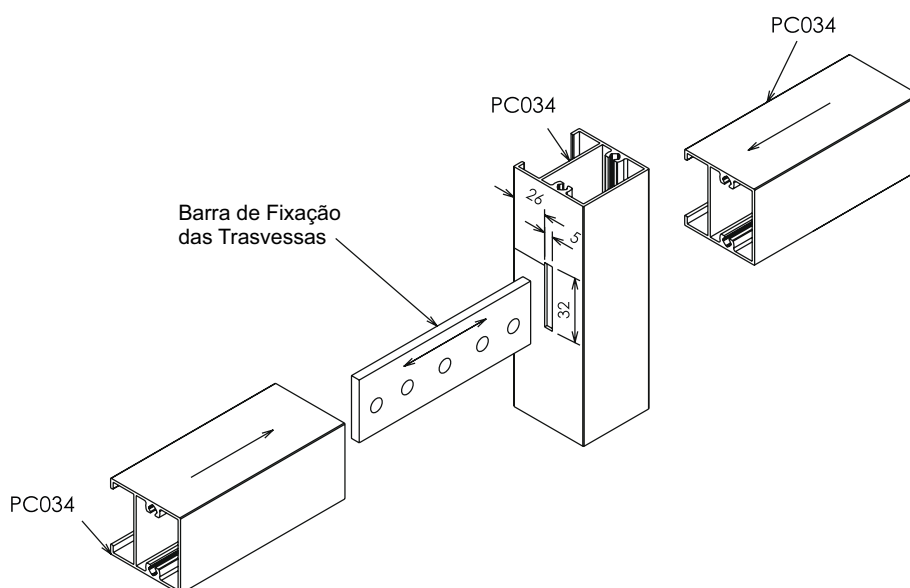


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INSTRUÇÕES DE USINAGEM E MONTAGEM PARA PORTÕES DE 3 METROS	F-01
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ESQUEMA PORTÃO MANUAL	G-03
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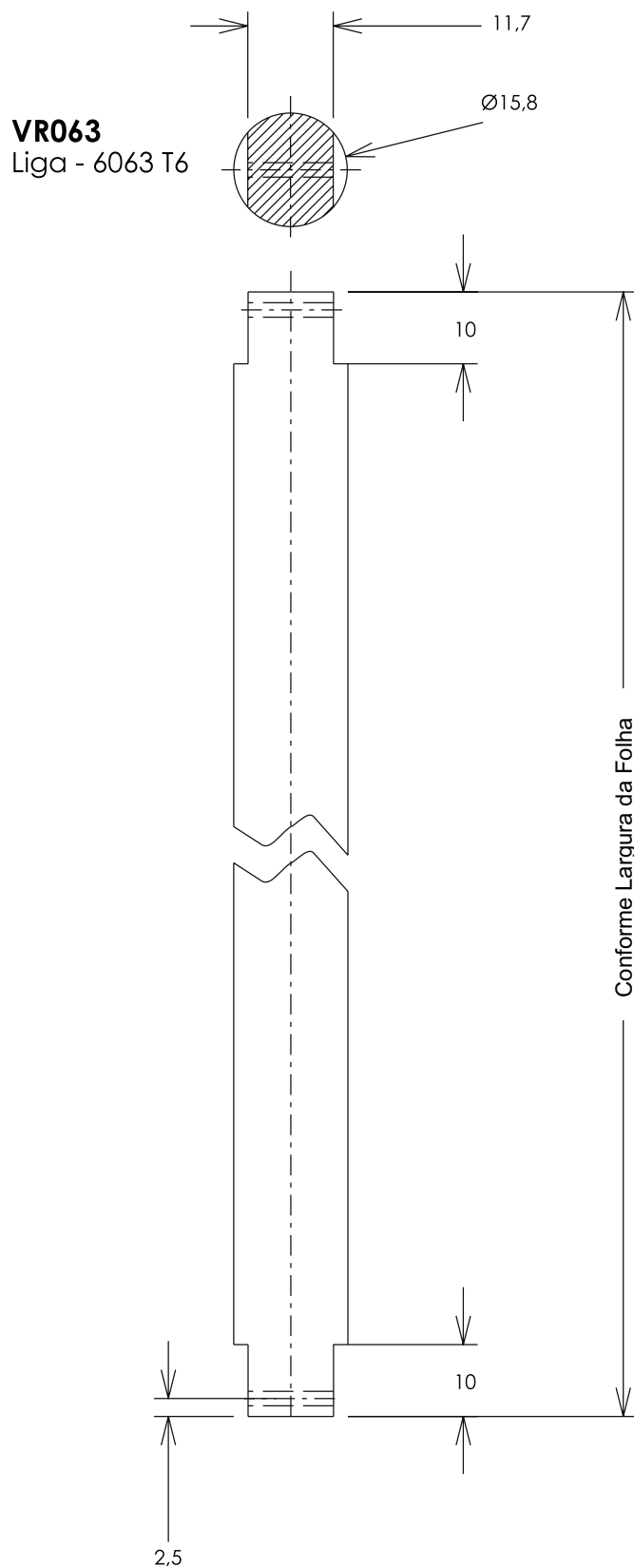
Instruções de Usinagem e Montagem para Portões de 5 metros



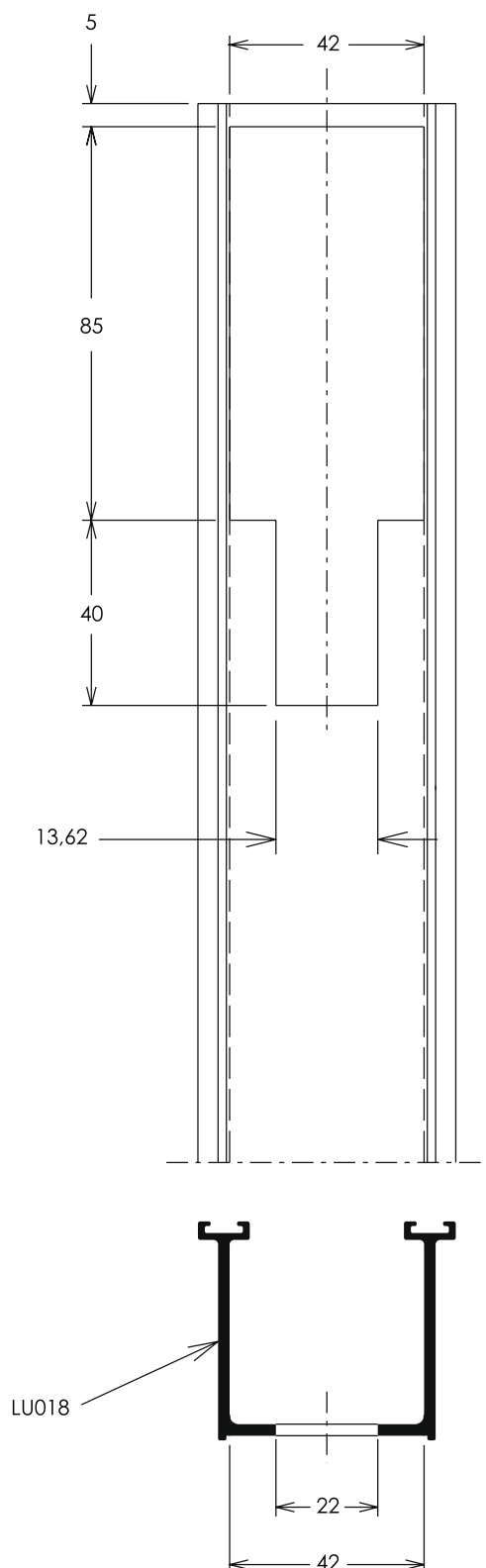
Instruções de Usinagem e Montagem para Portões de 3 metros



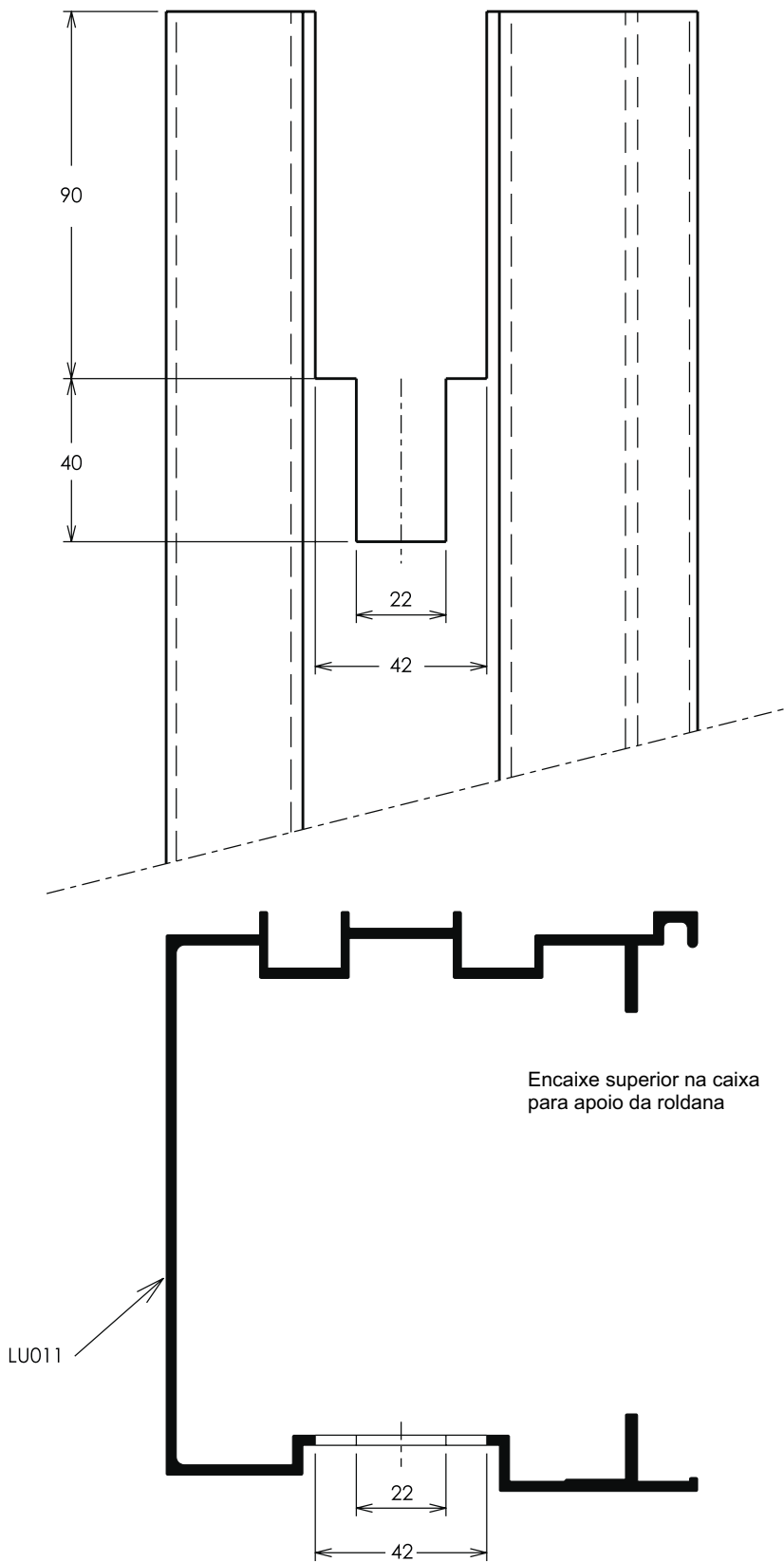
Barra Estabilizadora



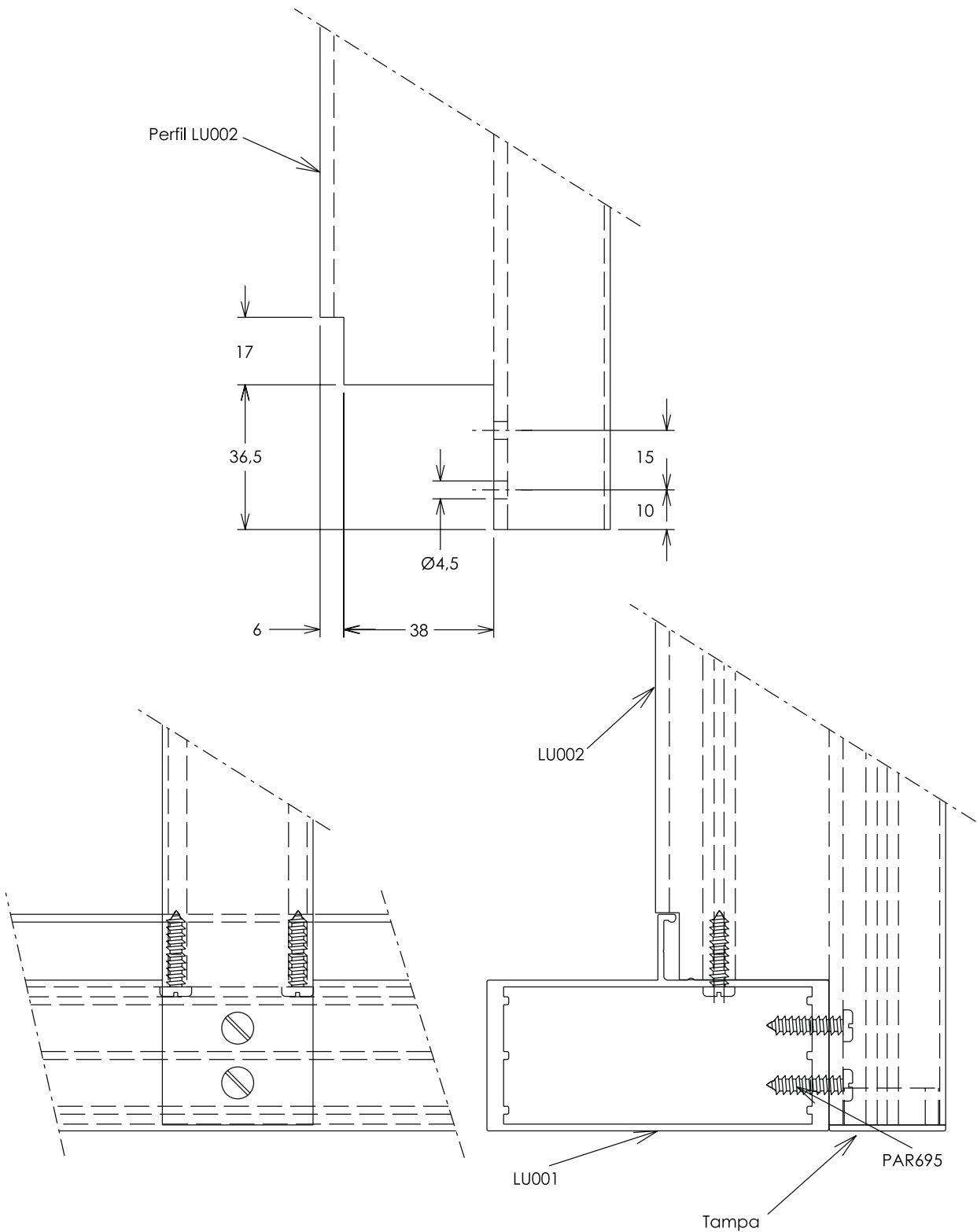
Encaixe Superior na Guia para Apoio da Roldana



Encaixe para Apoio da Roldana

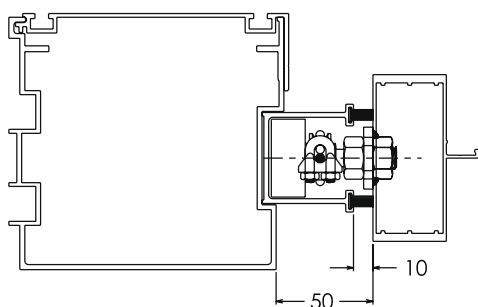


Usinagem da Travessa

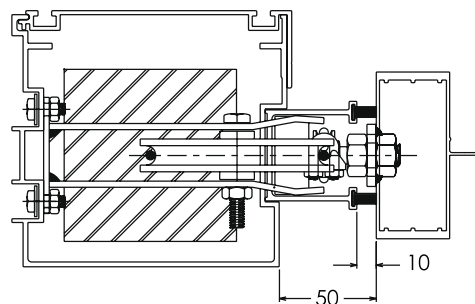


Detalhes Construtivos

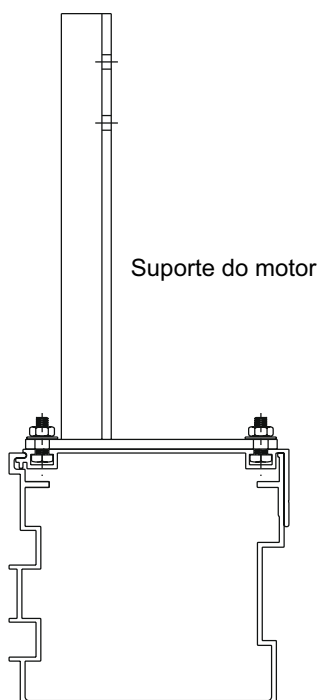
Detalhe Construtivo Portão Basculante



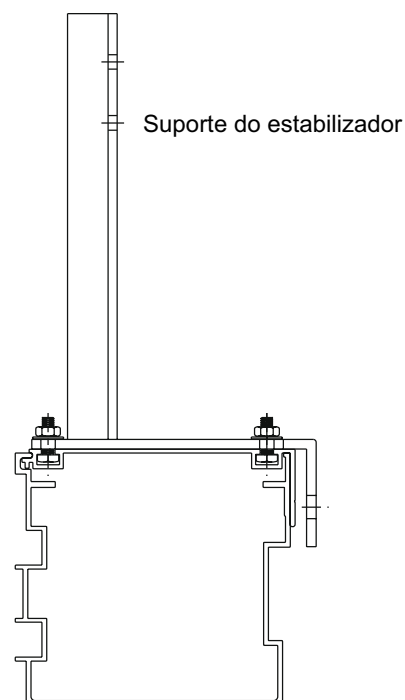
Guia lateral



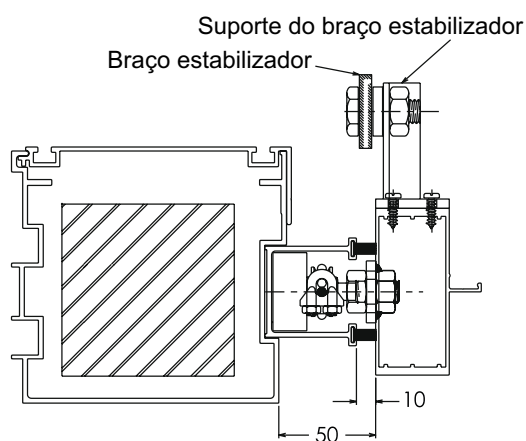
Conjunto da roldana



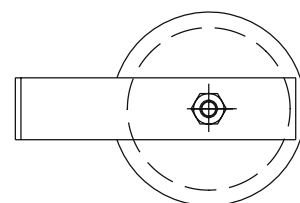
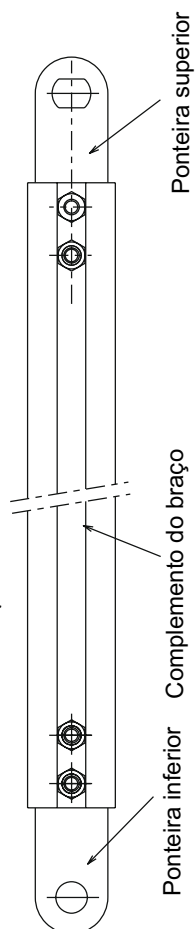
Suporte do motor



Suporte do estabilizador

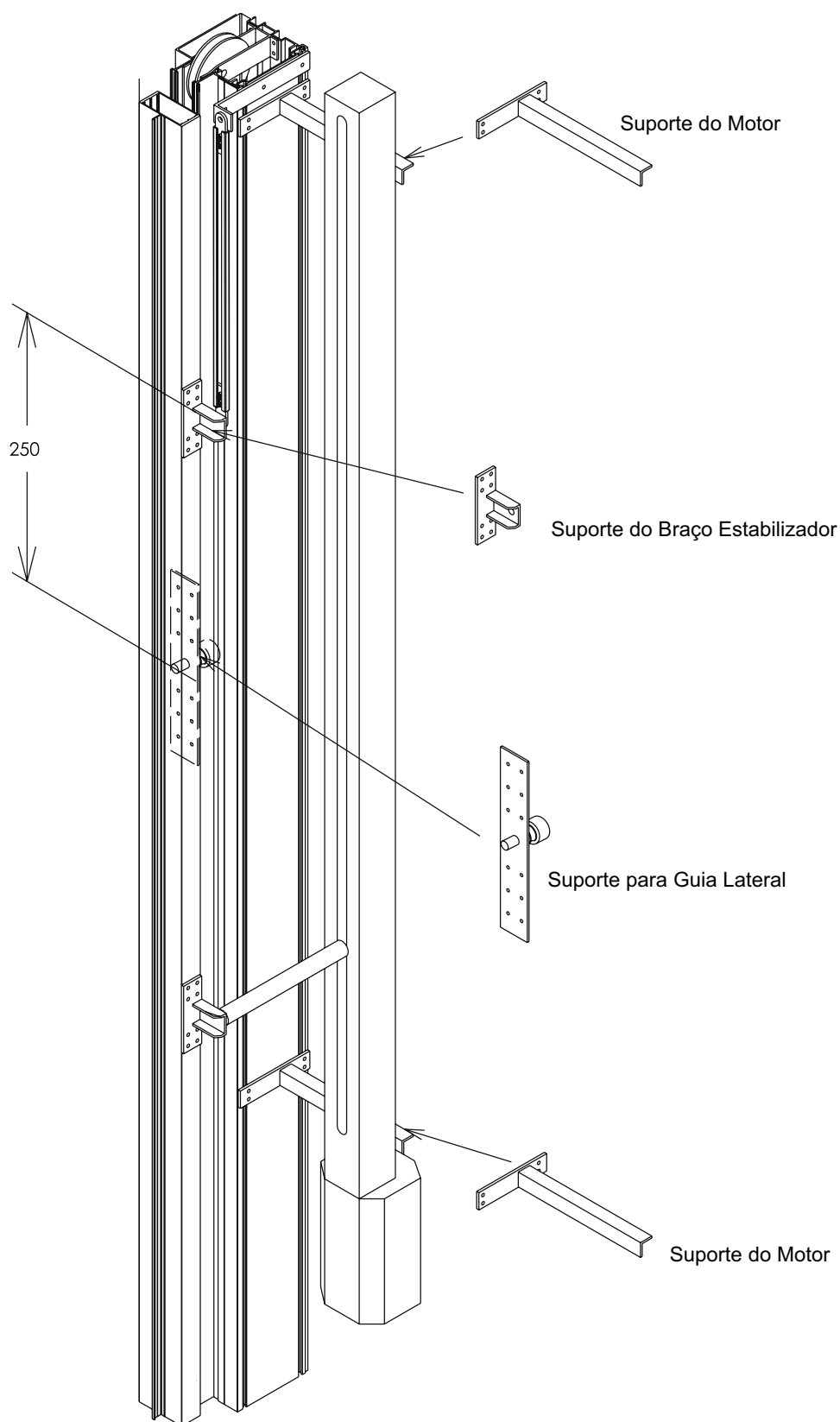


Conjunto do braço estabilizador

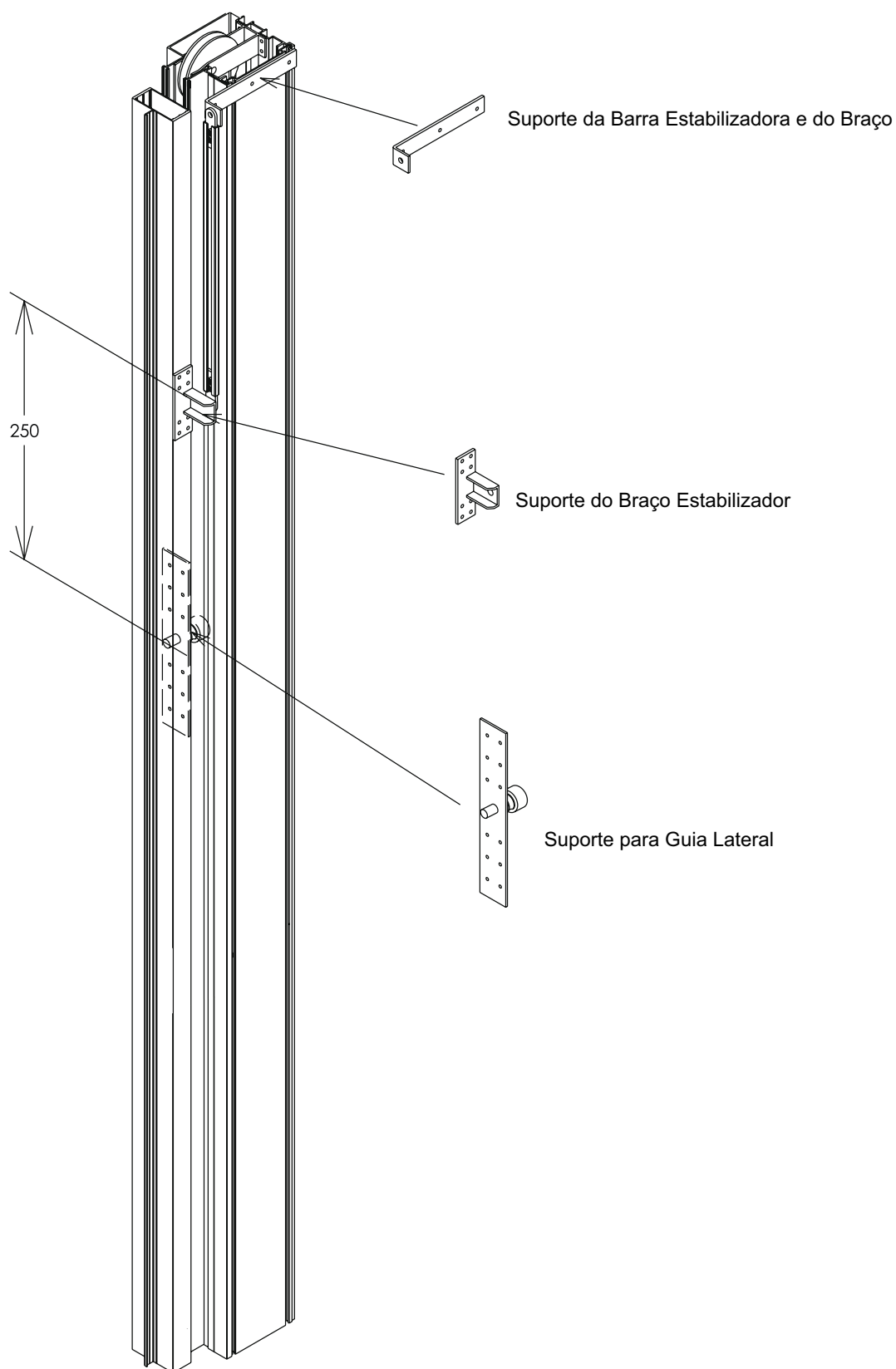


Suporte com roldana

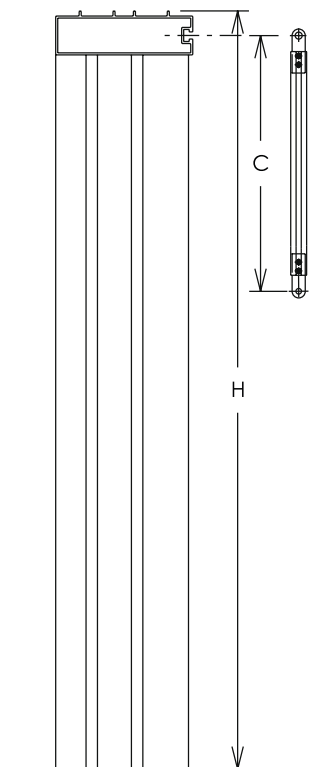
Esquema Portão Motorizado



Esquema Portão Manual



Definição da Medida do Braço



Fórmula

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

Atenção:

A Medida "C" é Entre Eixo dos Furos

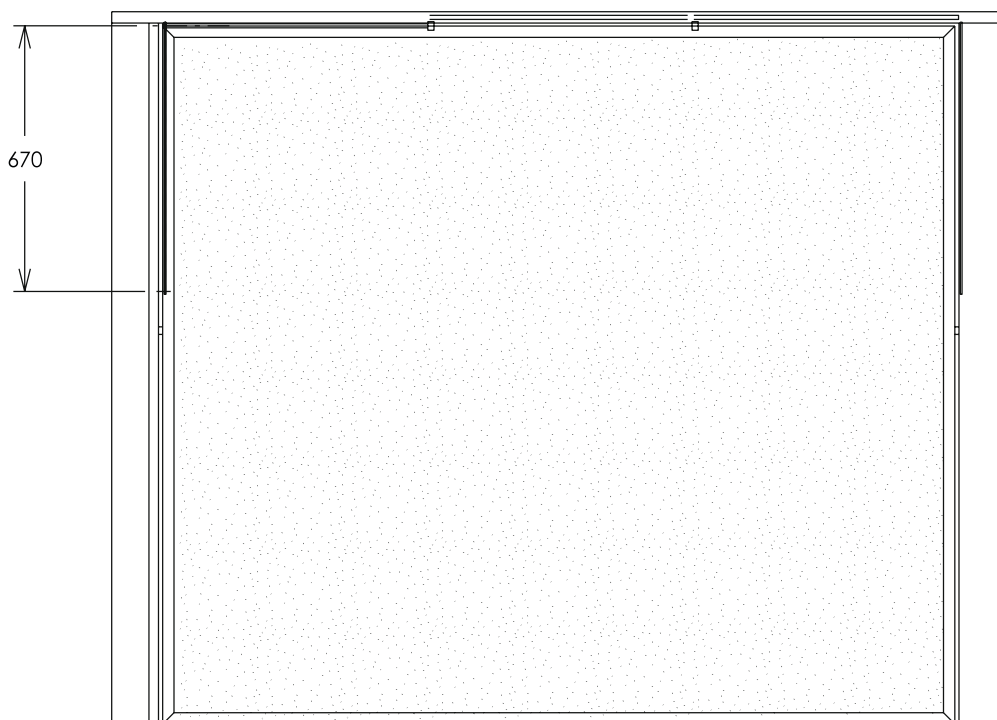
Exemplo

$$C = 2500 - 20 = 2480$$

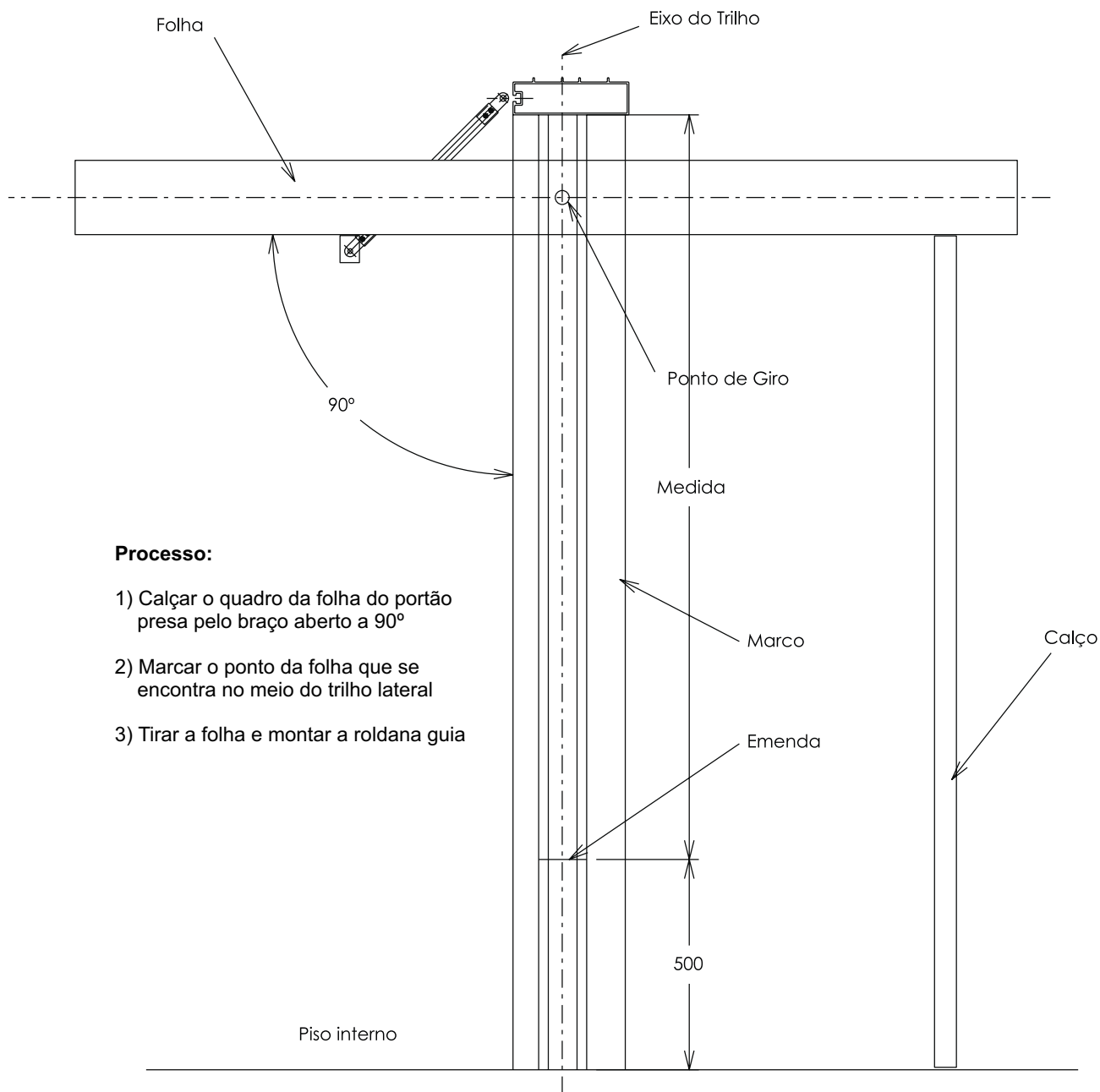
$$C = 2480 \times 0,27 = 670 \text{ (Arredondada)}$$

Medida de Corte do Complemento do Braço

$$670 - 74 = 596$$



Determinar o Ponto de Giro

**Processo:**

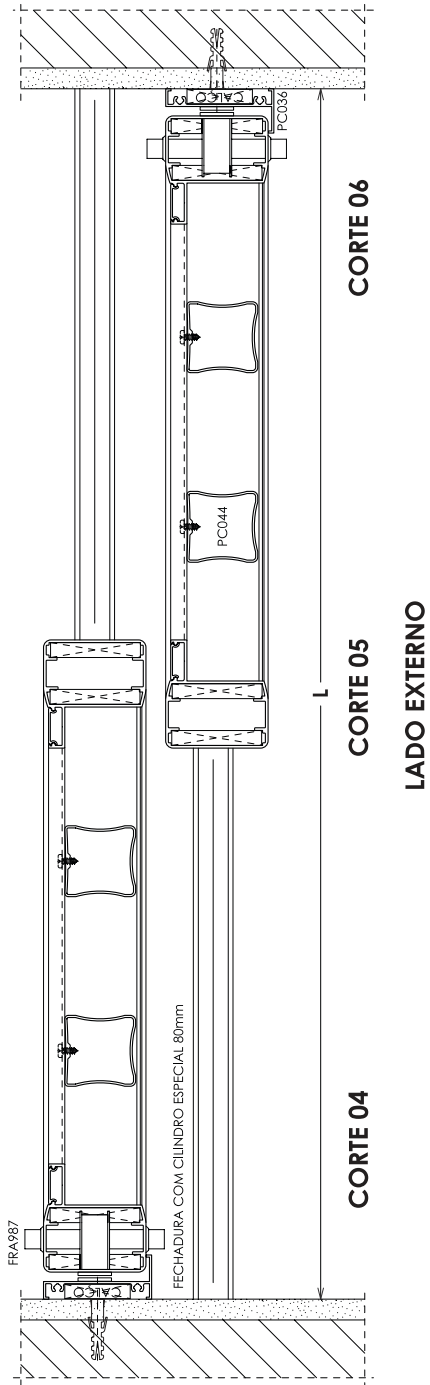
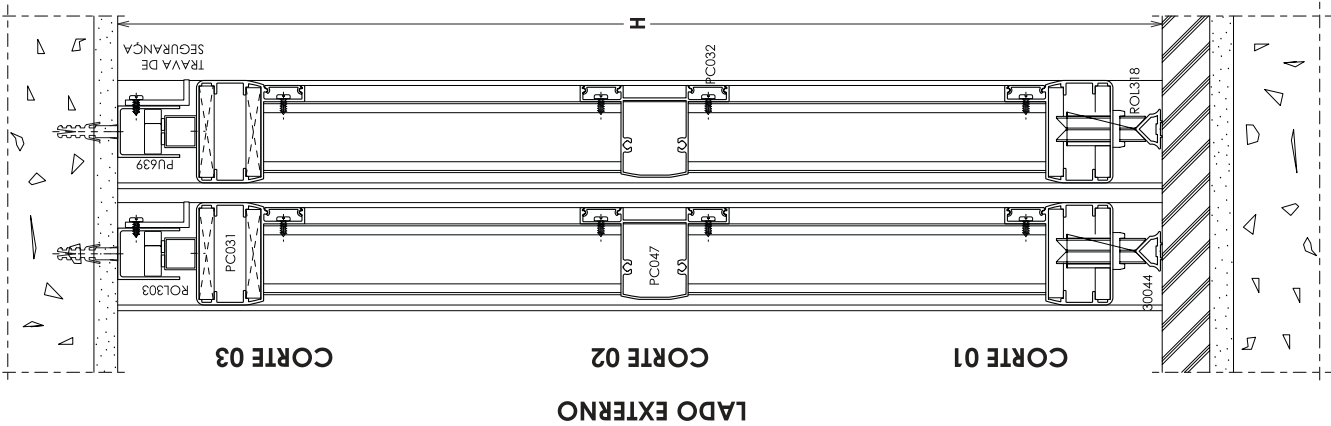
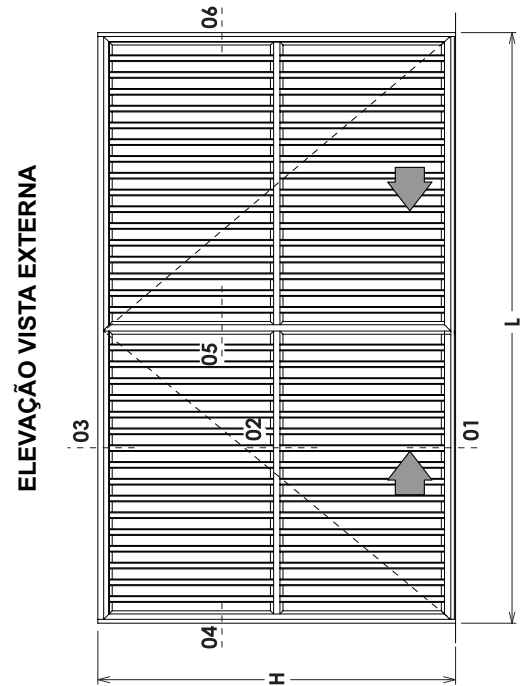
- 1) Calçar o quadro da folha do portão presa pelo braço aberto a 90°
- 2) Marcar o ponto da folha que se encontra no meio do trilho lateral
- 3) Tirar a folha e montar a roldana guia

Atenção:

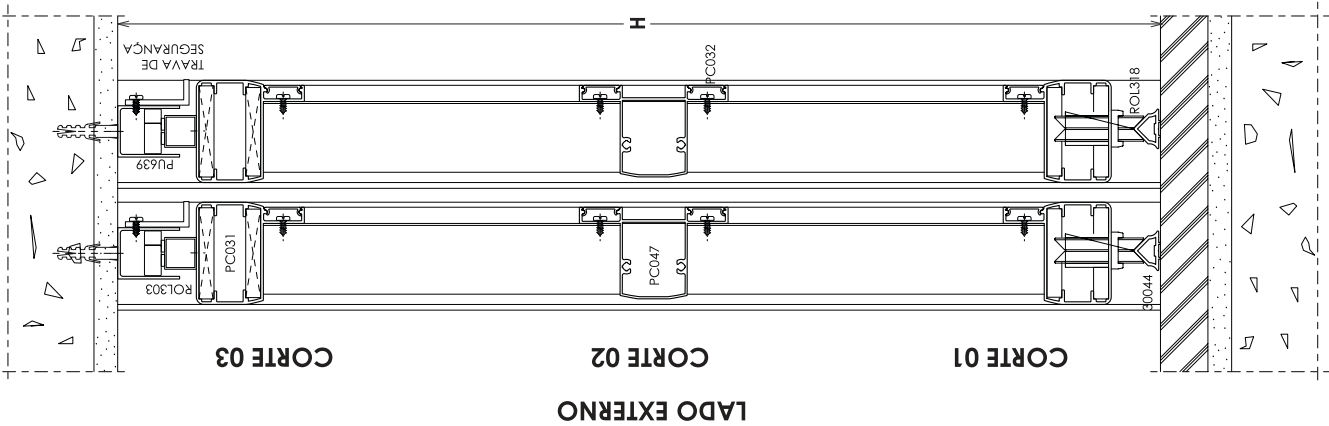
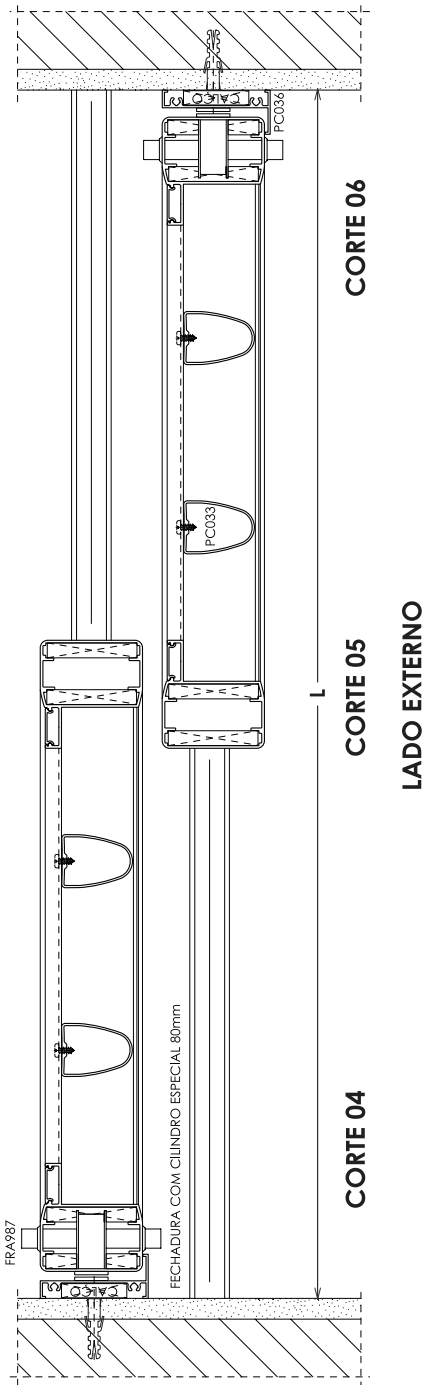
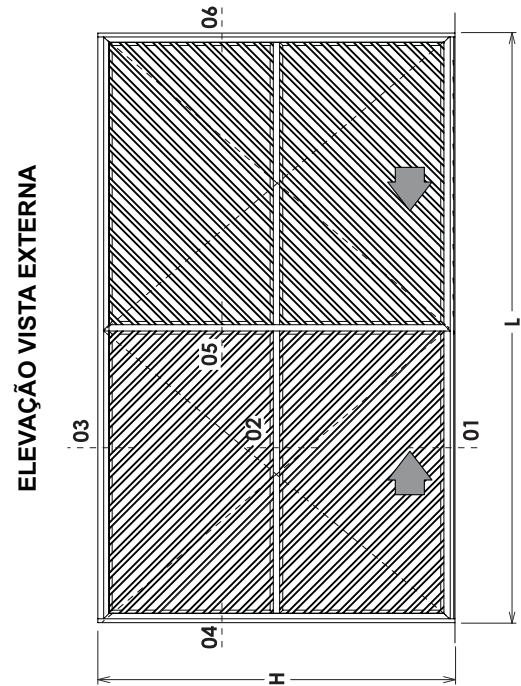
Para a colocação da folha já com as roldanas guia, o trilho (Lu018) deverá ser cortado de acordo com as medidas acima.

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

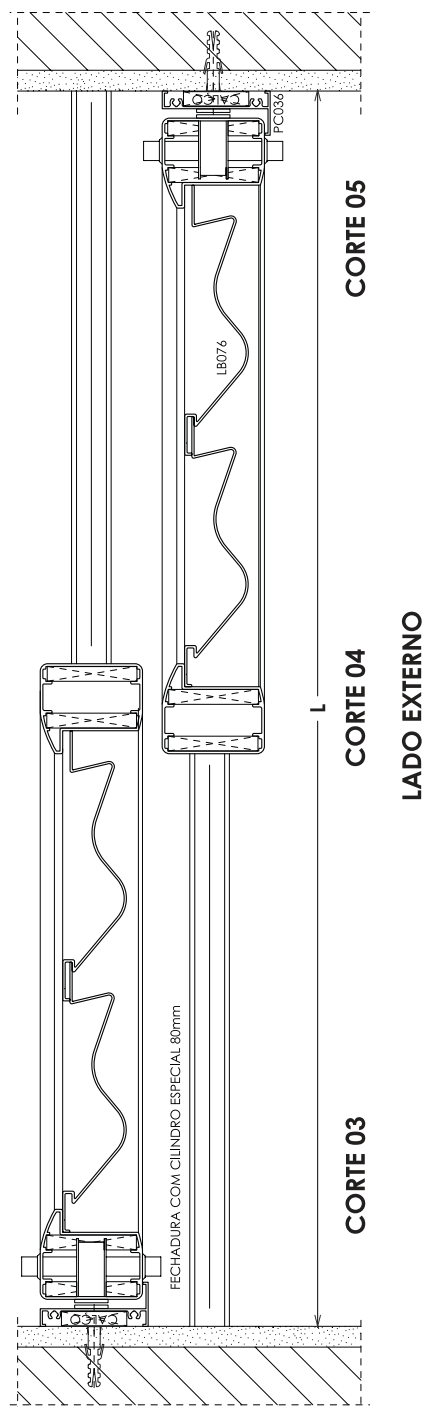
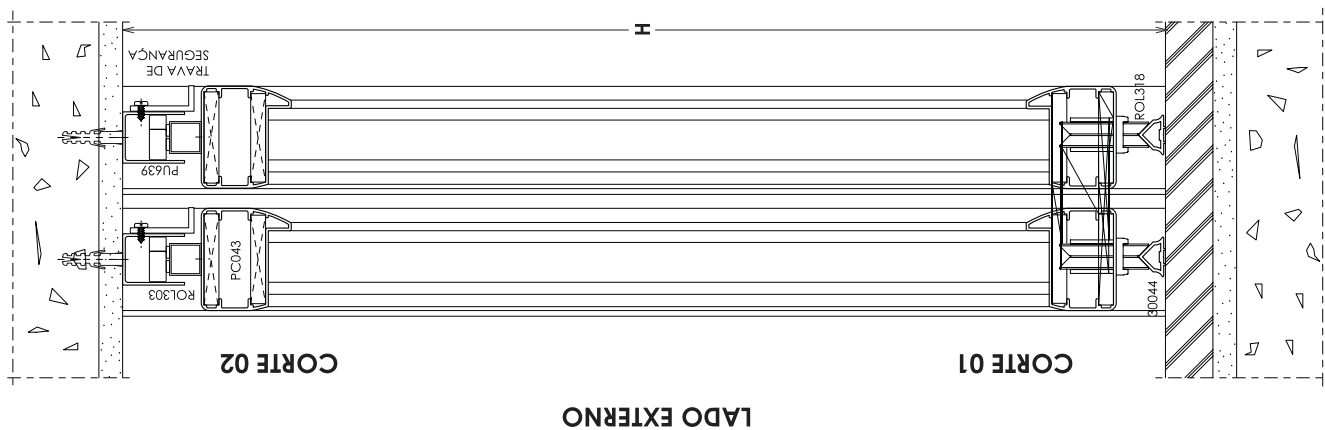
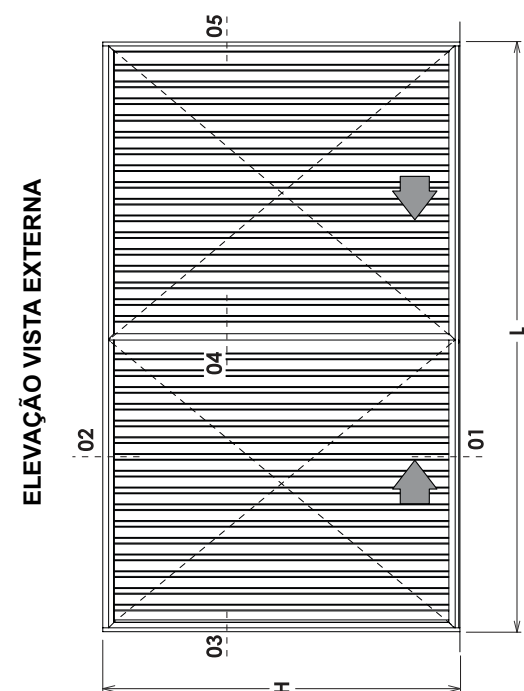
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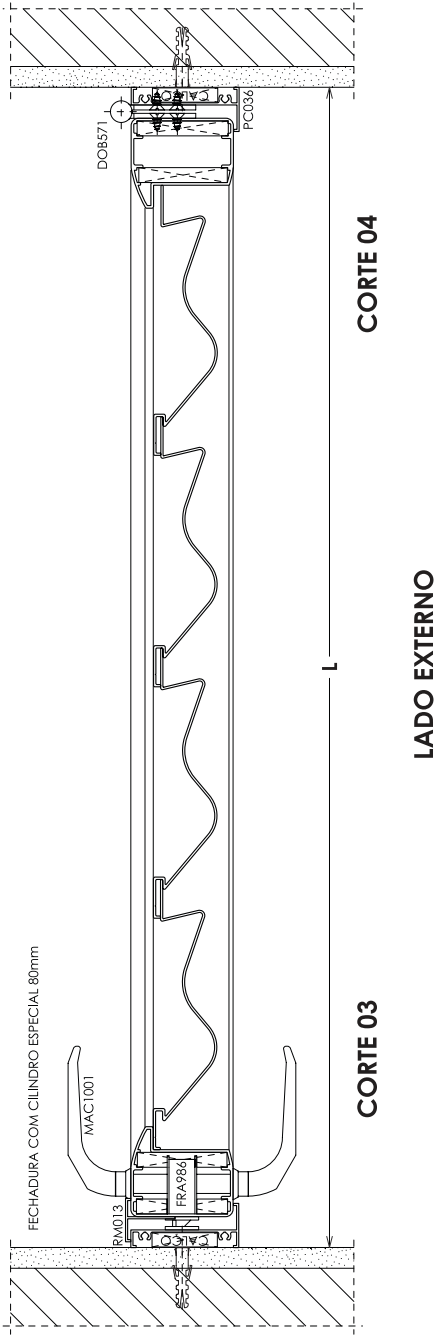
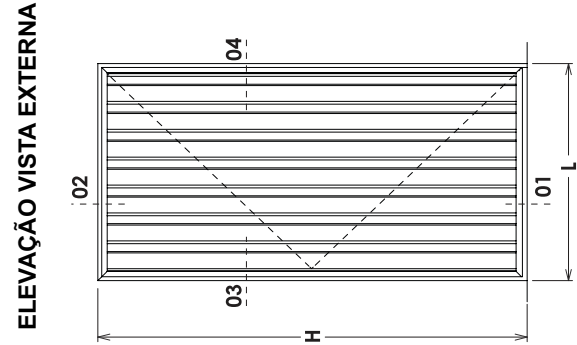
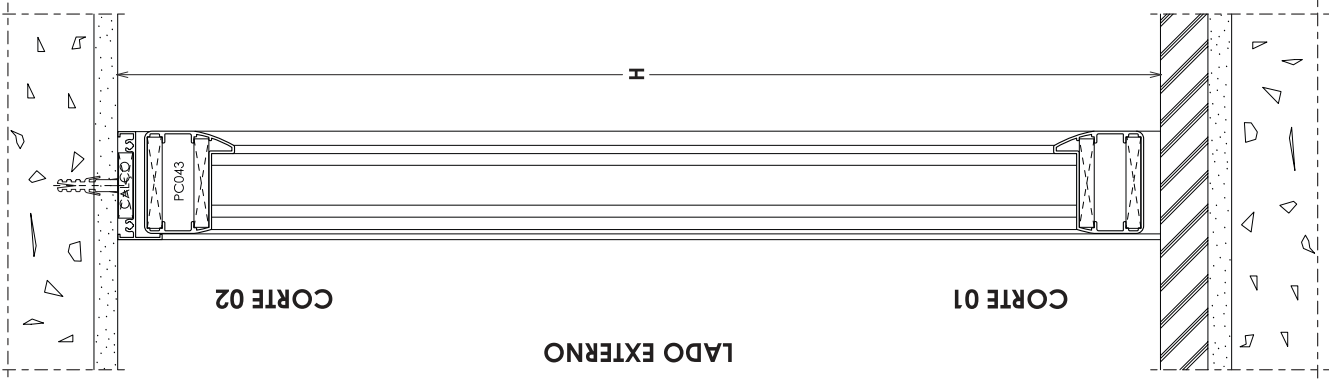
Portão Universal com barrotes verticais 2 folhas de correr



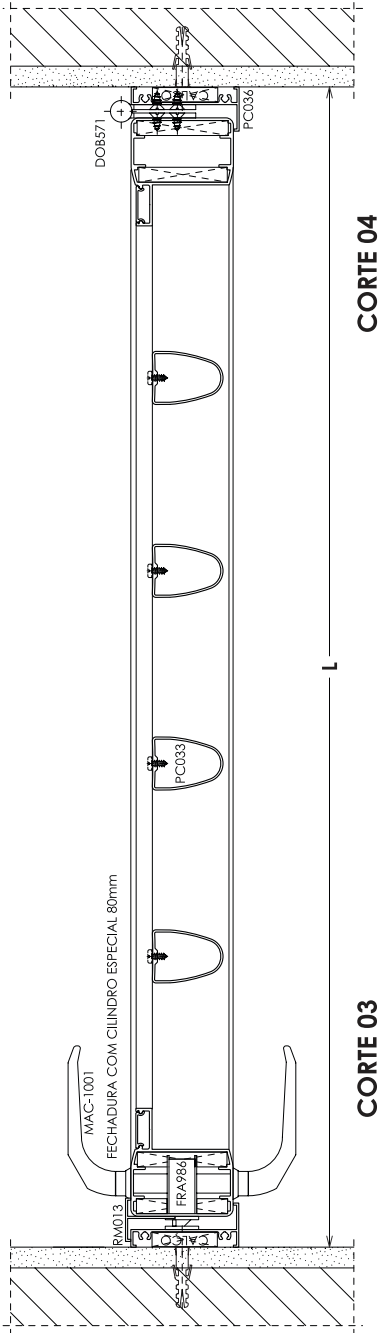
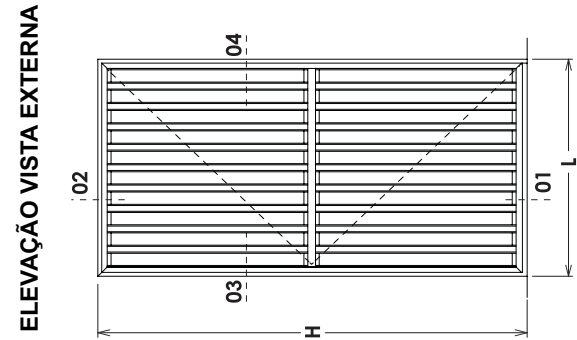
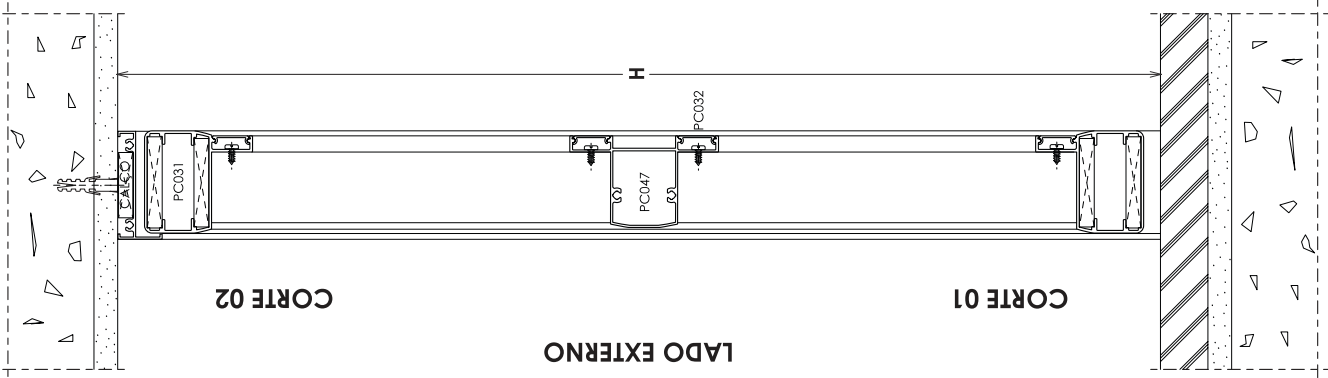
Portão Universal com barrotes inclinados 2 folhas de correr



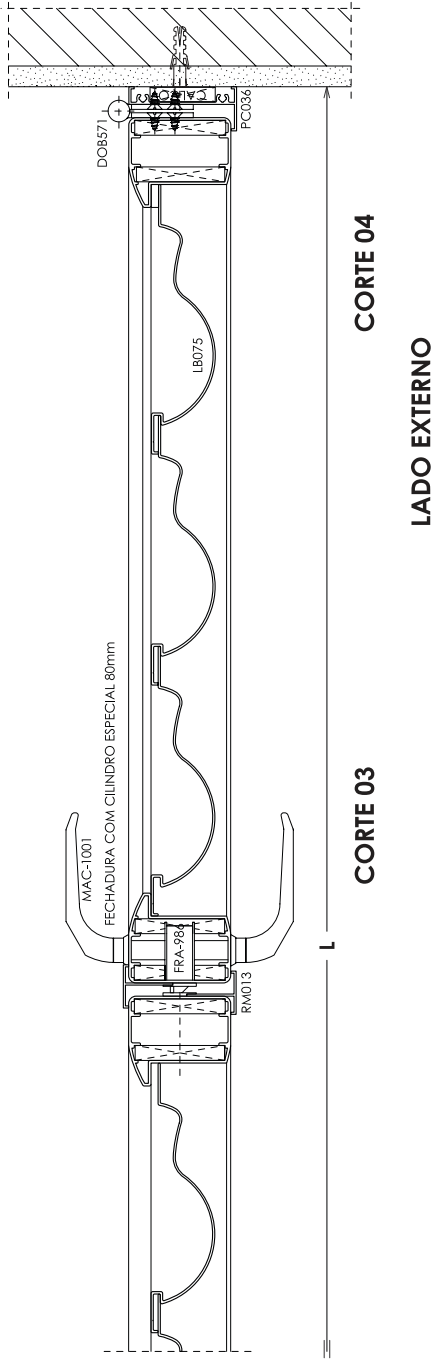
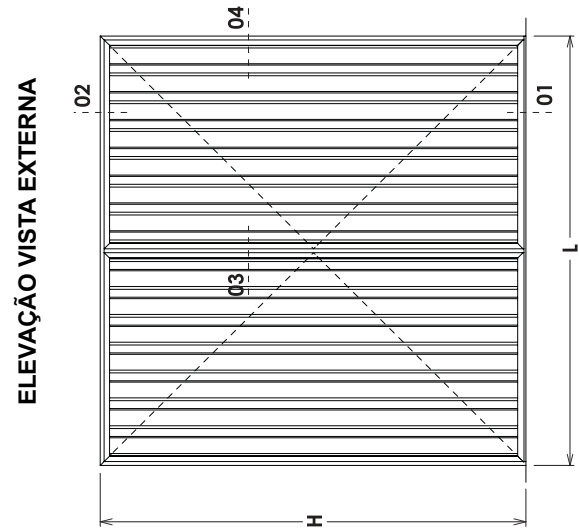
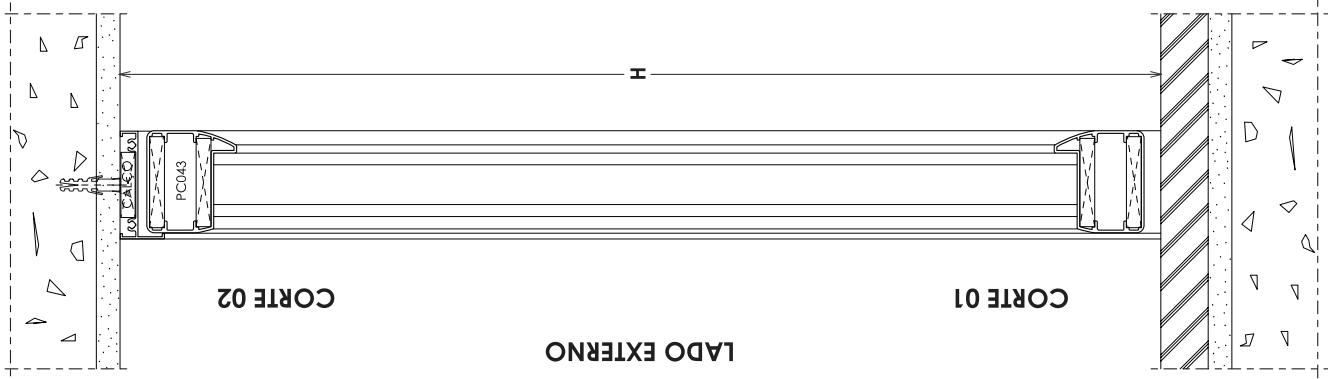
Portão Universal com lambris verticais 2 folhas de correr



Portão Universal com lambris verticais 1 folha de giro

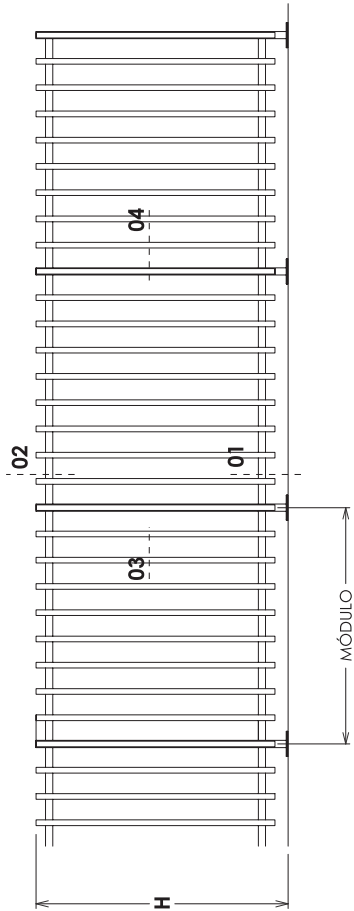


Portão Universal com barrotes verticais 1 folha de giro

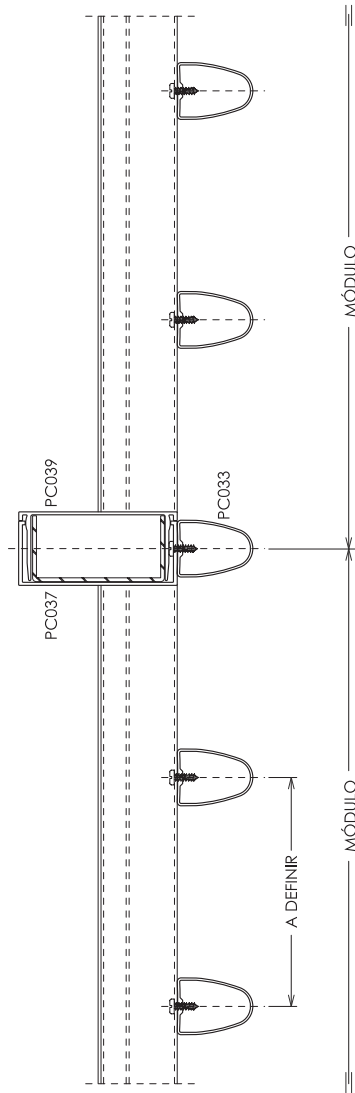


Portão Universal com lambris verticais 2 folhas de giro

ELEVAÇÃO VISTA EXTERNA



ATENÇÃO
Pontaletes em chapa de aço galvanizada a fogo.
Para utilizar pontaletes em alumínio, consultar a área técnica.

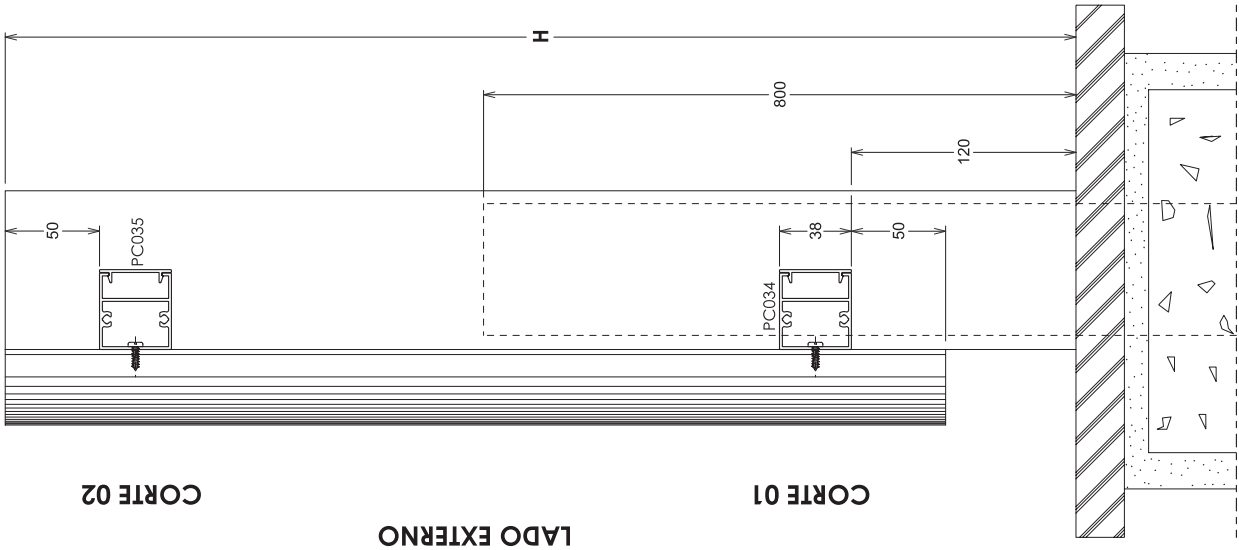


CORTE 04

LADO EXTERNO

CORTE 03

Grade com barrotes verticais

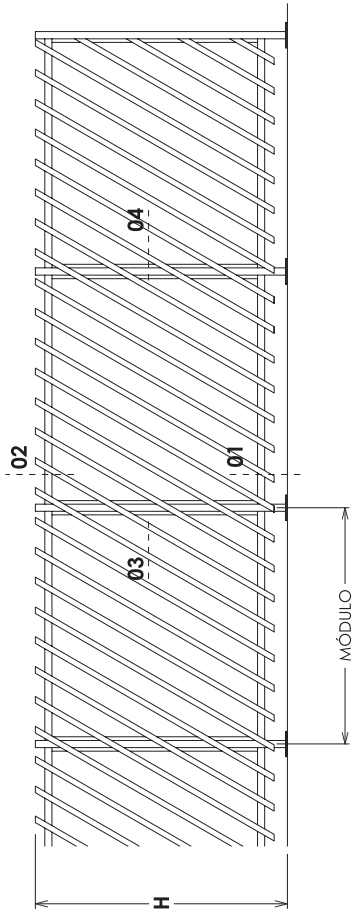


CORTE 02

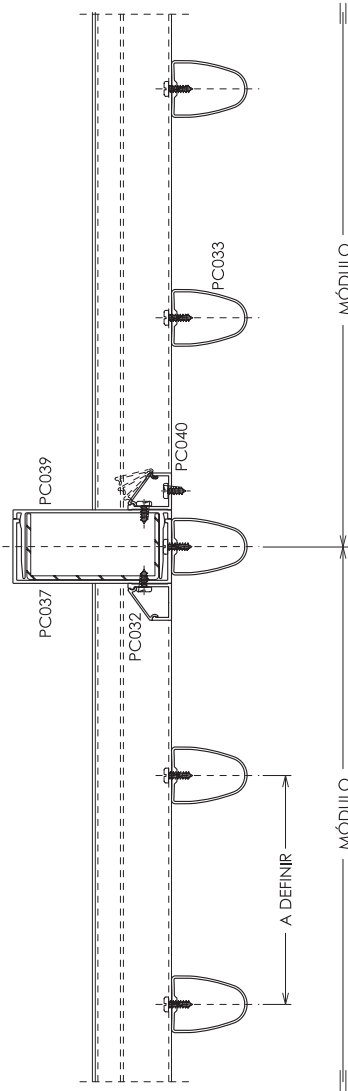
LADO EXTERNO

CORTE 01

ELEVAÇÃO VISTA EXTERNA



ATENÇÃO
Pontaletes em chapa de aço galvanizada a fogo.
Para utilizar pontaletes em alumínio, consultar a área técnica.

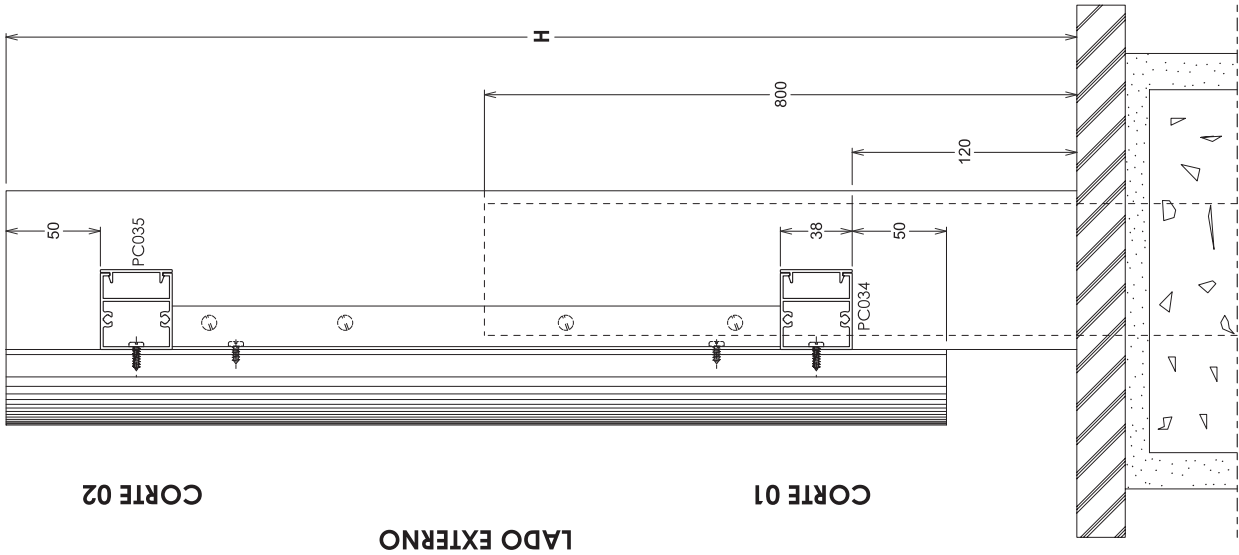


CORTE 03

LADO EXTERNO

CORTE 03

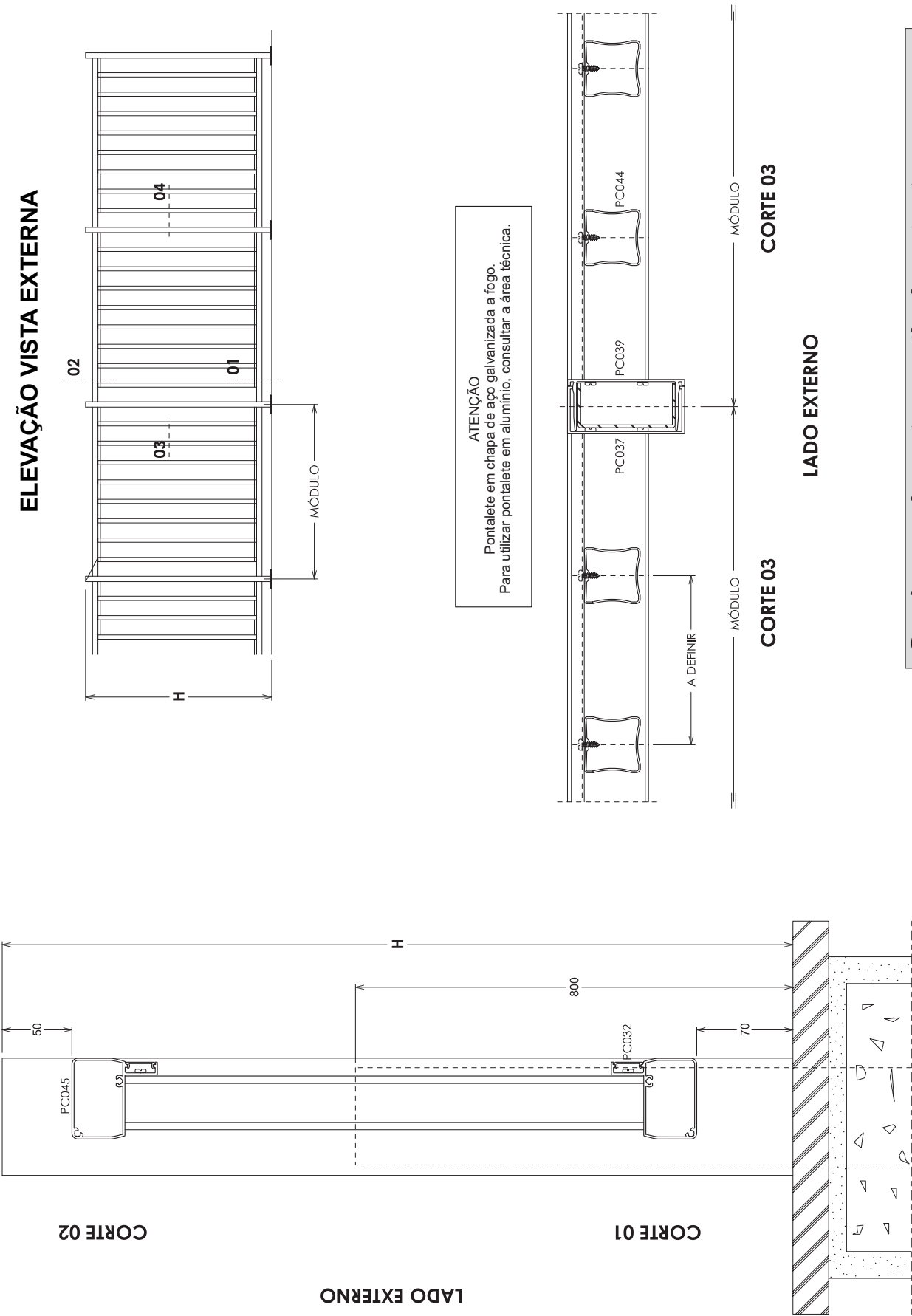
Grade com barrotes inclinados



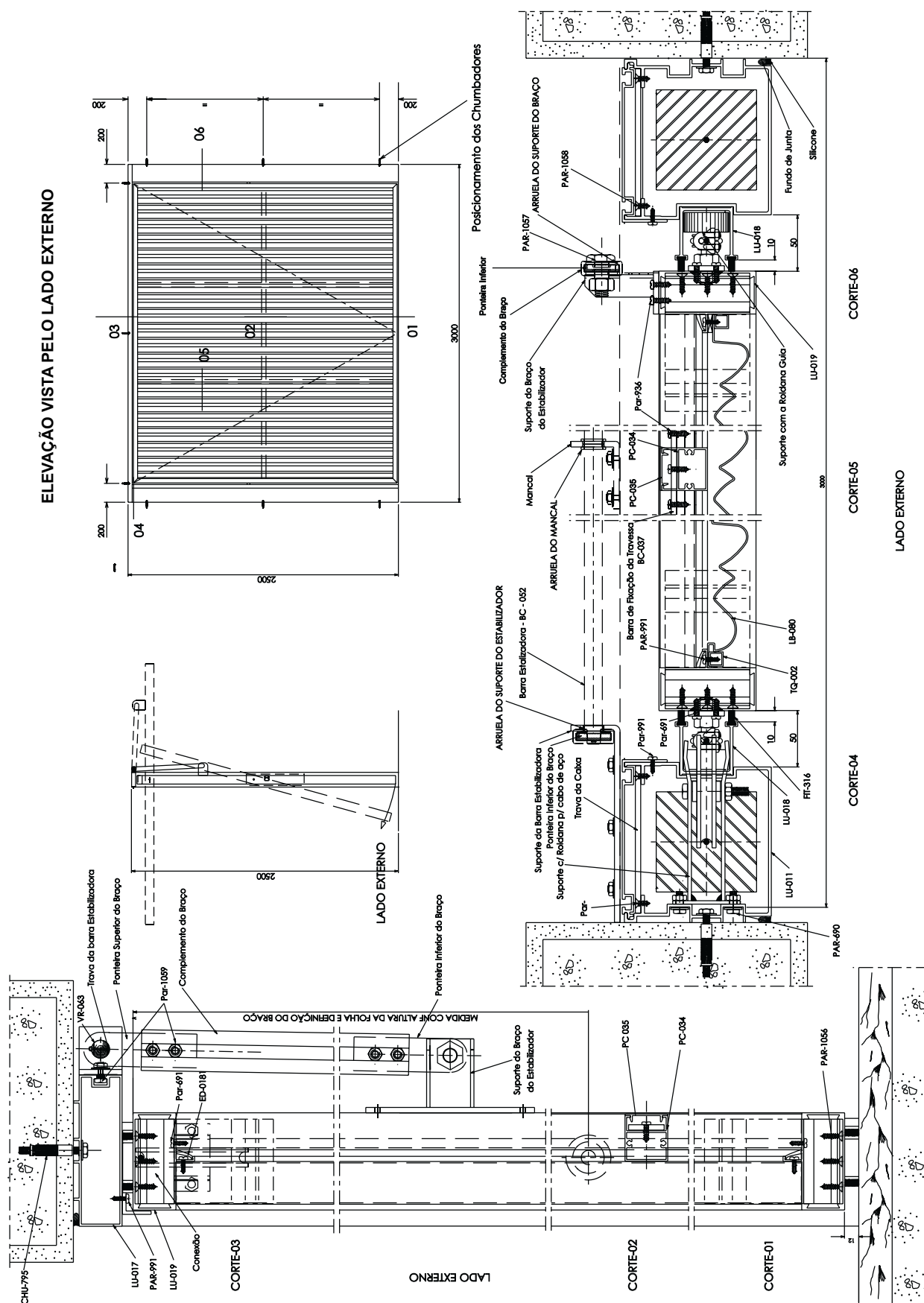
CORTE 02

LADO EXTERNO

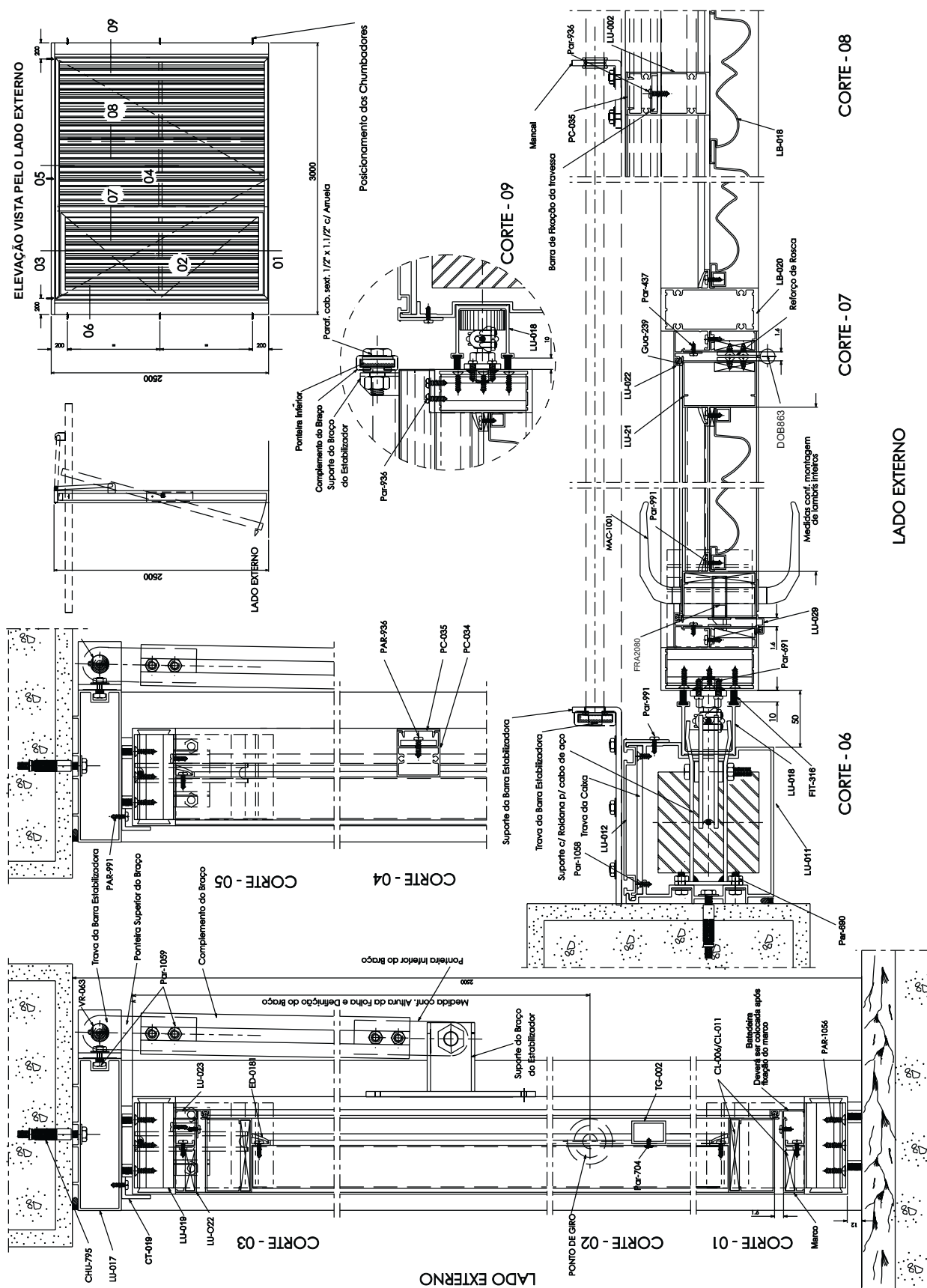
CORTE 01



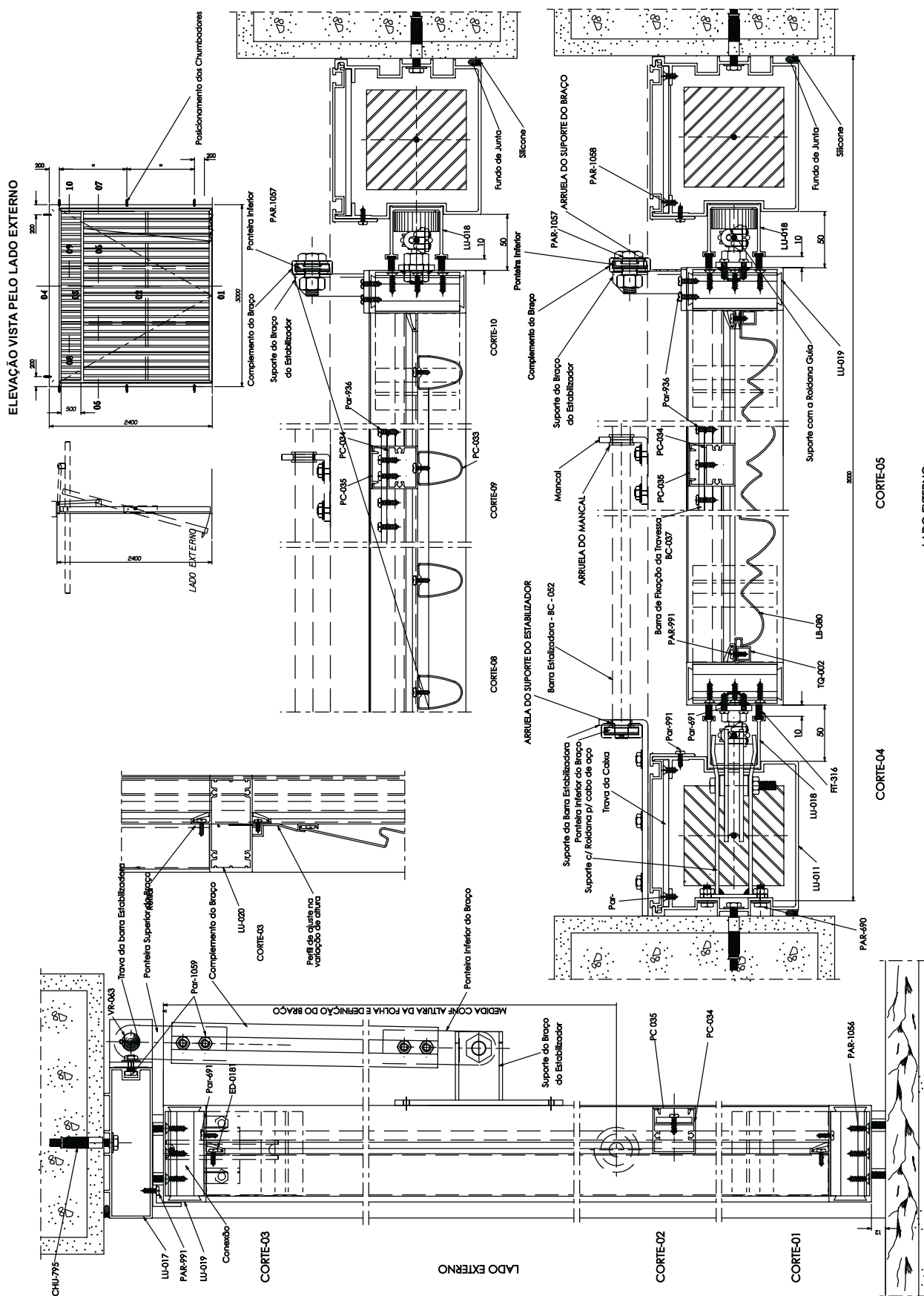
ELEVAÇÃO VISTA PELO LADO EXTERNO



Portão Basculante de 3 MT

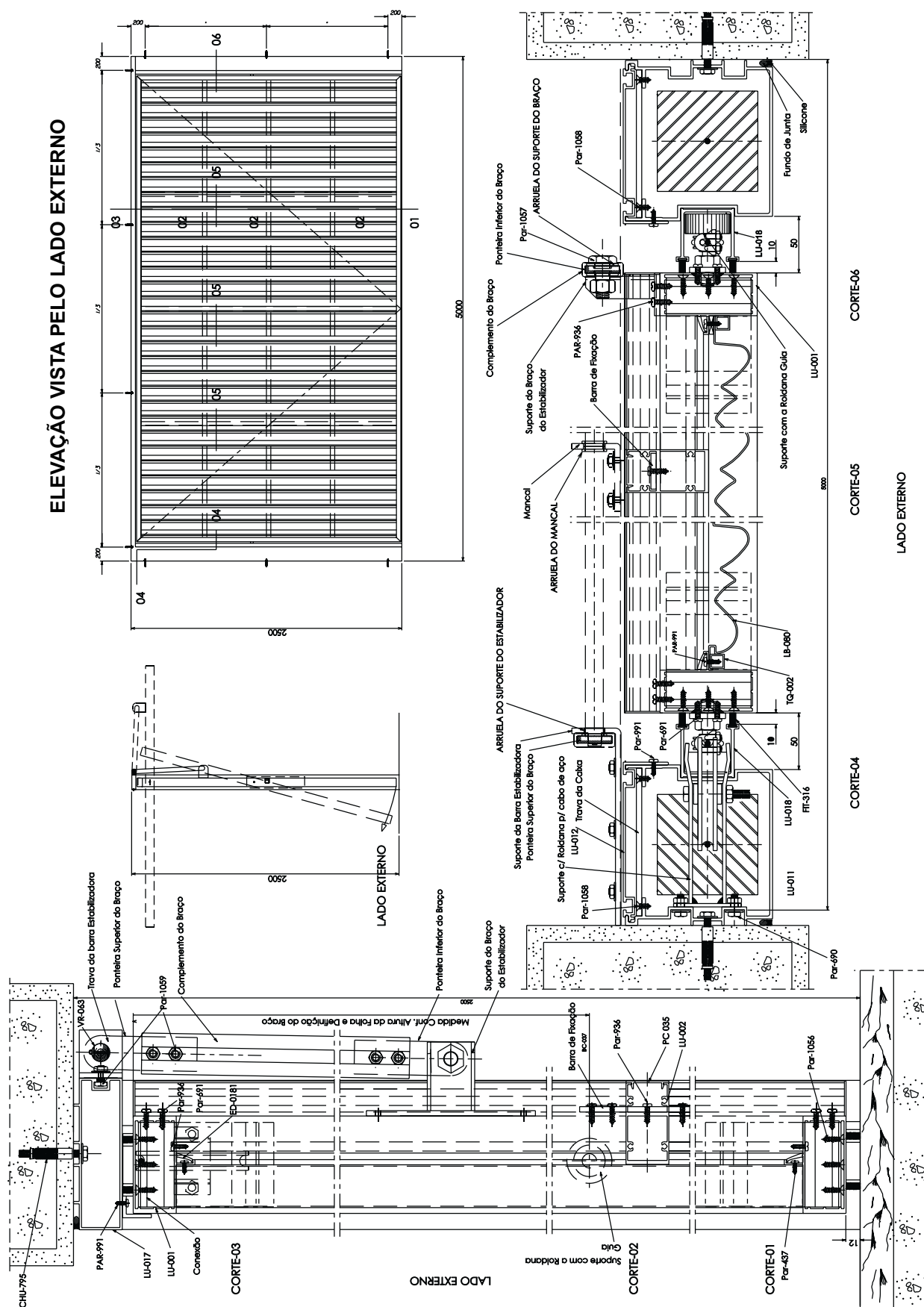


Portão Basculante de 3 MT - Porta Social



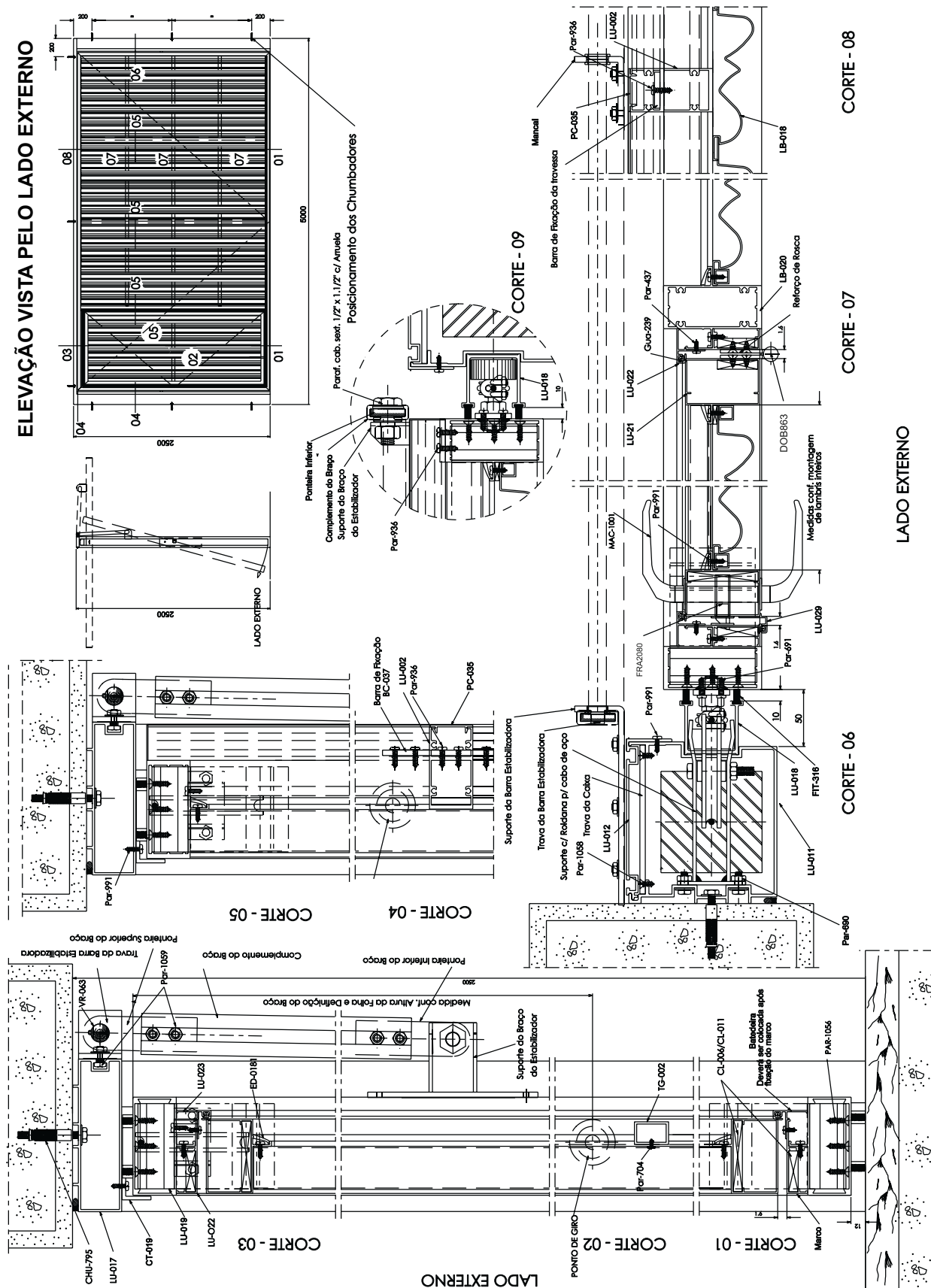
Portão Basculante de 3 MT - Bandeira

ELEVAÇÃO VISTA PELO LADO EXTERNO

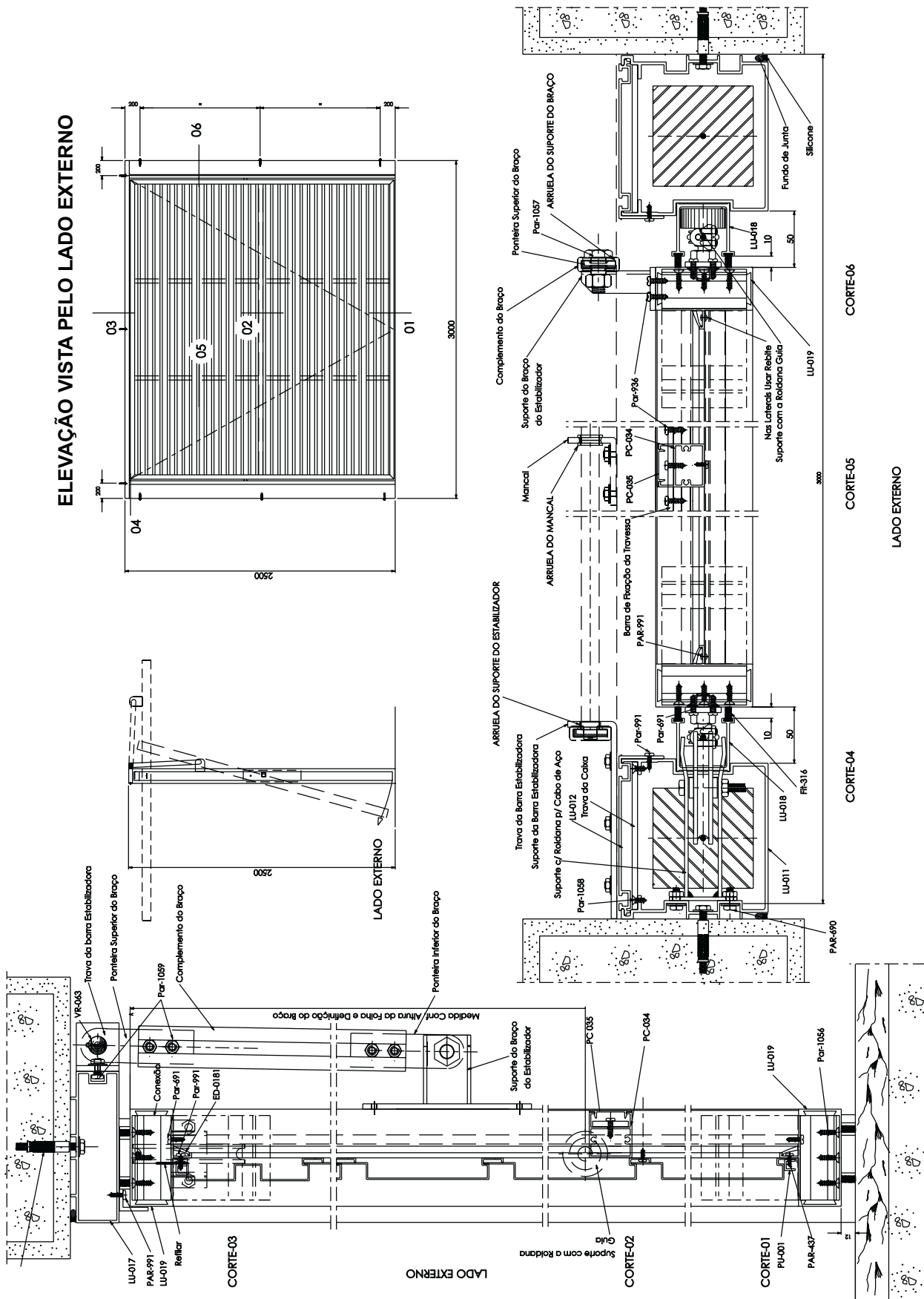


Portão Basculante de 5 MT

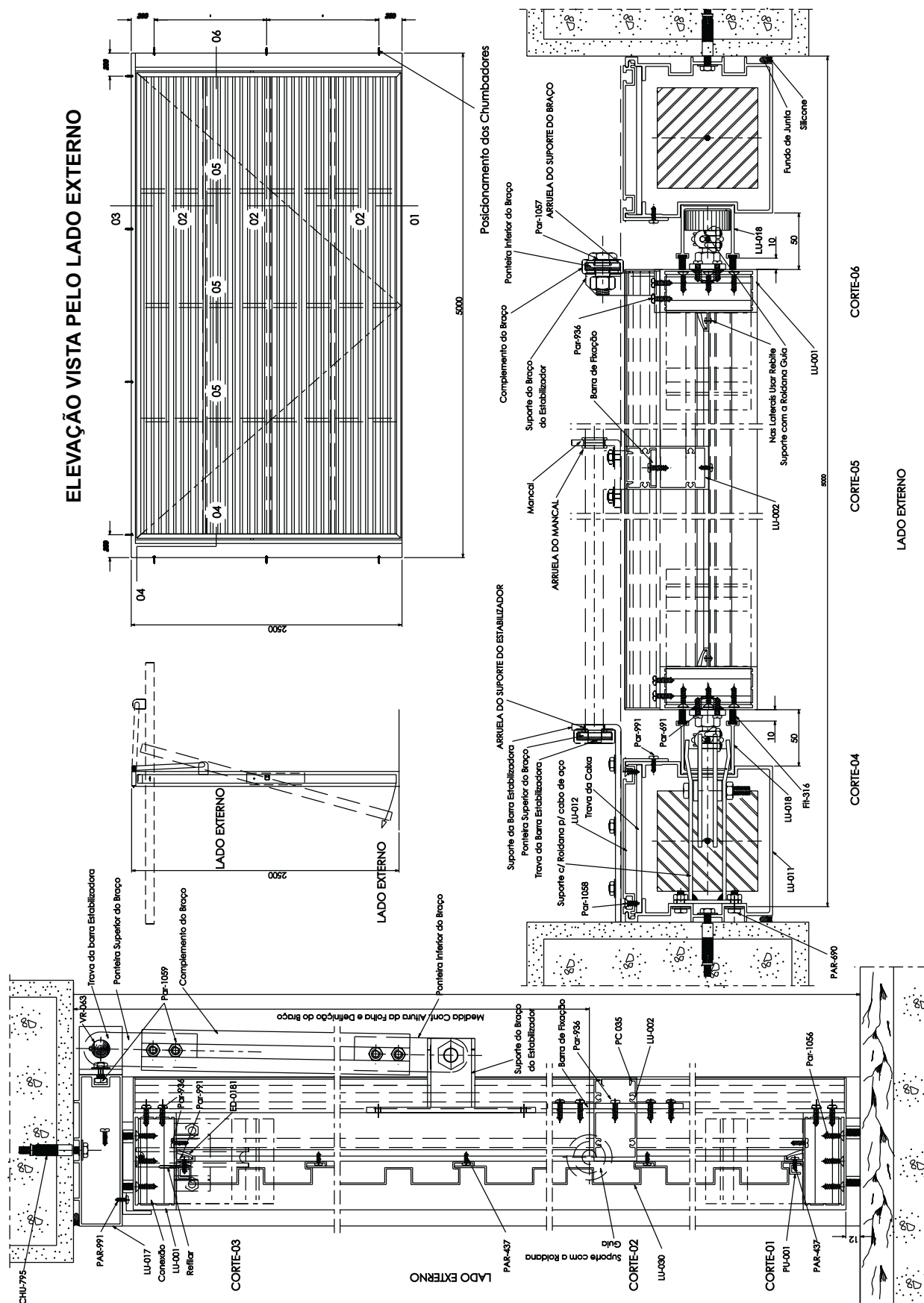
ELEVAÇÃO VISTA PELO LADO EXTERNO



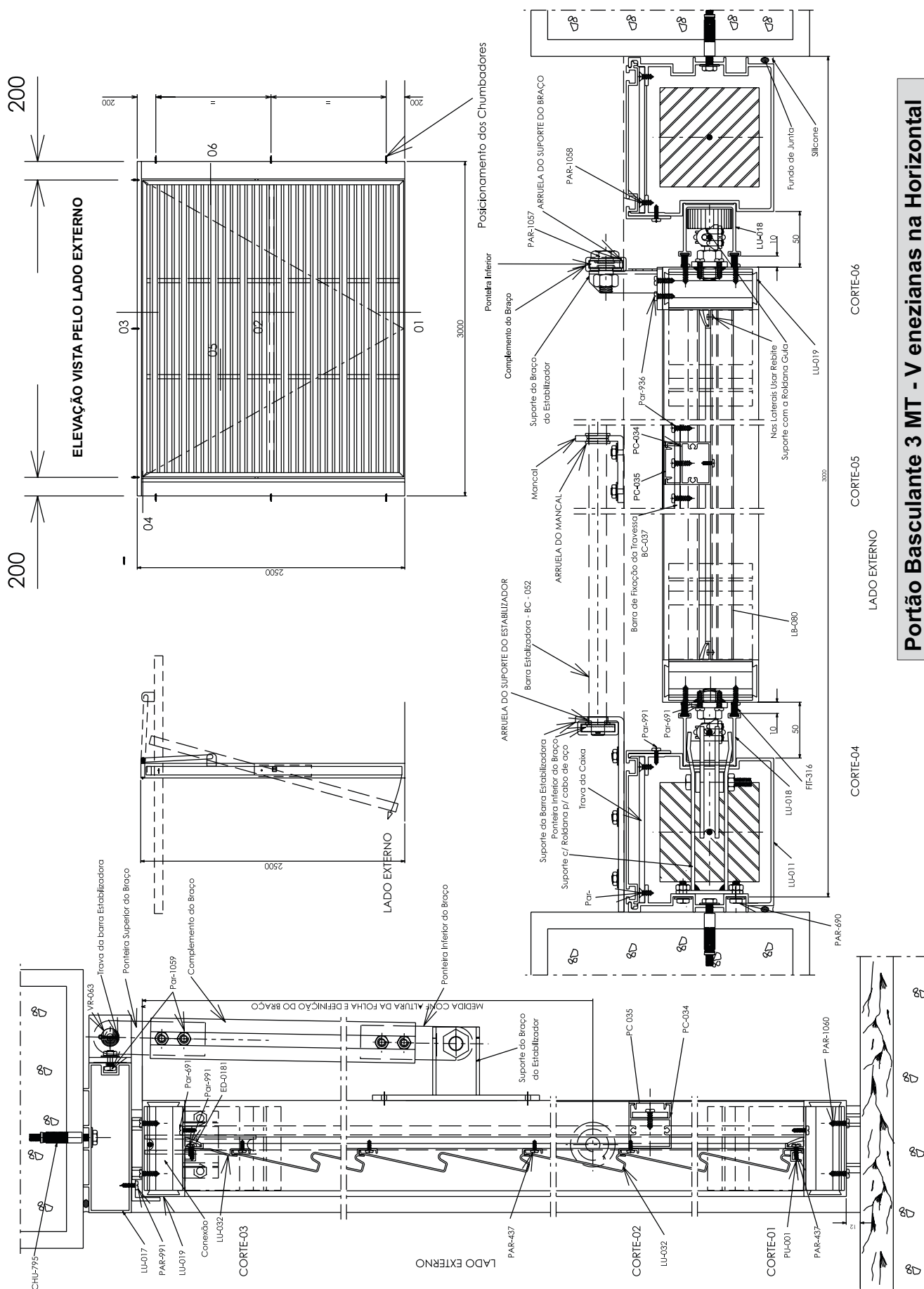
Portão Basculante de 5 MT - Porta Social

ELEVAÇÃO VISTA PELO LADO EXTERNO

Portão Basculante de 3 MT - Lambris na Horizontal

ELEVAÇÃO VISTA PELO LADO EXTERNO

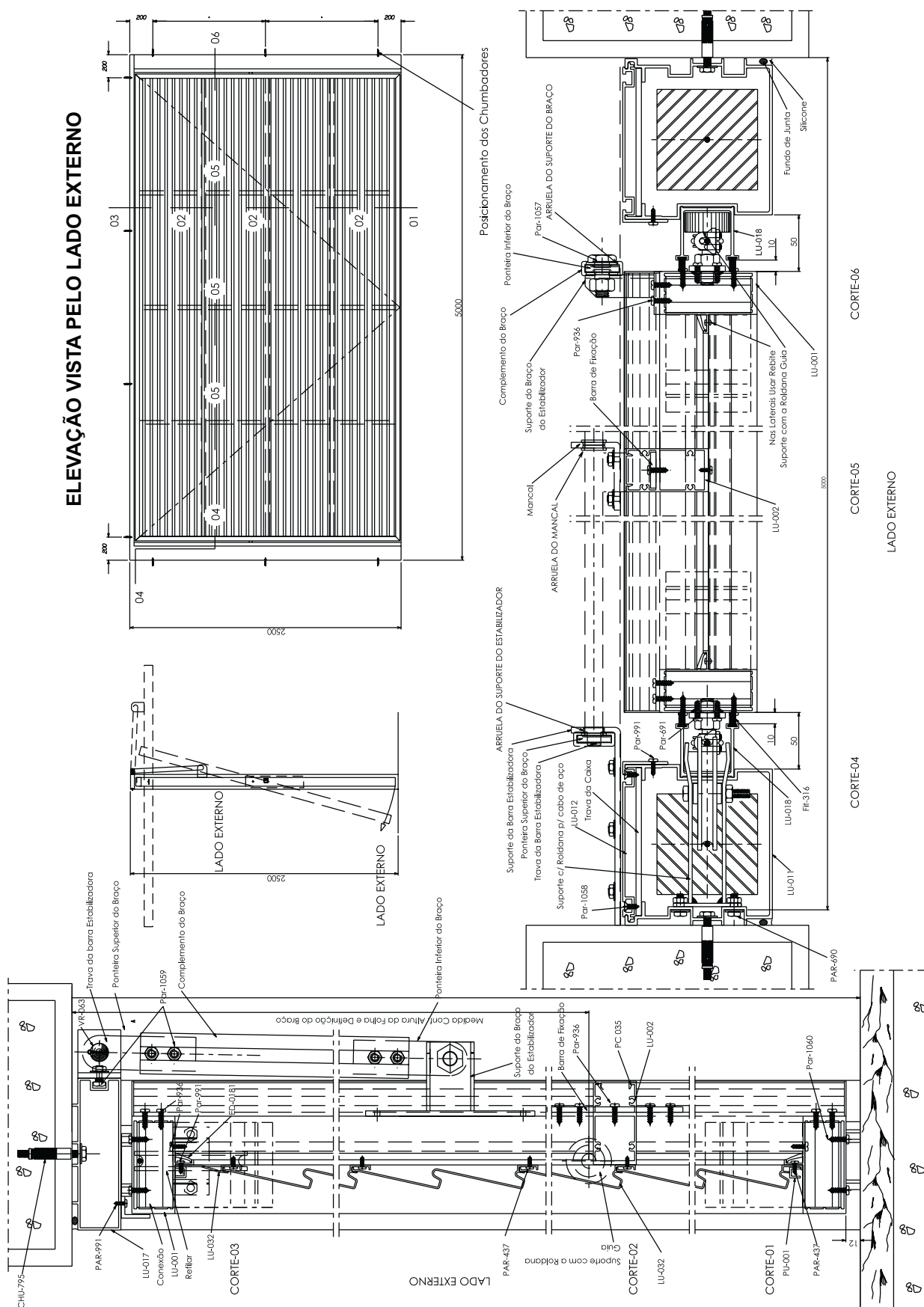


Portão Basculante de 5 MT - Lambris na Horizontal



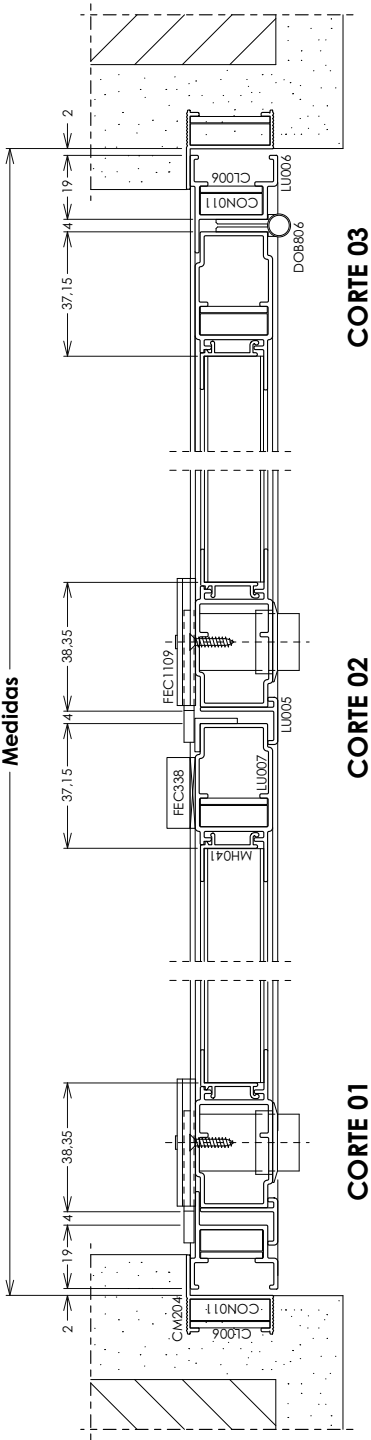
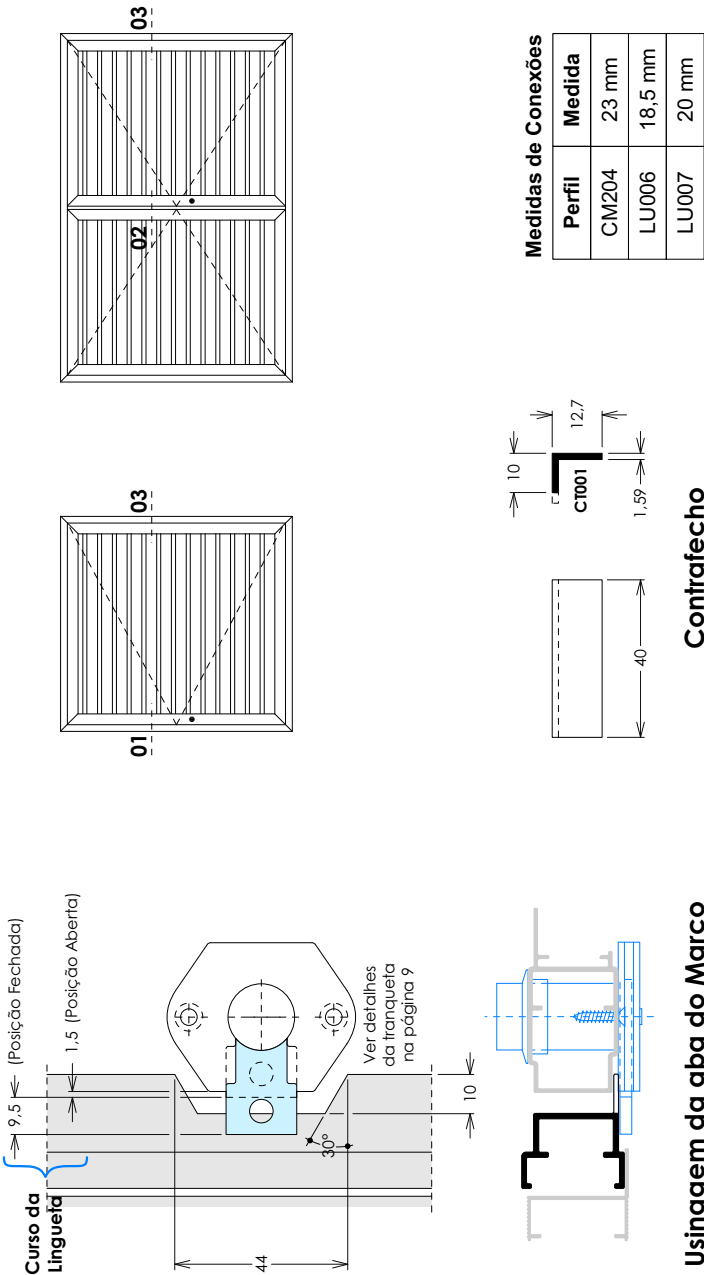
Portão Basculante 3 MT - Venezianas na Horizontal

ELEVAÇÃO VISTA PELO LADO EXTERNO



Portão Basculante 5 MT - Venezianas na Horizontal

ELEVAÇÕES VISTAS EXTERNAS

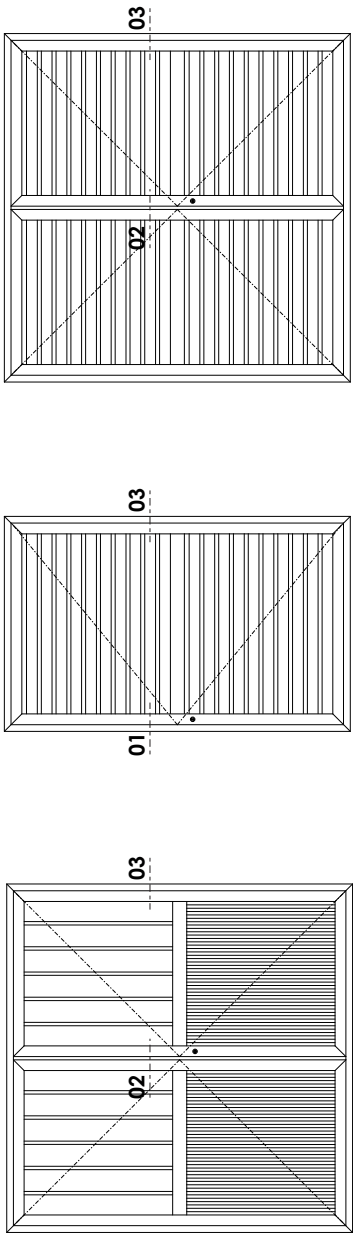


LADO EXTERNO

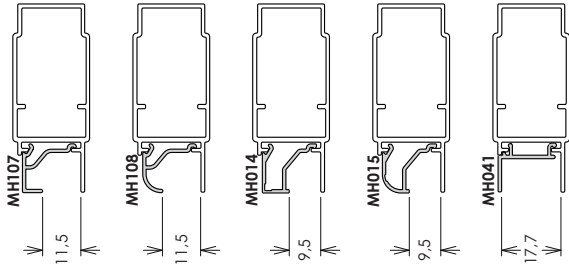
Portinhola com tranqueta com chave

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

ELEVAÇÕES VISTAS EXTERNAS

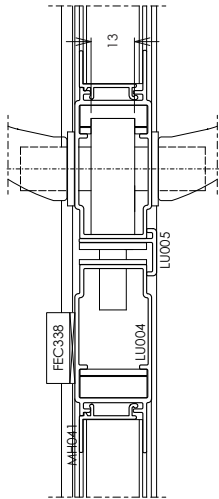


Uso do perfil LU004
com diferentes baguetes

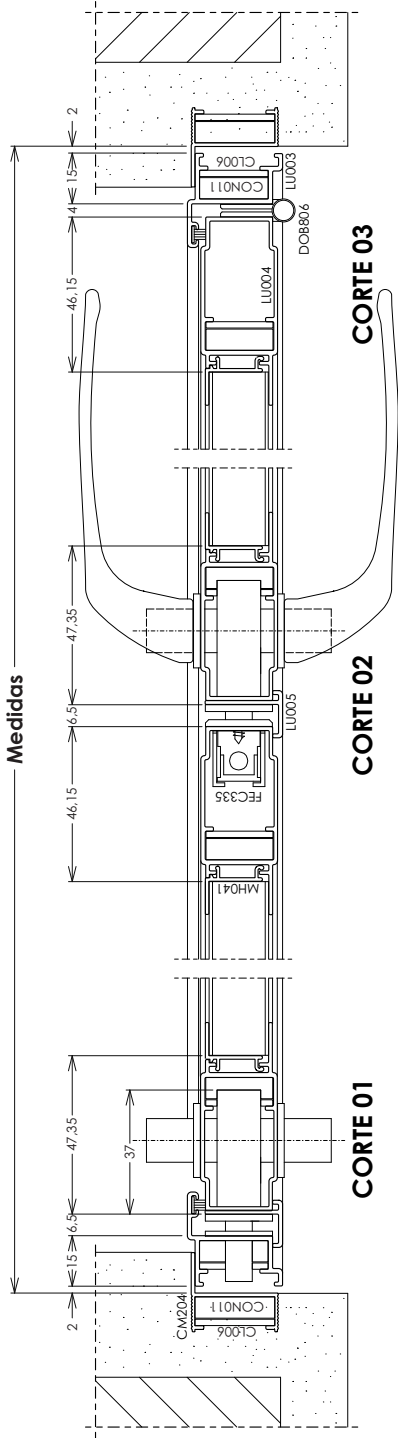


Medidas de Conexões

Perfil	Medida
CM204	23 mm
LU003	20 mm
LU004	20 mm



CORTE 02 (Alternativa)

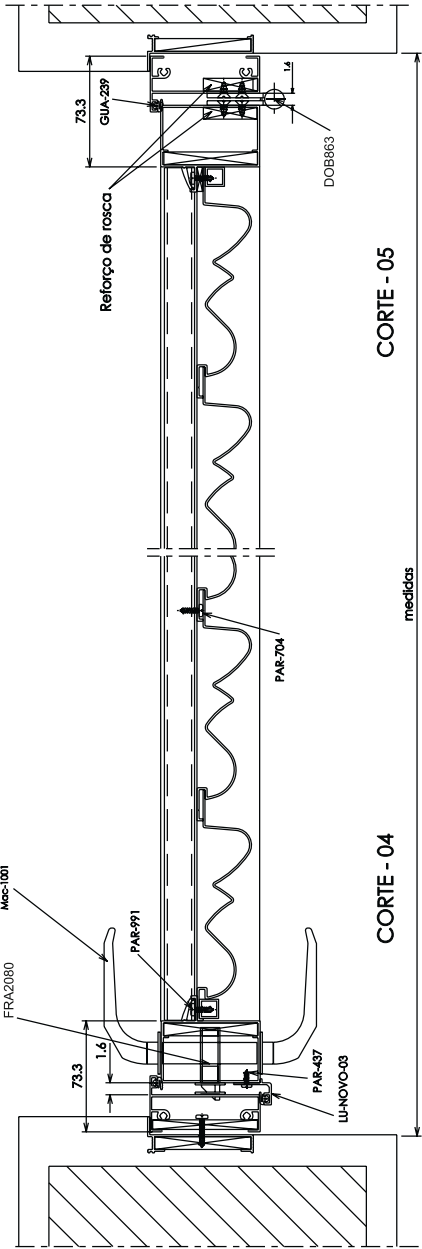
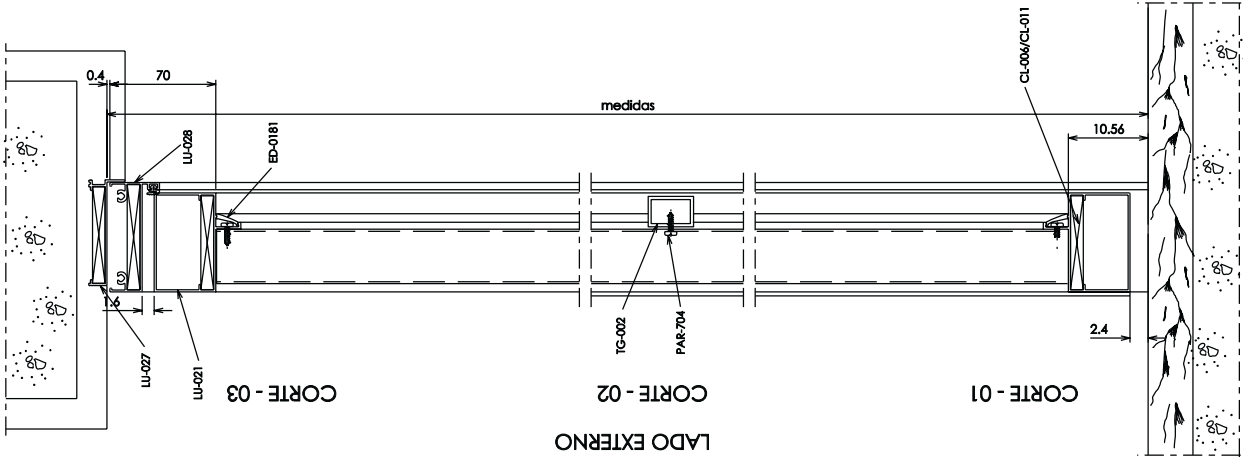
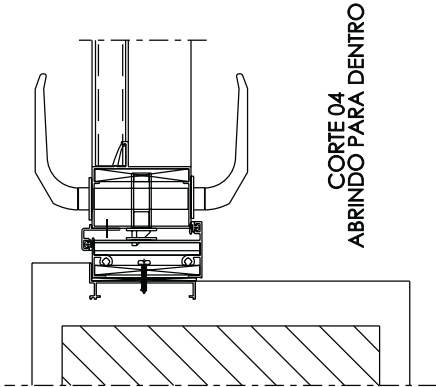
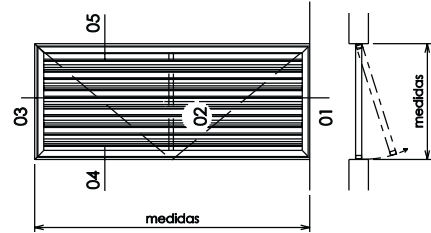


LADO EXTERNO

Portinhola com fechadura e maçaneta

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

ELEVAÇÃO VISTA PELO LADO EXTERNO



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