Aludim
aluminum technology

PORTOBELLO

SISTEMA DE ESQUADRIAS

Setembro/2026

PORTOBELLO
SISTEMA DE ESQUADRIAS

Este catálogo é parte integrante do sistema Portobello desenvolvido pela Aludim Aluminum Technology, e contém as informações e procedimentos para especificação, fabricação e montagem do sistema.

A composição das esquadrias deve obedecer rigorosamente às orientações e recomendações contidas neste catálogo técnico. Em caso de dúvidas ou necessidades de informações adicionais, entre em contato com nosso departamento técnico através do fone (48) 3626 - 4900 ou pelo e-mail engenharia@fretta.com.br.

A Legislação Brasileira estabelece que elementos aplicados a construção civil requer ciência, acompanhamento e responsabilidade técnica, de um Engenheiro Civil Pleno, devidamente graduado.

A Aludim Aluminum Technology não se responsabiliza pelos desdobramentos do uso indevido dos perfis, montagens, instalações ou quaisquer outras formas de aplicações das peças que não obedeçam rigorosamente as recomendações deste catálogo.

As informações técnicas contidas neste catálogo são baseados nas normas de esquadrias vigentes.

ÍNDICE GERAL

	Página
A NOSSA HISTÓRIA	04
A EMPRESA	05
INFORMAÇÕES TÉCNICAS SISTEMA DE ESQUADRIAS PORTOBELLO	06
GRÁFICOS DE DIMENSÕES	09
TIPOLOGIAS	12
ÍNDICE DE PERFIS	14
PERFIS SISTEMA DE ESQUADRIAS PORTOBELLO	15
ÍNDICE DE COMPONENTES	36
COMPONENTES	37
ÍNDICE DE USINAGENS	47
USINAGENS	48
ÍNDICE DE DETALHES CONSTRUTIVOS	56
DETALHES CONSTRUTIVOS	57

NOSSA **HISTÓRIA**

Foi em 1895, que a família Fretta ingressou na atividade comercial, ao fundar na localidade de Azambuja - SC a Casas Fretta. Mais de 120 anos se passaram desde então, e sua tradição ultrapassou gerações, tornando a empresa uma das mais antigas do estado de Santa Catarina, sob o comando dos descendentes de seus fundadores.

EXPERIÊNCIA E CONSTANTE **EVOLUÇÃO**

Tanto tempo de experiência conferiu ao grupo Fretta um legado de credibilidade, resultando na consolidação da marca, sinônimo de solidez e excelência na prestação de serviços.

A tradição nos negócios, aprimorada com o tempo, deu vazão a novos empreendimentos.

O grupo Fretta diversificou seu ramo de atuação e hoje, além da Casas Fretta, é composto pela Fretta Construções, Invest Capital e a mais recente integrante do grupo: Aludim Aluminum Technology.

Especializada na extrusão de alumínio para a construção civil e para a atividade industrial, a Aludim traz em seu DNA os mesmos valores do grupo Fretta, compartilhando da paixão pela prestação de serviços com alto padrão de qualidade.

O Grupo Fretta cresceu e está cada vez mais presente na vida das pessoas, conservando os ensinamentos de seus fundadores: ajudar a transformar o mundo, investindo no ser humano e trabalhando para fazer sua vida melhor!



FRETTA
Desde 1895

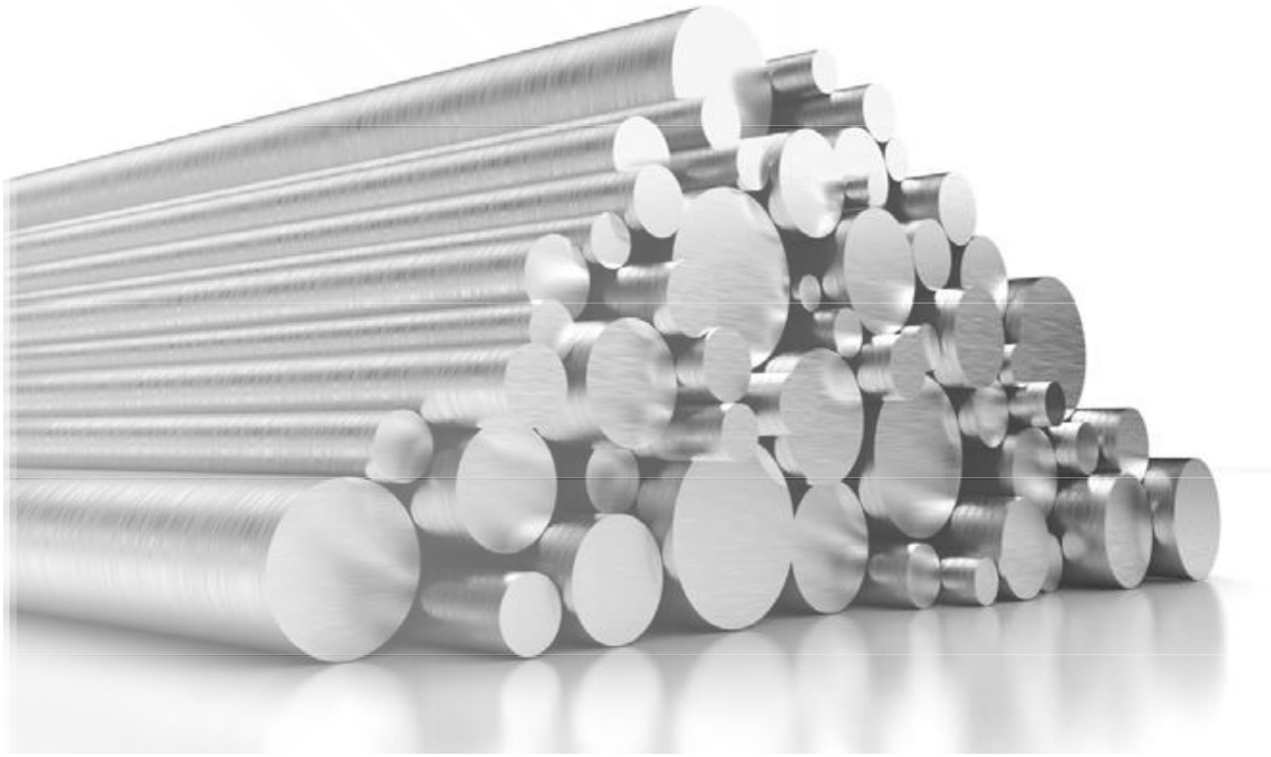
Azambuja, 1895. Primeira casa de comércio da família Fretta.

ALUMÍNIO PRESENTE EM CADA DETALHE DA VIDA MODERNA

Beleza, leveza, durabilidade, moldabilidade, alta resistência, inclusive à corrosão, são algumas das qualidades que tornam o alumínio essencial à vida moderna. Considerado metal semiprecioso, no século XIX o alumínio chegou a ser mais caro do que o ouro, no entanto, a produção em larga escala tornou o preço acessível, ampliando sua utilização.

AQUI, O ALUMÍNIO É BEM TRATADO

A Aludim mantém parcerias com os mais modernos e equipados complexos industriais de tratamento de superfície de perfis extrudados de alumínio, empresas que dispõem de uma linha completa de pintura e de anodização. Tudo isso confere aos produtos Aludim alta resistência, qualidade estética, diversidade de cores, texturas e acabamentos, atributos que se adaptam às necessidades e aos padrões de seu projeto, agregando valor ao seu produto.



SUSTENTABILIDADE

Atualmente, o alumínio está presente em diversos segmentos, contribuindo, inclusive para a preservação do meio ambiente, pois, além de ser o metal ideal para o desenvolvimento de produtos que permitem a redução da emissão de gases poluentes, cerca de 75% de todo o alumínio produzido, até hoje, ainda está em uso. Como um material infinitamente reciclável, mesmo depois de décadas de vida útil, o alumínio pode ser reaproveitado, gerando grande economia de recursos financeiros e preservação dos recursos naturais.

RESPONSABILIDADE SOCIAL

A Aludim escreve diariamente uma história de inovação e compromisso com a sustentabilidade. A preocupação com aspectos econômicos, sociais e ambientais faz parte dos valores da empresa, por isso a companhia busca, constantemente, o aumento de sua eficiência operacional, para diminuir os desperdícios do processo produtivo. Para tanto, desenvolve projetos de conservação de recursos e ecoeficiência, focados na redução de emissões atmosféricas, geração de resíduos sólidos industriais e do consumo de água.

A Associação Brasileira de Normas Técnicas (ABNT) é o Foro Nacional de Normalização.
As Normas Brasileiras, cujo conteúdo é de responsabilidade dos Comitês Brasileiros (ABNT/CB), dos Organismos de Normalização Setorial (ABNT/ONS) e das Comissões de Estudos Especiais (ABNT/CEE), são elaboradas por Comissões de Estudo (CE), formadas pelas partes interessadas no tema objetivo da normalização.

Referências Normativas:

- ABNT - NBR 15.575 - Desempenho - Edifícios habitacionais
- ABNT - NBR 10.821 - Esquadrias externas para edificações
- ABNT - NBR 6.123 - Forças devidas ao vento em edificações - Procedimento
- ABNT - NBR 7.199 - Projeto, execução e aplicação dos vidros na construção civil
- ABNT - NBR 7.000 - Alumínio e suas ligas - Produtos extrudados - Propriedades mecânicas
- ABNT - NBR 8.116 - Alumínio e suas ligas - Produtos extrudados - Tolerâncias dimensionais
- ABNT - NBR 15.969 - Componentes para esquadrias

ABNT NBR 7.000 - Alumínio e suas ligas

Esta Norma especifica as propriedades mecânicas dos perfis de alumínio e suas ligas, determinados nesse catálogo.

Tabela de propriedades físicas e mecânicas das ligas recomendadas.

Liga - Têmpera	Peso Específico (Kg/m)	Módulo Young (Elasticidade) (Mpa)	Temperatura De Fusão (°C)	Coeficiente De Expansão Linear (L/°C)	(LRT) Limite De Resistência a Tração (Mpa)	Limite Convencional De Escoamento (Mpa)
6060 - T5	2,71	70.000	600 - 650	$23x10^{-6}$	150 (219)	110 (189)
6063 - T5	2,71	70.000	600 - 650	$23x10^{-6}$	150 (219)	110 (189)
6063 - T6	2,71	70.000	600 - 650	$24x10^{-6}$	205 (235)	170 (213)

Observações:

Dados de tensão expressos na unidade MEGAPASCAL (Mpa), equivale a 1 N/mm².
A medida da unidade Kgf/mm² é obtida dividindo-se o valor indicado por 9,807.
Os valores sem parênteses são os mínimos especificados e valores entre parênteses são os típicos esperados e referem-se aos produtos mais utilizados nas ligas/têmperas indicadas.
As características e as propriedades mecânicas das têmperas com alívio de tensão podem diferir daquelas correspondentes as têmperas básicas do produto.

Norma ABNT NBR 10.821

A norma ABNT NBR 10.821 estabelece os parâmetros mínimos de desempenho exigidos de esquadrias para instalações em edifícios.

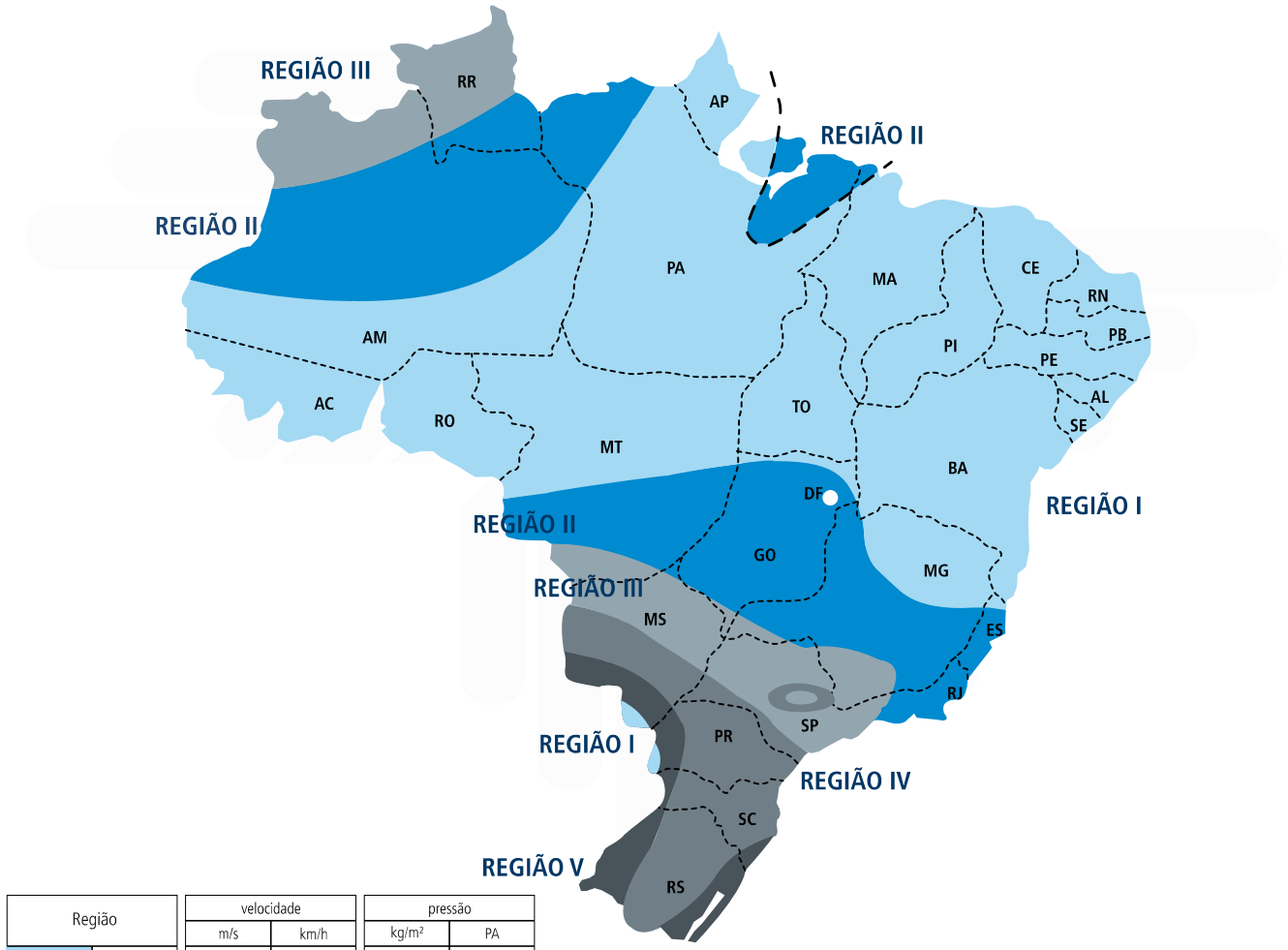
Ela trata dos seguintes requisitos para aplicações externas:

- Permeabilidade ao ar;
- Estanqueidade à água;
- Resistência as cargas uniformemente distribuídas;
- Resistência as operações de manuseio;

O atendimento das exigências estabelecidas pela norma é verificado através de ensaios específicos realizados em laboratórios especializados.

As exigências variam de acordo com a localização e algumas outras características da obra, como altura, a topografia, entre outras.

Figura 1 - Gráfico de isopletas de velocidade básica dos ventos no Brasil - ABNT 6123



Região		velocidade		pressão	
		m/s	km/h	kg/m²	PA
	I	30	108	77	756
	II	35	126	105	1030
	III	40	144	137	1345
	IV	45	162	173	1698
	V	50	180	214	2100

A velocidade do vento é o parâmetro inicial para calcularmos a pressão exercida o local, levando em conta a altura da obra, rugosidade do terreno, localização, entre outras características. Para facilitar a NBR 10821 trás uma tabela (tabela 1), que determina as pressões de ensaio, segurança e de água, válida para edifícios de até 30 pavimentos ou 90 metros de altura em todas as regiões do Brasil.

Os requisitos de classificação das esquadrias instaladas na posição vertical, em edifícios de uso residencial ou comercial, são no mínimo estabelecidos para as cincos classes em relação ao número de pavimentos e a altura da edificação. As pressões de ensaios a serem adotadas estão indicadas na Tabela 1 e na Figura 1, sendo sempre considerado o último pavimento da edificação onde as esquadrias forem ser instaladas, mantendo-se este valor para todos os pavimentos.

Para esquadrias instaladas nas situações a seguir, deve ser consultada a ABNT NBR 6123, para determinação da pressão de projeto (Pp) e pressão de ensaio (Pe), prevalecendo como o mínimo os valores da Tabela 1 .

- Edifícios em que as esquadrias não sejam instaladas na posição vertical;
- Edifícios de forma não retangular;
- Edifícios com exigências especiais;

Tabela 1 - Tabela de pressão de ensaio para cargas uniformemente distribuídas

Tabela de pressão de ensaio para cargas uniformemente distribuídas					
Quantidade de pavimentos	Altura máxima	Região do País	Pressão de ensaio P_e, em (P_a) Positiva e negativa $P_e = P_p \times 1,2$	Pressão de segurança P_s, em (P_a) Positiva e negativa $P_s = P_e \times 1,5$	Pressão de água P_a, em (P_a) $P_a = P_p \times 0,20$
02	6 m	I	350	520	60
		II	470	700	80
		III	610	920	100
		IV	770	1160	130
		V	950	1430	160
05	15 m	I	420	640	70
		II	580	860	100
		III	750	1130	130
		IV	950	1430	160
		V	1180	1760	200
10	30 m	I	500	750	80
		II	680	1030	110
		III	890	1340	150
		IV	1130	1700	190
		V	1400	2090	230
20	60 m	I	600	900	100
		II	815	1220	140
		III	1060	1600	180
		IV	1350	2020	220
		V	1660	2500	280
30	90 m	I	660	980	110
		II	890	1340	150
		III	1170	1750	200
		IV	1480	2210	250
		V	1820	2730	300

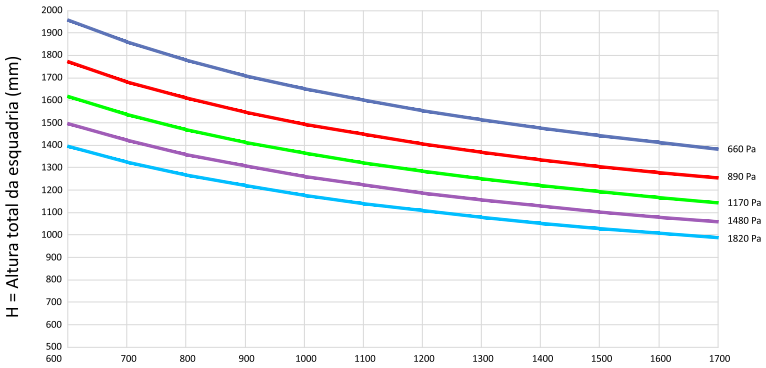
Com as pressões definidas, é possível verificar nas páginas dos 'Gráficos de Desempenho', as medidas máximas de largura e altura para as tipologias existentes em sua edificação. Para isso ligue o eixo de largura ou de altura na curva referente a pressão de ensaio encontrada e verifique a dimensão máxima correspondente.

Notas:

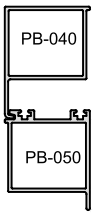
•Nos gráficos de desempenho a seguir, foram considerados os valores de 'Pressão de Ensaio' e ' Pressão de Segurança' de acordo com a norma ABNT NBR 10.821.

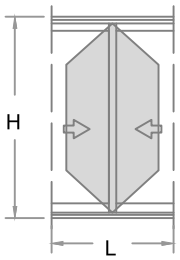
•As espessuras dos vidros devem ser calculadas utilizando-se o valor da 'Pressão de Segurança' requerida para a esquadria (para maiores informações consultar a ABNT NBR 10.821 - partes 2 e 3).

Janelas De Correr 2 e 3 Folhas



L = Largura total de 1 folha (mm)

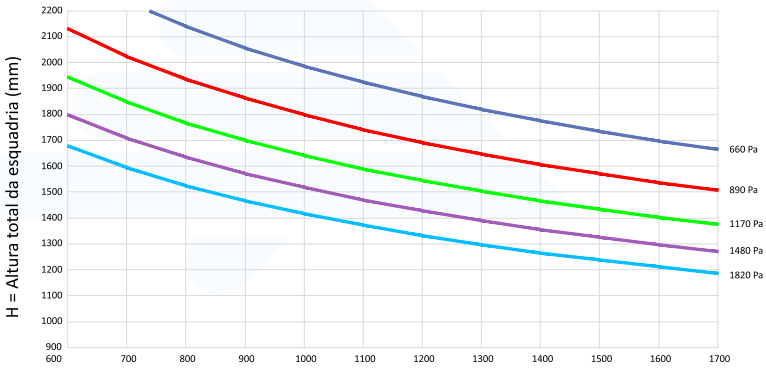




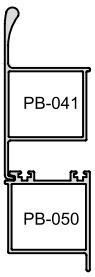
DADOS GEOMÉTRICOS	
PB-040	PB-050
Jx: 4,93 Cm⁴	Jx: 4,94 Cm⁴
Wx: 1,63 Cm³	Wx: 1,89 Cm³
Jxt: 9,87 Cm⁴	
Wxt: 3,52 Cm³	

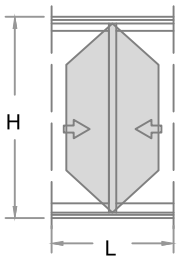
Tensão Admissível: 7 Kg/mm2 (Liga 6060-T5)
Flecha Admissível: H / 175 ou 30mm

Janelas De Correr 2 e 3 Folhas



L = Largura total de 1 folha (mm)

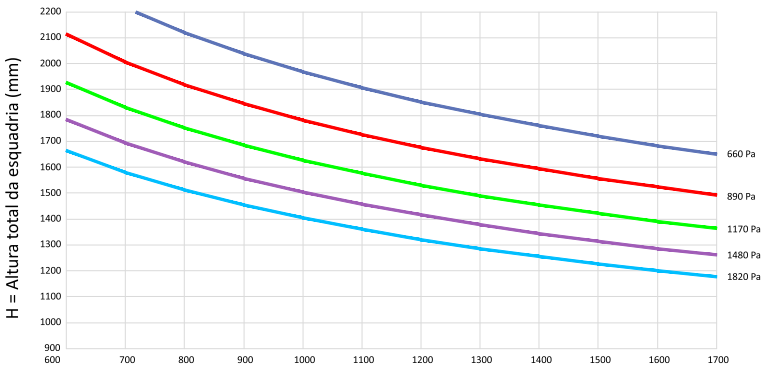




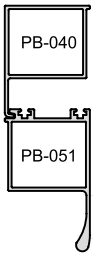
DADOS GEOMÉTRICOS	
PB-041	PB-050
Jx: 12,22 Cm⁴	Jx: 4,94 Cm⁴
Wx: 5,74 Cm³	Wx: 1,89 Cm³
Jxt: 17,16 Cm⁴	
Wxt: 7,63 Cm³	

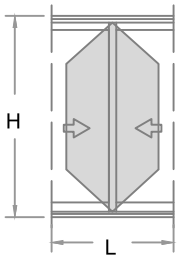
Tensão Admissível: 7 Kg/mm2 (Liga 6060-T5)
Flecha Admissível: H / 175 ou 30mm

Janelas De Correr 2 e 3 Folhas



L = Largura total de 1 folha (mm)

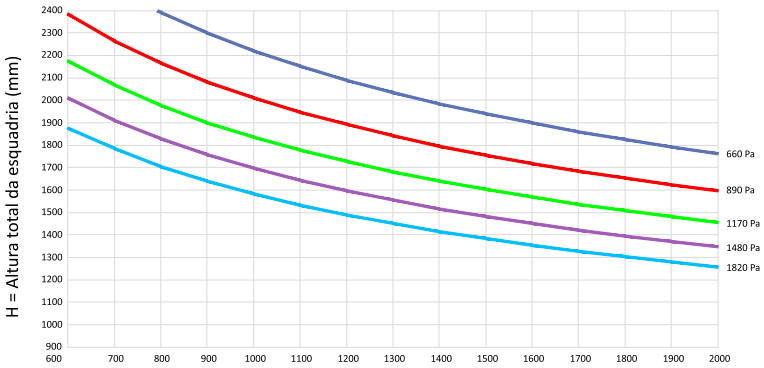




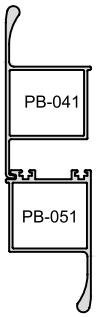
DADOS GEOMÉTRICOS	
PB-040	PB-051
Jx: 4,93 Cm⁴	Jx: 11,79 Cm⁴
Wx: 1,63 Cm³	Wx: 3,12 Cm³
Jxt: 16,72 Cm⁴	
Wxt: 4,75 Cm³	

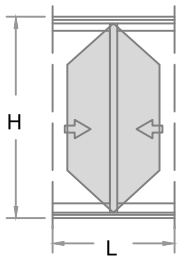
Tensão Admissível: 7 Kg/mm 2 (Liga 6060-T5)
Flecha Admissível: H / 175 ou 30mm

Janelas De Correr 2 e 3 Folhas



L = Largura total de 1 folha (mm)

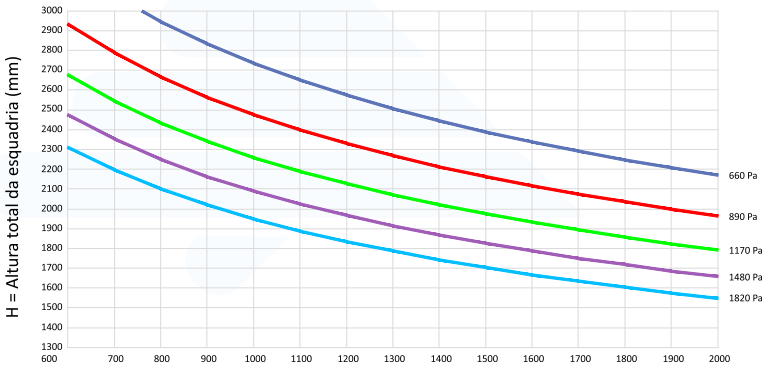




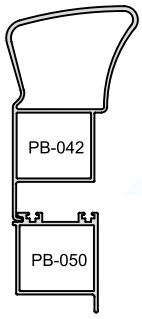
DADOS GEOMÉTRICOS	
PB-041	PB-051
Jx: 12,22 Cm^4	Jx: 11,79 Cm^4
Wx: 5,74 Cm^3	Wx: 3,12 Cm^3
Jxt: 24,01 Cm^4	
Wxt: 8,86 Cm^3	

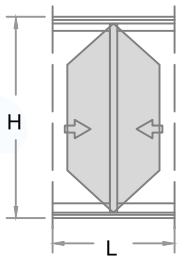
Tensão Admissível: 7 Kg/mm2 (Liga 6060-T5)
Flecha Admissível: H / 175 ou 30mm

Portas De Correr 2 e 3 Folhas



L = Largura total de 1 folha (mm)

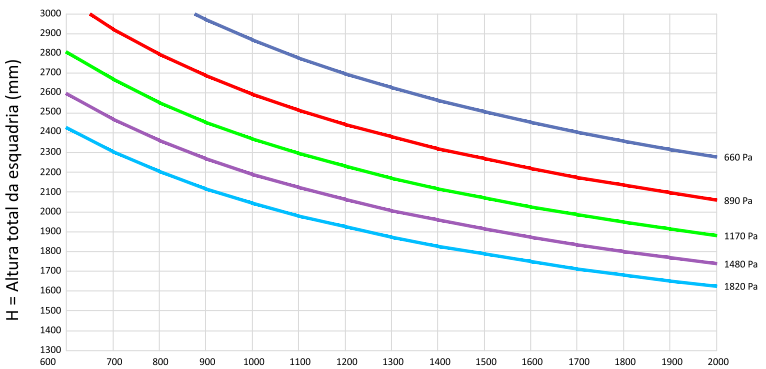




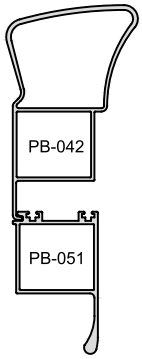
DADOS GEOMÉTRICOS	
PB-042	PB-050
Jx: 39,87 Cm^4	Jx: 4,94 Cm^4
Wx: 7,07 Cm^3	Wx: 1,89 Cm^3
Jxt: 44,81 Cm^4	
Wxt: 8,96 Cm^3	

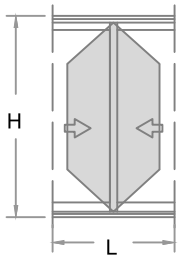
Tensão Admissível: 7 Kg/mm2 (Liga 6060-T5)
Flecha Admissível: H / 175 ou 30mm

Portas De Correr 2 e 3 Folhas



L = Largura total de 1 folha (mm)

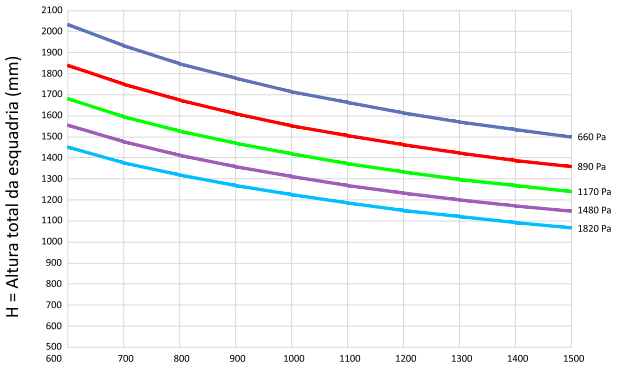


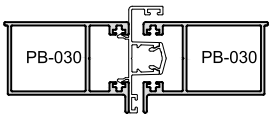


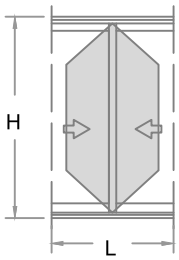
DADOS GEOMÉTRICOS	
PB-042	PB-051
Jx: 39,87 Cm^4	Jx: 11,79 Cm^4
Wx: 7,07 Cm^3	Wx: 3,12 Cm^3
Jxt: 51,66 Cm^4	
Wxt: 10,19 Cm^3	

Tensão Admissível: 7 Kg/mm 2 (Liga 6060-T5)
Flecha Admissível: H / 175 ou 30mm

Janelas De Correr 4 e 6 Folhas



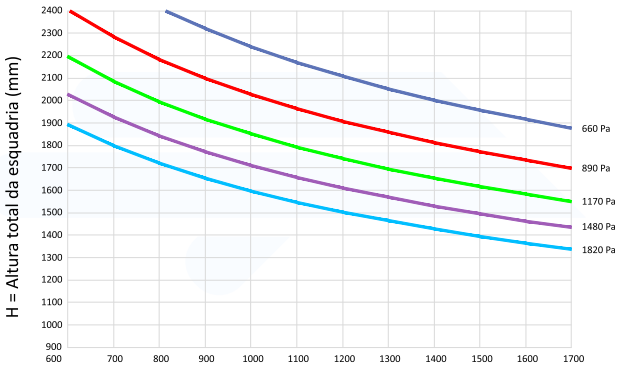


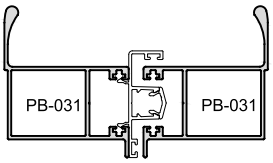


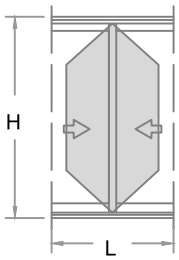
DADOS GEOMÉTRICOS	
PB-030	PB-030
Jx: 5,53 Cm^4	Jx: 5,53 Cm^4
Wx: 2,37 Cm^3	Wx: 2,37 Cm^3
Jxt: 11,06 Cm^4	
Wxt: 4,74 Cm^3	

Tensão Admissível: 7 Kg/mm2 (Liga 6060-T5)
Flecha Admissível: H / 175 ou 30mm

Janelas De Correr 4 e 6 Folhas



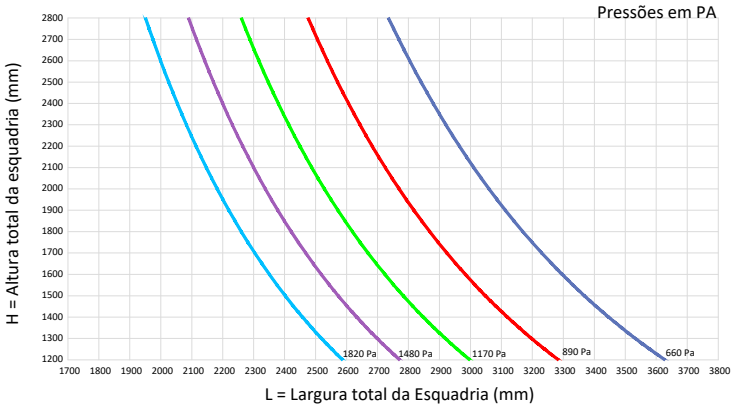




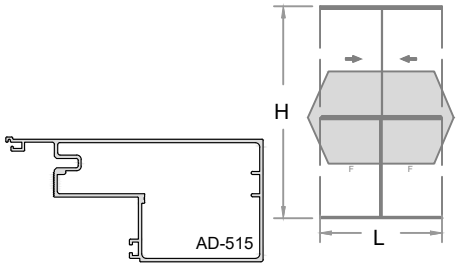
DADOS GEOMÉTRICOS	
PB-031	PB-031
Jx: 12,32 Cm^4	Jx: 12,32 Cm^4
Wx: 3,32 Cm^3	Wx: 3,32 Cm^3
Jxt: 24,64 Cm^4	
Wxt: 6,64 Cm^3	

Tensão Admissível: 7 Kg/mm2 (Liga 6060-T5)
Flecha Admissível: H / 175 ou 30mm

Janelas De Correr 2 Folhas com Peitoril

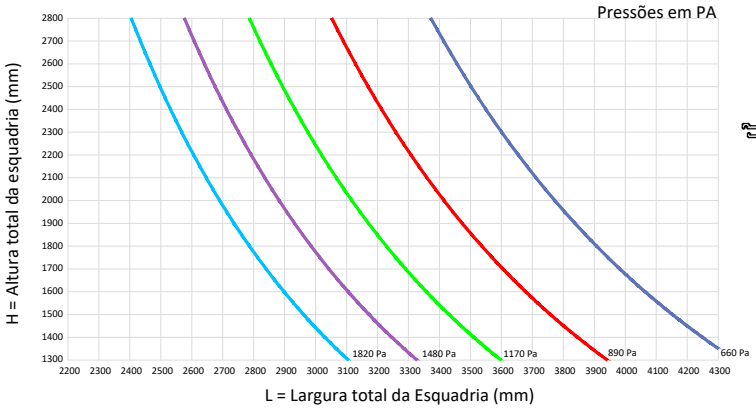


Tensão Admissível: 7 Kg/mm2 (Liga 6060-T5)
Flecha Admissível: L / 175 ou 30mm

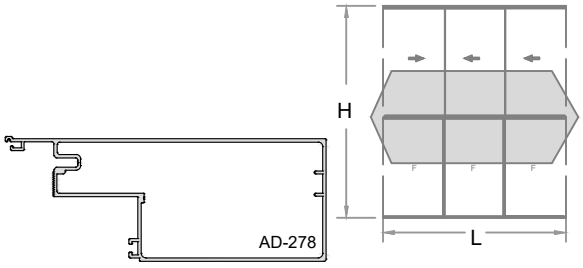


DADOS GEOMÉTRICOS
AD-515
Jy: 62,78 Cm^4
Wy: 9,80 Cm^3

Janelas De Correr 3 Folhas com Peitoril

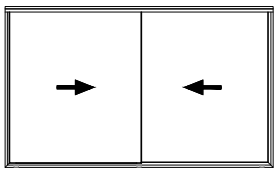


Tensão Admissível: 7 Kg/mm2 (Liga 6060-T5)
Flecha Admissível: L / 175 ou 30mm

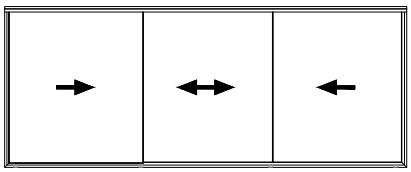


DADOS GEOMÉTRICOS
AD-278
Jy: 117,63 Cm^4
Wy: 15,33 Cm^3

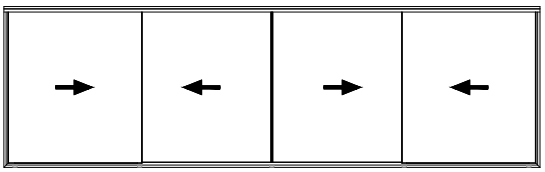
Janelas De Correr



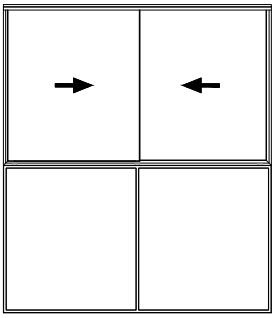
Janela de Correr
2 Folhas



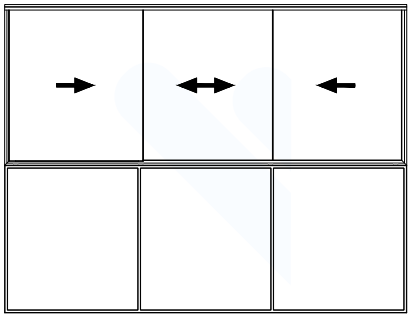
Janela de Correr
3 Folhas



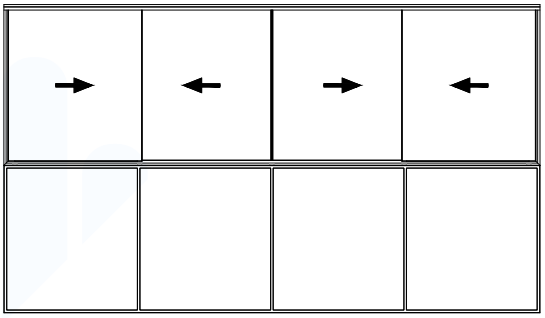
Janela de Correr
4 Folhas



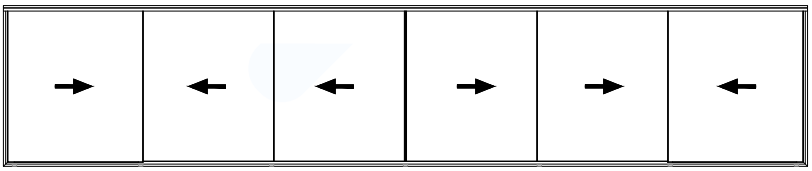
Janela de Correr 2 Folhas
Com Peitoril



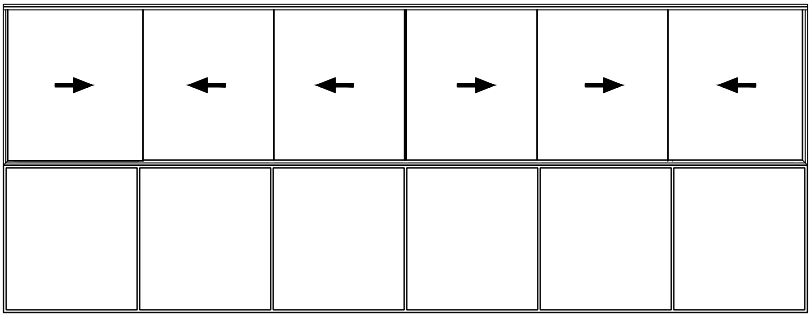
Janela de Correr 3 Folhas
Com Peitoril



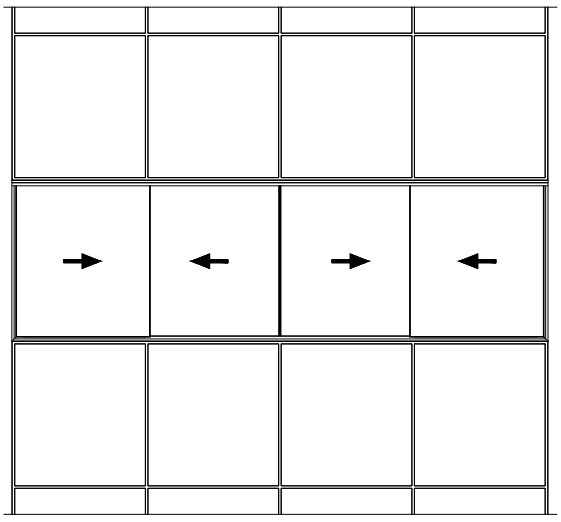
Janela de Correr 4 Folhas
Com Peitoril



Janela de Correr
6 Folhas

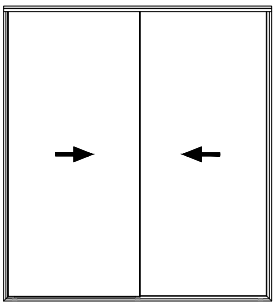


Janela de Correr 6 Folhas
Com Peitoril

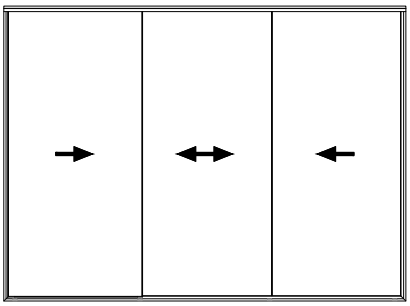


Janela de Correr 4 Folhas
Com Peitoril e Bandeira

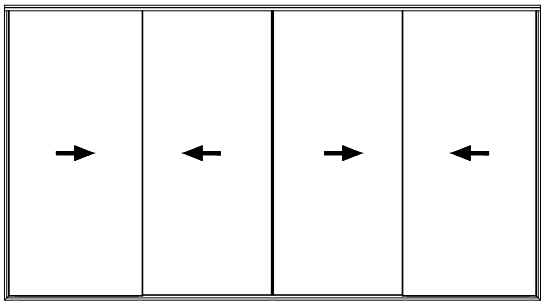
Portas De Correr



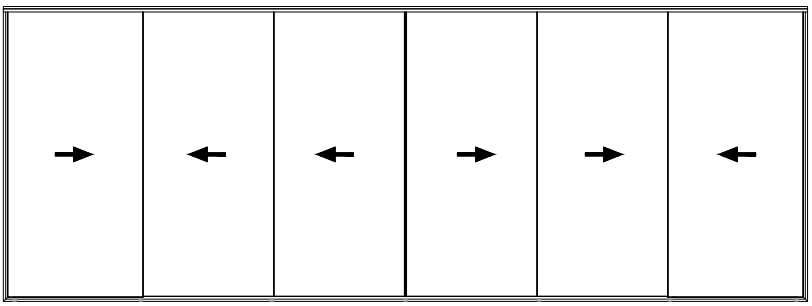
Porta de Correr
2 Folhas



Porta de Correr
3 Folhas



Porta de Correr
4 Folhas

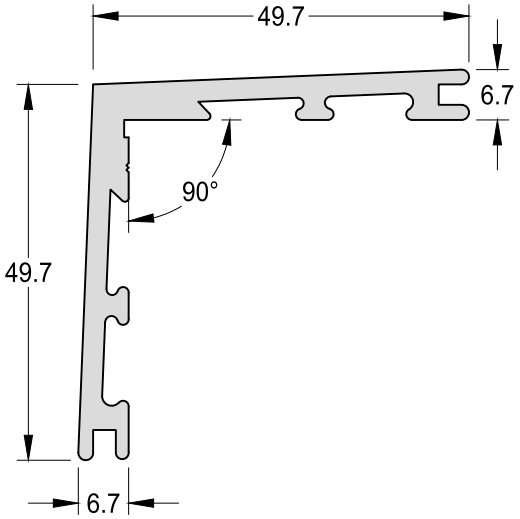


Porta de Correr
6 Folhas

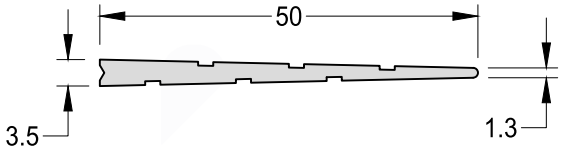
ÍNDICE DE PERFIS

Código	Descrição	Página
AD-200	Coluna Central	27
AD-203	Travessa Intermediária	32
AD-204	Montante Inferior e Superior da Folha Fixa	34
AD-205	Montante Lateral da Folha Fixa	34
AD-206	Montante Inferior e Superior da Folha Móvel	34
AD-207	Montante Lateral da Folha Móvel	34
AD-213	Presilha do Arremate Soleira/ Lumieira	33
AD-214	Arremate Intermediário Soleira/ Lumieira	33
AD-215	Arremate Soleira/ Lumieira	33
AD-216	Presilha Calço da Folha Fixa	35
AD-217	Presilha de Fixação Transversal	35
AD-218	Presilha do Módulo	35
AD-219	Perfil para Ancoragem	35
AD-220	Fixador da Travessa "AD-203"	32
AD-277	Travessa Intermediária	32
AD-278	Marco Peitoril	31
AD-279	Luva Marco Tubular "AD-278"	31
AD-347	Arremate Vertical e Horizontal	18
AD-375	Coluna Central	28
AD-376	Luva da Coluna "AD-375"	29
AD-515	Marco Tubular	30
AD-525	Luva Marco Tubular "AD-515"	30
ADI-016	Chumbador para Contramarco	15
ADI-017	Arremate Vertical e Horizontal	18
ADI-349	Arremate Vertical e Horizontal	19
CL-006	Cantoneira de Ligação 45º	15
CL-011	Cunha de Ligação 45º	15
CM-060A	Contramarco	16
CM-098	Contramarco Inferior - Portas	16
CM-151	Contramarco Inferior - Portas	16
CM-173	Contramarco	17
CM-174	Contramarco	17
CM-200A	Contramarco	16
IT-100	Arremate Vertical e Horizontal	18
IT-101	Arremate Vertical e Horizontal	18
IT-102	Arremate Vertical e Horizontal	19
LG-311	Click Marco Perímetral	21
LT-023	Tampa de Acabamento	21
ME-013	Arremate de Piso	19
PB-002	Marco Perimetral 02 Planos	20
PB-003	Marco Perimetral 03 Planos	20
PB-010	Pingadeira	21
PB-020	Travessa Inferior/ Superior	22
PB-021	Travessa Inferior	22
PB-030	Montante Lateral	23
PB-031	Montante Lateral com Reforço	23
PB-032	Montante Vertical Fechamento Canto	23
PB-040	Montante Central Interno	24
PB-041	Montante Central Interno Com Reforço	24
PB-042	Montante Central Interno Com Reforço	24
PB-050	Montante Central Externo	25
PB-051	Montante Central Externo Com Reforço	25
PB-060	Mata Junta Central	26
PB-061	Mata Junta Fechamento Canto	26
PB-070	Chumbador Para Coluna AD-200	27

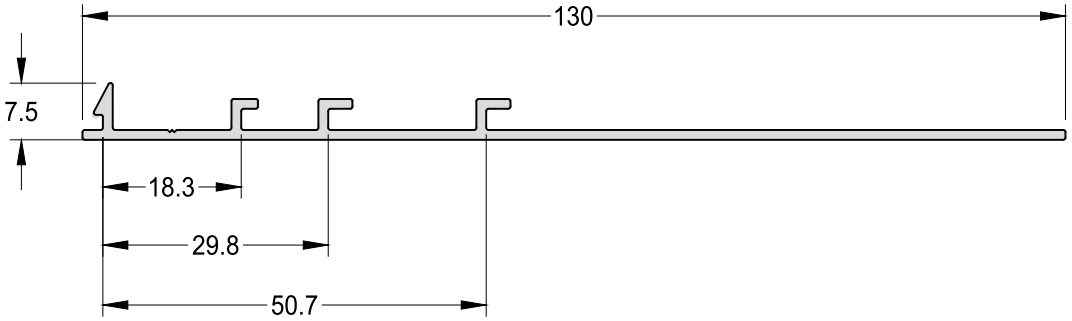
Cantoneira de Ligação 45º	
CL-006	1,028 kg/m
Medida Padrão	3000mm



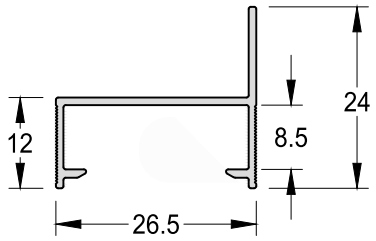
Cunha de Ligação 45º	
CL-011	0,304 kg/m
Medida Padrão	3000mm



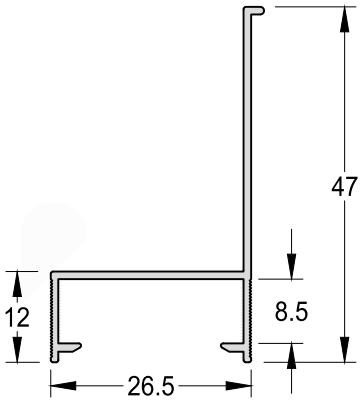
Chumbador para Contramarco	
ADI-016	0,556 kg/m



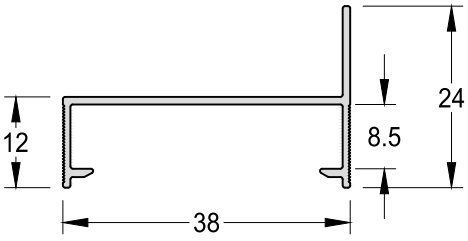
Contramarco
CM-200A | 0,174 kg/m



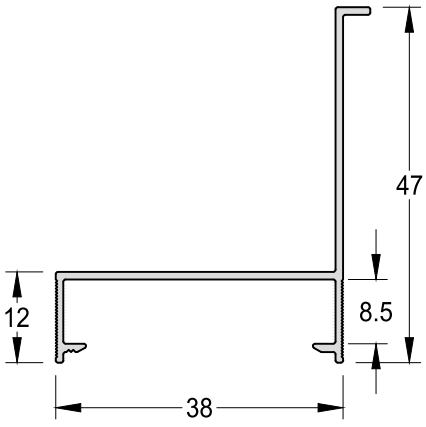
Contramarco Inferior - Portas
CM-151 | 0,241 kg/m



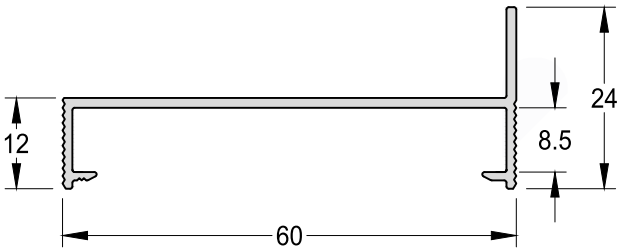
Contramarco
CM-060A | 0,205 kg/m



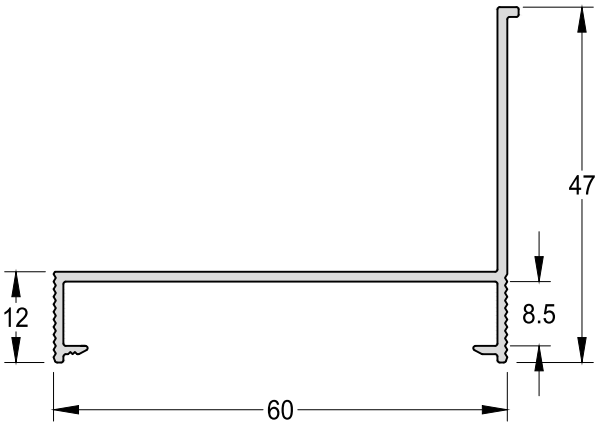
Contramarco Inferior - Portas
CM-098 | 0,277 kg/m



Contramarco	
CM-174	0,336 kg/m

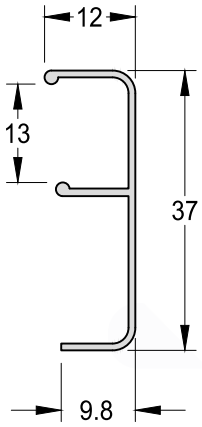


Contramarco	
CM-173	0,423 kg/m



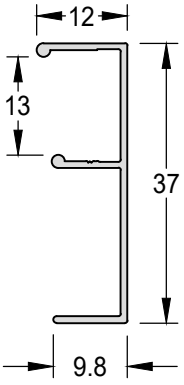
Arremate Vertical e Horizontal

ADI-017 | 0,165 kg/m



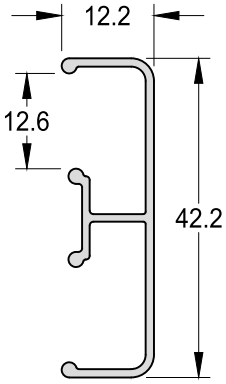
Arremate Vertical e Horizontal

ADI -347 | 0,165 kg/m



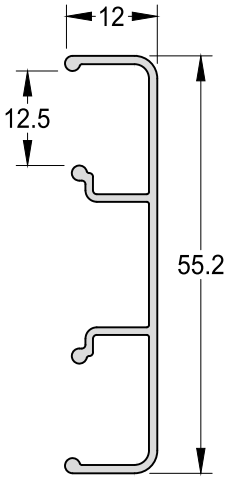
Arremate Vertical e Horizontal

IT-101 | 0,259 kg/m



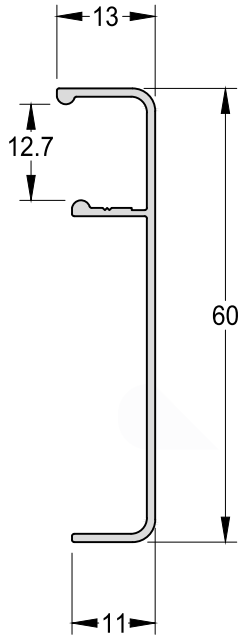
Arremate Vertical e Horizontal

IT-100 | 0,307 kg/m



Arremate Vertical e Horizontal

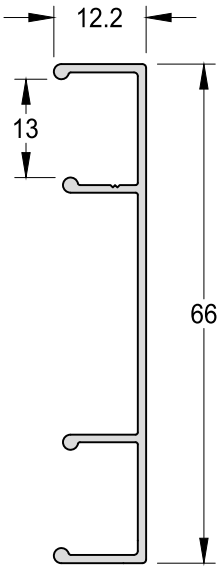
ADI-349	0,276 kg/m



Arremate Vertical e Horizontal

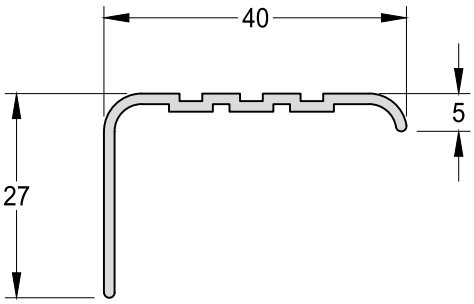
IT-102	0,330 kg/m

PERFIS



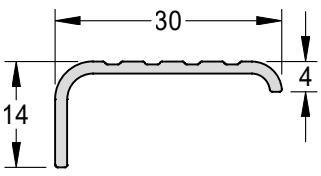
Arremate de Piso

ME-013	0,270 kg/m

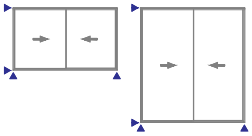


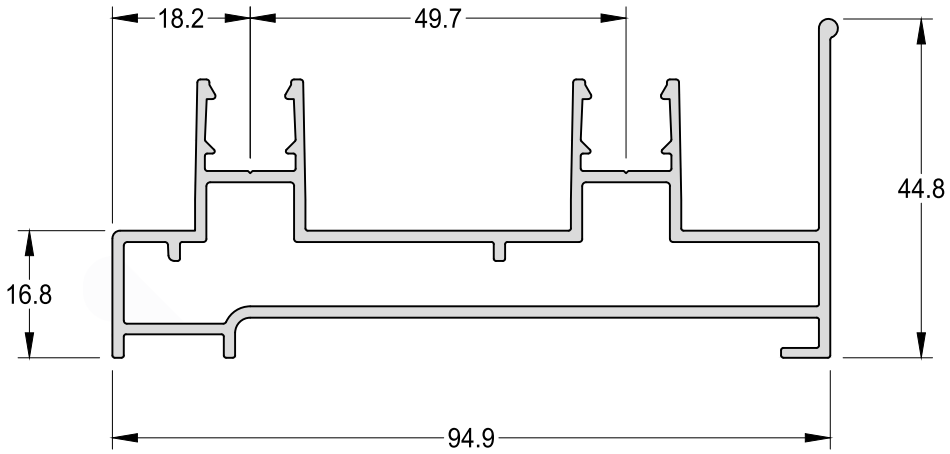
Arremate de Piso

ADI-340	0,172 kg/m

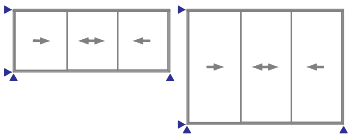


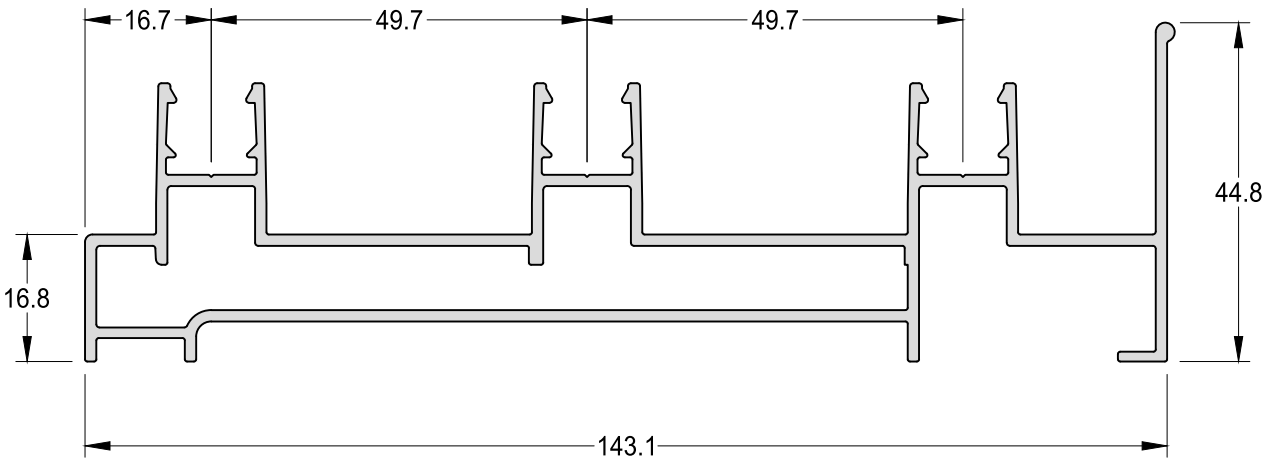
Marco Perimetral 02 Planos	
PB-002	1,374 kg/m
Encaixe: LG-311	





Marco Perimetral 03 Planos	
PB-003	1,861 kg/m
Encaixe: LG-311	

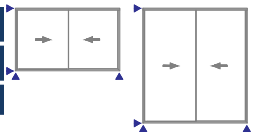


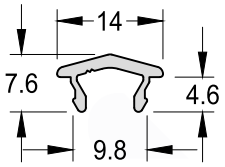


Click Marco Perímetral

LG-311	0,088 kg/m

Encaixe: PB-002/ PB-003/ PB-060/ PB-061

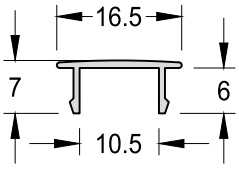




Tampa de Acabamento

LT-023	0,069 kg/m

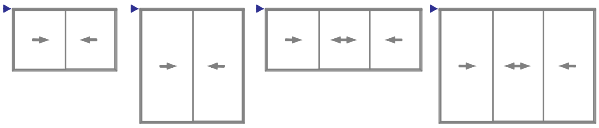
Encaixe: PB-010/ PB-061

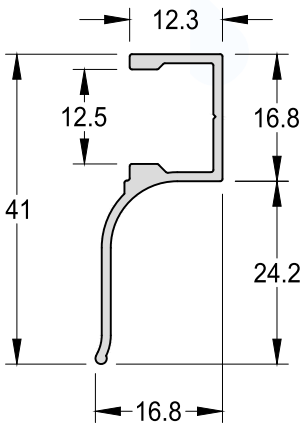


Pingadeira

PB-010	0,240 kg/m

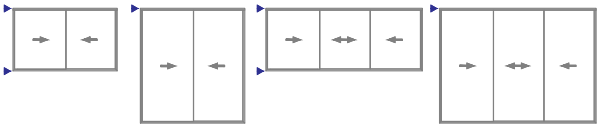
Encaixe: LT-023

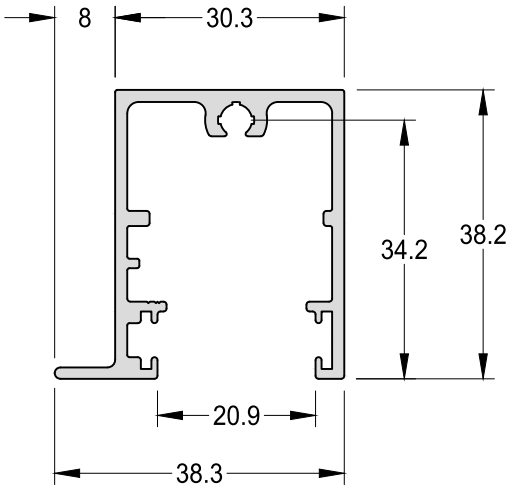




Travessa Inferior/ Superior

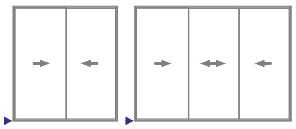
PB-020 | 0,649 kg/m

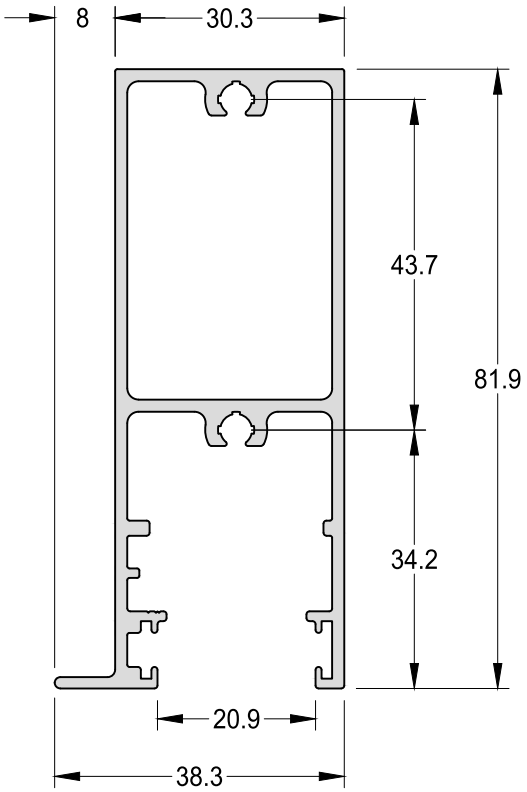




Travessa Inferior

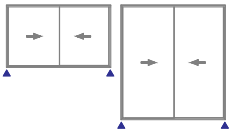
PB-021 | 1,210 kg/m

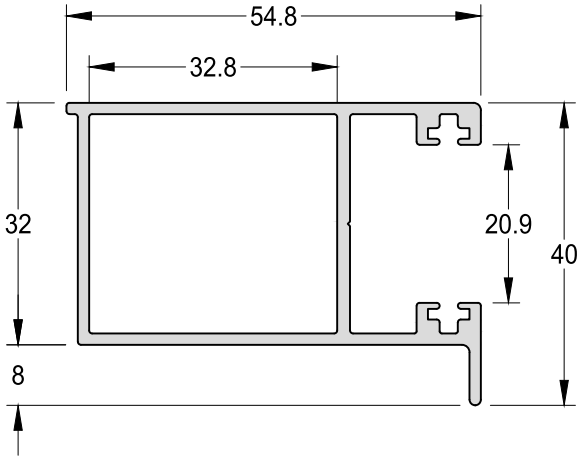




Montante Lateral

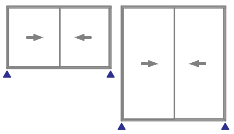
PB-030 | 0,832 kg/m

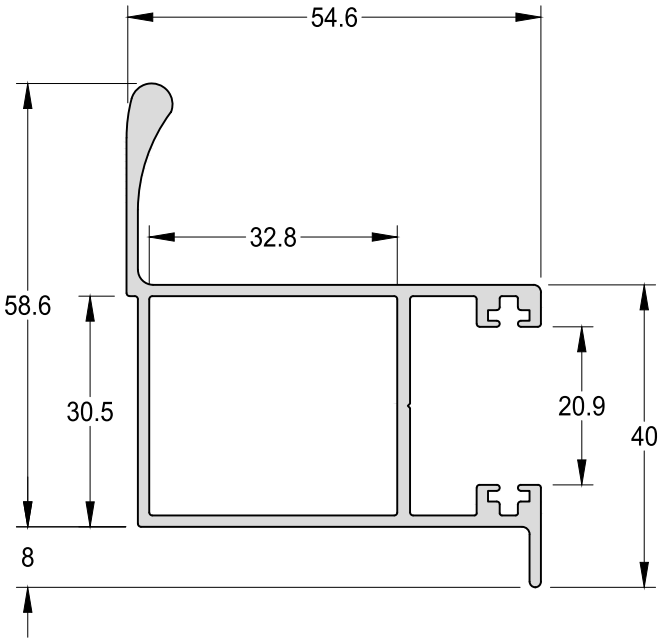




Montante Lateral com Reforço

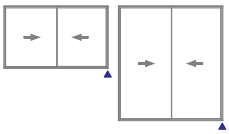
PB-031 | 1,024 kg/m

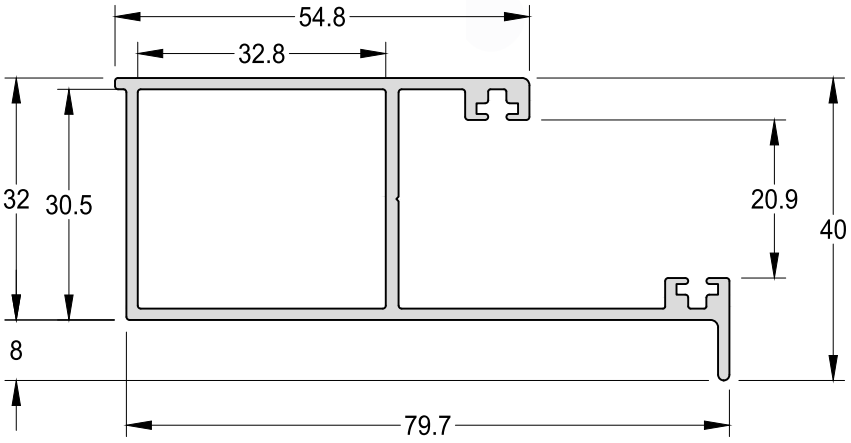




Montante Vertical Fechamento Canto

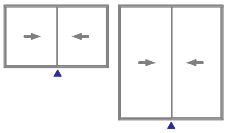
PB-032 | 0,939 kg/m

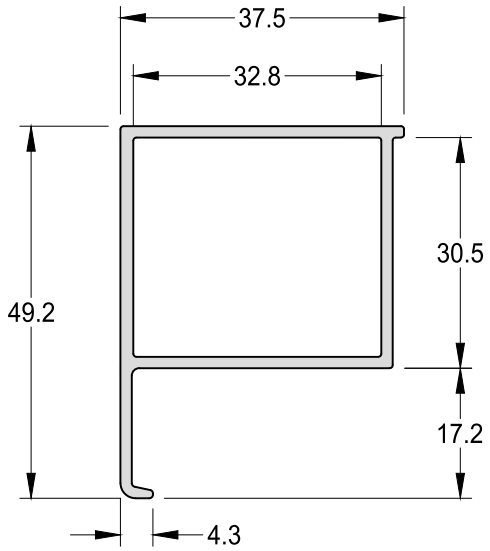




Montante Central Interno

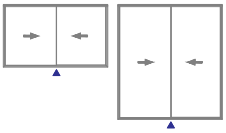
PB-040 | 0,628 kg/m

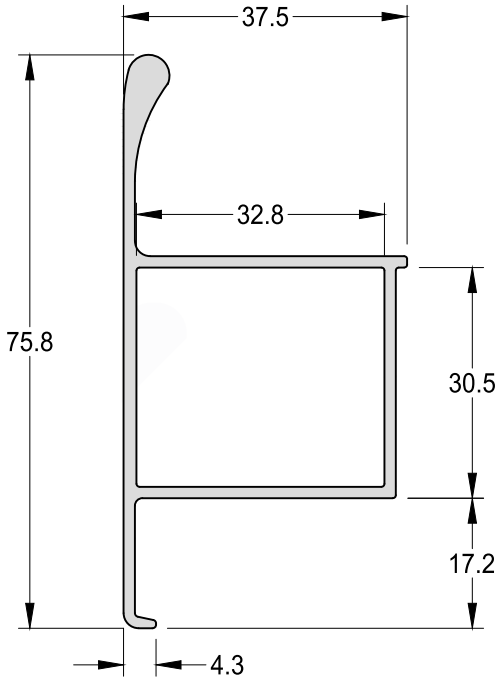




Montante Central Interno Com Reforço

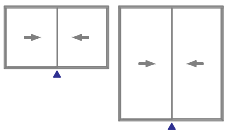
PB-041 | 0,820 kg/m

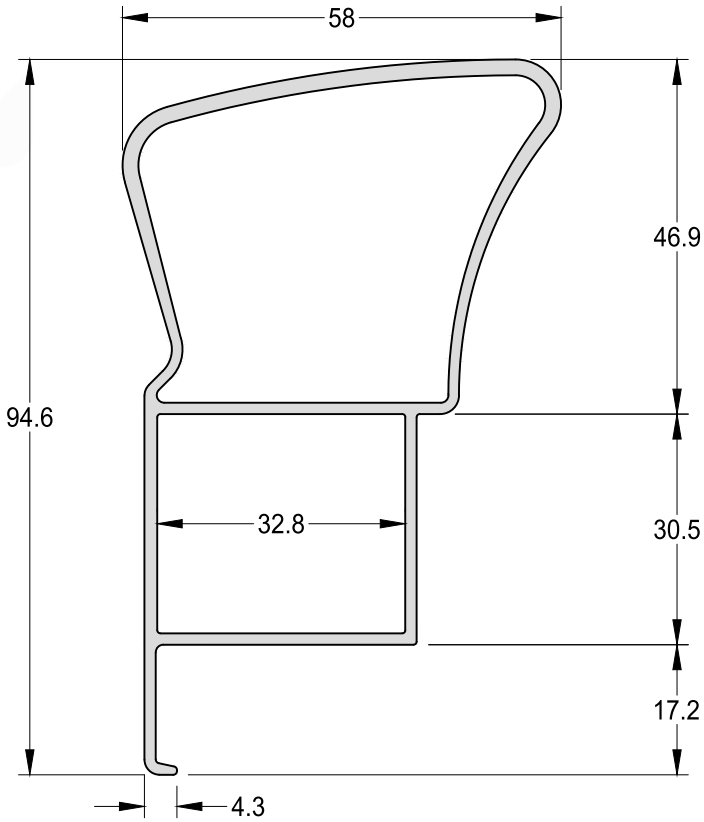




Montante Central Interno Com Reforço

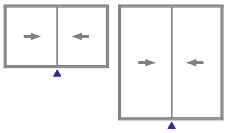
PB-042 | 1,346 kg/m

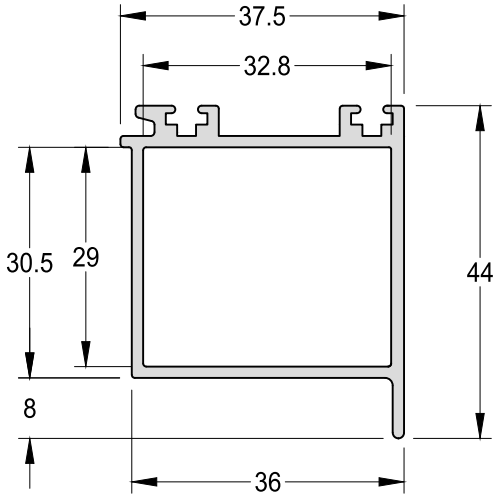




Montante Central Externo

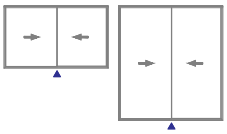
PB-050 | 0,696 kg/m

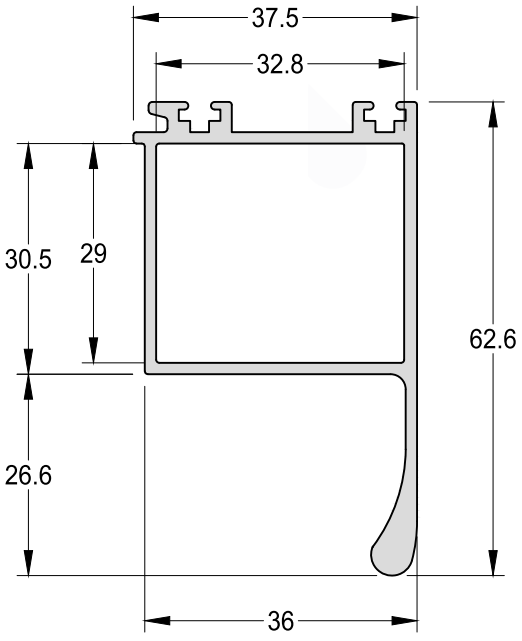




Montante Central Externo Com Reforço

PB-051 | 0,856 kg/m

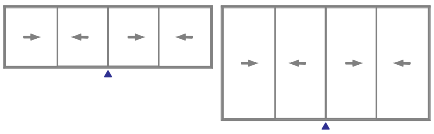


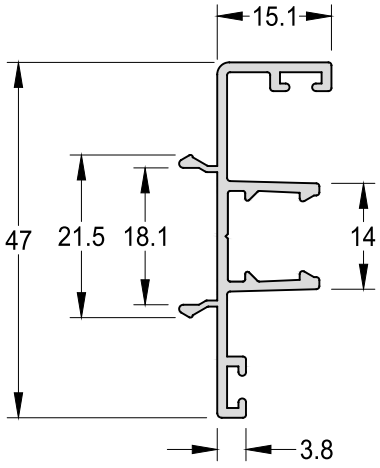


Mata Junta Central

PB-060 | 0,392 kg/m

Encaixe: LG-311/ PB-030/ PB-031

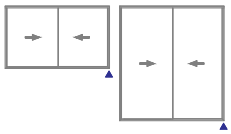


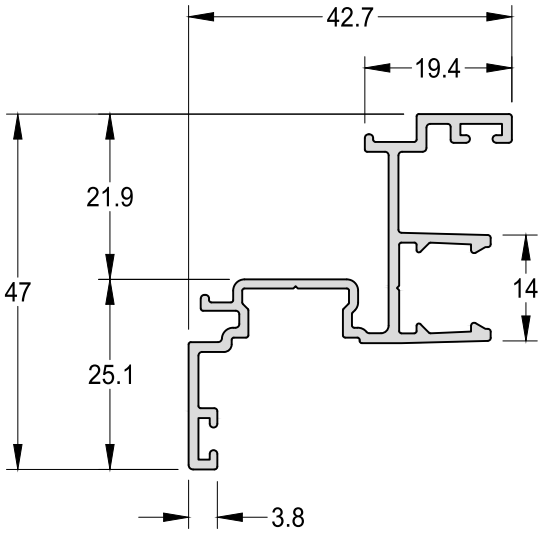


Mata Junta Fechamento Canto

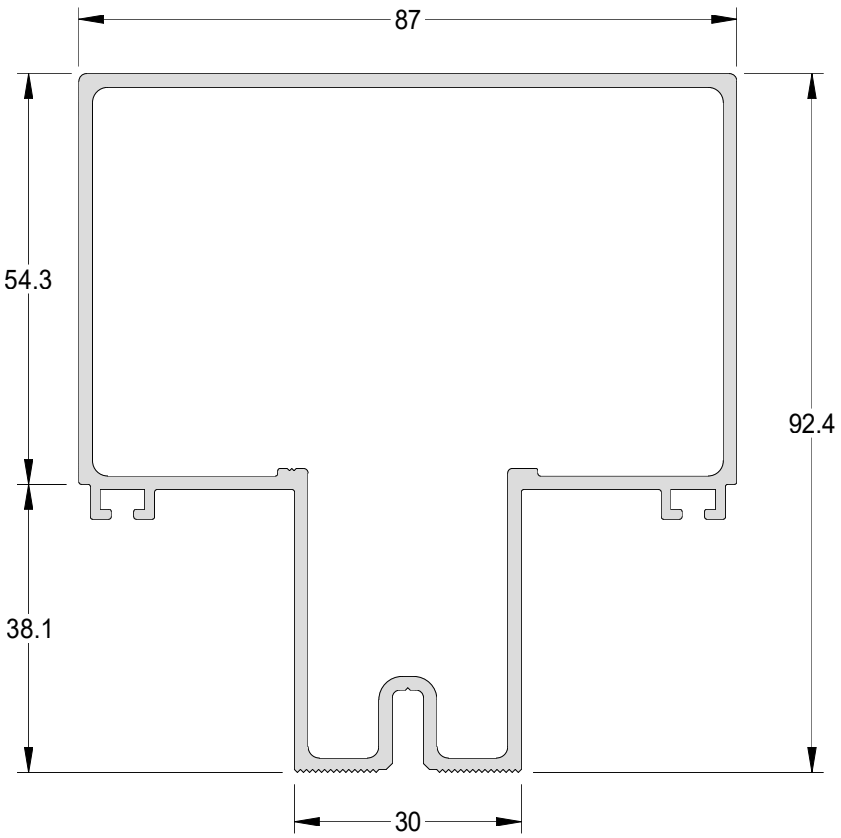
PB-061 | 0,537 kg/m

Encaixe: LT-023/LG-311/PB-032

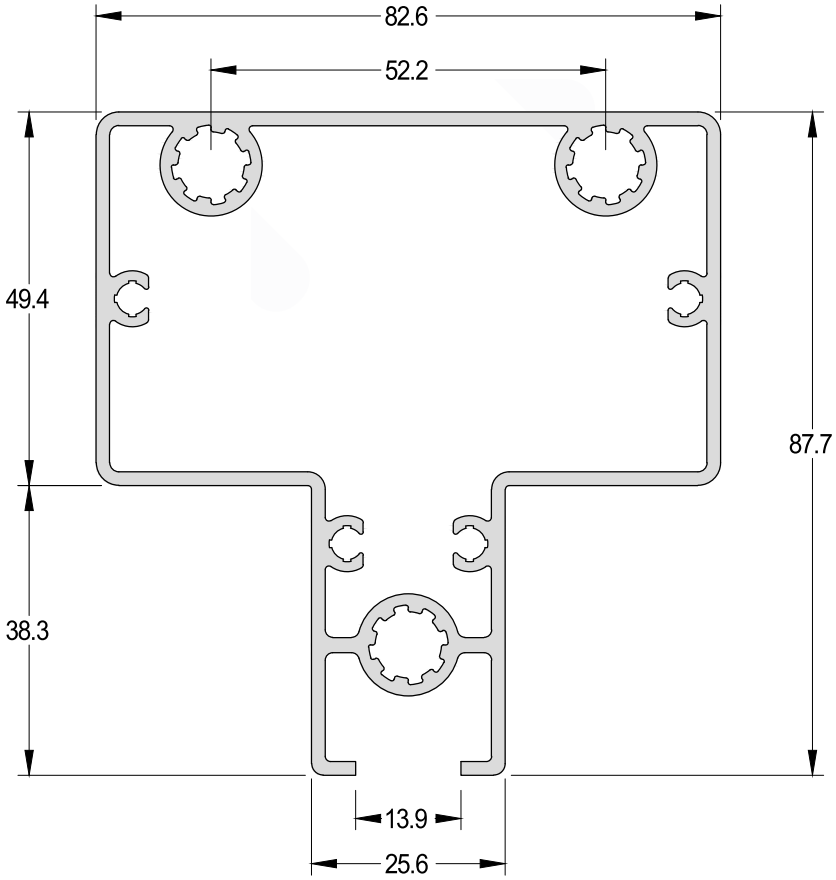




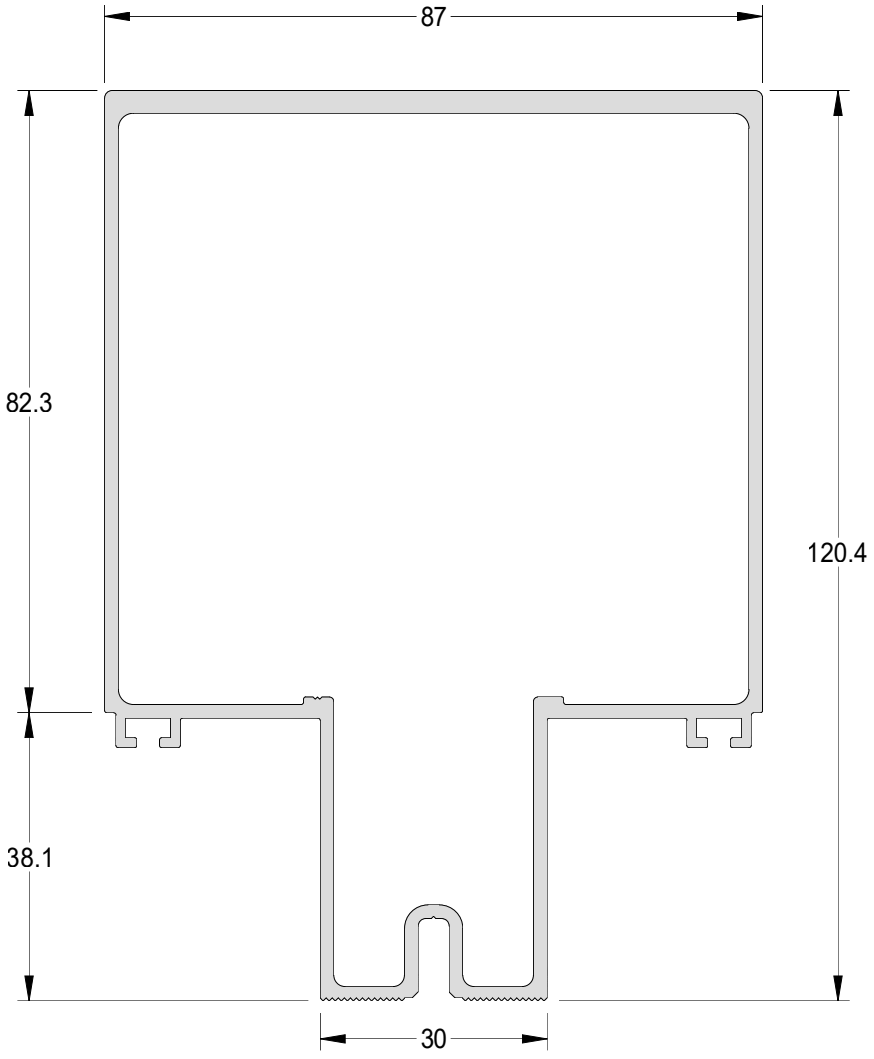
Coluna Central	
AD-200	1,902 kg/m
Medida Padrão	6000mm/6500mm



Chumbador Para Coluna AD-200	
PB-070	2,312 kg/m
Encaixe: AD-200	



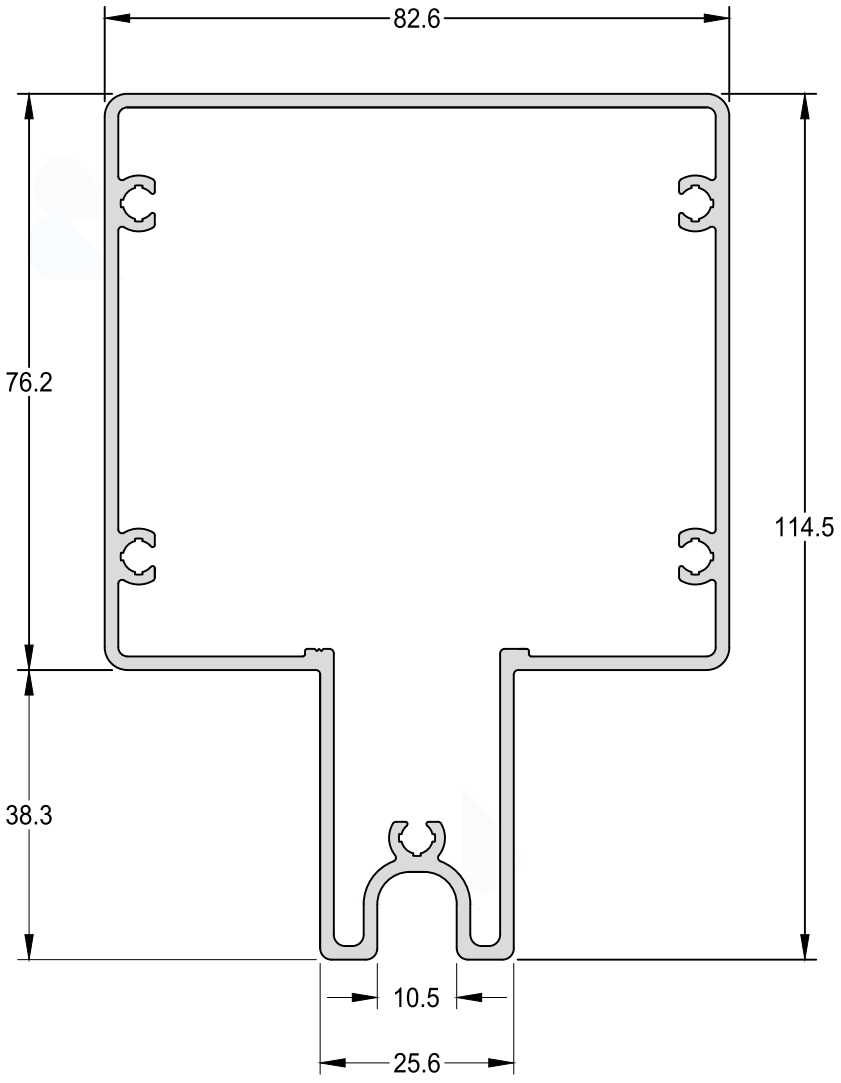
Coluna Central	
AD-375	2,446 kg/m
Medida Padrão	6000mm/6500mm



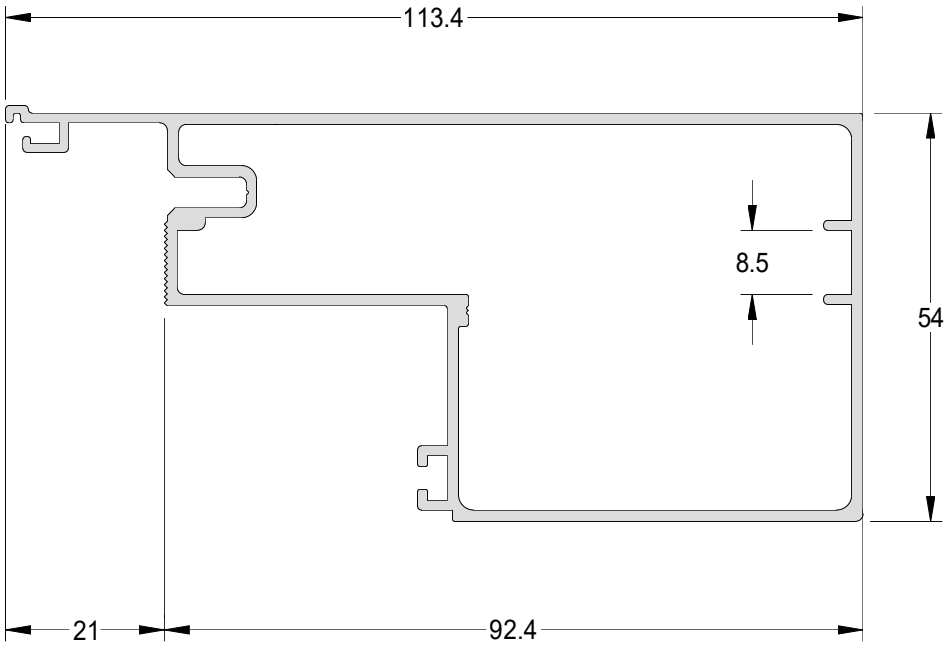
Luva da Coluna "AD-375"

AD-376	2,227 kg/m

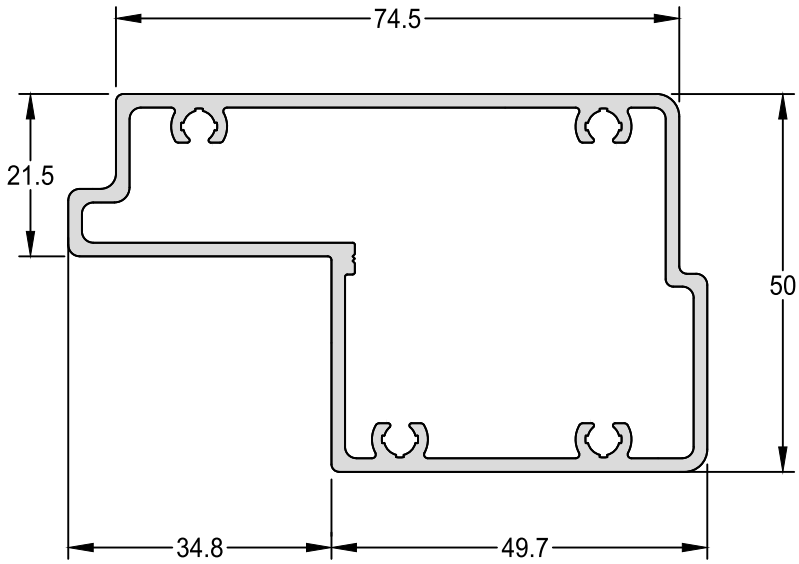
Encaixe: AD-375



Marco Tubular	
AD-515	1,441 kg/m
Medida Padrão	6000mm/6500mm

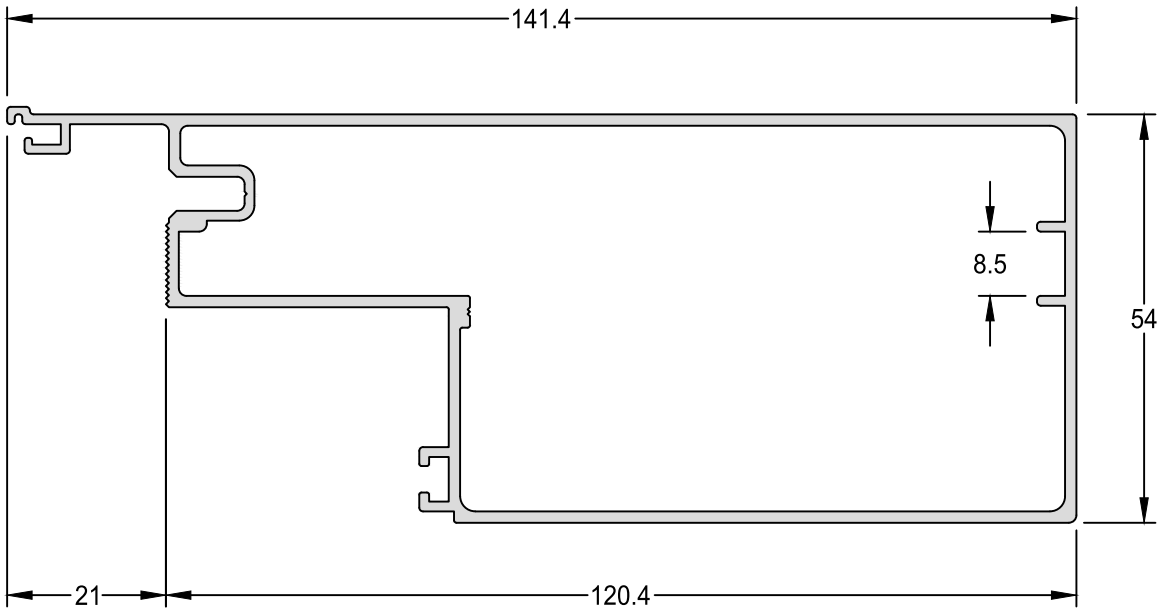


Luva Marco Tubular "AD-515"	
AD-525	1,468 kg/m



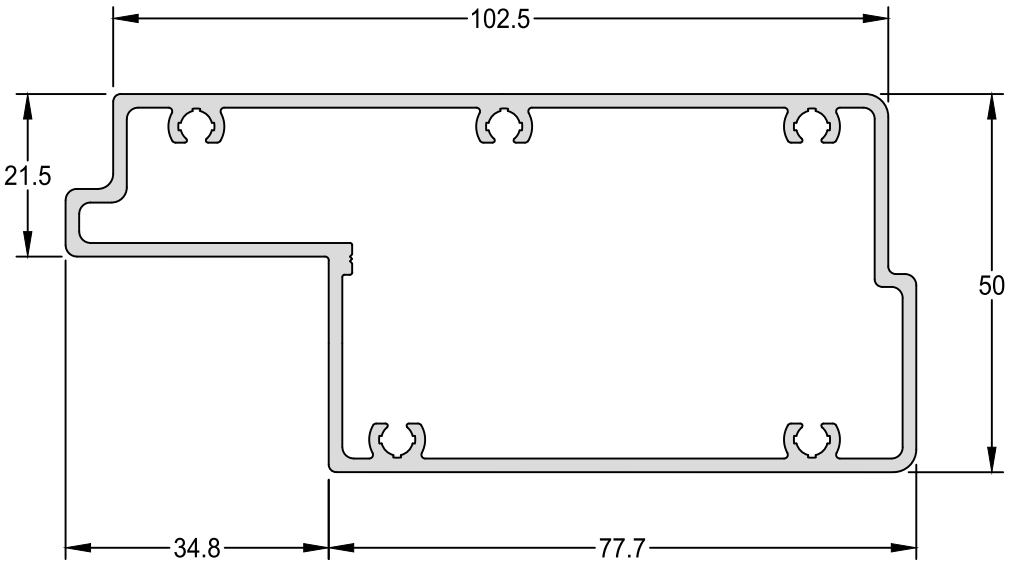
Marco Peitoril

AD-278	1,670 kg/m

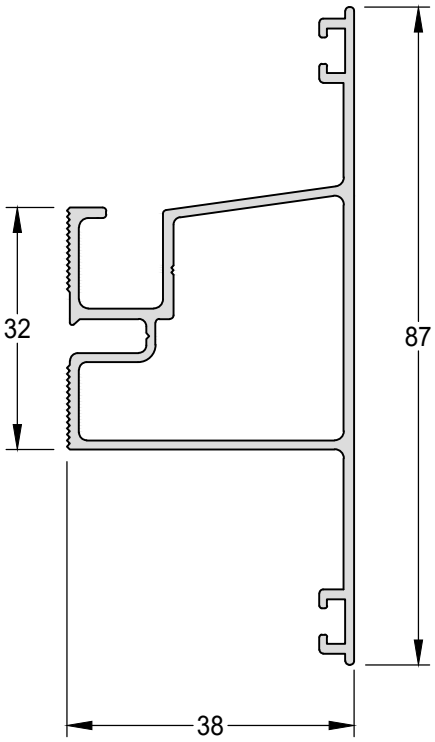


Luva Marco Tubular "AD-278"

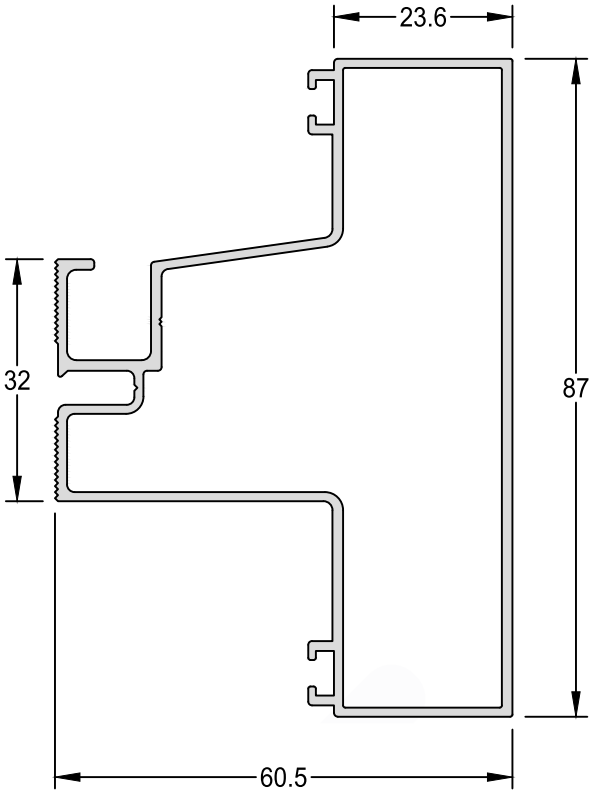
AD-279	1,787 kg/m



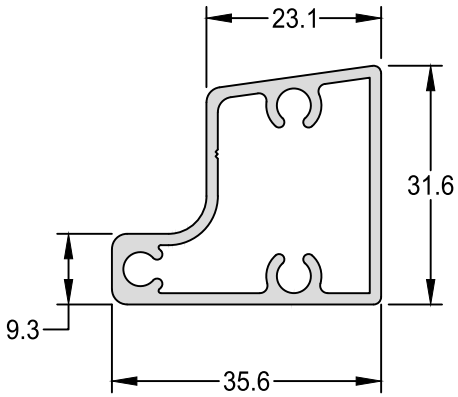
Travessa Intermediária	
AD-203	0,834 kg/m



Travessa Intermediária	
AD-277	1,170 kg/m

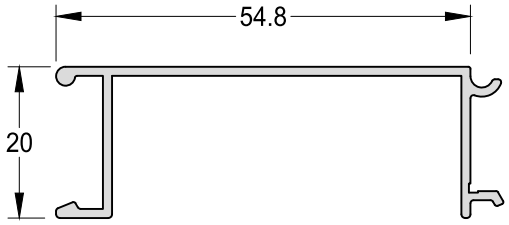


Fixador da Travessa "AD-203"	
AD-220	0,624 kg/m
Medida Padrão	3000mm



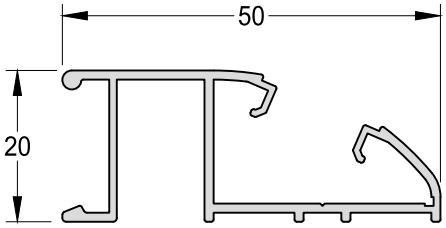
Arremate Intermediário Soleira/ Lumieira

AD-214	0,372 kg/m



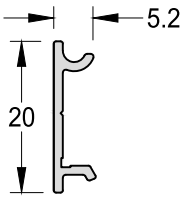
Arremate Soleira/ Lumieira

AD-215	0,410 kg/m



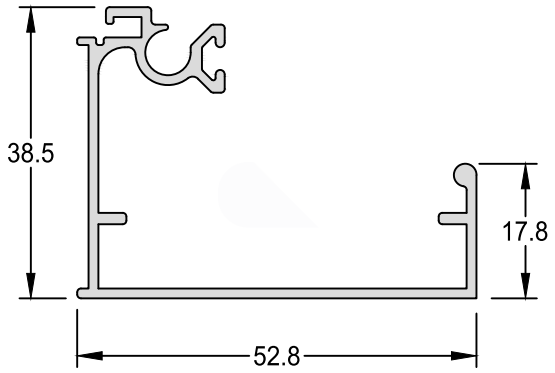
Presilha do Arremate Soleira/ Lumieira

AD-213	0,093 kg/m



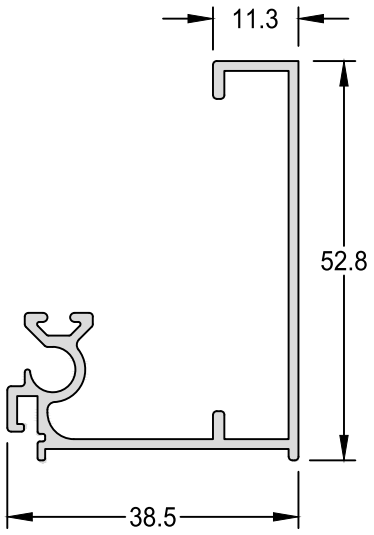
Montante Inferior e Superior da Folha Fixa

AD-204	0,562 kg/m



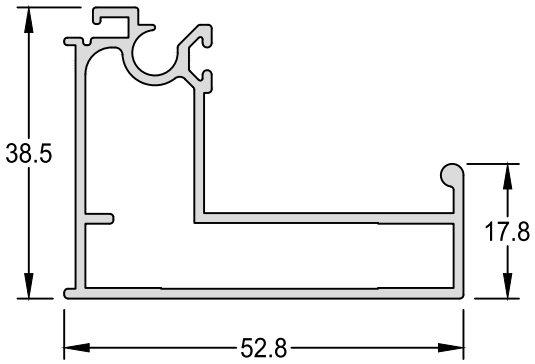
Montante Lateral da Folha Fixa

AD-205	0,529 kg/m



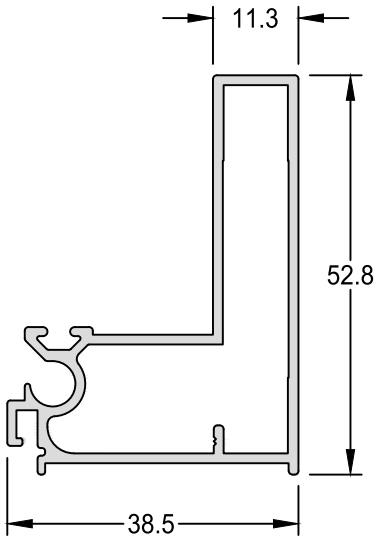
Montante Inferior e Superior da Folha Móvel

AD-206	0,729 kg/m



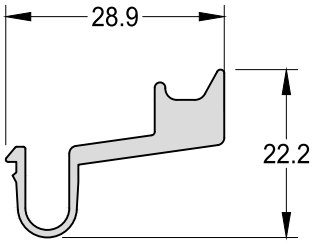
Montante Lateral da Folha Móvel

AD-207	0,696 kg/m



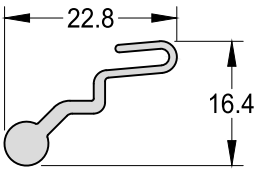
Presilha Calço da Folha Fixa

AD-216 | 0,346 kg/m



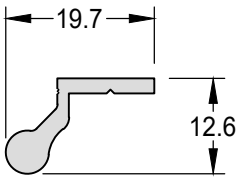
Presilha de Fixação Transversal

AD-217 | 0,181 kg/m



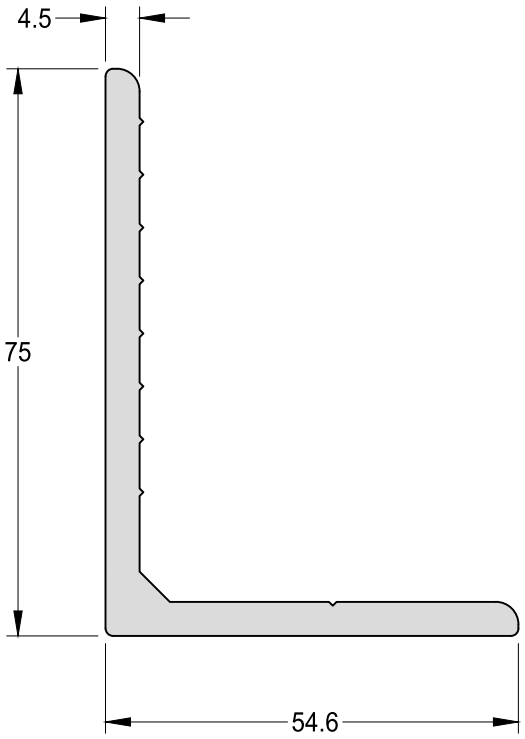
Presilha do Módulo

AD-218 | 0,178 kg/m



Perfil para Ancoragem

AD-219 | 1,540 kg/m



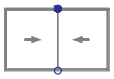
ÍNDICE DE COMPONENTES

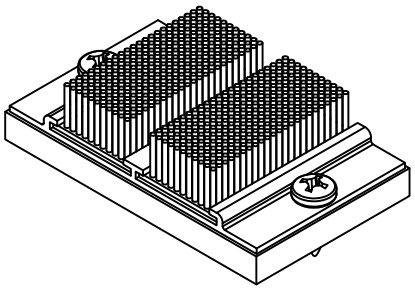
Código	Descrição	Página
38-4018	Conexão Gancho (E38) 41,2mm	38
38-4658	Conexão Gancho (E38) 47,5mm	38
BAT-UNI	Batedeira Universal	39
CON-7311	Concha Cega	42
CON-7411	Fecho Concha	42
CON-7811AC	Fecho Concha com Chave	42
CREE252PINT	Cremona 2 Pontos Acionamento Interno	43
CTF81	Contra Fecho	41
CTFCRE	Contra Fecho Cremona Suprema B/Faca	44
FIT-206	Escova Vedadora 5x6	46
FIT-212	Escova Vedadora 5x8	46
FIT-224	Escova Vedadora 7x8	46
GUI-320	Guia Deslizante	38
KITHASTE-INT	Kit Haste Parafuso Cremona Interno	44
MAC-6635	Maçaneta Cremona 6635	43
NYL-042	Tapa Furo	39
NYL-190	Presilha do Arremate	37
NYL-394	Calço da Folha Fixa	39
NYL-472	Tampa do Montante	39
PAR-4250	Parafuso Auto Atarraxante Ø4,2x50mm	45
PAR-4295	Parafuso Auto Atarraxante Ø4,2x9,5mm	45
PAR-431	Parafuso Ponta Guia Ø4,8x50mm	45
PAR-963	Parafuso Auto Atarraxante Ø4,2x25mm	45
ROL-413	Roldana Dupla até 80kg	40
ROL-468	Roldana Simples até 40kg	40
TDD01012	Tampa Dreno	37
TRA-011	Lingueta Concha	41
UDIPLUS	Roldana Dupla até 200kg	40
UDISUPER	Roldana Strong até 150kg	40
UDISUPER	Roldana Strong Dupla até 300Kg	41
VDD01012	Válvula Dreno	37
VEDGUI-320	Vedação Montante	38
VEDINF	Vedação Inf/Sup Massima 2 Escovas 33,5mm	37

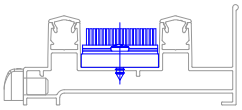
Vedação Inf/Sup Massima 2 Escovas 33,5mm

VEDINF

Encaixe: PB-002/ PB-003





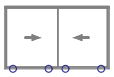


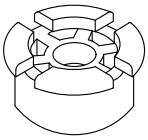
Detalhe de Aplicação
Sem Escala

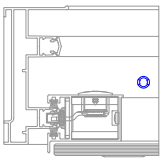
Válvula Dreno

VDD01012

Encaixe: PB-002/ PB-003





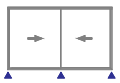


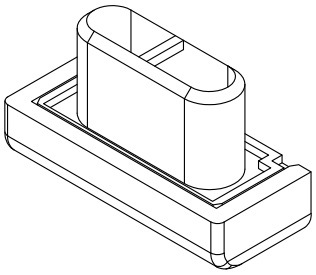
Detalhe de Aplicação
Sem Escala

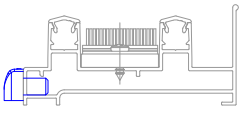
Tampa Dreno

TDD01012

Encaixe: PB-002/ PB-003



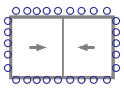


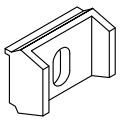


Detalhe de Aplicação
Sem Escala

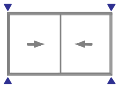
Presilha do Arremate

NYL-190



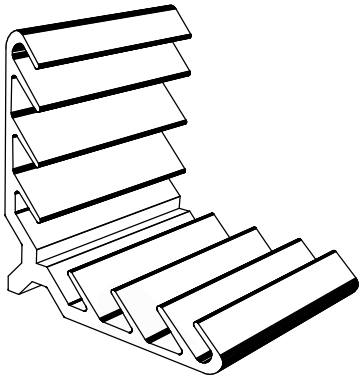


Conexão Gancho (E38) 41,2mm

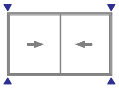


38-4018

Encaixe: PB-002

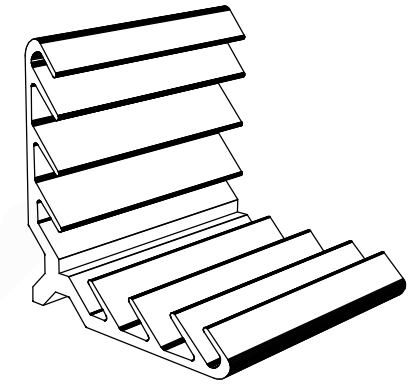


Conexão Gancho (E38) 47,5mm

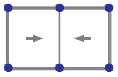


38-4658

Encaixe: PB-003

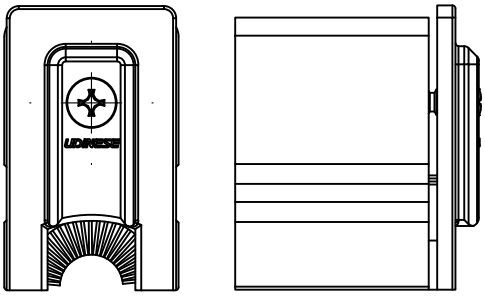


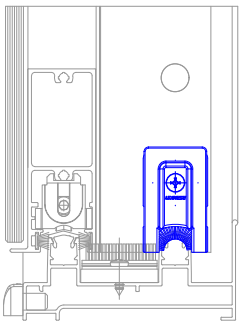
Guia Deslizante 32mm



GUI-026

Encaixe: PB-030/PB-031/PB-032/
PB-040/PB-041/PB-042/PB-050/PB-051



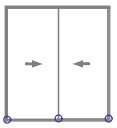


Detalhe de Aplicação
Sem Escala

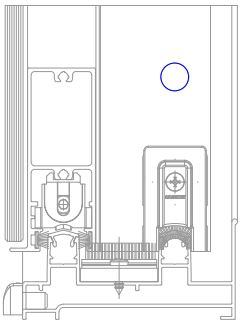
Tapa Furo

NYL-042

Encaixe: PB-030/ PB-031/ PB-032/ PB-040/ PB-041/ PB-042/PB-050/ PB-051







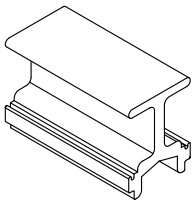
Detalhe de Aplicação
Sem Escala

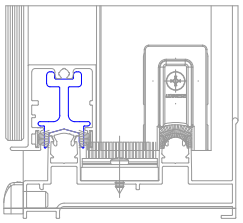
Calço da Folha Fixa

NYL-394

Encaixe: PB-020/ PB-021





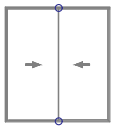


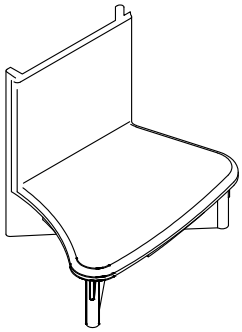
Detalhe de Aplicação
Sem Escala

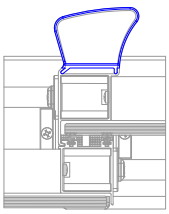
Tampa do Montante

NYL-472

Encaixe: PB-042





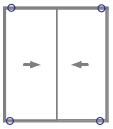


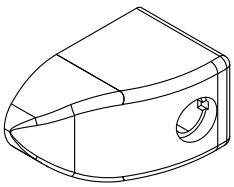
Detalhe de Aplicação
Sem Escala

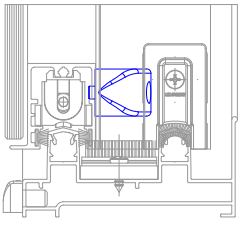
Batedeira Universal

BAT-UNI

Encaixe: PB-020/ PB-021





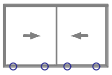


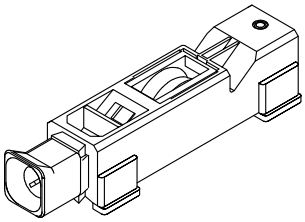
Detalhe de Aplicação
Sem Escala

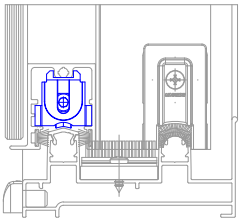
Roldana Simples até 40kg

ROL-468

Encaixe: PB-020/ PB-021





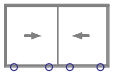


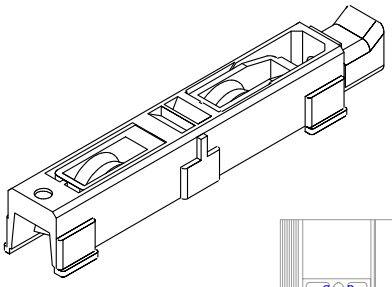
Detalhe de Aplicação
Sem Escala

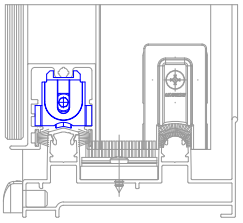
Roldana Dupla até 80kg

ROL-413

Encaixe: PB-020/ PB-021





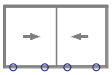


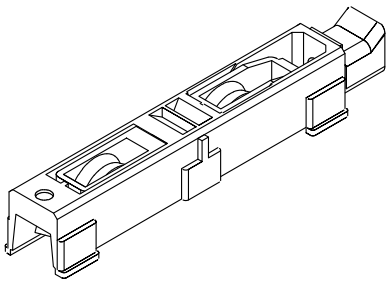
Detalhe de Aplicação
Sem Escala

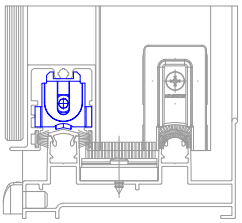
Roldana Dupla até 200kg

UDIPLUS

Encaixe: PB-020/ PB-021





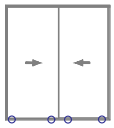


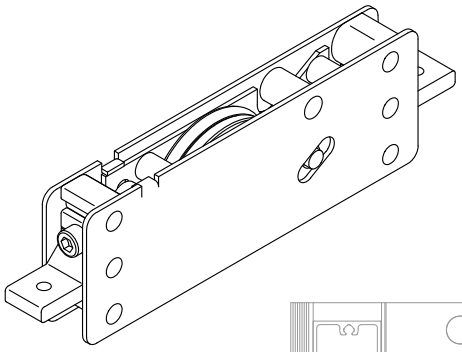
Detalhe de Aplicação
Sem Escala

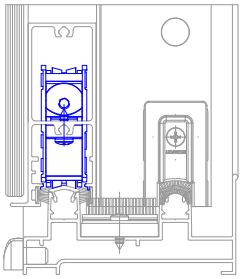
Roldana Strong até 150kg

UDISUPER

Encaixe: PB-021





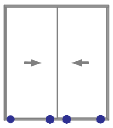


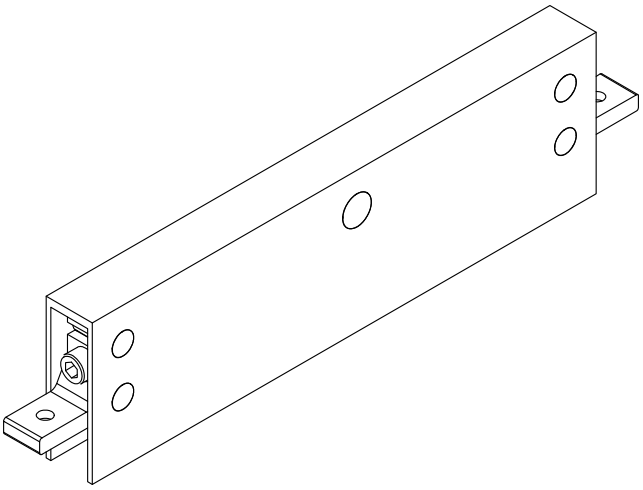
Detalhe de Aplicação
Sem Escala

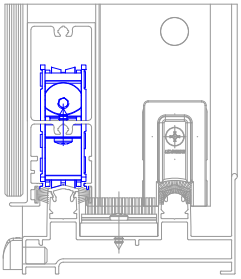
Roldana Strong Dupla até 300Kg

UDISUPER

Encaixe: PB-021





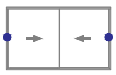


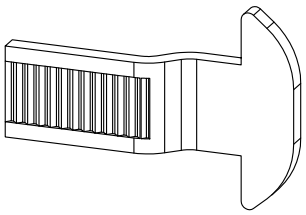
Detalhe de Aplicação
Sem Escala

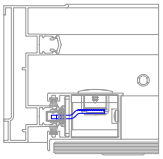
Lingueta Concha

TRA-011

Encaixe: PB-030/ PB-031/ PB-032





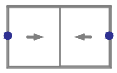


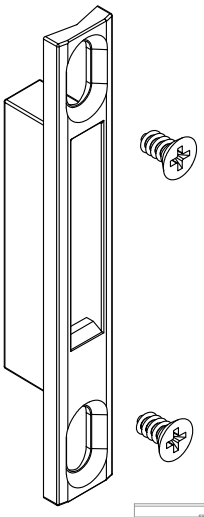
Detalhe de Aplicação
Sem Escala

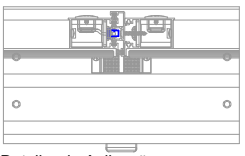
Contra Fecho

CTF81

Encaixe: PB-002/ PB-003/ PB-060/ PB-061

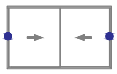






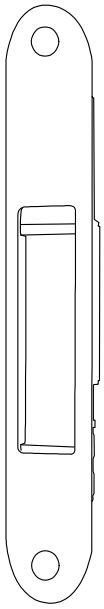
Detalhe de Aplicação
Sem Escala

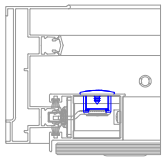
Fecho Concha



CON-7411

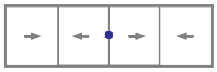
Encaixe: PB-030/ PB-031/ PB-032





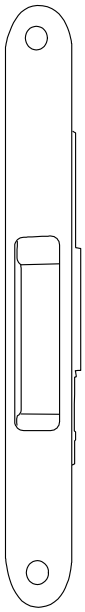
Detalhe de Aplicação
Sem Escala

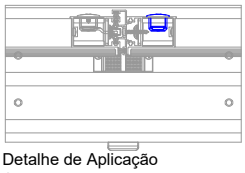
Concha Cega



CON-7311

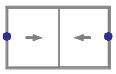
Encaixe: PB-030/ PB-031/ PB-032





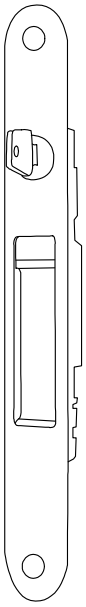
Detalhe de Aplicação
Sem Escala

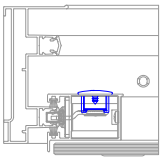
Fecho Concha com Chave



CON-7811AC

Encaixe: PB-030/ PB-031/ PB-032



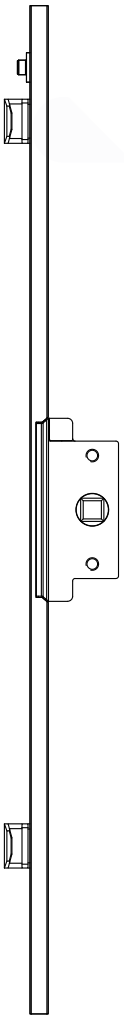


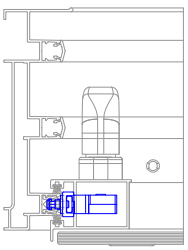
Detalhe de Aplicação
Sem Escala

Cremona 2 Pontos Acionamento Interno

CREE252PINT

Encaixe: PB-030



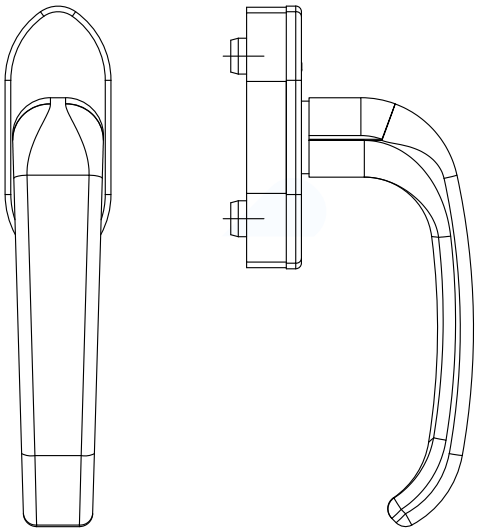


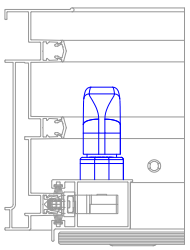
Detalhe de Aplicação
Sem Escala

Maçaneta Cremona 6635

MAC-6635

Encaixe: PB-030



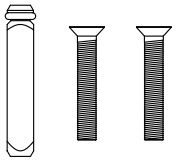


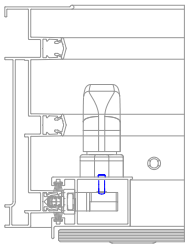
Detalhe de Aplicação
Sem Escala

Kit Haste Parafuso Cremona Interno

KITHASTE-INT

Encaixe: PB-030



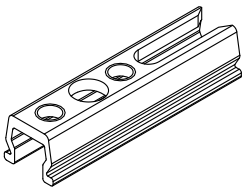


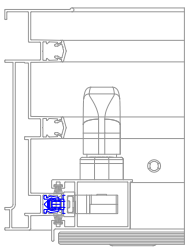
Detalhe de Aplicação
Sem Escala

Contra Fecho Cremona Suprema B/Faca

CTFCRE

Encaixe: PB-002/ PB-003/ PB-060





Detalhe de Aplicação
Sem Escala

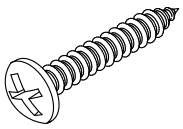
Parafuso Auto Atarraxante Ø4,2x9,5mm

PAR-4295



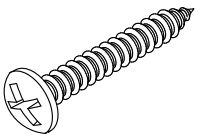
Parafuso Auto Atarraxante Ø4,2x25mm

PAR-963



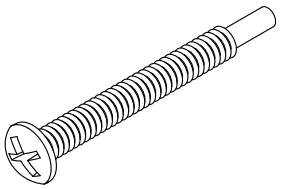
Parafuso Auto Atarraxante Ø4,2x50mm

PAR-4250



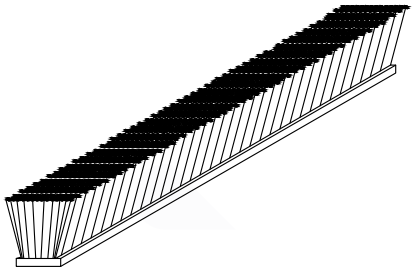
Parafuso Ponta Guia Ø4,8x50mm

PAR-431



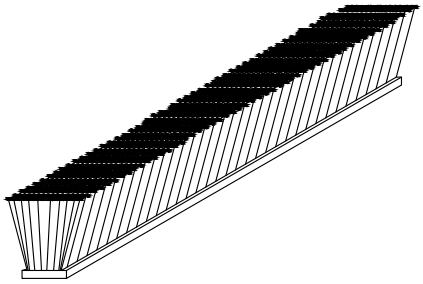
Escova Vedadora 5x6

FIT-206



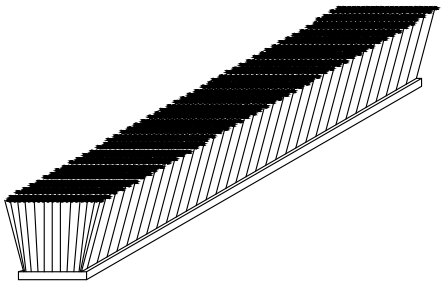
Escova Vedadora 5x8

FIT-212



Escova Vedadora 7x8

FIT-224

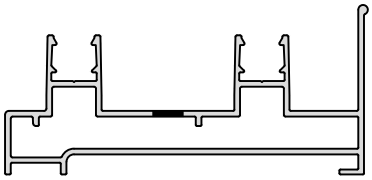


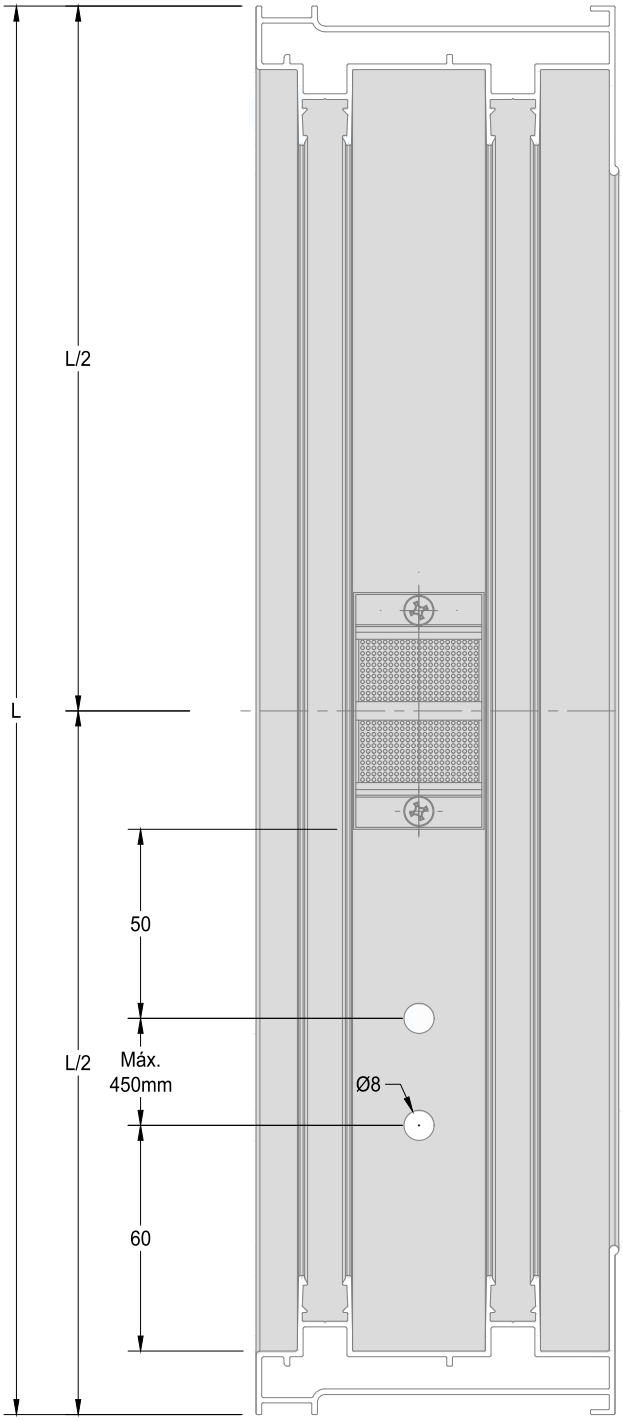
ÍNDICE DE USINAGENS

Código	Descrição	Página
PB-002	Rasgos de Dreno	48
PB-002	Rasgos de Dreno	49
PB-003	Rasgos de Dreno	50
PB-003	Rasgos de Dreno	51
PB-030	Desabe de Guia e Furações	52
PB-031	Desabe de Guia e Fuarações	53
PB-032	Desabe de Guia e Furações	52
PB-040	Desabe de Guia e Furações	52
PB-041	Desabe de Guia e Fuarações	53
PB-042	Desabe de Guia e Furações	54
PB-050	Desabe de Guia e Furações	52
PB-051	Desabe de Guia e Fuarações	53
PB-060	Desabe e Furações Mata Junta	55

Rasgos de Dreno

PERFIS
PB-002

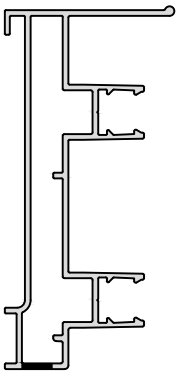




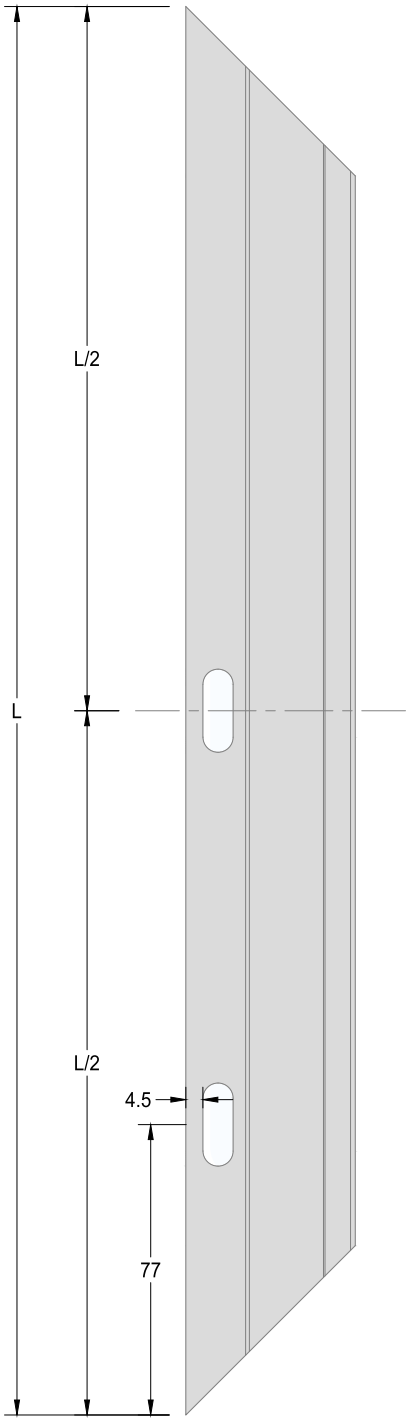
Observações:

- Os Drenos devem ser feitos sempre no sentido contrário da folha quando as mesmas estiverem fechadas.
- Distância máxima entre os drenos 450mm.
- Para vãos maiores, deve-se aumentar o número de drenos.

Rasgos de Dreno



PERFIS
PB-002

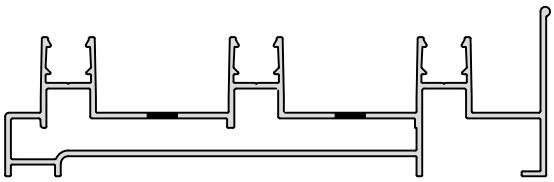


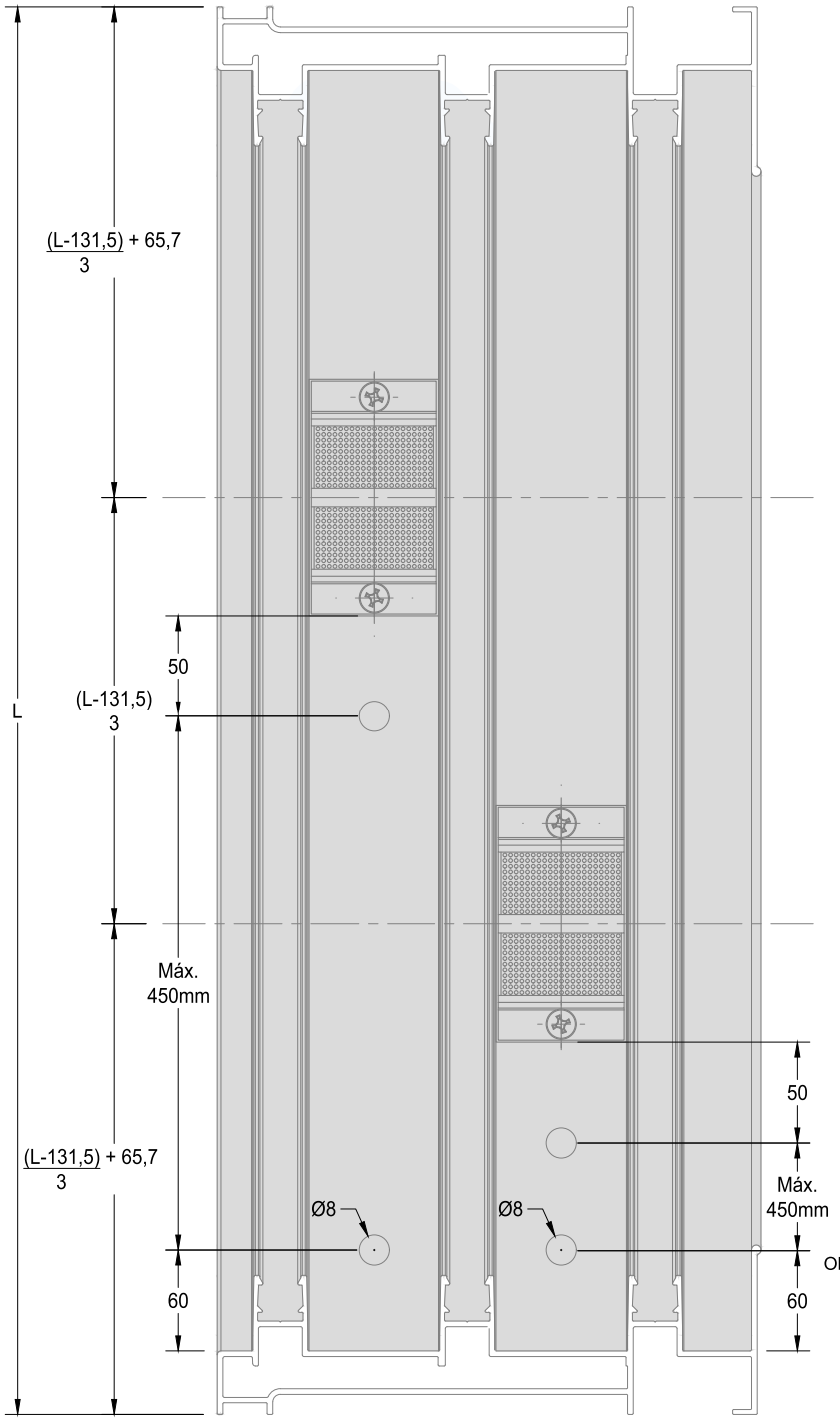
Observações:

- Os Drenos devem ser feitos sempre no sentido contrário da folha quando as mesmas estiverem fechadas.
- Distância máxima entre os drenos 450mm.
- Para vãos maiores, deve-se aumentar o número de drenos.
- Dimensões das usinagens conforme indicação do fabricante do componente.

Rasgos de Dreno

PERFIS
PB-003





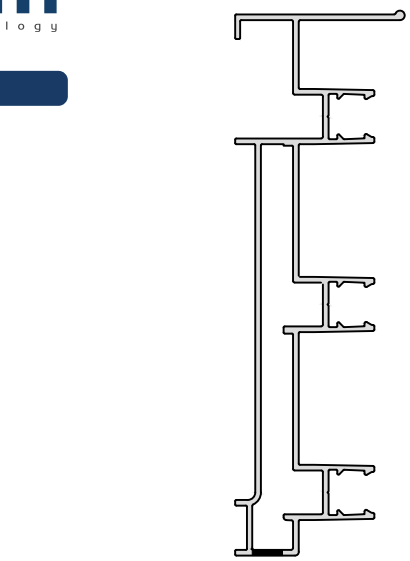
Observações:

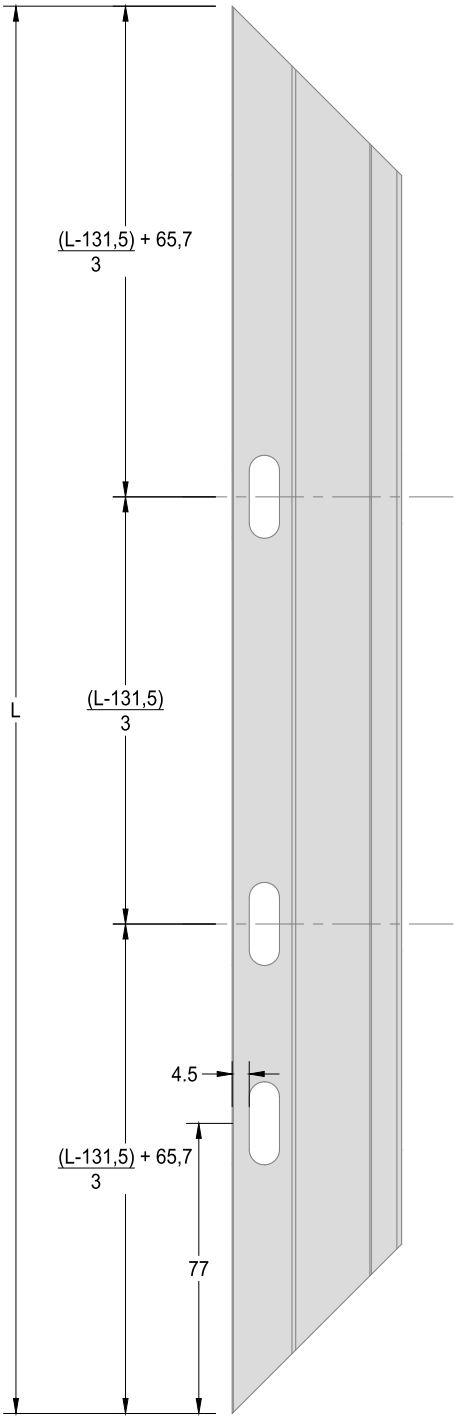
- Os Drenos devem ser feitos sempre no sentido contrário da folha quando as mesmas estiverem fechadas.
- Distância máxima entre os drenos 450mm.
- Para vãos maiores, deve-se aumentar o número de drenos.

Aludim
aluminum technology

Rasgos de Dreno

PERFIS
PB-003



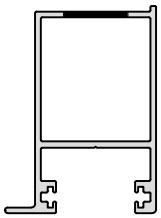


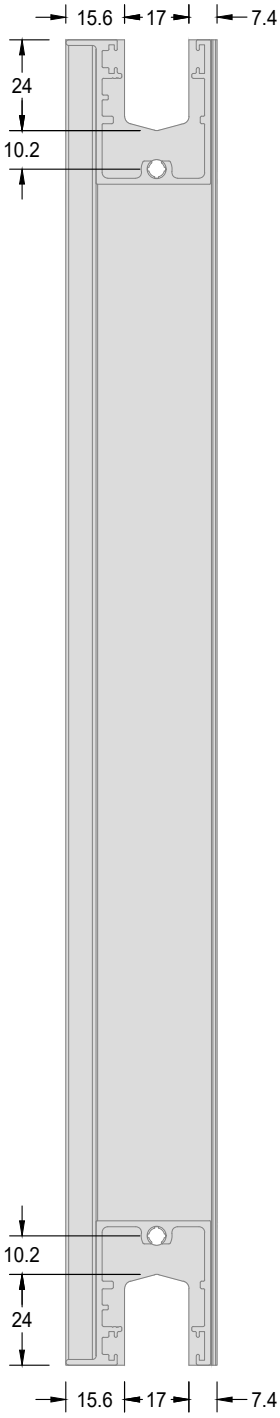
Observações:

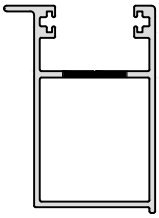
- Os Drenos devem ser feitos sempre no sentido contrário da folha quando as mesmas estiverem fechadas.
- Distância máxima entre os drenos 450mm.
- Para vãos maiores, deve-se aumentar o número de drenos.
- Dimensões das usinagens conforme indicação do fabricante do componente.

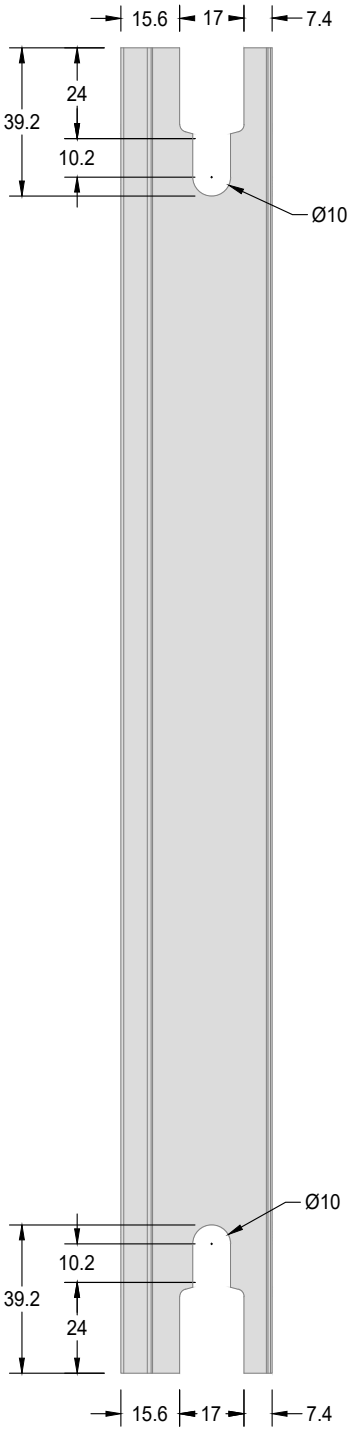
Desabe de Guia e Furações

PERFIS
PB-030
PB-032
PB-040
PB-050



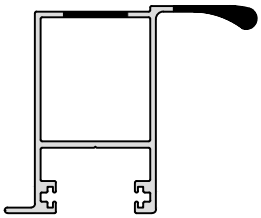


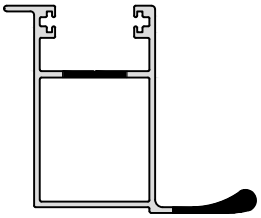


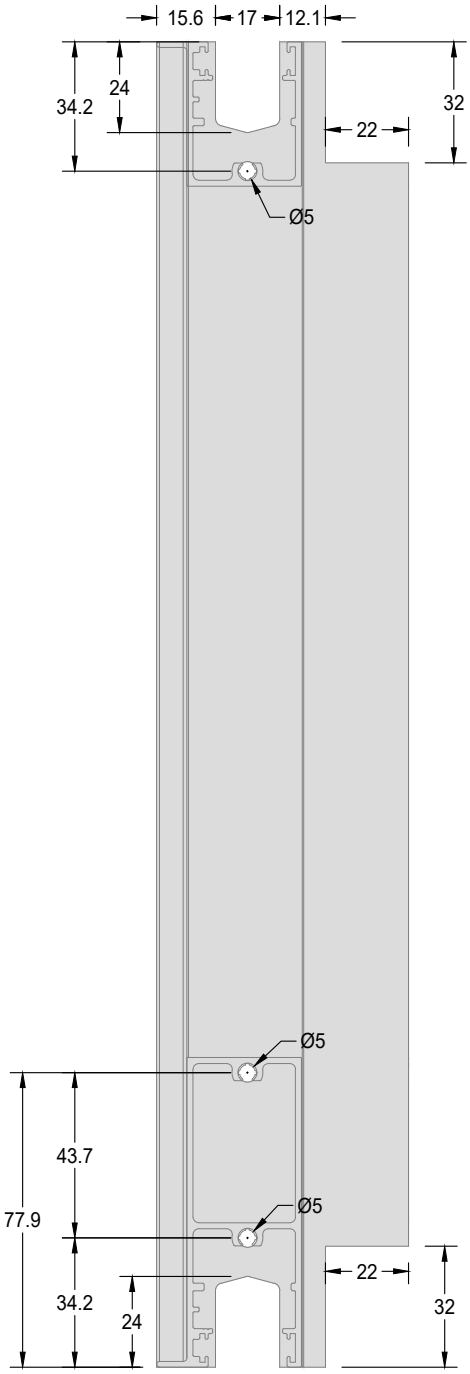


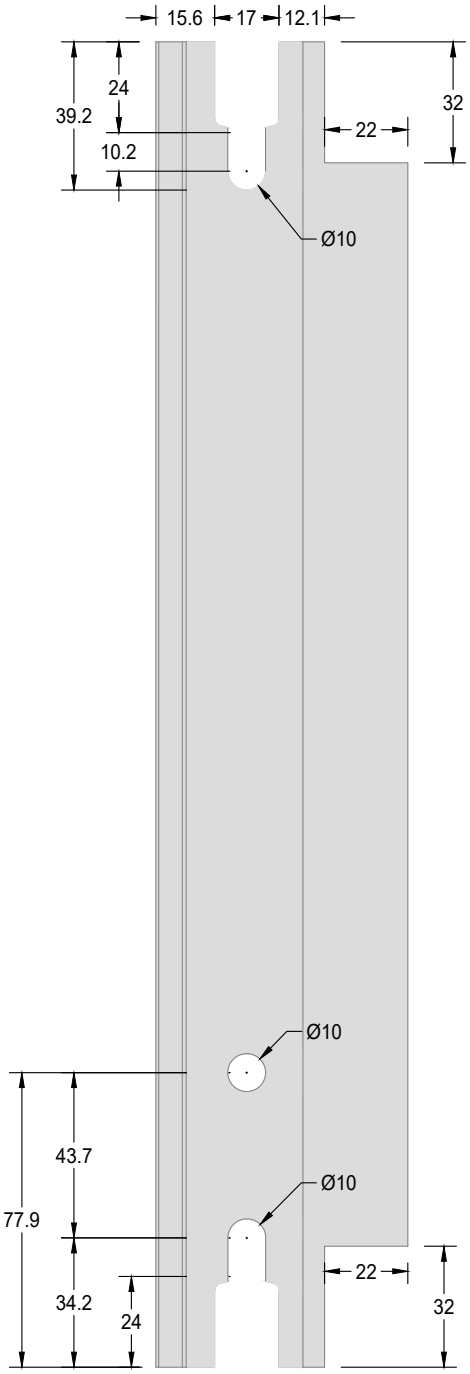
Desabe de Guia e Furações

PERFIS
PB-031
PB-041
PB-051



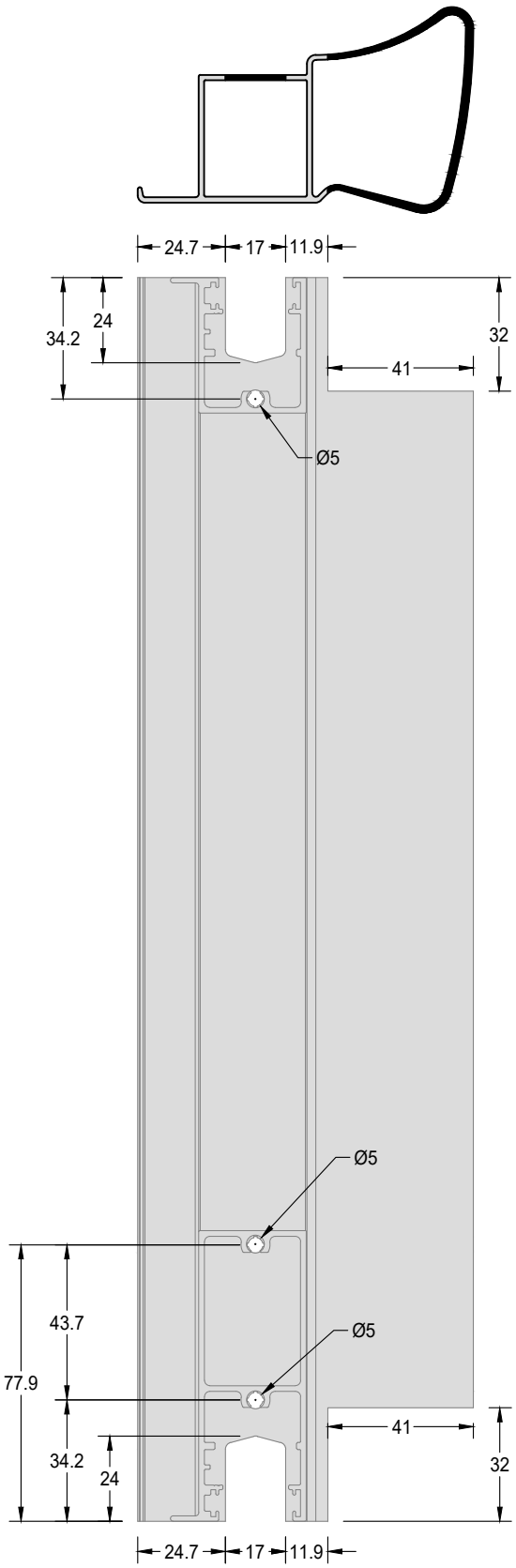


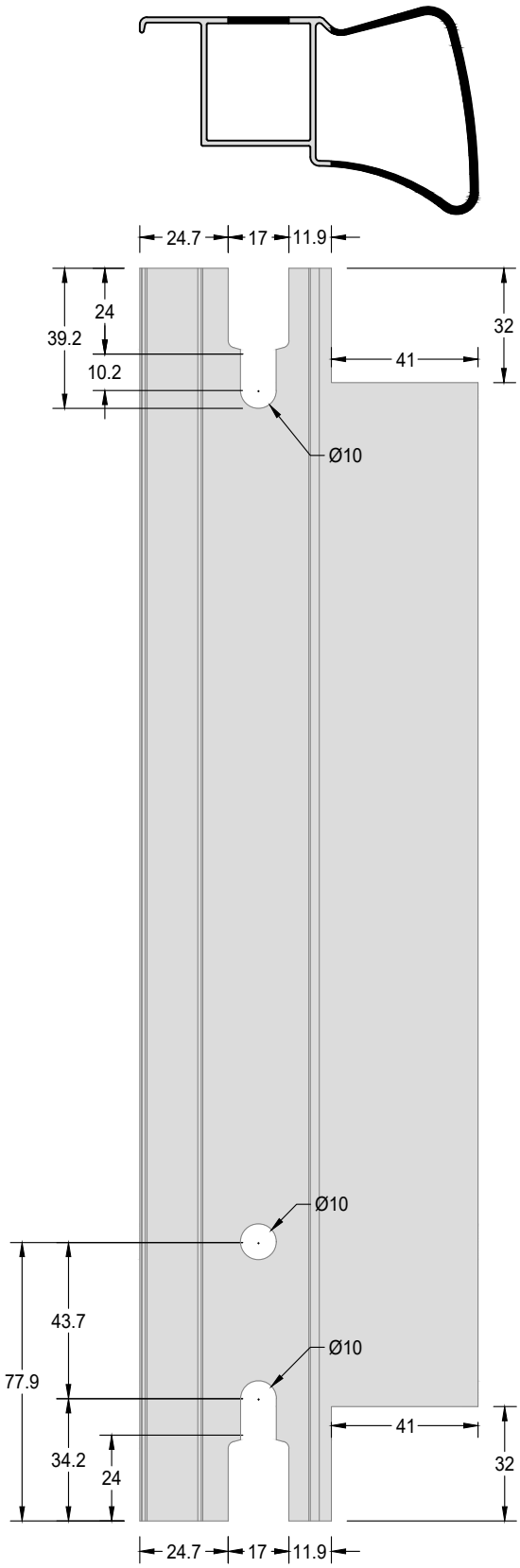




Desabe de Guia e Furações

PERFIS
PB-042



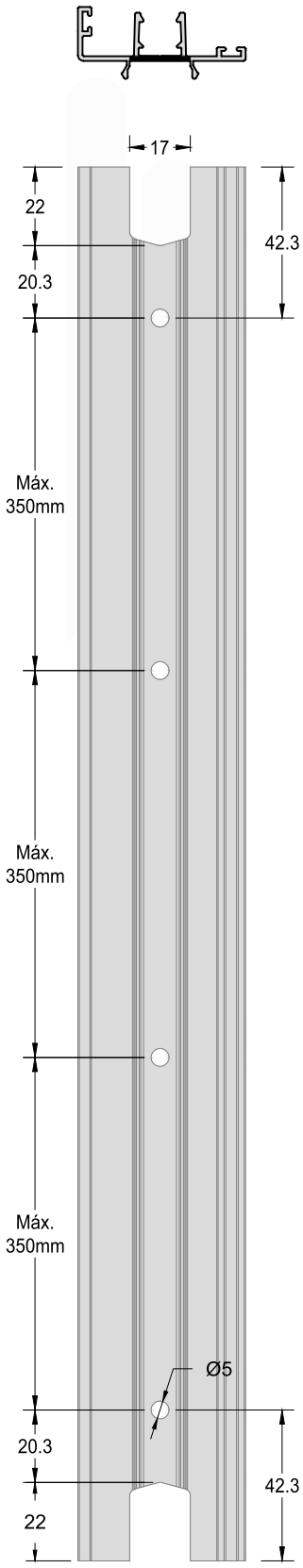


SISTEMA DE ESQUADRIAS PORTOBELLO

REV04

Desabe e Furações Mata Junta

PERFIS
PB-060



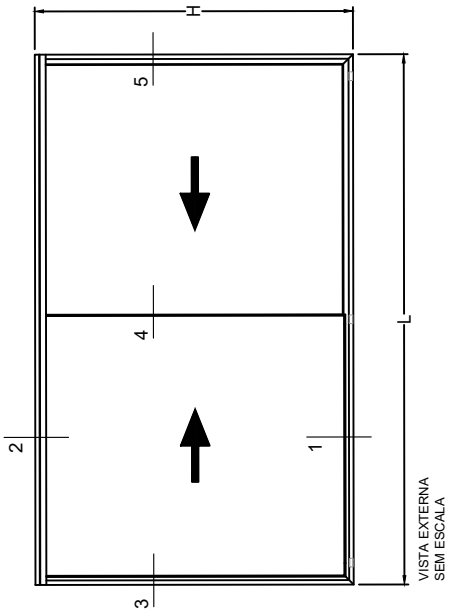
ÍNDICE DETALHES CONSTRUTIVOS

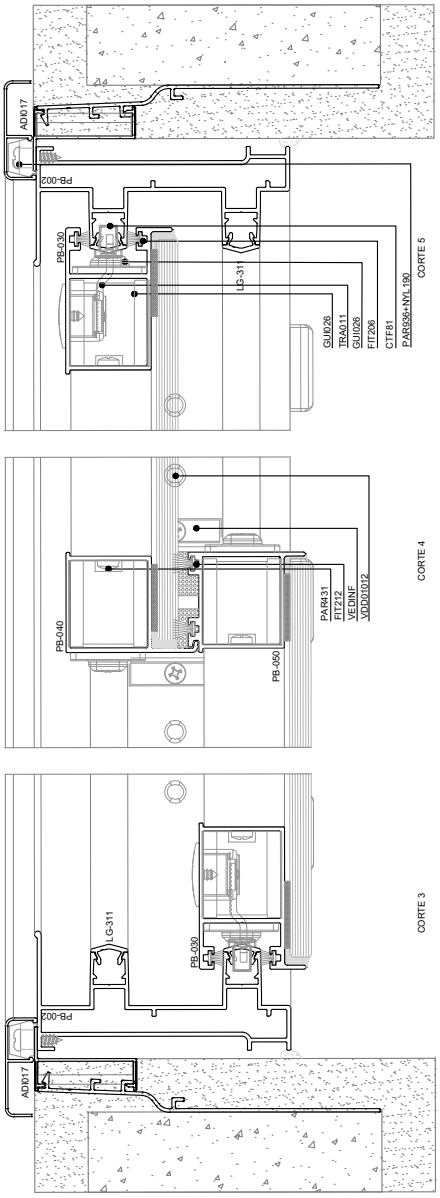
Descrição	Página
FACHADA FORA DE VÃO COM JANELA DE CORRER 4 FOLHAS	63
JANELA DE CORRER 2 FOLHAS	57
JANELA DE CORRER 2 FOLHAS COM PEITORIL	61
JANELA DE CORRER 3 FOLHAS	58
JANELA DE CORRER 3 FOLHAS COM PEITORIL	62
JANELA DE CORRER 4 FOLHAS	59
JANELA DE CORRER 4 FOLHAS 90°	60
PORTA DE CORRER 2 FOLHAS	64

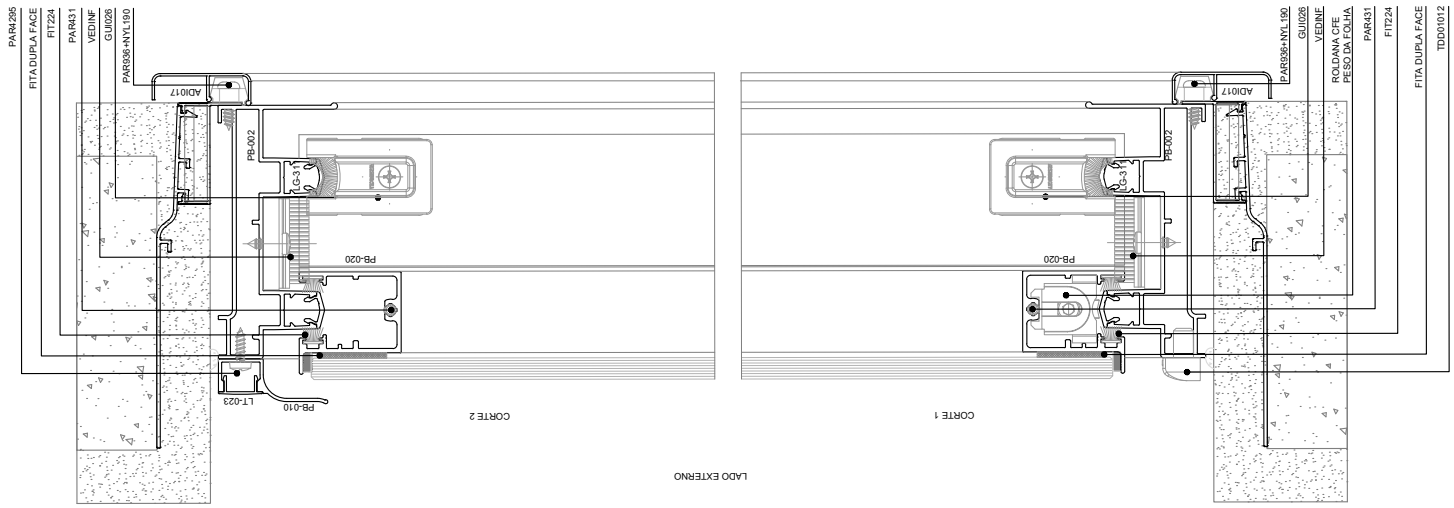
Janela De Correr 2 Folhas

01 - Todo encontro entre perfis devem ser vedados com silicone neutro.

02 - Componentes conforme mapa de componentes descrito nesse catálogo.



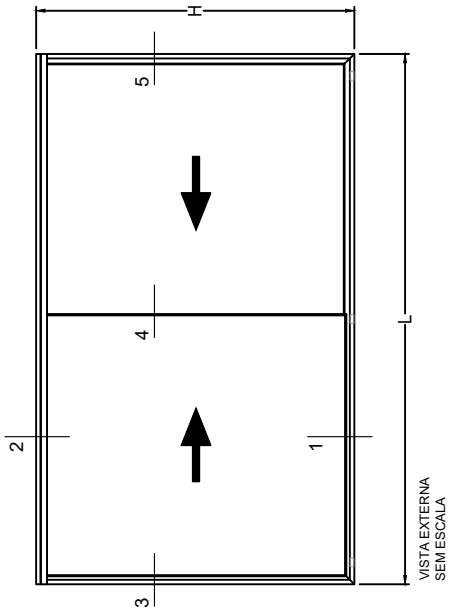


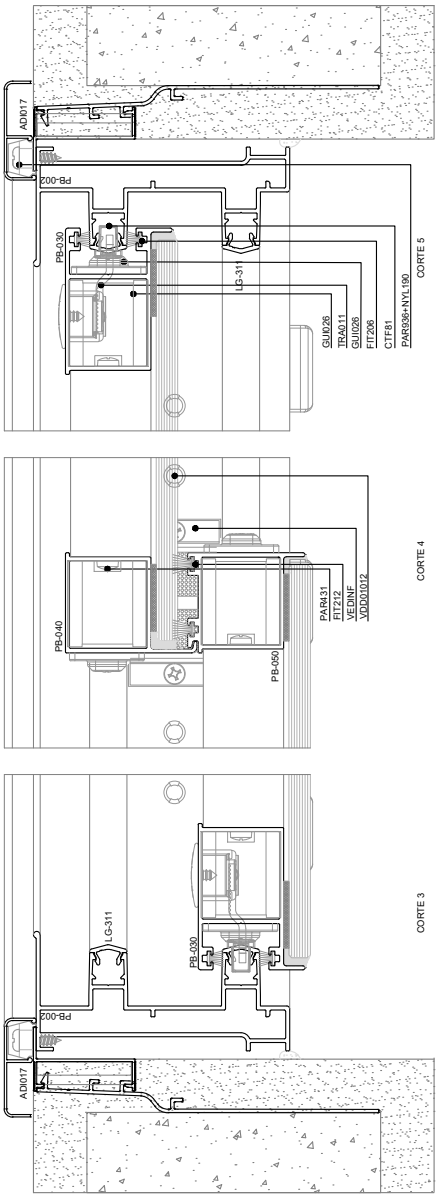


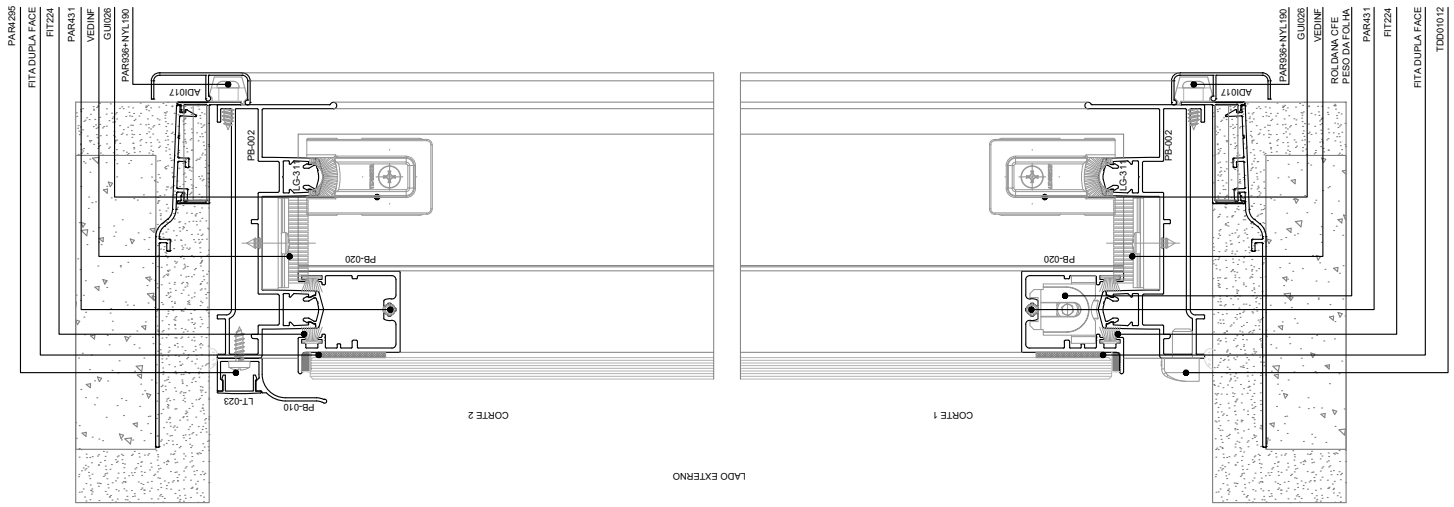
Janela De Correr 2 Folhas

01 - Todo encontro entre perfis devem ser vedados com silicone neutro.

02 - Componentes conforme mapa de componentes descrito nesse catálogo.



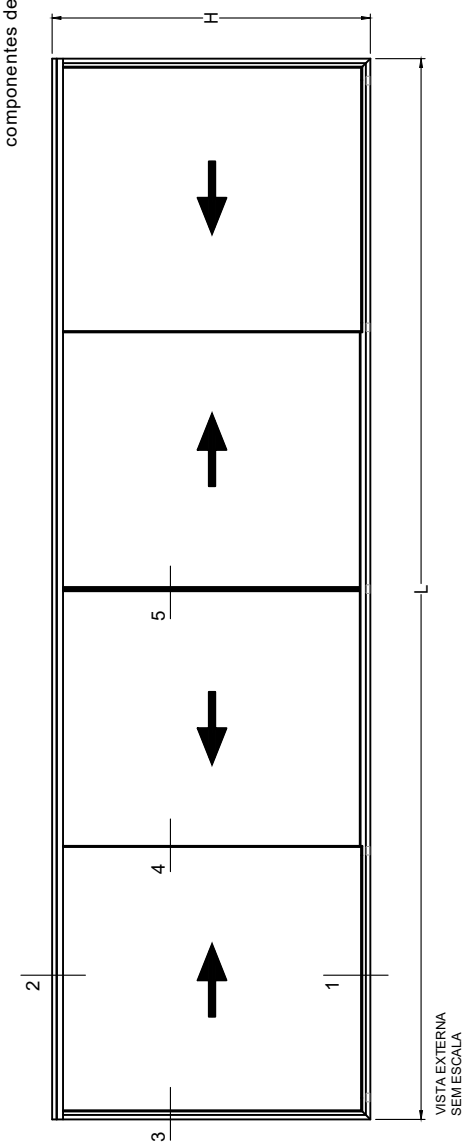


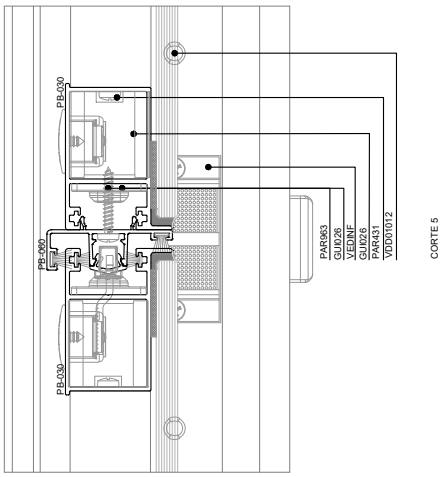


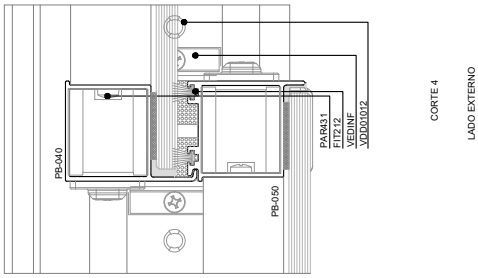
Janela De Correr 4 Folhas

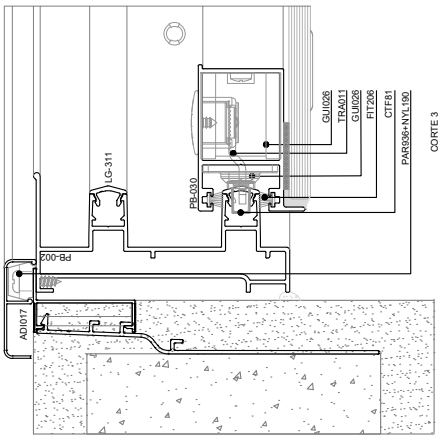
01 - Todo encontro entre perfis devem ser vedados com silicone neutro.

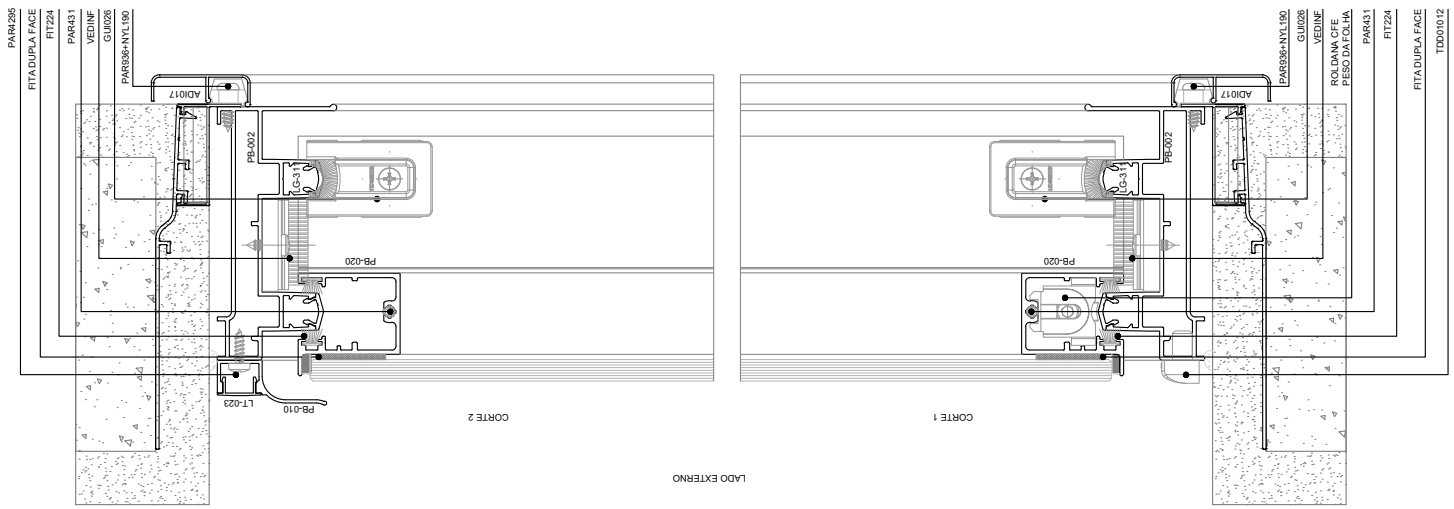
02 - Componentes conforme mapa de componentes descrito nesse catálogo.











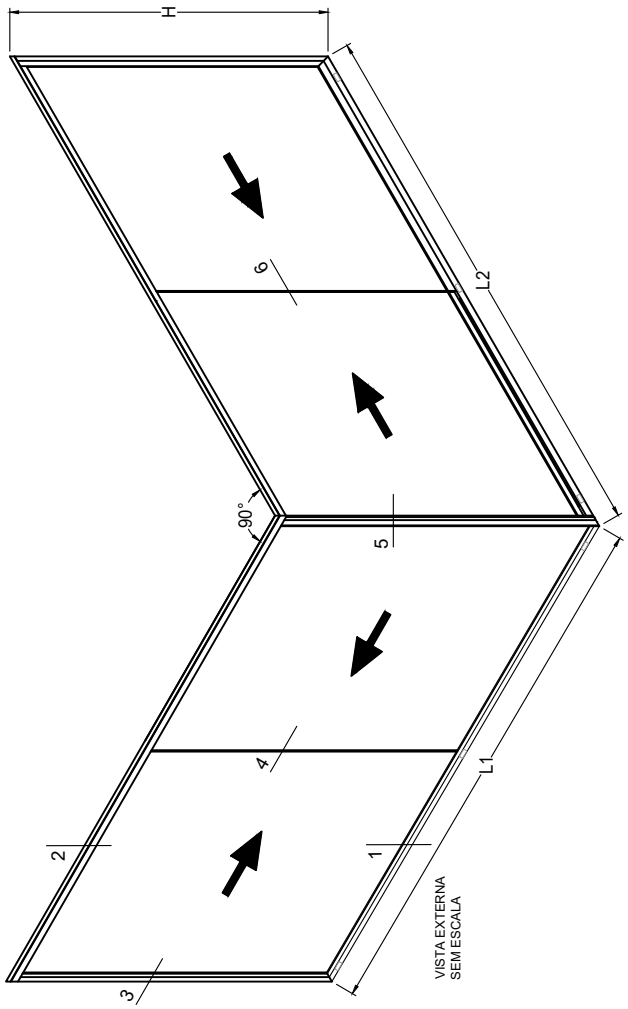
SISTEMA DE ESQUADRIAS PORTOBELLO

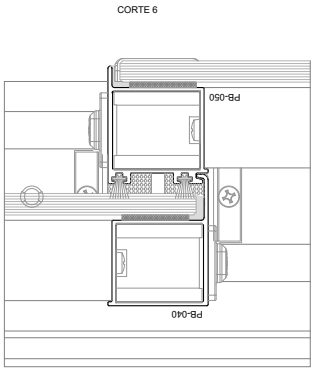
REV04

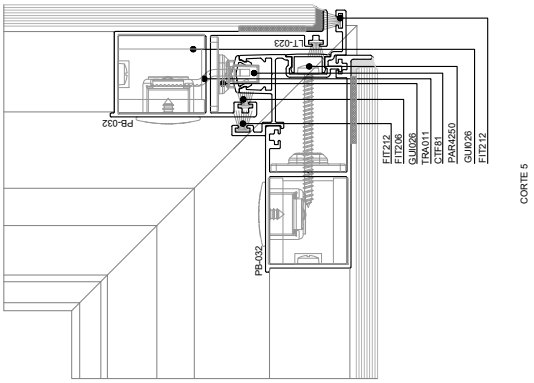
Janela De Correr 4 Folhas 90°

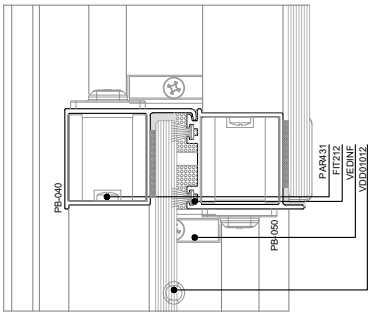
01 - Todo encontro entre perfis devem ser vedados com silicone neutro.

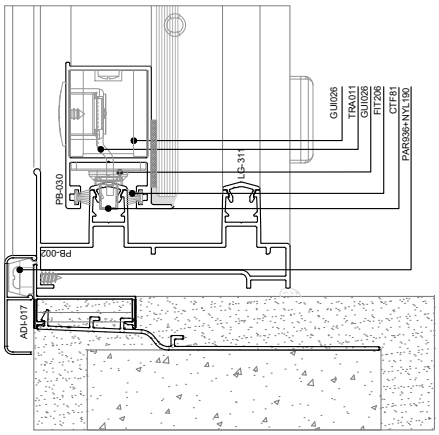
02 - Componentes conforme mapa de componentes descrito nesse catálogo.

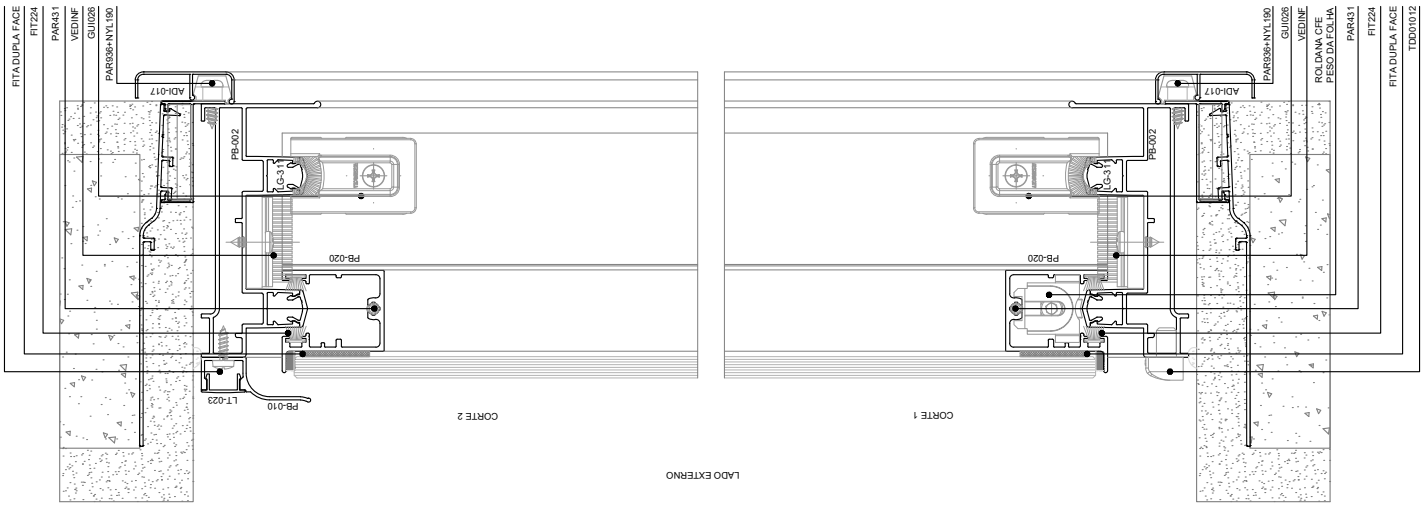












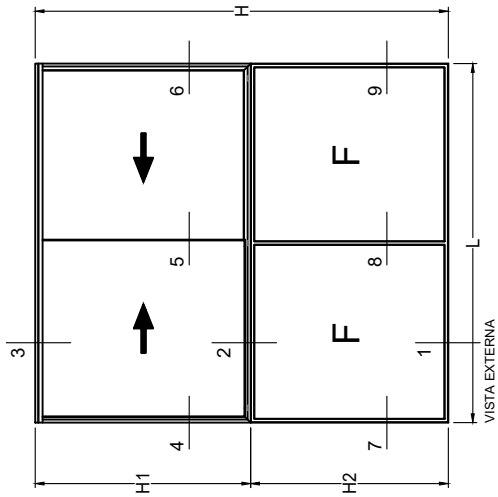
SISTEMA DE ESQUADRIAS PORTOBELLO

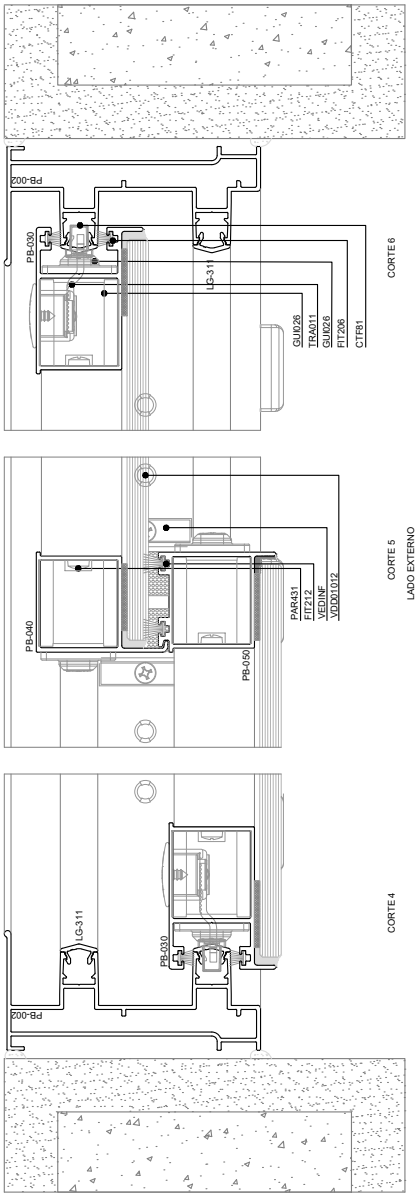
REV04

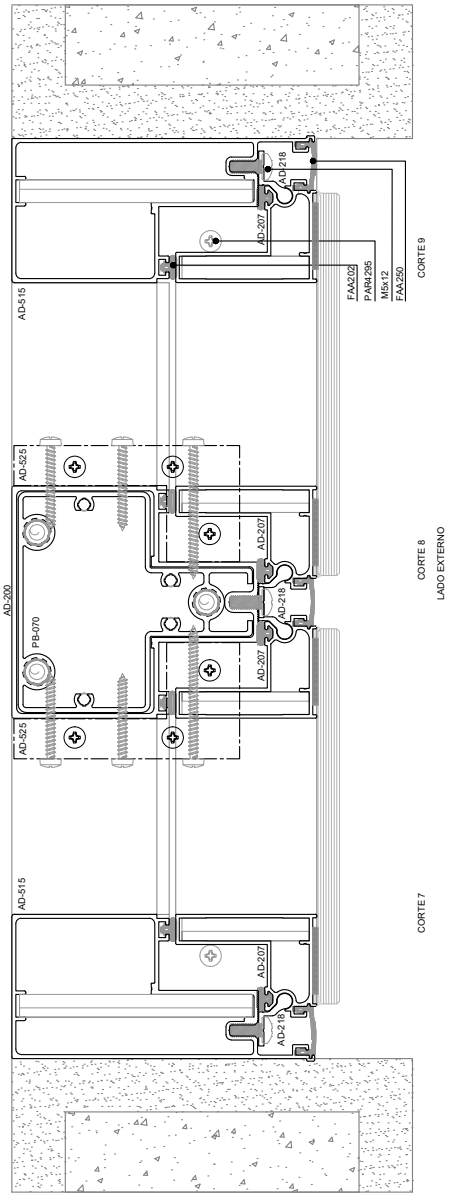
Janela De Correr 2 Folhas Com Peitoril

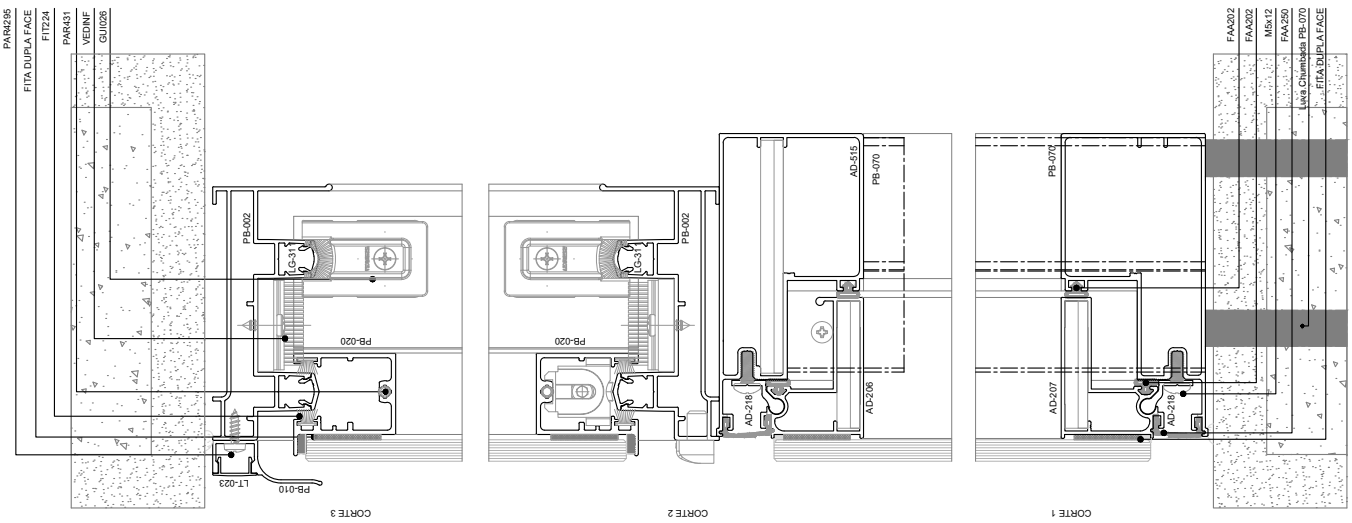
01 - Todo encontro entre perfis devem ser vedados com silicone neutro.

02 - Componentes conforme mapa de componentes descrito nesse catálogo.





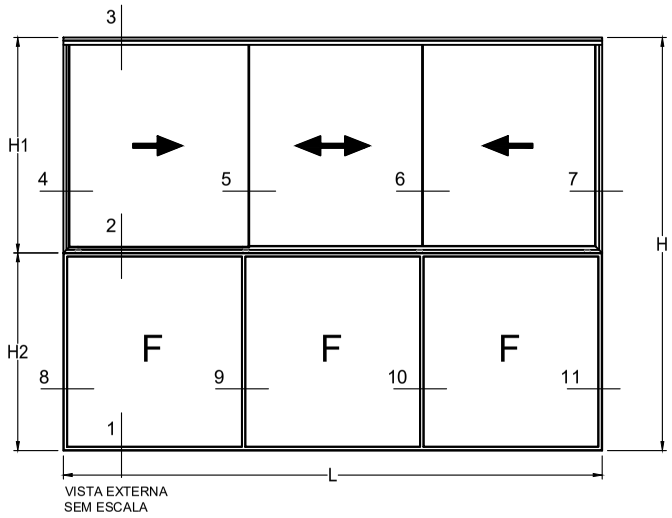




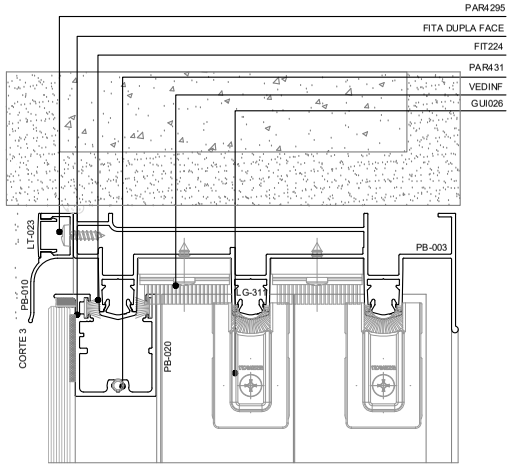
Janela De Correr 3 Folhas Com Peitoril

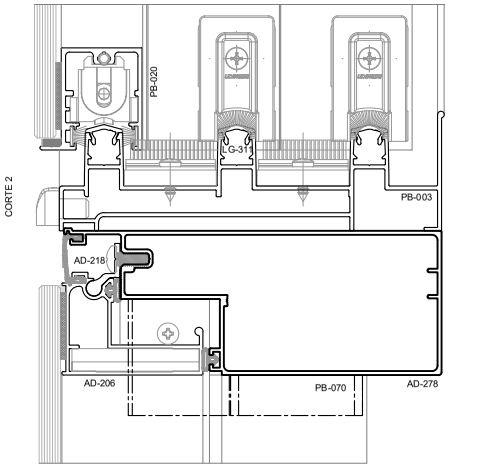
01 - Todo encontro entre perfis devem ser vedados com silicone neutro.

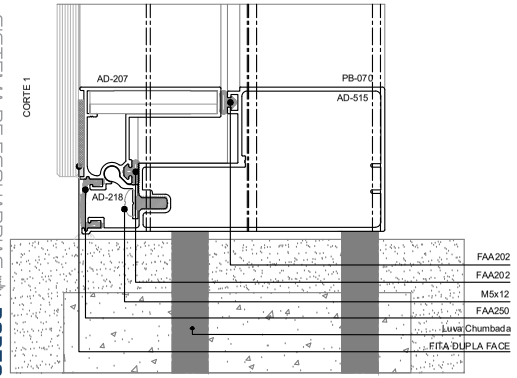
02 - Componentes conforme mapa de componentes descrito nesse catálogo.

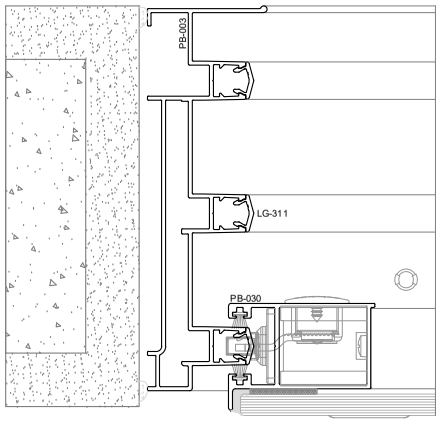


VISTA EXTERNA
SEM ESCALA

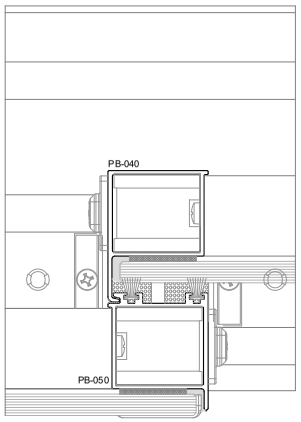




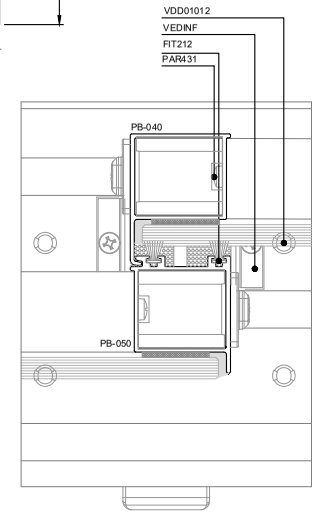




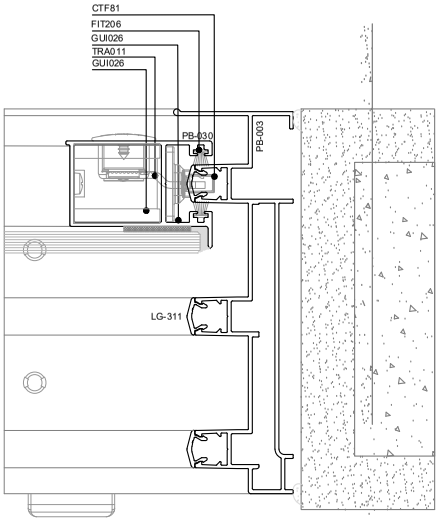
CORTE 4



CORTE 5

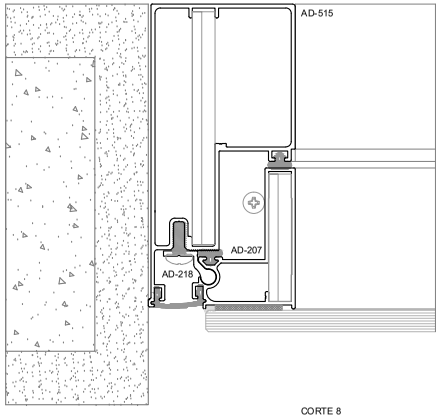


CORTE 6

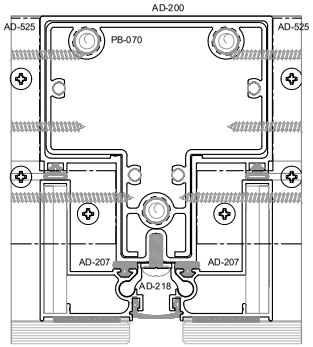


CORTE 7

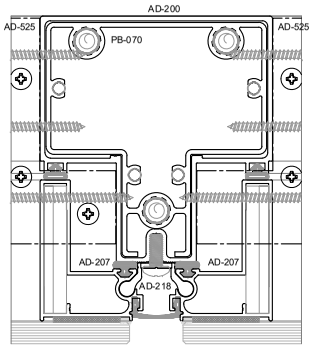
LADO EXTERNO



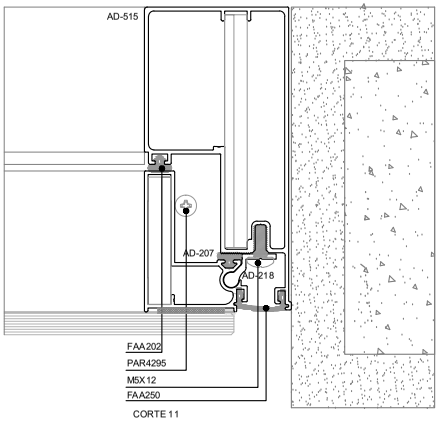
CORTE 8



CORTE 9



CORTE 10



CORTE 11

LADO EXTERNO

DETALHES CONSTRUTIVOS

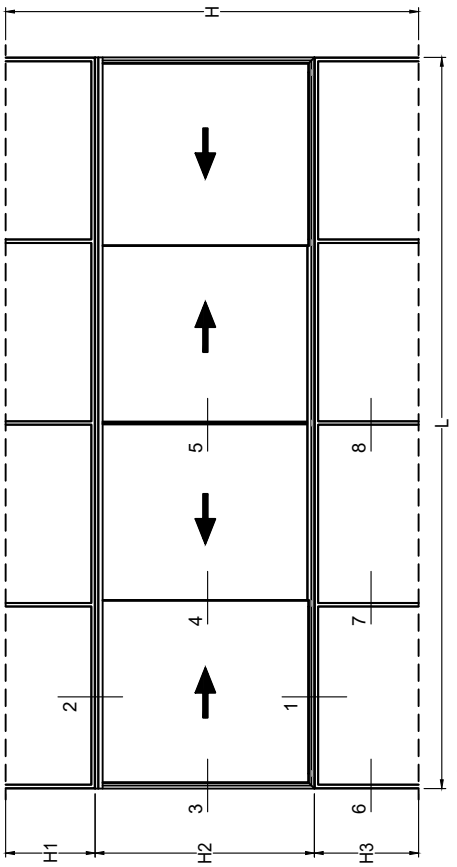
SISTEMA DE ESQUADRIAS PORTOBELLO

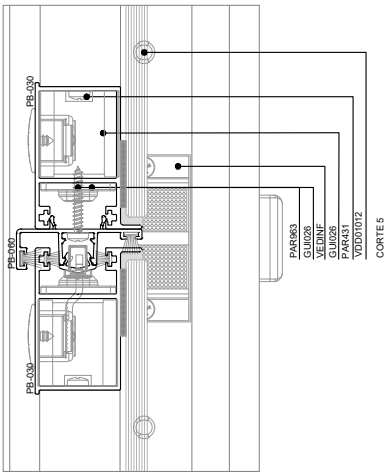
REV04

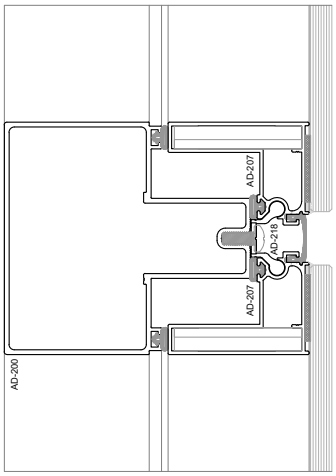
Fachada Fora De Vão Com Janela De Correr 04 Folhas

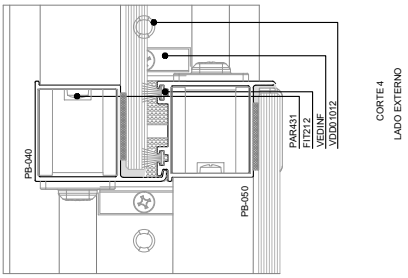
01 - Todo encontro entre perfis devem ser vedados com silicone neutro.

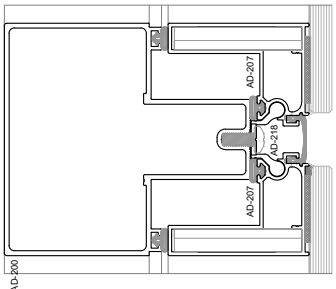
02 - Componentes conforme mapa de componentes descrito nesse catálogo.

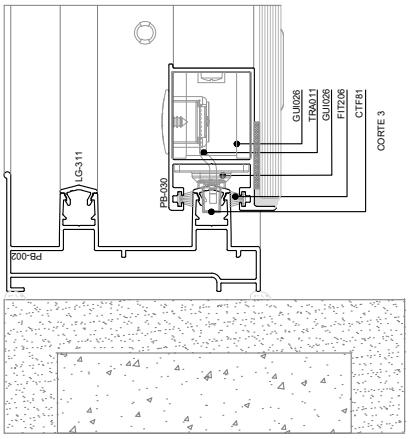


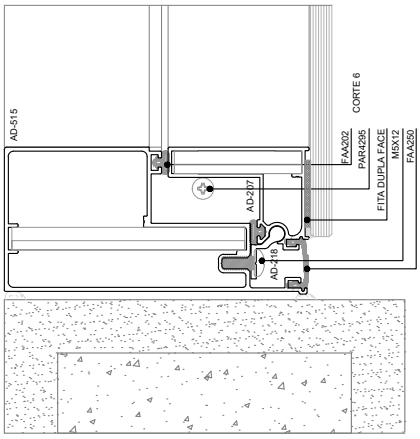


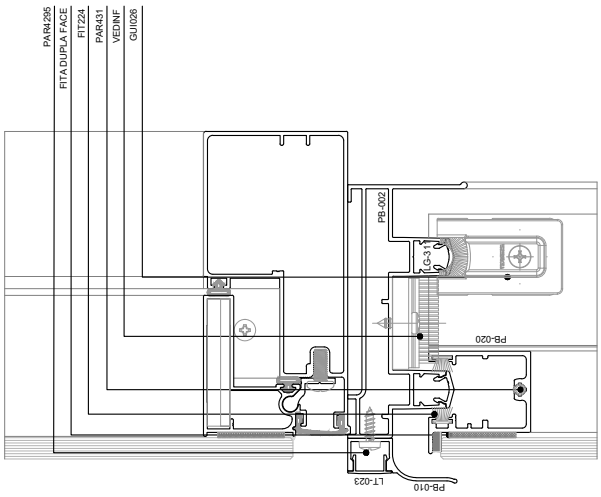


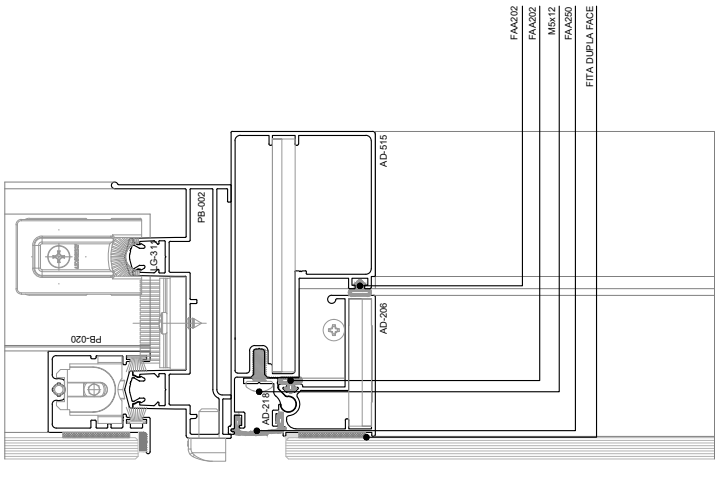










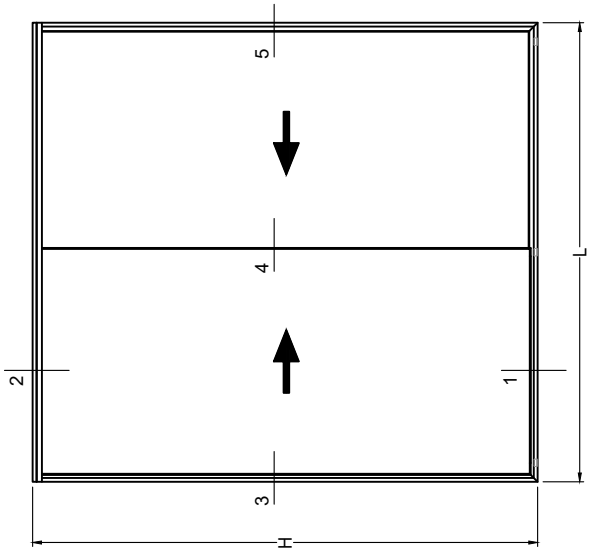


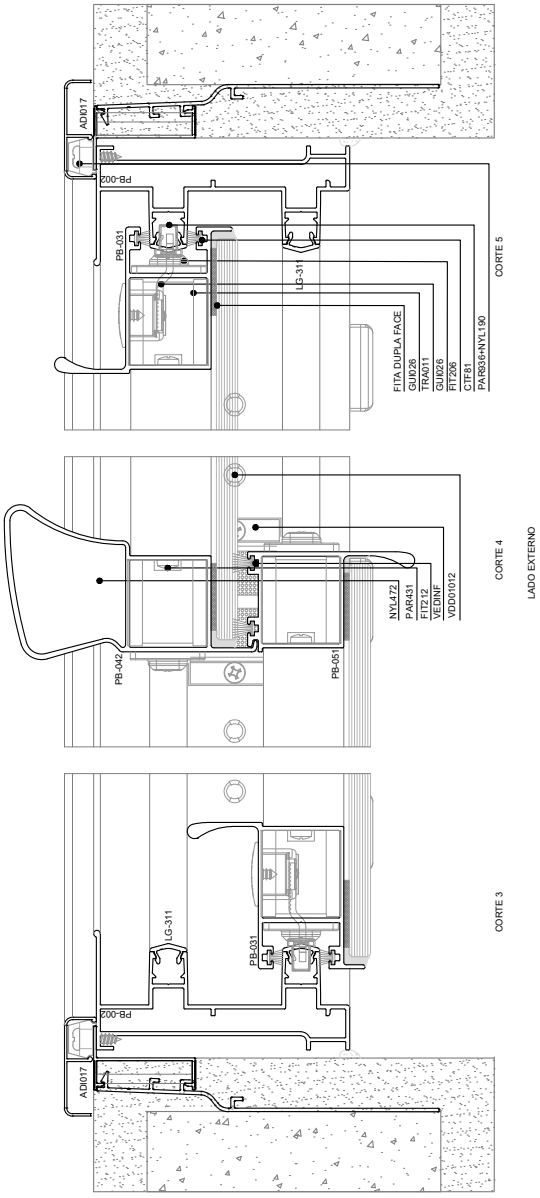
LADO EXTERNO

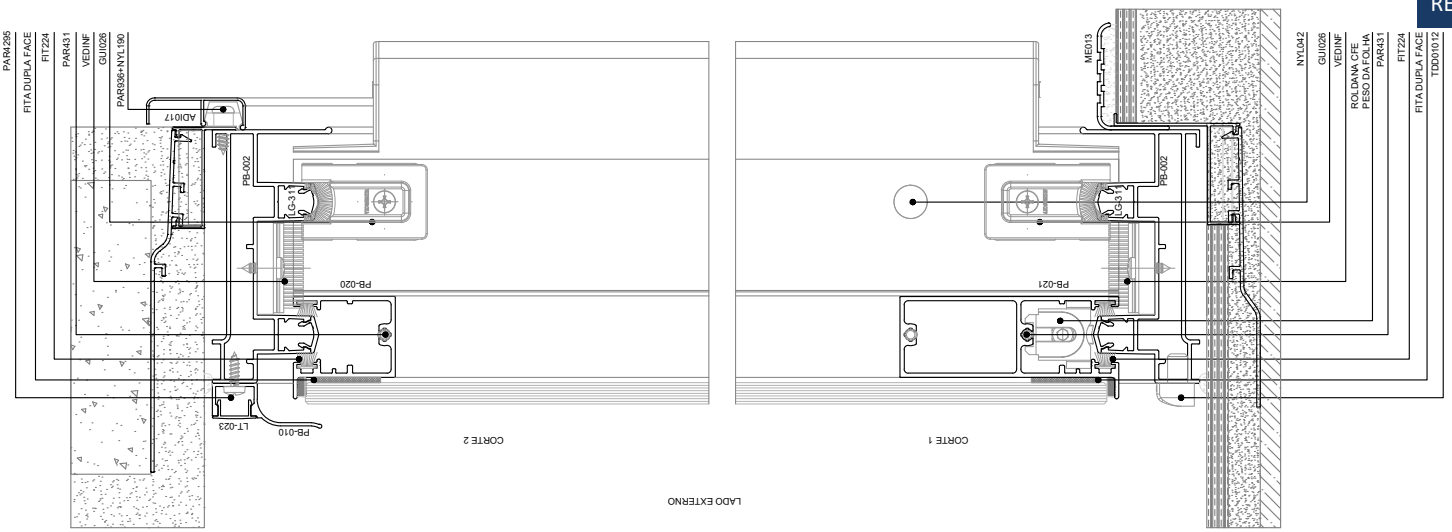
Porta De Correr 02 Folhas

01 - Todo encontro entre perfis devem ser vedados com silicone neutro.

02 - Componentes conforme mapa de componentes descrito nesse catálogo.







SISTEMA DE ESQUADRIAS PORTOBELLO

REV04

FRETTA
Desde 1895

Aludim
aluminum technology