HYDRO

MASTER®

Sistemas de esquadrias para o segmento residencial de bitola 20mm

Hydro Extruded Solutions

Com sede na Noruega, a Hydro é uma empresa global, presente em toda a cadeia do alumínio e líder do segmento, contando com cerca de 35 mil colaboradores em mais de 40 países. Somos globais e locais.

Servimos nossos clientes, mas não estamos satisfeitos em somente satisfazer as demandas. Queremos resolver problemas, encontrar soluções inovadoras e exceder as expectativas – de nossos clientes, nossas comunidades locais e do mundo ao nosso redor.

Nossa presença no Brasil inclui toda a cadeia de valor: da bauxita e alumina à produção de metal primário e às soluções em extrudados que impactam o dia a dia dos brasileiros. Nossas soluções em alumínio podem ser encontradas em diversos aspectos do cotidiano, como carros, ônibus, caminhões, trens, edifícios, telefones, computadores, mobília, ar condicionado, bens de consumo e equipamentos agrícolas.

Alumínio & Cia.

Rede de distribuidores exclusivos de produtos extrudados Hydro, presente em todas as regiões do Brasil. Nas lojas da rede, o cliente encontra os melhores sistemas de esquadrias desenvolvidos pela Hydro. São diversas linhas de produtos exclusivos para os segmentos residencial e comercial.

QUALIDADE RECONHECIDA
Alumínio & Cia.
GARANTIA DE ORIGEM

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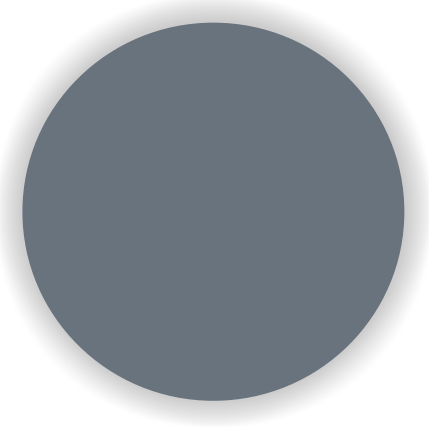

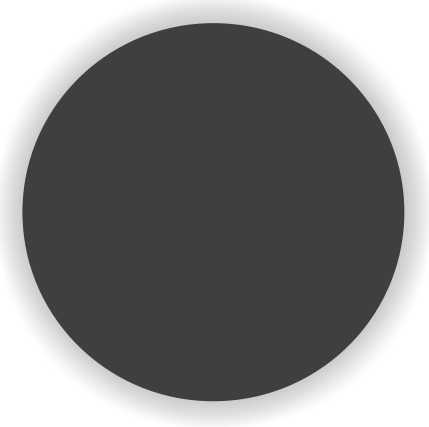

A PERFEITA COMBINAÇÃO ENTRE BELEZA, QUALIDADE E ECONOMIA

- Dimensões pré-estrudadas tanto da bitola dos perfis como o tamanho das barras, visando o fim do desperdício.
- Fabricação através de módulos.
- Bitola dos perfis conforme a necessidade de suportar os esforços provocados pelo vento nas diversas regiões do país.
- Design moderno, com visual robusto, baguetes e montantes com formas arredondadas, levando em conta o conforto no manuseio.
- Excelente desempenho na vedação à água.
- Caixa de dreno com vazão de água.
- Guias limitadoras de fácil ajuste.

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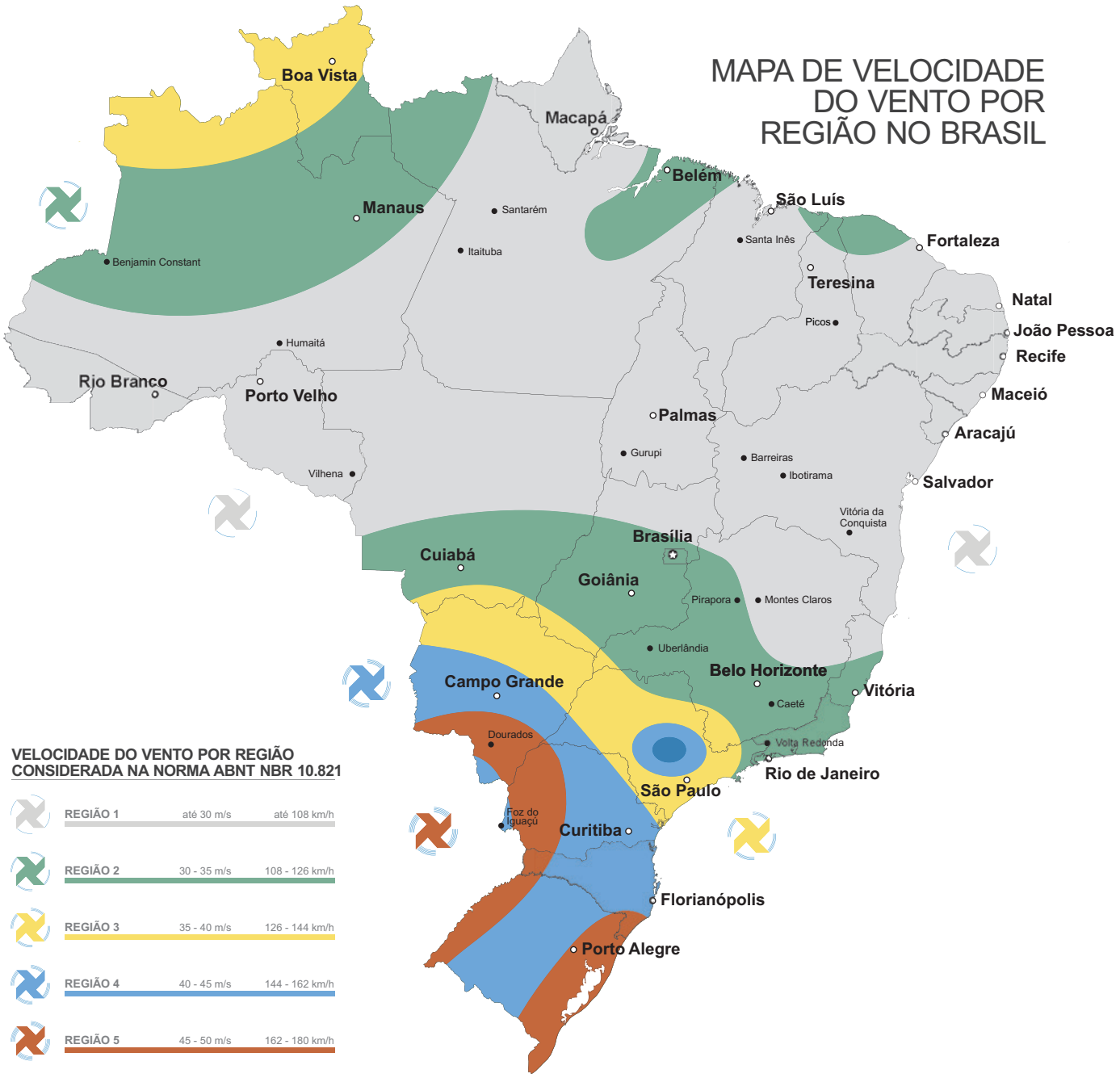
NBR 10.821-2011

A NBR 10.821 / 11 - Esquadrias externas para edificações - determina os parâmetros de desempenho das esquadrias em todo o Brasil e o conhecimento de seu conteúdo é de grande importância para todos que atuam neste mercado. Neste catálogo, você irá encontrar gráficos que demonstram o desempenho estrutural da Linha Master. Para facilitar o entendimento, segue abaixo a orientação de interpretação deste material com base nesta norma.

Comportamento Estrutural em relação à Pressão do Vento

Veja ao lado o mapa do Brasil de isopletas onde temos as delimitações das regiões brasileiras por velocidade dos ventos conforme a NBR 6123/11 - Força devidas ao vento em edificações.



A velocidade do vento é o parâmetro inicial para calcularmos a pressão do vento no local desejado, levando-se em conta ainda a altura do edifício, rugosidade do terreno, localização em vales ou grandes centros, forma geométrica do edifício, entre outras características. Para facilitar, a NBR 10.821 / 11 traz a tabela a seguir, que é valida para edifícios de formas regulares e determina as Pressões de Ensaio, Segurança e de água em edifícios de 30 pavimentos ou 90 metros de altura em todas as regiões do país.

Valores de pressão do vento conforme a região do país e o número de pavimentos da edificação

Quantidade de pavimentos	Altura Máxima	Regiões do País	Pressão do ensaio Pe em (Pa) Positiva e negativa Pe = pp x 1,2	Pressão de segurança Ps em (Pa) Positiva e negativa Ps = pe x 1,5	Pressão de água Pa em (Pa) Positiva e negativa Pa = Pp x 0,2
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	1780	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

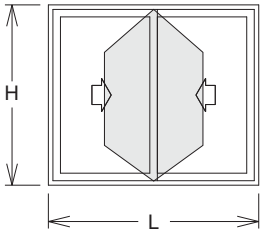
Começando da esquerda para a direita temos na primeira coluna a quantidade de pavimentos, na segunda a altura máxima do edifício e na terceira a região de velocidade dos ventos do Brasil. Na quarta coluna temos a pressão de ensaio, dada em Pascal. Com estes dados, o calculista deve considerar se os montantes e travessas das portas e janelas ou as colunas e travessas, em caso de fachadas-cortinas, irão atender aos esforços, sendo que a deformação máxima não deve ultrapassar H / 175 ou 30 mm, o que for menor, tanto no caso de pressão positiva quanto de pressão negativa. Durante o teste em laboratório, esta deformação será medida com a aplicação das pressões e após a sua retirada a esquadria deverá funcionar normalmente.

Na quinta coluna, apresenta-se a pressão de segurança. Esta pressão foi estabelecida para verificar casos extremos que a esquadria deve suportar. Durante o ensaio, não se exige a medição da flecha provocada, mas a verificação de que não houve colapso total ou parcial de qualquer dos componentes da esquadria, incluindo o vidro.

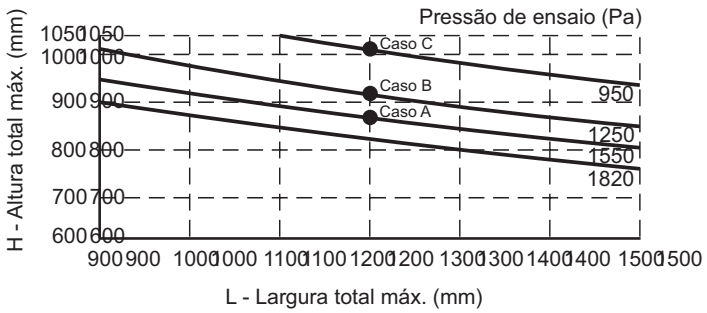
Logo, é importante considerar o desempenho dos vidros durante o cálculo. Como colapso entende-se qualquer alteração vital no funcionamento do conjunto, sua estrutura ou componentes, que coloque em risco os usuários ou terceiros.

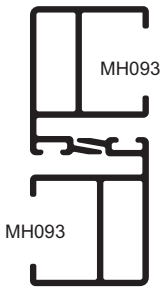
Para ilustrar, veja o exemplo abaixo:

Janela de Correr 2 folhas



Nota: Altura máxima de 1050 devido aos esforços de uso





Área = 120,6 mm²
Jx = 9919 mm⁴
Wx = 727 mm³

Área = 120,6 mm²
Jx = 9919 mm⁴
Wx = 727 mm³

Jx total = 19838 mm ⁴

Tensão Admissível = 7 Kg / mm² (liga C0A7 T5)
Flecha Admissível = H / 175

O gráfico apresenta o desempenho esperado da Linha Master. Considera-se que os montantes das folhas são uma viga biapoiada e que as curvas representam as pressões de Ensaio e de Segurança simultaneamente, sendo que o dado de entrada no gráfico será o valor de Pressão de Ensaio que consta da quarta coluna da tabela da norma.

Analise o caso de janela de 1200 mm de largura e vamos ver com qual altura e em quais regiões ela pode ser aplicada:

Caso A- Ok para 870 mm de altura na região IV, em edifícios de até 90 metros de altura, com pressão de 1550 Pa (ou 30 pavimentos, o que for menor)

Caso B- Ok para 940 mm de altura na região III, em edifícios de até 90 metros de altura, com pressão de 1250 Pa (ou 30 pavimentos, o que for menor)

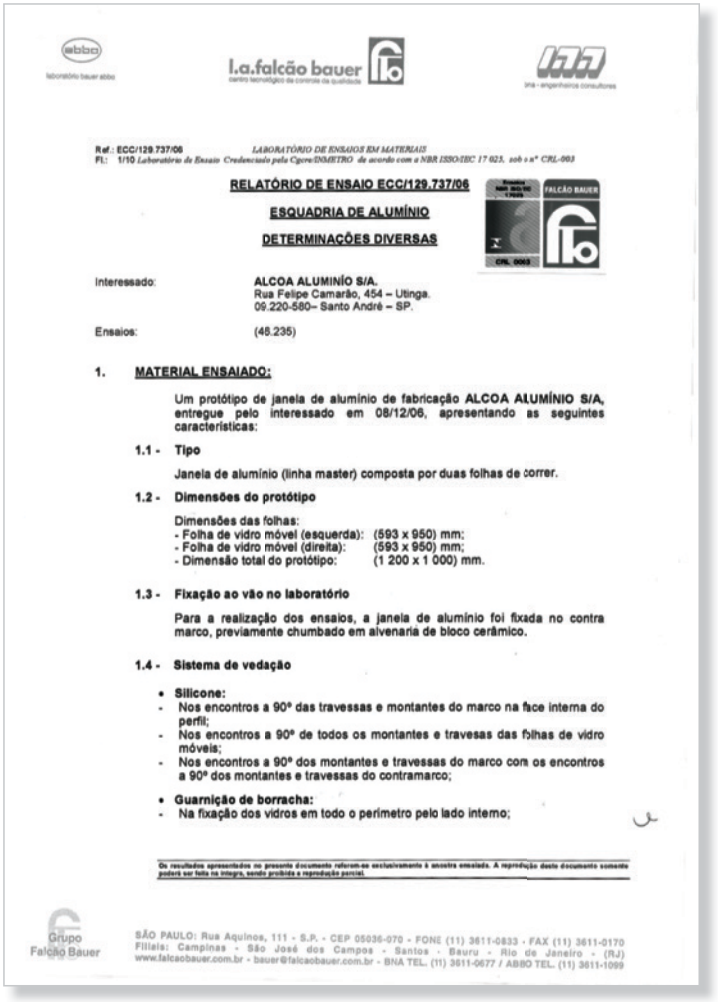
Caso C- Ok para 1040 mm de altura na região II, em edifícios de até 90 metros de altura, com pressão de 950 Pa (ou 30 pavimentos, o que for menor)

Em resumo, diminuindo-se a pressão é possível aumentar a altura da esquadria com a mesma construção.

É importante destacar que a tabela não é valida para:

- Edifícios em que a esquadria não seja instalada na posição vertical;
- Edifícios de forma não retangular;
- Edifícios com especificações, localização, necessidades e exigências especiais de utilização.

Nestes casos, a pressão de Ensaio e de segurança devem ser calculadas de acordo com a NBR 6123 / 11, podendo contar com parâmetros obtidos em ensaio de túnel de vento. Caso encontre-se um valor menor do que consta na tabela 1 fica valendo o maior, de acordo com a NBR 10821 / 11.



Ref.: ECC/129.737/06 — LABORATÓRIO DE ENSAIOS EM MATERIAIS
Fl.: 1/10 — Laboratório de Ensaio Credenciado pela Cgcre/INMETRO de acordo com a NBR ISSO/IEC 17 025, sob o nº CRL-003

RELATÓRIO DE ENSAIO ECC/129.737/06

ESQUADRIA DE ALUMÍNIO

DETERMINAÇÕES DIVERSAS

Interessado: **ALCOA ALUMÍNIO S/A.**
Rua Felipe Camarão, 454 – Utinga.
09.220-580– Santo André – SP.

Ensaios: (48.235)

1. MATERIAL ENSAIADO:

Um protótipo de janela de alumínio de fabricação **ALCOA ALUMÍNIO S/A,** entregue pelo interessado em 08/12/06, apresentando as seguintes características:

1.1 - Tipo

Janela de alumínio (linha master) composta por duas folhas de correr.

1.2 - Dimensões do protótipo

Dimensões das folhas:
- Folha de vidro móvel (esquerda): (593 x 950) mm;
- Folha de vidro móvel (direita): (593 x 950) mm;
- Dimensão total do protótipo: (1 200 x 1 000) mm.

1.3 - Fixação ao vão no laboratório

Para a realização dos ensaios, a janela de alumínio foi fixada no contra marco, previamente chumbado em alvenaria de bloco cerâmico.

1.4 - Sistema de vedação

- **Silicone:**
  - Nos encontros a 90° das travessas e montantes do marco na face interna do perfil;
  - Nos encontros a 90° de todos os montantes e travesas das folhas de vidro móveis;
  - Nos encontros a 90° dos montantes e travessas do marco com os encontros a 90° dos montantes e travessas do contramarco;
- **Guarnição de borracha:**
  - Na fixação dos vidros em todo o perímetro pelo lado interno;

Os resultados apresentados no presente documento referem-se exclusivamente à amostra ensaiada. A reprodução deste documento somente poderá ser feita na íntegra, sendo proibida a reprodução parcial.

Grupo Falcão Bauer

SÃO PAULO: Rua Aquinos, 111 - S.P. - CEP 05036-070 - FONE (11) 3611-0833 - FAX (11) 3611-0170
Filiais: Campinas - São José dos Campos - Santos - Bauru - Rio de Janeiro - (RJ)
www.falcaobauer.com.br - bauer@falcaobauer.com.br - BNA TEL. (11) 3611-0677 / ABBO TEL. (11) 3611-1099

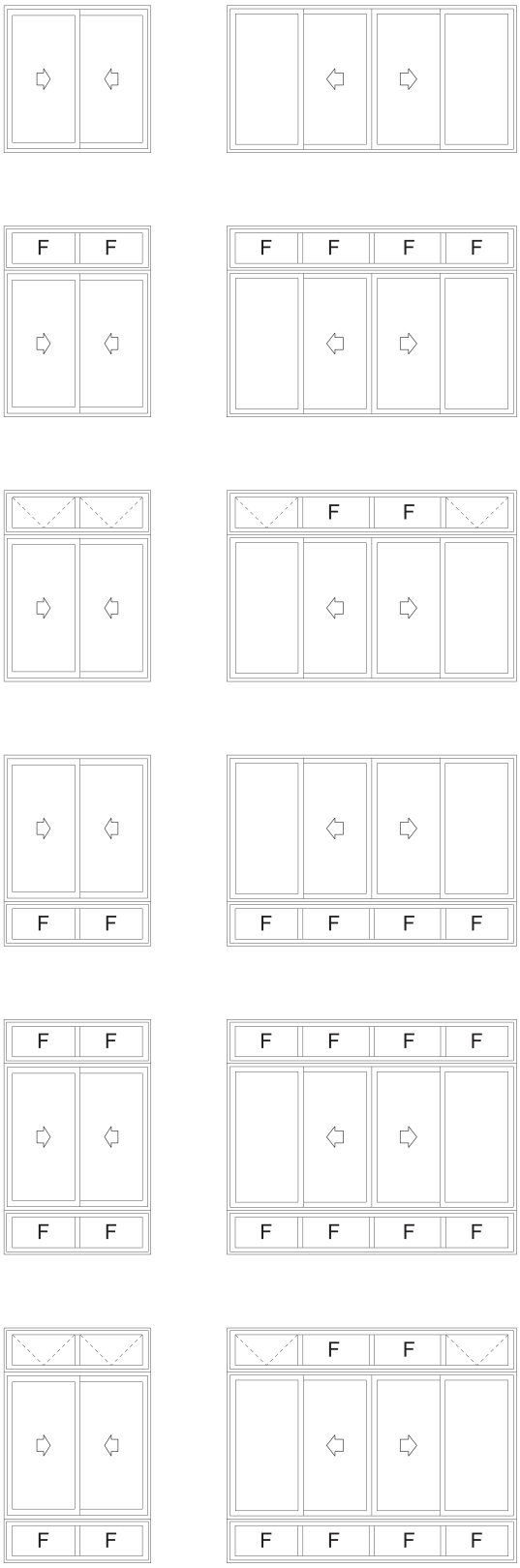
Tipologia	Nº de Certificado	Ensaio Realizado	Laboratório
Janela de correr 2 folhas	ECC - 129737/06 ECC - 128852/06	NBR 10.821 : 2011	Falcão Bauer
Janela de correr 2 folhas integradas	ECC - 68252/01		
Janela de correr 3 folhas Veneziana	ECC - 130531/07 ECC - 130532/07		
Janela de correr 4 folhas	ECC - 131092/07 ECC - 131093/07		
Janela de correr 6 folhas Veneziana	ECC - 134024/07 ECC - 134025/07		
Janela Maxim-ar	ECC - 130539/07 ECC - 129734/07		
Porta de correr 2 folhas	ECC - 129738/06 ECC - 128853/06		

NBR10.821 : 2011 - Verificação da resistência às operações de manuseio

Tipologias

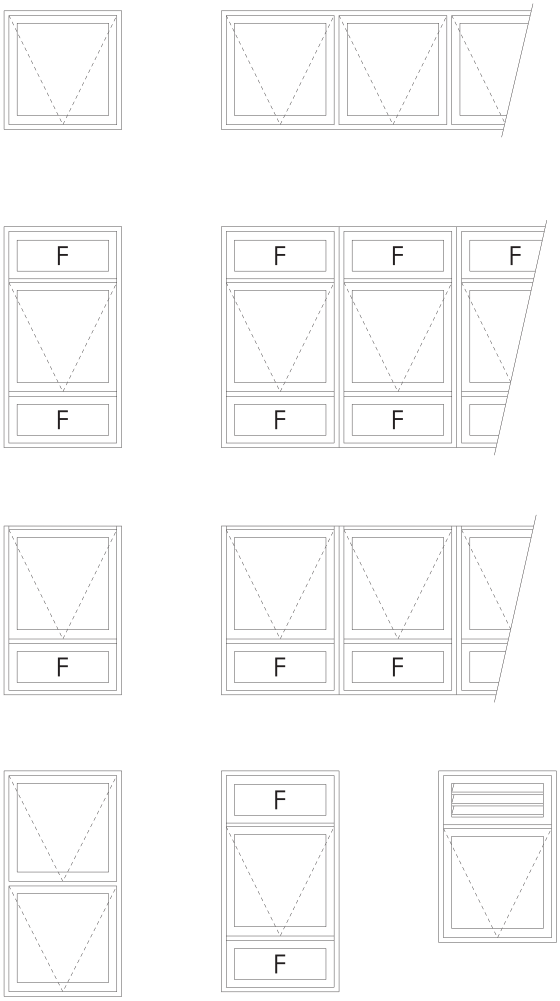
Janelas de Correr

2 e 4 Folhas



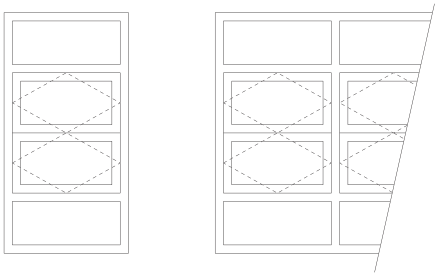
Janelas Maxim-ar

1 e Múltiplas Folhas



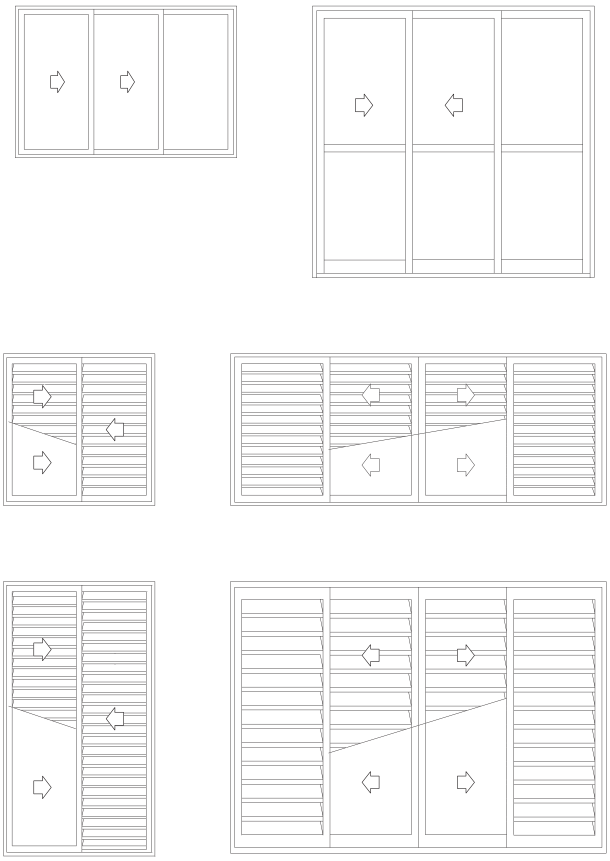
Janela Basculante

1 e Múltiplos Módulos

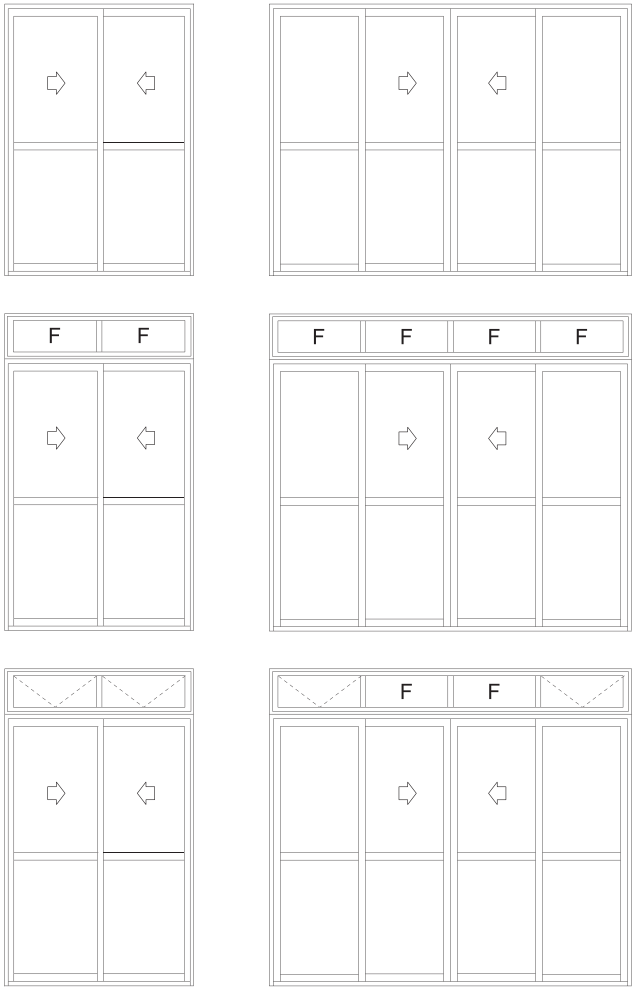


Tipologias

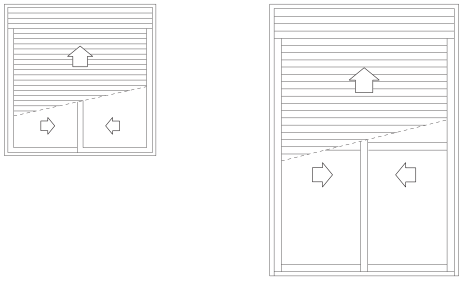
Janelas e Portas de Correr
3 e 6 Folhas



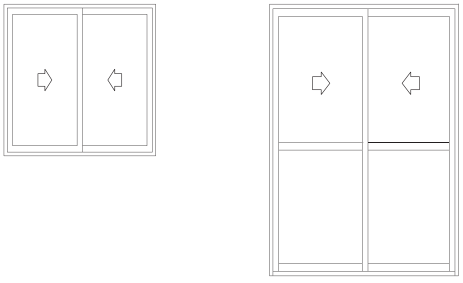
Portas de Correr
2 e 4 Folhas



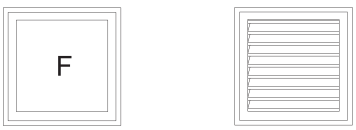
Janela e Porta Ingradas



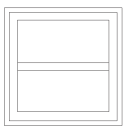
Janelas e Portas de Correr
2 Folhas (VERSÃO LEVE)



Quadros Fixos



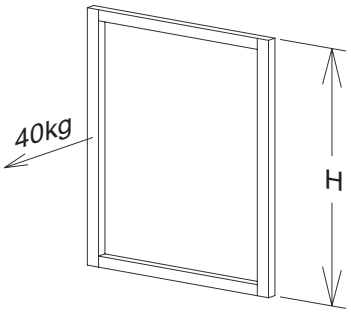
Ventilação Permanente

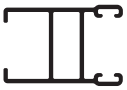
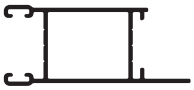


Limites por esforço de uso

Folha de Correr - Janela

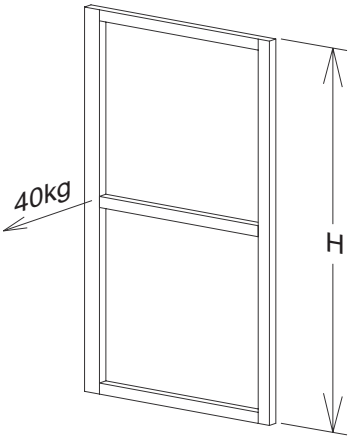
Liga C0A7 T5

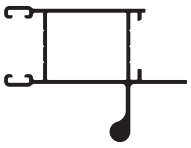
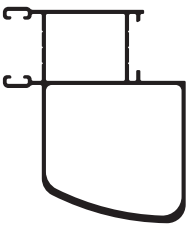
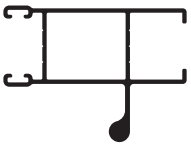
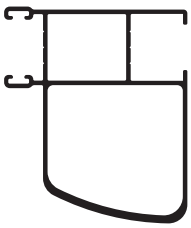


Perfil	MH092	MH010	MH010	MH055	MH055
					
Vidro	4 mm	4 mm	6 mm	4 mm	6 mm
H máximo (Medida de folha)	1050	1200	1300	1200	1300

Folha de Correr - Porta

Liga C0A7 T5

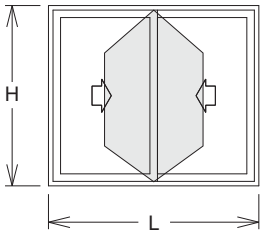


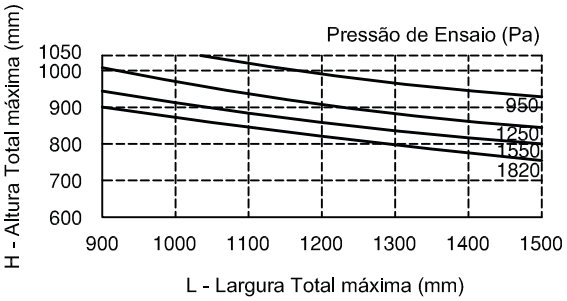
Perfil	MH032	MH076	MH056	MH063
				
Vidro	6 mm	6 mm	6 mm	6 mm
H máximo (Medida de folha)	2050	2300	2050	2300

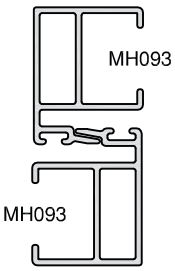
Diagramas

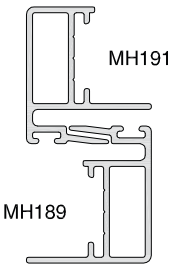
Janela de correr 2 folhas:

Altura máxima de 1050 devido aos esforços de uso (VERSÃO LEVE)







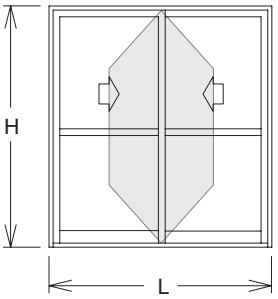


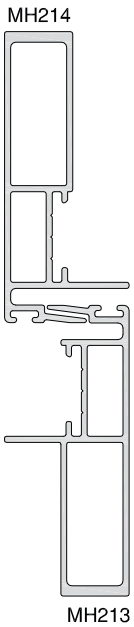
Área = 120,6 mm^2 Jx = 9919 mm^4 Wx = 727 mm^3
Área = 120,6 mm^2 Jx = 9919 mm^4 Wx = 727 mm^3
Jx total = 19838 mm^4

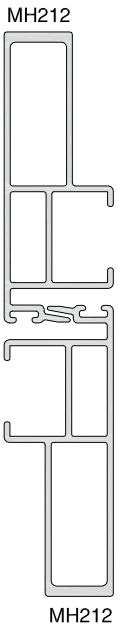
Tensão Admissível = 7 Kg/mm^2 (liga CØA7-T5).
Flecha Admissível = H/175

Porta de correr 2 folhas:

Altura máxima de 2200 devido aos esforços de uso, utilizando os perfis MH217 e MH218 (VERSÃO LEVE)





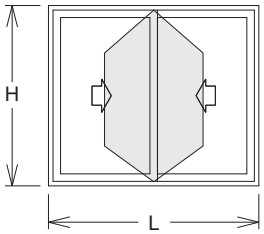


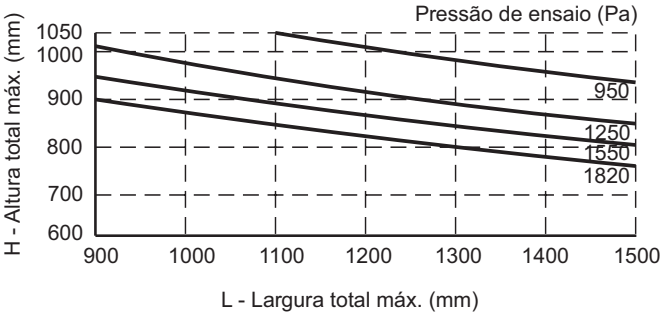
Pressão de ensaio 1000 Pa
Altura máxima = 2200mm
Largura máxima = 1600mm

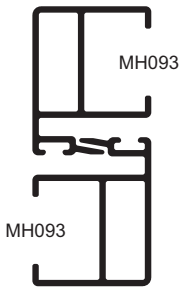
Diagramas

Janela de Correr 2 folhas

Nota: Altura máxima de 1050 devido aos esforços de uso







Área = 120,6 mm²
Jx = 9919 mm⁴
Wx = 727 mm³

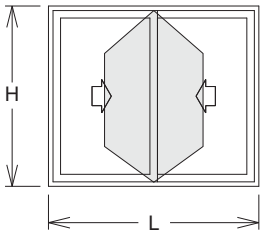
Área = 120,6 mm²
Jx = 9919 mm⁴
Wx = 727 mm³

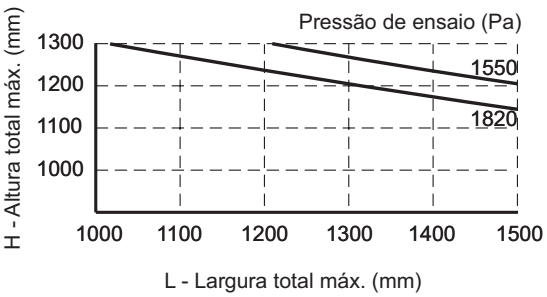
Jx total = 19838 mm ⁴

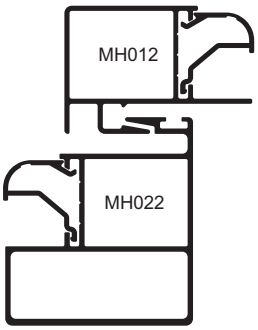
Tensão Admissível = 7 Kg / mm² (liga C0A7 T5)
Flecha Admissível = H / 175

Janela de Correr 2 folhas

Nota: Altura máxima de 1300 devido aos esforços de uso







Área = 188 mm²
Jx = 13672 mm⁴
Wx = 984 mm³

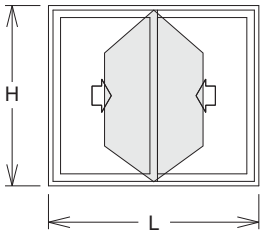
Área = 287 mm²
Jx = 52374 mm⁴
Wx = 2327 mm³

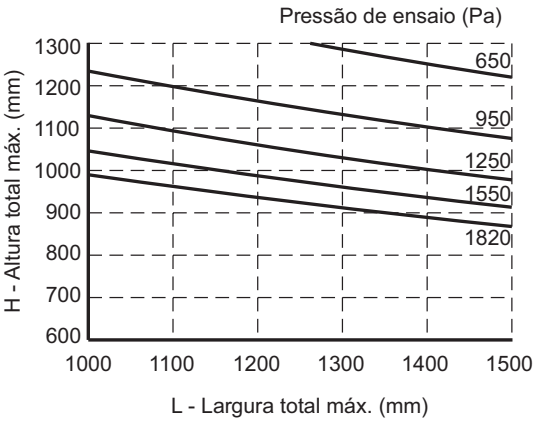
Jx total = 66046 mm⁴

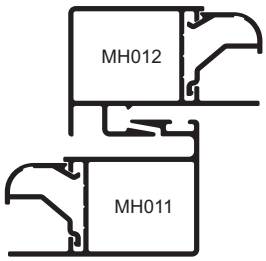
Tensão Admissível = 7 Kg / mm² (liga C0A7 T5)
Flecha Admissível = H / 175

Diagramas

Janela de Correr 2 folhas



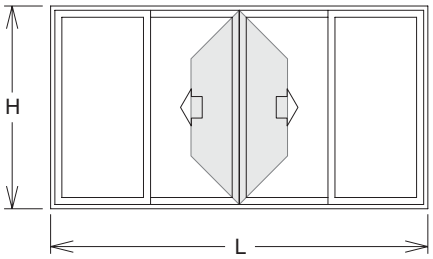


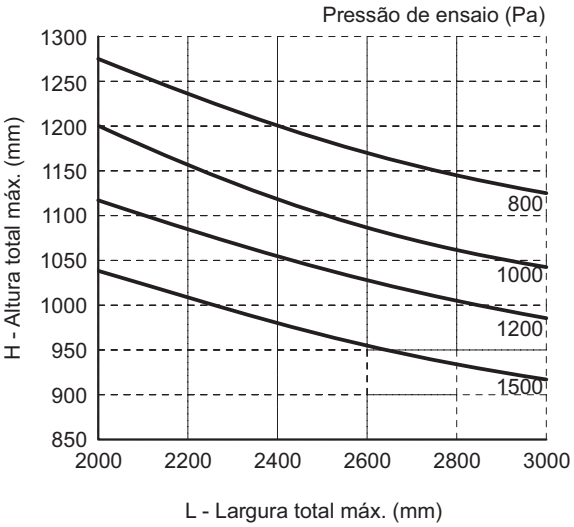


Área = 188 mm² Jx = 13672 mm⁴ Wx = 984 mm³	
Área = 190 mm² Jx = 15034 mm⁴ Wx = 994 mm³	
Jx total = 28706 mm⁴	

Tensão Admissível = 7 Kg / mm² (liga C0A7 T5)
Flecha Admissível = H / 175

Janela de Correr 4 folhas



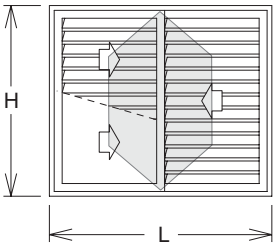


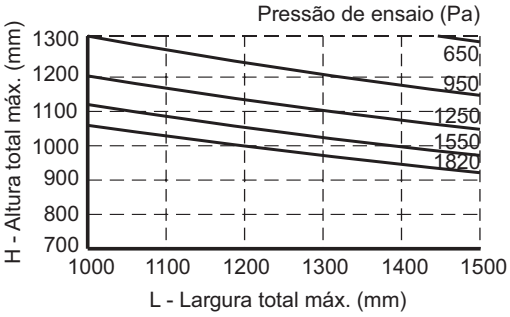
Área = 194 mm² Jx = 12382 mm⁴ Wx = 1143 mm³	Área = 250,3 mm² Jx = 13879 mm⁴ Wx = 1283 mm³
Jx total = 26261 mm⁴	

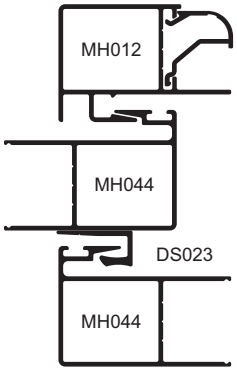
Tensão Admissível = 7 Kg / mm² (liga C0A7 T5)
Flecha Admissível = H / 175

Diagramas

Janela de Correr 3 folhas com Venezianas





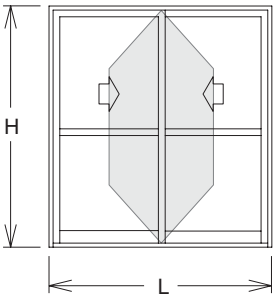


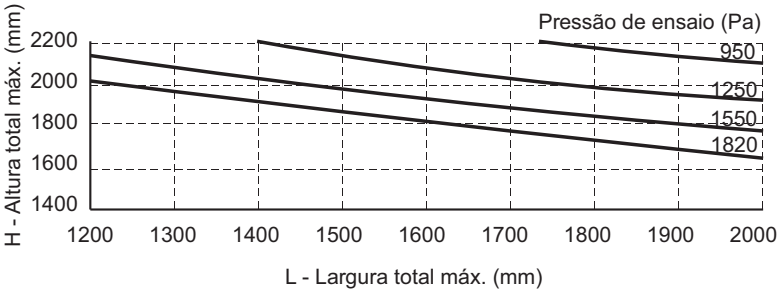
Área = 188 mm² Jx = 13672 mm⁴ Wx = 984 mm³	Área = 191 mm² Jx = 21248 mm⁴ Wx = 1210 mm³
Jx total = 34920 mm⁴	

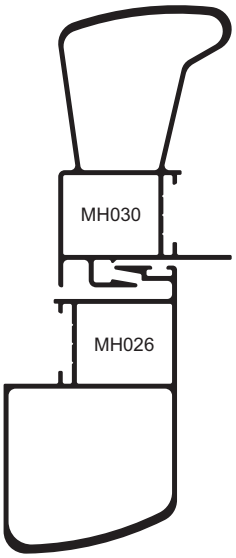
Tensão Admissível = 7 Kg / mm² (liga C0A7 T5)
Flecha Admissível = H / 175

Porta de Correr 2 folhas - Reforços interno e externo

Nota: Altura máxima de 2200 devido aos esforços de uso







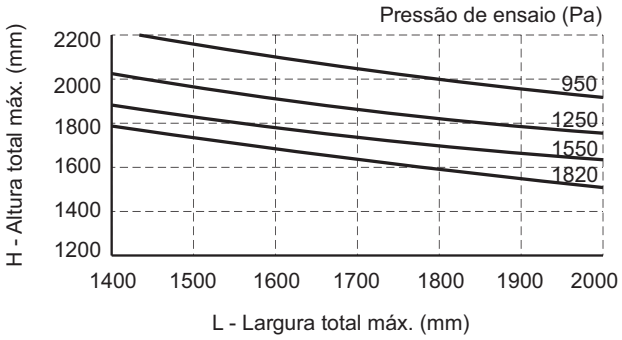
Área = 318 mm² Jx = 149388 mm⁴ Wx = 4588 mm³
Área = 314 mm² Jx = 138737 mm⁴ Wx = 4135 mm³
Jx total = 288125 mm⁴

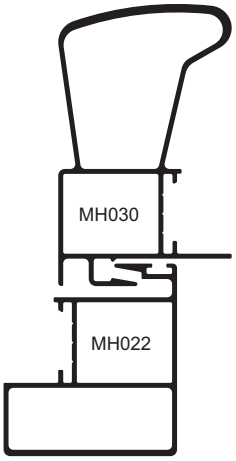
Tensão Admissível = 7 Kg / mm² (liga C0A7 T5)
Flecha Admissível = H / 175

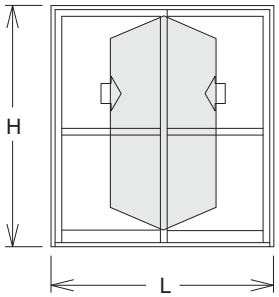
Diagramas

Porta de Correr 2 folhas - Reforços interno e externo

Nota: Altura máxima de 2200 devido aos esforços de uso







Área = 318 mm²
Jx = 149388 mm⁴
Wx = 4588 mm³

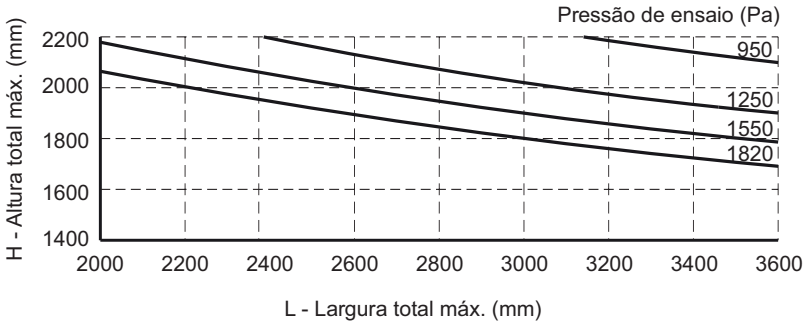
Área = 247 mm²
Jx = 48381 mm⁴
Wx = 2031 mm³

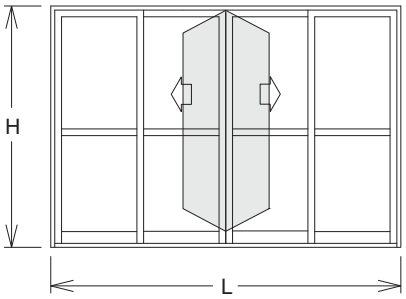
Jx total = 197769 mm⁴

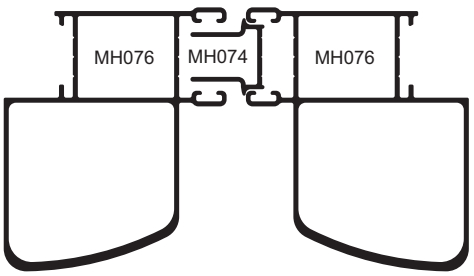
Tensão Admissível = 7 Kg / mm² (liga C0A7 T5)
Flecha Admissível = H / 175

Porta de Correr 4 folhas - Reforços externo

Nota: Altura máxima de 2200 devido aos esforços de uso







Área = 320 mm² Jx = 121201 mm⁴ Wx = 4139 mm³	Área = 376,2 mm² Jx = 137107 mm⁴ Wx = 4300 mm³
Jx total = 258308 mm⁴	

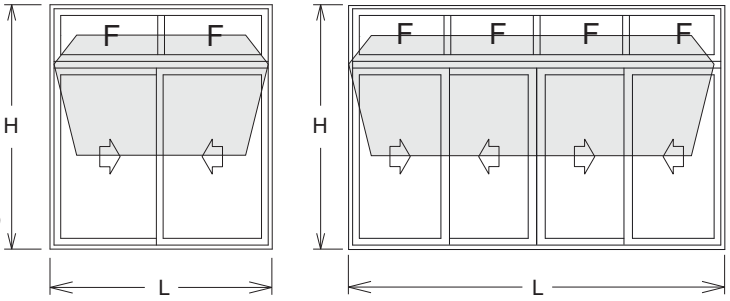
Tensão Admissível = 7 Kg / mm² (liga C0A7 T5)
Flecha Admissível = H / 175

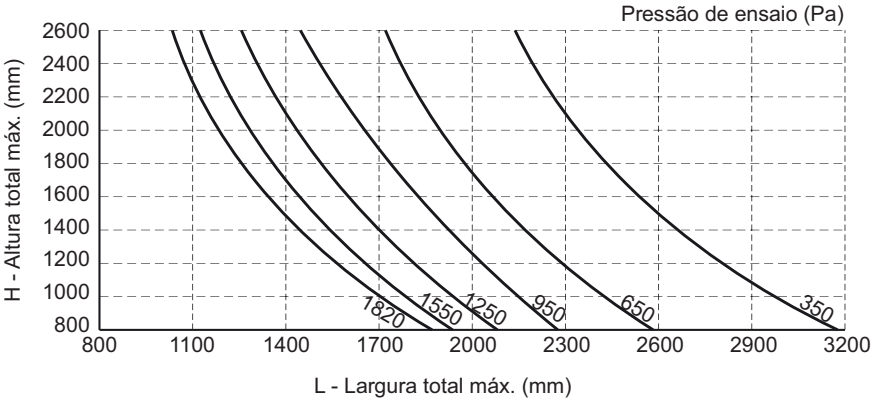
Diagramas

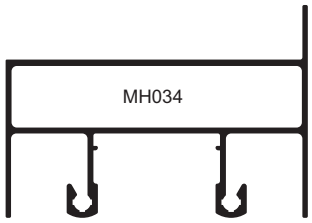
Travessa da bandeira
Porta e Janela de Correr 2 e 4 folhas

MH097

Nota: Após verificação das curvas de pressão de ensaio (abaixo), para larguras superiores a 1400 mm, utilizar o perfil MH097, para evitar a deformação da travessa do bandeira e prejudicar o funcionamento das folhas de correr.






MH034

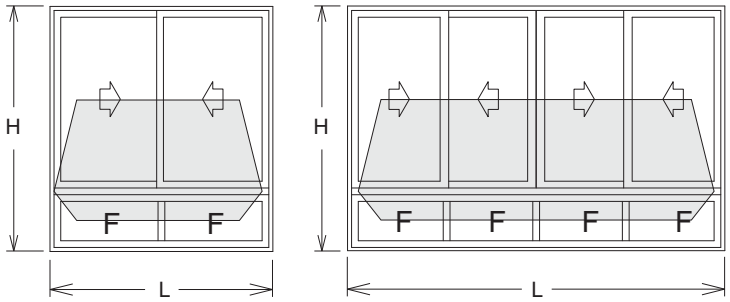
Área = 329,7 mm²
Jx = 145668 mm⁴
Wx = 4598 mm³

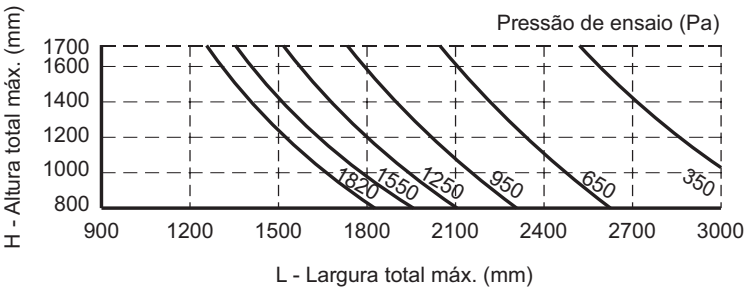
Tensão Admissível = 7 Kg / mm² (liga C0A7 T5) | Flecha Admissível = H / 175

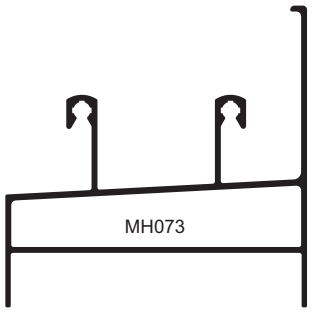
Travessa do peitoril
Janela de Correr 2 e 4 folhas

MH097

Nota: Após verificação das curvas de pressão de ensaio (abaixo), para larguras superiores a 1400 mm, utilizar o perfil MH097, para evitar a deformação da travessa do peitoril e prejudicar o funcionamento das folhas de correr.






MH073

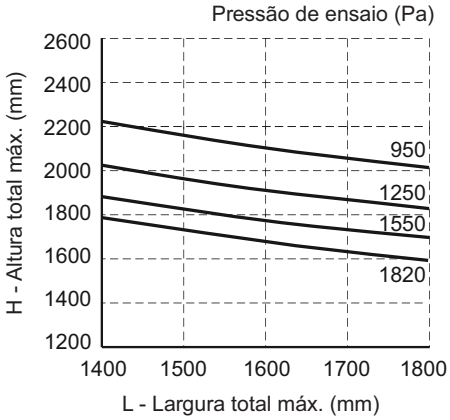
Área = 350,2 mm²
Jx = 152643 mm⁴
Wx = 4372 mm³

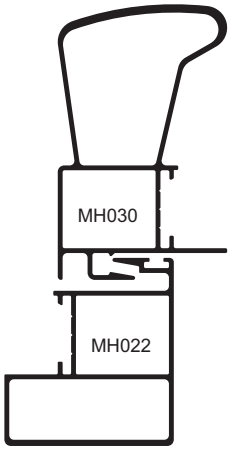
Tensão Admissível = 7 Kg / mm² (liga C0A7 T5) | Flecha Admissível = H / 175

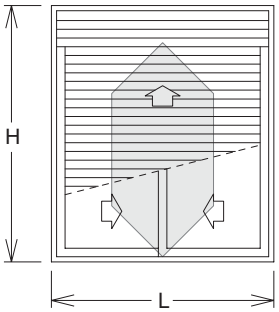
Diagramas

Porta de Correr 2 folhas com persiana
Reforços externo e interno

Notas: Largura máxima de 1800 mm, limitada pela persiana.







Área = 318 mm²
Jx = 149388 mm⁴
Wx = 4588 mm³

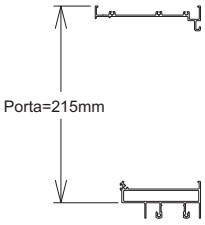
Área = 247 mm²
Jx = 48381 mm⁴
Wx = 2031 mm³

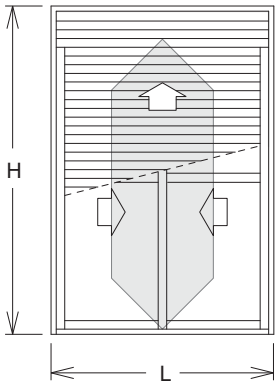
Jx total = 197769 mm ⁴

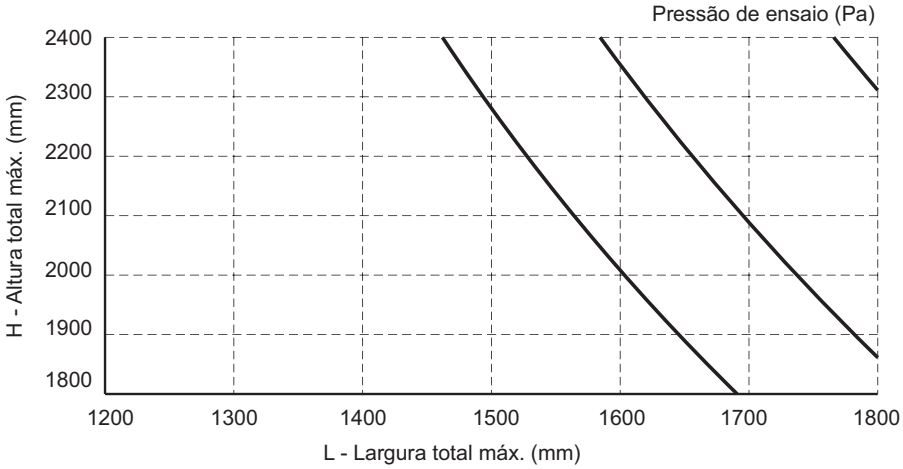
Tensão Admissível = 7 Kg / mm² (liga C0A7 T5)
Flecha Admissível = H / 175

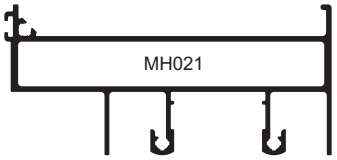
Travessa da Caixa
Porta e Janela de Correr 2 folhas com persiana

Notas: Largura máxima de 1800 mm, limitada pela persiana.
Altura máxima da porta, limitada pelo diâmetro do rolo que a caixa comporta. Ver limites nas montagens.







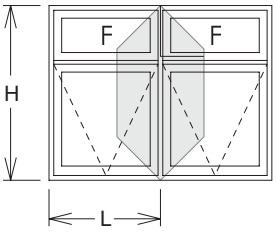


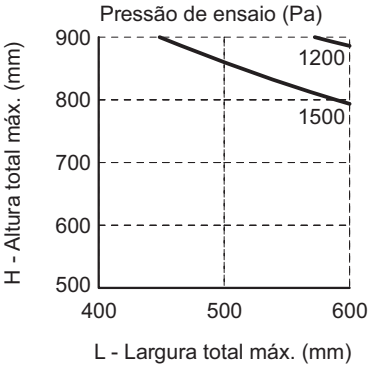
Área = 475 mm²
Jx = 392994 mm⁴
Wx = 8331 mm³

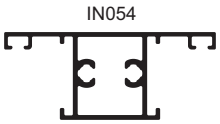
Tensão Admissível = 7 Kg / mm² (liga C0A7 T5)
Flecha Admissível = H / 175

Montante Central
Janela Maxim-ar

Dimensão máxima da folha = 600 mm x 600 mm, limitada pela resistência dos perfis de folha



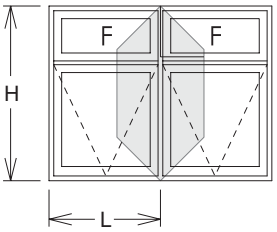




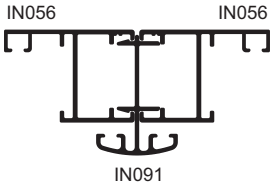
Área = 224 mm²
Jx = 16135 mm⁴
Wx = 1118 mm³

Tensão Admissível = 7 Kg / mm² (liga C0A7 T5)
Flecha Admissível = H / 175

Junção de módulos
Janela Maxim-ar



Notas: Medida máxima de L = 600 mm e H = 1000 mm.
Atende a pressão de 1800 Pa.

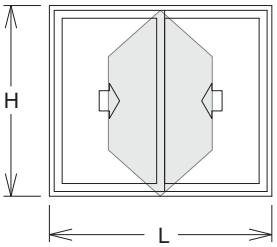


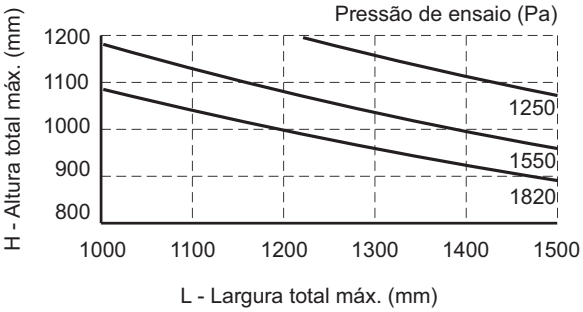
Área = 369 mm²
Jx = 50118 mm⁴
Wx = 2489 mm³

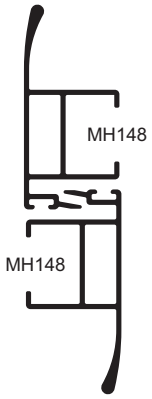
Tensão Admissível = 7 Kg / mm² (liga C0A7 T5)
Flecha Admissível = H / 175

Janela de Correr 2 folhas

Nota: Altura máxima de 1200 devido aos esforços de uso, utilizar com Mh055.







Área = 153 mm² Jx = 25914 mm⁴ Wx = 962 mm³
Área = 153 mm² Jx = 25914 mm⁴ Wx = 962 mm³
Jx total = 51828 mm⁴

Tensão Admissível = 7 Kg / mm² (liga C0A7 T5)
Flecha Admissível = H / 175

MASTER®

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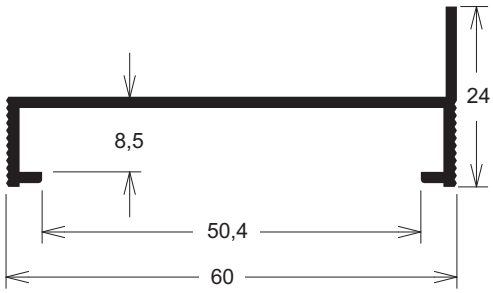
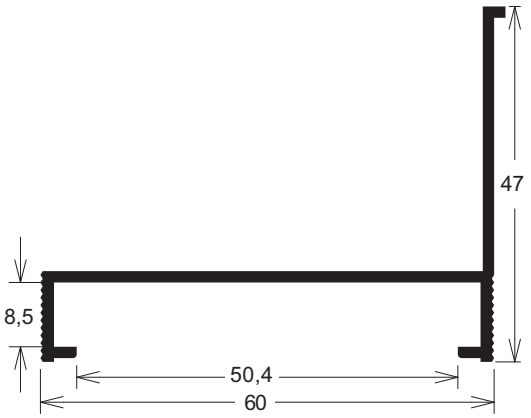
CONTRAMARCO

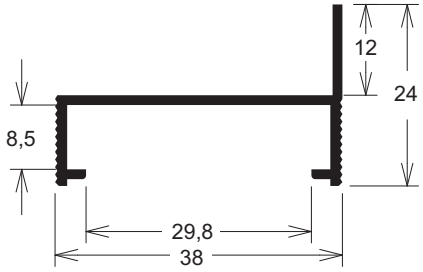
CM174 0,409 kg/m



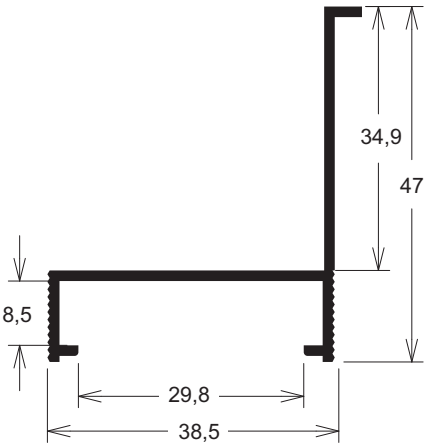
CM173 0,509 kg/m



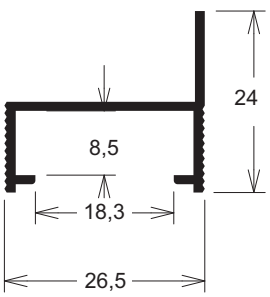
CM060 0,276 kg/m



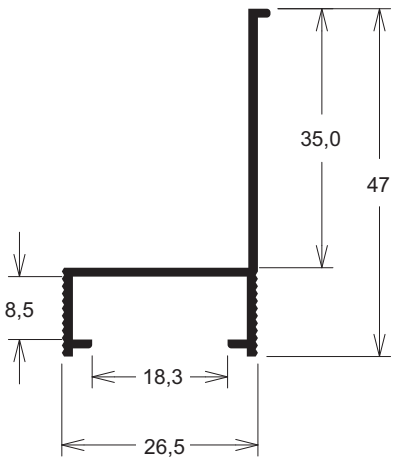
CM098 0,312 kg/m



CM200 0,198 kg/m

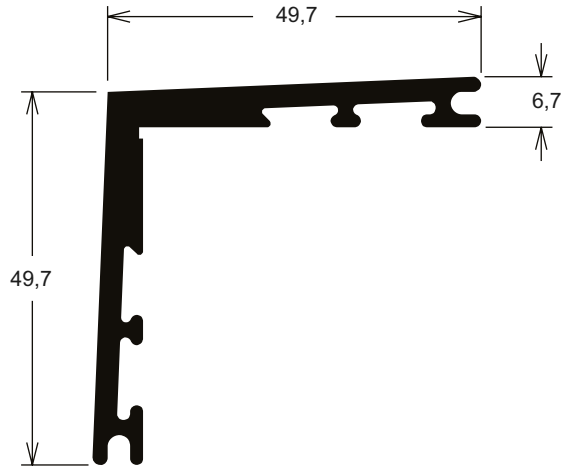


CM151 0,309 kg/m

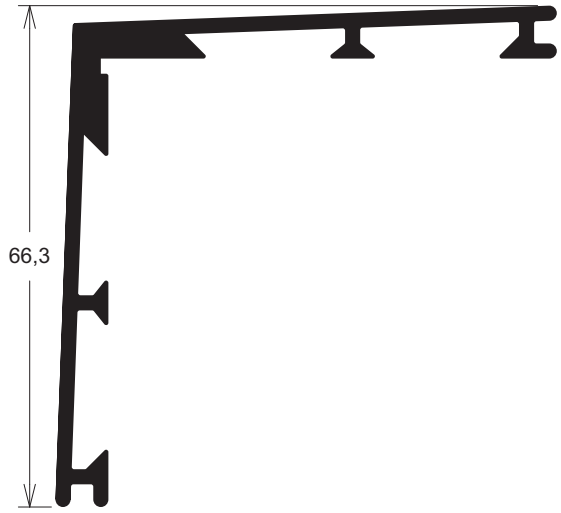


CONEXÃO

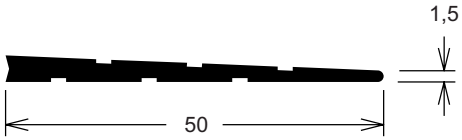
CL006 1,112 kg/m



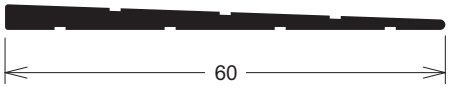
CL044 1,080 kg/m



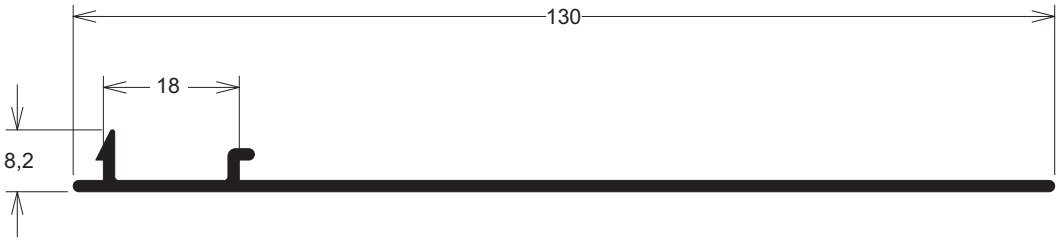
CL011 0,319 kg/m



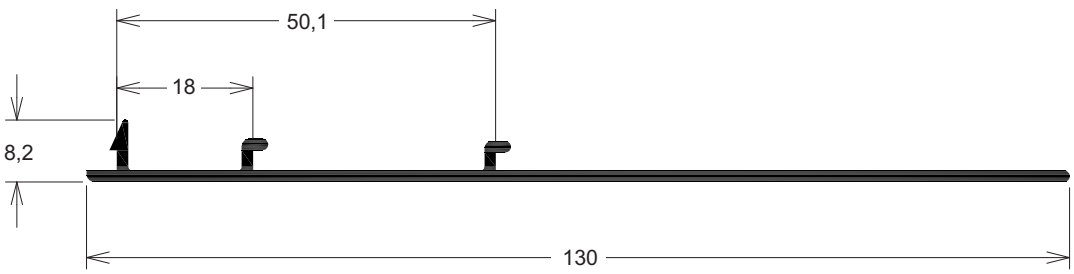
CL010 0,385 kg/m



CM099 0,578 kg/m

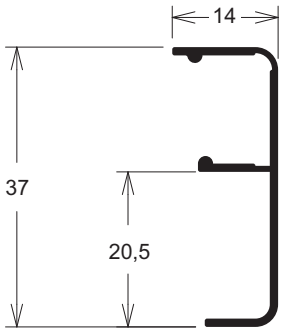


CM175 0,602 kg/m

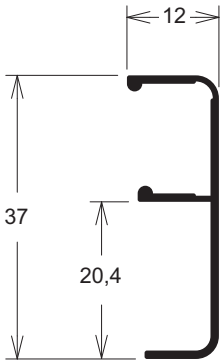


REMATE

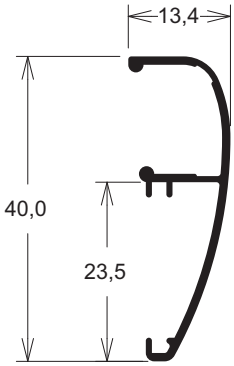
RM001 0,201 kg/m



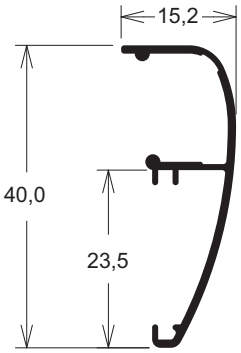
RM002 0,195 kg/m



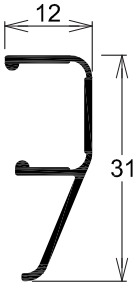
RM019 0,206 kg/m



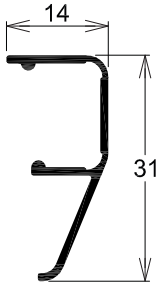
RM021 0,212 kg/m



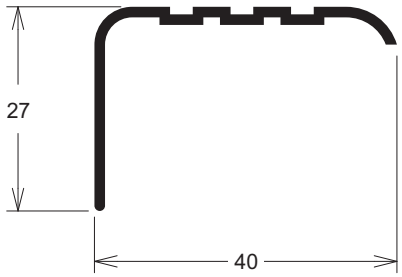
MH152 0,159 kg/m



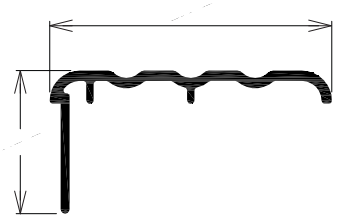
MH151 0,165 kg/m



RM018 0,267 kg/m

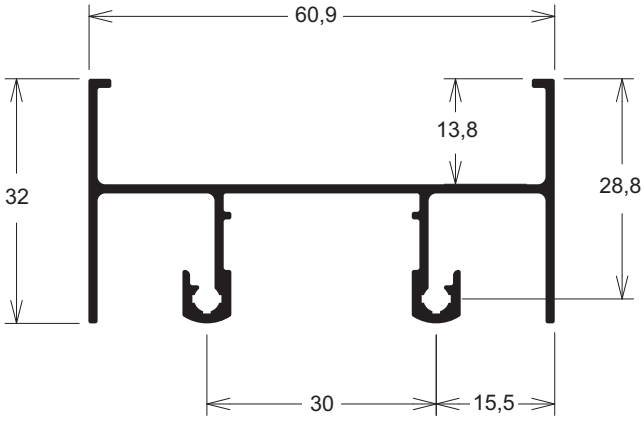


RM020 0,232 kg/m

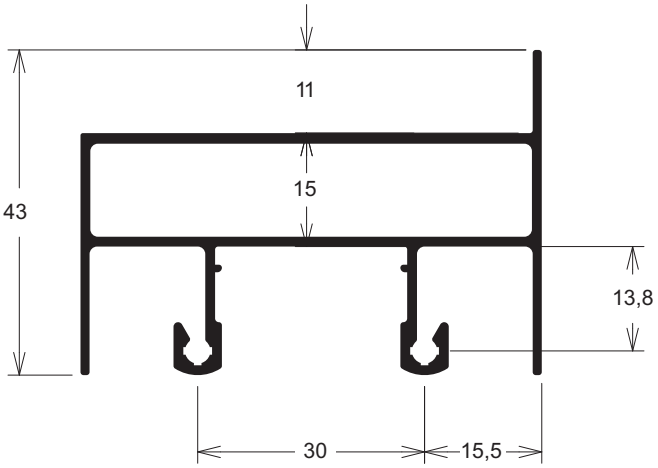


2 FOLHAS

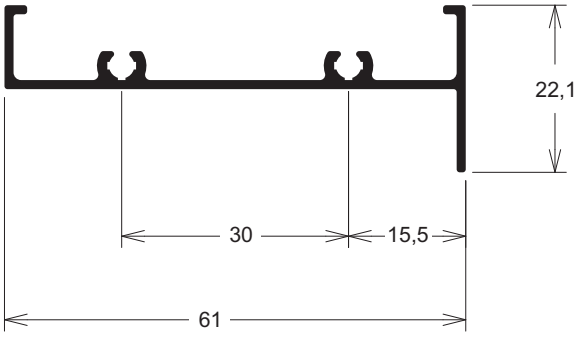
MH023 0,626 kg/m



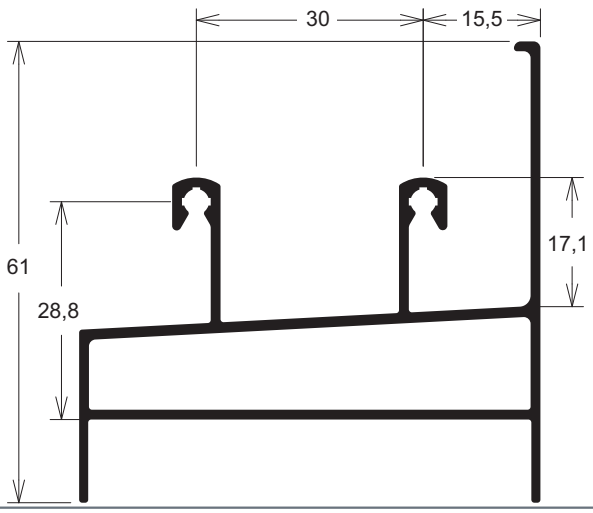
MH034 0,906 kg/m



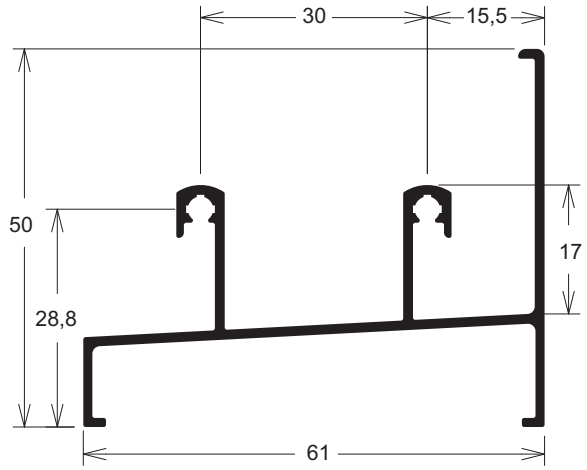
MH040 0,385 kg/m



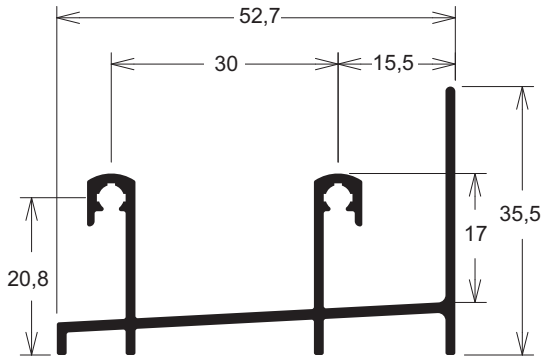
MH073 0,949 kg/m



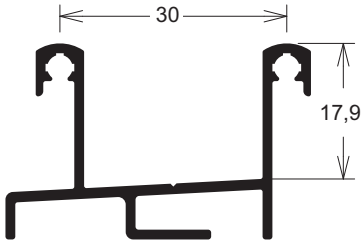
MH028 0,651 kg/m



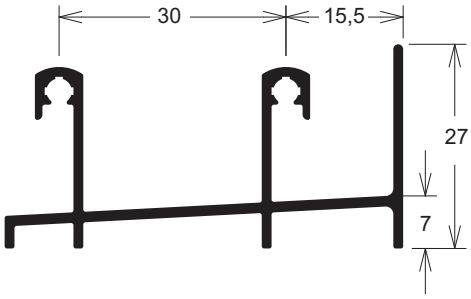
MH031 0,573 kg/m



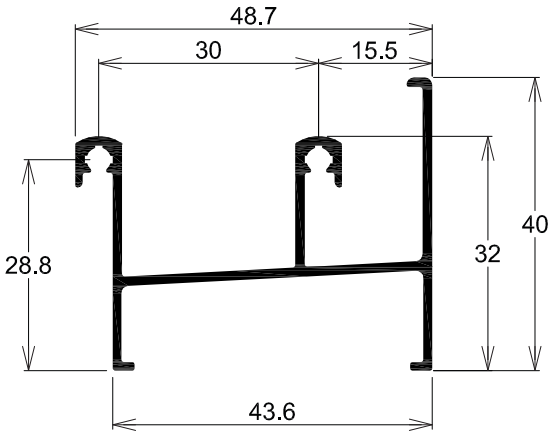
MH132 0,442 kg/m



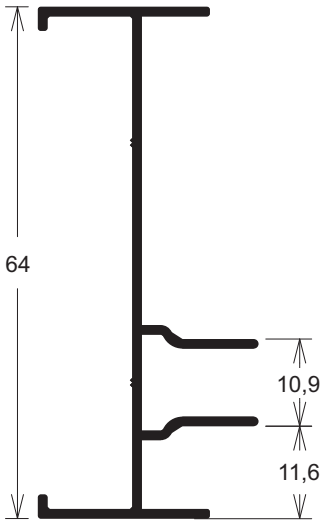
MH203 0,543kg/m



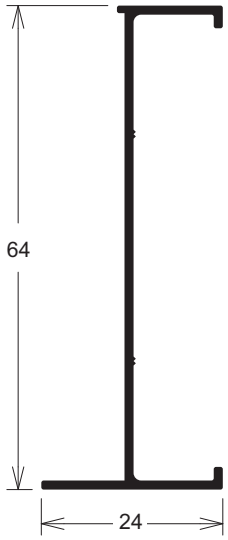
MH216 0,557 kg/m



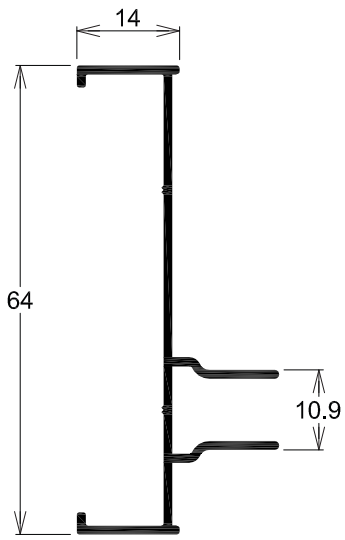
MH024 0,451 kg/m



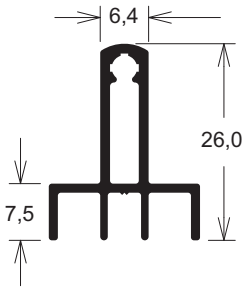
MH029 0,337 kg/m



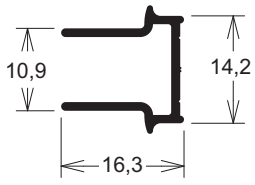
MH215 0,402 kg/m



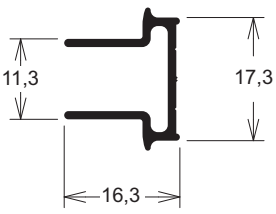
MH139 0,290 kg/m



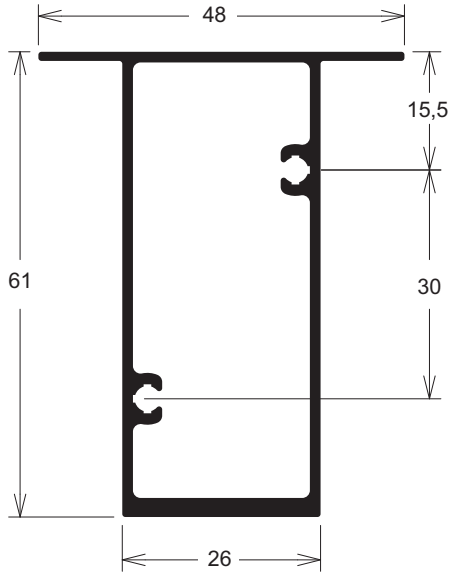
MH074 0,153 kg/m



MH154 0,176 kg/m

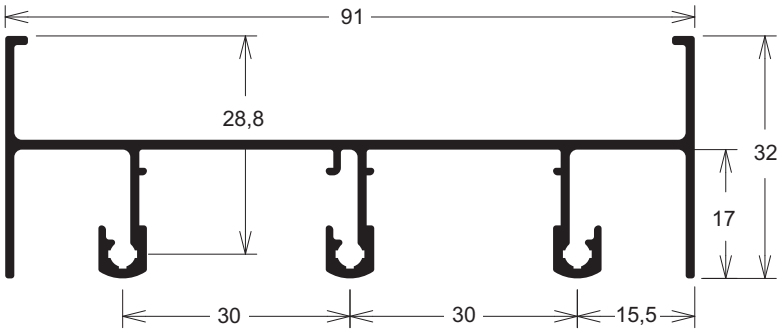


MH177 0,862 kg/m

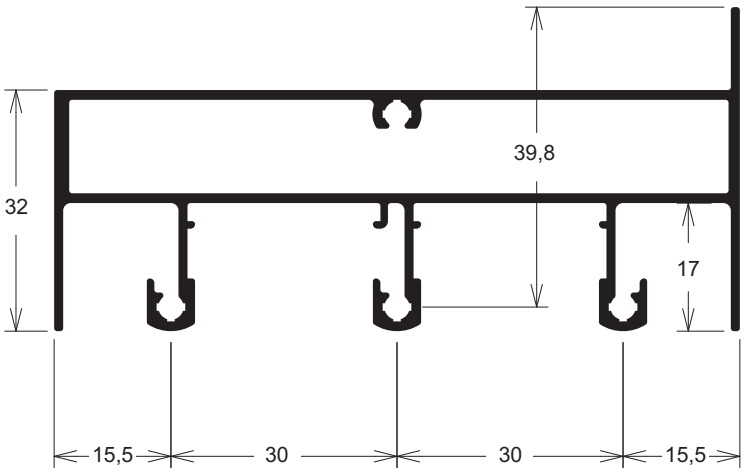


3 FOLHAS

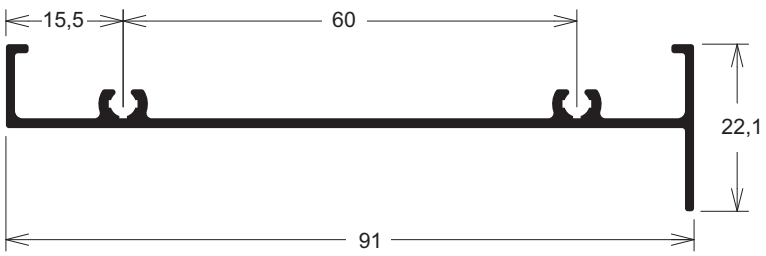
MH036 0,865 kg/m



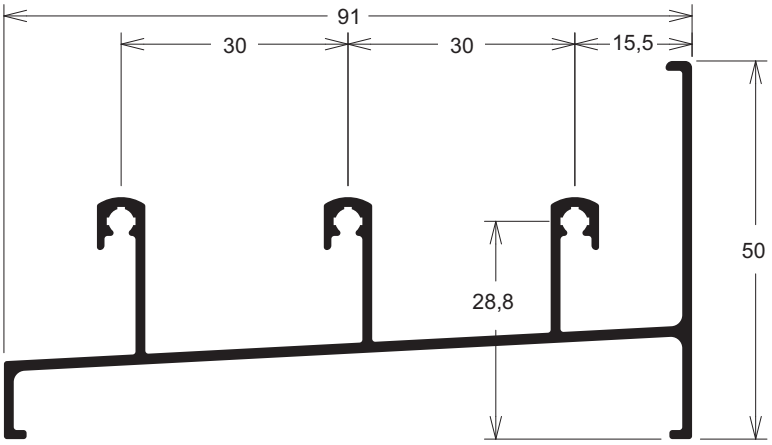
MH143 1,275 kg/m



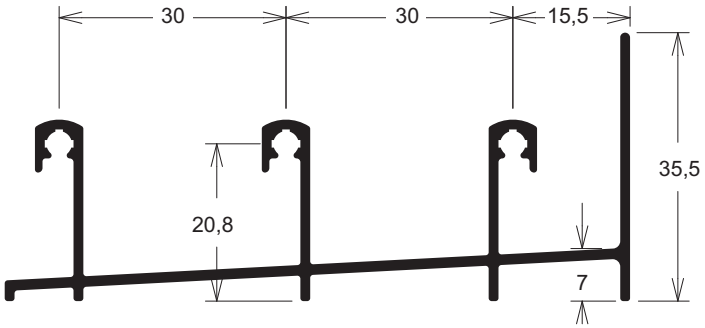
MH144 0,507 kg/m



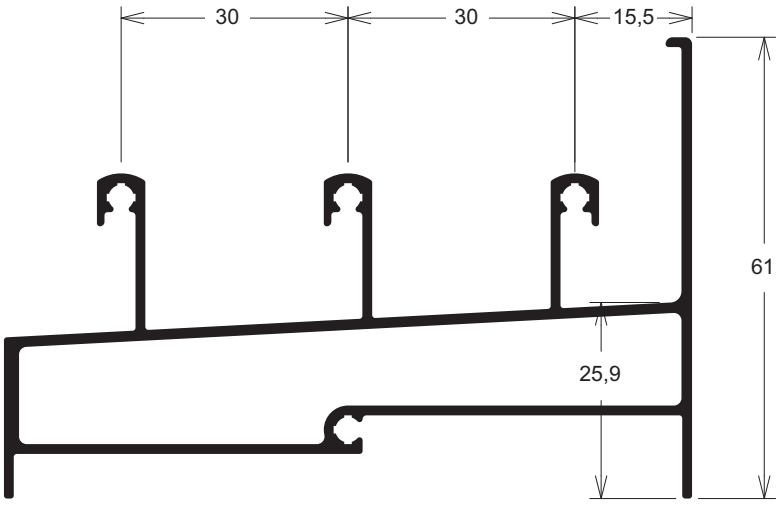
MH035 0,901 kg/m



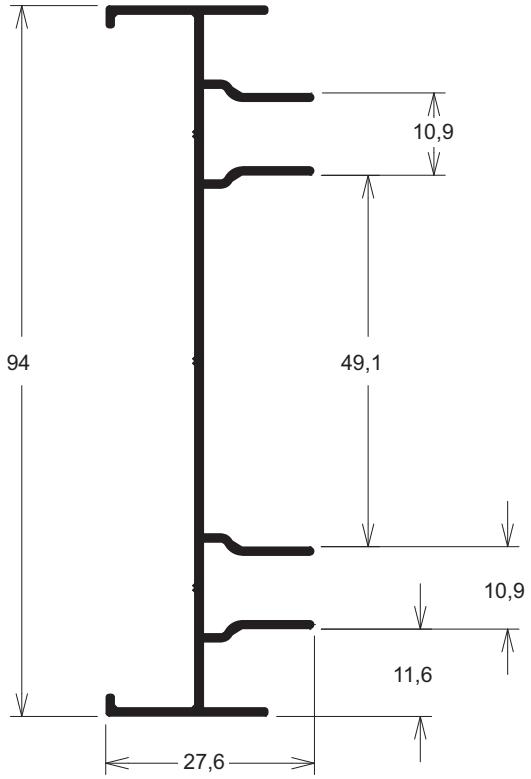
MH075 0,806 kg/m



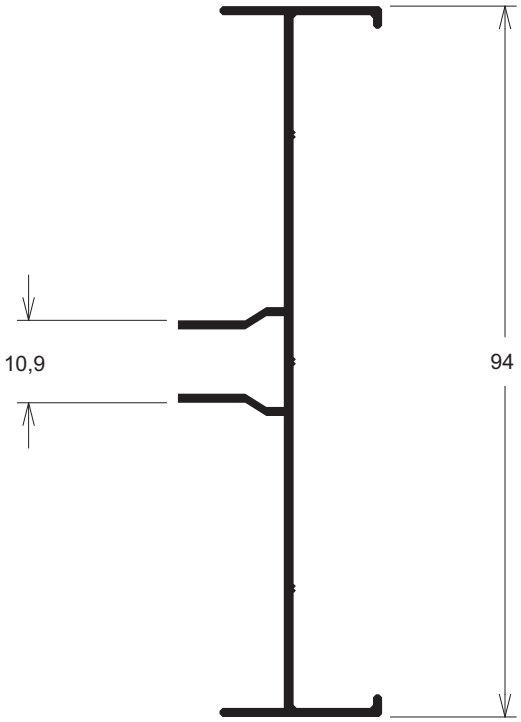
MH182 1,352 kg/m



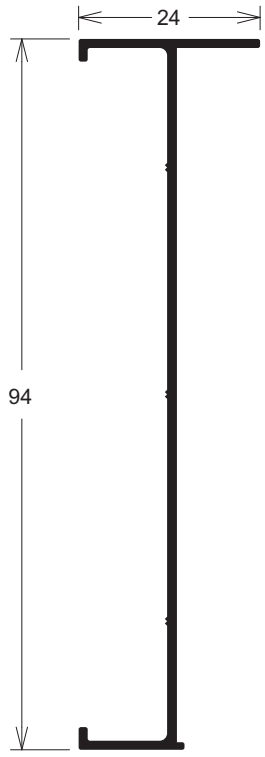
MH037 0,672 kg/m



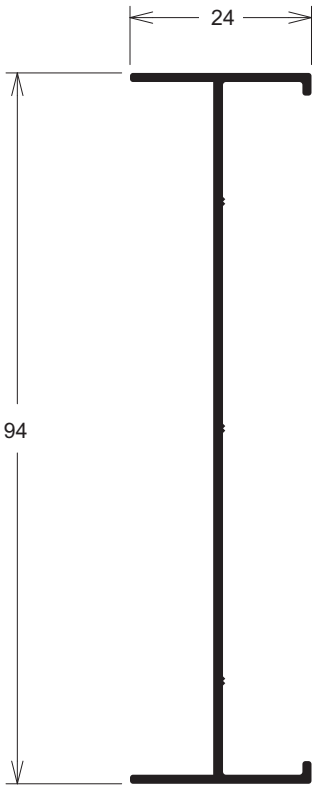
MH038 0,574 kg/m



MH145 0,460 kg/m

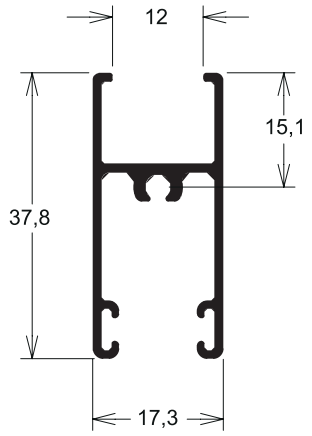


MH207 0,491 kg/m

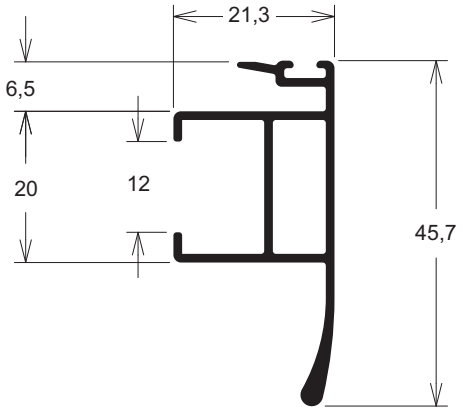


FOLHAS SLIM

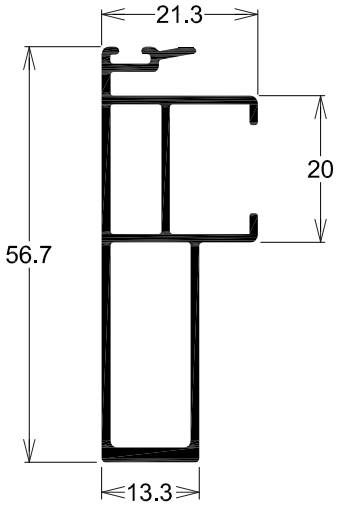
MH091 0,376 kg/m



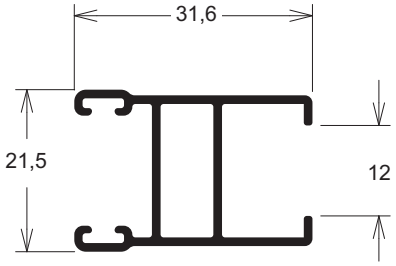
MH148 0,416 kg/m



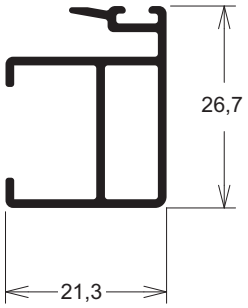
MH212 0,583 kg/m



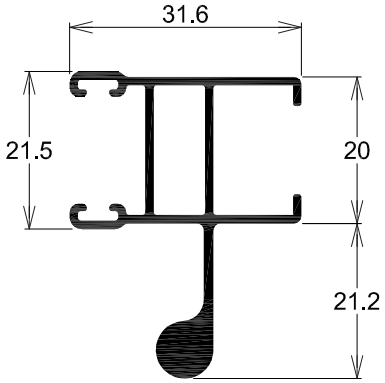
MH092 0,357 kg/m



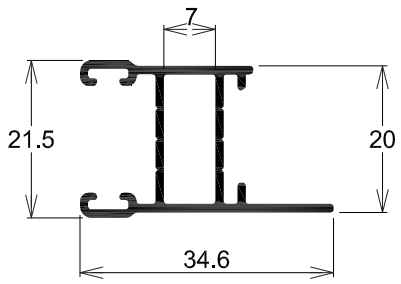
MH093 0,327 kg/m



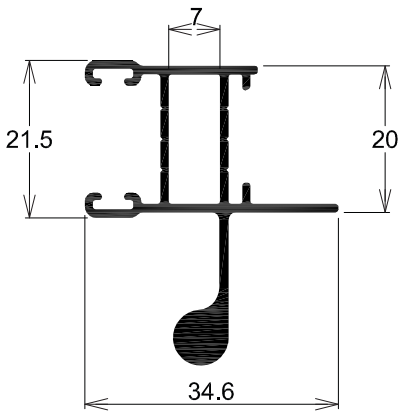
MH217 0,551 kg/m



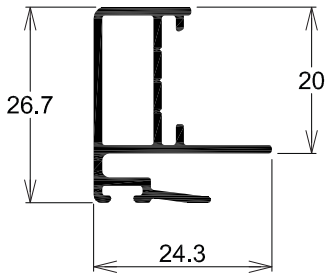
MH188 0,338 kg/m



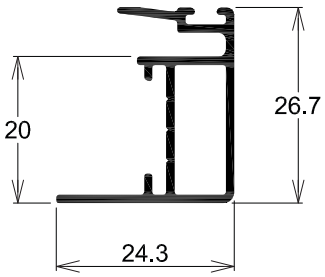
MH218 0,522 kg/m



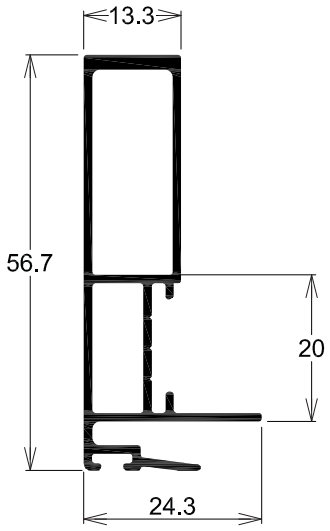
MH191 0,320 kg/m



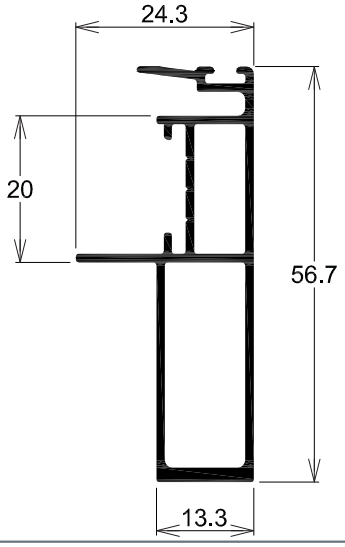
MH189 0,320 kg/m



MH214 0,576 kg/m



MH213 0,576 kg/m



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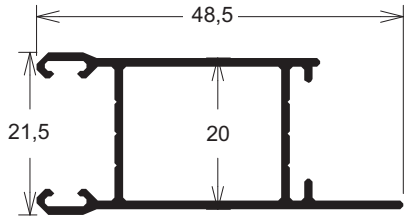
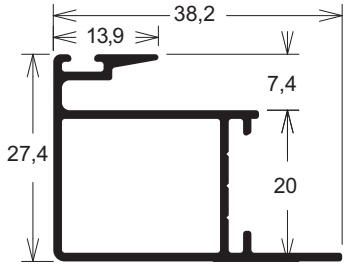
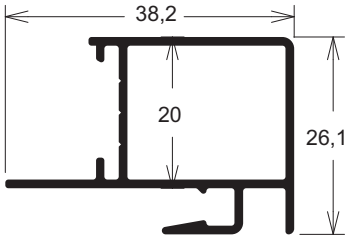
MH010 0,425 kg/m



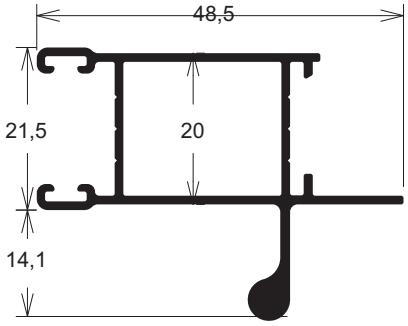
MH011 0,406 kg/m



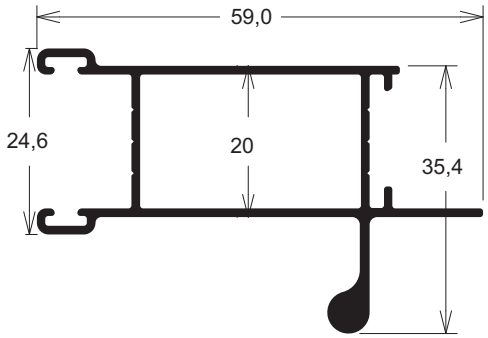
MH012 0,397 kg/m



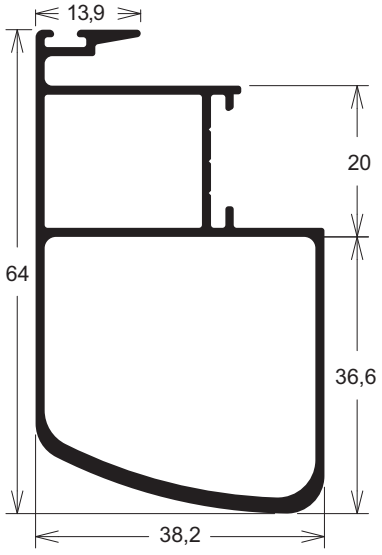
MH032 0,538 kg/m



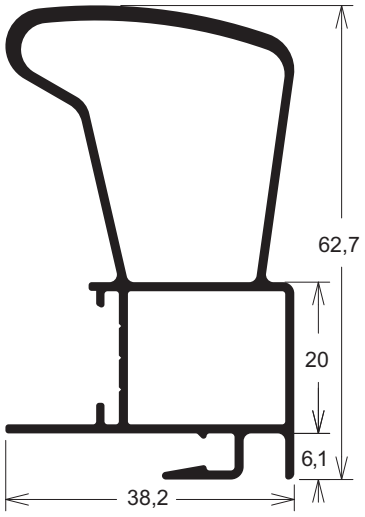
MH146 0,603 kg/m



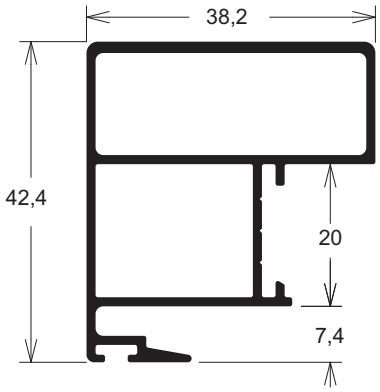
MH026 0,850 kg/m



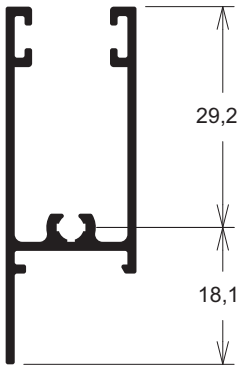
MH030 0,863 kg/m



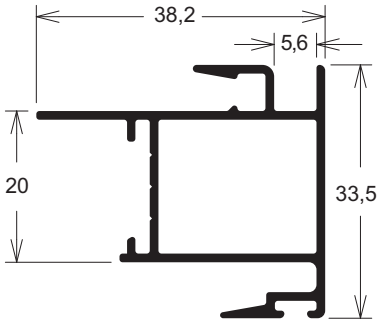
MH022 0,669 kg/m



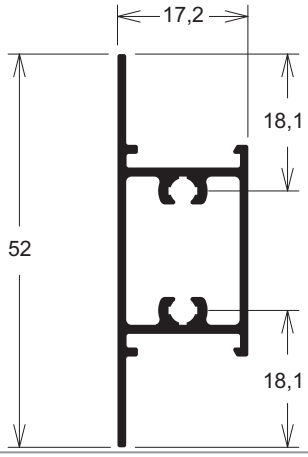
MH013 0,407 kg/m



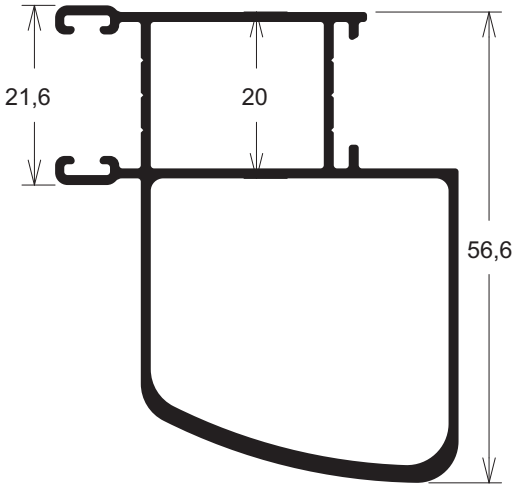
MH171 0,480 kg/m



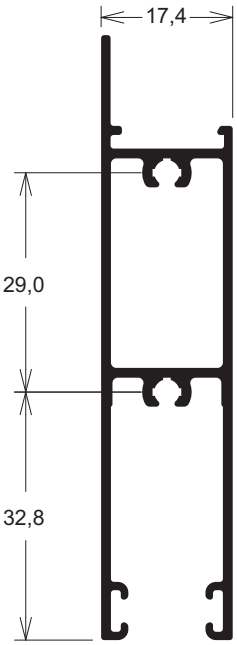
MH025 0,434 kg/m



MH076 0,867 kg/m

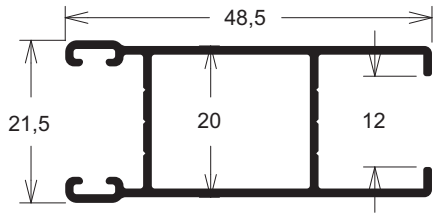


MH027 0,746 kg/m

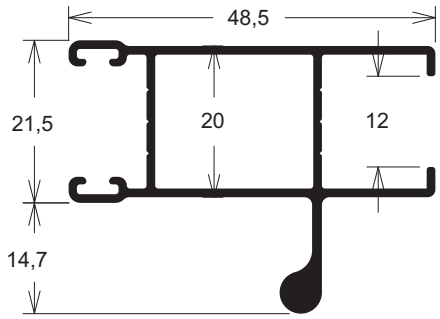


FOLHAS SEM BAGUETE

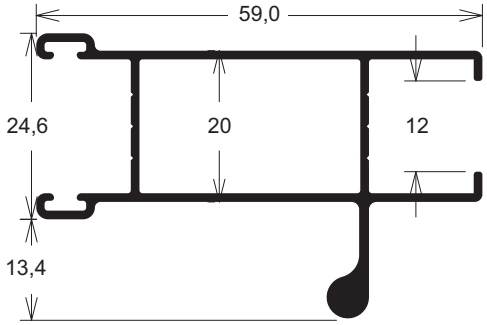
MH055 0,461 kg/m



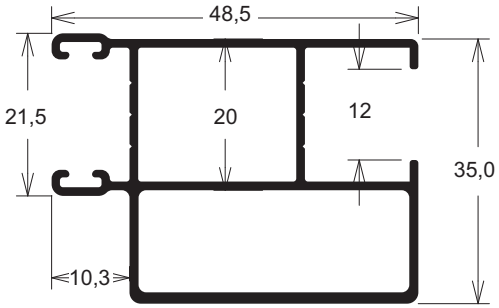
MH056 0,572 kg/m



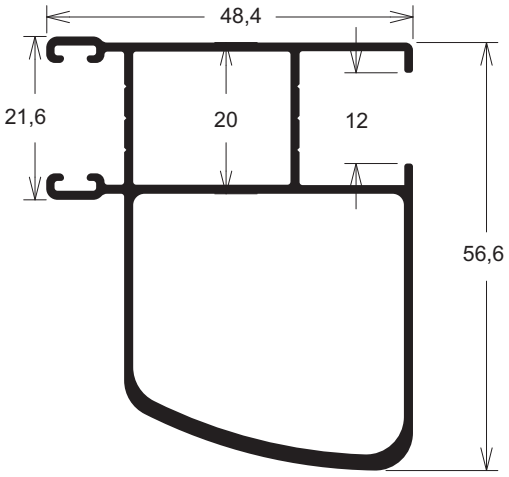
MH204 0,639 kg/m



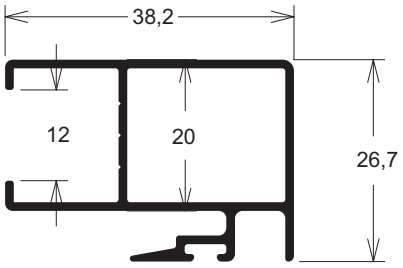
MH131 0,705 kg/m



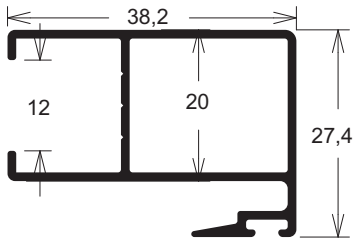
MH063 0,900 kg/m



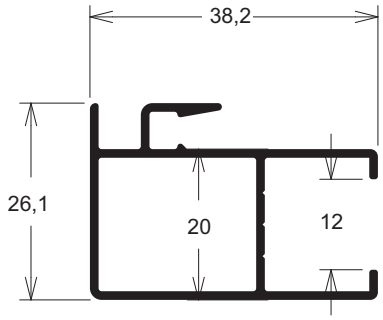
MH083 0,462 kg/m



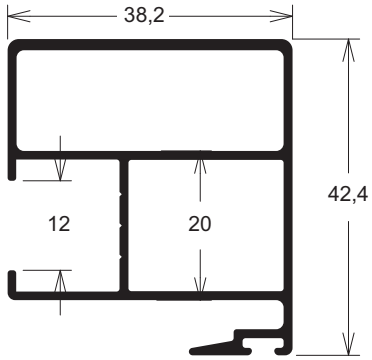
MH057 0,442 kg/m



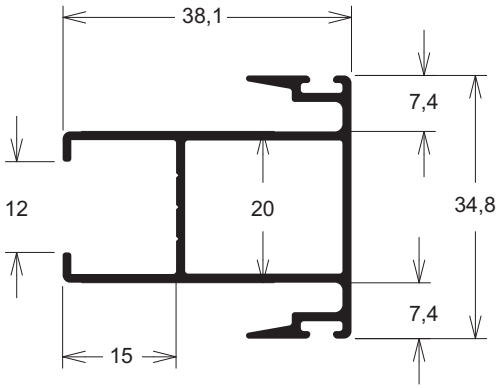
MH058 0,436 kg/m



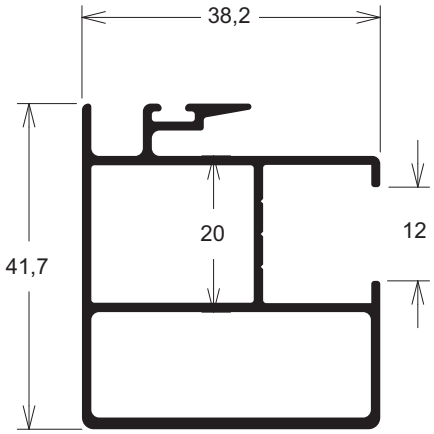
MH062 0,702 kg/m



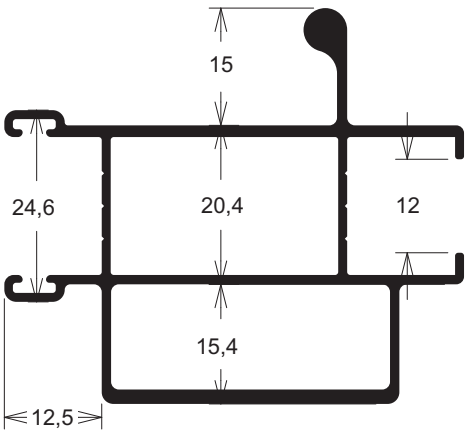
MH086 0,537 kg/m



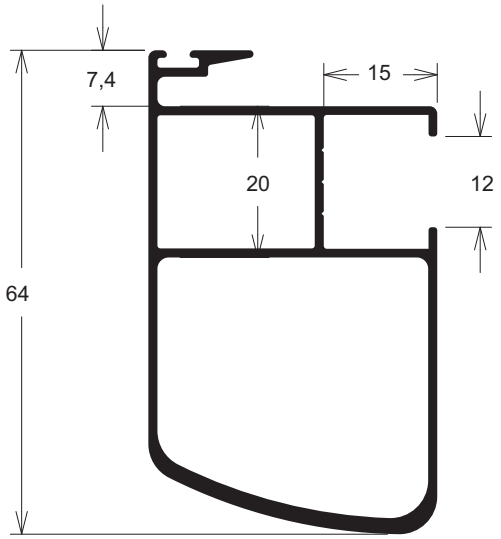
MH179 0,717 kg/m



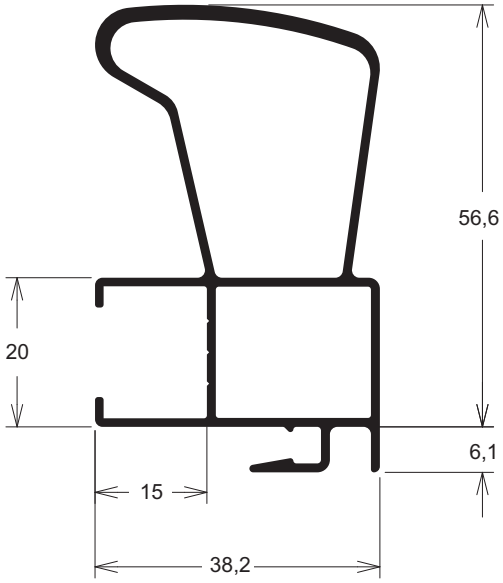
MH205 0,973 kg/m



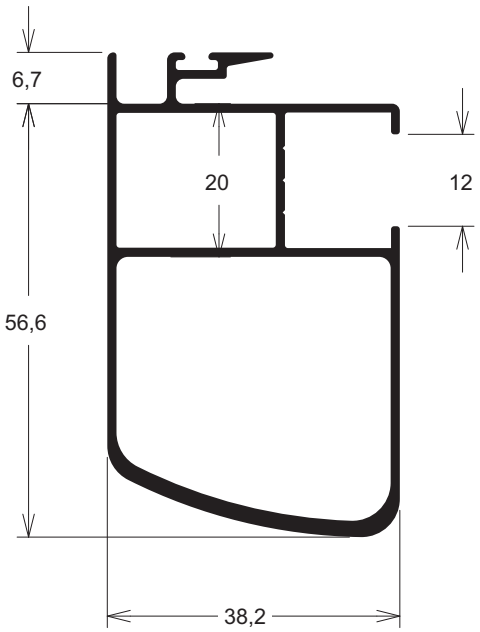
MH059 0,884 kg/m



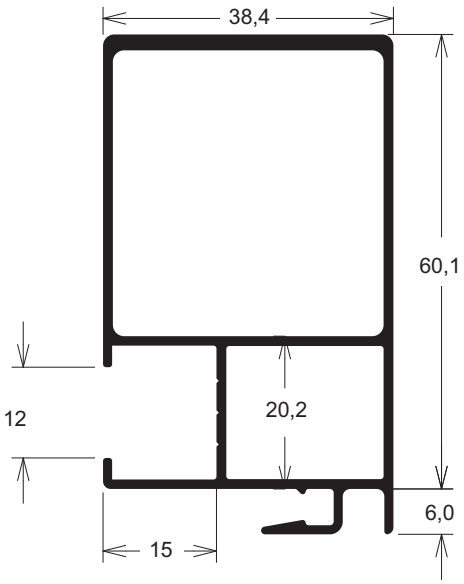
MH060 0,897 kg/m



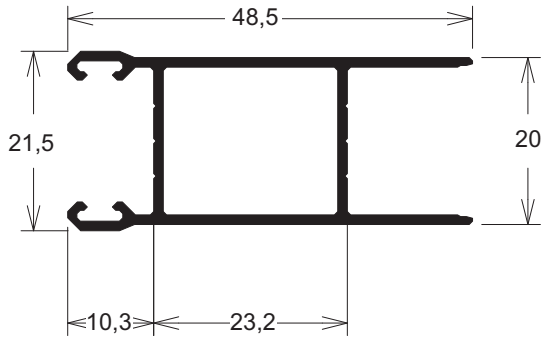
MH082 0,900 kg/m



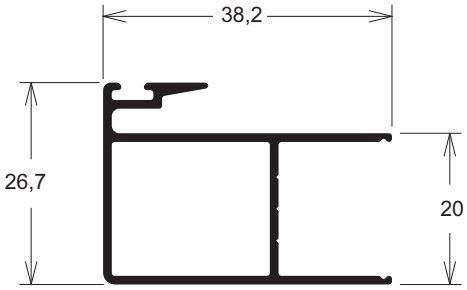
MH128 0,970 kg/m



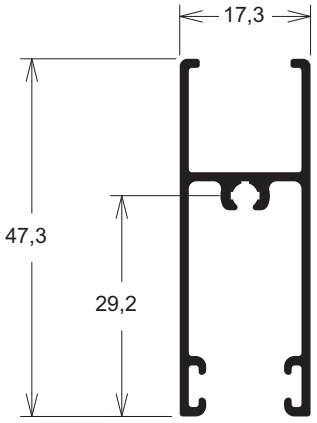
MH043 0,443kg/m



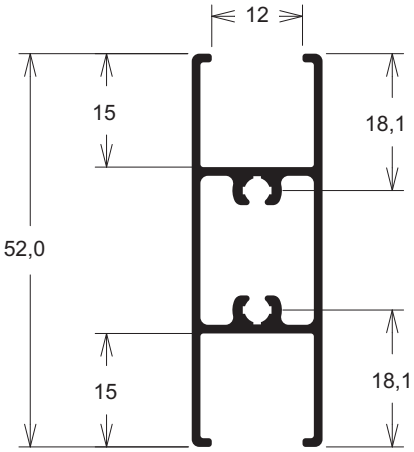
MH044 0,422 kg/m



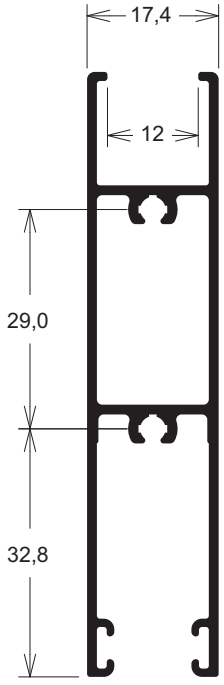
MH052 0,443 kg/m



MH053 0,514 kg/m



MH054 0,792 kg/m



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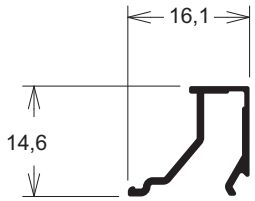
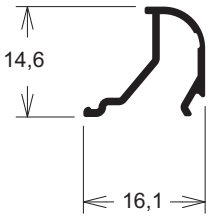
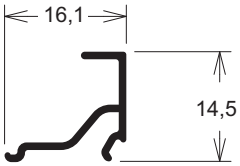
MH014 0,114 kg/m



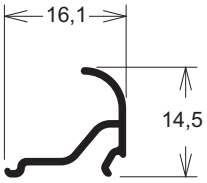
MH015 0,110 kg/m



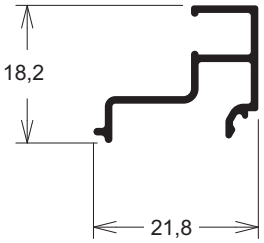
MH107 0,107 kg/m



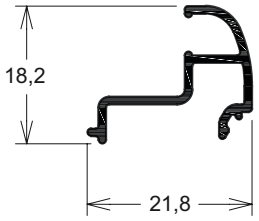
MH108 0,101 kg/m



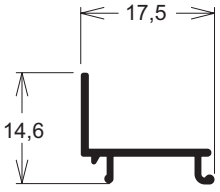
MH106 0,163 kg/m



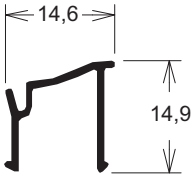
MH125 0,154 kg/m



MH041 0,109 kg/m

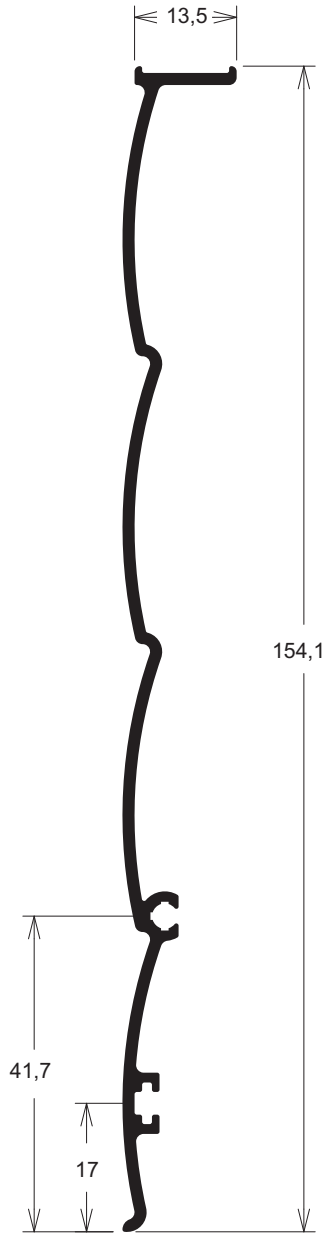


MH039 0,111 kg/m

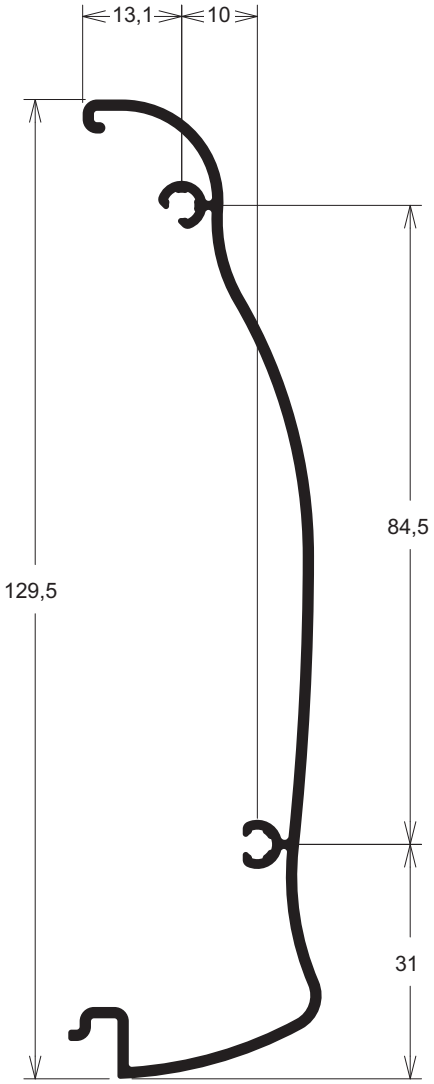


INTEGRADA

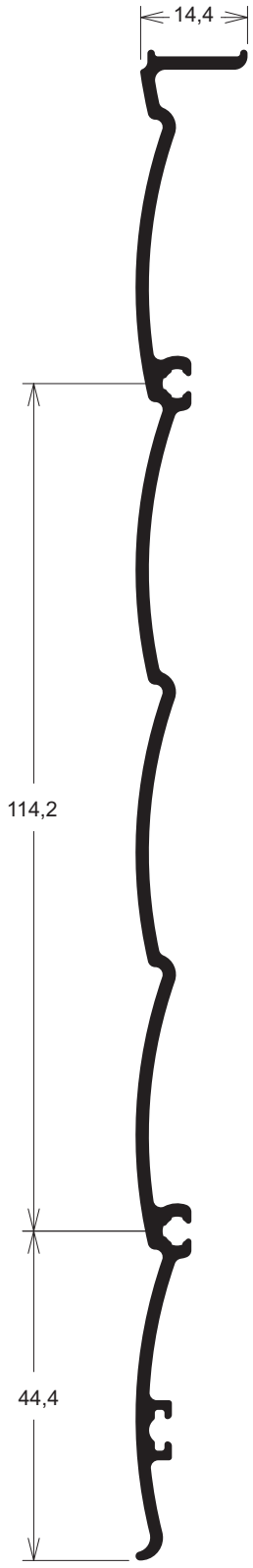
MH008	0,820 kg/m



IN014	0,840 kg/m

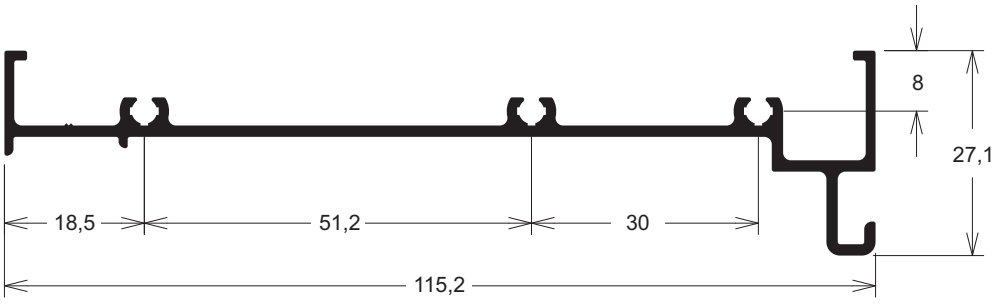


IN039	1,216 kg/m

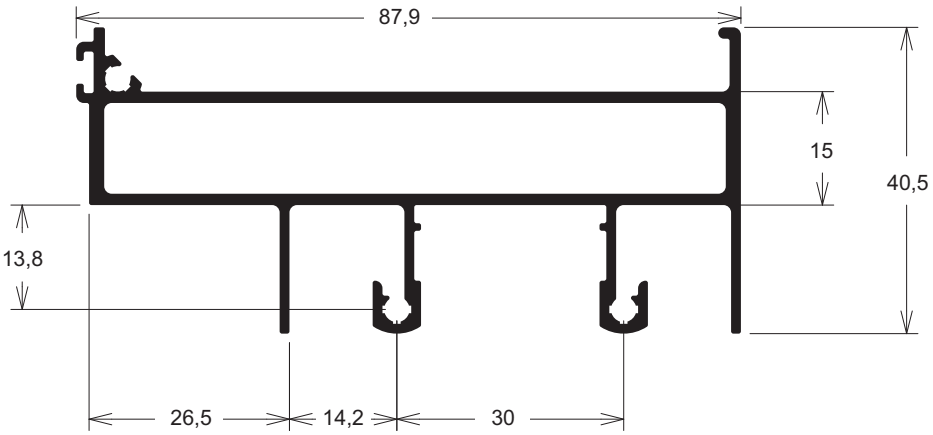


IN038	1,359 kg/m

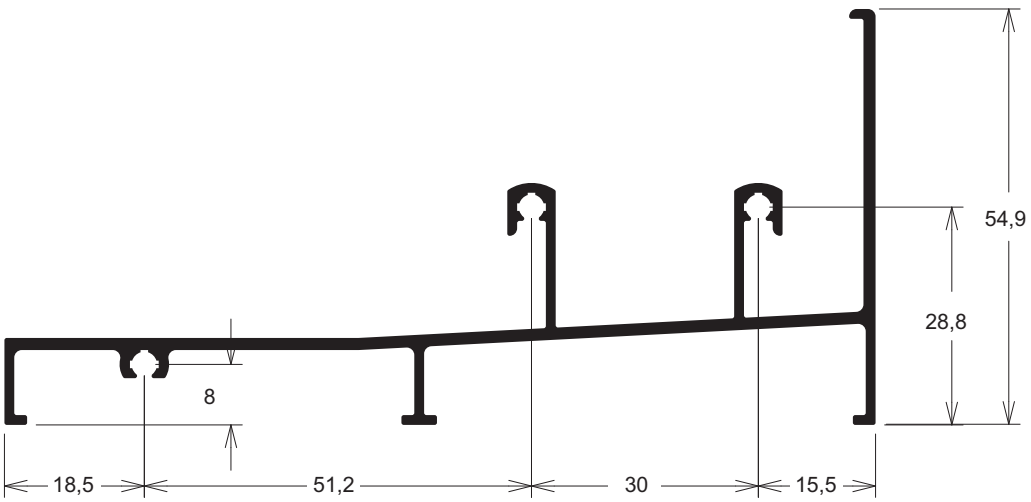
MH001 0,786 kg/m



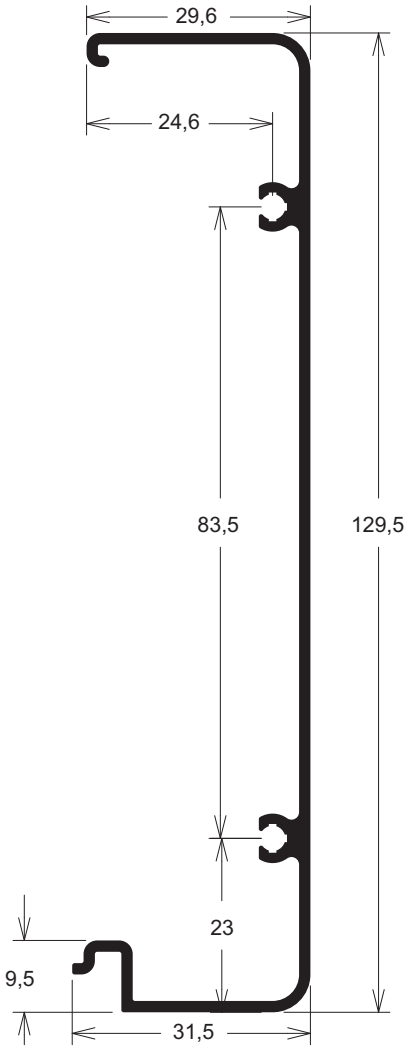
MH021 1,287 kg/m



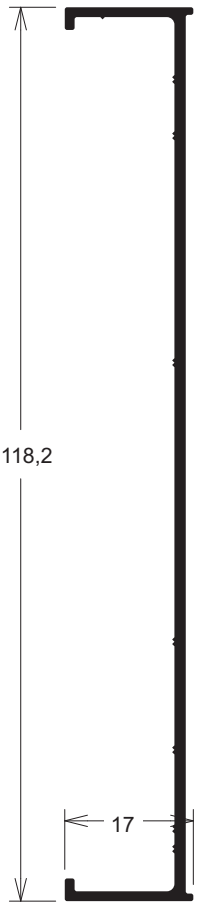
MH003 1,078 kg/m



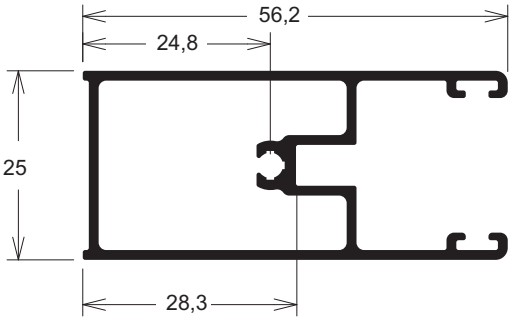
MH007 0,917 kg/m



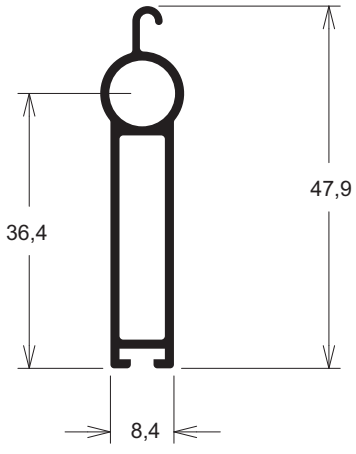
MH004 0,606 kg/m



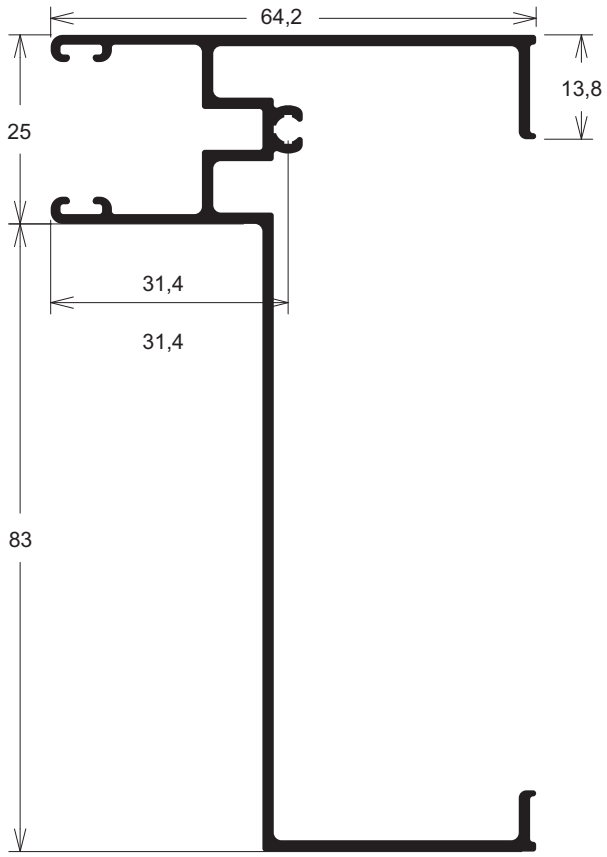
MH006 0,697 kg/m



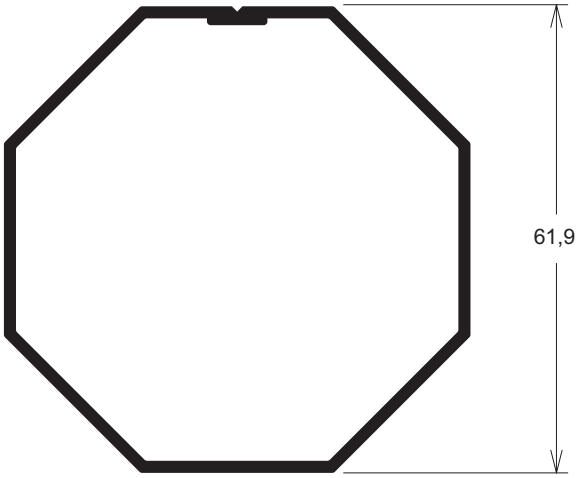
MN055 0,371 kg/m



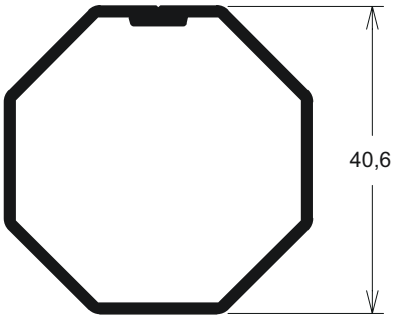
IN016 1,147 kg/m



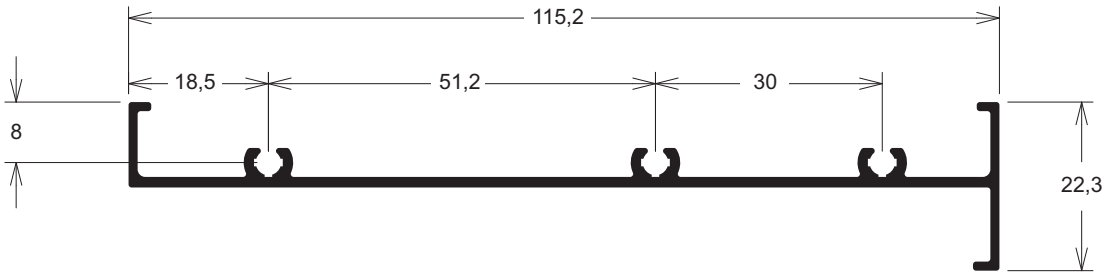
MN015 0,881 kg/m



DS238 0,480 kg/m

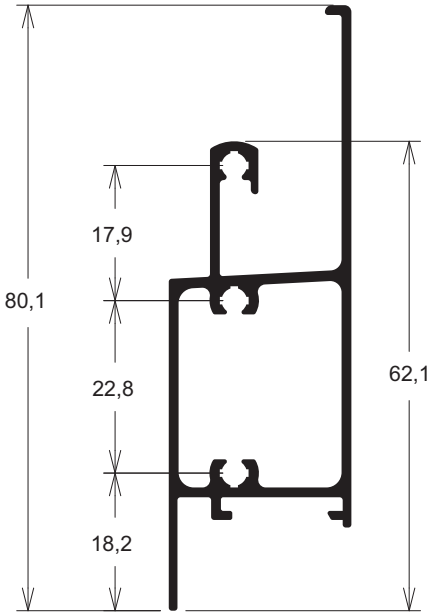


MH172 0,665 kg/m

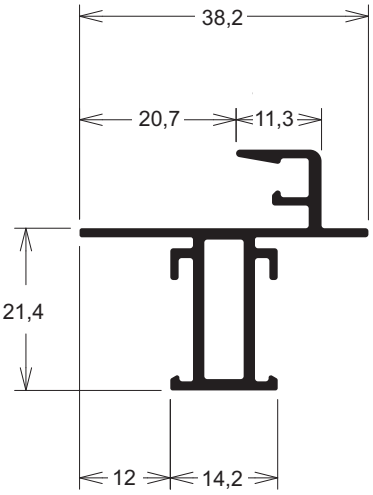


VENEZIANA COM PEITORIL

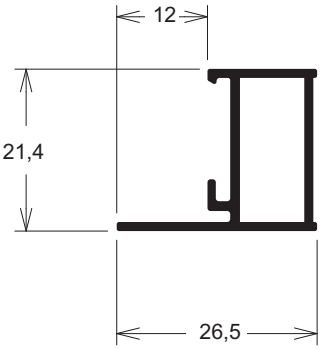
MH208 0,766 kg/m



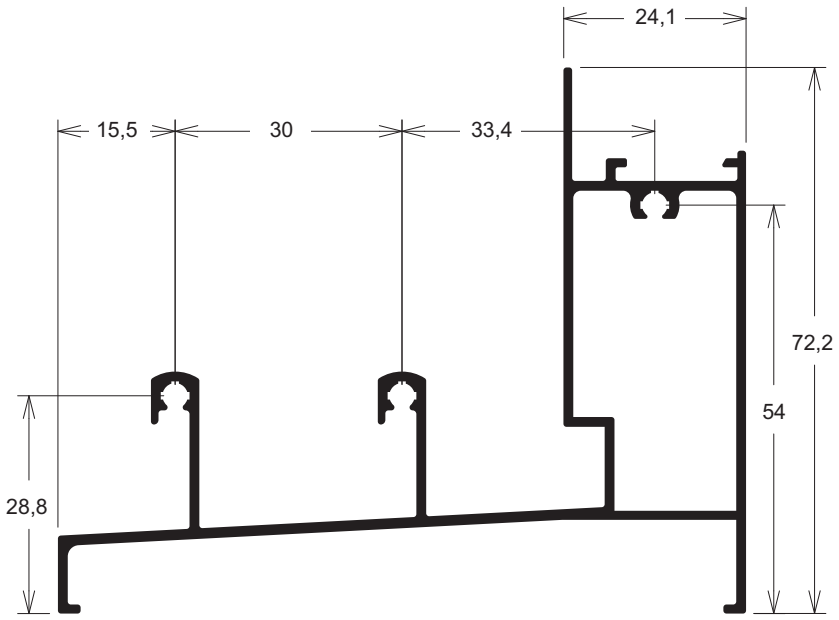
MH209 0,474 kg/m



MH210 0,283 kg/m

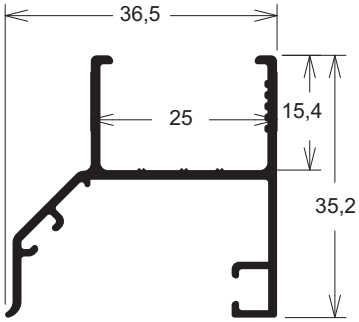


MH206 1,172 kg/m

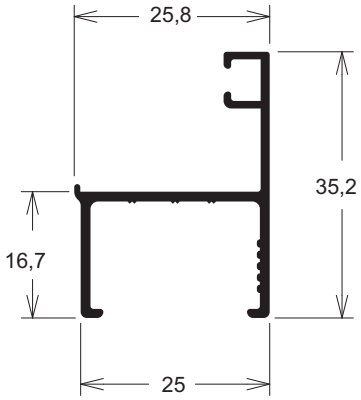


MAXIM-AR

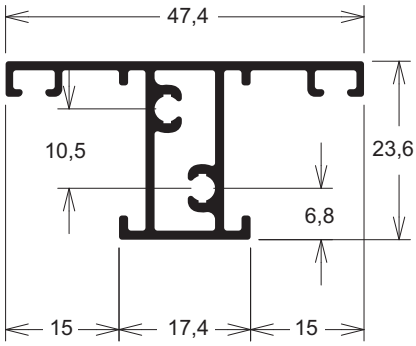
MH094 0,403 kg/m



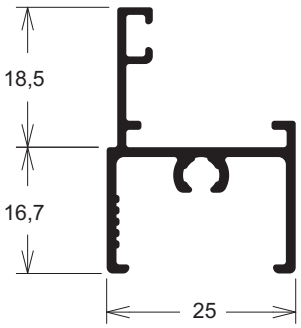
MH095 0,311 kg/m



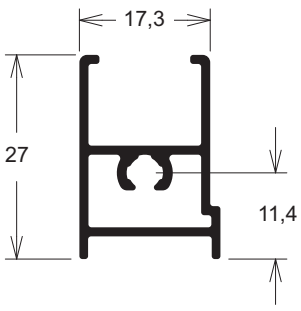
MH097 0,489 kg/m



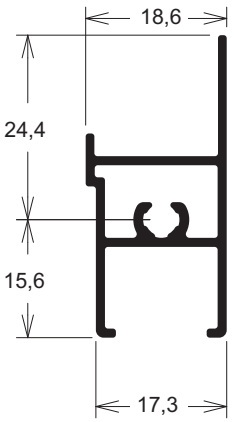
MH096 0,366 kg/m



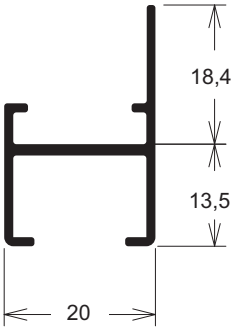
MH098 0,333 kg/m



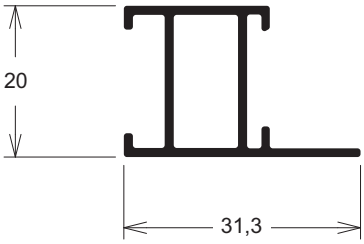
MH099 0,374 kg/m



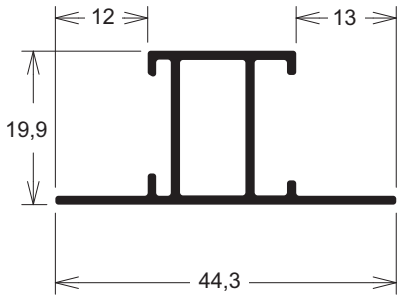
MH100 0,264 kg/m



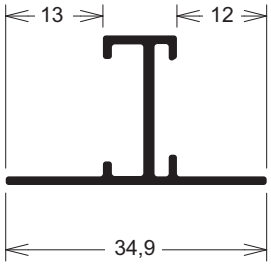
MH133 0,304 kg/m



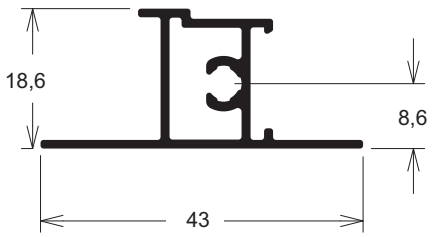
MH134 0,345 kg/m



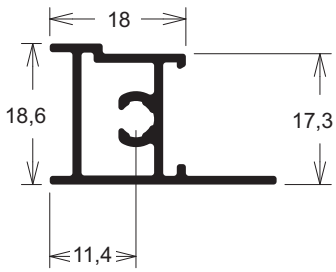
MH135 0,240 kg/m



MH136 0,351 kg/m

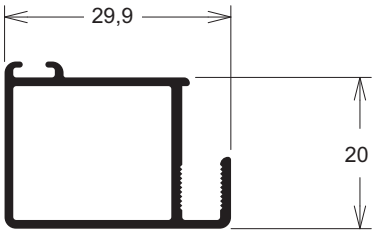


MH138 0,310 kg/m

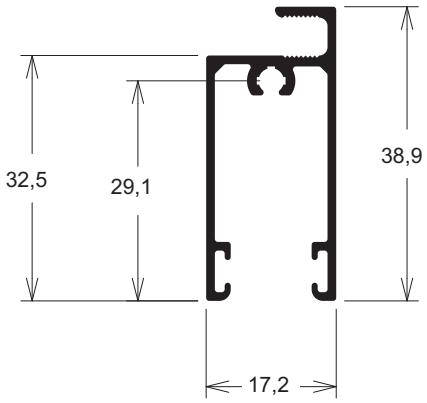


TELA MOSQUITEIRA

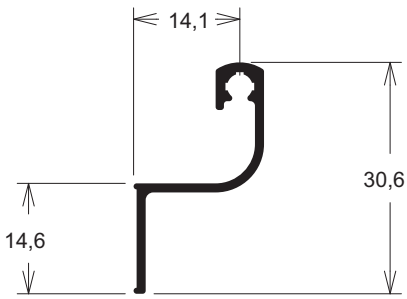
MH140 0,335 kg/m



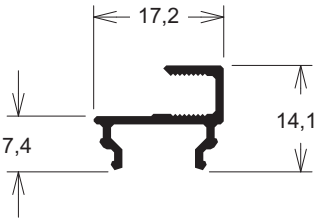
MH141 0,373 kg/m



MH142 0,186 kg/m

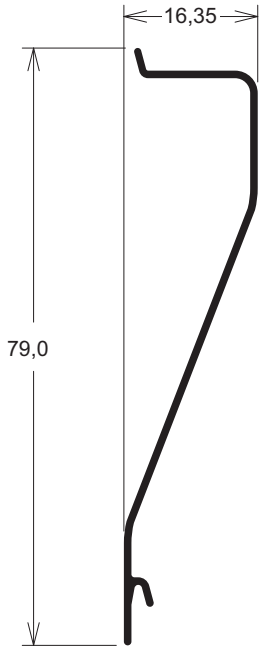


MH153 0,148 kg/m

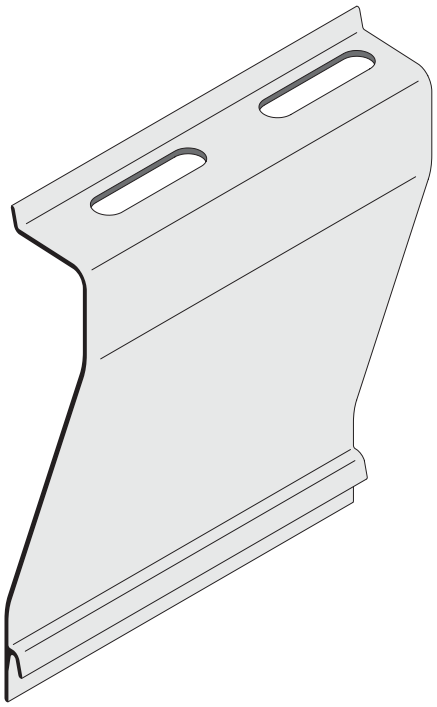


VENEZIANA

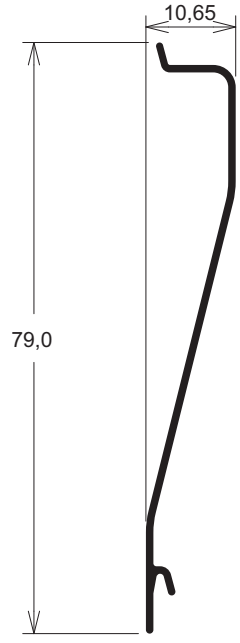
VZ072 0,260 kg/m



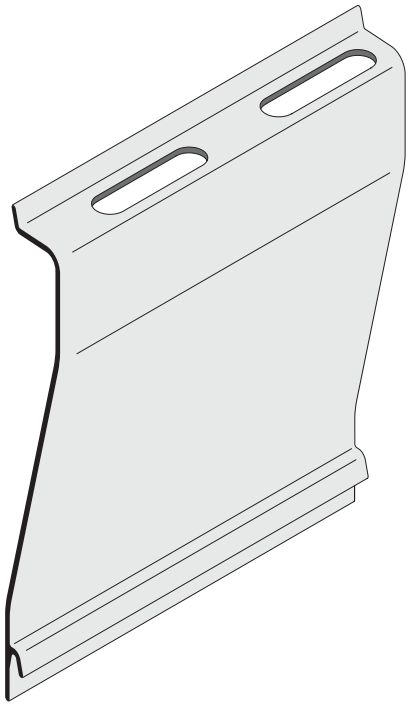
US620 0,260 kg/m



MH087 0,253 kg/m

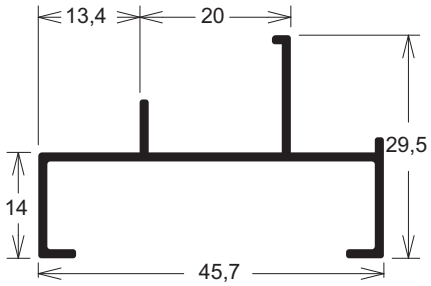


US624 0,253 kg/m

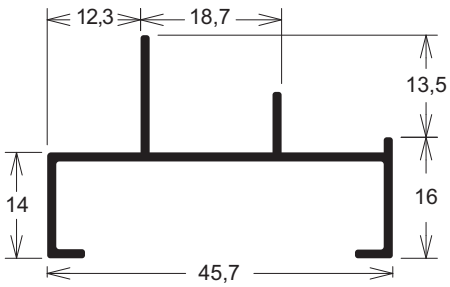


JANELA BASCULANTE

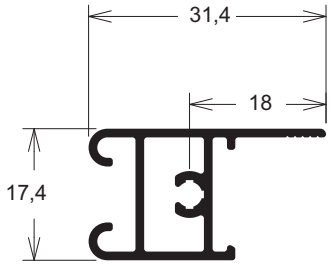
MH118 0,339 kg/m



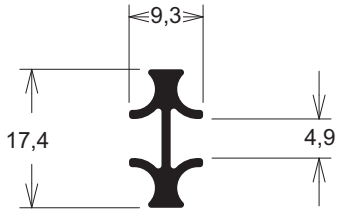
MH119 0,338 kg/m



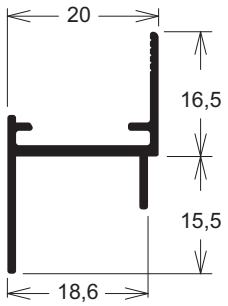
MH121 0,317 kg/m



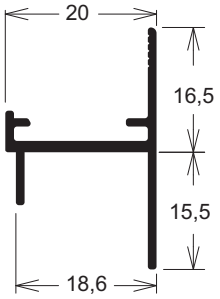
MH122 0,156 kg/m



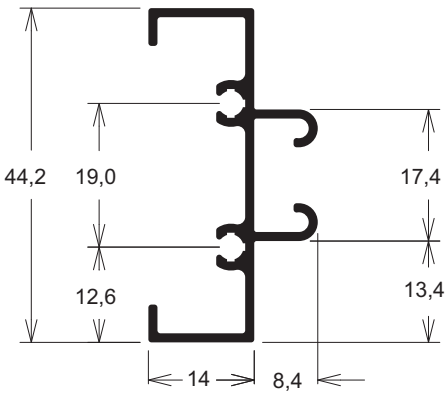
MH123 0,224 kg/m



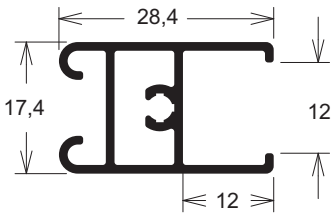
MH124 0,224 kg/m



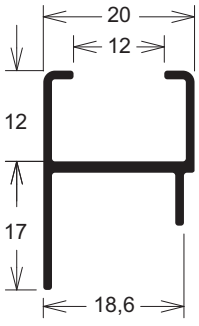
MH127 0,401 kg/m



MH180 0,338 kg/m

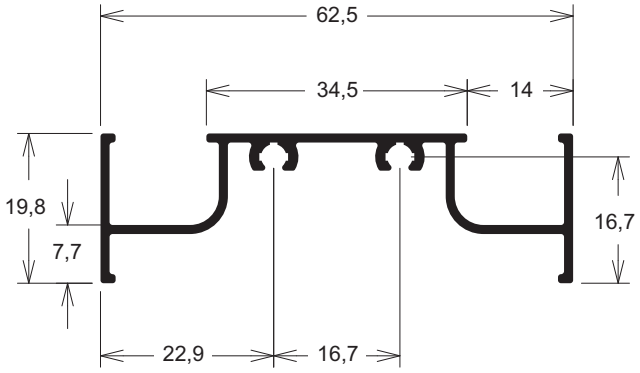


MH181 0,241 kg/m

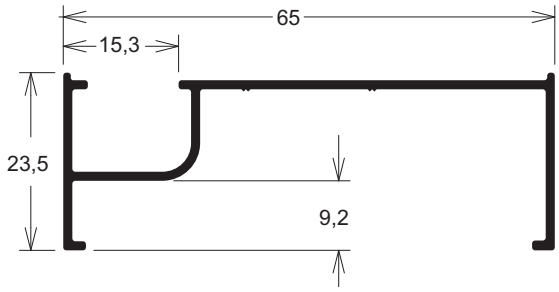


VENTILAÇÃO PERMANENTE

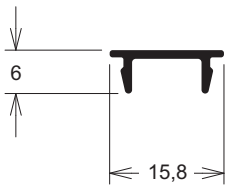
FT001 0,481 kg/m



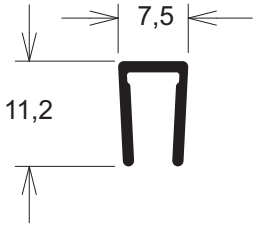
FT002 0,413 kg/m



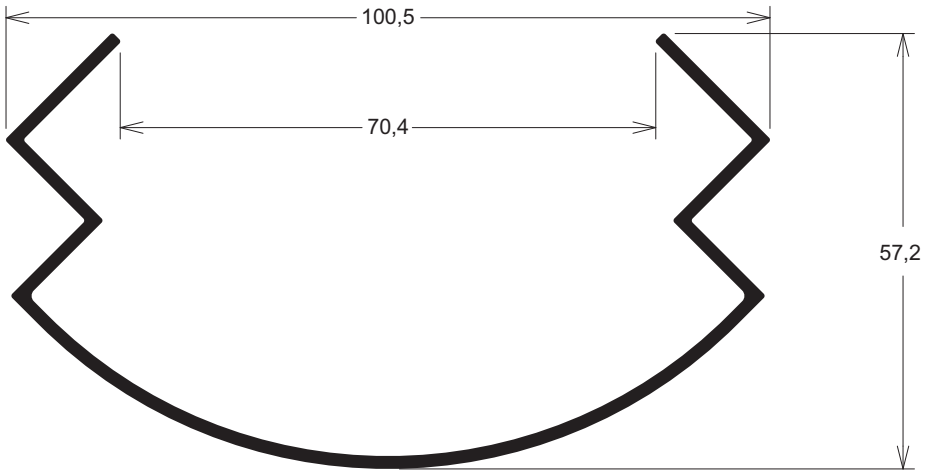
FT003 0,082 kg/m



FT004 0,086 kg/m



MH176 0,949 kg/m



MASTER®

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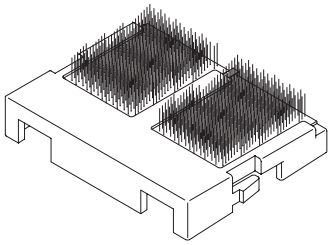
Componentes

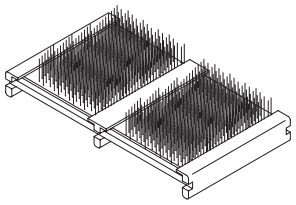
NYL412

Caixa de Dreno
Nylon Preto ou Branco



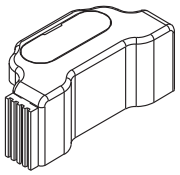
NYL413

Vedação Superior
Nylon Preto ou Branco



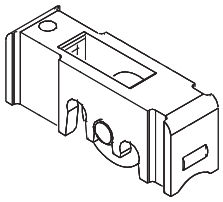
NYL442

Batedeira
Nylon Preto ou Branco



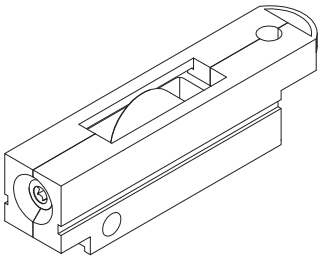
ROL005

Roldana com Regulagem,
sem Rolamento - Janela.
Capacidade: 15 kg/folha
Alumínio Natural



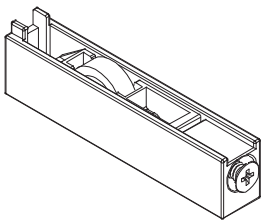
ROL006

Rol. com Regulagem, sem Rolamento - Janela
Capacidade: 15 kg/folha
Alumínio Natural



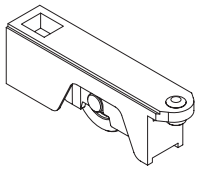
ROL007

Roldana com Regulagem e Rolamento
Janela
Capacidade: 40 kg/folha
Nylon



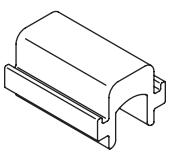
ROL008

Roldana com Regulagem e Rolamento
Porta
Capacidade: 40 kg/folha
Nylon



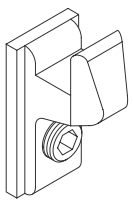
NYL443

Calço da Folha Fixa
Nylon Preto



CON370

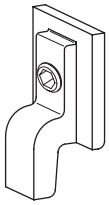
Contrafecho - Janela e Porta
Zamak Preto ou Branco



Componentes

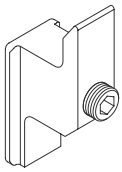
CON452

Trava da Folha Fixa
Alumínio Natural



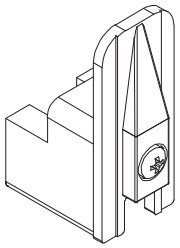
CON409

Guia Deslizante
Nylon Preto ou Branco



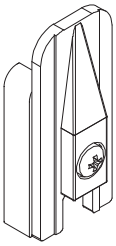
NYL444

Guia Deslizante com Vedação
Nylon Preto ou Branco



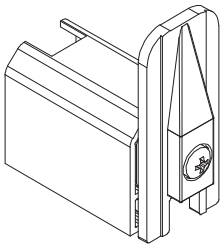
NYL450

Guia Deslizante com Vedação
Nylon Preto ou Branco



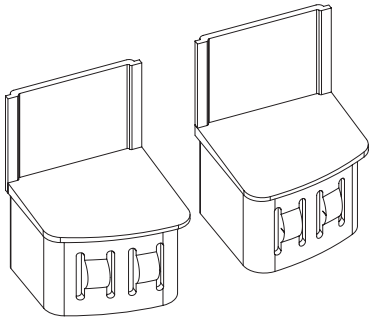
NYL480

Guia Deslizante com Vedação 29 mm
Nylon Preto ou Branco



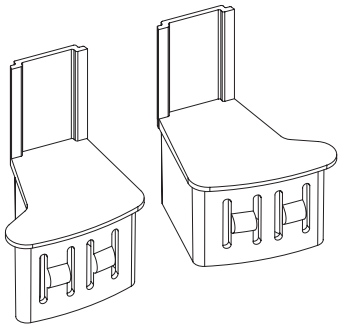
NYL441

Tampa do Montante MH026
Nylon Preto ou Branco



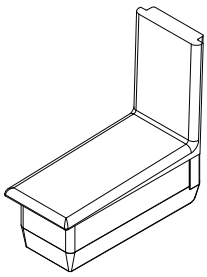
NYL440

Tampa do Montante MH030
Nylon Preto ou Branco



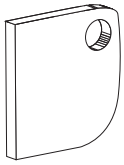
NYL577

Tampa do Montante MH212, MH213 e MH214
Nylon Preto ou Branco



TAM007

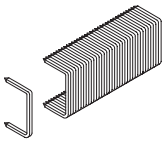
Tampa de Acabamento
Tela Mosquiteira Acoplada
Nylon Preto ou Branco



Componentes

GRA001

Fixador das Tampas
13 mm x 8 mm
Aço Inox

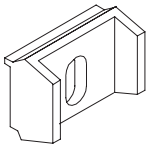


NYL042

Botão Tampa Furo
Nylon Preto ou Branco

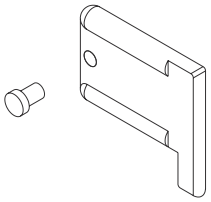
NYL190

Fixação do Remate
Nylon Preto



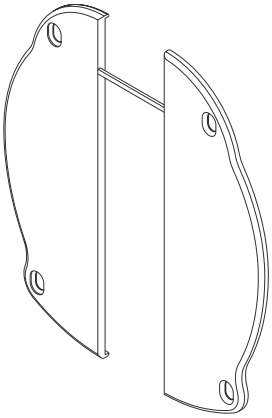
NYL369

Guia e Limitador
Nylon Branco ou Preto



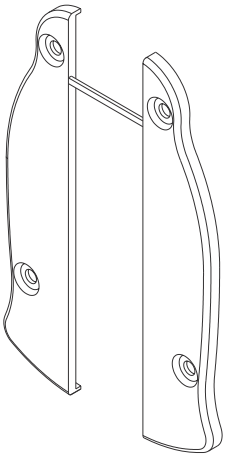
NYL468

Tampa da Caixa
Porta Integrada
Nylon Branco ou Preto



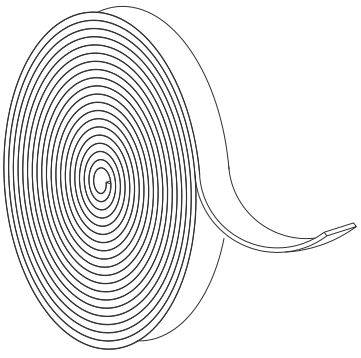
NYL469

Tampa da Caixa
Janela Integrada
Nylon Branco ou Preto



FIT247

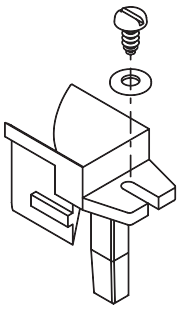
Fita de Ligação
da Persiana
Nylon Preto



Componentes

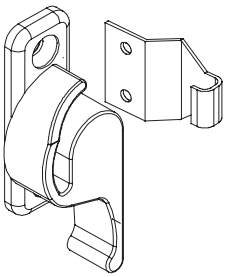
NYL370

Guia da Persiana
Nylon Preto ou Branco



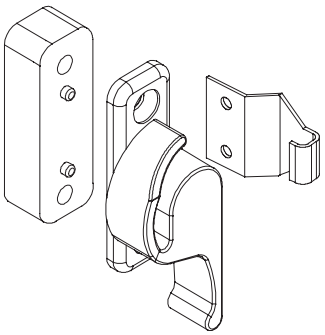
FEC1176

Fecho Central Direito ou Esquerdo
Folha Slim sem Baguete
Branco ou Preto



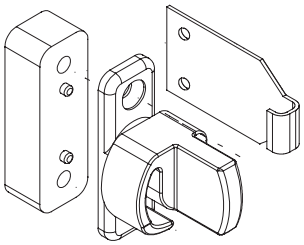
FEC1177

Fecho Central
Folha com e sem Baguete
Branco ou Preto



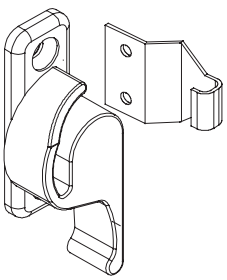
FEC1190

Fecho Central
Aplicado na Folha Veneziana
Branco ou Preto



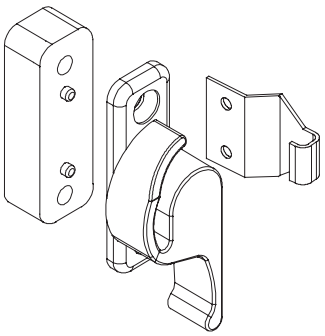
FEC1242

Fecho Central
Folha Master Leve sem Baguete
Branco ou Preto



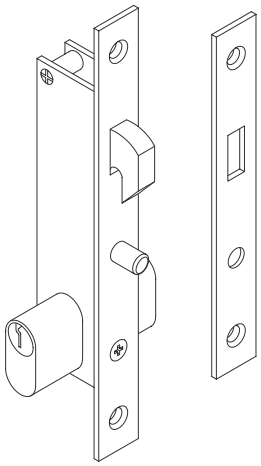
FEC1243

Fecho Central
Folha Master Leve com Baguete
Branco ou Preto



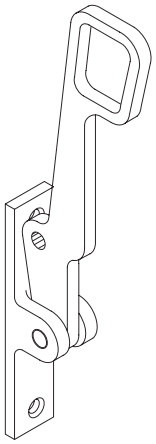
FRA996

Fechadura
Porta de Correr



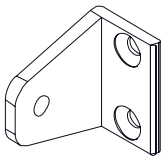
ALA057

Alavanca de Comando
Janela Basculante



CON456

Conector da Barra de Comando
Janela Basculante



PIV758

Pivot da Folha
Janela Basculante

Componentes

REC030

Recolhedor
Capacidade: 18 kg
Eixo 40 mm

REC013

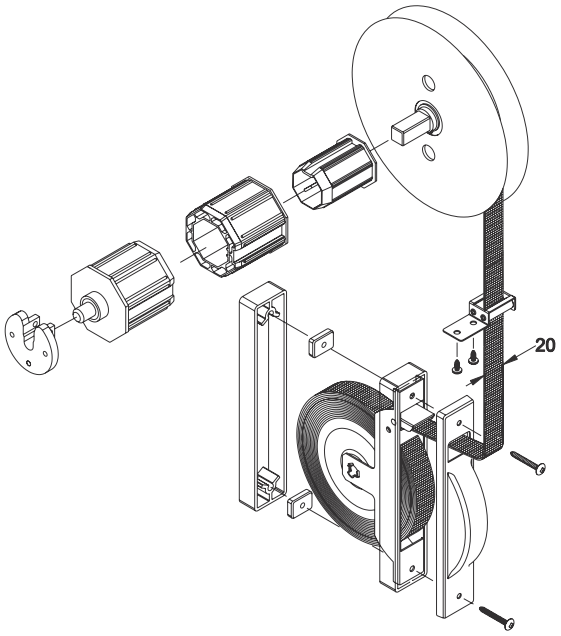
Recolhedor
Capacidade: 18 kg
Eixo 60 mm

REC036

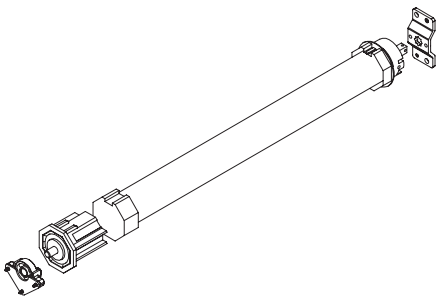
Recolhedor
Capacidade: 11 kg
Eixo 60 mm

REC035

Recolhedor
Capacidade: 11 kg
Eixo 40 mm



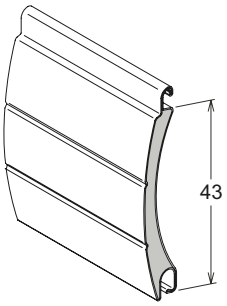
MOTOR PARA PERSIANA



Voltagem	Eixo (mm)	Acionamento	Carga (kg)	Código Hydro
110 V	40	Botoeira	21	SKT001BA14
		Controle Remoto	21	SKT001CB14
	60	Botoeira	21	SKT001BA16
			47	SKT004BA16
			70	SKT005BA16
			116	SKT006BA16
		Controle Remoto	21	SKT001CB16
			35	SKT008CB16
			70	SKT010CB16
			93	SKT011CB16
			116	SKT012CB16

Voltagem	Eixo (mm)	Acionamento	Carga (kg)	Código Hydro
220 V	40	Botoeira	21	SKT001BA24
		Controle Remoto	21	SKT001CB24
	60	Botoeira	21	SKT001BA26
			47	SKT004BA26
			66	SKT005BA26
			88	SKT006BA26
		Controle Remoto	21	SKT001CB26
			33	SKT008CB26
			42	SKT009CB26
			66	SKT010CB26
			88	SKT011CB26

VZP045 / VZC122



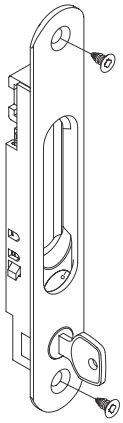
Código	Tabela Palhetas (mt)
VZP0450BCO	Palheta Integrada Ventilada A43 - Branco
VZP0450BGE	Palheta Integrada Ventilada A43 - Bege
VZP0450BZE	Palheta Integrada Ventilada A43 - Bronze
VZP0450INX	Palheta Integrada Ventilada A43 - Inox
VZP0450PTA	Palheta Integrada Ventilada A43 - Prata
VZP0450PTO	Palheta Integrada Ventilada A43 - Preto
VZC1220BCO	Palheta Integrada Cega A43 - Branco
VZC1220BGE	Palheta Integrada Cega A43 - Bege
VZC1220BZE	Palheta Integrada Cega A43 - Bronze
VZC1220INX	Palheta Integrada Cega A43 - Inox
VZC1220PTA	Palheta Integrada Cega A43 - Prata
VZC1220PTO	Palheta Integrada Cega A43 - Preto

NYL477

Nota - Utilizar somente com palheta VZP045 / VZC122

FEC / CON

Obs: Todos os fechos e conchas com chave abaixo utilizam lingueta TRA005

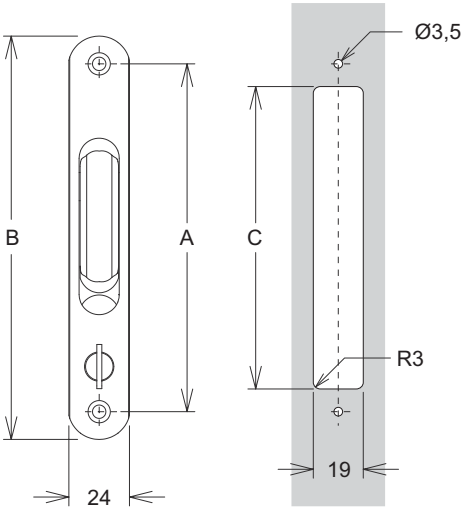


	Janelas	Portas
Fecho Concha	FEC1028	FEC1030
Concha com Chave	FEC1027	FEC1029
Concha Cega	CON444	CON445

Alumínio Branco ou Preto

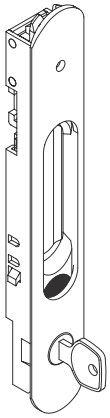
Medidas das usinagens	Janelas	Portas
A	138	170
B	160	192
C	120	120

Usinagem



FEC / CON

Obs: Todos os fechos e conchas com chave abaixo utilizam lingueta TRA005

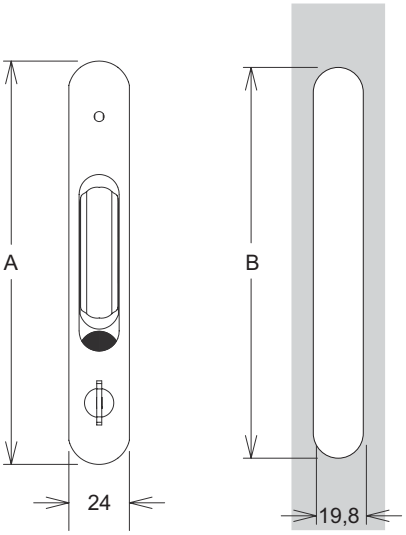


	Janelas	Portas
Fecho Concha	FEC1032	FEC1034
Concha com Chave	FEC1031	FEC1033
Concha Cega	CON446	CON447

Alumínio Branco ou Preto

Medidas das usinagens	Janelas	Portas
A	160	192
B	155	187

Usinagem



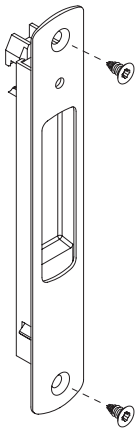
Componentes

CON1026

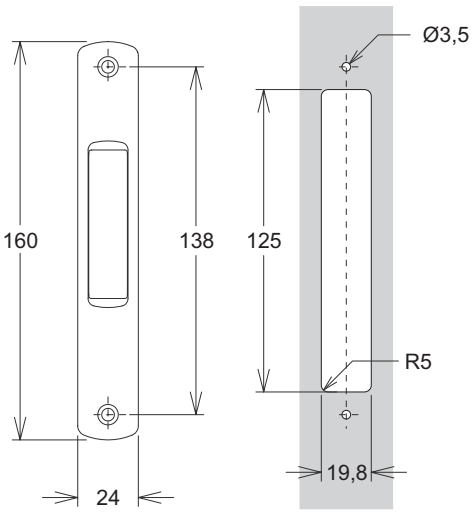
Fecho Concha - Alumínio Branco ou Preto
(Utiliza lingueta TRA006)

CON443

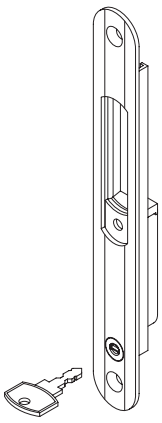
Concha Cega
Alumínio Branco ou Preto



Usinagem



FEC / CON / TRA

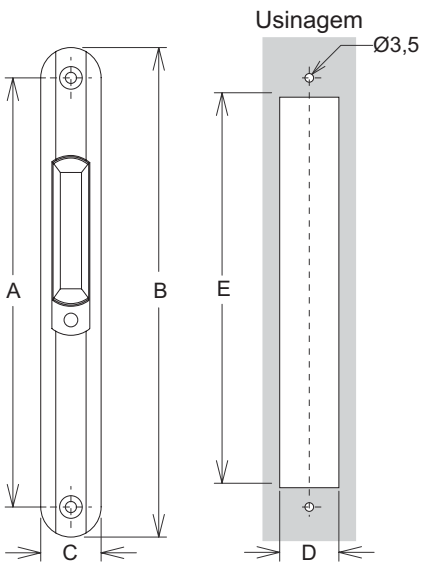


	Janelas	Portas
Fecho Concha com Chave	FEC1064	FEC1063
Fecho Concha	FEC1061	FEC1062
Concha Cega	CON280	FEC1013
Lingueta	TRA014	TRA013

Alumínio Branco ou Preto

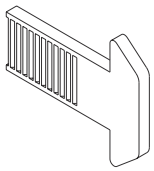
Medidas das usinagens	Janelas	Portas
A	138	170
B	153	194
C	26	24
D	20,5	20
E	120	142

Usinagem



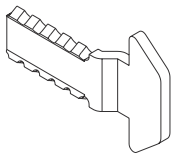
TRA005

Trava para Fecho
Aço Inox



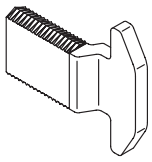
TRA006

Trava para Fecho
Aço Inox



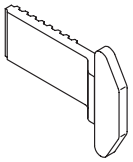
TRA013

Trava para Fecho
Aço Inox



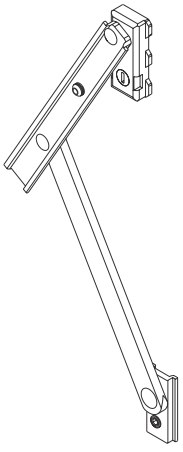
TRA014

Trava para Fecho
Aço Inox



BRA783

Alumínio Natural

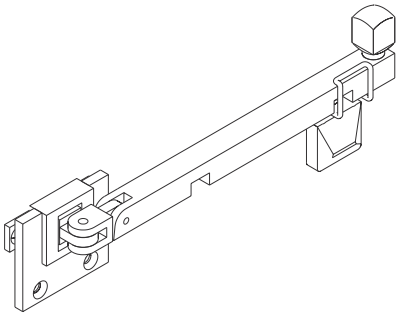


Braços	
BRA7830BCO	180 mm
BRA7830PTO	180 mm
BRA7750BCO	250 mm
BRA7750PTO	250 mm
BRA7760BCO	400 mm
BRA7760PTO	400 mm

Componentes

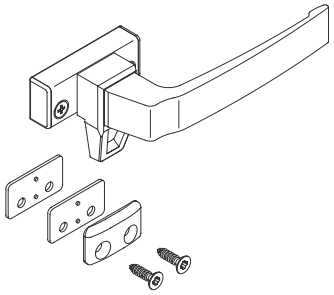
FEC1015

Fecho Haste
Folha sem Baguete
Alumínio Branco ou Preto



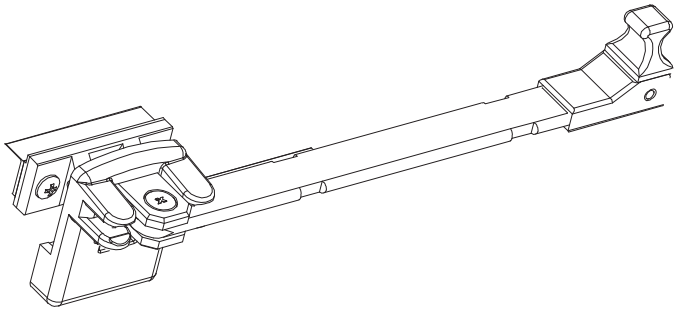
FEC1014

Fecho Punho
Folha sem Baguete
Alumínio Branco ou Preto



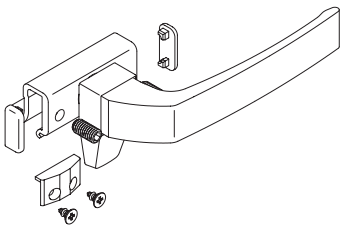
FEC1088

Fecho Haste
Folha com Baguete
Alumínio Branco ou Preto



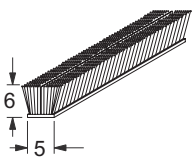
FEC1087

Fecho Punho
Folha com Baguete
Alumínio Branco ou Preto



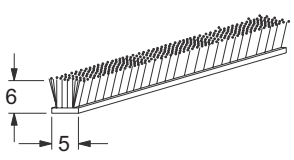
FIT205

Fita Vedadora com
Barreira 5 x 6 mm
Branca, Bronze, Cinza e Preta



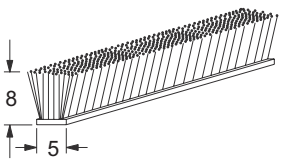
FIT206

Fita Vedadora 5 x 6 mm
Preta



FIT212

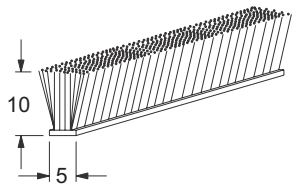
Fita Vedadora 5 x 8 mm
Preta



Componentes

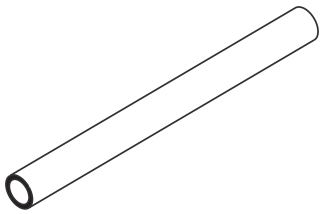
FIT214

Fita Vedadora 5 x 10 mm
Preta



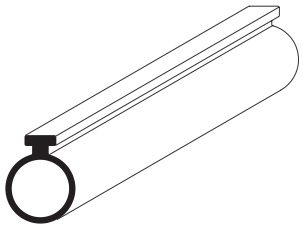
GUA006

Vedação do Engate
Ø 5 mm
EPDM Preto



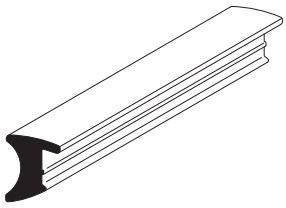
GUA007

Guarnição
da Pingadeira
EPDM Preto



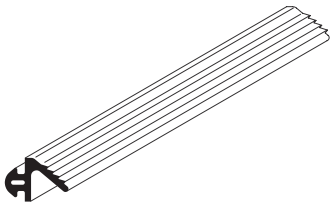
GUA039

Guarnição Cunha
EPDM Preto



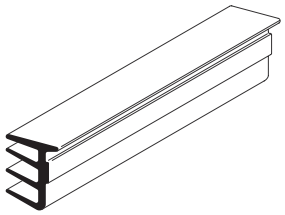
GUA239

Guarnição do Marco
EPDM Preto



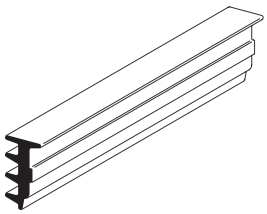
GUA256

Guarnição Cunha
EPDM Preto



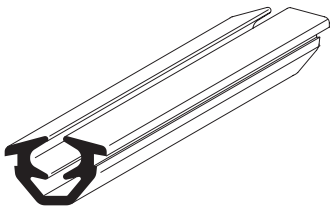
GUA259

Guarnição Cunha
EPDM Preto



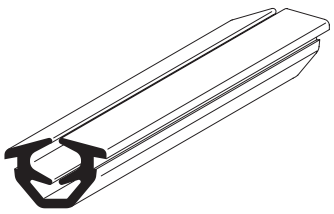
GUA283

Guarnição para Vidro
de 5 mm e 6 mm
EPDM Preto



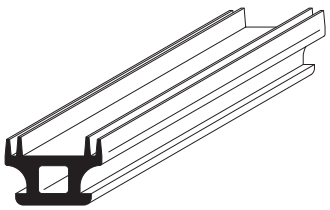
GUA284

Guarnição para Vidro
de 3 mm e 4 mm
EPDM Preto



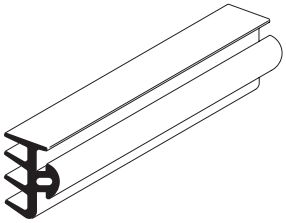
GUA394

Guarnição do Basculante
EPDM Preto



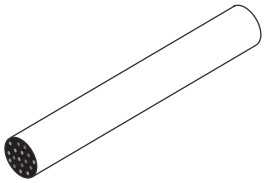
GUA399

Guarnição Cunha
EPDM Preto



TAR001

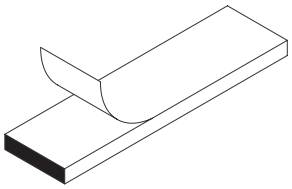
Proteção para Canal
do Contramarco Ø 6 mm
Tarucel Cinza



Componentes

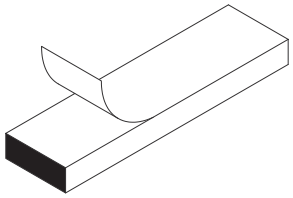
GUA172

Guarn. Ades. Esponjosa
11 mm x 1,8 mm
Preta



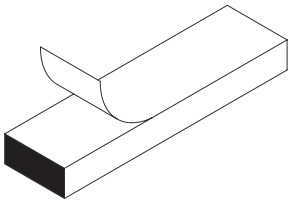
GUA171

Guarn. Ades. Esponjosa
11 mm x 3,2 mm
Preta



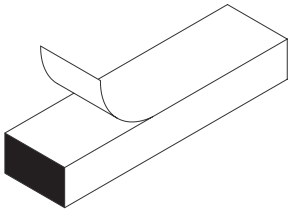
GUA258

Guarn. Ades. Esponjosa
11 mm x 4,8 mm
Preta



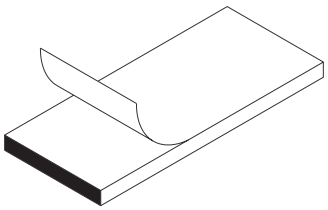
GUA157

Guarn. Ades. Esponjosa
11 mm x 6,4 mm
Preta



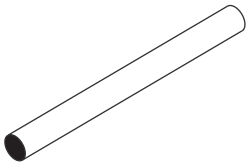
GUA228

Guarn. Adesiva Esponjosa
17,5 mm x 1,81 mm
Preta



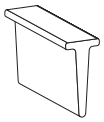
GUA397

Fixação Tela Mosquiteira
⌀ 5 mm
EPDM Preta



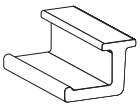
GUA005

Guarnição em EPDM
Exterto para Integrada



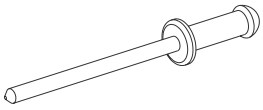
GUA407

Guarnição em EPDM
para Folha Tela Mosquiteira



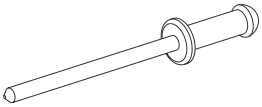
REB117

Rebite Ø 3,2 x 10,2 mm
Alumínio Natural



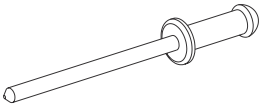
RBE321

Rebite Repuxo Aba Escariada
3,2 x 10 mm
Alumínio Natural



RBN401

Rebite Repuxo Aba Normal
4 x 10 mm
Alumínio Natural



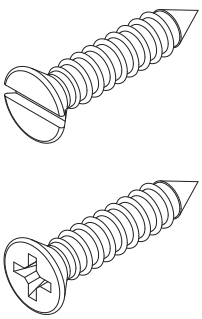
ARR569

Arruela Lisa
Ø 4,3 x Ø 9 mm
Aço Inox

SILICONE

Tipos de Silicone	Aplicação	Cores	Código Hydro
Neutro	Alumínio x Alumínio	Branco / Preto	SILN03
Acético	Alumínio x Alvenaria	Cinza / Incolor	SILA01

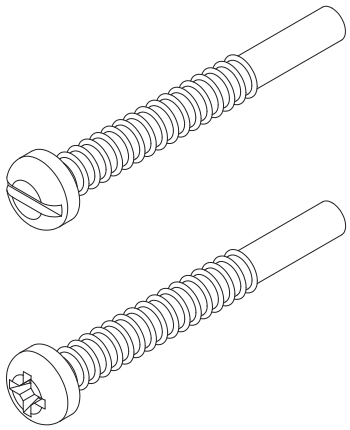
PARAFUSO A/A CABEÇA CHATA



		TIPOS DE FENDA	
Diam. (mm)	Comp. (mm)	Philips	Comum
4,2	16,0	PAR1014	PAR696
4,2	25,0	PAR1041	PAR698
4,2	16,0	PAR1046	PAR696
4,2	13	PAR1058	
3,9	9,5		PAR708

Material: Inox 304 - Acab. Natural / Preto / Branco

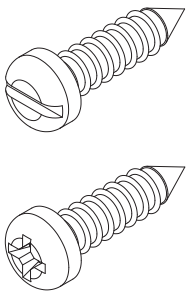
PARAFUSO A/A CABEÇA PANELA COM PONTA PILOTO



		TIPOS DE FENDA		
Diam. (mm)	Comp. (mm)	Philips	Comum	Combinada
3,9	28,5	PAR1009	PAR436	
4,8	32,0	PAR435	PAR428	PAR428

Material: Inox 304 - Acab. Natural / Preto / Branco

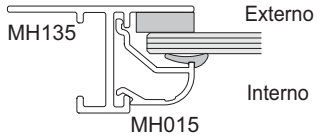
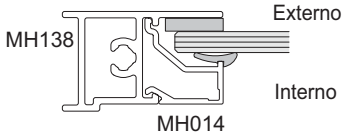
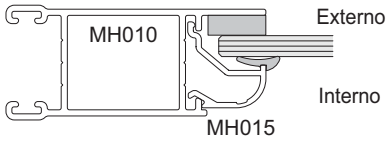
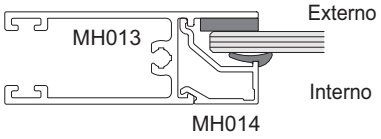
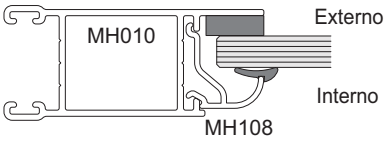
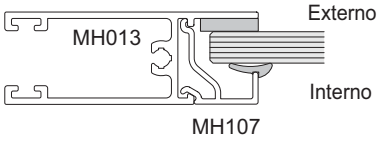
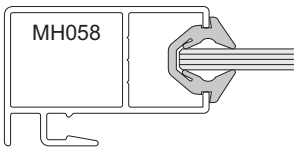
PARAFUSO A/A CABEÇA PANELA



		TIPOS DE FENDA	
Diam. (mm)	Comp. (mm)	Philips	Comum
4,2	9,5	PAR1031	PAR934
4,2	16,0	PAR1025	PAR936
4,2	25,0	PAR1013	PAR693
3,5	9,5	PAR1082	PAR437

Material: Inox 304 - Acab. Natural / Preto / Branco

ALTERNATIVAS CONSTRUTIVAS - GUARNIÇÕES PARA VIDRO

Detalhes	Espessura do vidro	Guarnição Interna	Guarnição Externa
	3	GUA039	GUA171
	4	GUA039	GUA171
	3	GUA039	GUA172
	4	GUA039	GUA172
	3	GUA039	GUA171
	4	GUA039	GUA171
	3	GUA039	GUA172
	4	GUA039	GUA172
	5	GUA039	GUA171
	6	GUA039	GUA171
	5	GUA039	GUA172
	6	GUA039	GUA172
	3	GUA284	- x -
	4	GUA284	- x -
	5	GUA283	- x -
	6	GUA283	- x -

MASTER®

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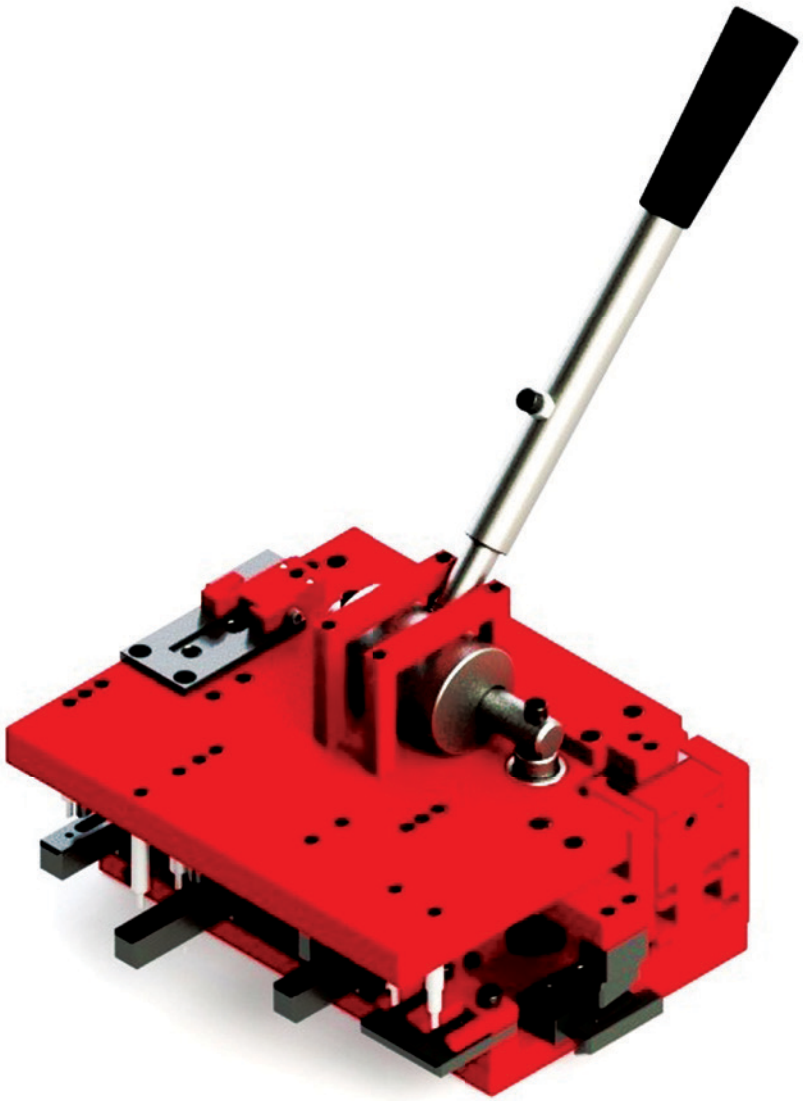
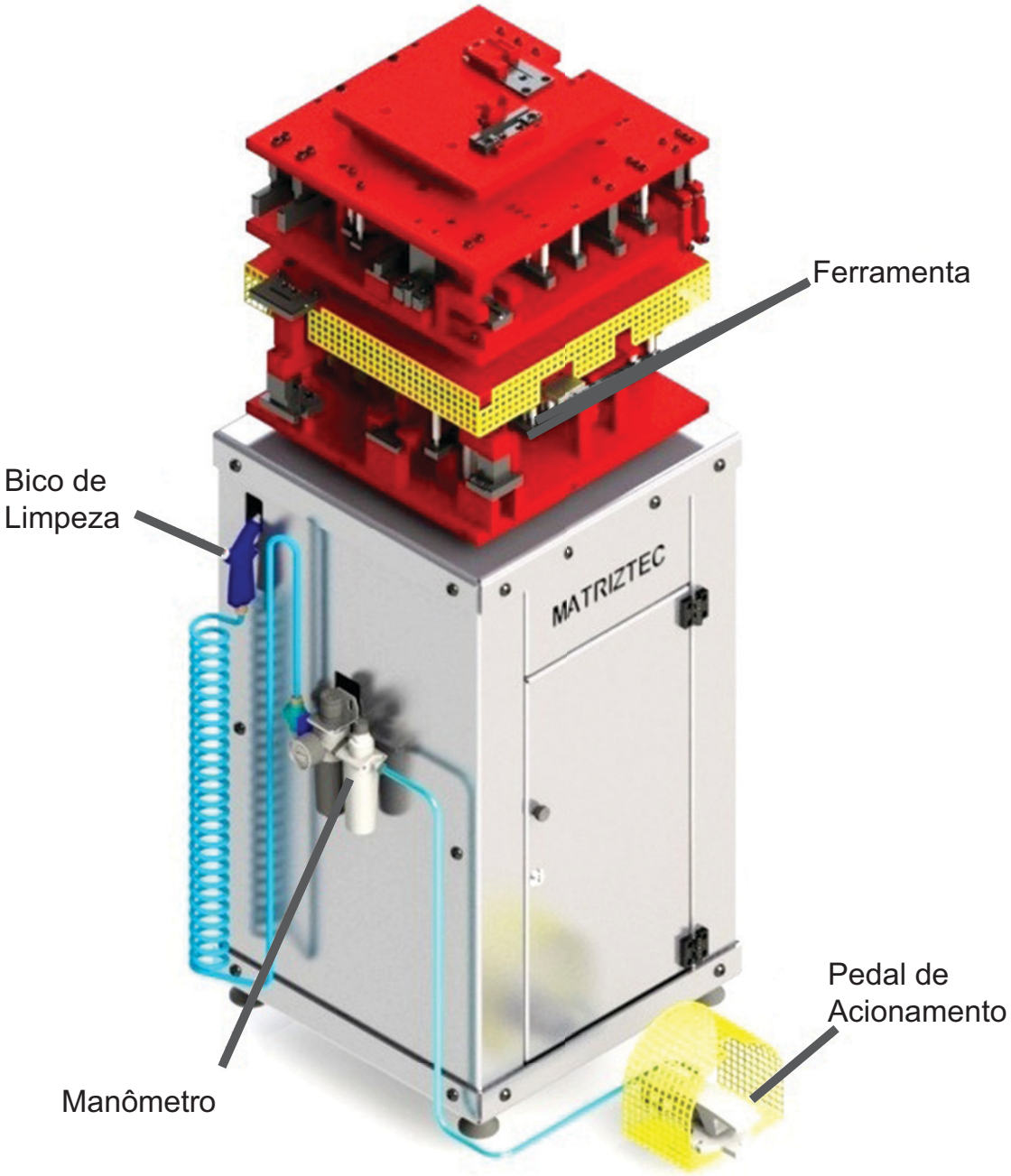
ESTAMPO 5256



FRESA

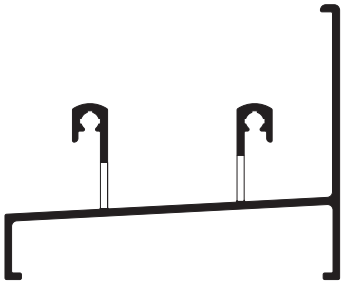
ESTAMPO 5357

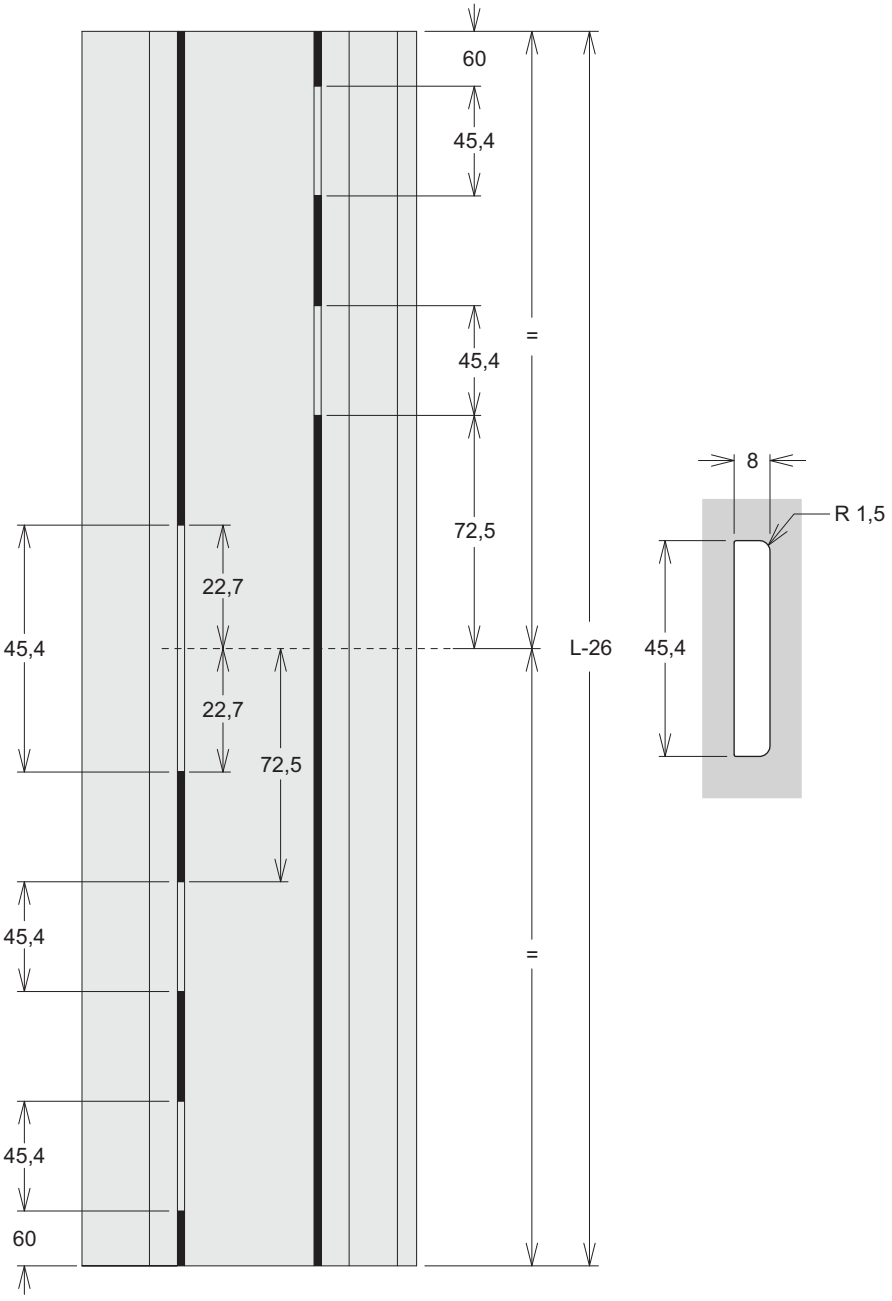


EST 616	Ferramenta MH manual para porta e janela de 2 e 3 planos com baguete e sem fecho central (CJ).
EST 617	Ferramenta MH pneumática completa (CJ).
EST 620	Ferramenta MH manual para porta e janela de 2 e 3 planos com e sem baguete, com fecho central (CJ).
EST 621	Ferramenta MH manual para porta e janela de 2 e 3 sem baguete e sem fecho central (CJ).
EST 625	Ferramenta MH e IN manual para usinagem do Maxim-ar.
EST 631	Ferramenta MH e IN pneumática para usinagem do Maxim-ar.
EST 674	Estampo pneumático Master completo - correr, Maxim-ar, integrada exclusiva Master (CJ).
EST 694	Estampo pneumático light linha Master - porta, janela, Maxim-ar (CJ).
EST 706	Estampo pneumático: portas e janelas com Maxim-ar e basculante - linha Master light.

RASGOS DE ESCOAMENTO E CAIXA DE DRENO

Usinar Perfis
MH028
MH031
MH073
MH132



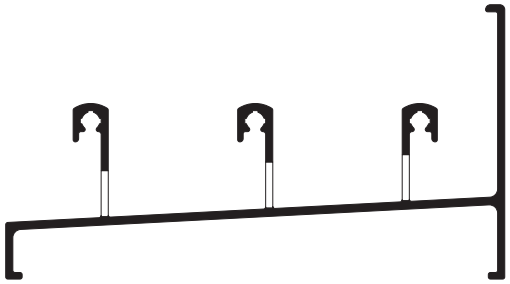


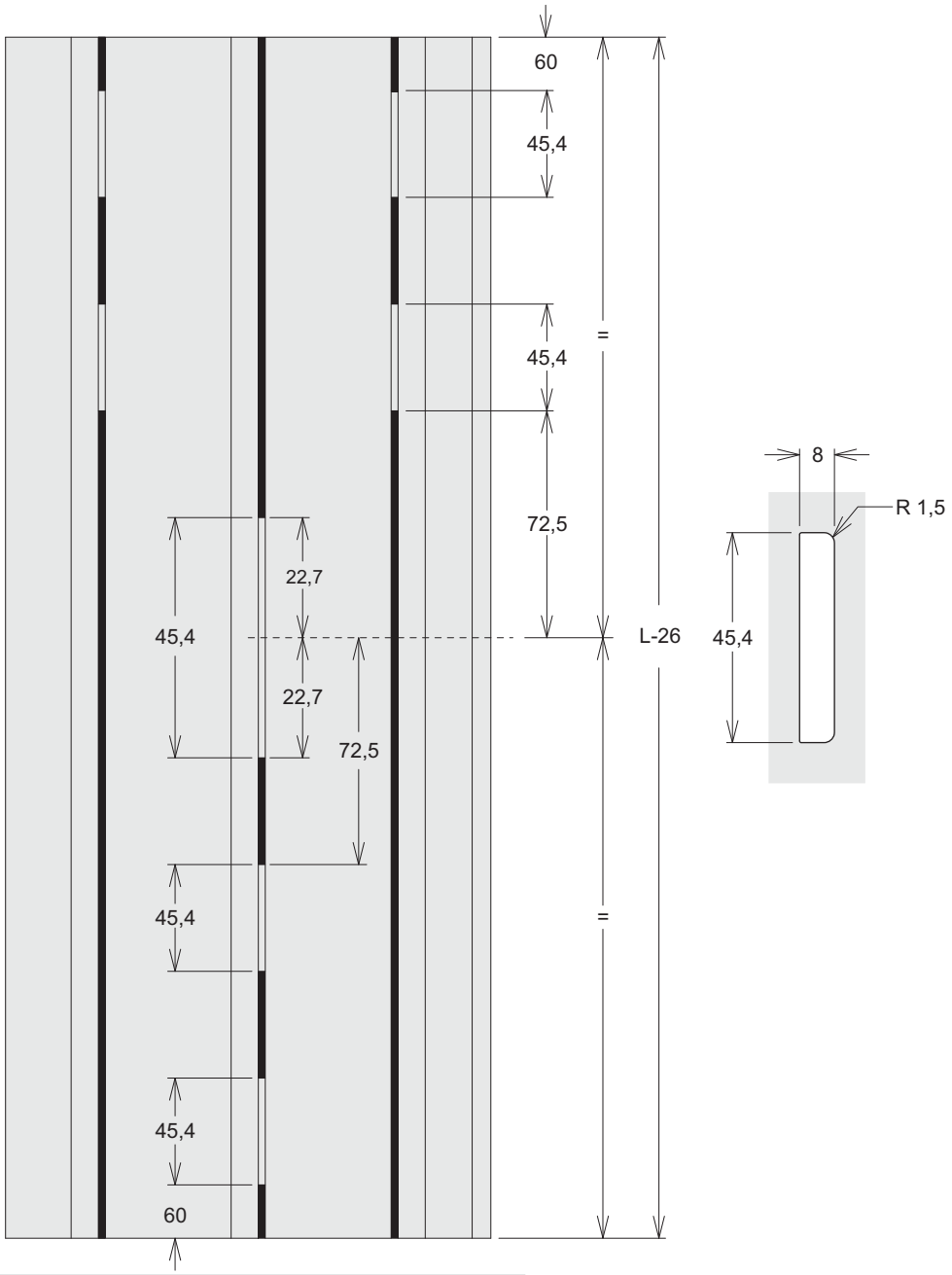
Nota:

Espaçamento máximo de 450 mm a 500 mm, entre eixos.
Para vãos maiores, aumentar o número de rasgos de escoamento.

RASGOS DE ESCOAMENTO E CAIXA DE DRENO

Usinar Perfis
MH035
MH075



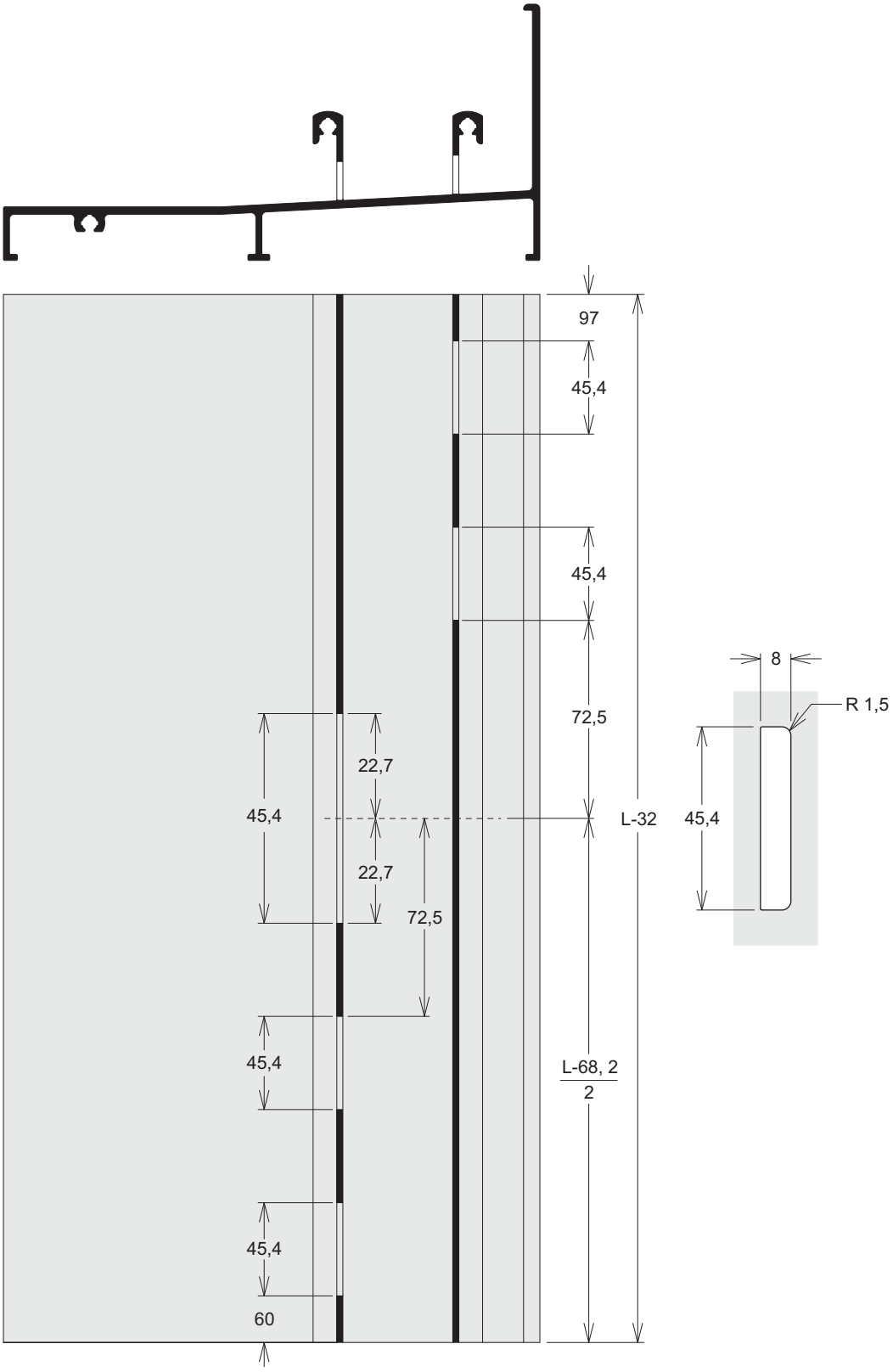


Nota:

Espaçamento máximo de 450 mm a 500 mm, entre eixos.
Para vãos maiores, aumentar o número de rasgos de escoamento.

RASGOS DE ESCOAMENTO E CAIXA DE DRENO

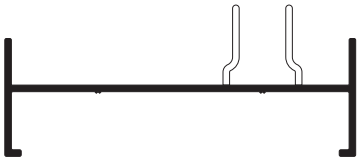
Usinar Perfis
MH003

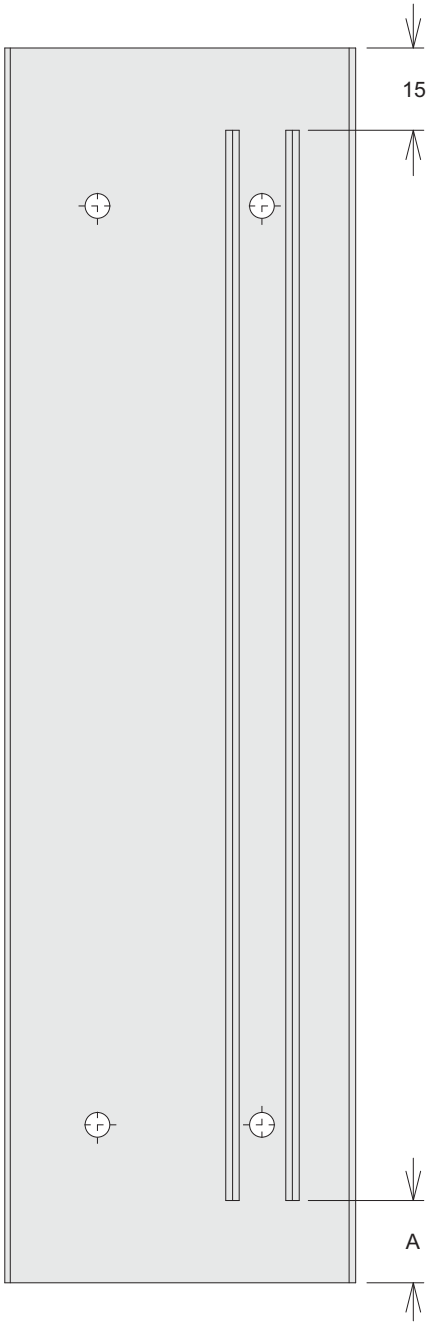


Nota:

Espaçamento máximo de 450 mm a 500 mm, entre eixos.
Para vãos maiores, aumentar o número de rasgos de escoamento.

DESABE DAS MATAJUNTAS



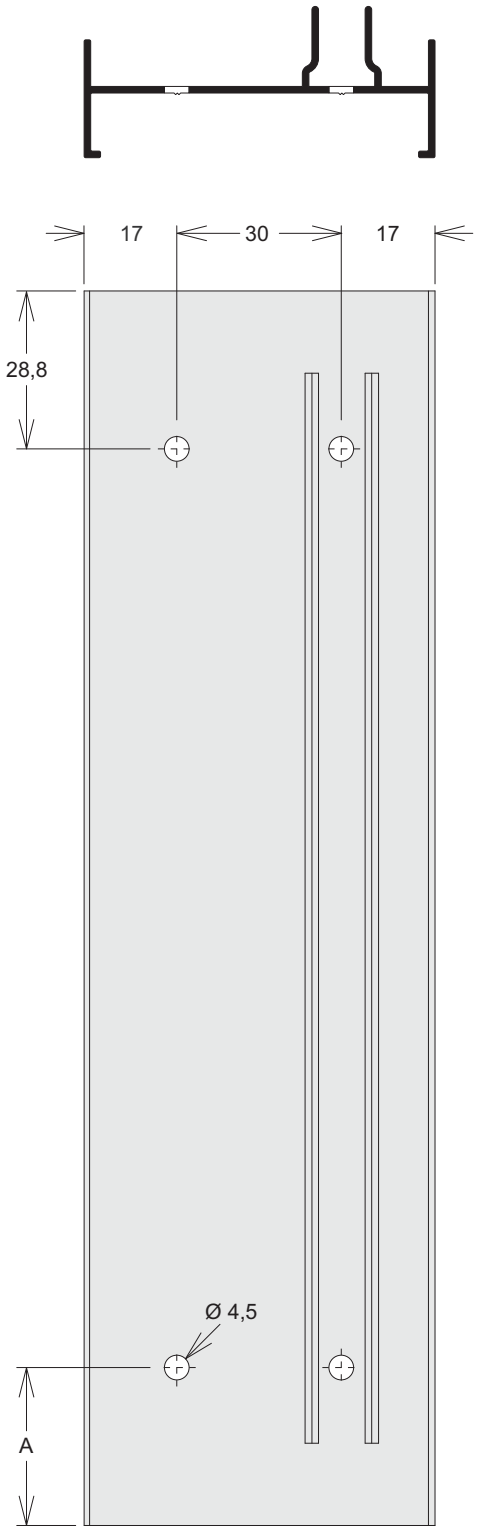


Medida A	Recebe perfis
15	MH028 - MH035
8	MH031 - MH035 - MH132

Usinar Perfis
MH024
MH037
MH038

Nota:
Peças conforme e contrário

FURAÇÃO DOS MARCOS LATERAIS



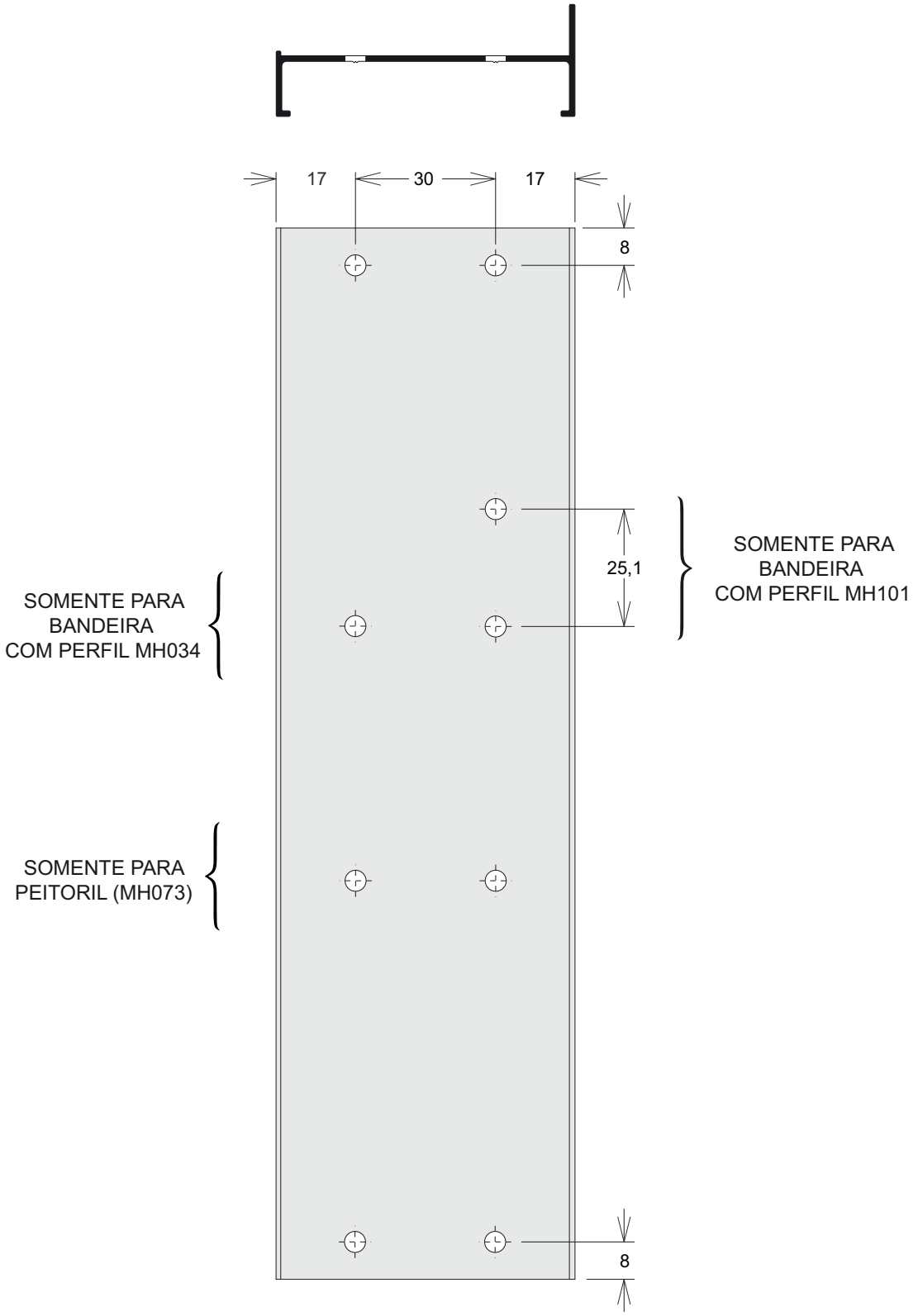
Medida A	Recebe perfis
28,8	MH028 - MH035
22,7	MH132
20,8	MH031 - MH035

Usinar Perfis
MH024
MH037
MH038

Nota:
Peças conforme e contrário

FURAÇÃO DOS MARCOS LATERAIS

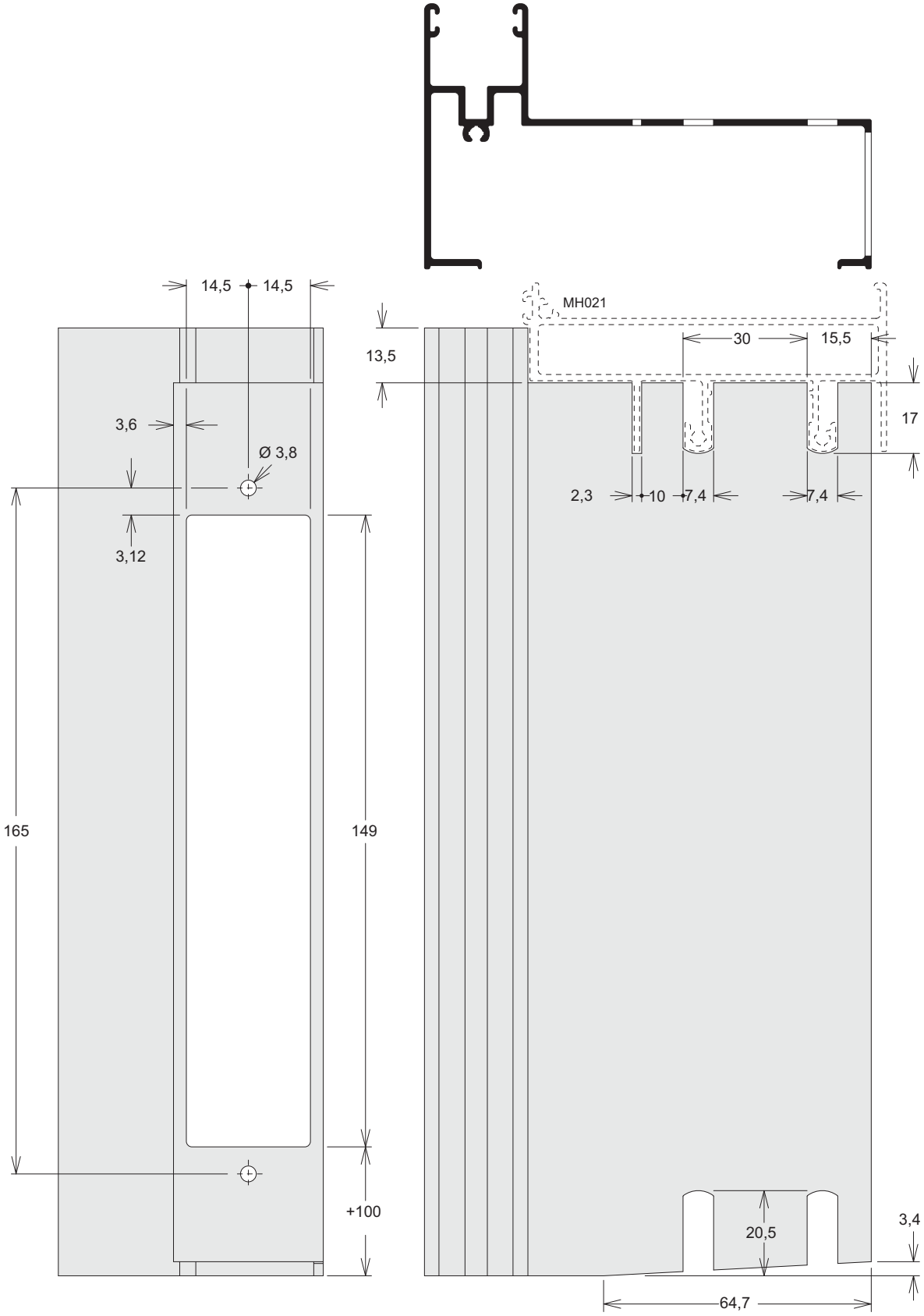
Usinar Perfis
MH029



Nota:
Peças conforme e contrário

MARCO JANELA INTEGRADA - RASGO PARA RECOLHEDOR

Usinar Perfis
IN016

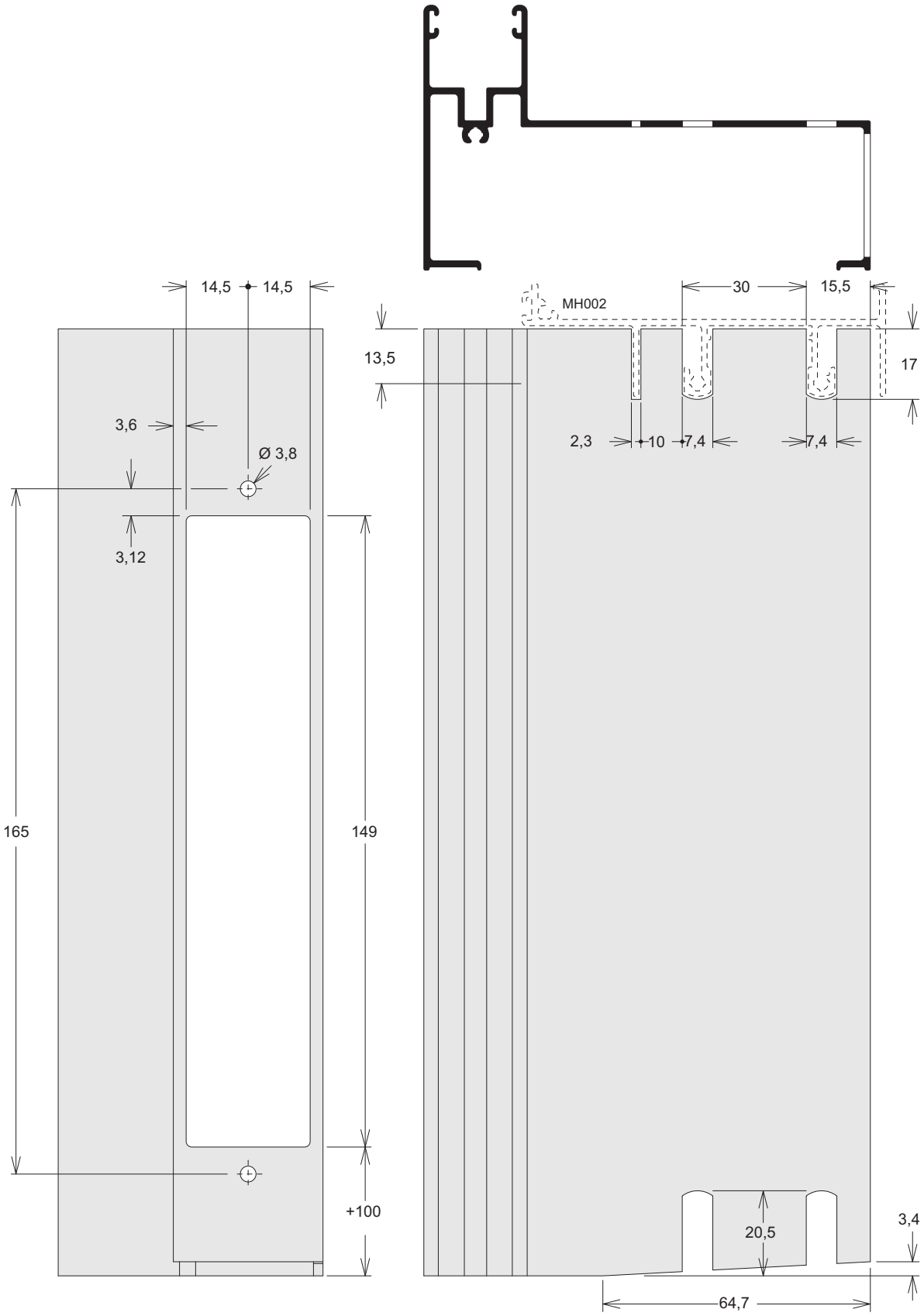


Nota:

Peças conforme e contrário

MARCO JANELA INTEGRADA - RASGO PARA RECOLHEDOR (MH002)

Usinar Perfis
IN016

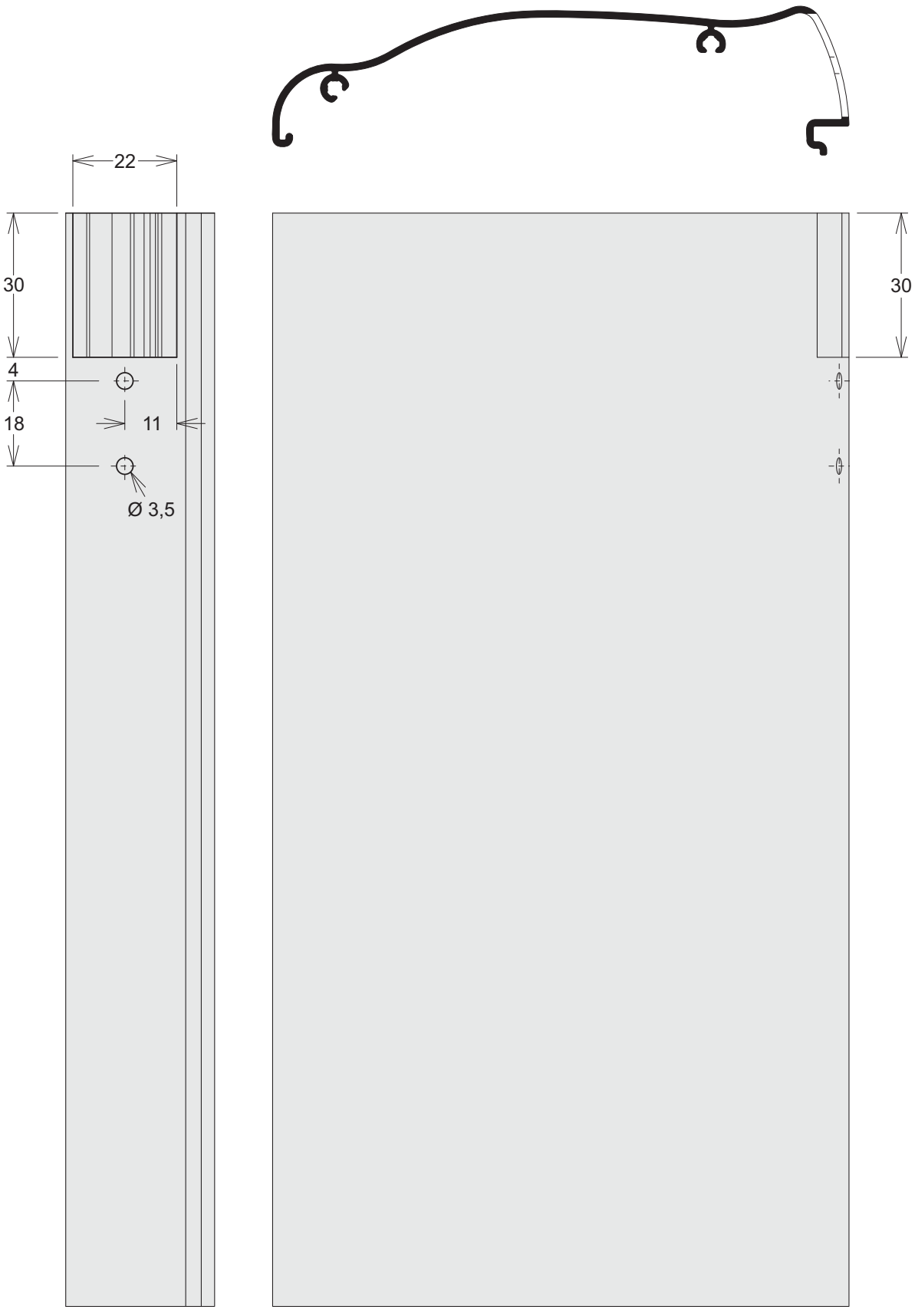


Nota:

Peças conforme e contrário

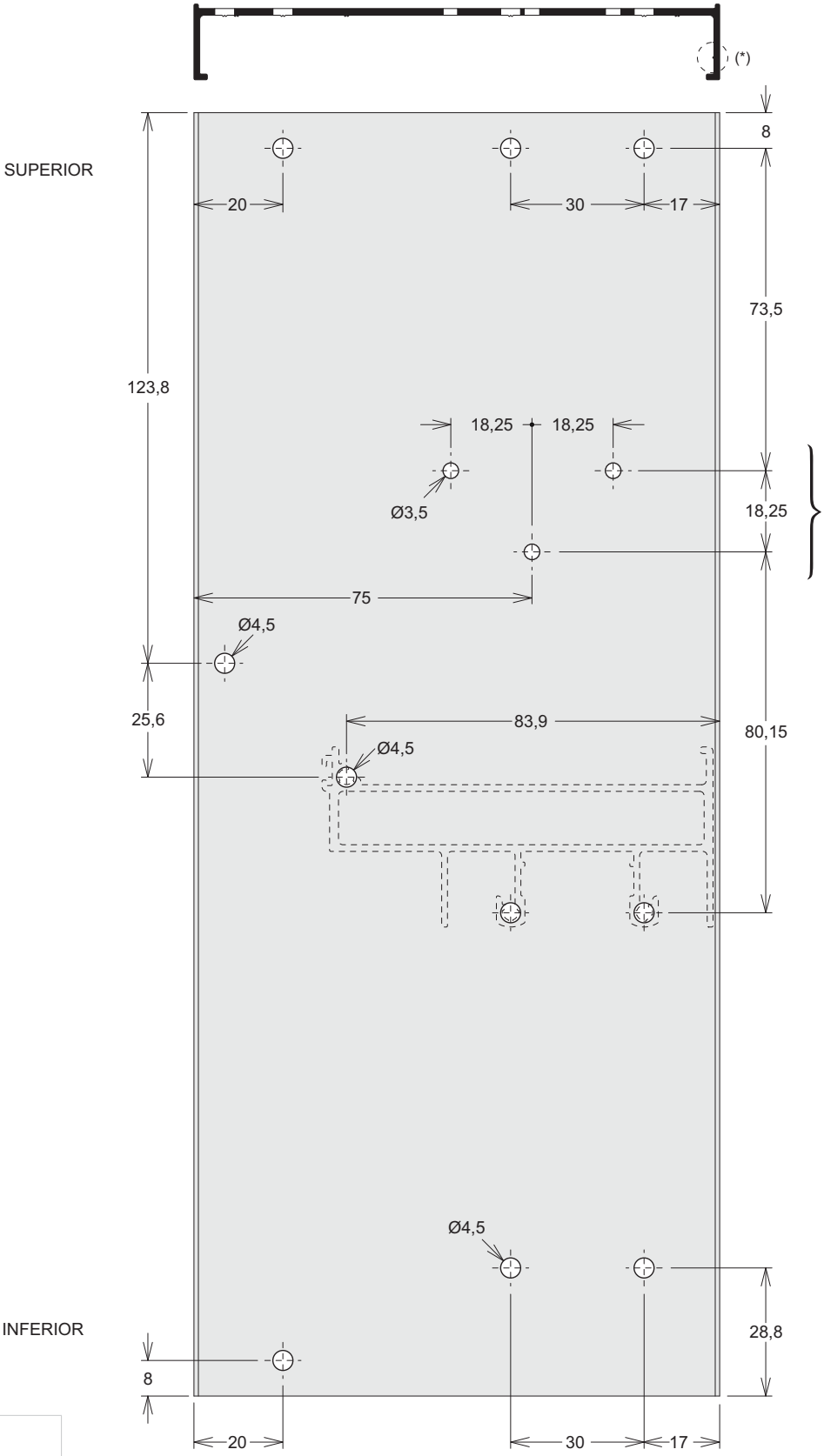
ALOJAMENTO DA GUIA DA FITA - PERSIANA / JANELA

Usinar Perfis
IN014
IN038



MARCO JANELA INTEGRADA - TRAVESSA TUBULAR

Usinar Perfis
MH004



(*) Identificação do lado Interno

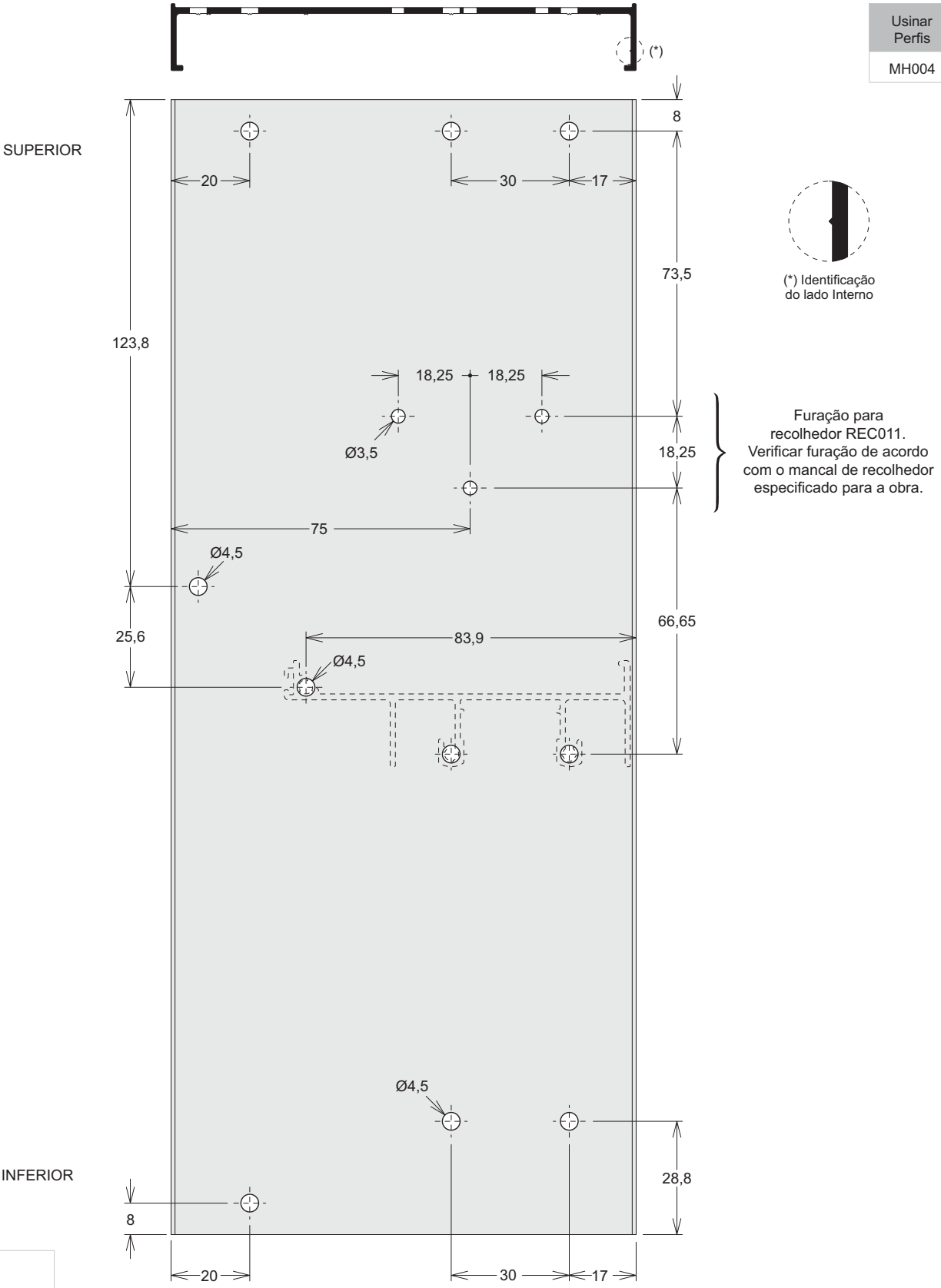
Furação para recolhedor REC011. Verificar furação de acordo com o mancal de recolhedor especificado para a obra.

Nota:

Peças conforme e contrário

MARCO JANELA INTEGRADA - TRAVESSA SÓLIDA

Usinar Perfis
MH004



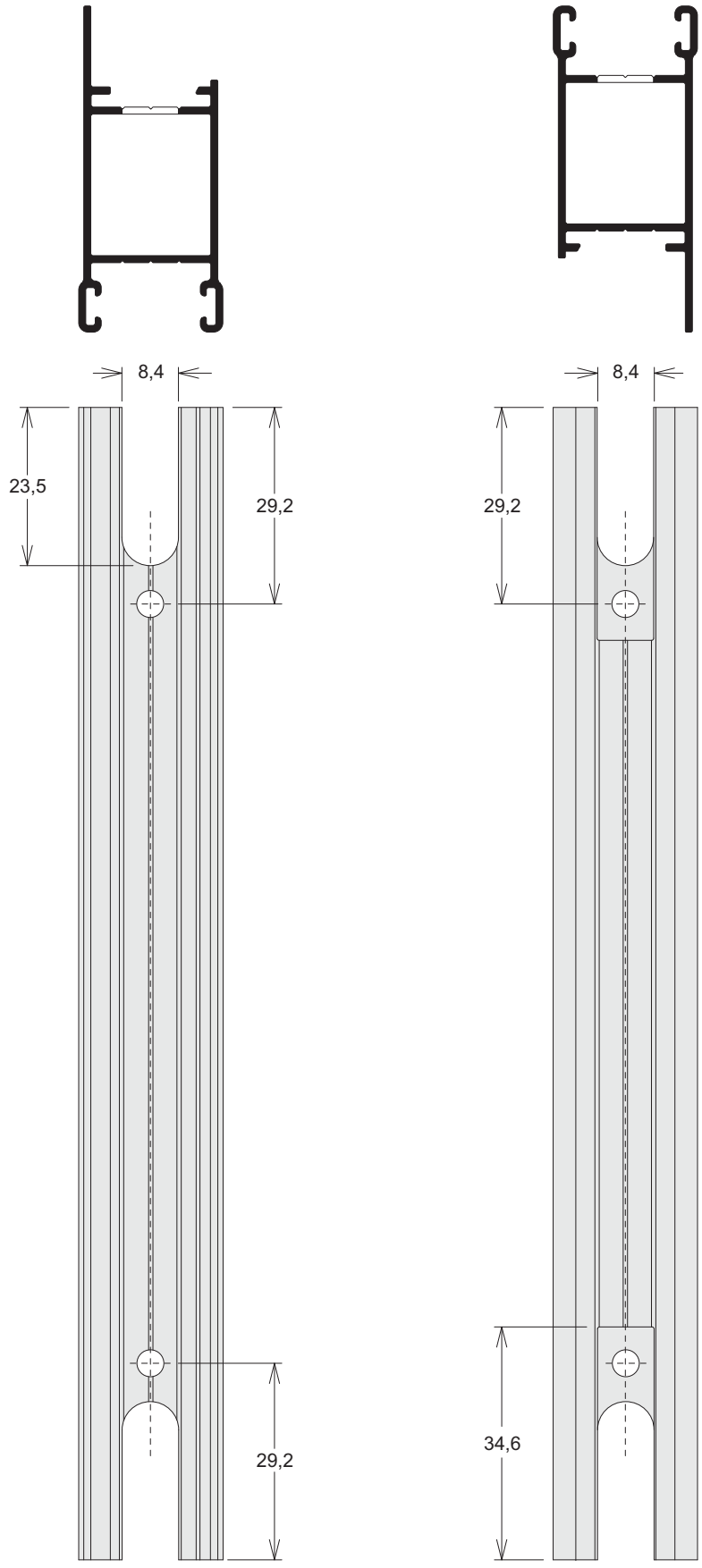
(*) Identificação do lado Interno

Furação para recolhedor REC011. Verificar furação de acordo com o mancal de recolhedor especificado para a obra.

Nota:

Peças conforme e contrário

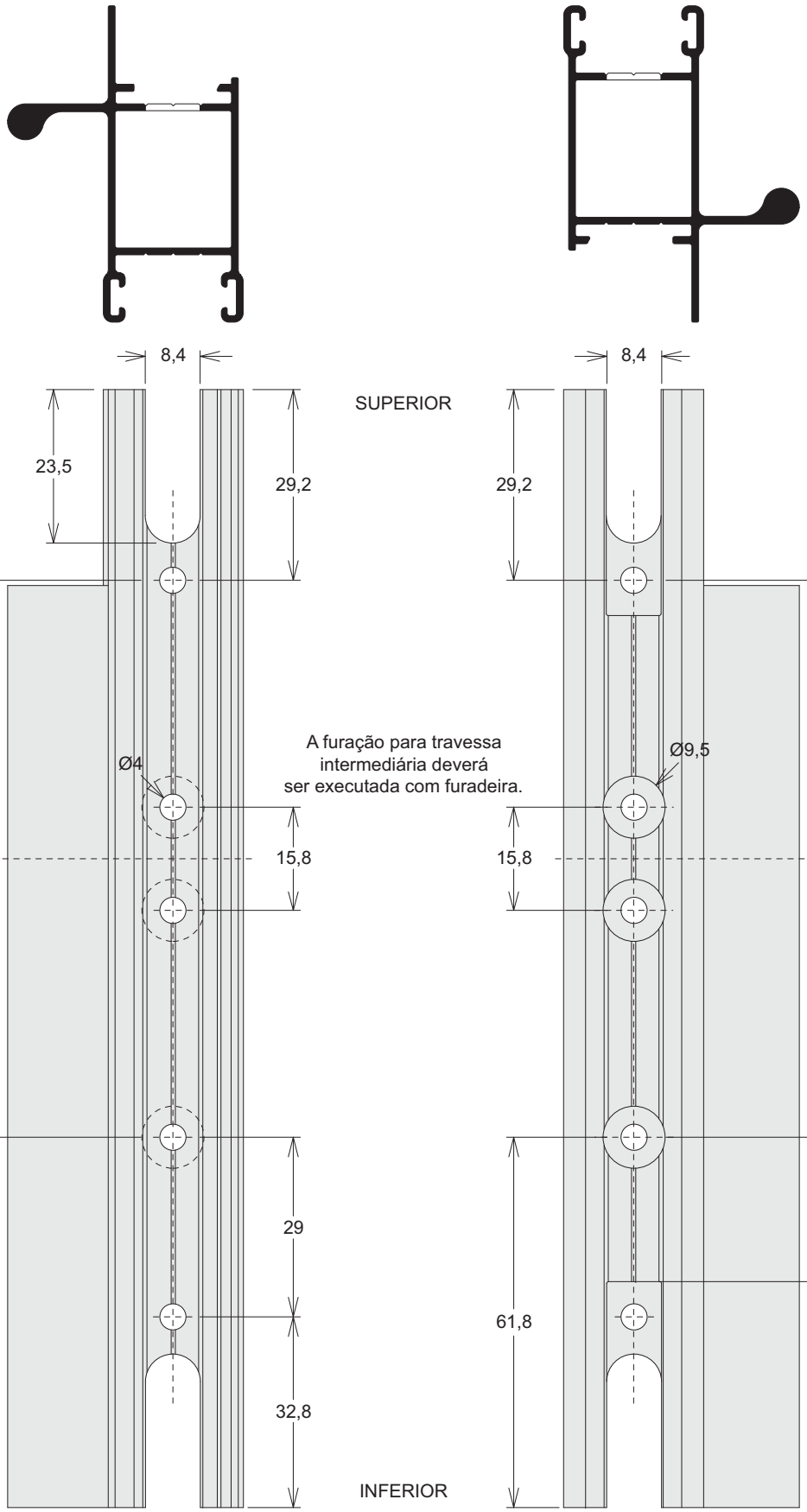
FIXAÇÃO DAS TRAV. - JAN. - ENCAIXE P/ GUIA DESLIZ. - RASGOS P/ PASS. DOS TRILHOS



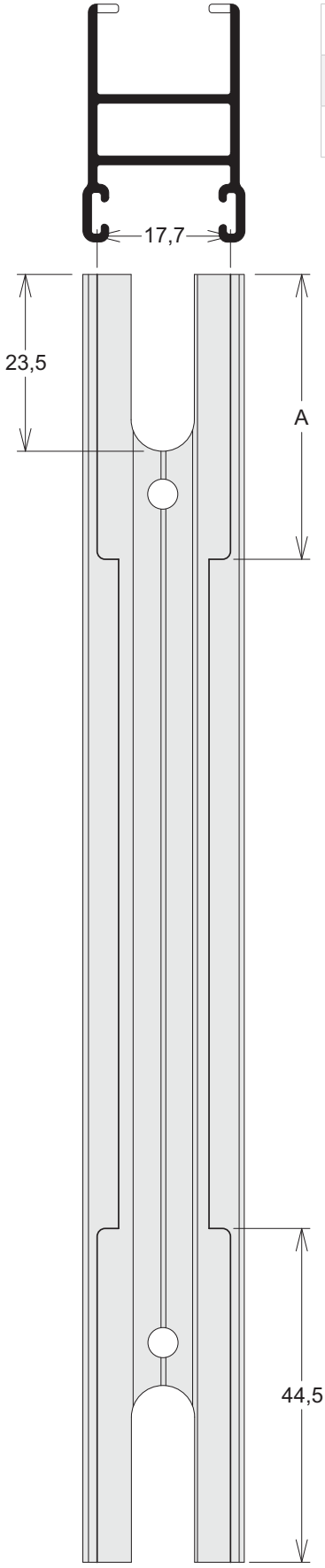
Usinar Perfis
MH010
MH011
MH012
MH022
MH043
MH044
MH055
MH057
MH058
MH062
MH074
MH083
MH086
MH092
MH093
MH131
MH154

FIXAÇÃO DAS TRAV. - PORT. - ENCAIXE P/ GUIA DESLIZ. - RASGOS P/ PASS. DOS TRILHOS

Usinar Perfis
MH026
MH030
MH032
MH056
MH059
MH060
MH063
MH082
MH085
MH128



ALOJAMENTO DAS TRAVESSAS - JANELA SLIM SEM BAGUETE



Medida A	Recebe perfil
38	MH091
44,5	MH090

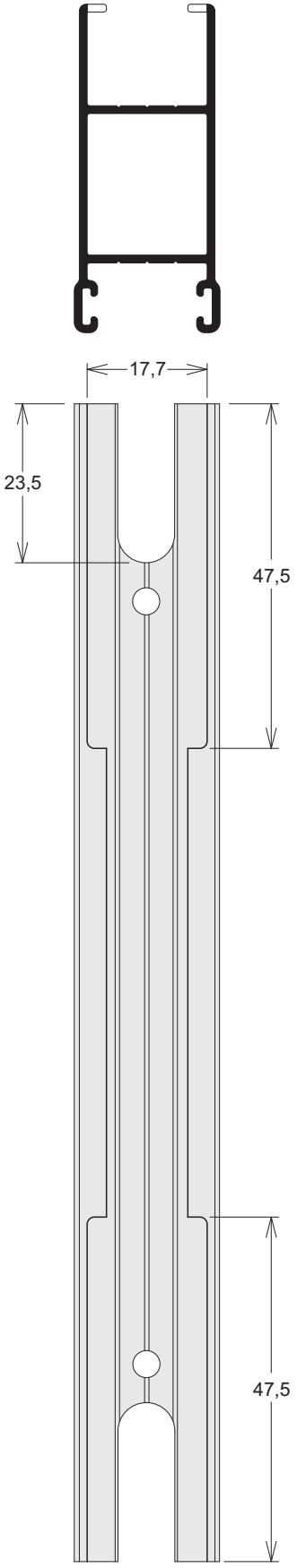
Usinar Perfis
MH092
MH093

Nota:

Peças conforme e contrário

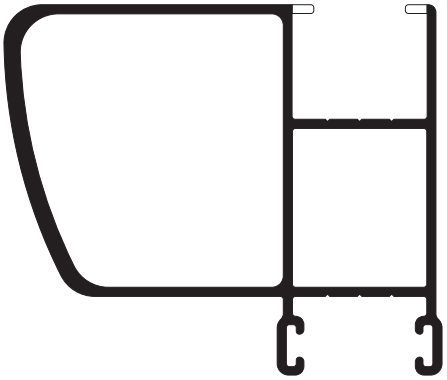
ALOJAMENTO DAS TRAVESSAS - JANELA SEM BAGUETE

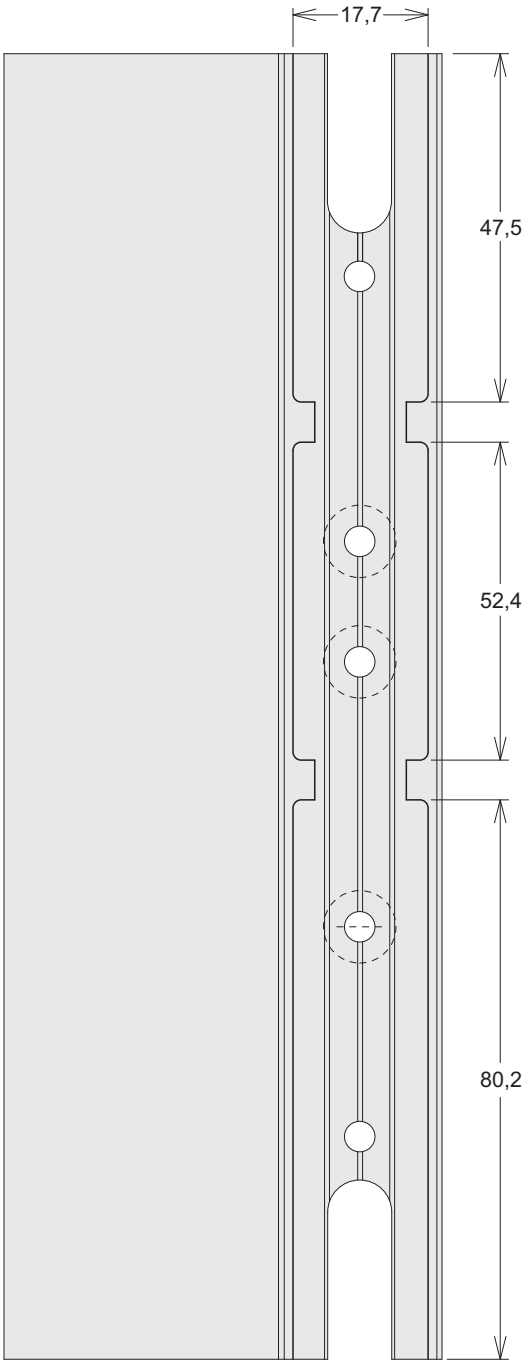
Usinar Perfis
MH055
MH057
MH058
MH062
MH083
MH086
MH131



ALOJAMENTO DAS TRAVESSAS - PORTA SEM BAGUETE

Usinar Perfis
MH056
MH059
MH060
MH082
MH085
MH128

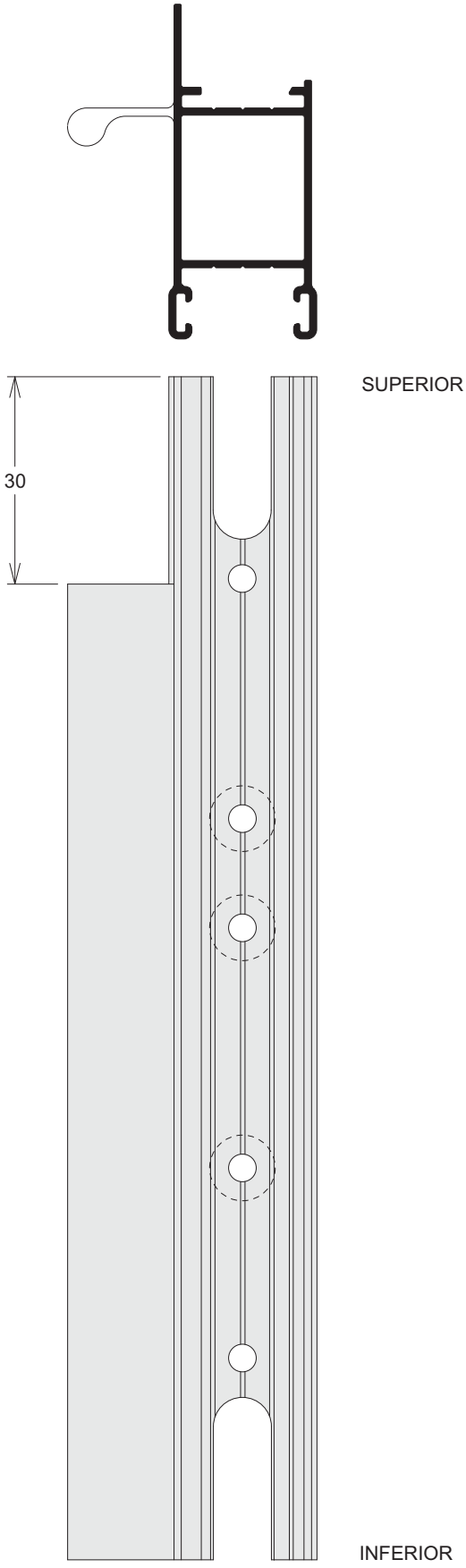




A furação para travessa intermediária deverá ser executada com furadeira.

DESABE DO REFORÇO OPÇÃO 01 - SUPERIOR

Usinar Perfis
MH032
MH056



DESABE DO REFORÇO OPÇÃO 02 - SUPERIOR

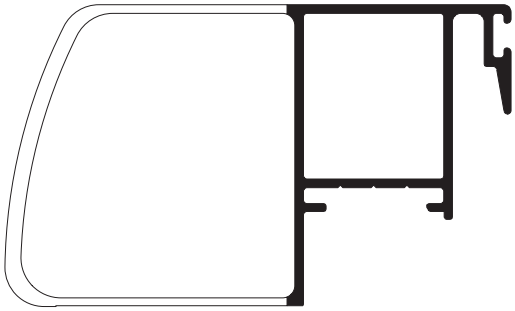
Usinar Perfis
MH022
MH062
MH131

SUPERIOR

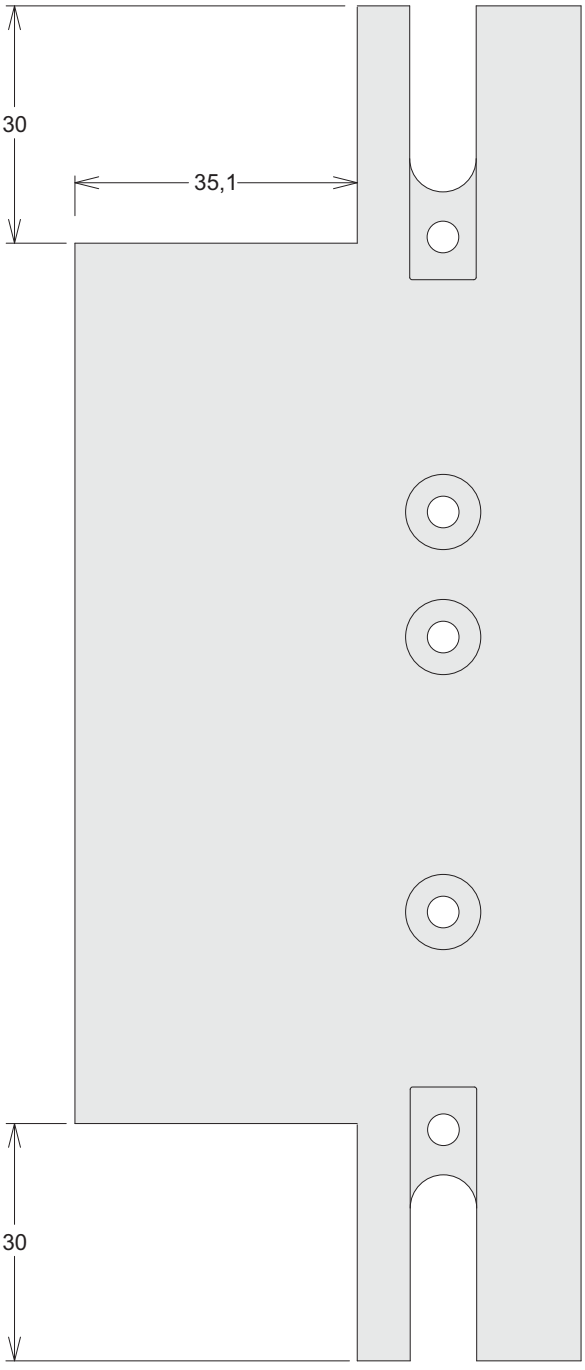
INFERIOR

Nota:
Peças conforme e contrário

DESABE DO REFORÇO - SUPERIOR E INFERIOR



Usinar Perfis
MH026
MH030
MH060
MH063
MH076
MH082
MH128



SUPERIOR

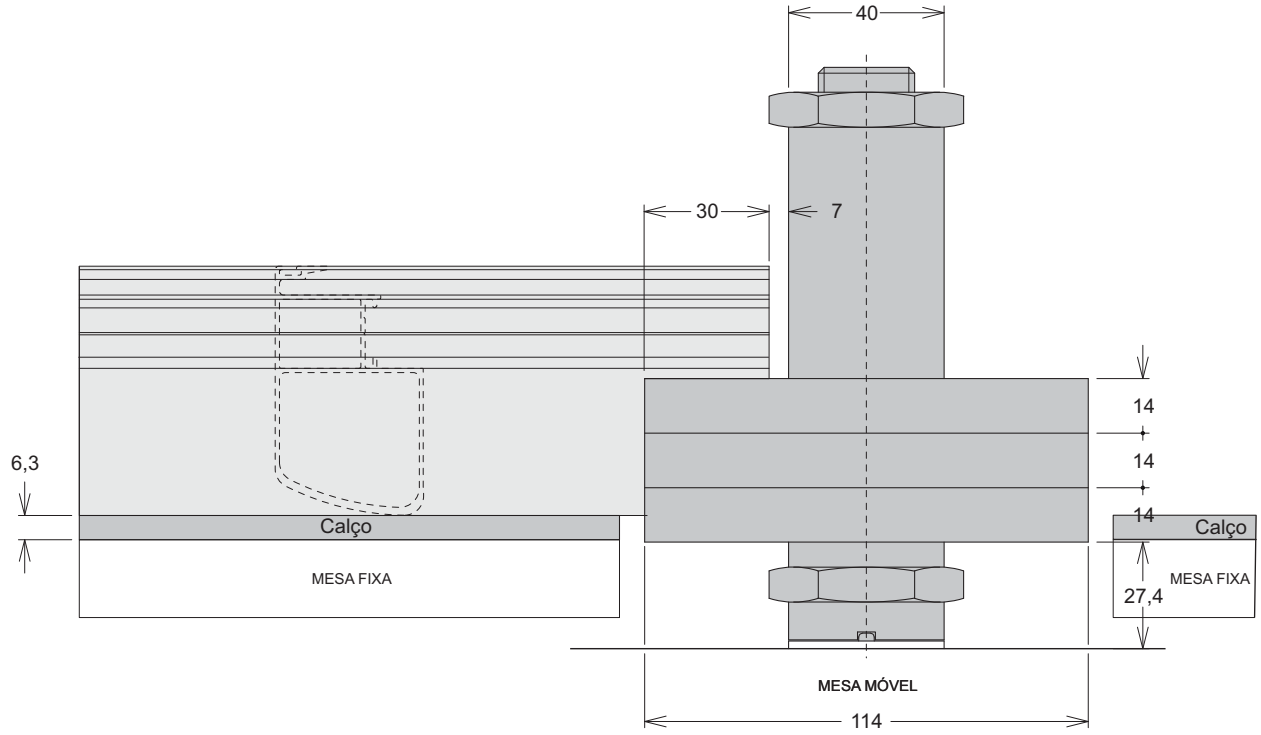
INFERIOR

Nota:

Peças conforme e contrário

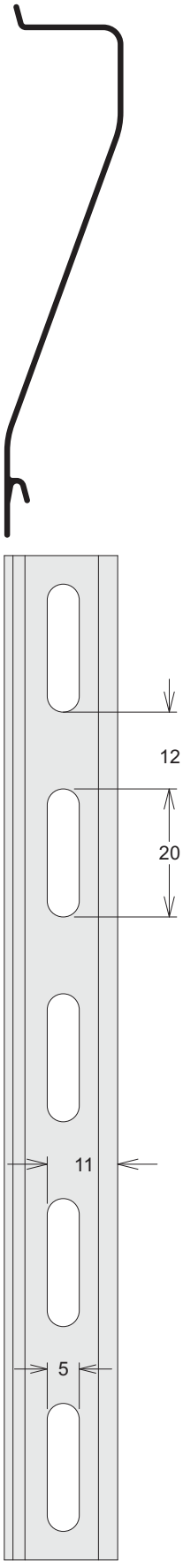
DETALHE COM ENTESTADEIRA

Usinar Perfis
MH026
MH030
MH059
MH060
MH063
MH076
MH082
MH128



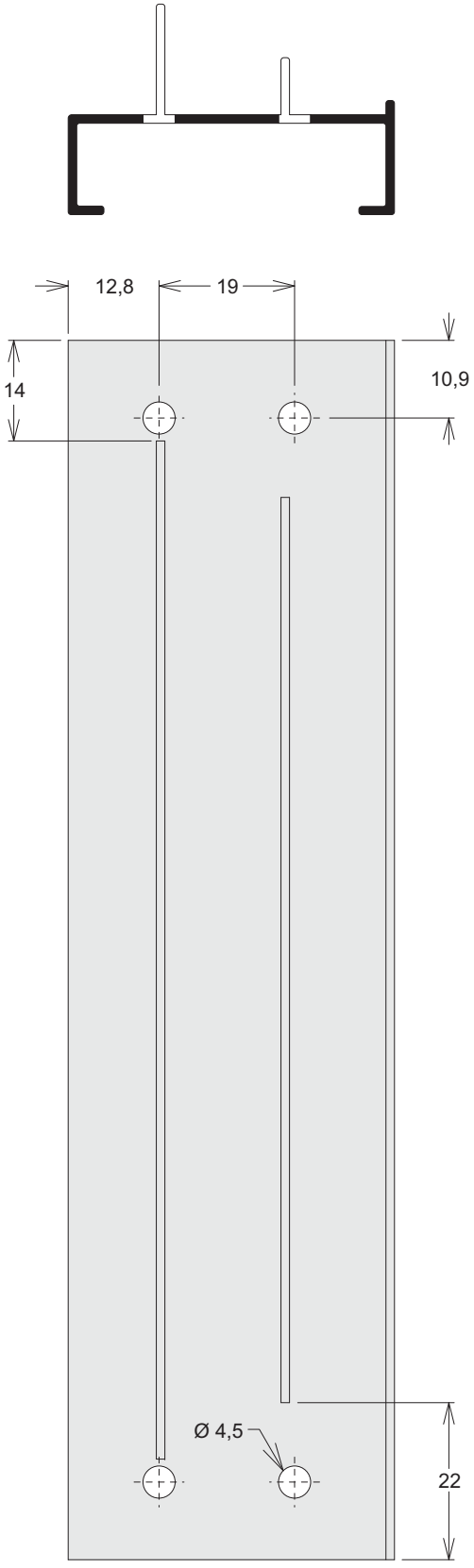
VENTILAÇÃO DE VENEZIANAS

Usinar Perfis
VZ072



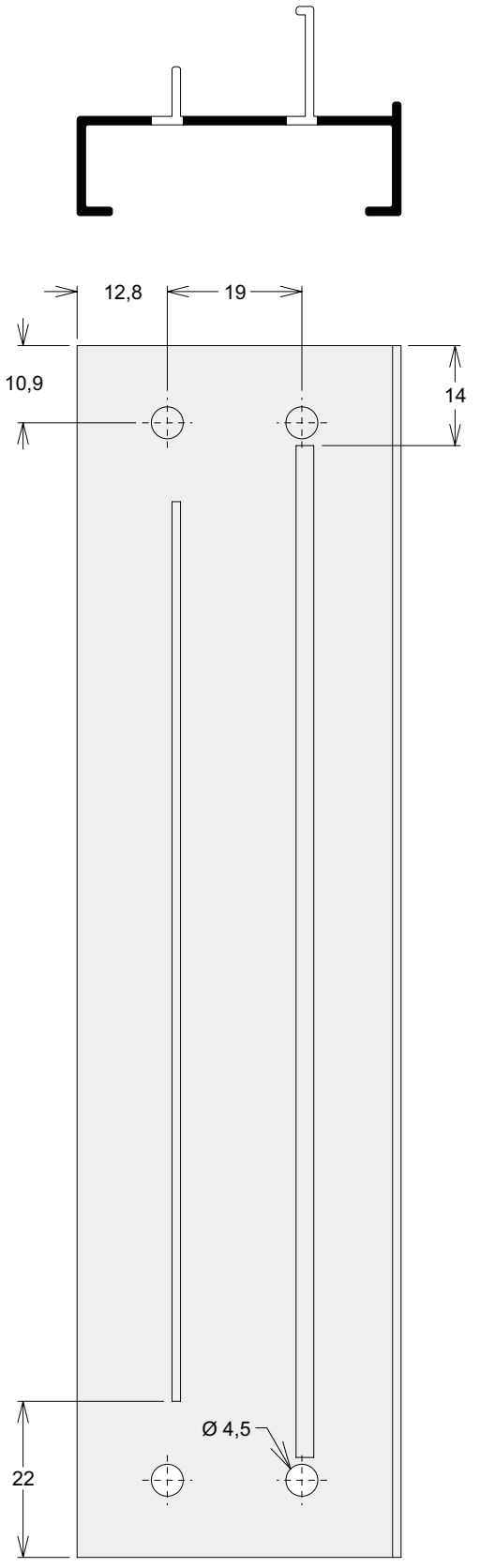
DESABE DAS MATAJUNTAS E FURAÇÃO DO MARCO SUPERIOR - JANELA BASCULANTE

Usinar Perfis
MH119



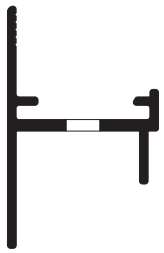
DESABE DAS MATAJUNTAS E FURAÇÃO DO MARCO INFERIOR - JANELA BASCULANTE

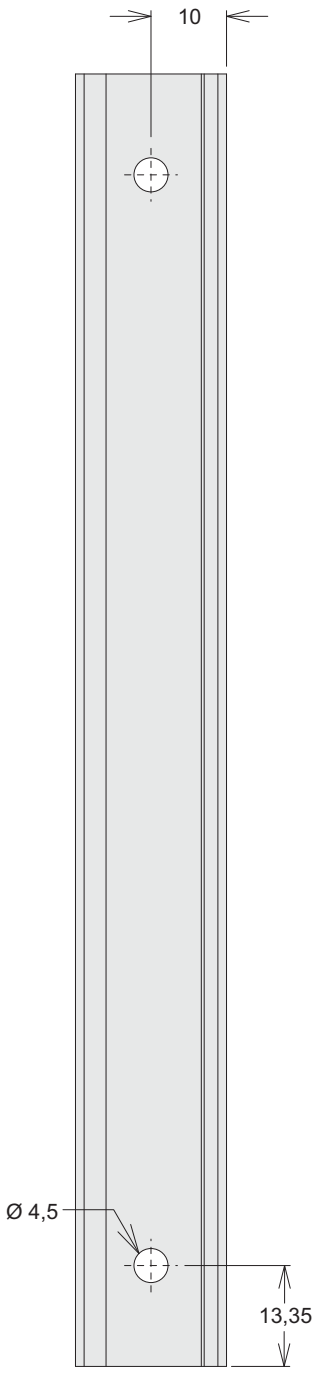
Usinar Perfis
MH118



FIXAÇÃO DOS MONTANTES - JANELA BASCULANTE

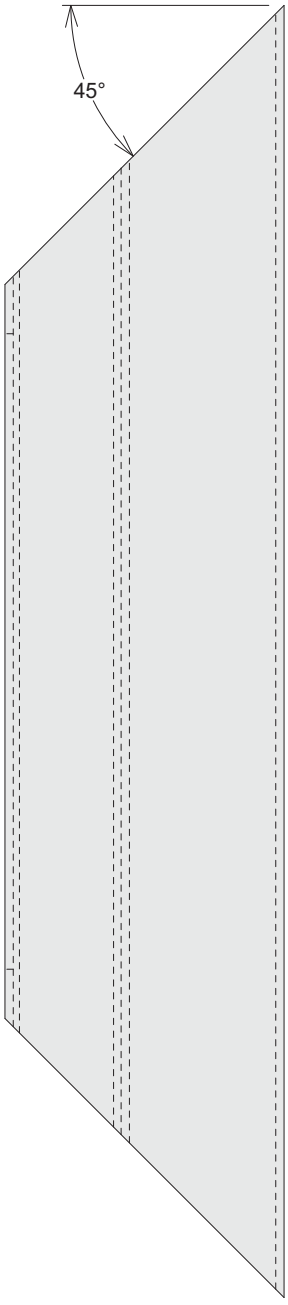
Usinar Perfis
MH123
MH124

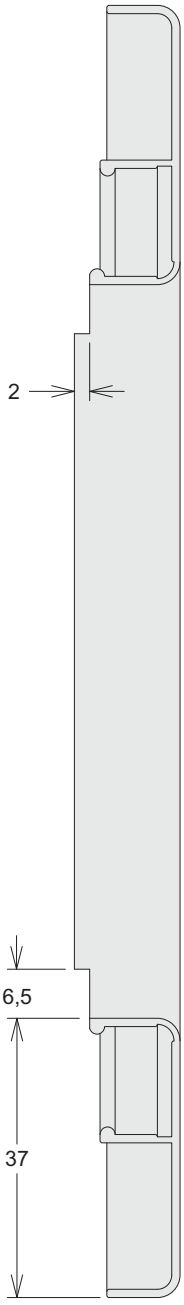




RECORTES REMATES HORIZONTAIS

Usinar Perfis
RM001

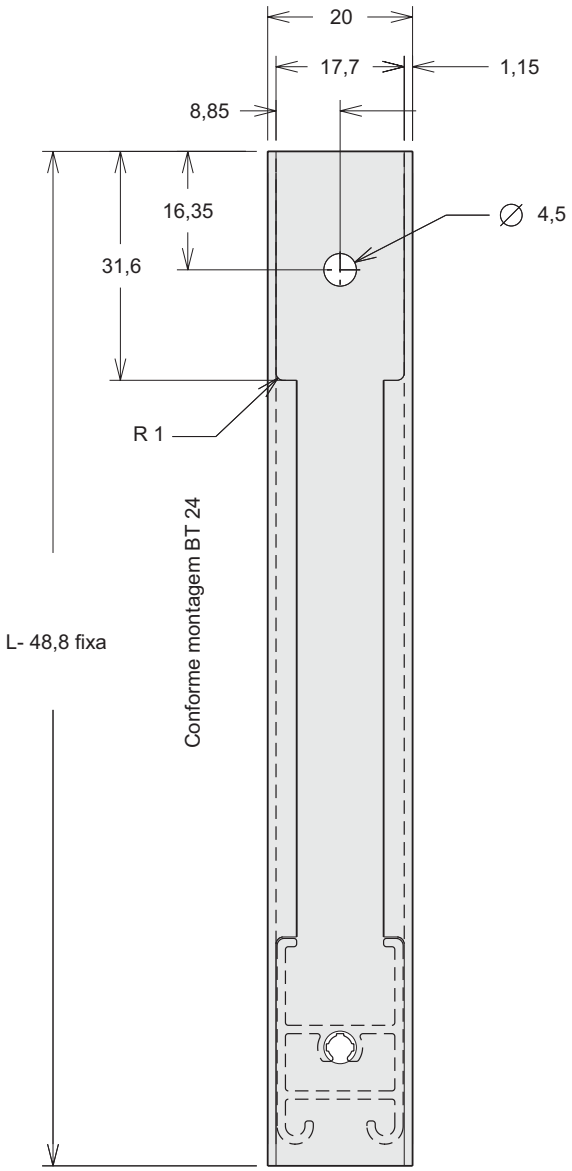


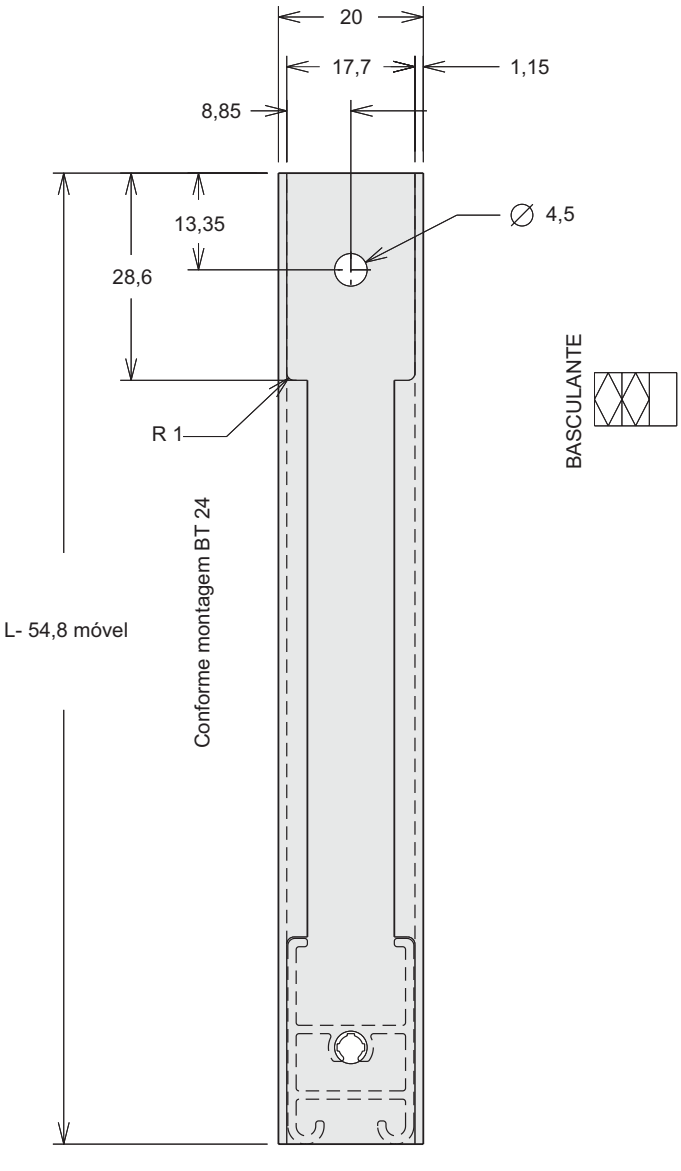


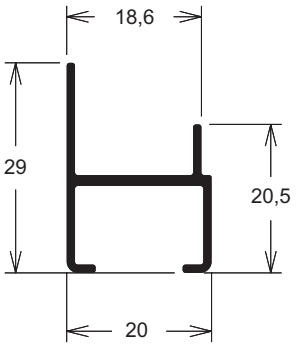
OBS:

Nas Janelas Basculantes estes remates são utilizados na posição vertical.

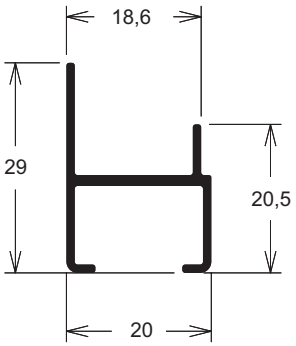
JANELA BASCULANTE







MH181
Usinagens das travessas
das folhas fixas



MH181
Usinagens das travessas
das folhas móveis

MASTER®

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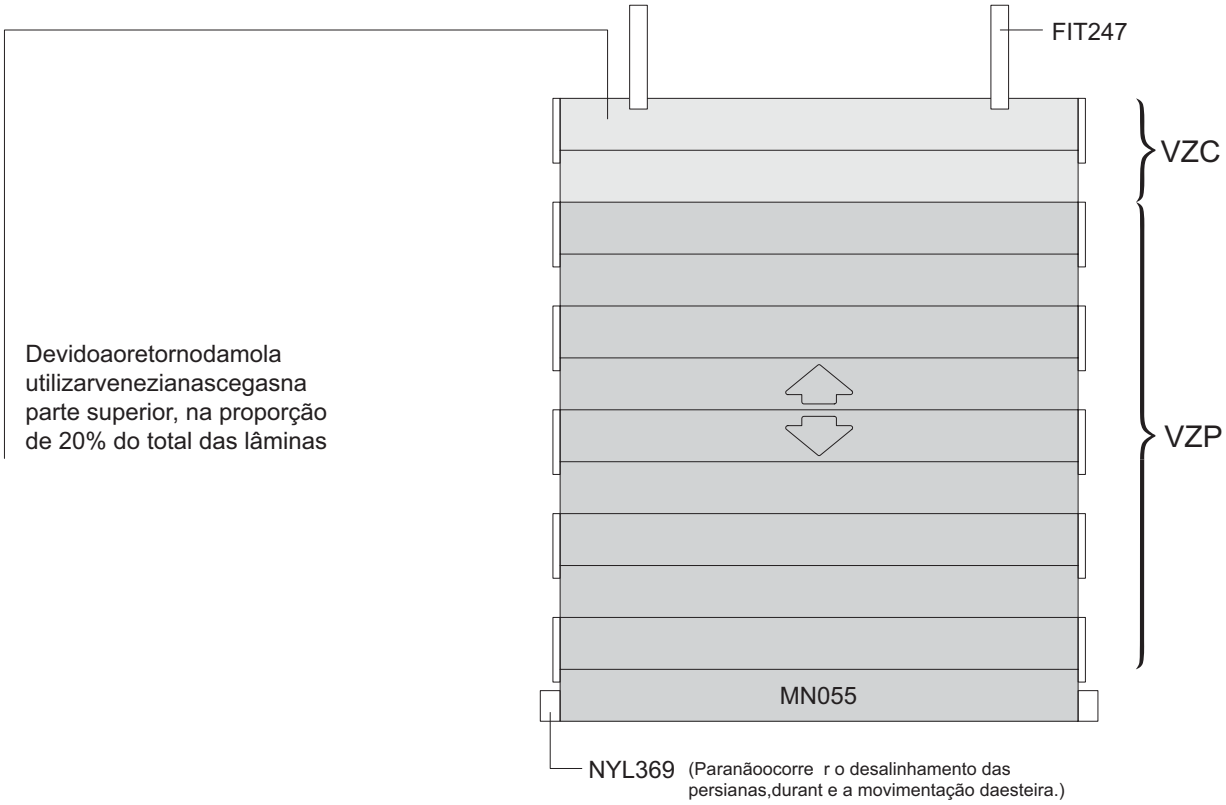
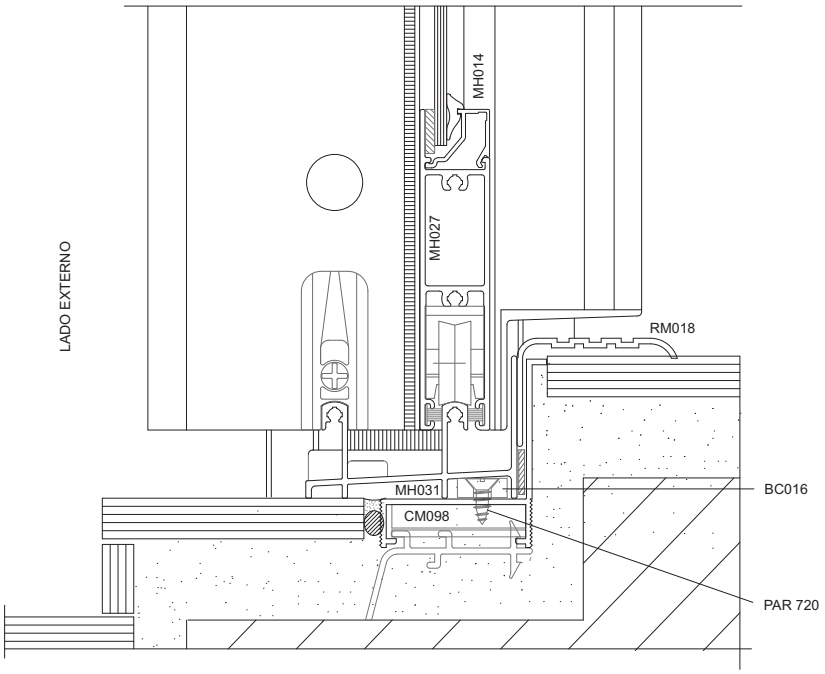
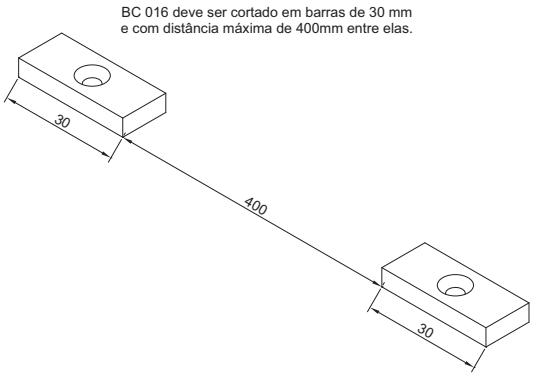
Orientação de Montagem BC016	I-01
Diâmetro Máximo Útil do Rolo das Persianas	I-02 e I-03

ORIENTAÇÃO DE MONTAGEM DOS PAINÉIS DE PERSIANA

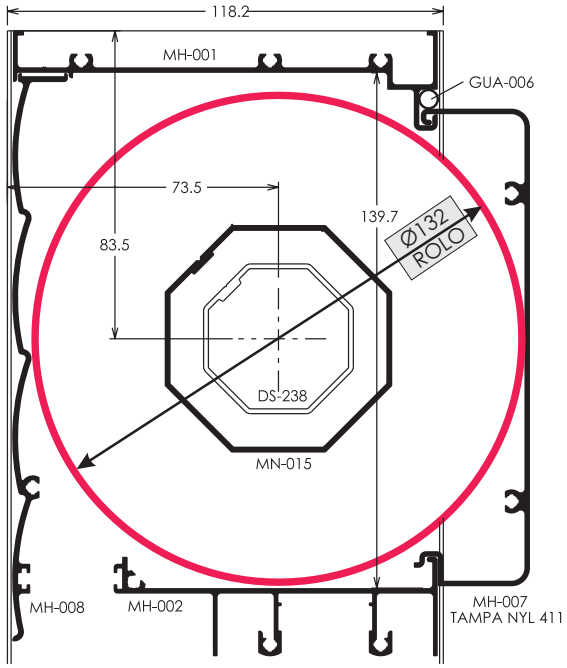


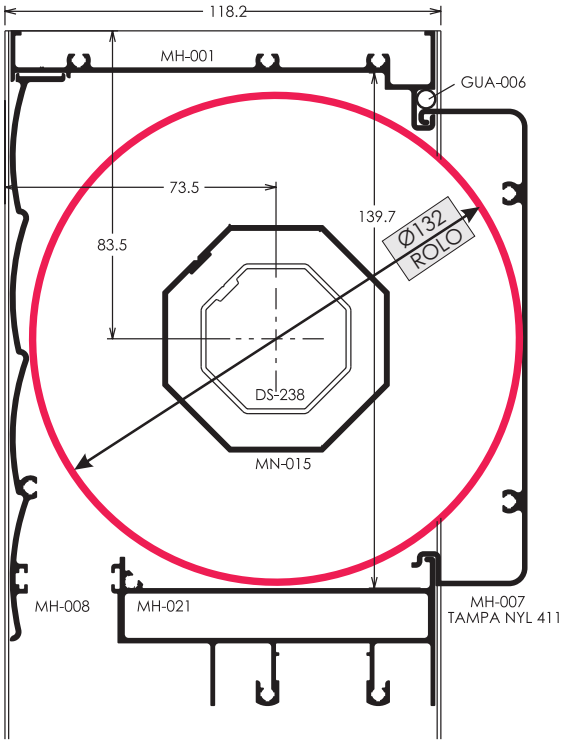
ORIENTAÇÃO DE MONTAGEM - BC016

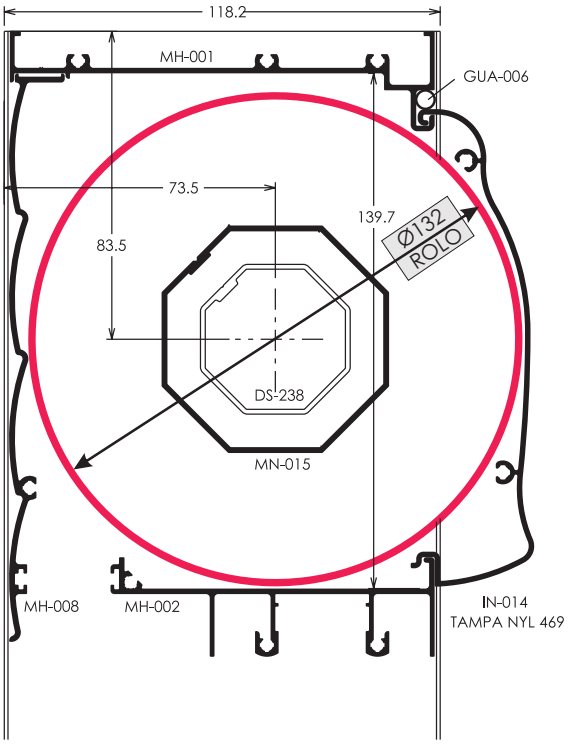


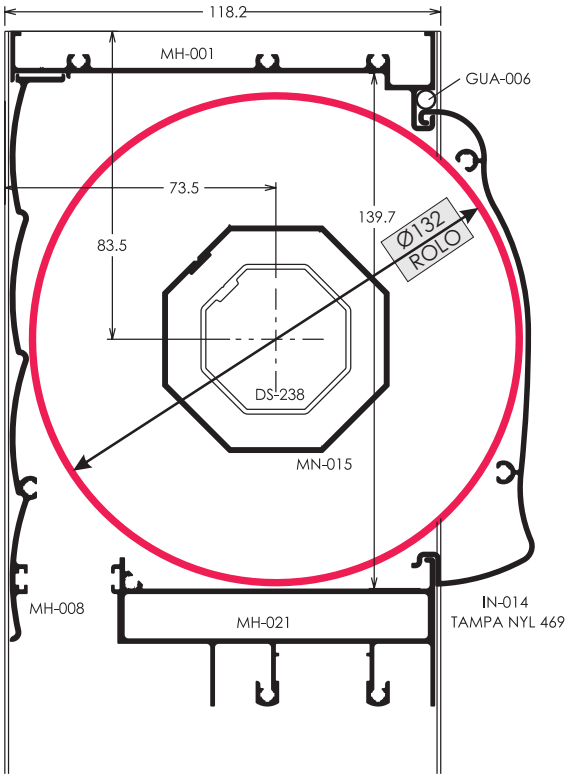


DIÂMETRO MÁXIMO ÚTIL DO ROLO DAS PERSIANAS





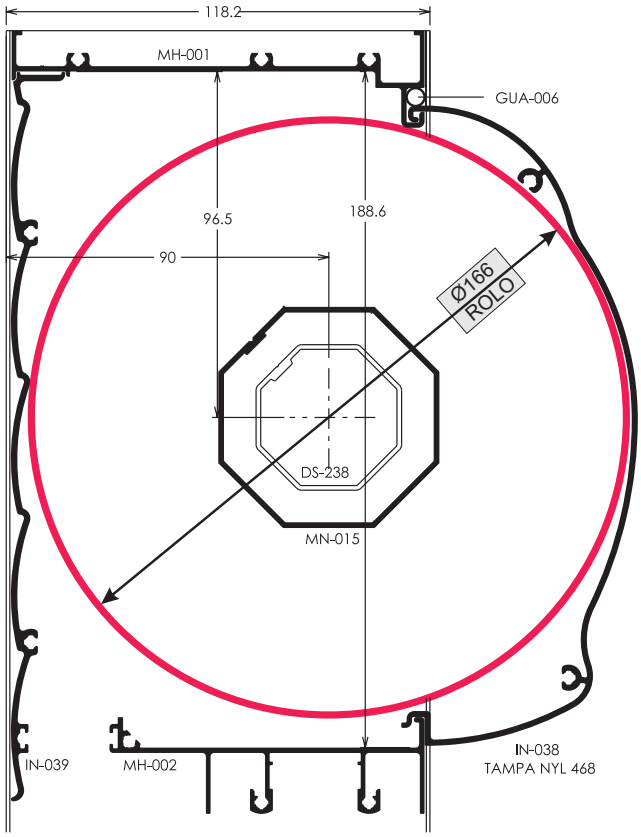


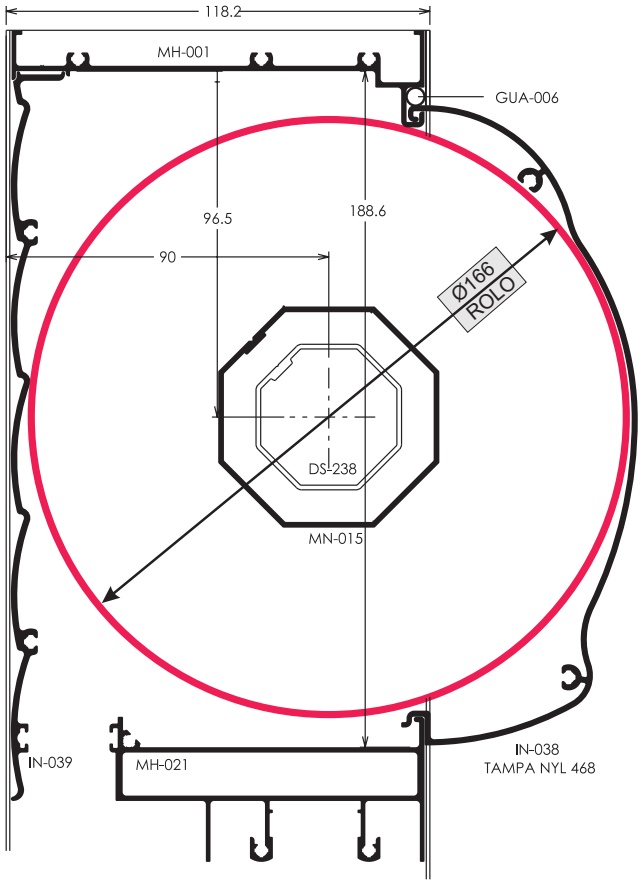


Observações:

1) Não considerar revestimento termoacústico nas partes internas da caixa que reduzem o diâmetro útil do rolo.
2) Os eixos dos oitavados estão centralizados mas para conseguir melhor performance, fazer protótipo, pois devido a acomodação das persianas, ocorre pequeno deslocamento do eixo.
3) Consultar fornecedor das persianas para saber qual altura e largura que o produto atinge em relação ao diâmetro consultado.
4) Lembrar que o limite da largura máxima é 1800 mm.

DIÂMETRO MÁXIMO ÚTIL DO ROLO DAS PERSIANAS





Observações:

1) Não considerar revestimento termoacústico nas partes internas da caixa que reduzem o diâmetro útil do rolo.
2) Os eixos dos oitavados estão centralizados mas para conseguir melhor performance, fazer protótipo, pois devido a acomodação das persianas, ocorre pequeno deslocamento do eixo.
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4) Lembrar que o limite da largura máxima é 1800 mm.

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Janela de Correr 2 Folhas sem Baguetes Master Leve	J-04
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Janela Basculante 3 Folhas em 2 Módulos sem Baguetes	J-33
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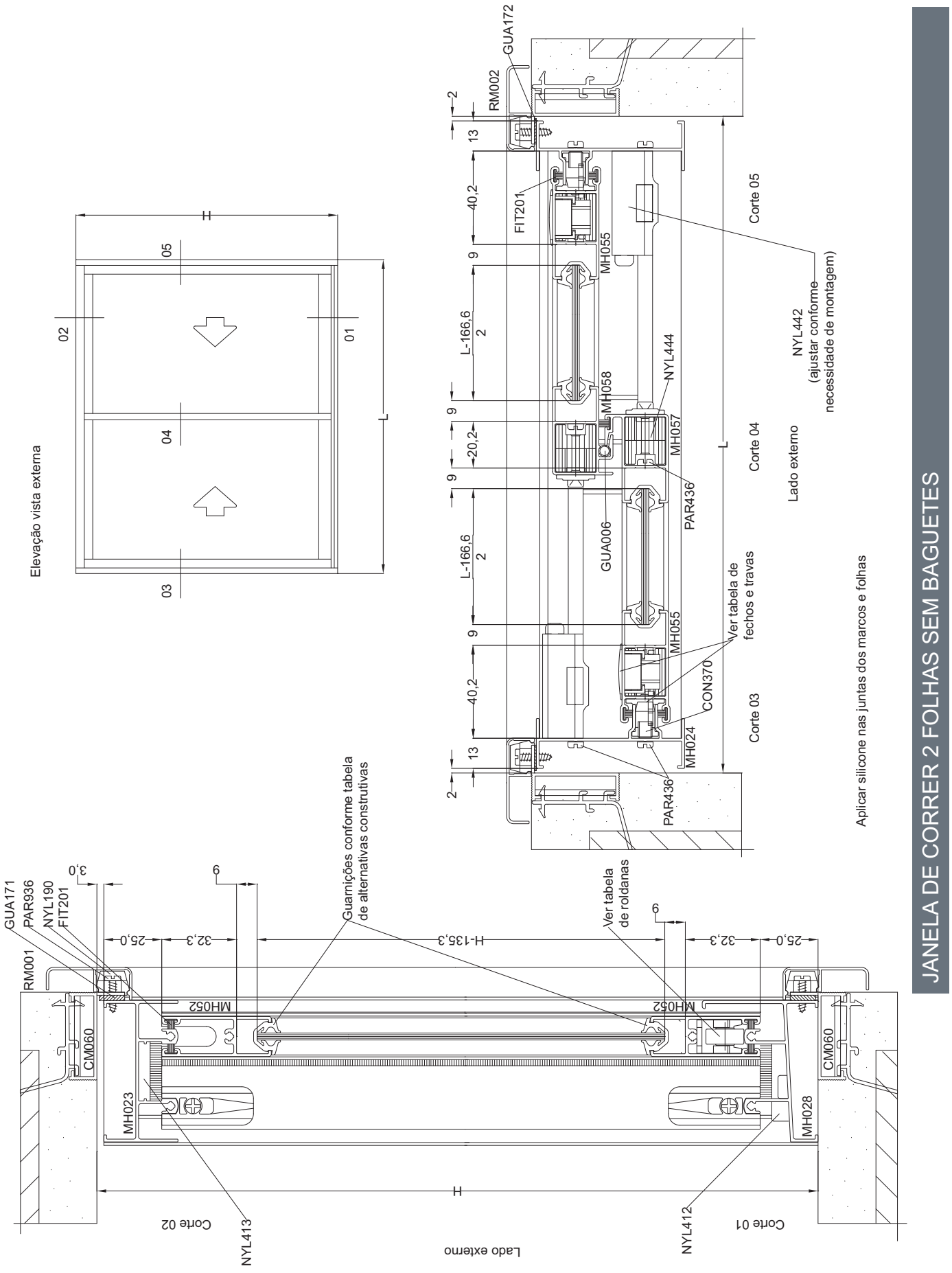
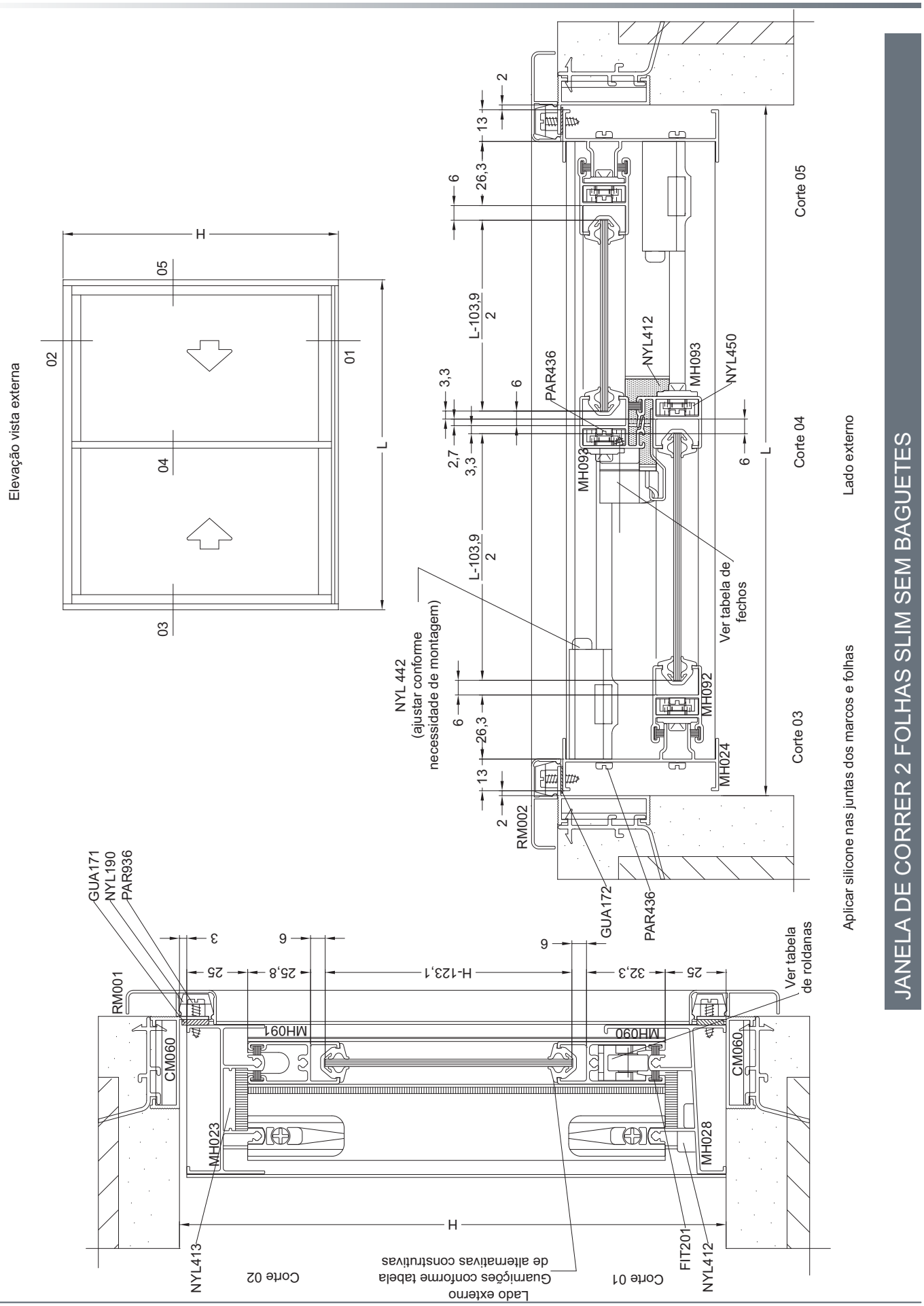
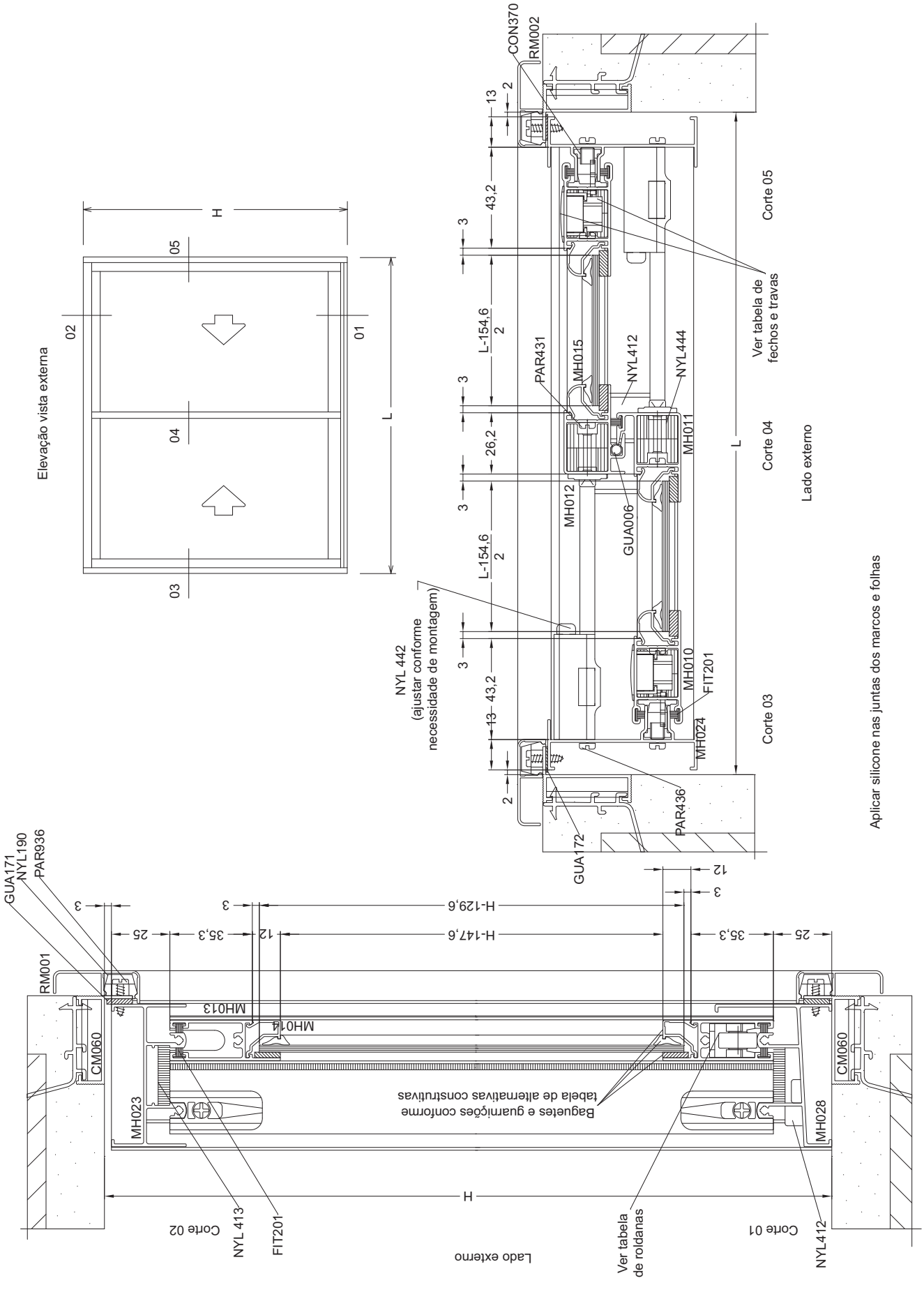

JANELA DE CORRER 2 FOLHAS SEM BAGUETES
Elevação vista externa
H
L
01
02
03
04
05
Corte 05
Corte 04
Corte 03
Lado externo
GUA172
RM002
FIT201
MH055
MH058
NYL444
MH057
PAR436
GUA006
CON370
MH024
NYL442
(ajustar conforme necessidade de montagem)
Ver tabela de fechos e travas
Aplicar silicone nas juntas dos marcos e folhas
L-166,6
40,2
20,2
Guarnições conforme tabela de alternativas construtivas
Ver tabela de roldanas
GUA171
PAR936
NYL190
FIT201
RM001
MH052
CM060
MH023
MH028
H-135,3
25,0
32,3
3,0
6
9
13
2
Corte 02
Corte 01
Lado externo
NYL413
NYL412

Desenhos de Montagem

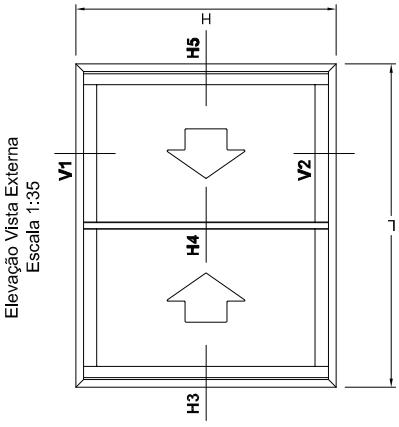


JANELA DE CORRER 2 FOLHAS SLIM SEM BAGUETES

Desenhos de Montagem

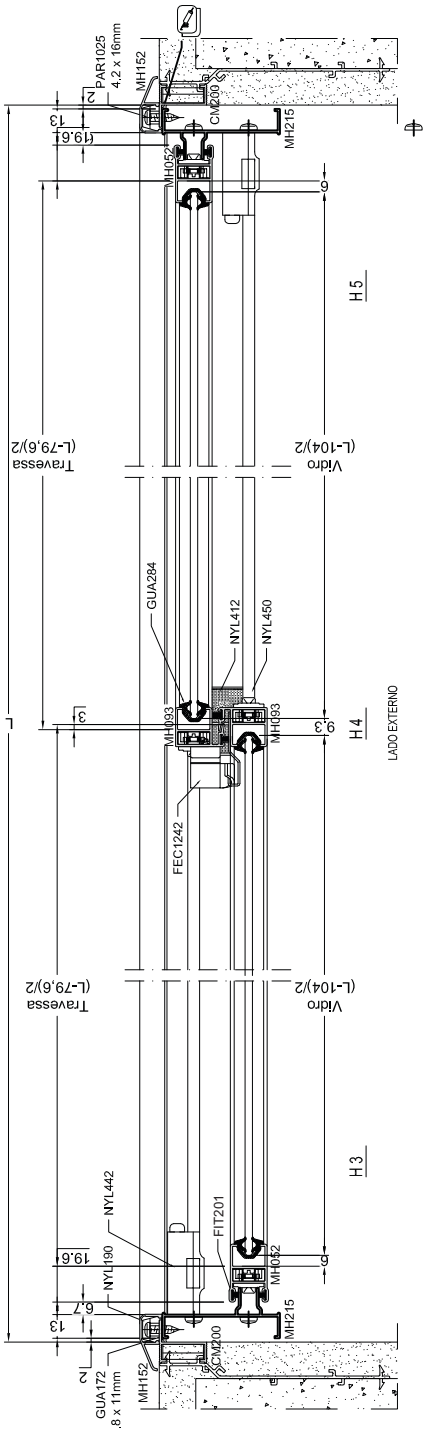


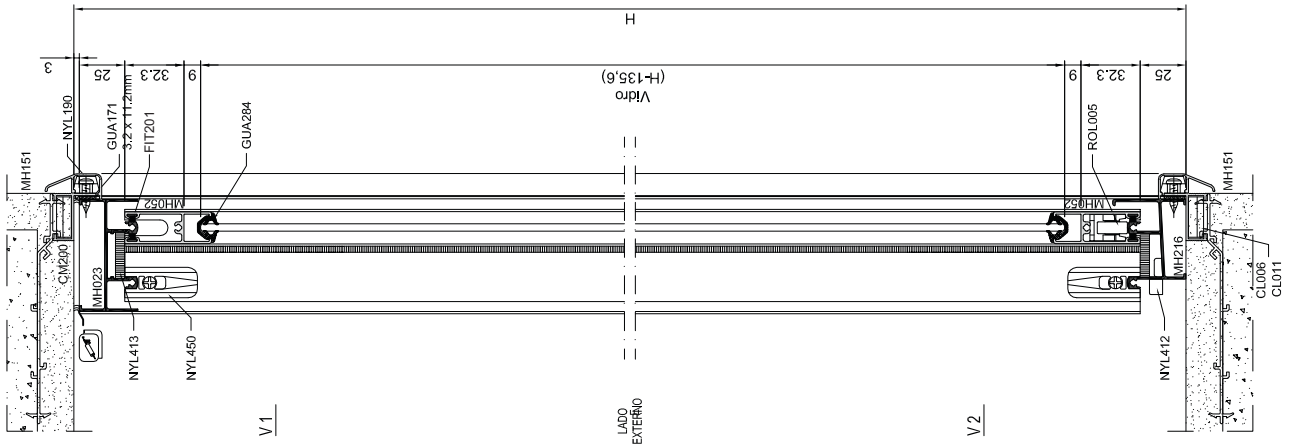
JANELA DE CORRER 2 FOLHAS SEM BAGUETES MASTER LEVE

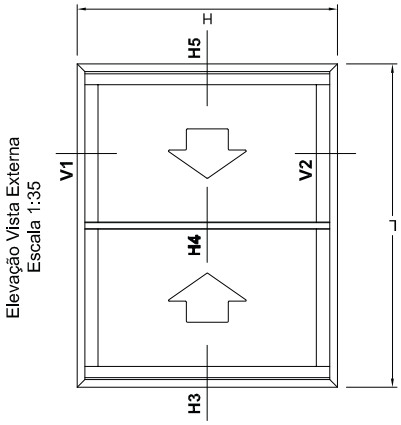


Elevação Vista Externa
Escala 1:35

Notas do projeto:
- Efetuar fechamento dos contramarcos, marcos e folhas com silicone de cura neutra.

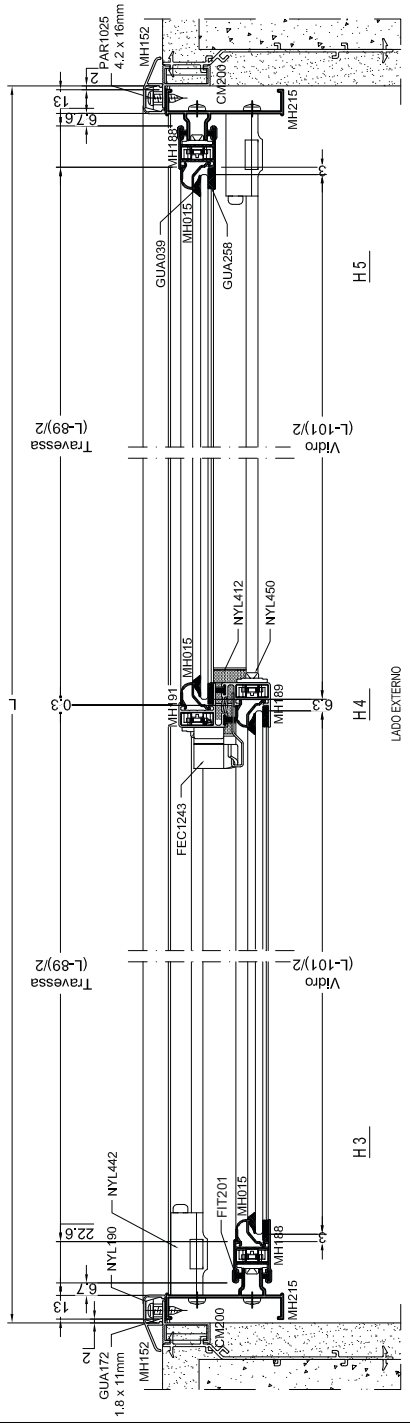


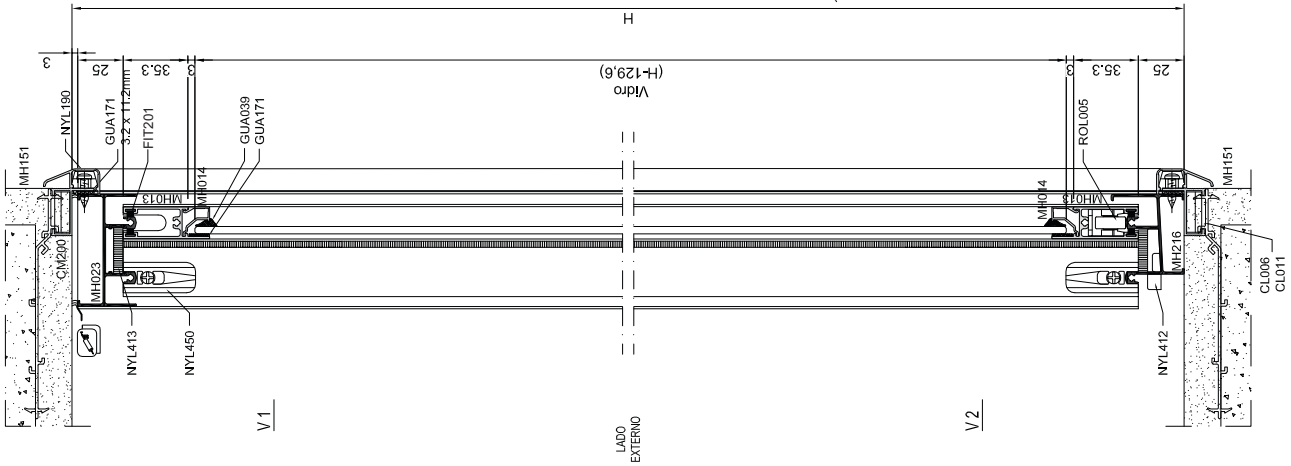




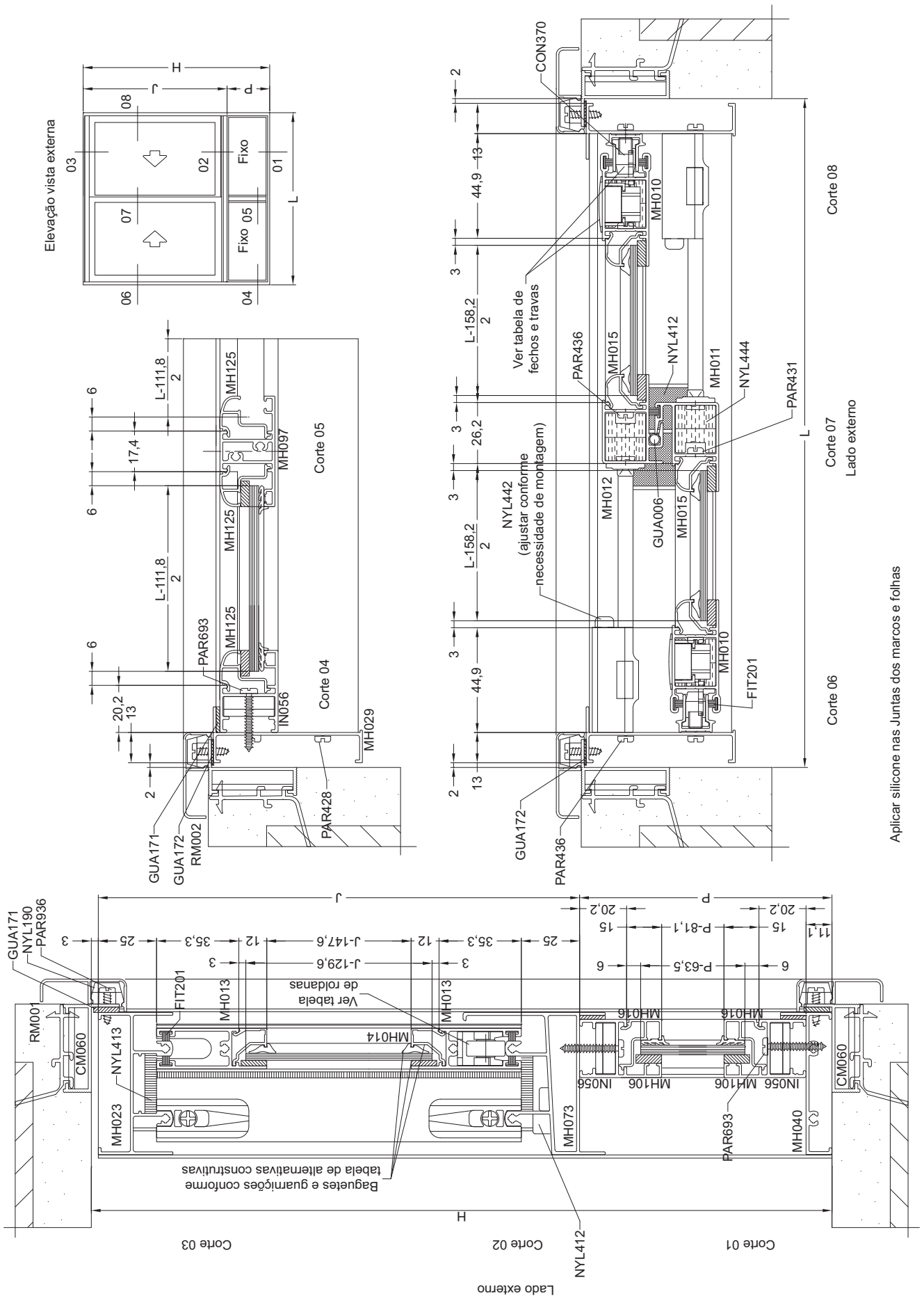
Elevação Vista Externa
Escala 1:35

Notas do projeto:
- Efetuar fechamento dos contramarcos, marcos e folhas com silicone de cura neutra.

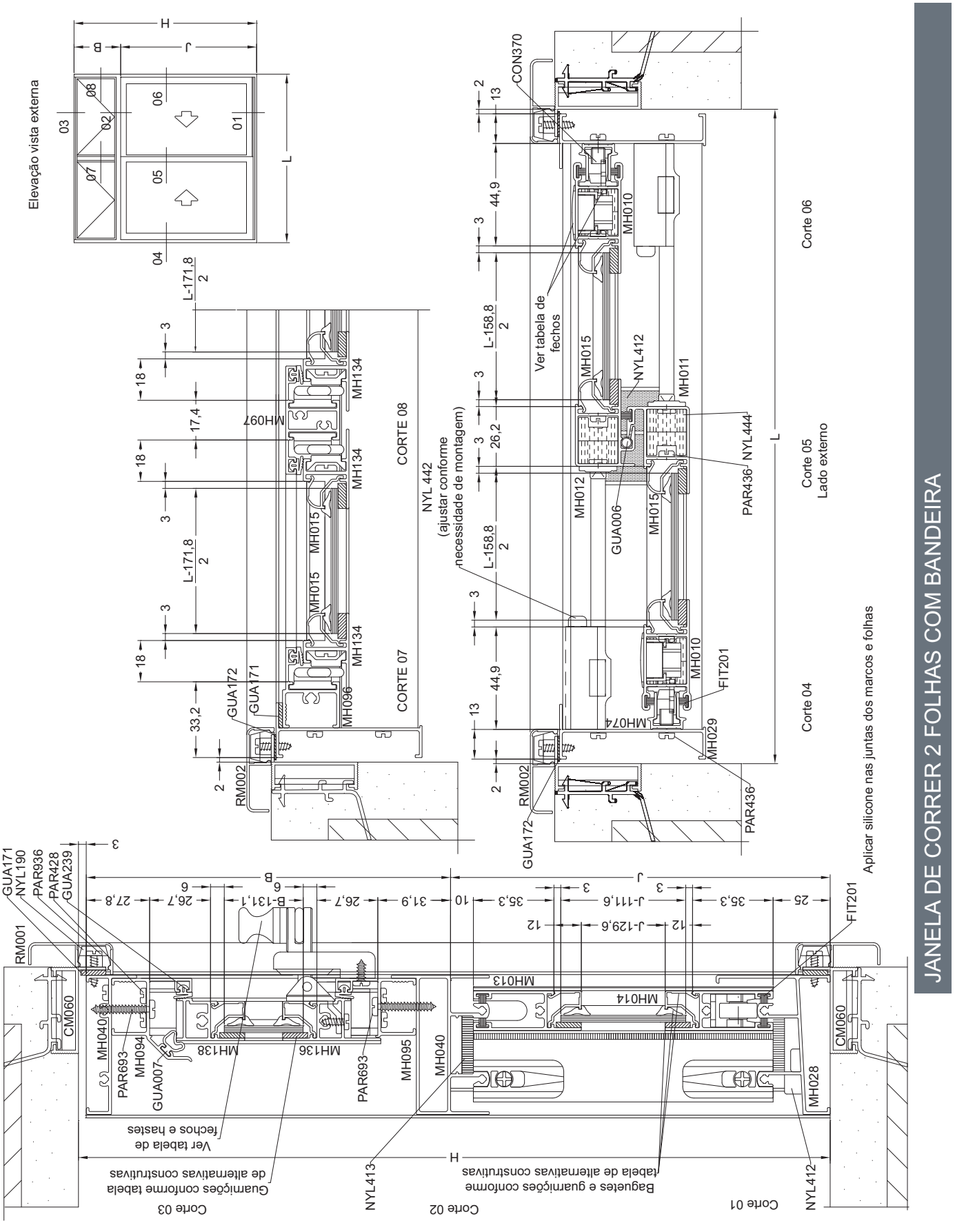




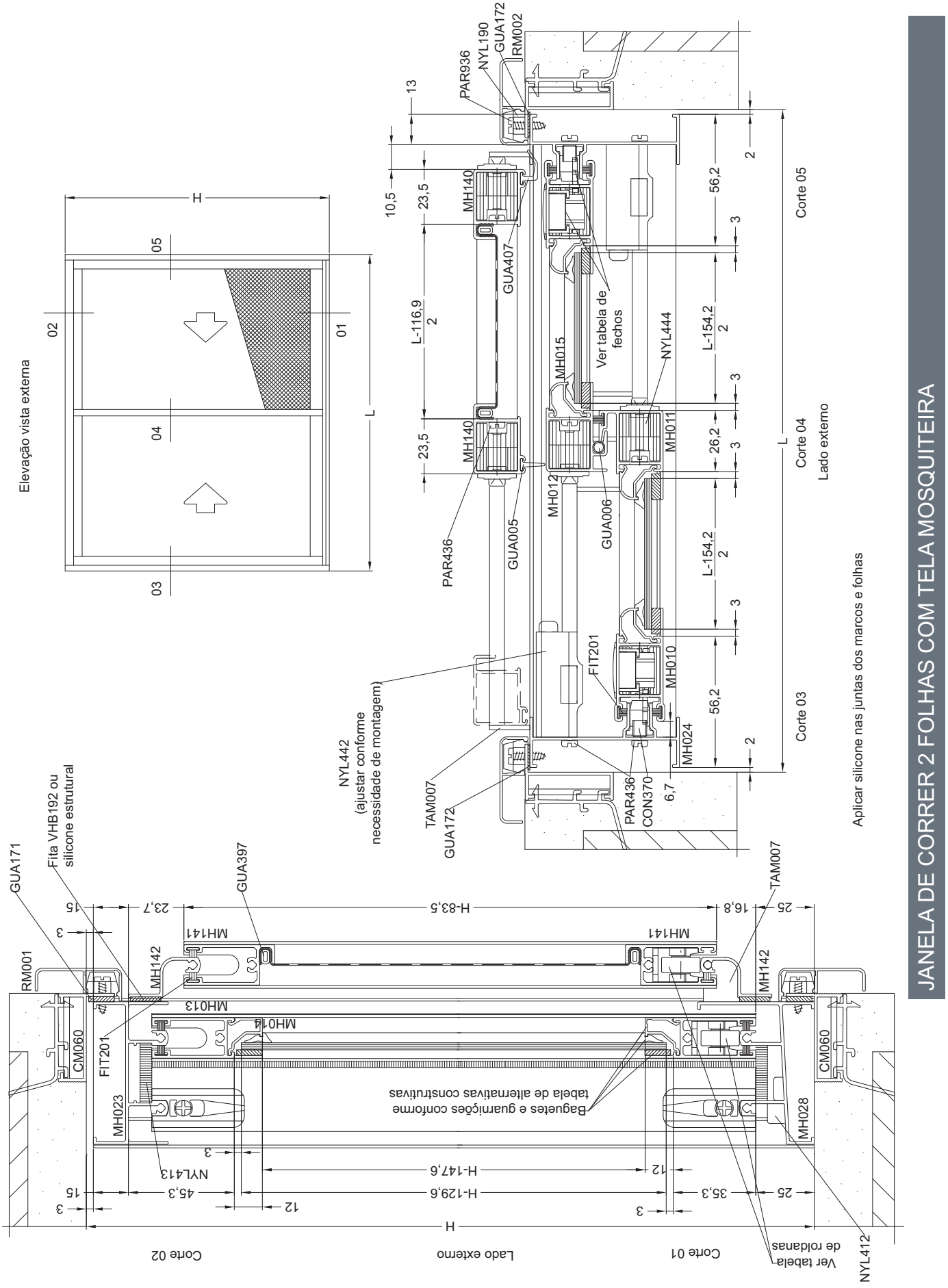
JANELA DE CORRER 2 FOLHAS MASTER LEVE

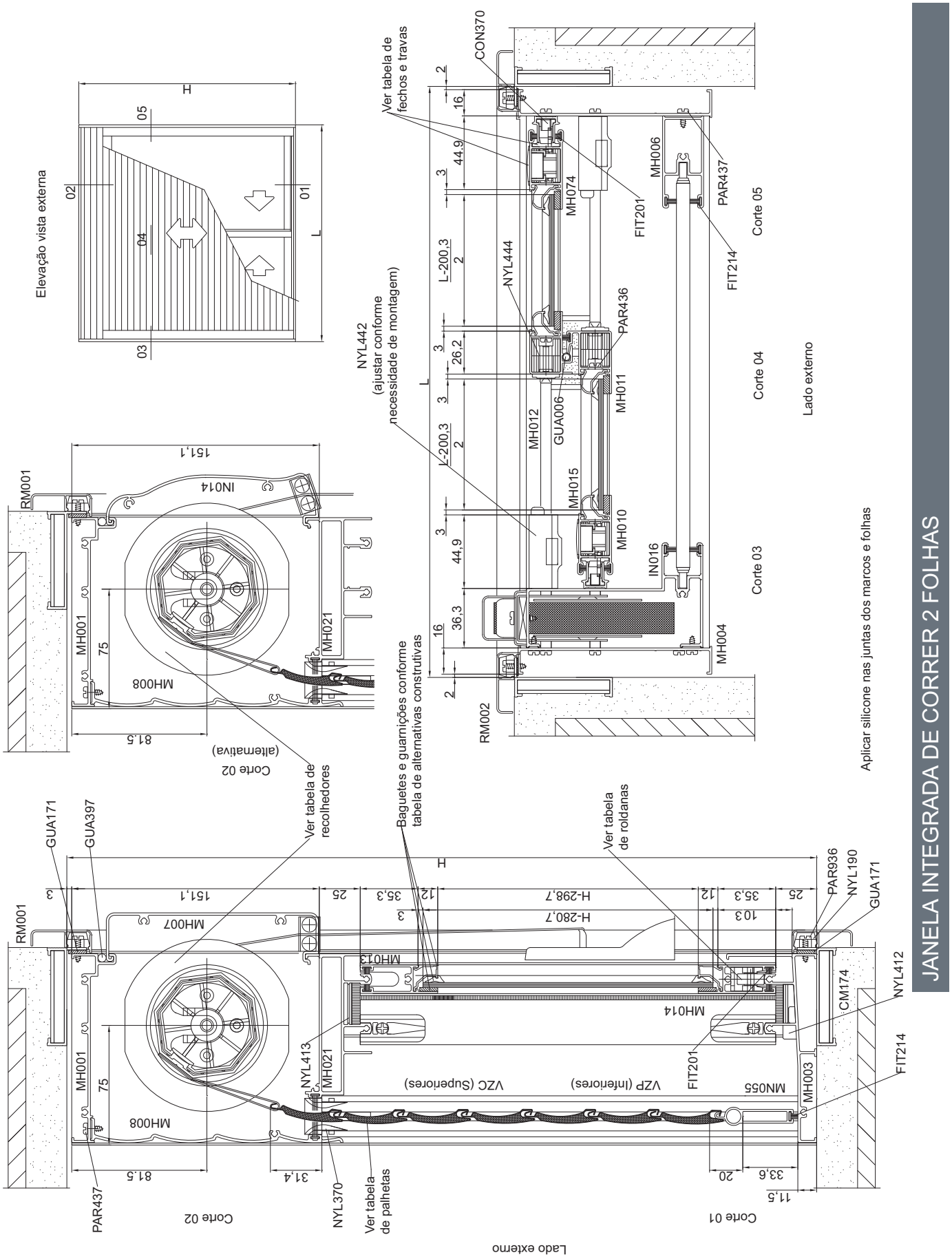

JANELA DE CORRER 2 FOLHAS COM PEITORIL
Elevação vista externa
Fixo
Fixo
Corte 01
Corte 02
Corte 03
Corte 04
Corte 05
Corte 06
Corte 07
Lado externo
Corte 08
Aplicar silicone nas Juntas dos marcos e folhas
Ver tabela de fechos e travas
necessidade de montagem)
Ver tabela de rodanas
Baguetes e guarnições conforme tabela de alternativas construtivas
Lado externo

Desenhos de Montagem

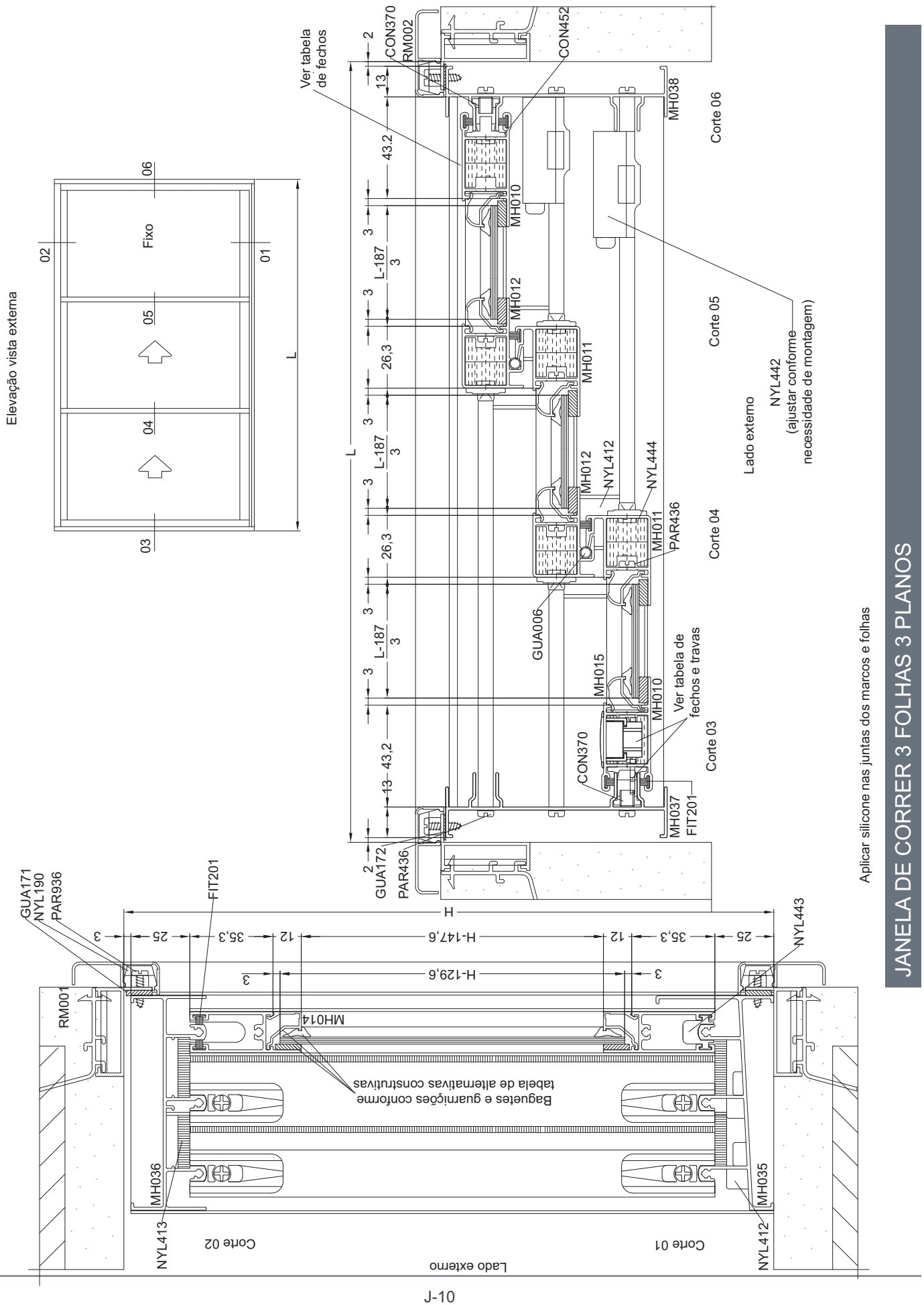


Desenhos de Montagem

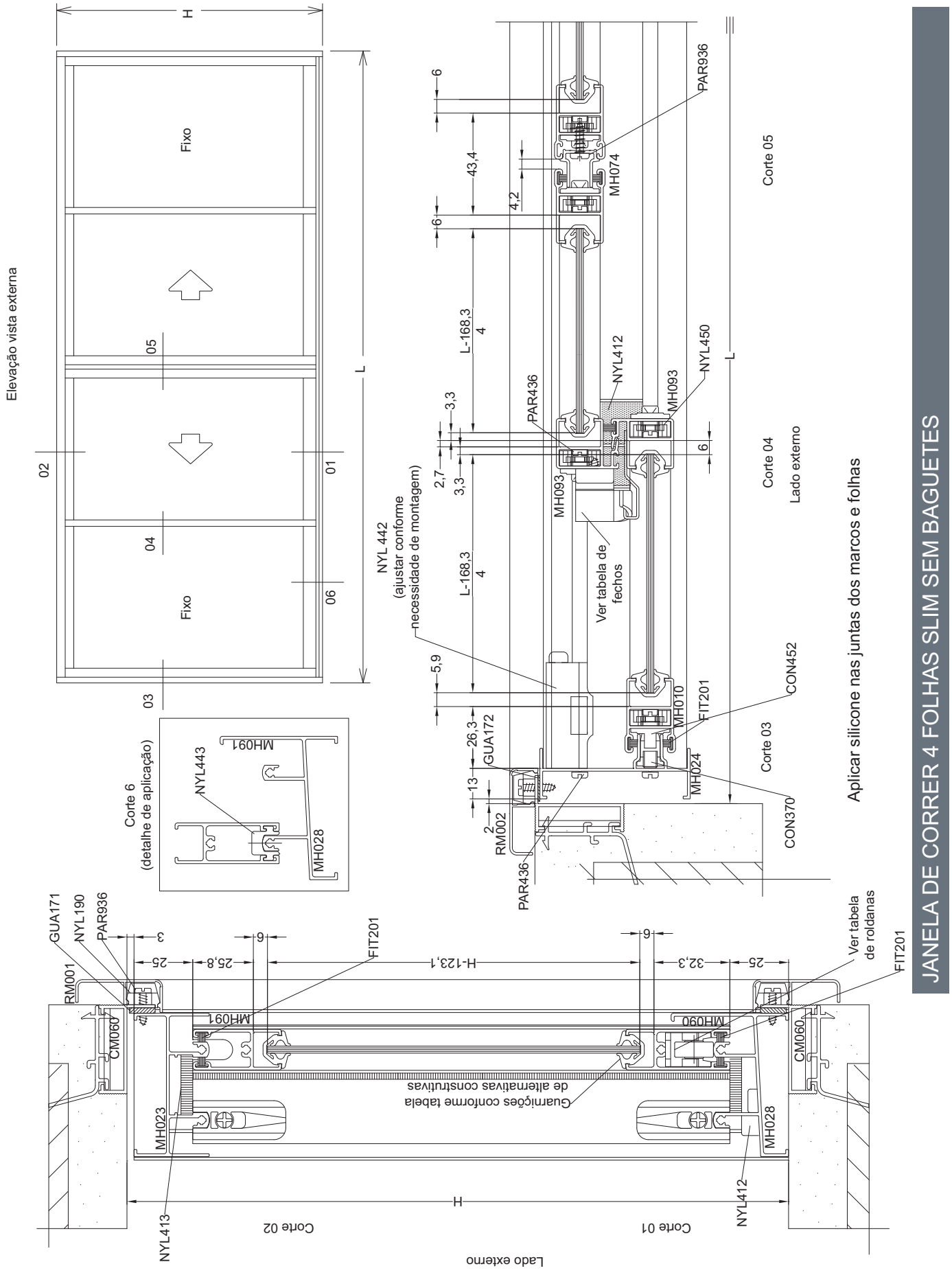



JANELA INTEGRADA DE CORRER 2 FOLHAS
Elevação vista externa
Corte 02
Corte 01
Corte 03
Corte 04
Corte 05
Lado externo
Lado externo
Aplicar silicone nas juntas dos marcos e folhas
Ver tabela de fechos e travas
Ver tabela de recolhedores
Baguetes e guarnições conforme tabela de alternativas construtivas
Ver tabela de roldanas
Ver tabela de palhetas
NYL442 (ajustar conforme necessidade de montagem)
(alternativa)
VZC (Superiores)
VZP (Inferiores)
RM001
RM002
MH001
MH002
MH003
MH004
MH007
MH008
MH010
MH011
MH012
MH013
MH014
MH015
MH021
MH074
MH006
IN014
IN016
GUA006
GUA171
GUA397
NYL370
NYL412
NYL413
NYL444
CM174
CON370
FIT201
FIT214
MN055
PAR436
PAR437
PAR936
NYL190

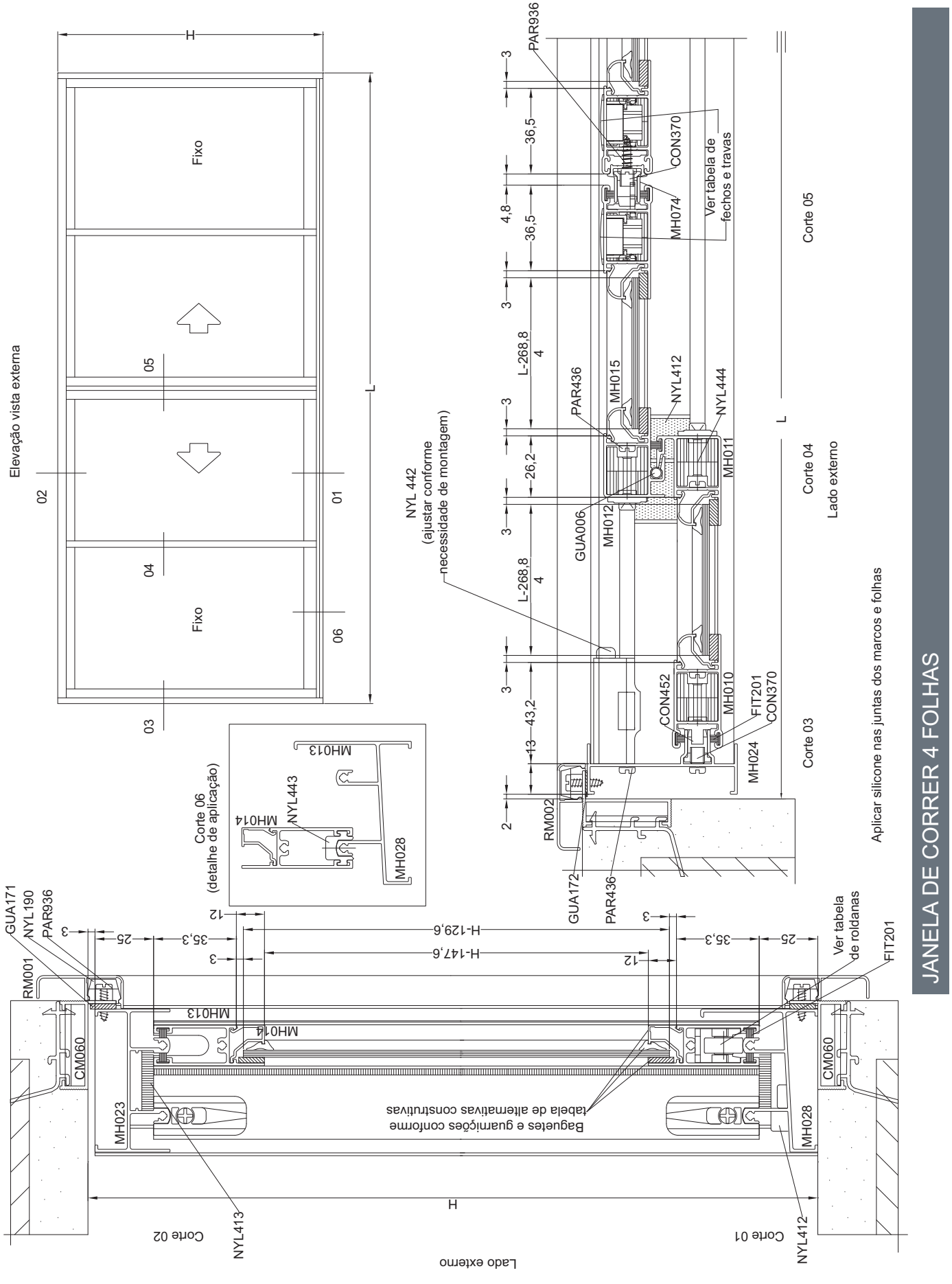
Desenhos de Montagem



Desenhos de Montagem

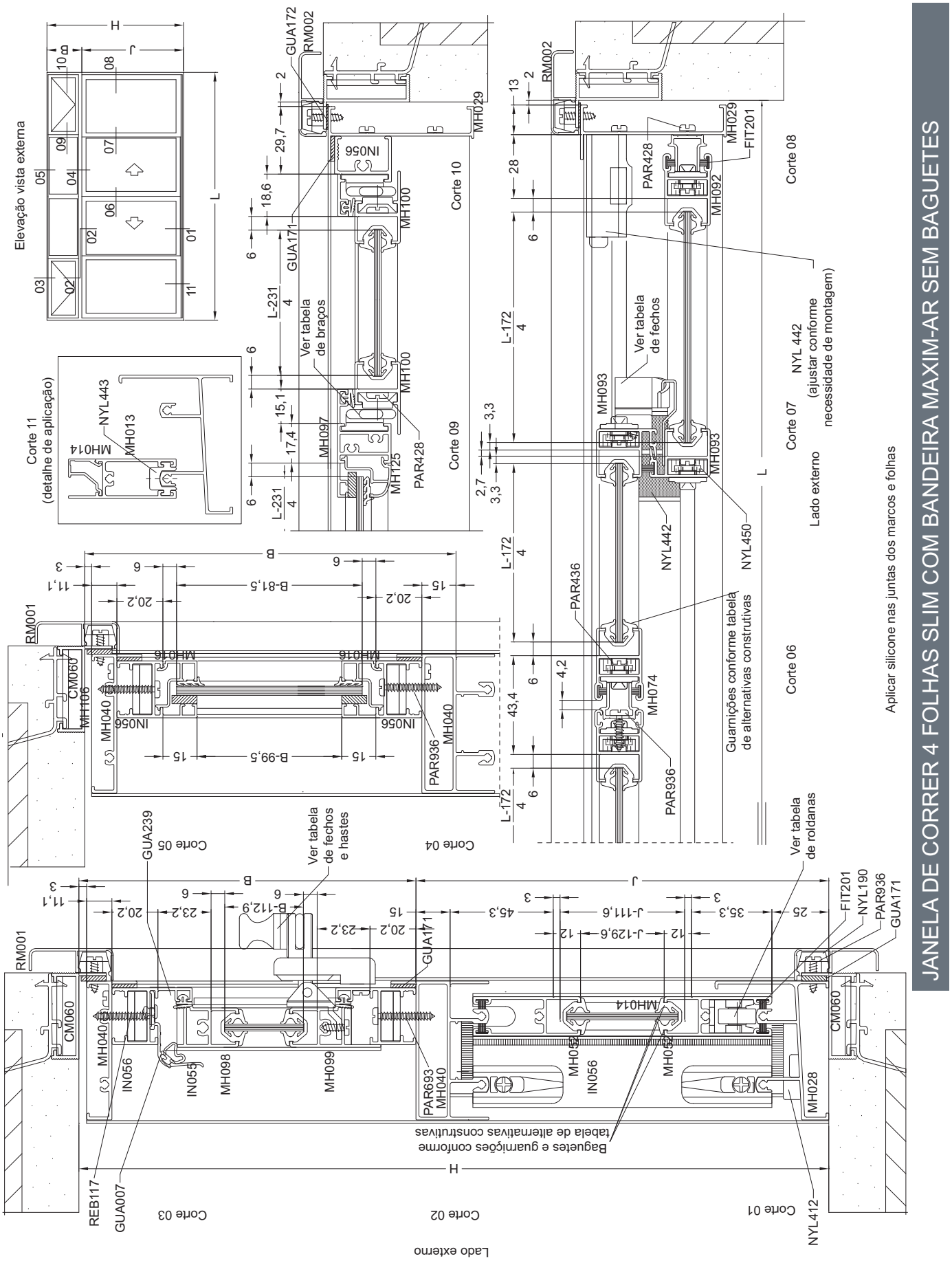


Desenhos de Montagem

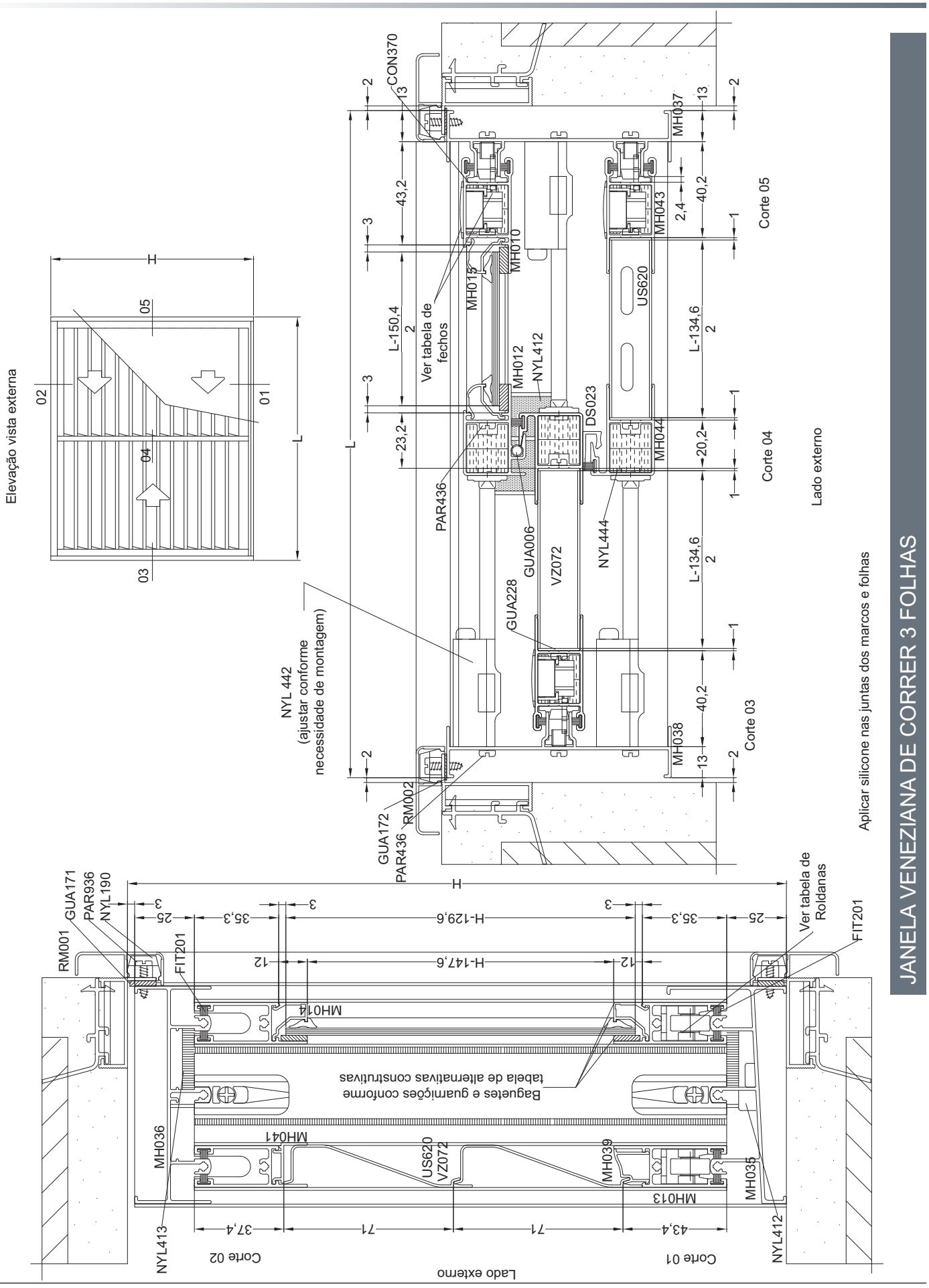


Desenhos de Montagem

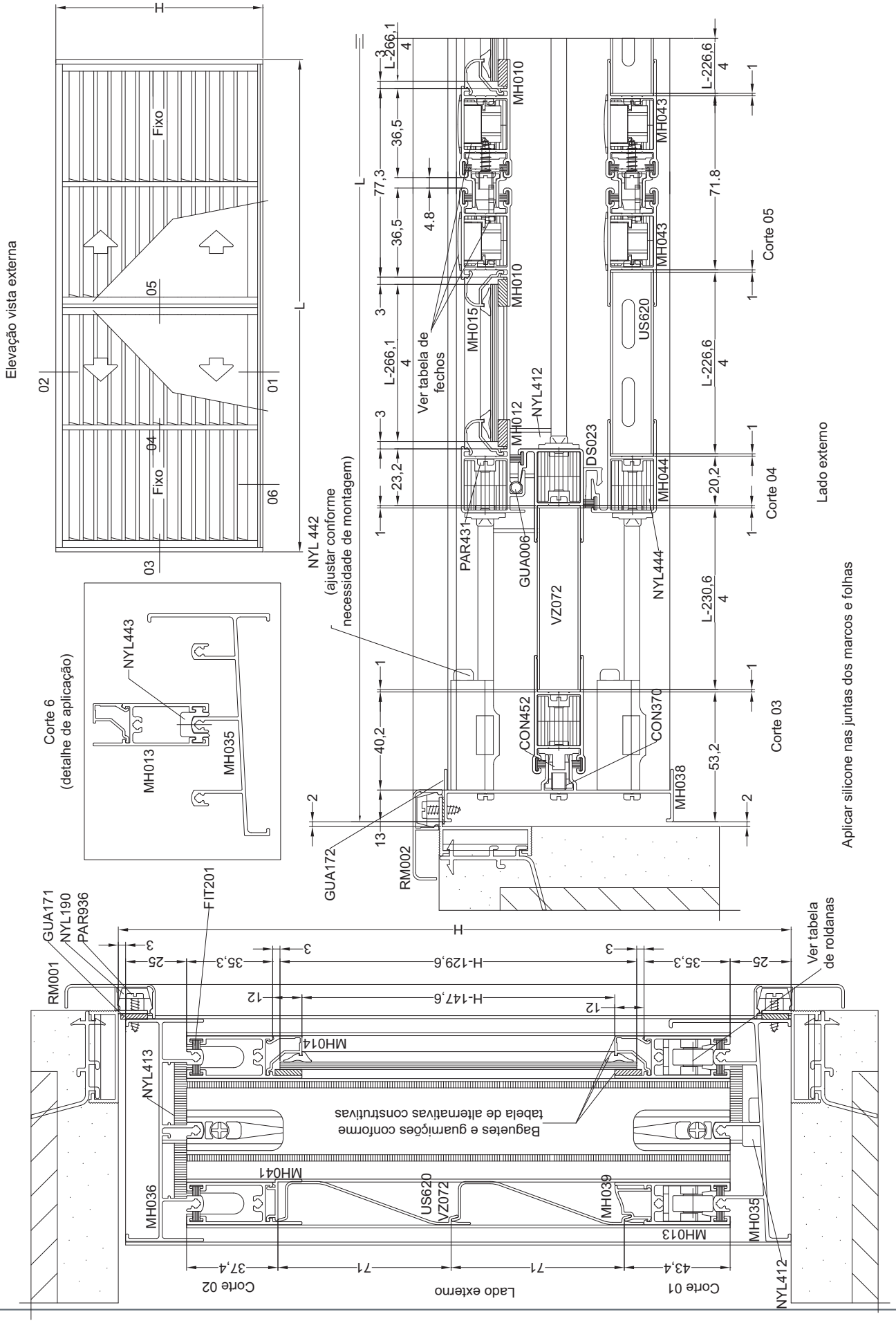
JANELA DE CORRER 4 FOLHAS SLIM COM BANDEIRA MAXIM-AR SEM BAGUETES



Desenhos de Montagem

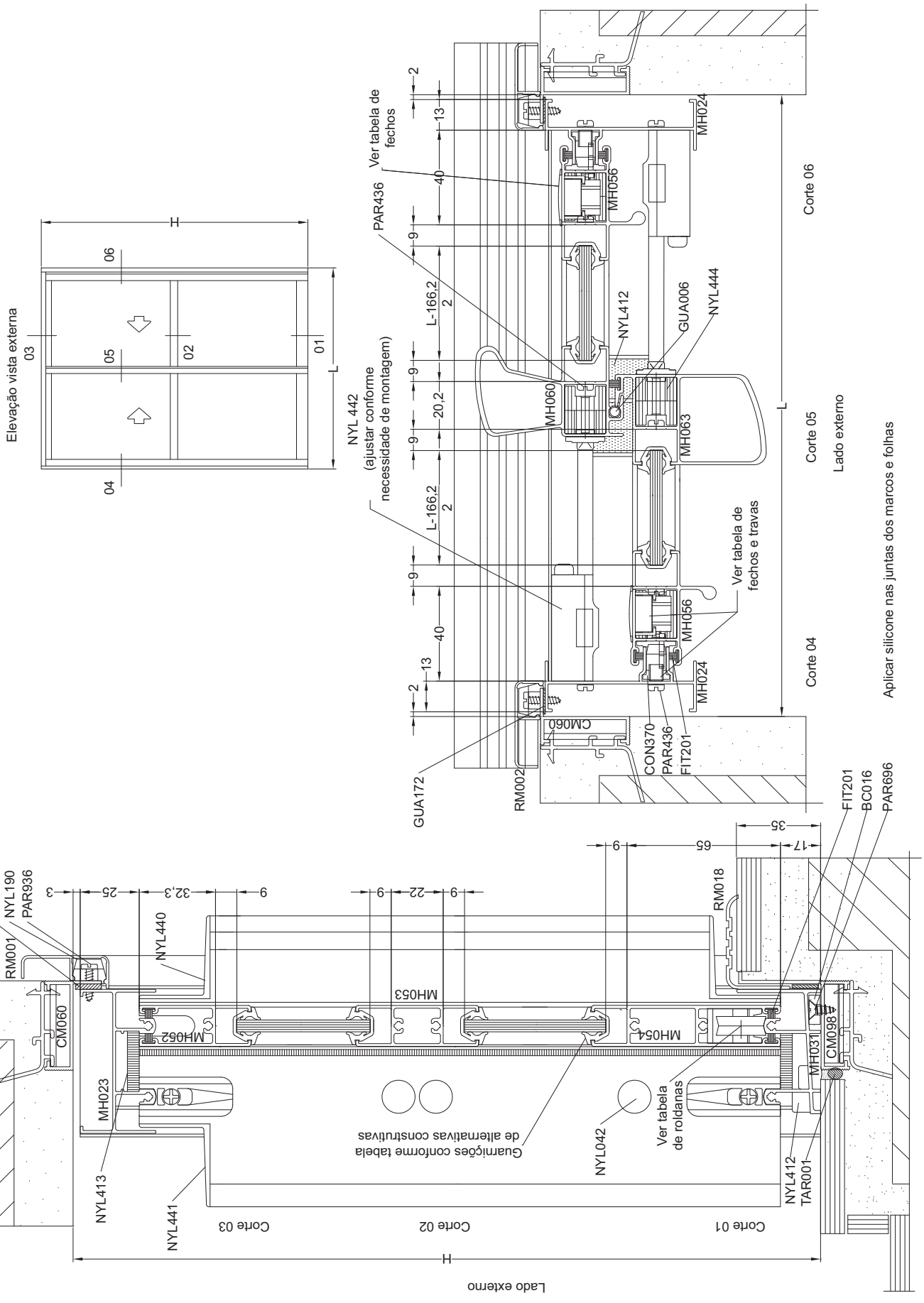


Desenhos de Montagem

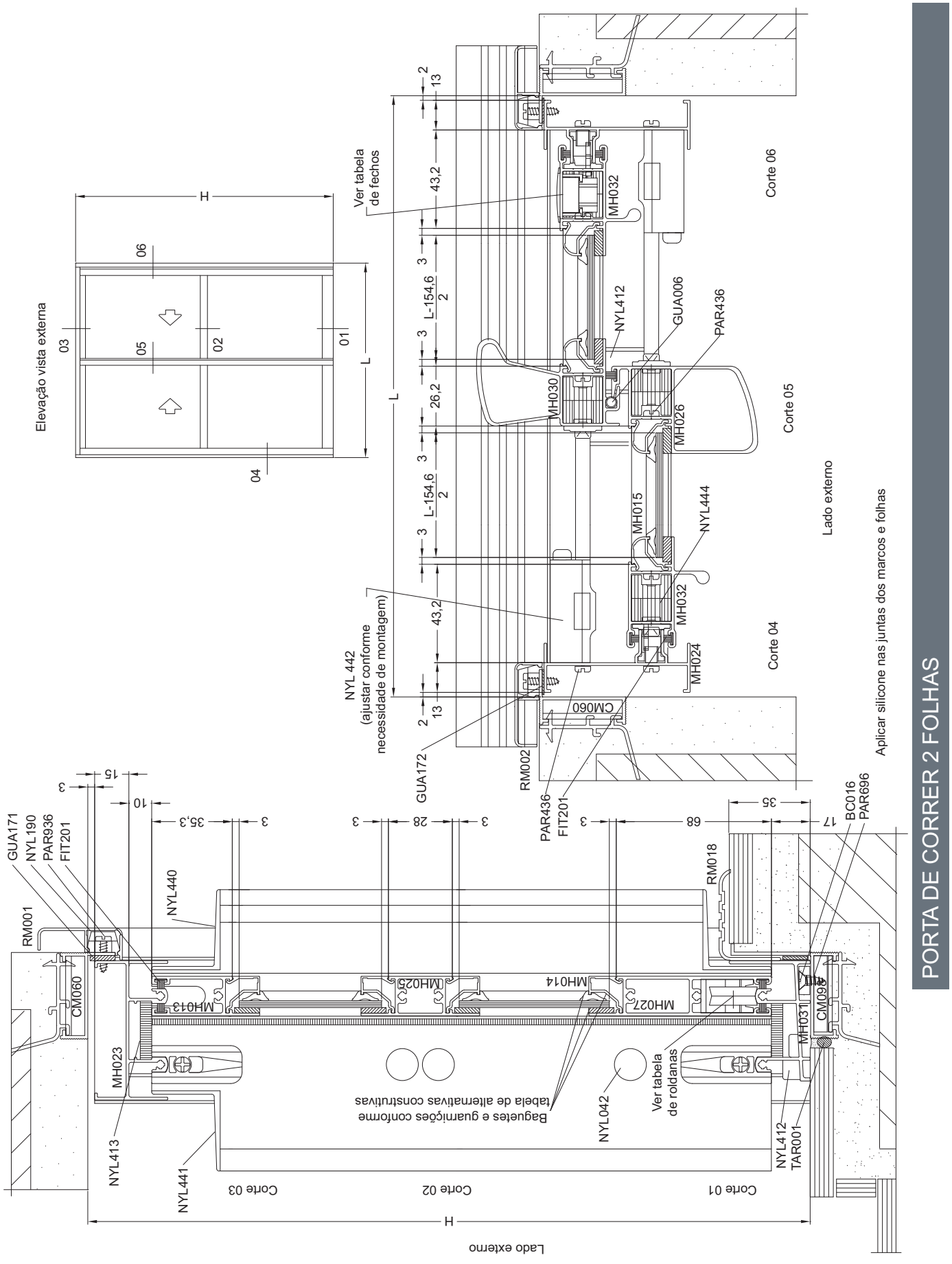


JANELA VENEZIANA DE CORRER 6 FOLHAS

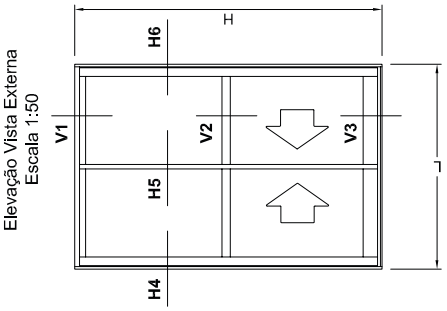
PORTA DE CORRER 2 FOLHAS SEM BAGUETES



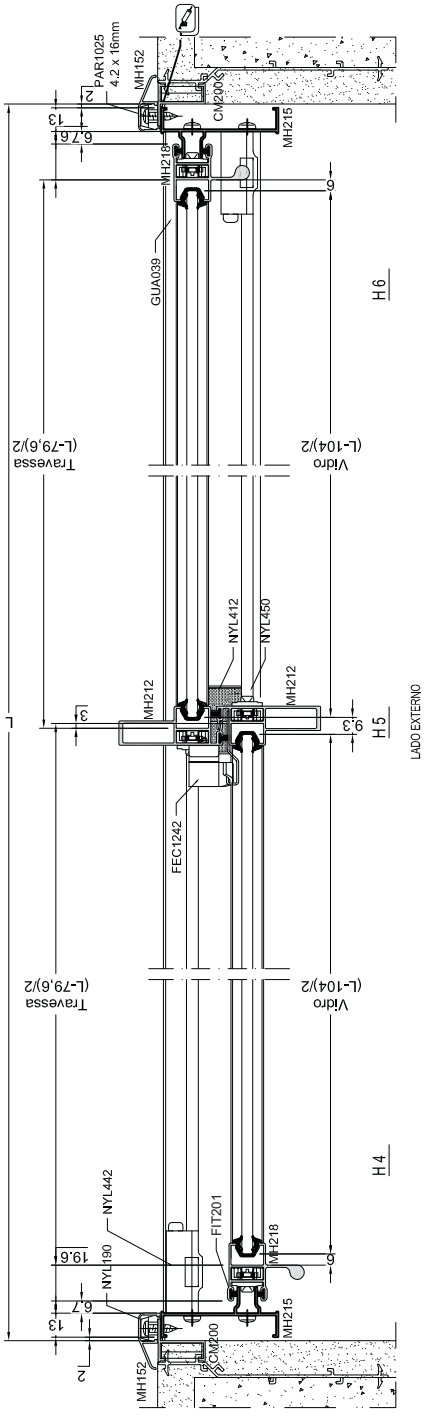
PORTA DE CORRER 2 FOLHAS

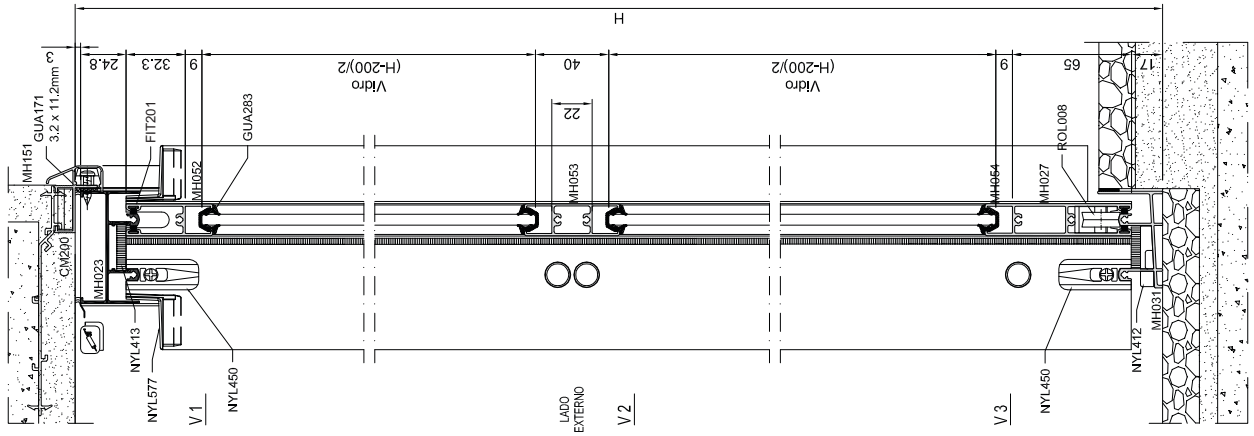


PORTA DE CORRER 2 FOLHAS SEM BAGUETES MASTER LEVE

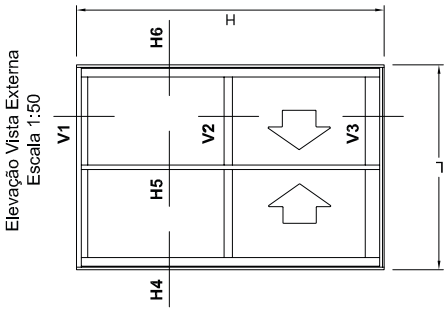


Notas do projeto:
- Efetuar fechamento dos contramarcos, marcos e folhas com silicone de cura neutra.

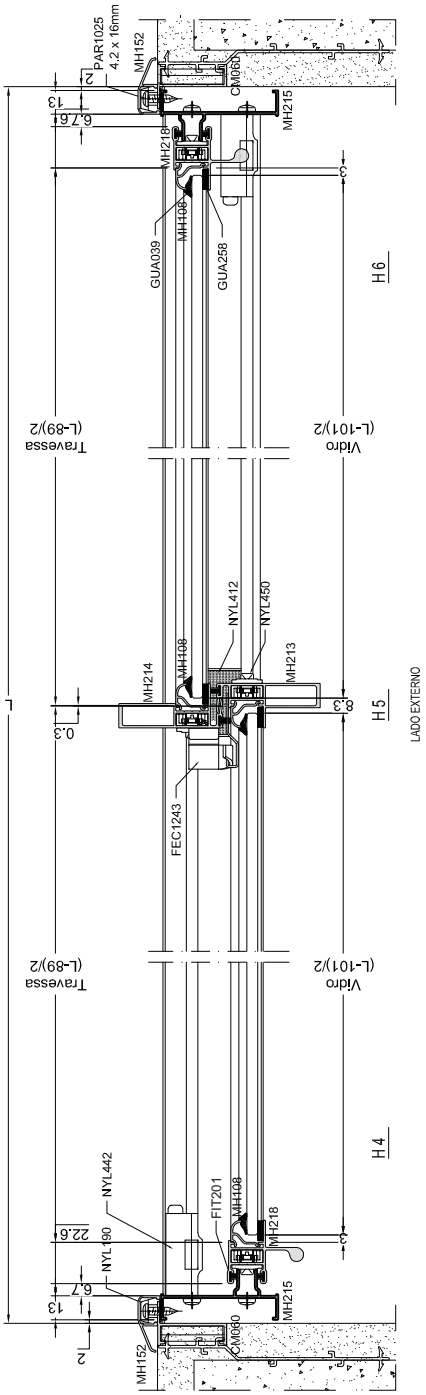


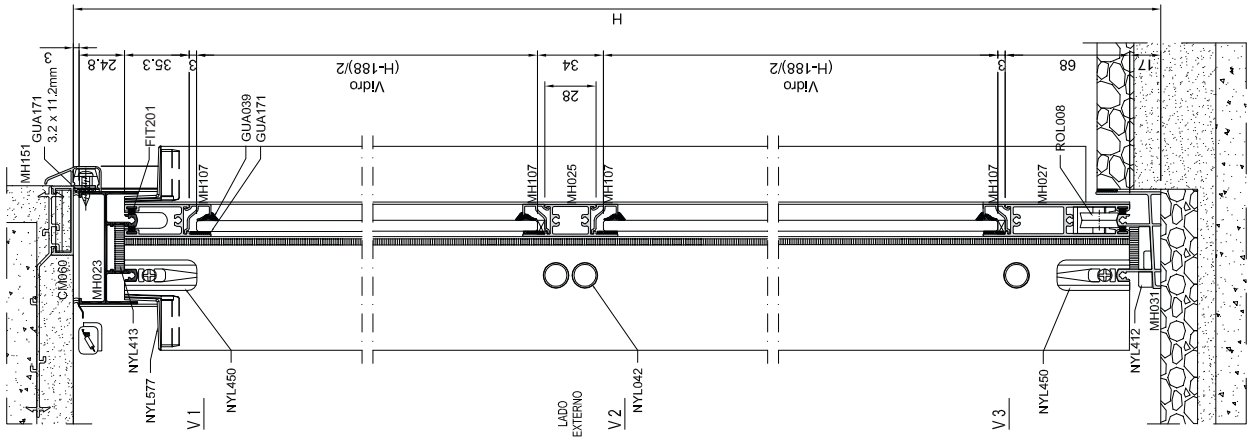


PORTA DE CORRER 2 FOLHAS MASTER LEVE

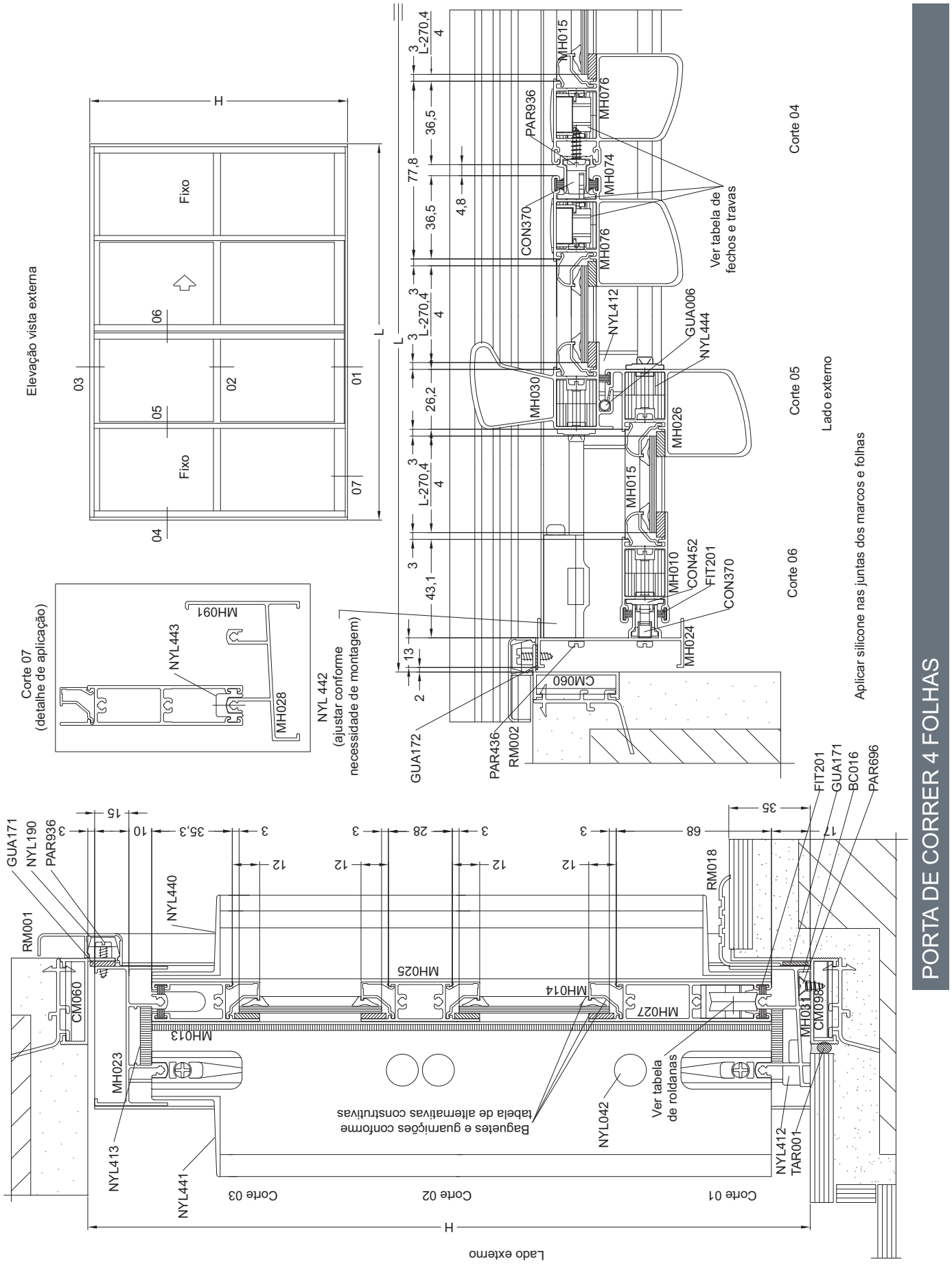


Notas do projeto:
- Efetuar fechamento dos contramarcos, marcos e folhas com silicone de cura neutra.

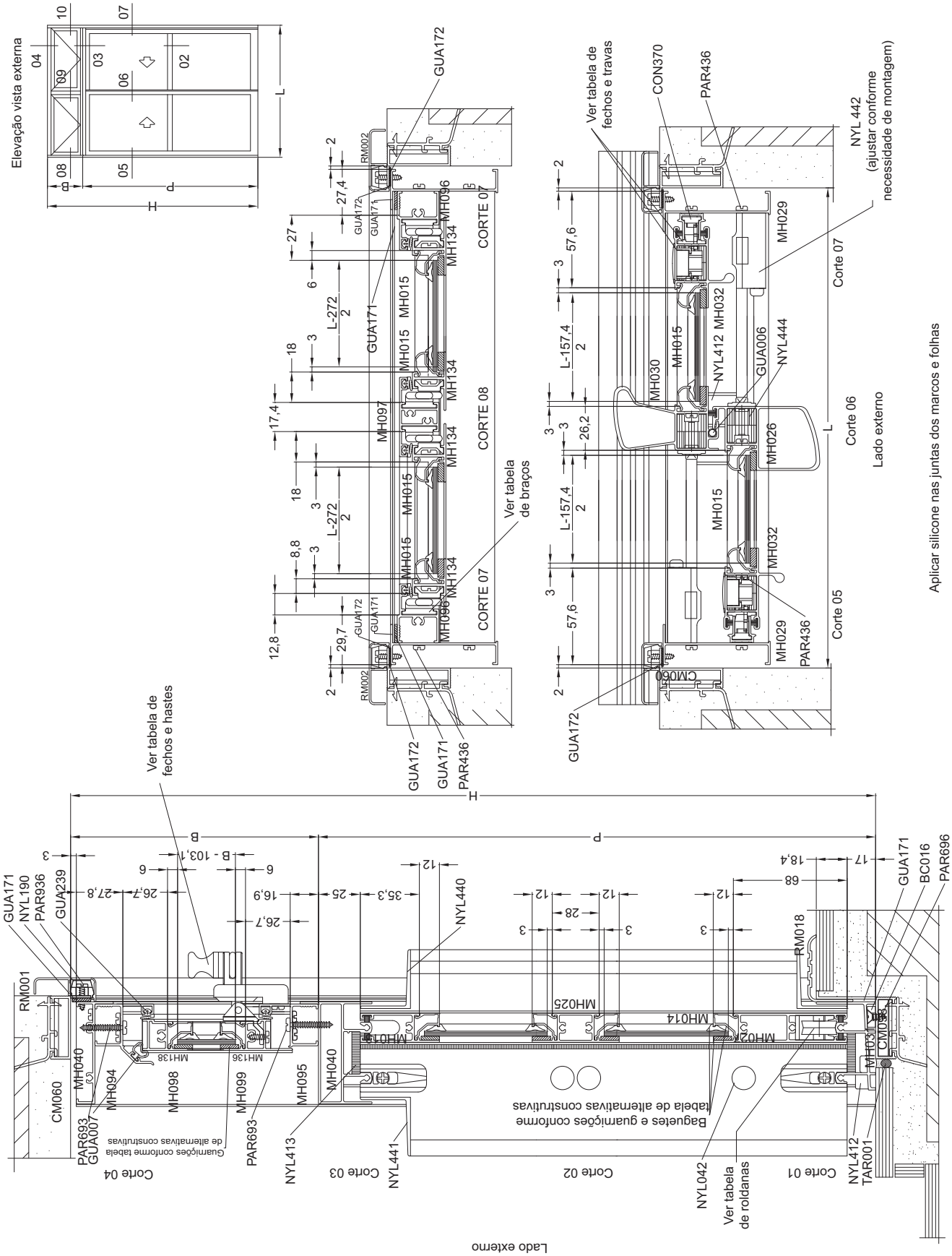




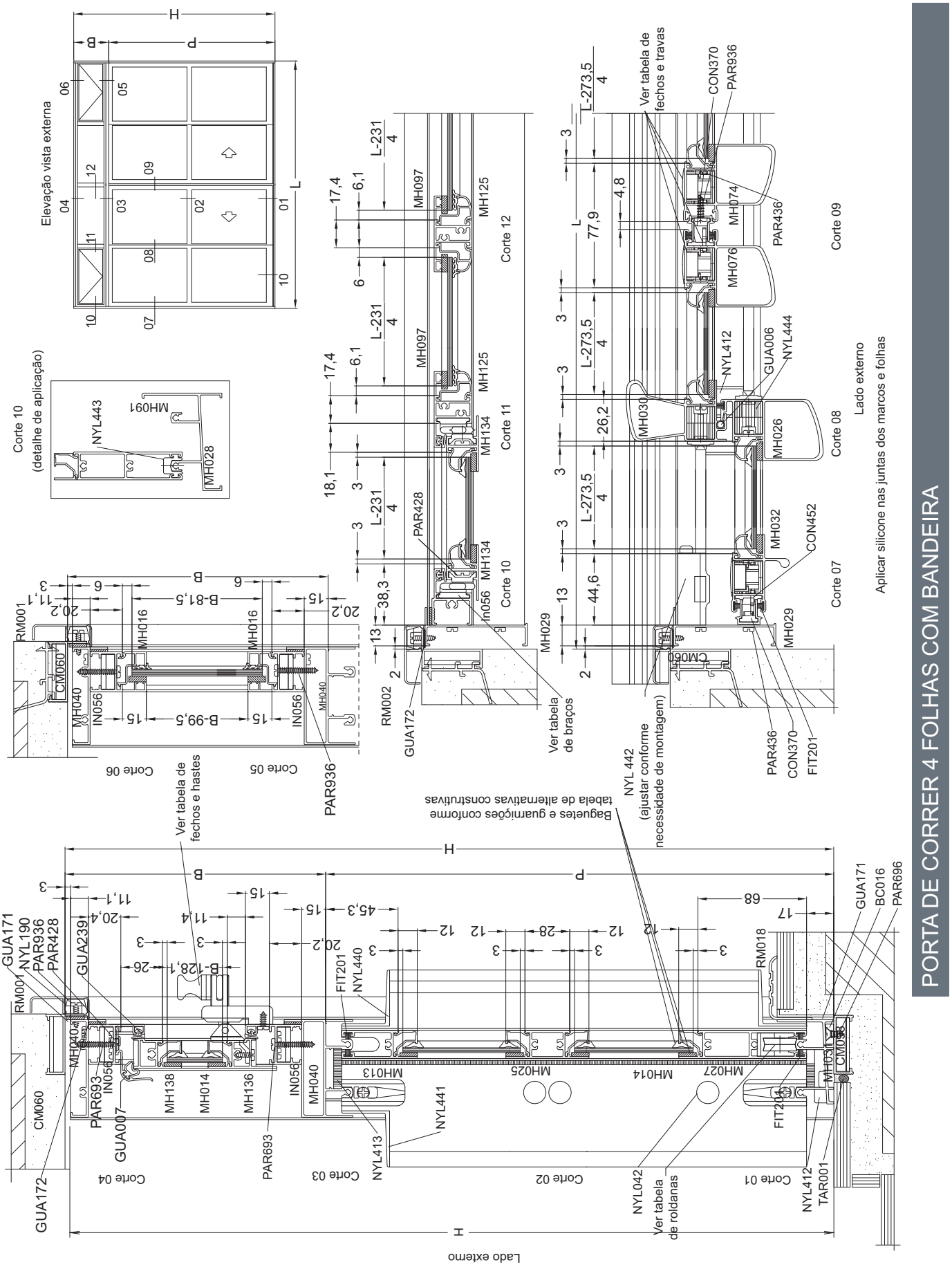
Desenhos de Montagem



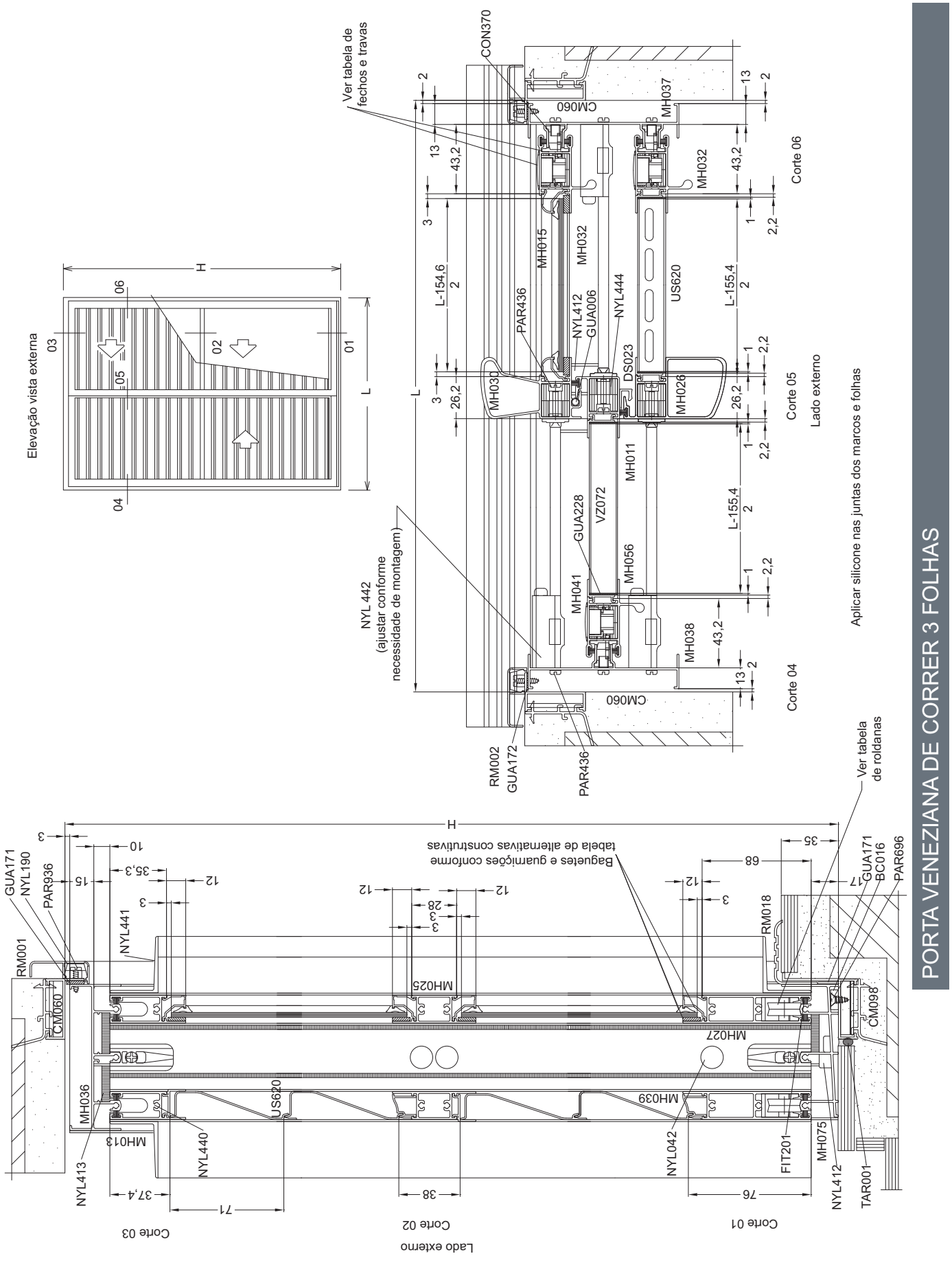
PORTA DE CORRER 2 FOLHAS COM BANDEIRA MAXIM-AR



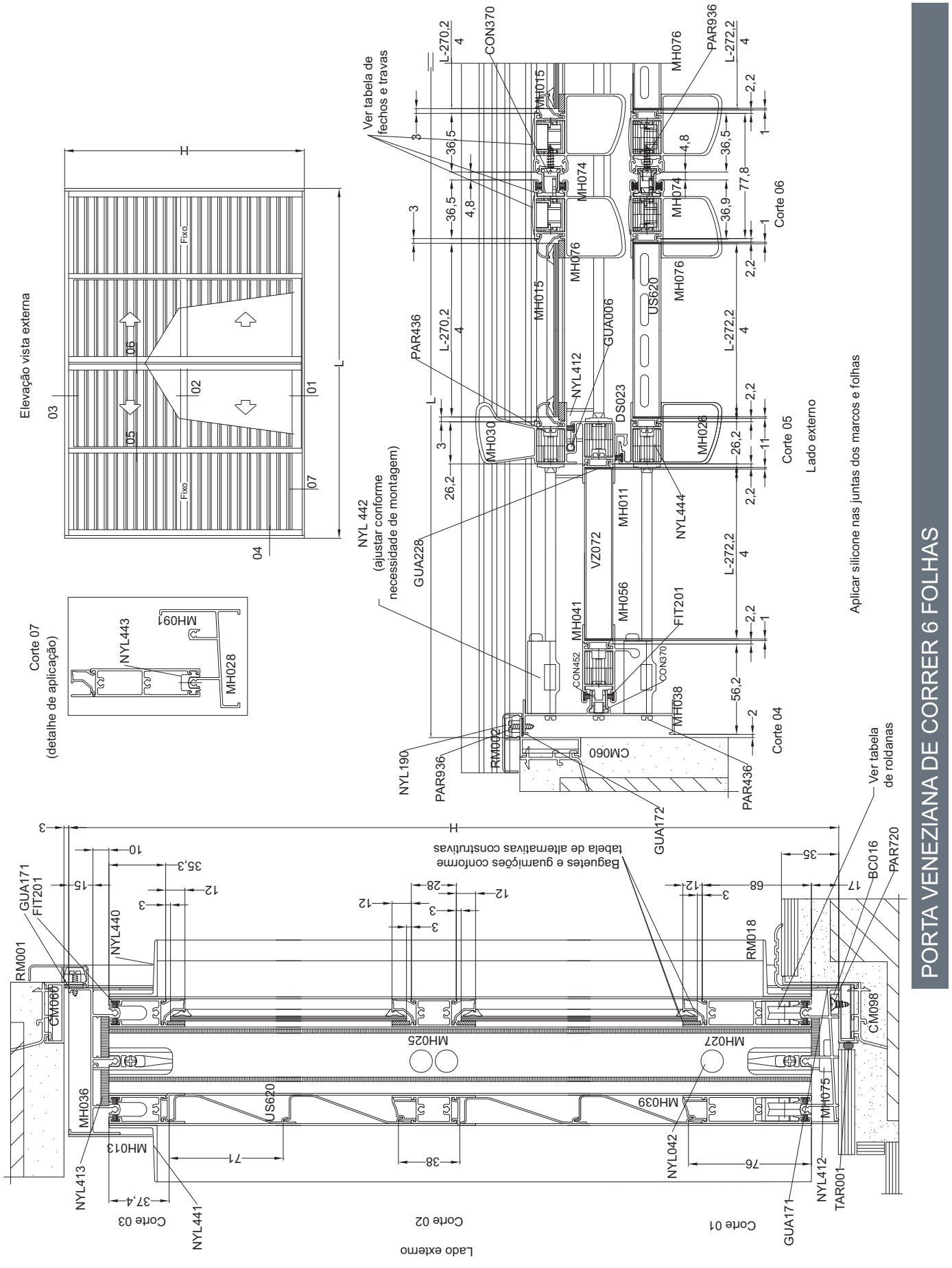
Desenhos de Montagem

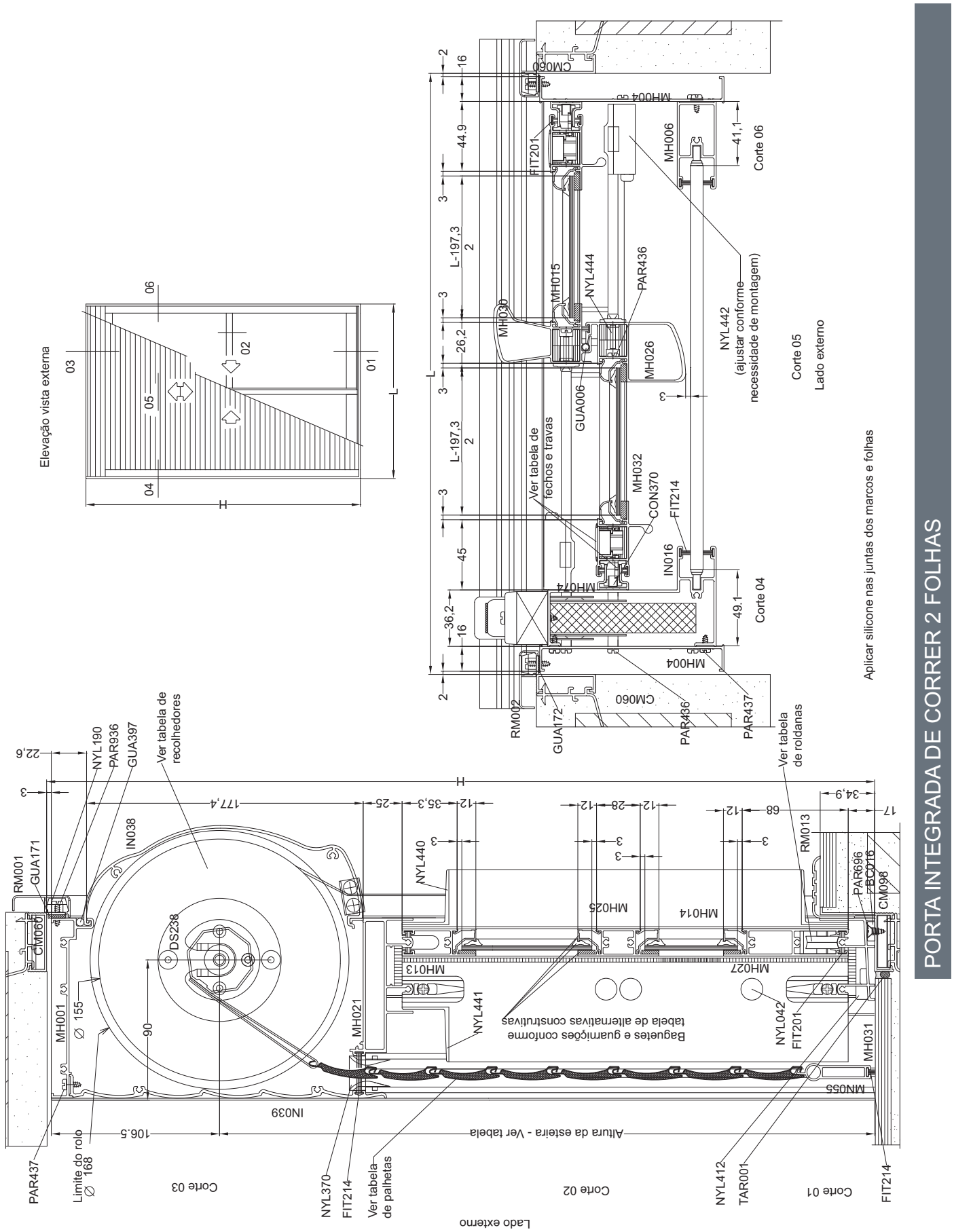


Desenhos de Montagem

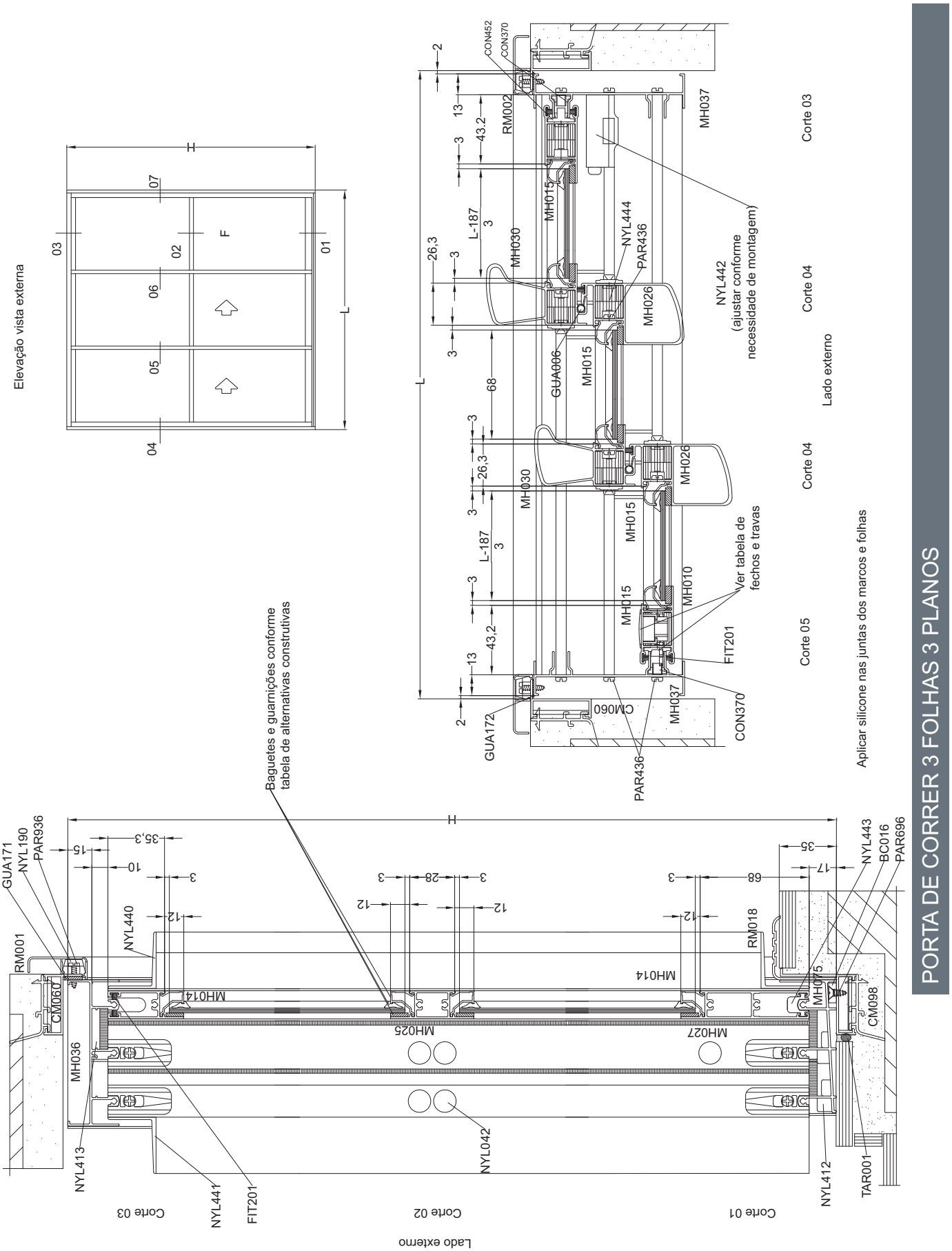


Desenhos de Montagem

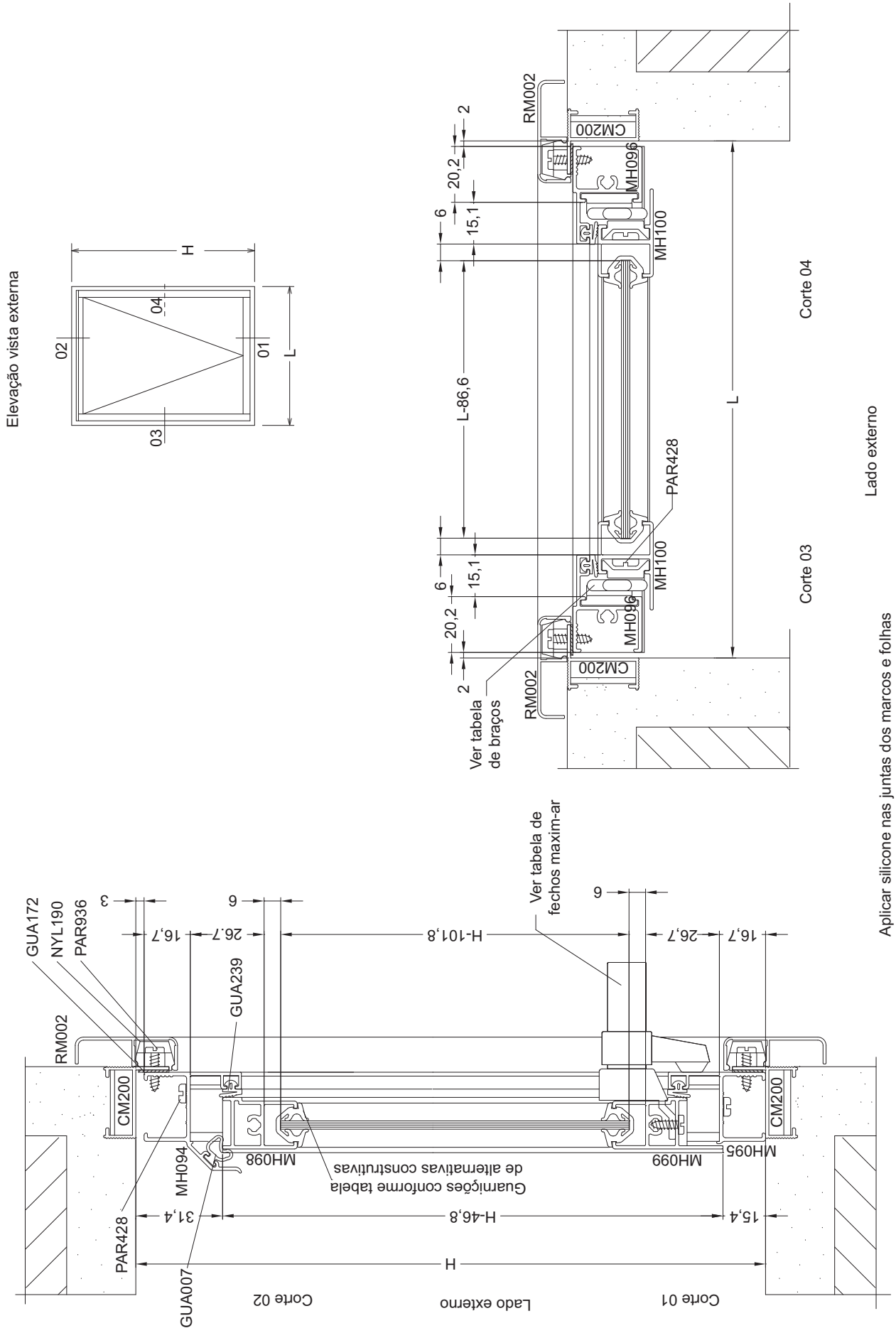


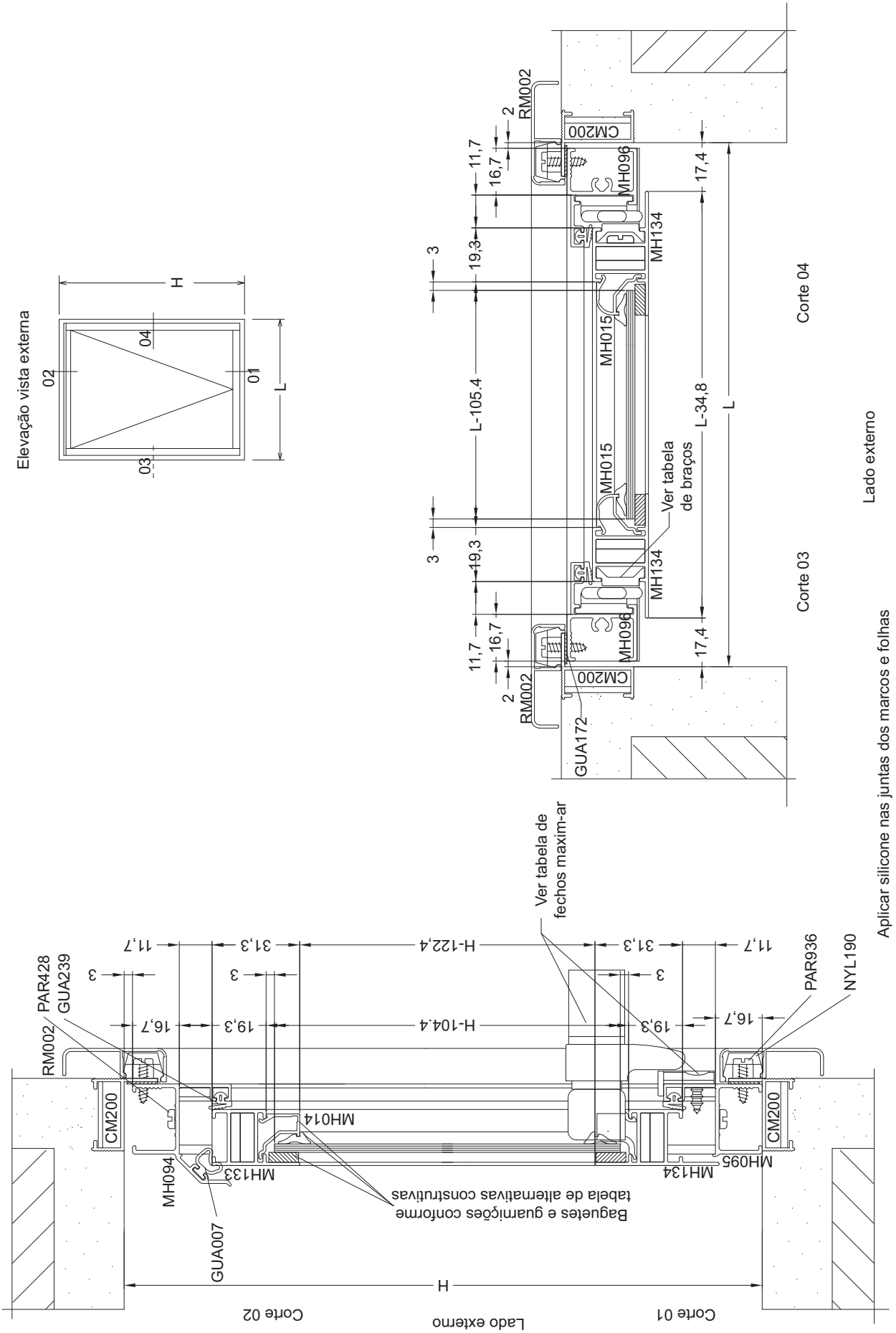

PORTA INTEGRADA DE CORRER 2 FOLHAS
Elevação vista externa
Corte 05
Lado externo
Corte 06
Corte 04
Aplicar silicone nas juntas dos marcos e folhas
Ver tabela de fechos e travas
Ver tabela de recolhedores
Ver tabela de roldanas
Baguetes e guarnições conforme tabela de alternativas construtivas
Altura da esteira - Ver tabela
Corte 03
Corte 02
Corte 01
Lado externo
Limite do rolo ∅ 168
Ver tabela de palhetas

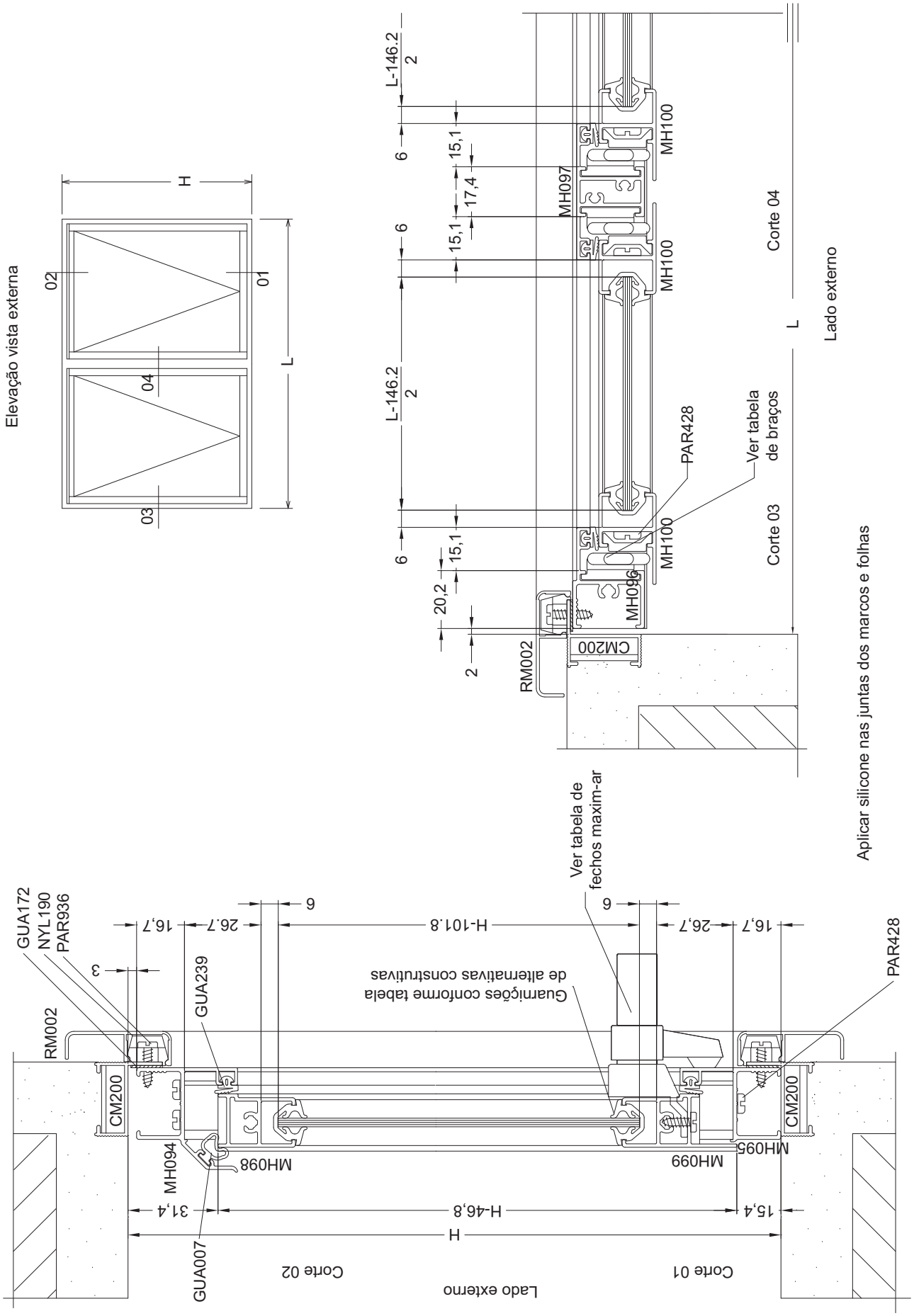
Desenhos de Montagem

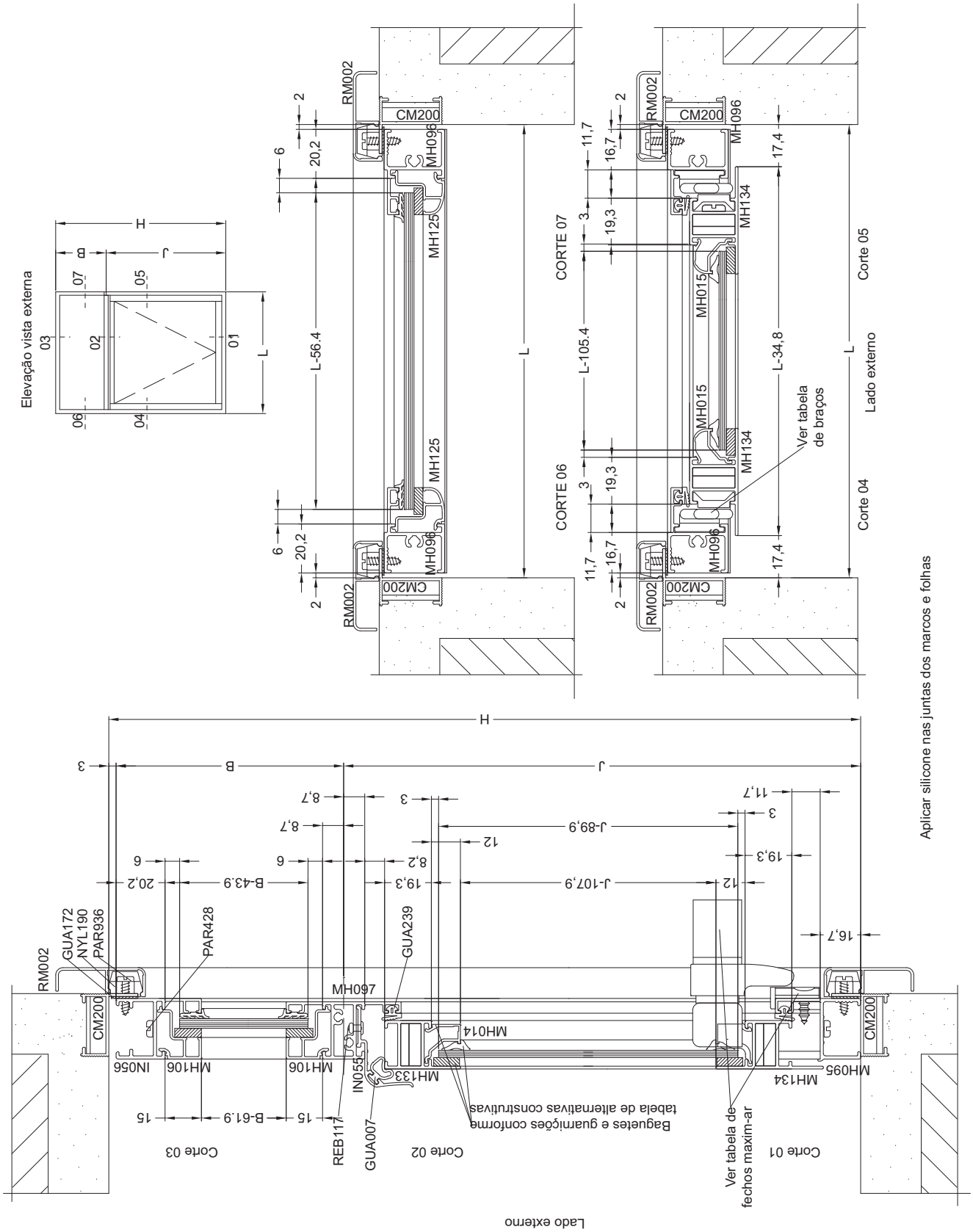


JANELA MAXIM-AR 1 FOLHA 90° SEM BAGUETES

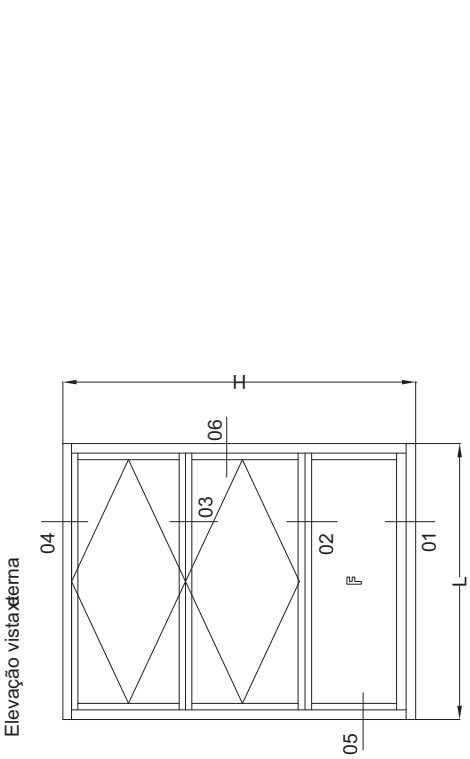


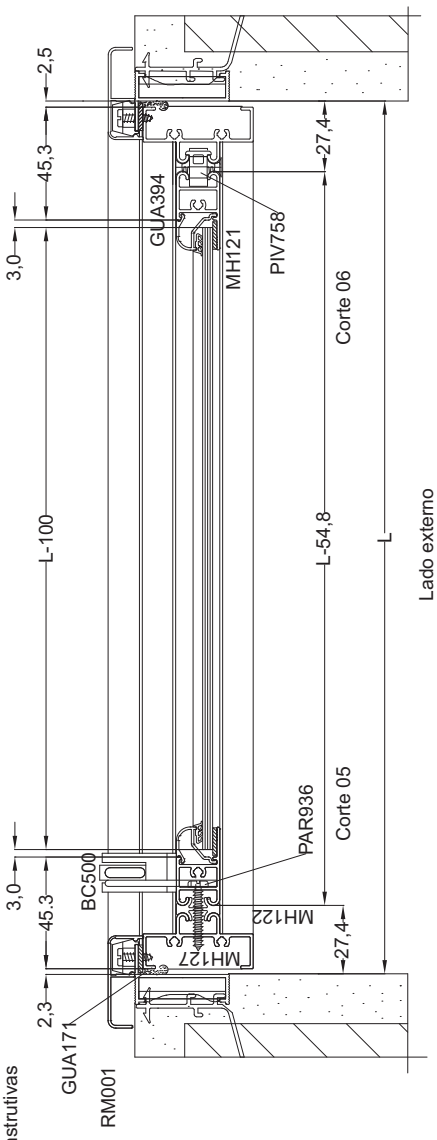

JANELA MAXIM-AR 1 FOLHA 45°
Elevação vista externa
H
L
01
02
03
04
Corte 04
Corte 03
Lado externo
Aplicar silicone nas juntas dos marcos e folhas
RM002
CM200
MH096
MH134
MH015
GUA172
Ver tabela de braços
L-105.4
L-34,8
11,7
16,7
19,3
17,4
Ver tabela de fechos maxim-ar
PAR428
GUA239
PAR936
NYL190
MH014
MH094
MH133
MH095
GUA007
Baguetes e guarnições conforme tabela de alternativas construtivas
H-122,4
H-104.4
31,3
Corte 02
Lado externo
Corte 01

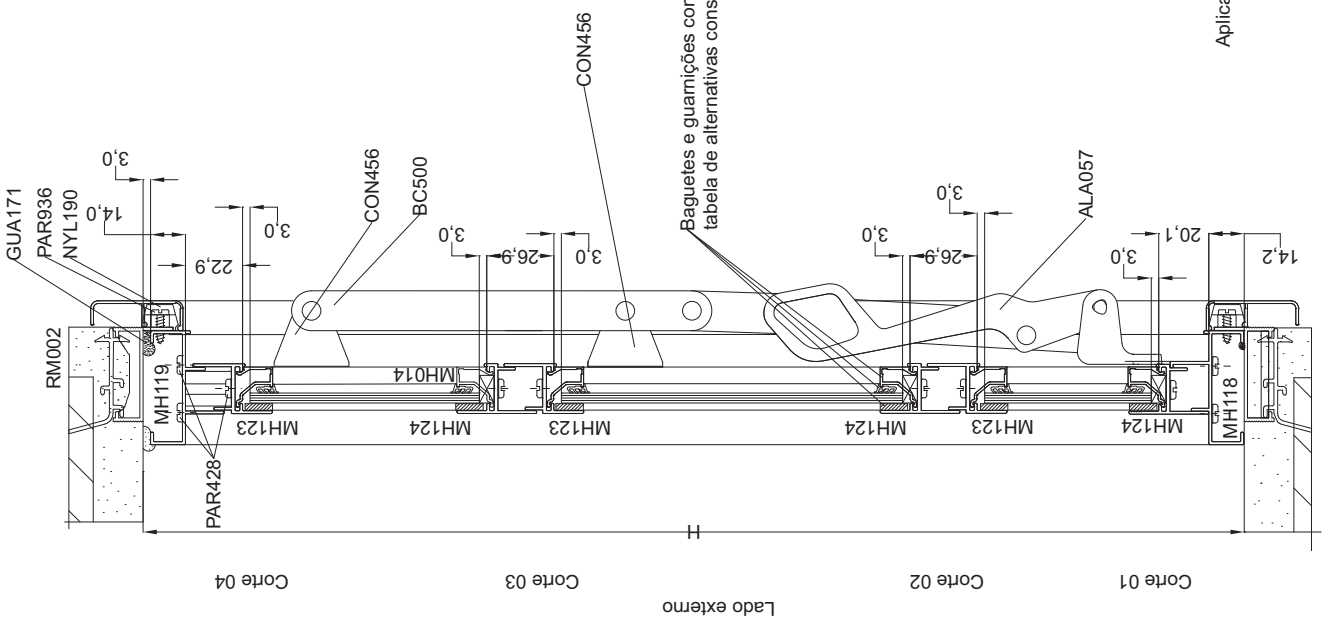

JANELA MAXIM-AR 2 FOLHAS 90º SEM BAGUETES
Elevação vista externa
H
L
01
02
03
04
Corte 04
Lado externo
L-146.2
2
6
15,1
17,4
MH097
MH100
PAR428
Ver tabela
de braços
Corte 03
MH096
CM200
RM002
20,2
2
Aplicar silicone nas juntas dos marcos e folhas
Ver tabela de
fechos maxim-ar
Guarnições conforme tabela
de alternativas construtivas
GUA172
NYL190
PAR936
GUA239
GUA007
MH094
MH098
MH099
MH095
16,7
26,7
H-101.8
H-46,8
31,4
15,4
3
Corte 02
Corte 01
Lado externo


JANELA MAXIM-AR 1 FOLHA 45º COM BANDEIRA
Elevação vista externa
H
B
J
L
L-56.4
L-105.4
L-34,8
CORTE 07
CORTE 06
Corte 05
Lado externo
Corte 04
Ver tabela de braços
Aplicar silicone nas juntas dos marcos e folhas
RM002
CM200
MH096
MH125
MH134
MH015
Corte 03
Corte 02
Corte 01
Lado externo
Ver tabela de fechos maxim-ar
Baguetes e guarnições conforme tabela de alternativas construtivas
GUA172
NYL190
PAR936
PAR428
GUA239
MH097
MH014
MH133
MH106
MH095
IN056
IN055
REB117
GUA007
B-43.9
B-61.9
J-107,9
J-89,9

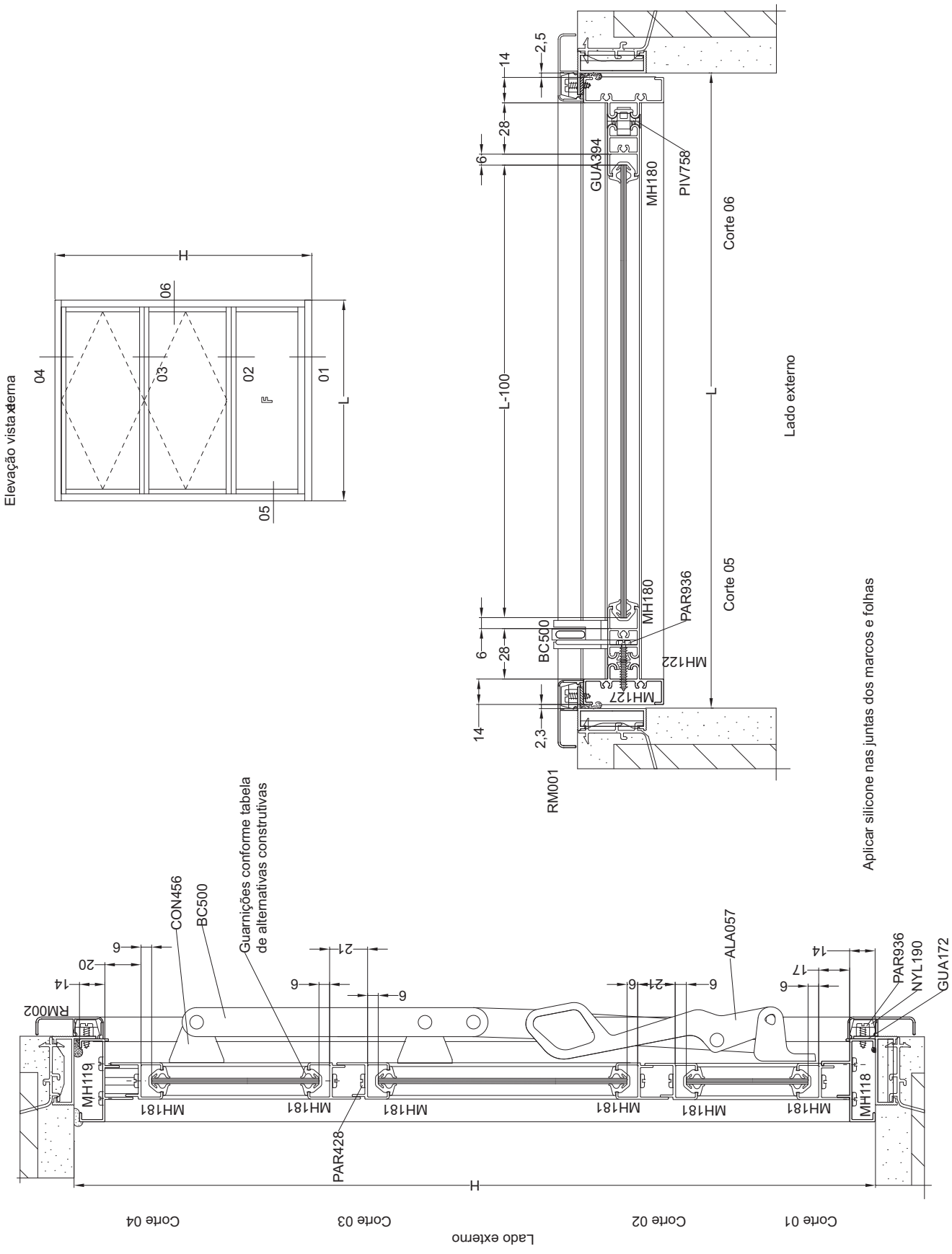
JANELA BASCULANTE 3 FOLHAS EM 1 MÓDULO



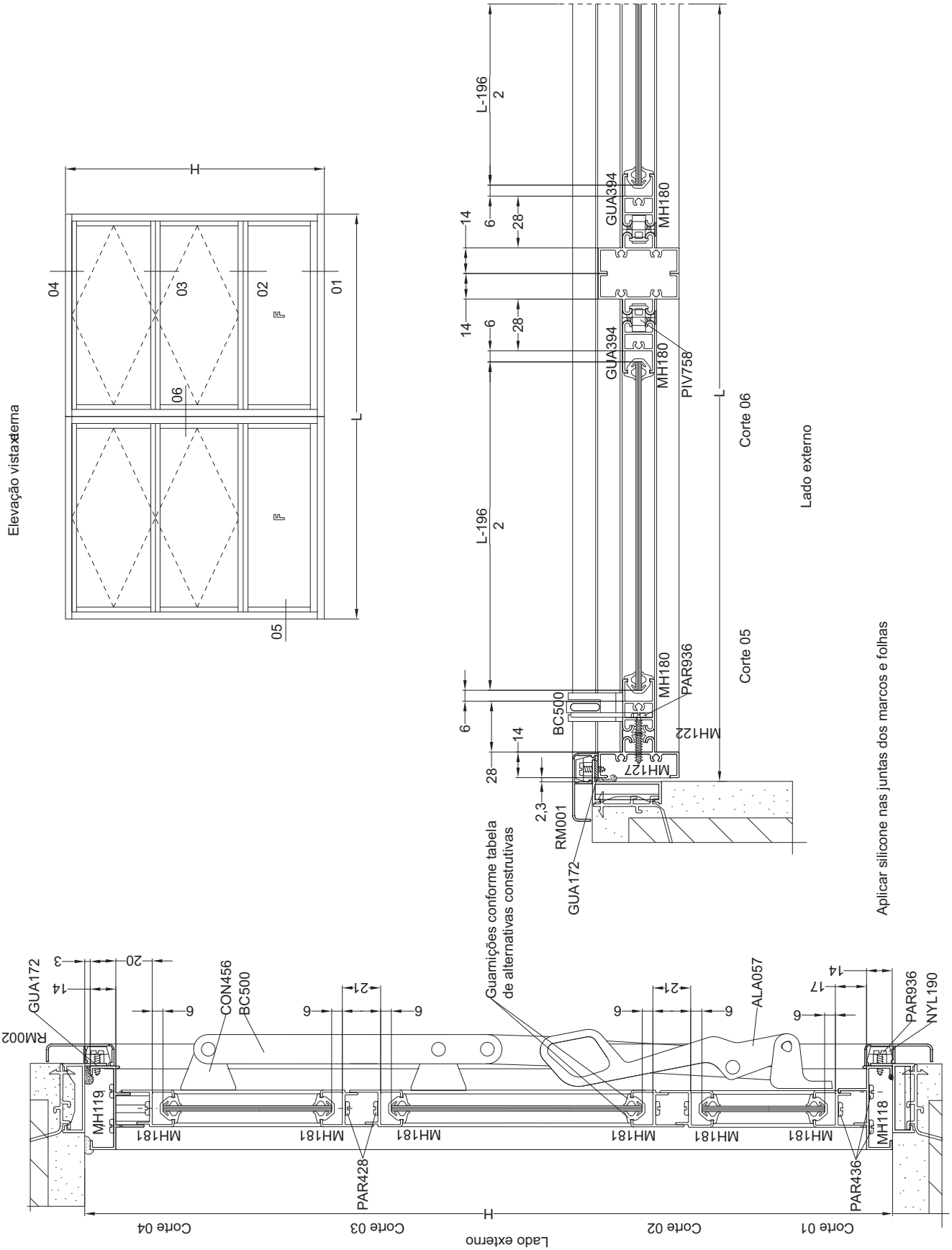


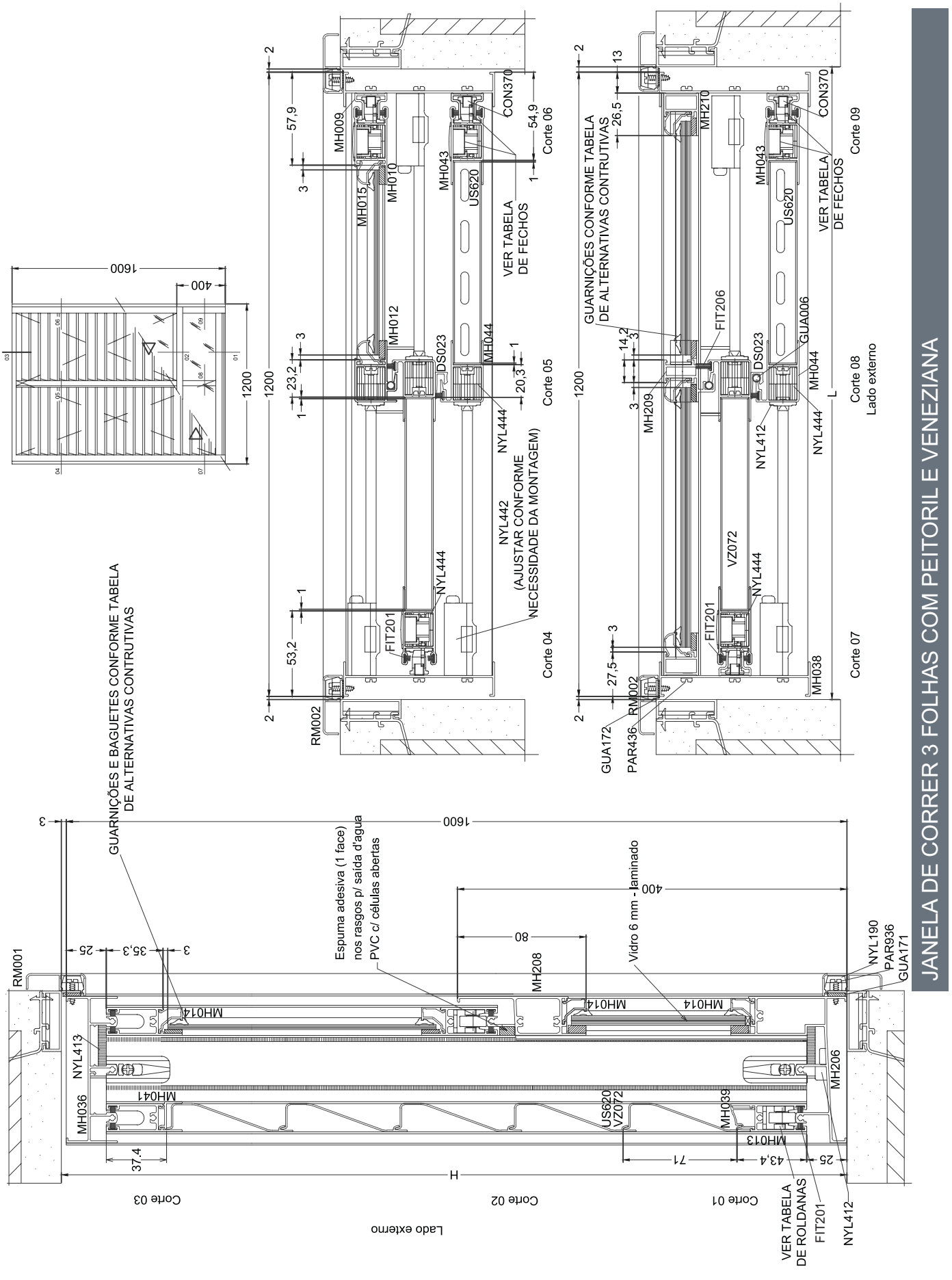


JANELA BASCULANTE 3 FOLHAS EM 1 MÓDULO SEM BAGUETES



JANELA BASCULANTE 3 FOLHAS EM 2 MÓDULOS SEM BAGUETES




JANELA DE CORRER 3 FOLHAS COM PEITORIL E VENEZIANA
1600
400
1200
Corte 04
Corte 05
Corte 06
Corte 07
Corte 08
Lado externo
Corte 09
Corte 01
Corte 02
Corte 03
Lado externo
GUARNIÇÕES E BAGUETES CONFORME TABELA DE ALTERNATIVAS CONTRUTIVAS
GUARNIÇÕES CONFORME TABELA DE ALTERNATIVAS CONTRUTIVAS
NYL442 (AJUSTAR CONFORME NECESSIDADE DA MONTAGEM)
VER TABELA DE FECHOS
VER TABELA DE ROLDANAS
Espuma adesiva (1 face) nos rasgos p/ saída d'agua PVC c/ células abertas
Vidro 6 mm - laminado
RM001
RM002
MH001
MH009
MH010
MH012
MH014
MH015
MH036
MH038
MH039
MH041
MH043
MH044
MH206
MH208
MH209
MH210
CON370
DS023
FIT201
FIT206
GUA006
GUA171
GUA172
NYL190
NYL412
NYL413
NYL444
PAR436
PAR936
US620
VZ072

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Histórico de Atualizações

DESCRIÇÃO	PÁGINAS	DATA DA REVISÃO
NOVA VERSÃO CATÁLOGO	TODAS	SET/2016
CORREÇÃO PERFIS CL010 E CL011	27	MAIO/2017
ATUALIZAÇÃO DOS LOGOTIPOS	TODAS	AGO/2017
ATUALIZAÇÃO VISUAL	TODAS	JUL/2018

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HYDRO

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