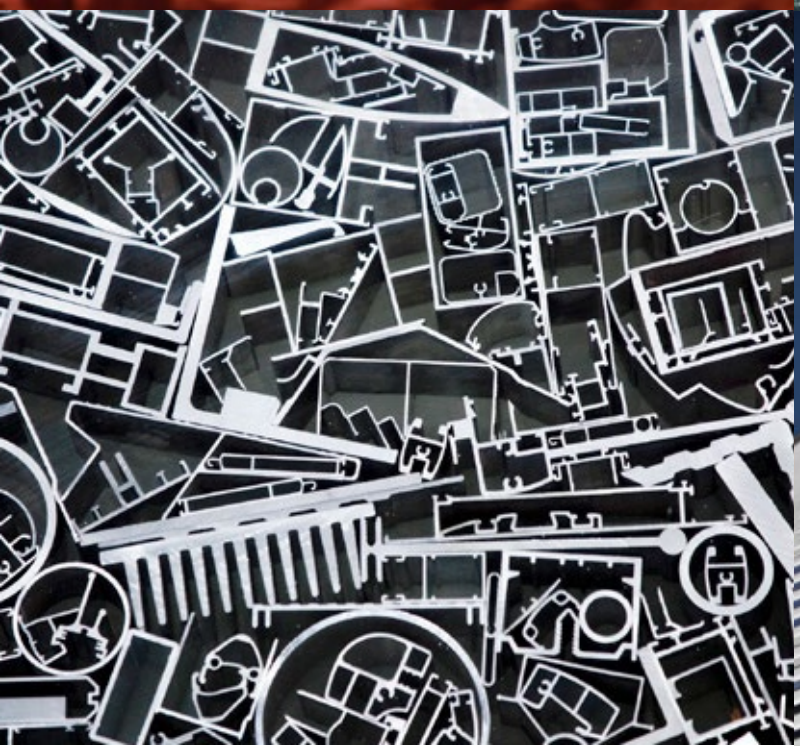
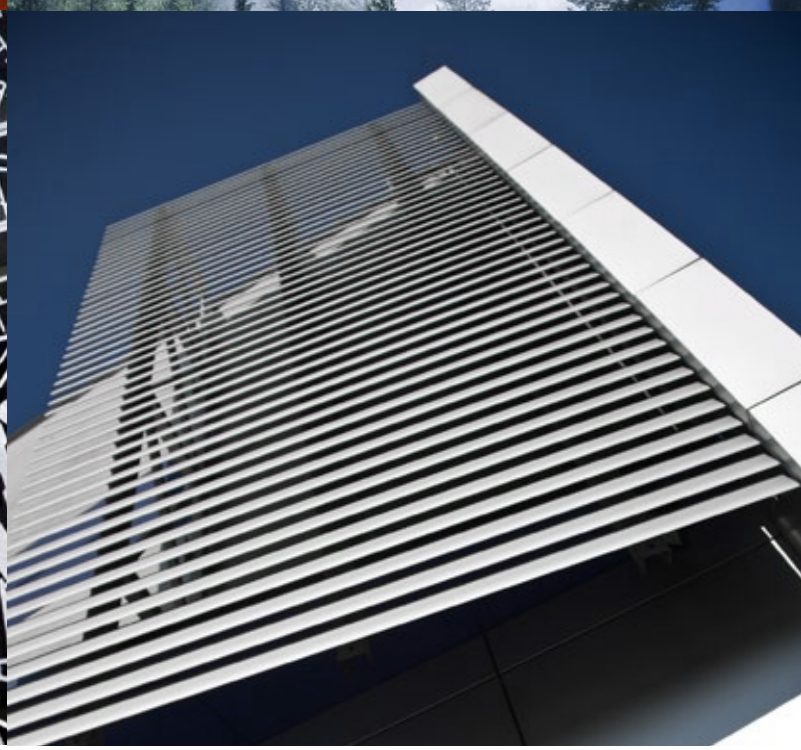
Hydro

UNIT

Hydro – A empresa de energia e alumínio

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

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

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

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

*Informação referente a data de fechamento do material.

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Hydro Bauxita & Alumina

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

Hydro Energia

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

Hydro Extrusão

A Hydro Extrusão é uma empresa líder mundial em extrusão de alumínio, com cerca de 100 unidades de produção, em 40 países, e empregando 20.000 pessoas*. Por meio de uma combinação exclusiva de experiência local, rede global e recursos de P&D incomparáveis, podemos oferecer desde perfis padronizados até desenvolvimento e fabricação avançados para a maioria das indústrias.

Portfólio Hydro

Para todos os tipos e padrões de obras.

Linhas Comerciais	ECO² FAÇADE CITTÀ UNIT ELEGANCE MIRROR
Linhas Residenciais	SKYLINE INOVA ÚNICA GOLD Slim PRODUTIVA25 MASTER NOVA GOLD
Complementos de Arquitetura	ESPLENDOOR UNIVERSAL VARANDA E GRADIL MIRANTE UNIVERSAL PORTÃO E GRADE

Hydro

UNIT

Unit

O ritmo atual das construções demanda produtos de alta qualidade, facilidade de fabricação, rapidez na instalação e ótimo desempenho técnico. A linha Unit foi desenvolvida para atender a esta demanda. Trata-se de um sistema para fachadas-cortina e entre-vãos modulados, prático e de elevada produtividade. Sua inspiração vem no conceito americano de unitized systems com uma ampla gama de opções de montagem que ainda podem ser adaptadas às necessidades específicas de cada projeto. O alto desempenho se apresenta em relação a integridade estrutural e excelente vedação ao ar e a água. O resultado final é uma excelente relação custo x benefício.

Normas	B-01 - B-05
Resultado de Ensaios	C-01
Tipologias	D-01 - D-02
Módulo 60-25	E-01 - E-05
Módulo 80-25	F-01 - F-05
Módulo 80-35 Rebaixo	G-01 - G-05
Módulo 80-35	H-01 - H-05
Módulo 80-35R	I-01 - I-09
Módulo 100 Encaixilhado	J-01 - J-06
Módulo 120	K-01 - K-05
Módulo 120-35	L-01 - L-05
Módulo Fachada 80	M-01 - M-08
Módulo Fachada 100	N-01 - N-09
Módulo Fachada 127	O-01 - O-11
Módulo Anc. Telescópica	P-01 - P-12
Módulo Fachada Extrema	Q-01 - Q-04
Perfis Diversos	R-01 - R-18
Esquema de Montagem	S-01
Componentes	T-01 - T-06
Usinagens	U-01 - U-42
Detalhes Construtivos	V-01 - V-58

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

NORMA ABNT NBR 10821-2017

A norma ABNT NBR 10821/17 estabelece os parâmetros mínimos de desempenho bde esquadrias localizadas na face externa das edificações de uso comercial ou residencial, em todo o Brasil. Esta norma abrange os seguintes pontos:

- Permeabilidade ao ar;
- Estanqueidade à água;
- Resistência às cargas uniformemente distribuídas (cargas de vento);
- Resistência às operações de manuseio

Quando falamos de resistência às cargas uniformemente distribuídas, esta norma nos traz um mapa de isopletas do Brasil, retirado da norma ABNT NBR 6123, em que encontramos a velocidade dos ventos, através da qual conseguimos calcular as forças devidas ao vento.

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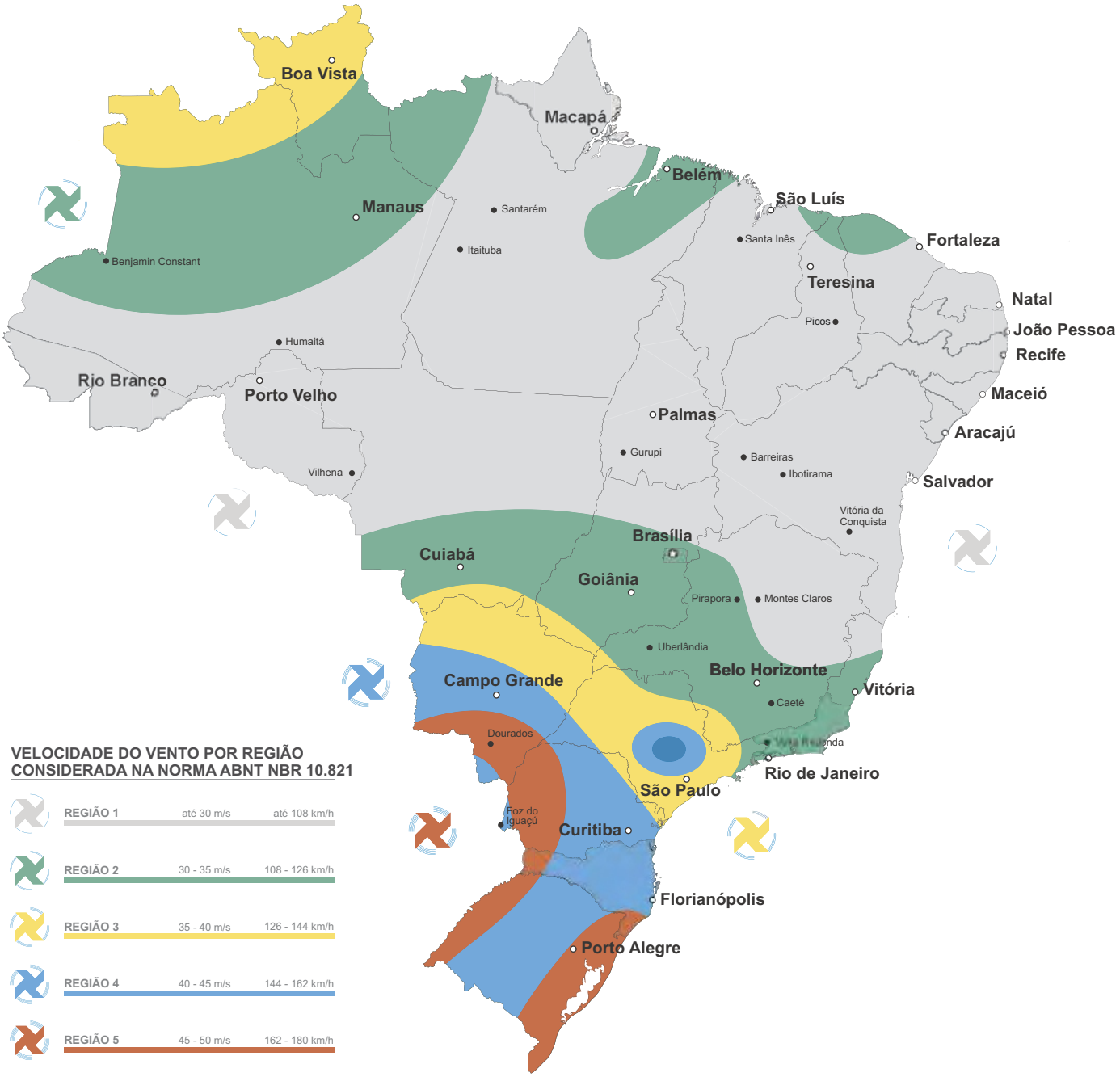
MAPA DE VELOCIDADE DO VENTO POR REGIÃO NO BRASIL

A velocidade do vento é o parâmetro inicial para calcularmos a pressão do vento no local desejado, além disso deve-se levar em conta, ainda, a altura do edifício, rugosidade do terreno, densidade de construções no entorno, topografia, forma geométrica do edifício, entre outras características. Para facilitar, a NBR 10821/17 já traz a seguinte tabela, que determina as pressões de ensaio, de segurança e de água em edifícios de até 30 pavimentos ou 90 metros de altura para todas as regiões do Brasil.



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É importante destacar que esta tabela não é válida para:
- Edificações em que a esquadria não seja instalada na posição vertical;
- Edificações de formas não retangulares;
- Edificações com localização, especificação, necessidade e exigências especiais de utilização;
- Quando houver túnel de vento.

Para os três primeiros casos, as pressões devem ser calculadas de acordo com a norma NBR 6123 / 13. Caso seja encontrado um valor menor do que o que consta na tabela abaixo, deve-se prevalecer a maior pressão.

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 da edificação; na terceira, a região definida pelo mapa de isopletas (velocidades do vento); na quarta, a pressão de ensaio dada em Pascal; na quinta, a pressão de segurança dada em Pascal; e na sexta a pressão de água dada em Pascal.

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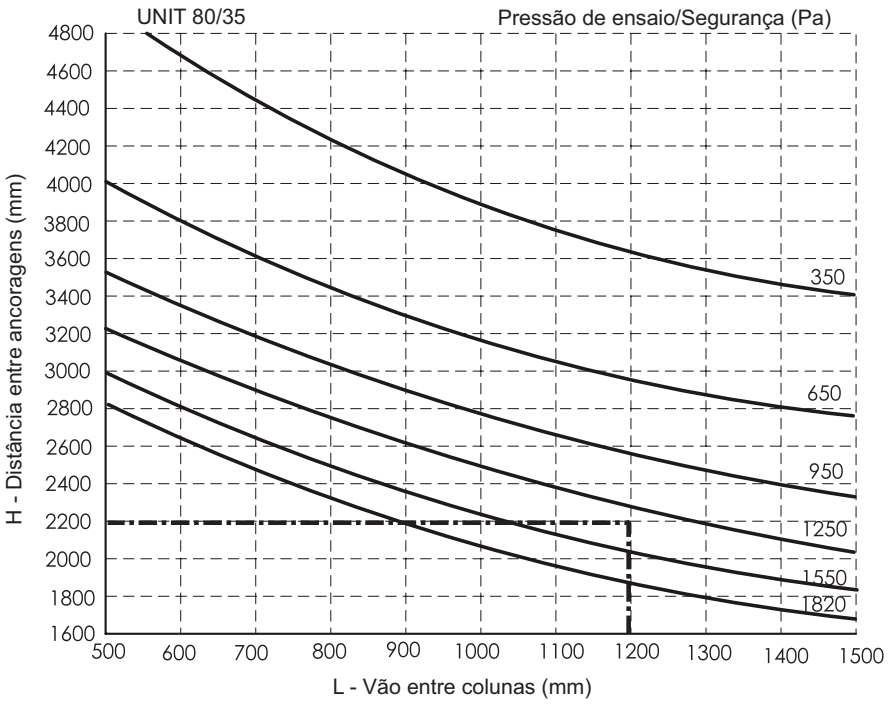
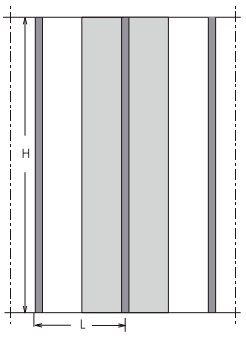
Na quinta coluna, apresenta-se a pressão de segurança. Esta pressão foi estabelecida para verificar casos extremos que a esquadria deve suportar. Durante o ensaio, não se exige a medição da flecha provocada, mas a verificação de que não houve colapso total ou parcial de qualquer dos componentes da esquadria,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

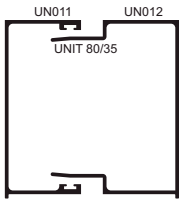
Logo, é importante considerar o desempenho dos vidros durante o cálculo. Como colapso entende-se qualquer alteração vital no funcionamento do conjunto, sua estrutura ou componentes, que coloque em risco os usuários ou terceiros.

Para ilustrar, veja o exemplo abaixo:

Gráfico Linha Unit 80 - Entre-vãos







Área = 653 mm²
Jx = 670906 mm⁴
Wx = 16143 mm³
H= 83 mm

Tensão Admissível = 7 Kg / mm² (liga 6060 T5)
Flecha Admissível = H / 175 ou 30 mm

O gráfico abaixo apresenta as Pressões de Ensaio e de Segurança da Linha Unit Hydro – Módulo 80, na condição entre vão, coluna tipo macho e fêmea, considerada bi apoiada, sendo que a curva contempla os requisitos das colunas 4 e 5 simultaneamente, tendo como dado de entrada os valores da coluna 4.

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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 2000 mm de altura na região V, em edifícios de até 90 metros de altura.

Caso B - Ok para 2200 mm de altura na região IV, em edifícios de até 90 metros de altura.

Caso C - Ok para 2400 mm de altura na região III, em edifícios com até 30 pavimentos, ou 90 metros de altura.

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 válida 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 10.821 / 11.

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4. RESULTADOS OBTIDOS

4.1. Verificação da penetração de ar

DETERMINAÇÃO DA VAZÃO DE AR	
Vazão de Alimentação Q_a (m³/h)	154
Vazão de Ar Q (m³/h)	158
Vazão de Permeabilidade Q_p ($Q_p = Q - Q_a$)	**4 (m³/h)**
CÁLCULO DA VAZÃO POR METRO LINEAR DE JUNTAS ABERTAS	
Comprimento de Juntas Abertas (m)	9,60
Vazão de Permeabilidade por metro linear (Q_p ÷ Comprimento de Juntas Abertas)	**0,42**
Classificação de acordo com Anexo B da NBR 10821-2	**Superior**
CÁLCULO DA VAZÃO POR ÁREA TOTAL DO VÃO	
Área do vão (m²)	24,70
Vazão de Permeabilidade por área total do vão (Q_p ÷ Área Total do Vão)	**0,16**
Classificação de acordo com Anexo B da NBR 10821-2	**Superior**

4.2. Verificação da estanqueidade à água – Método A (esquadrias totalmente expostas.)

Conforme solicitação do interessado, o ensaio foi realizado considerando como pressão de ensaio o valor de 300 Pa.

Pressão de Ensaio (Pa)	Período de Aplicação (min.)	Ocorrências
0	15	Nenhuma ocorrência de infiltração de água.
20	05	
40	05	
60	05	
80	05	
100	05	
120	05	
150	05	
180	05	
210	05	
240	05	
270	05	
300	05	

Seguem definições de acordo com a NBR 10821-3:2011, itens 3.7 e 3.8:

Permeabilidade Inicial (PI): Início de vazamento de água no interior da esquadria ou das partes, ocorrido a qualquer tempo, desde que a água não ultrapasse o plano do marco da esquadria, sem molhar o peitoril da alvenaria ou a face interna da parede.

Permeabilidade Excessiva (PE): Todo e qualquer vazamento de água que ultrapasse o plano do marco da esquadria. Neste caso a esquadria é reprovada.

De acordo com a tabela 2 da NBR 10821-2:2011 de níveis de desempenho das esquadrias quanto ao seu uso, no ensaio de verificação da estanqueidade à água o protótipo classifica-se como Superior.

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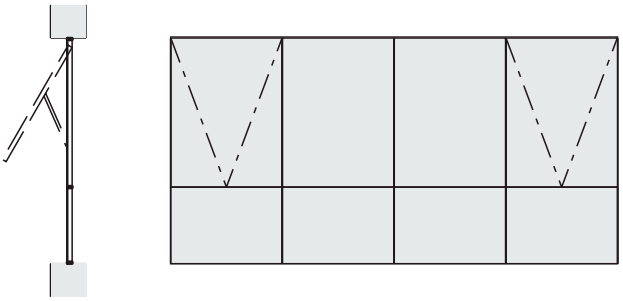
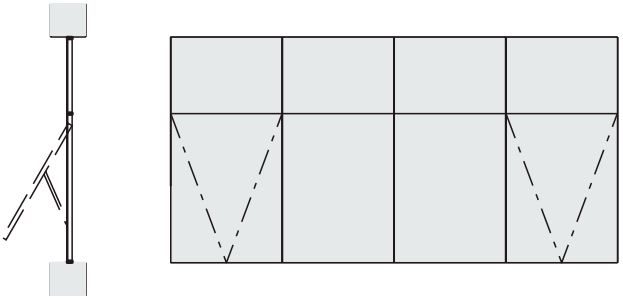
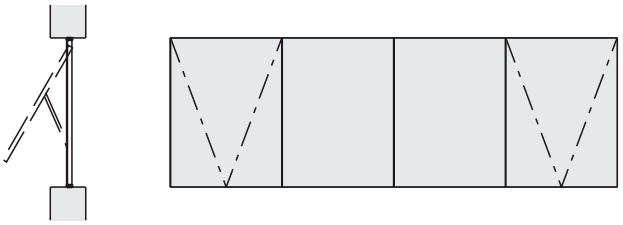
Tipologias

MÓDULOS ENTRE-VÃOS







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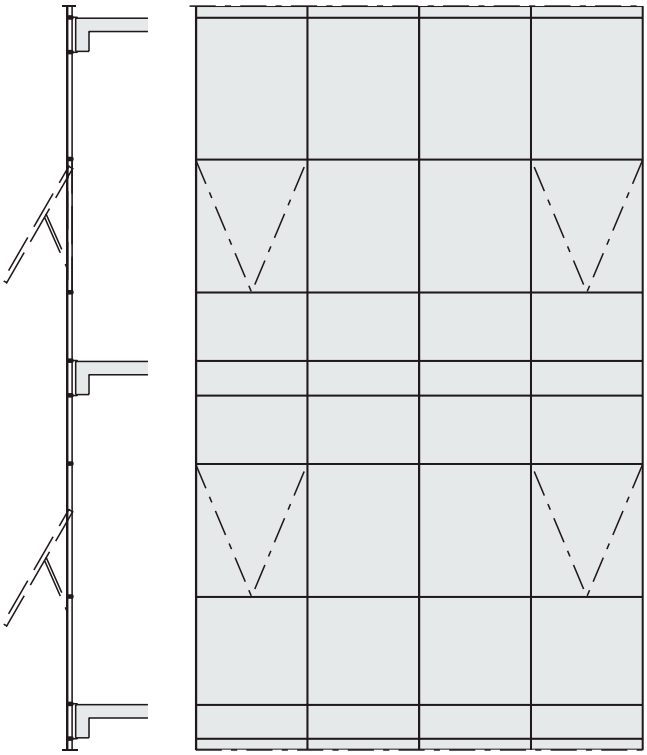
MÓDULOS FACHADAS



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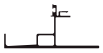
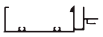
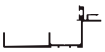
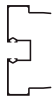
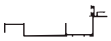
Módulos

Código	Perfil	Peso (Kg/m)	Pag.
MÓDULO - 60			
UN178		0,756	E-05
UN319		1,016	E-05
UN320		0,823	E-05
UN321		0,789	E-05
UN322		0,600	E-05
UN323		1,160	E-05
UN343		0,439	E-05
UN355		1,799	E-05
MÓDULO - 80-35 R			
UN002		0,887	I-07
UN014		1,290	I-07
UN432		1,862	I-08
UN431		1,693	I-08
UN332		1,108	I-07
UN328		1,033	I-07
UN329		1,206	I-07
UN025		1,022	I-08
UN433		1,875	I-09

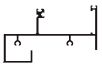
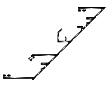
Código	Perfil	Peso (Kg/m)	Pag.
MÓDULO - 80-35 R			
UN434		1,723	I-09
UN330		1,527	I-07
MÓDULO - 80-35 Rebaixo			
UN002		0,887	G-05
UN011		0,790	G-04
UN012		0,976	G-04
UN032		0,563	G-04
UN060		1,018	G-05
UN063		1,204	G-05
UN066		1,403	G-04
UN085		0,953	G-05
UN086		0,609	G-05
UN087		0,620	G-04
UN328		1,033	G-05
UN357		1,262	G-04
UN358		0,639	G-04

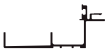
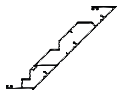
Código	Perfil	Peso (Kg/m)	Pag.
MÓDULO - 80-35			
UN002		0,887	H-04
UN011		0,790	H-04
UN012		0,976	H-04
UN013		1,196	H-05
UN014		1,290	H-05
UN016		1,551	H-05
UN328		1,033	H-04
UN332		1,108	H-04
UN356		2,062	H-05
MÓDULO - 80-25			
UN002		0,887	F-05
UN324		0,944	F-05
UN332		1,108	F-05
UN325		0,884	F-05
UN326		0,689	F-05
UN356		2,062	F-05

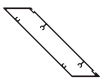
Projetos, perfis, componentes, códigos e sistemas
estão sujeitos a alteração sem prévio aviso.

Código	Perfil	Peso (Kg/m)	Pag.
MÓDULO - 100 ENCAIXILHADO			
UN055		0,858	J-06
UN106		1,620	J-05
UN107		1,377	J-05
UN108		1,169	J-05
UN109		1,130	J-05
UN110		1,916	J-06
UN111		3,254	J-06
UN112		0,384	J-06
UN113		1,208	J-05
UN114		0,503	J-05
UN115		0,533	J-06
UN116		0,542	J-06
UN118		0,414	J-06
FC693		0,446	J-06

Código	Perfil	Peso (Kg/m)	Pag.
MÓDULO - 100 ENCAIXILHADO			
UN369		2,579	J-05
MÓDULO - FACHADA 80			
UN333		1,061	M-05
UN334		1,250	M-05
UN287		1,228	M-05
UN128		1,630	M-05
UN289		1,605	M-08
UN290		1,420	M-08
UN432		1,862	M-06
UN431		1,693	M-06
UN433		1,875	M-07
UN434		1,723	M-07
UN293		1,833	M-08
UN296		1,316	M-08
MÓDULO - FACHADA 100			
UN265		1,239	N-08

Código	Perfil	Peso (Kg/m)	Pag.
MÓDULO - FACHADA 100			
UN266		1,450	N-08
UN271		1,482	N-05
UN272		2,053	N-05
UN424		1,821	N-07
UN423		1,652	N-07
UN426		1,866	N-06
UN425		1,703	N-06
UN345		1,495	N-09
UN344		1,266	N-09
MÓDULO - TELESCÓPICO			
UN254		4,803	P-10
UN256		4,093	P-10
UN255		2,260	P-11
UN297		4,541	P-12
UN298		1,370	P-12
UN267		4,628	P-11

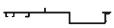
Código	Perfil	Peso (Kg/m)	Pag
MÓDULO - FACHADA 127			
UN339		1,504	O-07
UN340		1,774	O-07
UN342		1,870	O-08
UN341		2,276	O-08
UN057		2,171	O-09
UN025		1,022	O-09
UN002		0,887	O-09
UN359		3,194	O-07
UN450		3,074	O-10
UN449		2,677	O-10
UN451		3,021	O-11
UN452		2,826	O-11

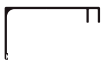
Código	Perfil	Peso (Kg/m)	Pag.
MÓDULO - FIXAÇÃO CONTÍNUA-120			
UN052		1,818	K-04
UN054		1,577	K-04
UN055		0,858	K-04
UN070		1,051	K-05 L-05
UN072		0,666	L-04
UN074		3,076	K-04 L-05
UN088		0,512	K-04
UN335		1,805	K-05 L-04
UN336		1,450	L-05
UN337		1,423	K-05 L-04
UN338		1,744	K-05 L-04
MÓDULO - UNI/EXTREMA			
UN230		2,268	Q-04
UN231		2,319	Q-04
UN232		0,467	Q-04
UN236		1,083	Q-04

Código	Perfil	Peso (Kg/m)	Pag.
MÓDULO - DIVERSOS			
UN248		0,523	R-01
UN371		0,685	R-01
UN250		0,642	R-01
UN251		0,623	R-01
UN286		0,682	R-01
UN218		2,041	R-02
UN221		1,890	R-02
UN222		1,859	R-02
UN283		1,130	R-02
UN273		1,863	R-03
UN282		1,236	R-03
UN327		1,267	R-03
UN241		0,545	R-03
UN299		1,315	R-04
UN284		1,148	R-04

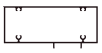
Código	Perfil	Peso (Kg/m)	Pag.
MÓDULO - DIVERSOS			
UN370		0,810	R-01
UN274		1,372	R-05
UN279		1,332	R-05
UN308		1,407	R-05
UN311		1,646	R-06
UN210		1,561	R-06
UN354		0,901	R-06
UN017		2,676	R-07
UN019		1,315	R-07
UN028		3,421	R-07
UN129		3,672	R-07
UN235		1,511	R-07
UN029		4,200	R-08
UN048		7,828	R-08
UN098		5,044	R-08

Código	Perfil	Peso (Kg/m)	Pag.
MÓDULO - DIVERSOS			
UN142		5,346	R-08
UN187		4,975	R-09
UN229		7,208	R-09
UN281		9,621	R-09
UN100		0,894	R-10
UN360		1,384	R-10
UN362		2,232	R-10
UN361		1,813	R-10
UN363		2,598	R-10
UN268		1,965	R-10
UN364		0,890	R-10
UN280		5,961	R-10
UN099		2,507	R-11
UN105		2,832	R-11

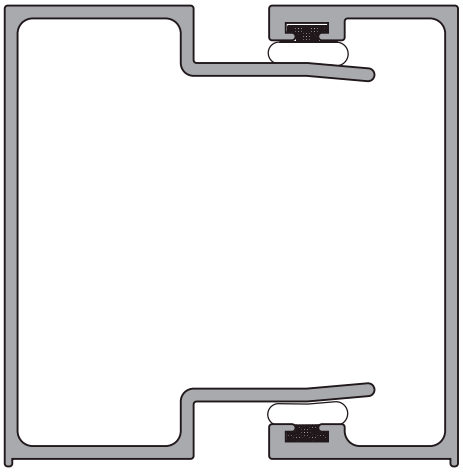
Código	Perfil	Peso (Kg/m)	Pag.
MÓDULO - DIVERSOS			
UN208		3,252	R-11
UN242		4,374	R-11
UN435		1,742	R-12
UN004		0,303	R-13
UN015		0,580	R-13
UN018		0,176	R-13
UN027		0,570	R-13
UN032		0,563	R-13
UN049		0,512	R-13
UN056		0,407	R-13
UN058		0,393	R-13
UN030		0,187	R-14
UN059		0,427	R-14
UN436		1,857	R-12
UN428		1,832	R-12

Código	Perfil	Peso (Kg/m)	Pag.
MÓDULO - DIVERSOS			
UN429		1,717	R-12
UN453		2,178	R-12
UN101		0,482	R-14
UN112		0,384	R-14
UN181		0,439	R-14
UN237		0,920	R-14
UN238		2,271	R-14
UN252		0,399	R-14
UN110		1,916	R-17
UN312		0,603	R-17
FC512		0,244	R-17
UN269		1,674	R-18
UN270		1,930	R-18
UN313		10,748	R-18
UN346		1,460	R-10

Código	Perfil	Peso (Kg/m)	Pag.
MÓDULO - DIVERSOS			
UN376		3,700	R-13
UN377		5,933	R-11
UN088		0,512	R-14
UN143		1,920	R-11
LC054		0,158	R-01
FC495		0,168	R-03
UN318		0,503	R-06
UN353		0,331	R-06
VL047		0,121	R-15
FC400		0,152	R-15
FC368		0,130	R-15
FC369		0,605	R-15
LC041		0,585	R-15
CM129		0,489	R-15
VL055		0,470	R-15

Código	Perfil	Peso (Kg/m)	Pag.
MÓDULO - DIVERSOS			
UN358		0,639	R-01
UN057		2,171	R-16
UN002		1,857	R-16
UN025		1,002	R-16

Módulo 60-25



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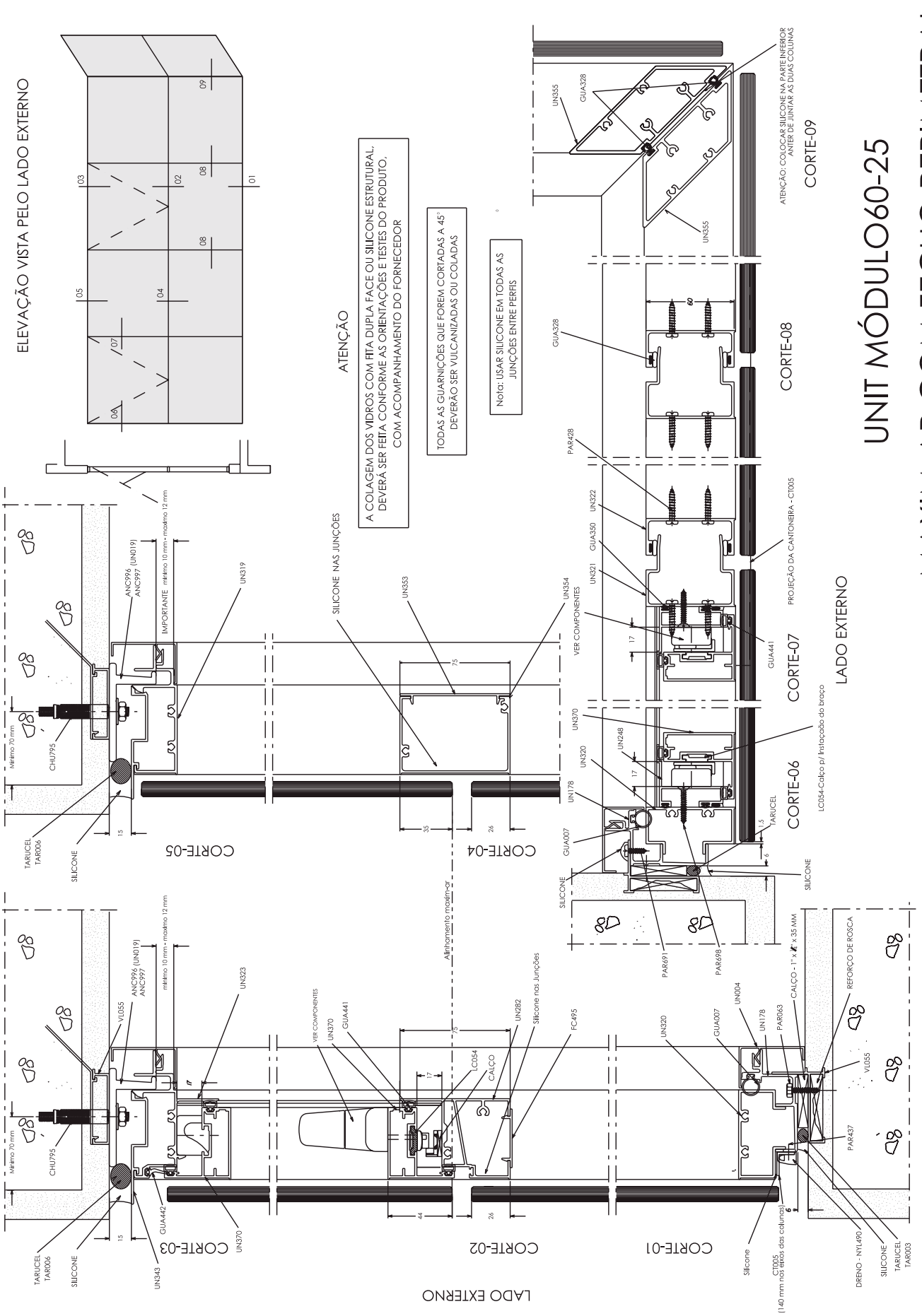
Montagem 60-25



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Montagem 60-25

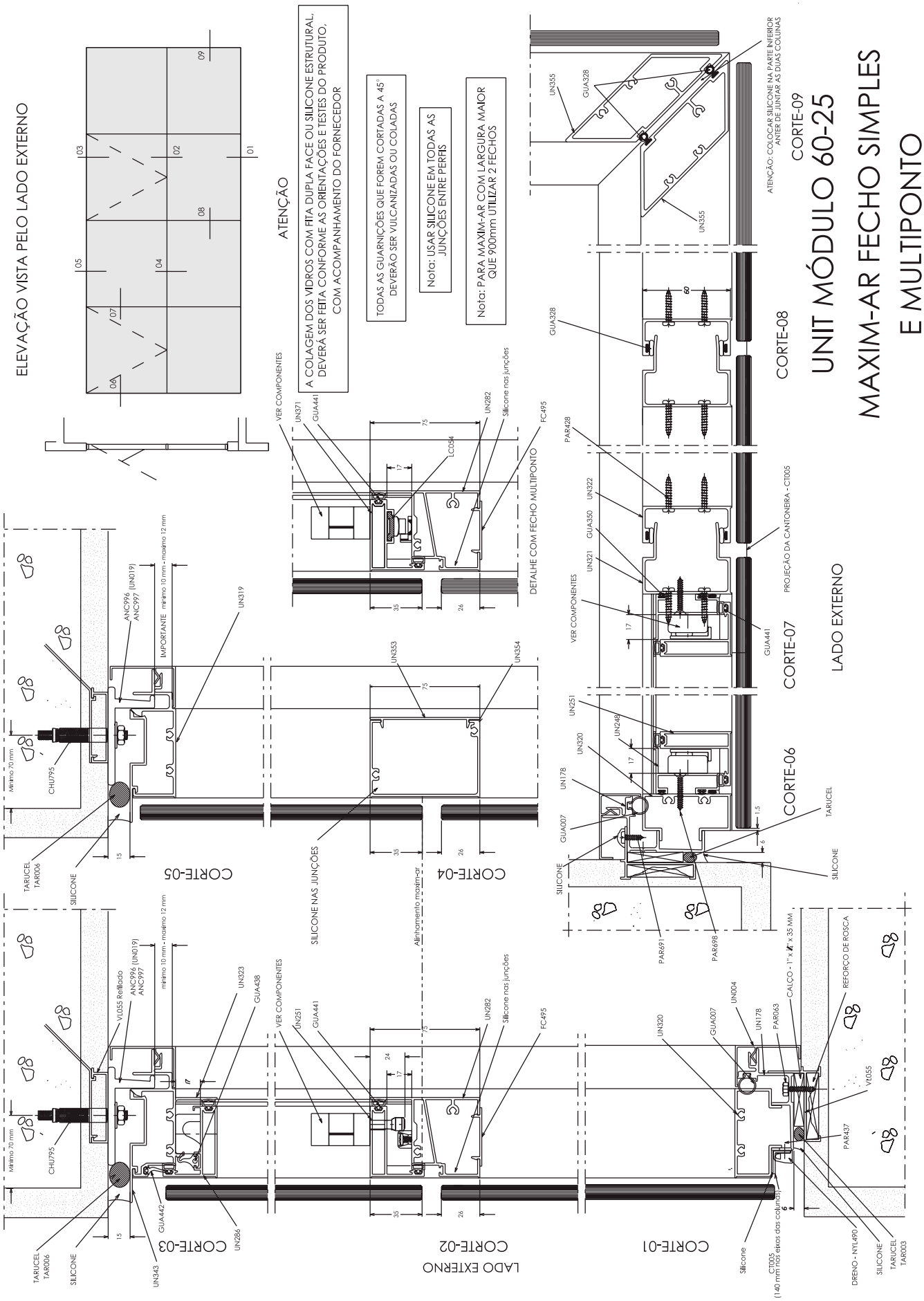

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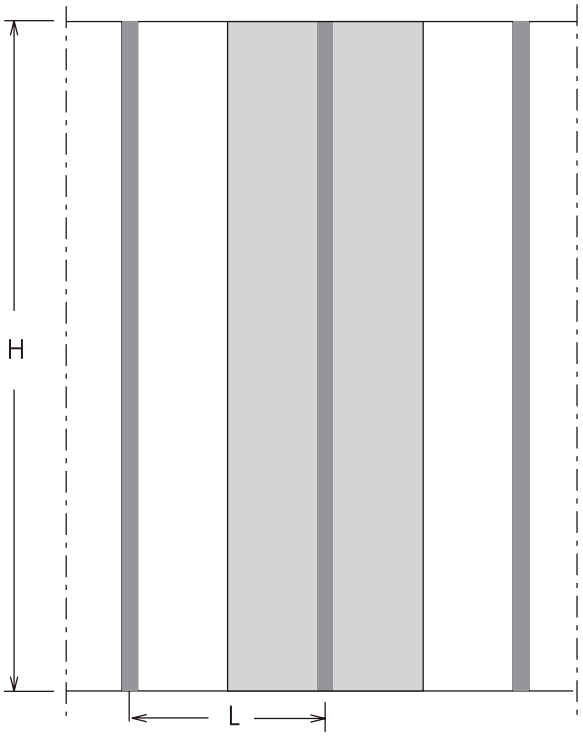
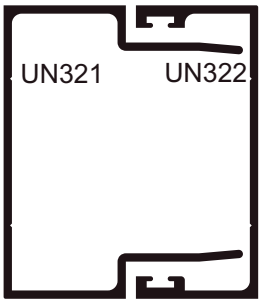
Diagrama de Dimensões

UNIT - Módulo 60 - 25

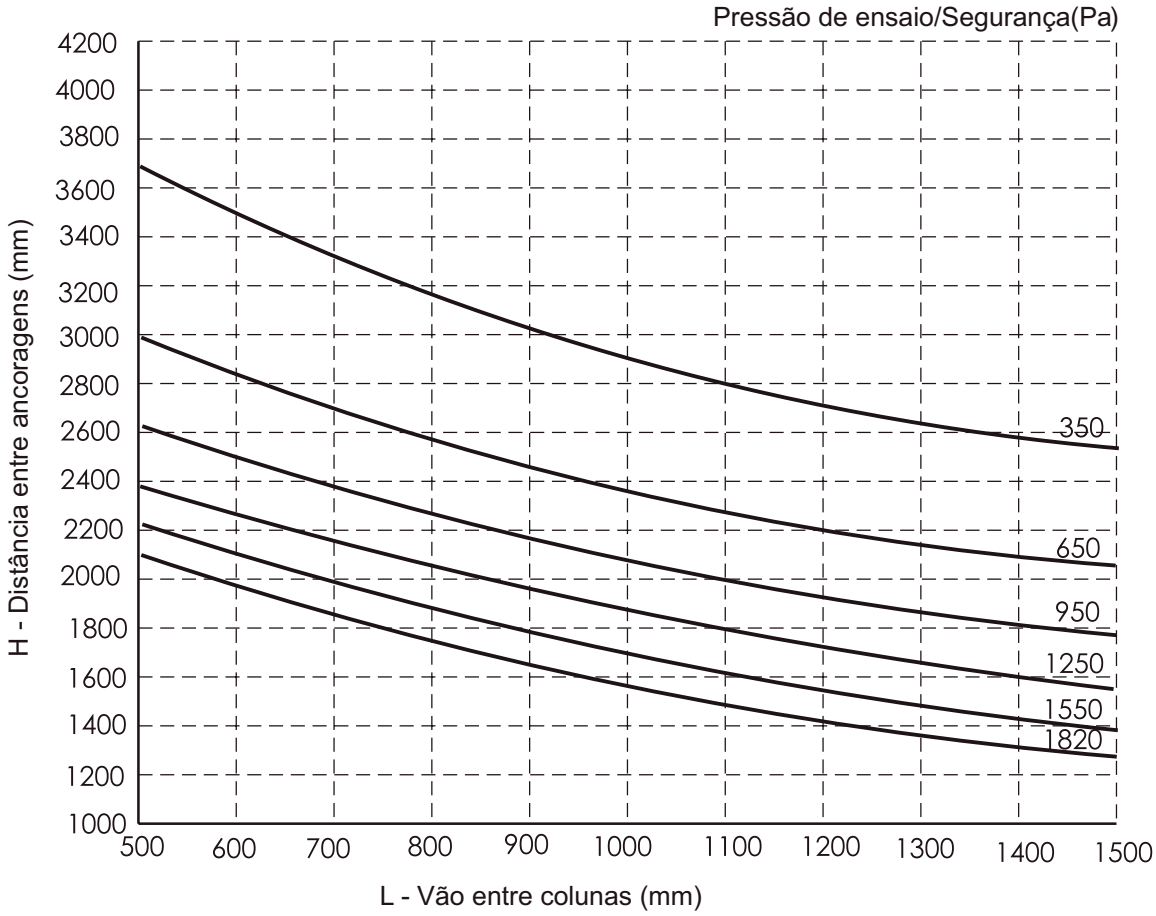




Área = 508 mm ^{2}
Jx = 278077 mm ^{4}
Wx = 9269 mm ^{3}
H = 60 mm

Liga 6060 T5

Tensão adm = 7 Kg/ mm^2
Flecha adm = H/175 ou 30 mm



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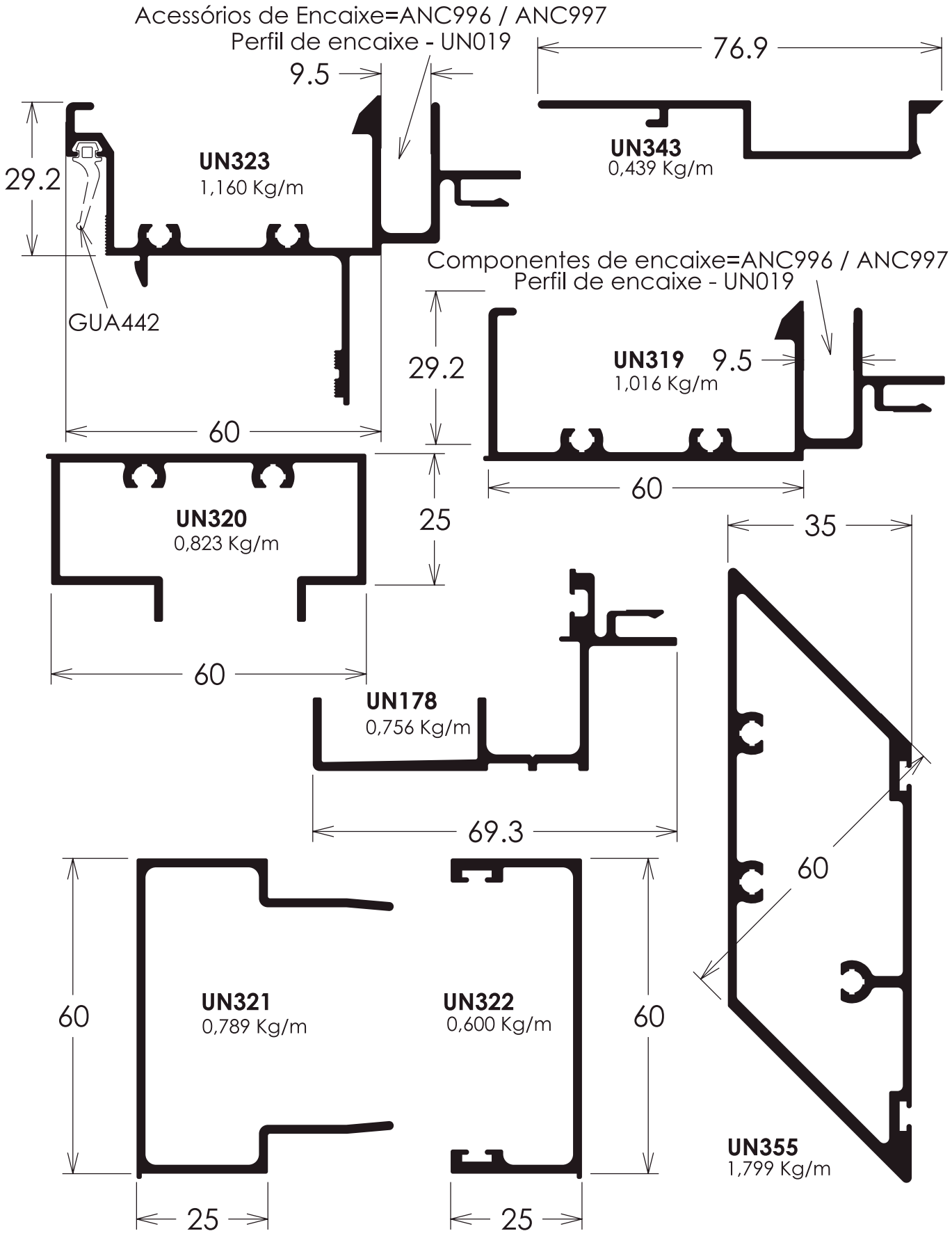
Perfis 60-25



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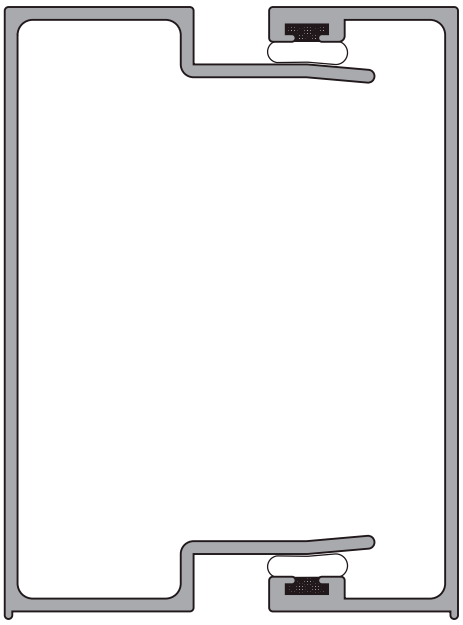
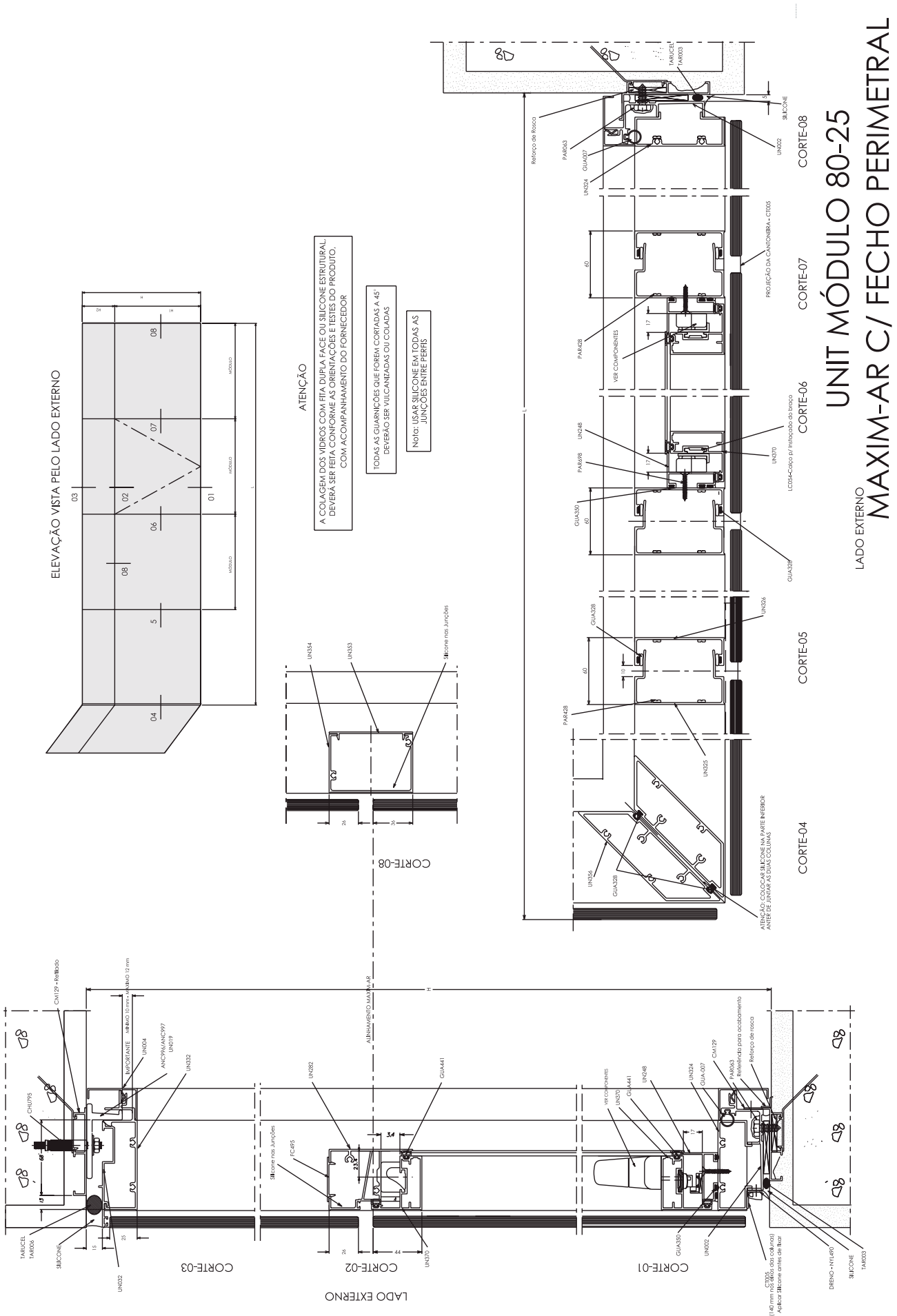
Módulo 80-25



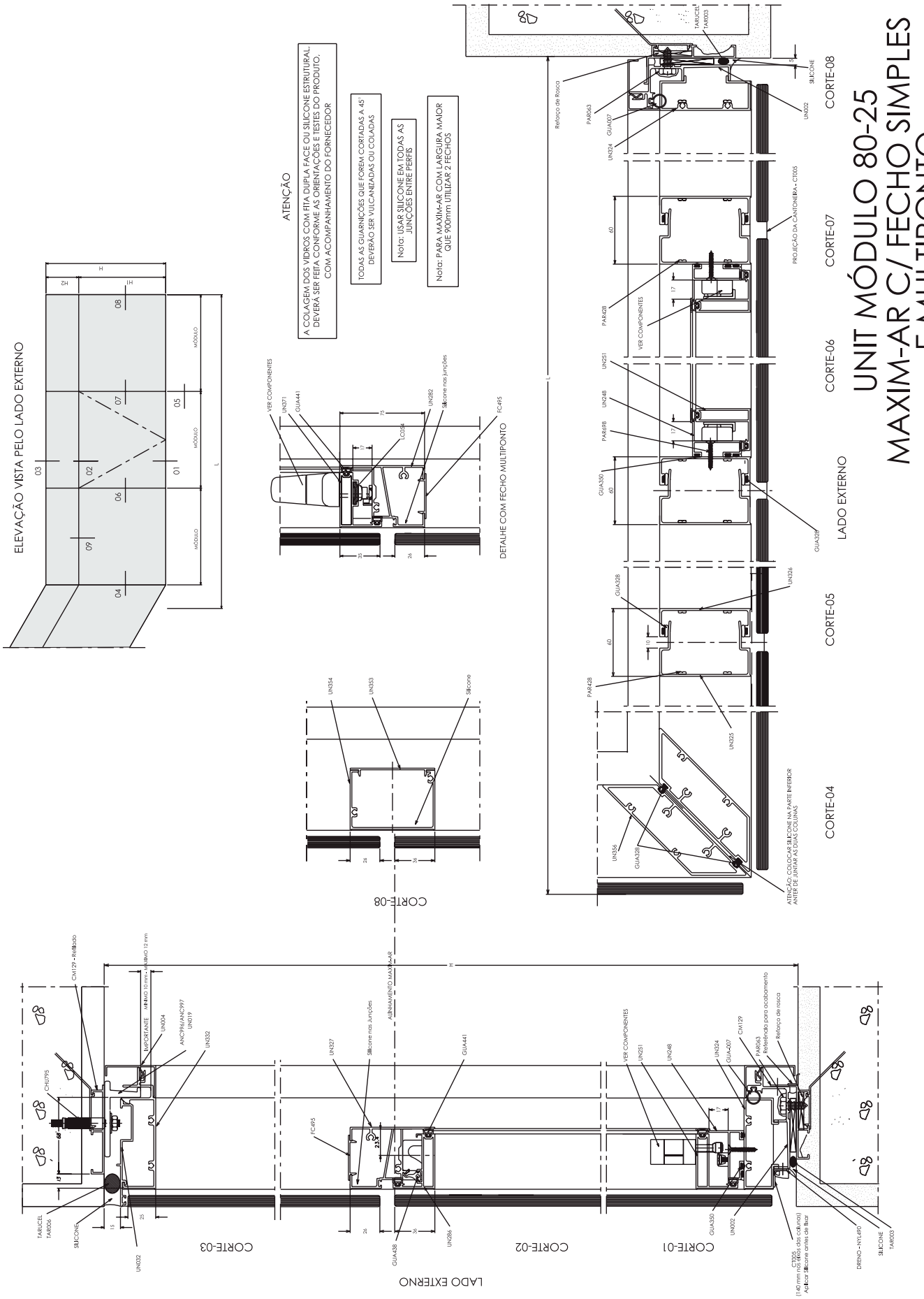
Unit® | Marca e Modelos Registrados

Montagem 80-25



Unit® | Marca e Modelos Registrados

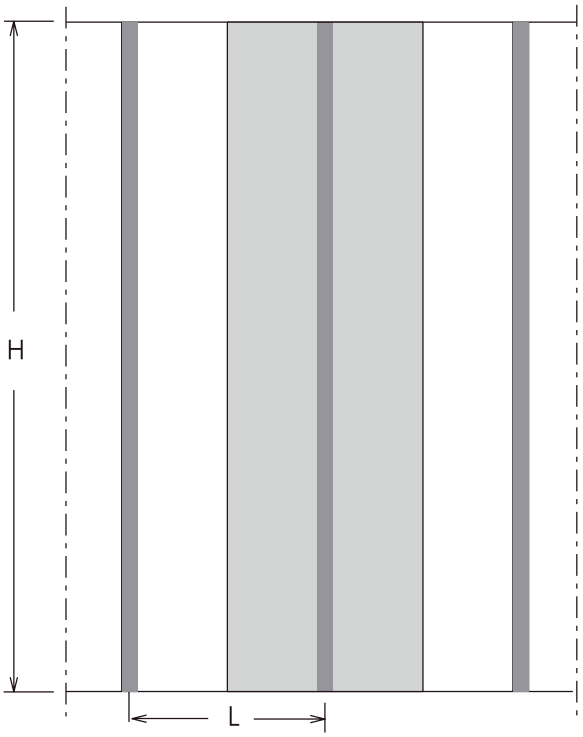
Montagem 80-25

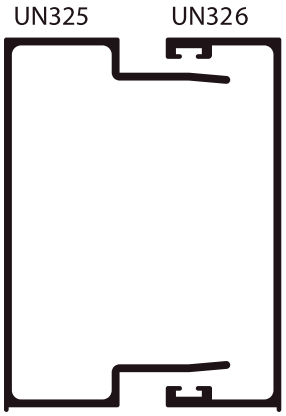


Unit® | Marca e Modelos Registrados

Diagrama de Dimensões

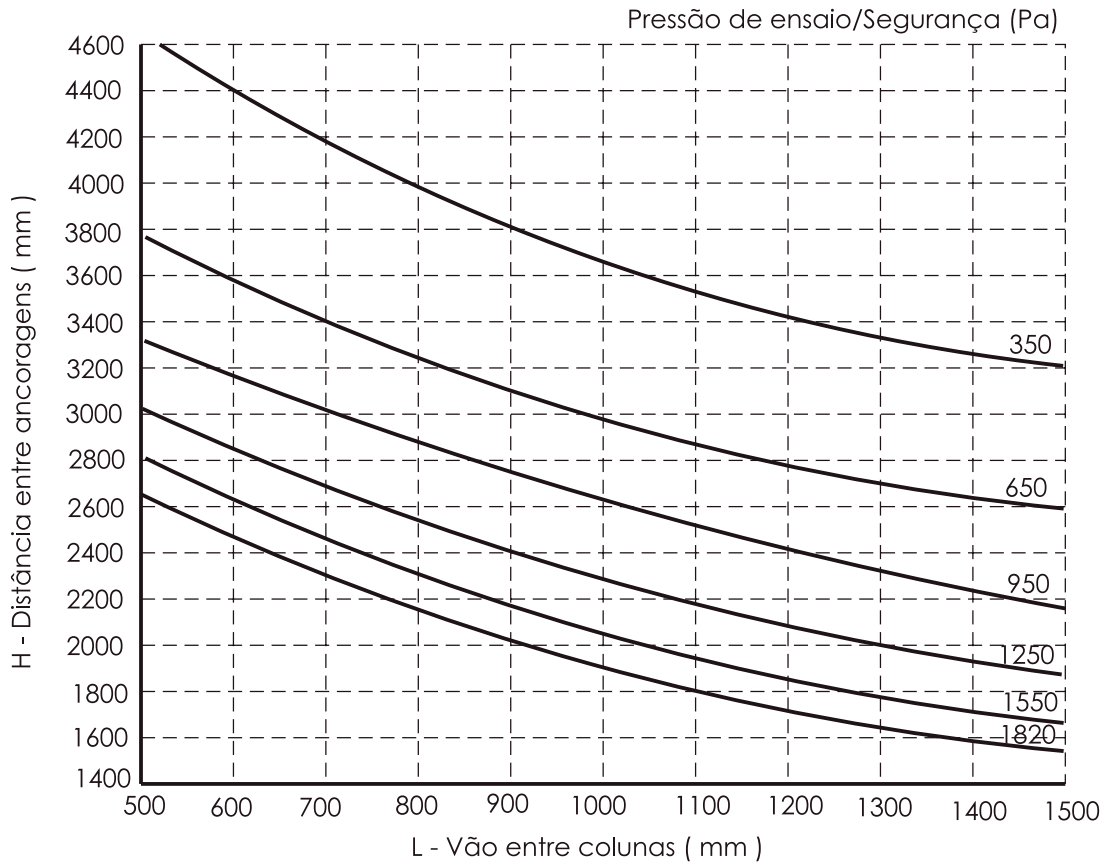
UNIT - Módulo 80 / 25





Área = 579 mm^2
Jx = 557121 mm^4
Wx = 13645 mm^3
H = 81,7 mm

Liga 6060 T5
Tensão adm = 7 kg/mm^2
Flecha adm = H/175 ou 30 mm



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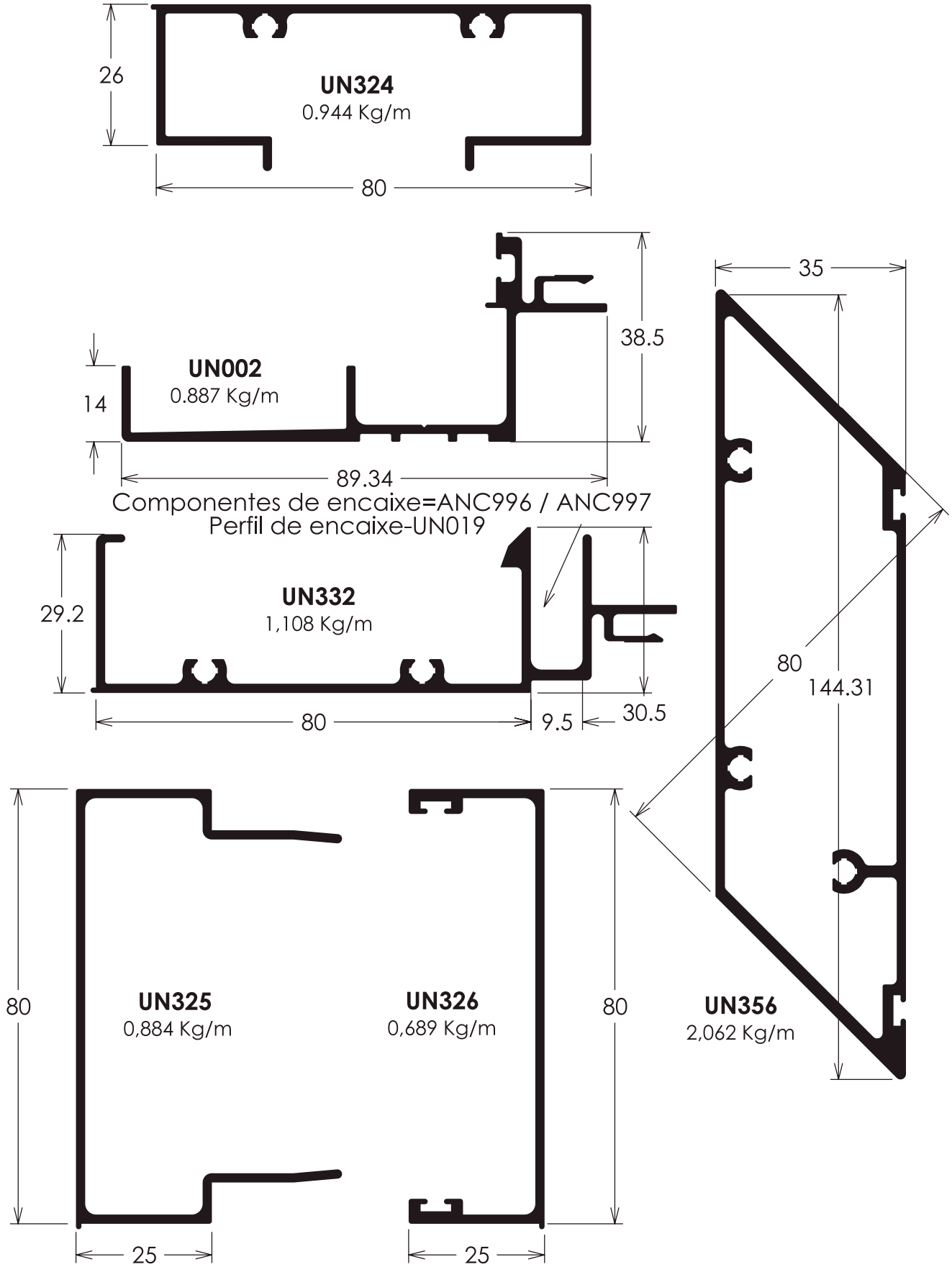
Perfis 80-25



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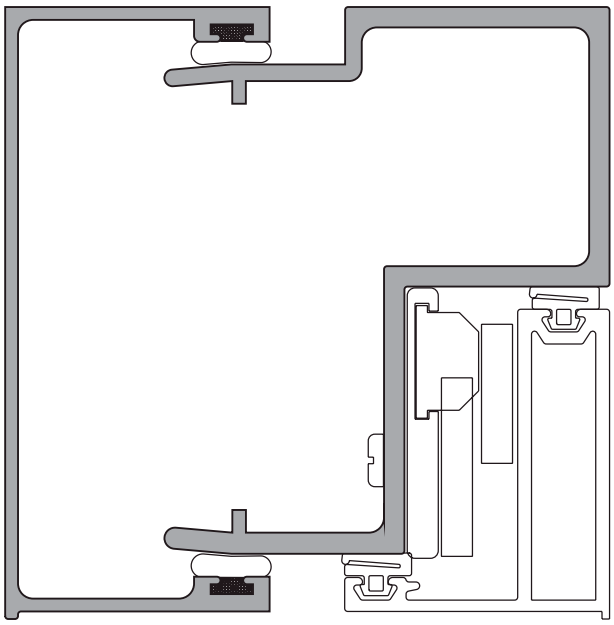
Módulo 80-35 Rebaixo



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Montagem 80-35 Rebaixo

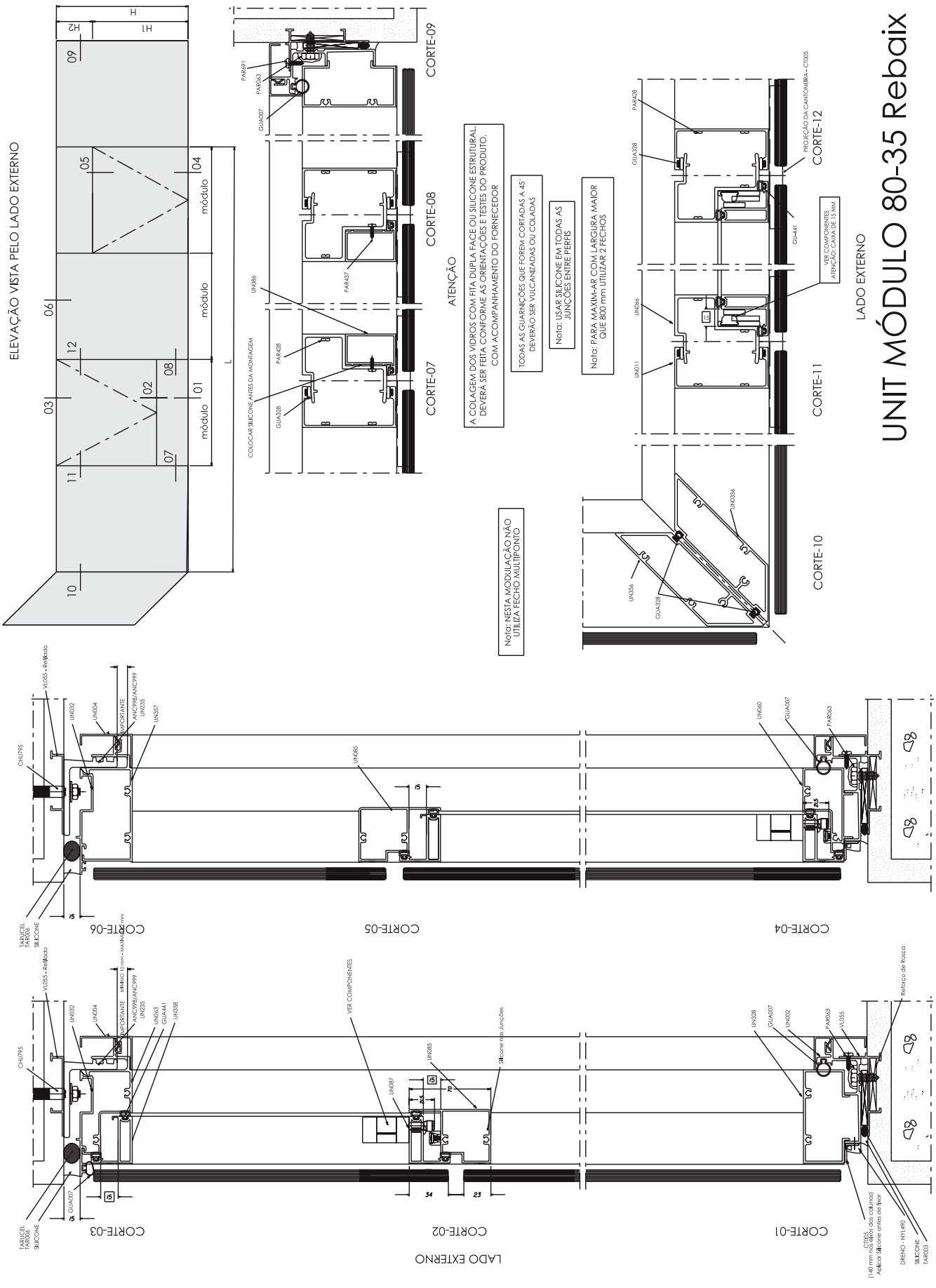

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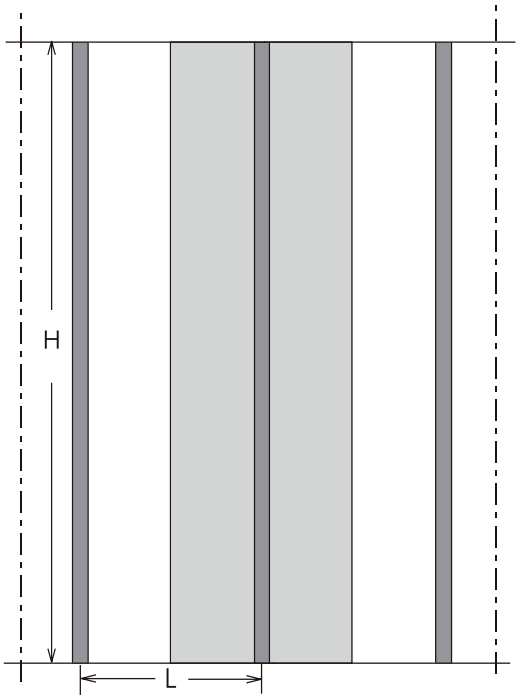
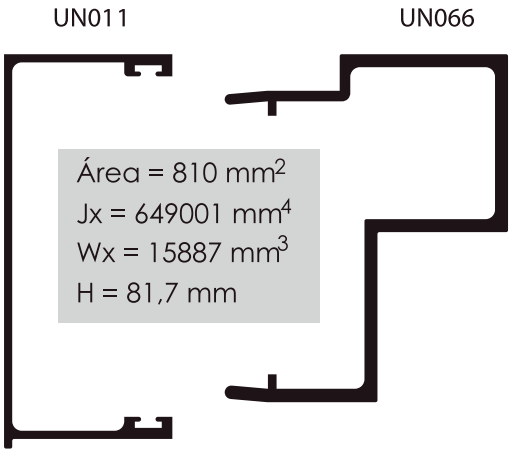
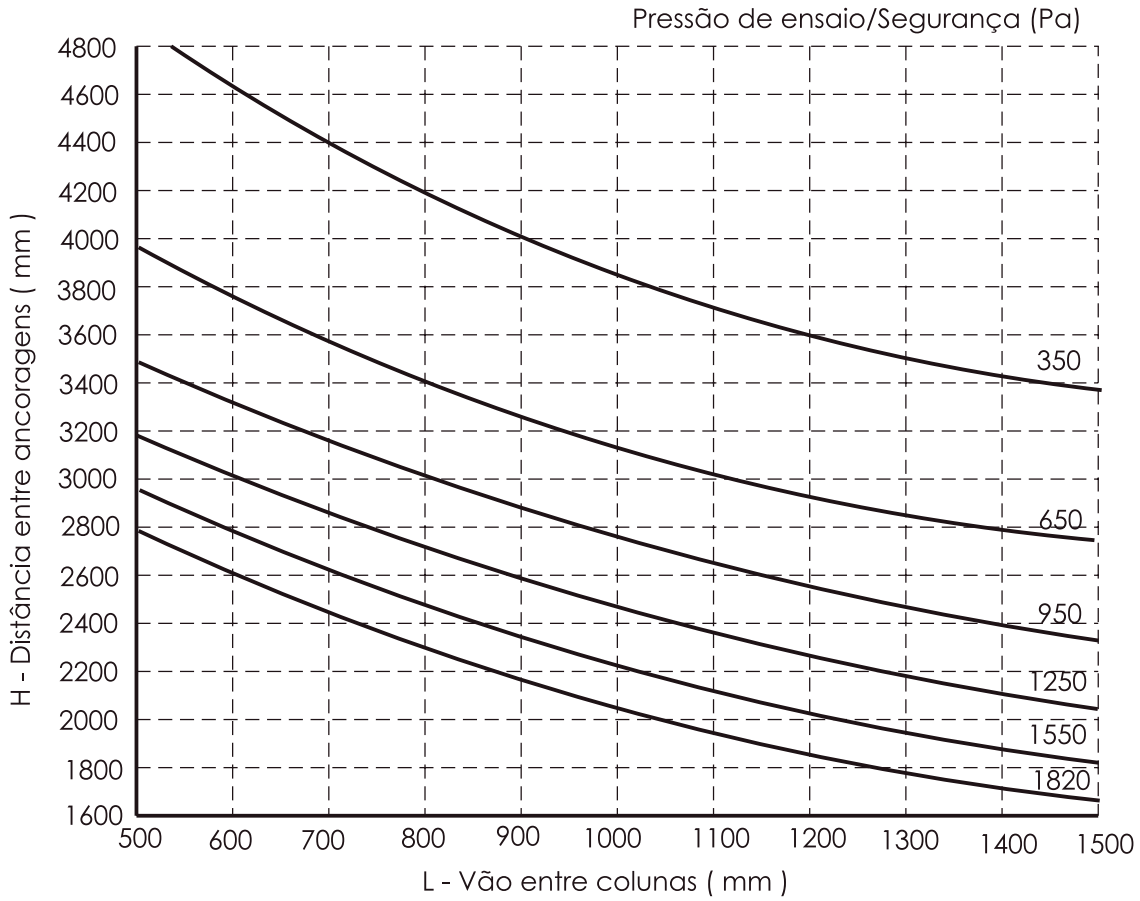
Diagrama de Dimensões

UNIT - Módulo 80 / 35 Rebaixo
Liga 6060 T5



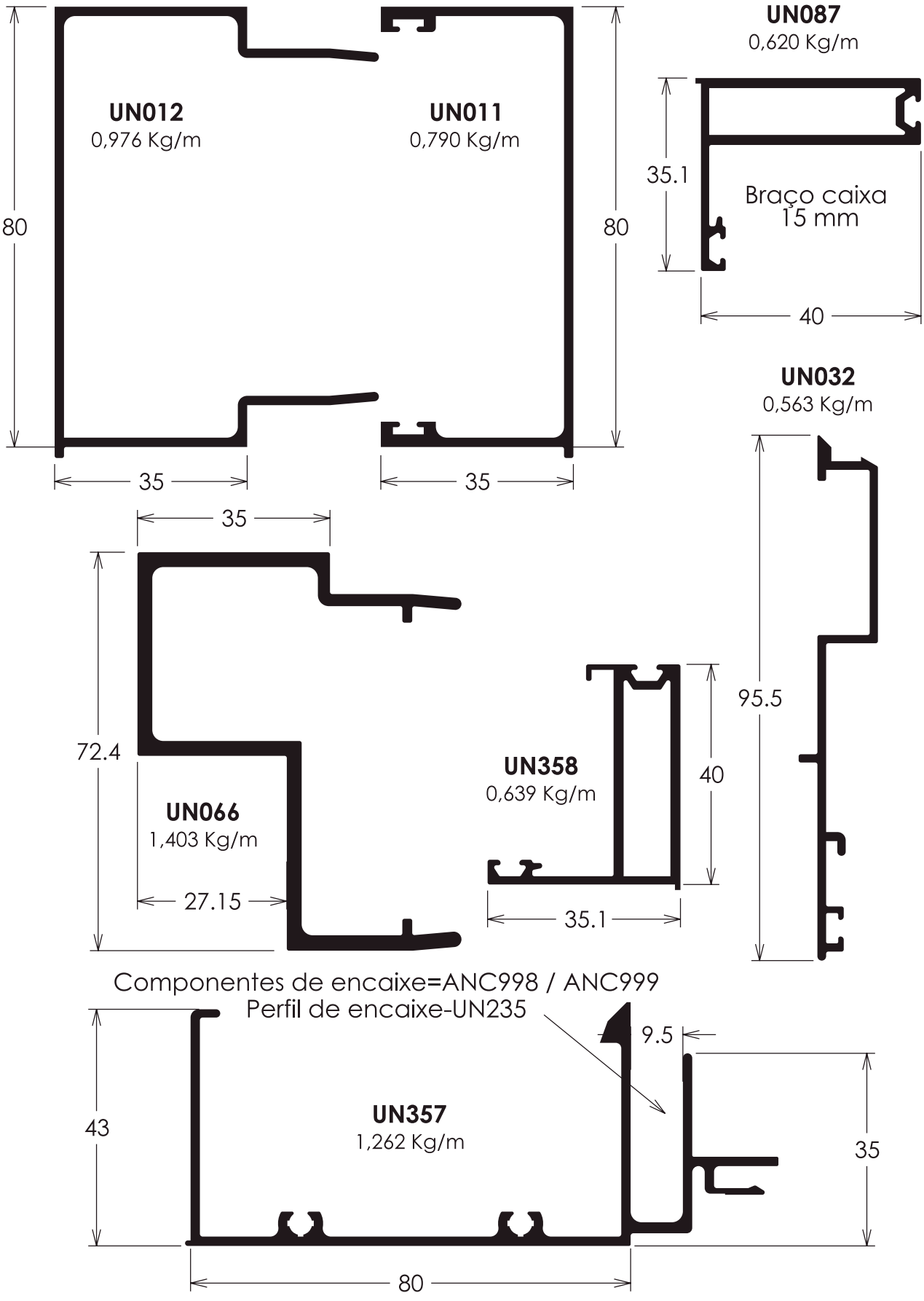


Tensão adm = 7 kg/mm^2
Flecha adm = H/175 ou 30 mm



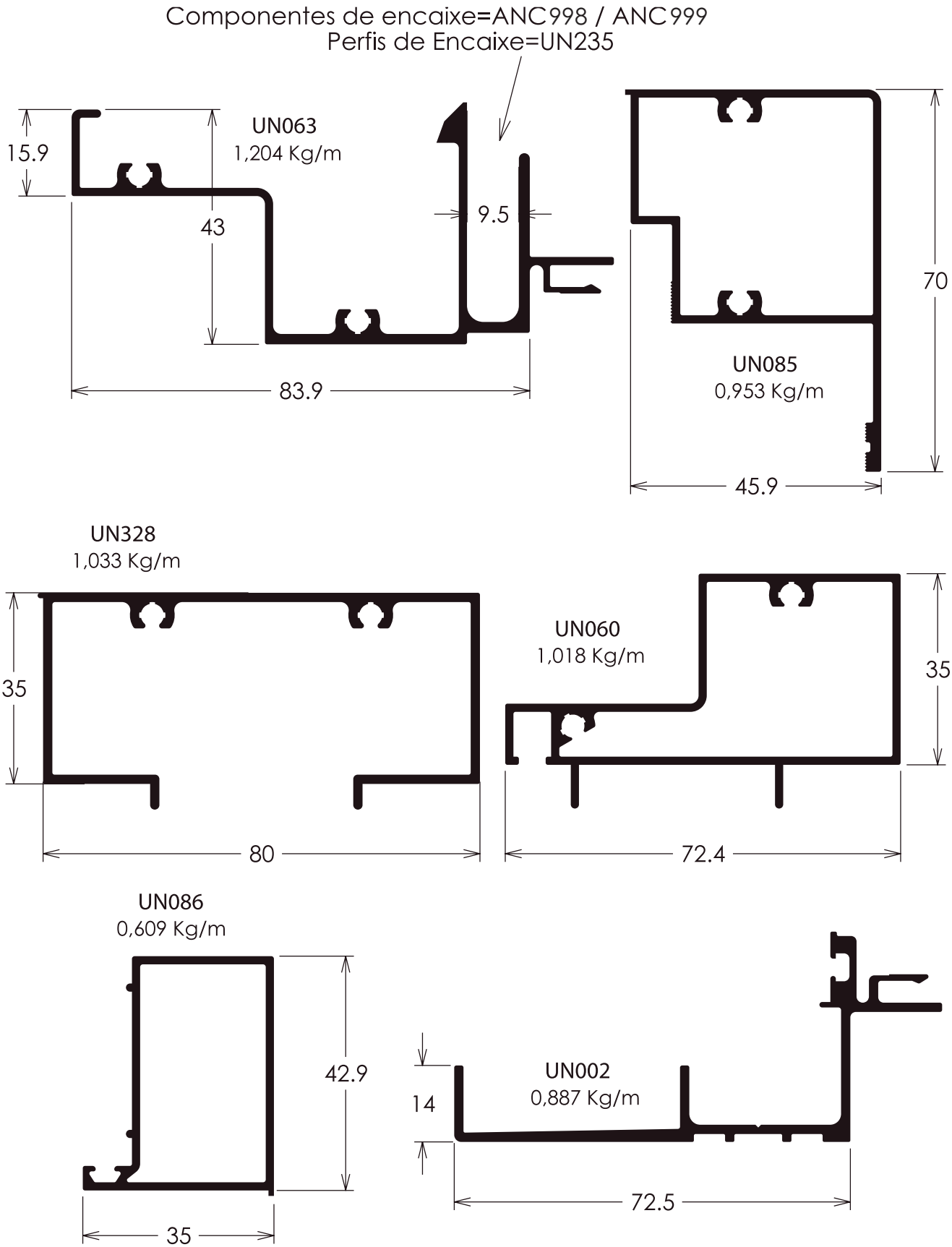
Unit® | Marca e Modelos Registrados

Perfis 80-35 Rebaixo



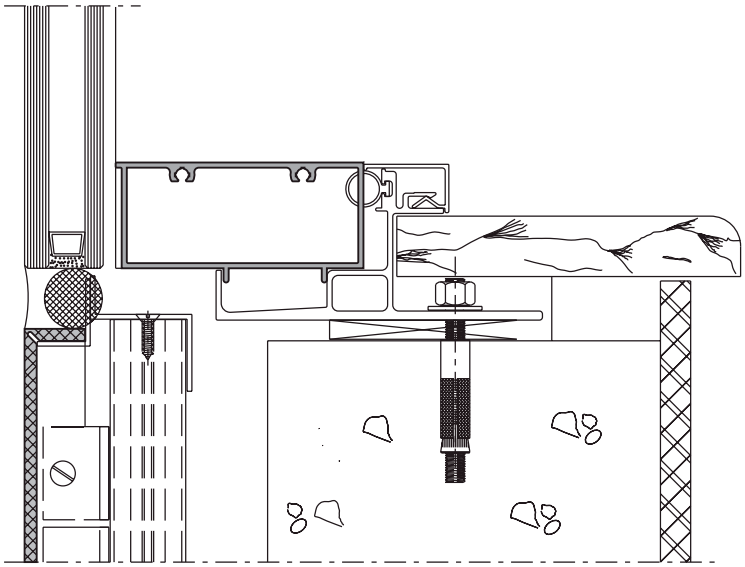
Unit® | Marca e Modelos Registrados

Perfis 80-35 Rebaixo



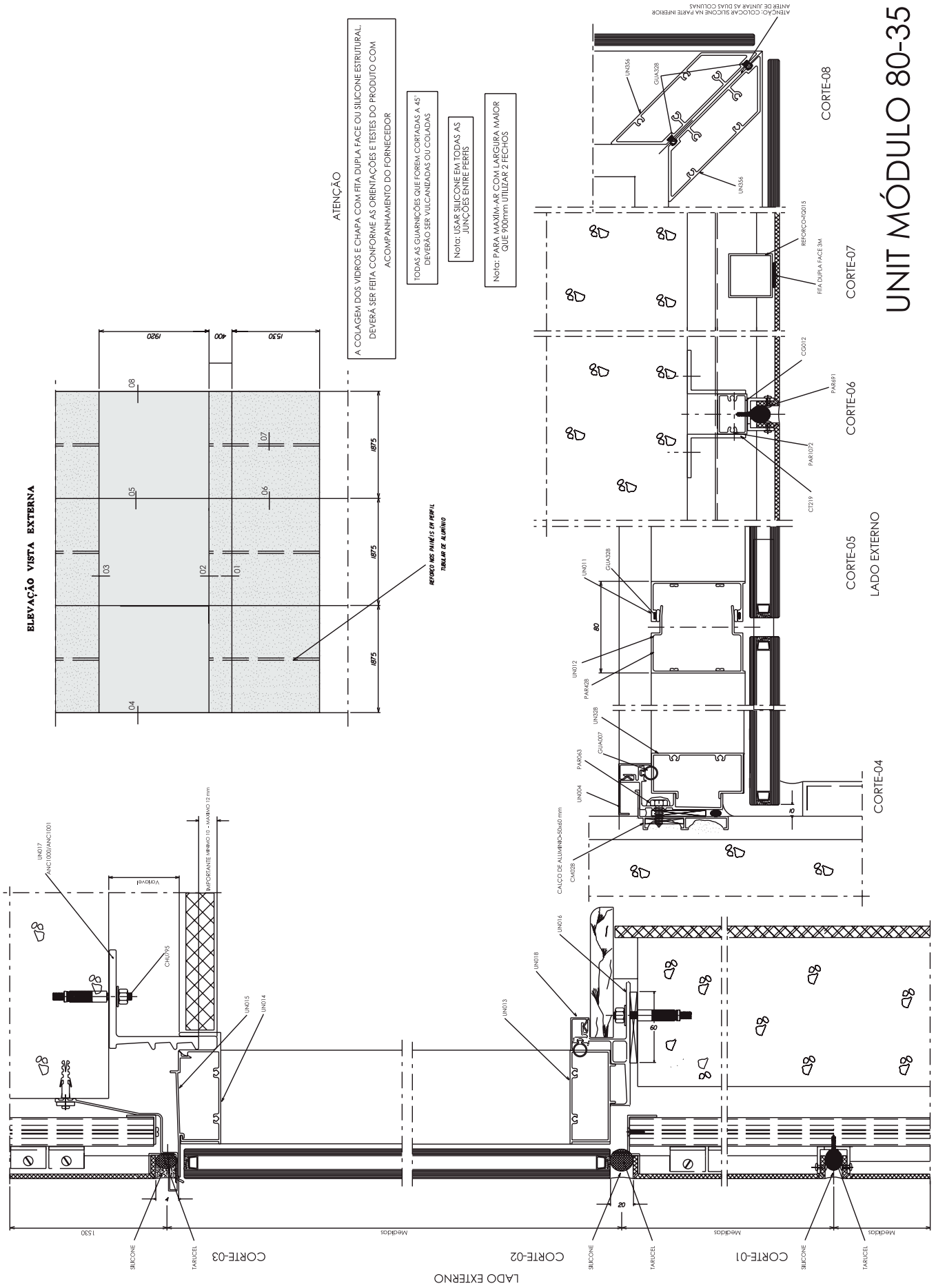
Unit® | Marca e Modelos Registrados

Módulo 80-35



Unit® | Marca e Modelos Registrados

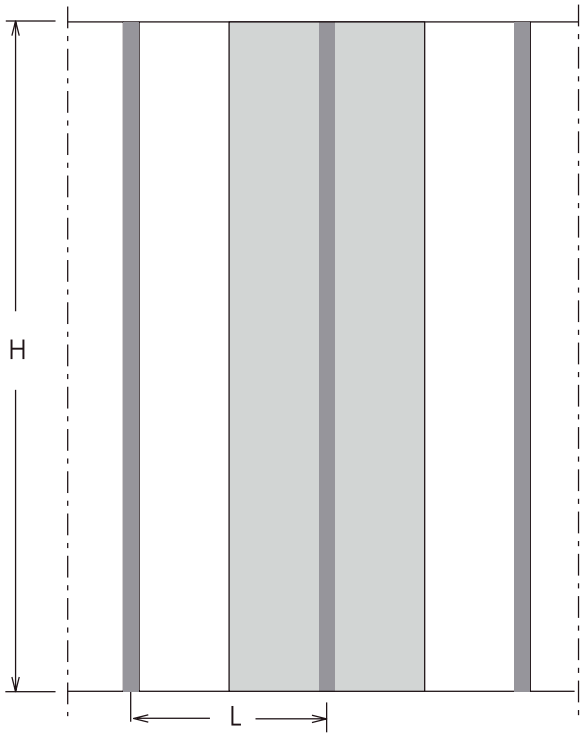
Montagem 80-35



Unit® | Marca e Modelos Registrados

Diagrama de Dimensões

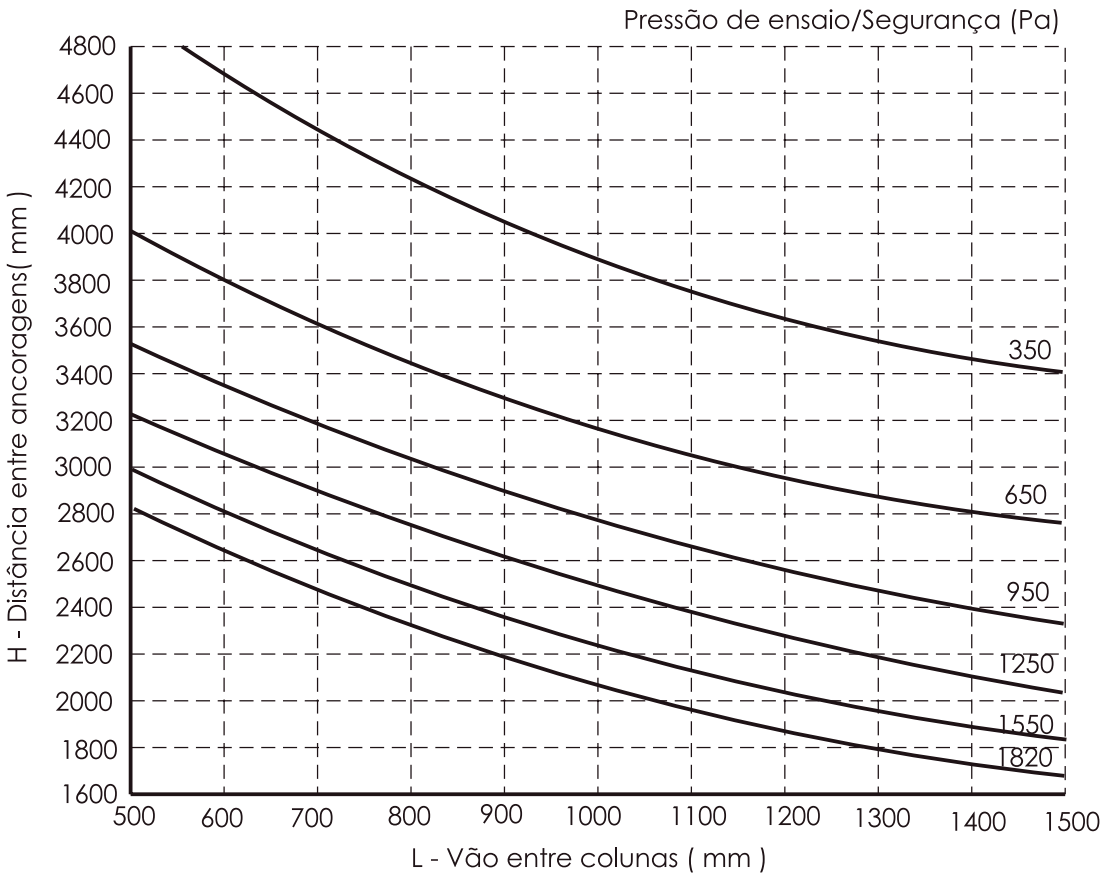
UNIT - Módulo 80 / 35



Liga 6060 T5

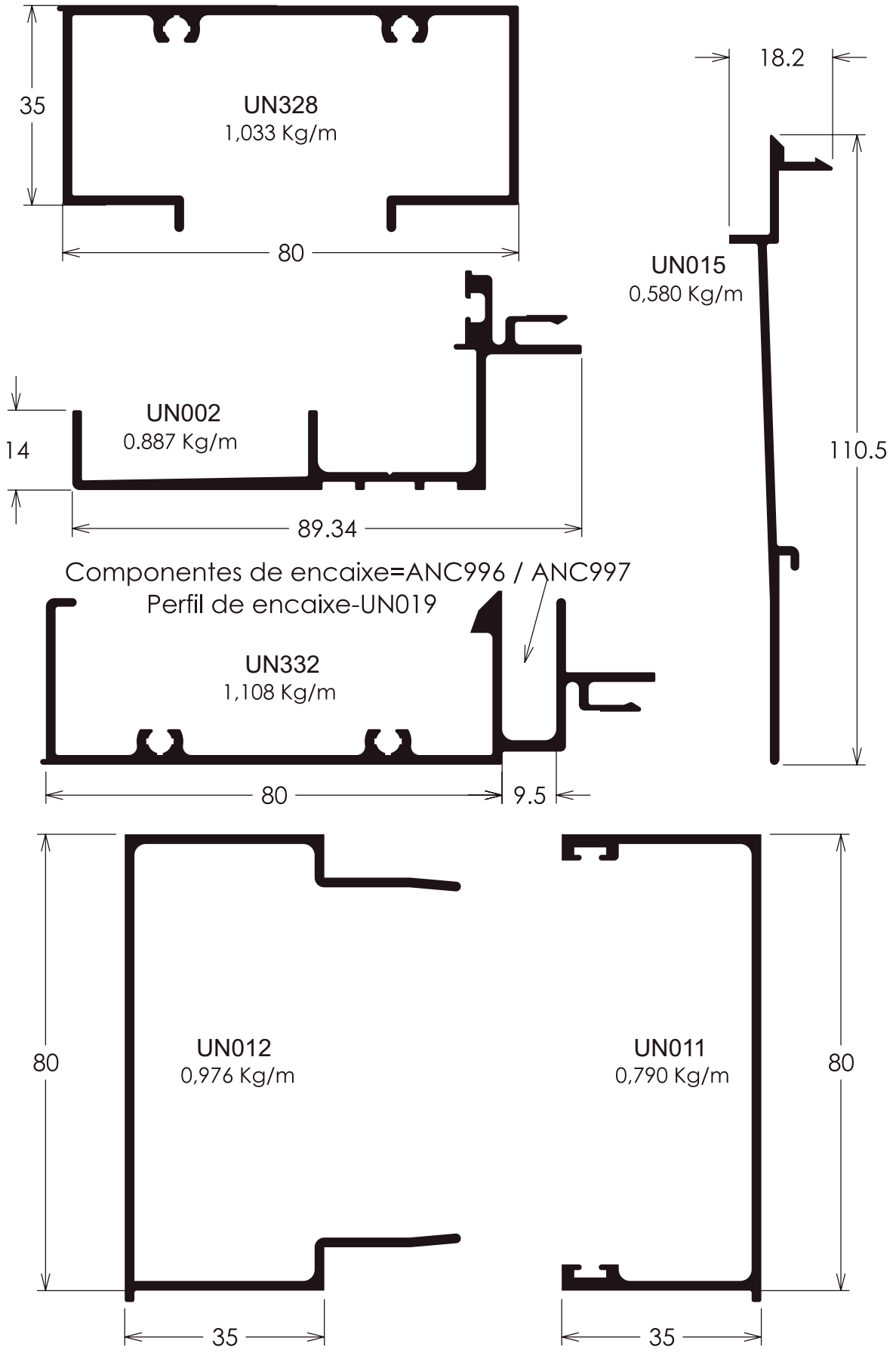
Tensão adm= 7 kg/mm^2

Flecha adm = H/175 ou 30 mm



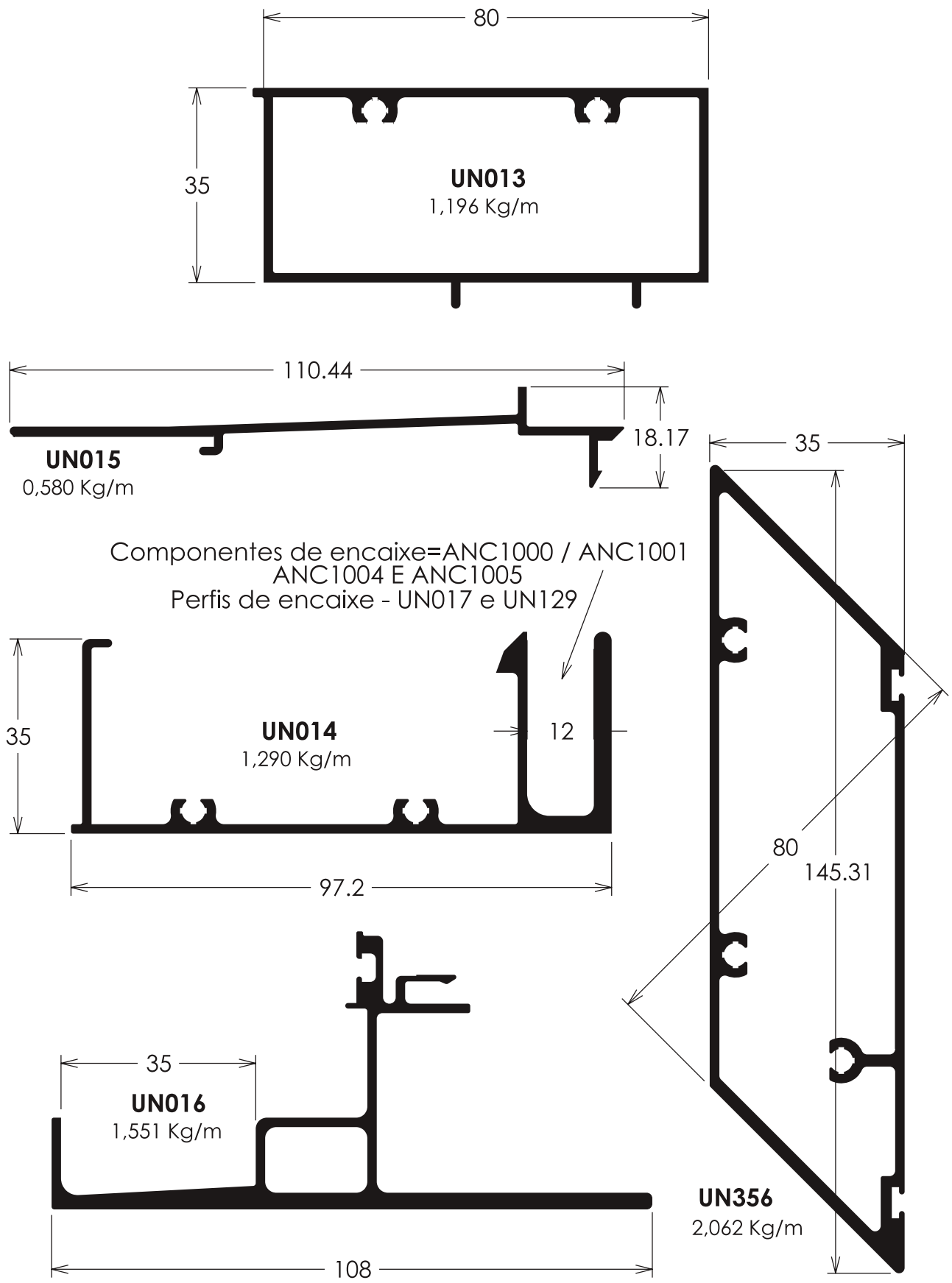
Unit® | Marca e Modelos Registrados

Perfis 80-35



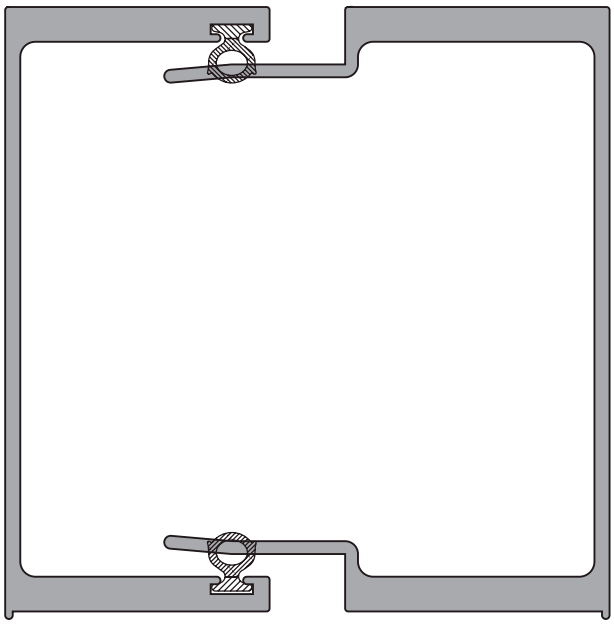
Unit® | Marca e Modelos Registrados

Perfis 80-35



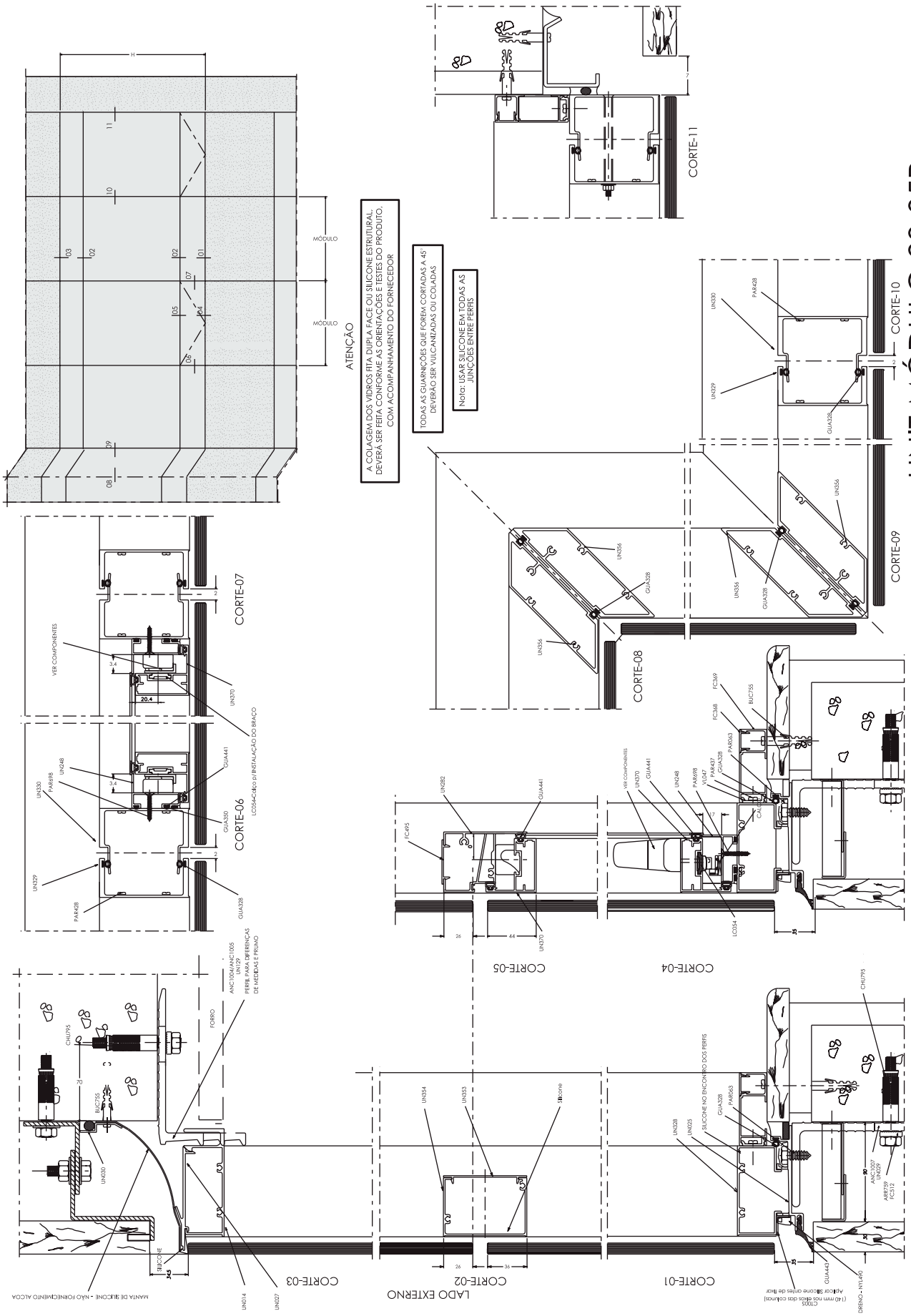
Unit® | Marca e Modelos Registrados

Módulo 80-35R



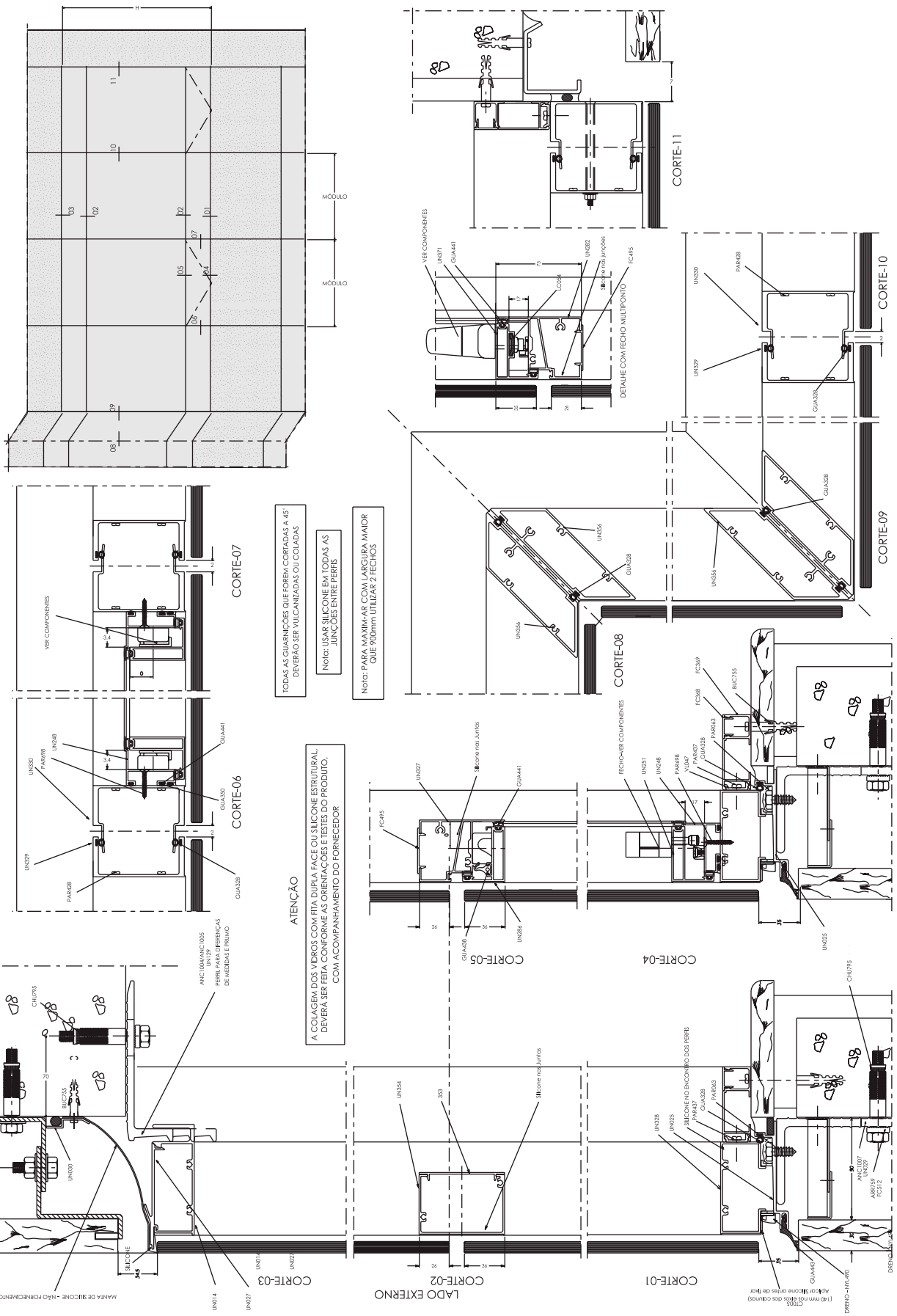
Unit® | Marca e Modelos Registrados

Montagem 80-35R



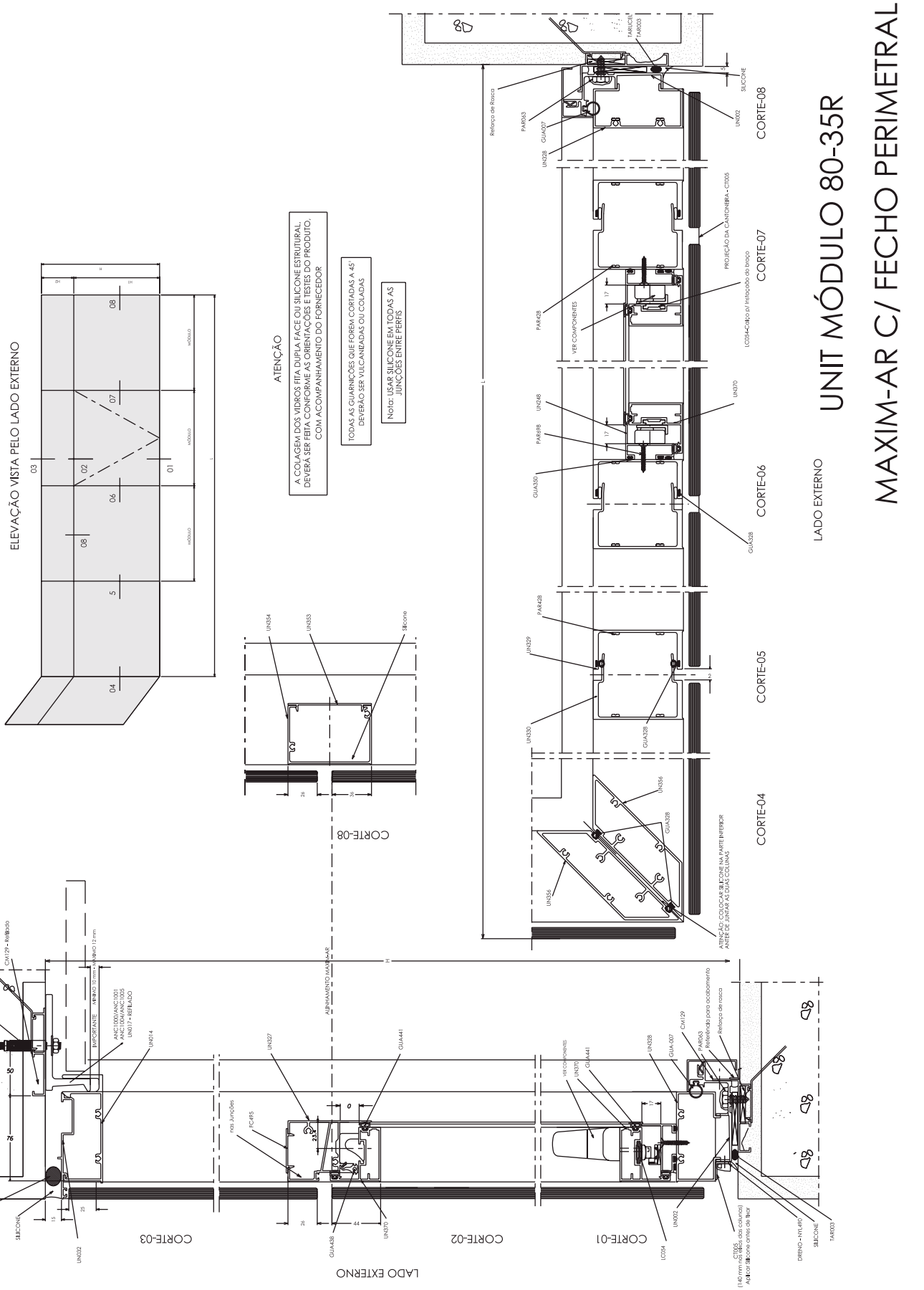
Unit® | Marca e Modelos Registrados

Montagem 80-35R



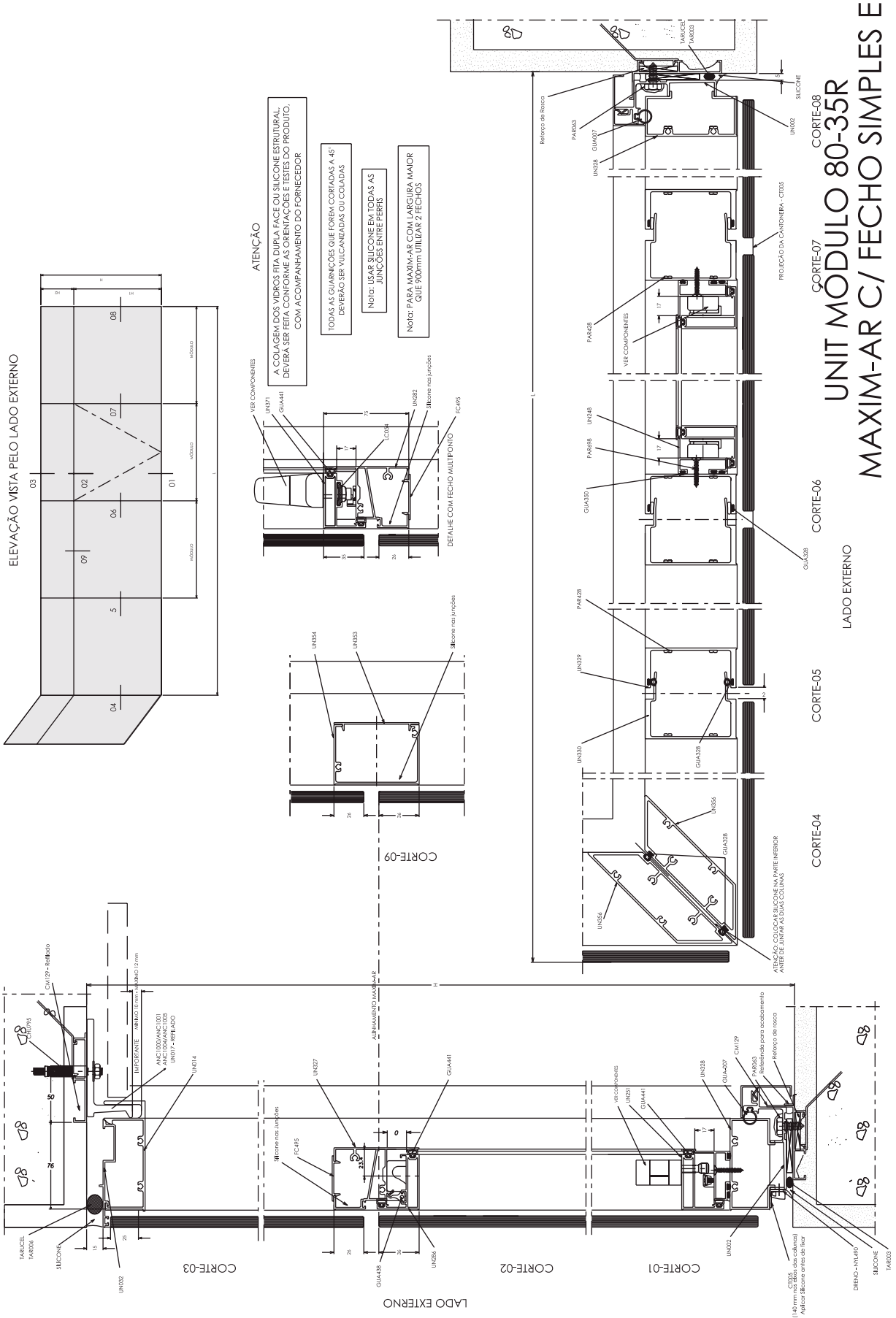
Unit® | Marca e Modelos Registrados

Montagem 80-35R



Unit® | Marca e Modelos Registrados

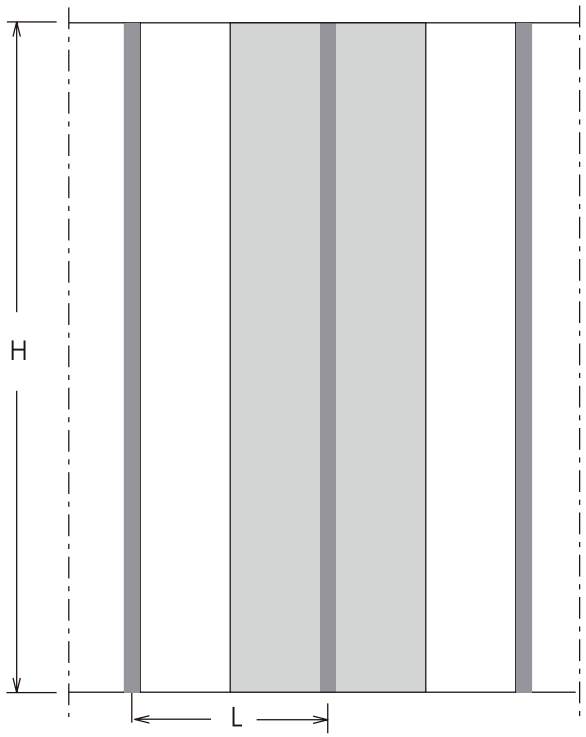
Montagem 80-35R



Unit® | Marca e Modelos Registrados

Diagrama de Dimensões

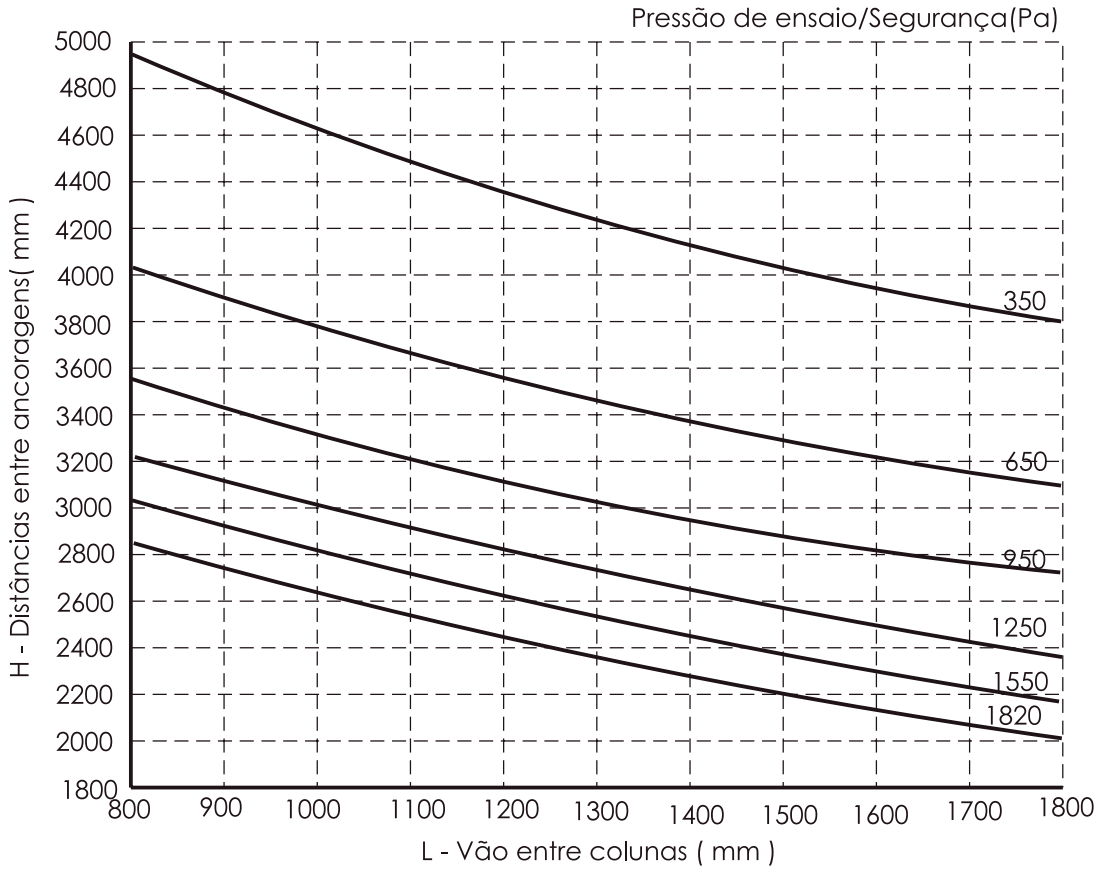
UNIT - Módulo 80 / 35 R



Liga 6060 T5

Tensão adm = 7 kg/mm^2

Flecha adm = H/175 ou 30 mm



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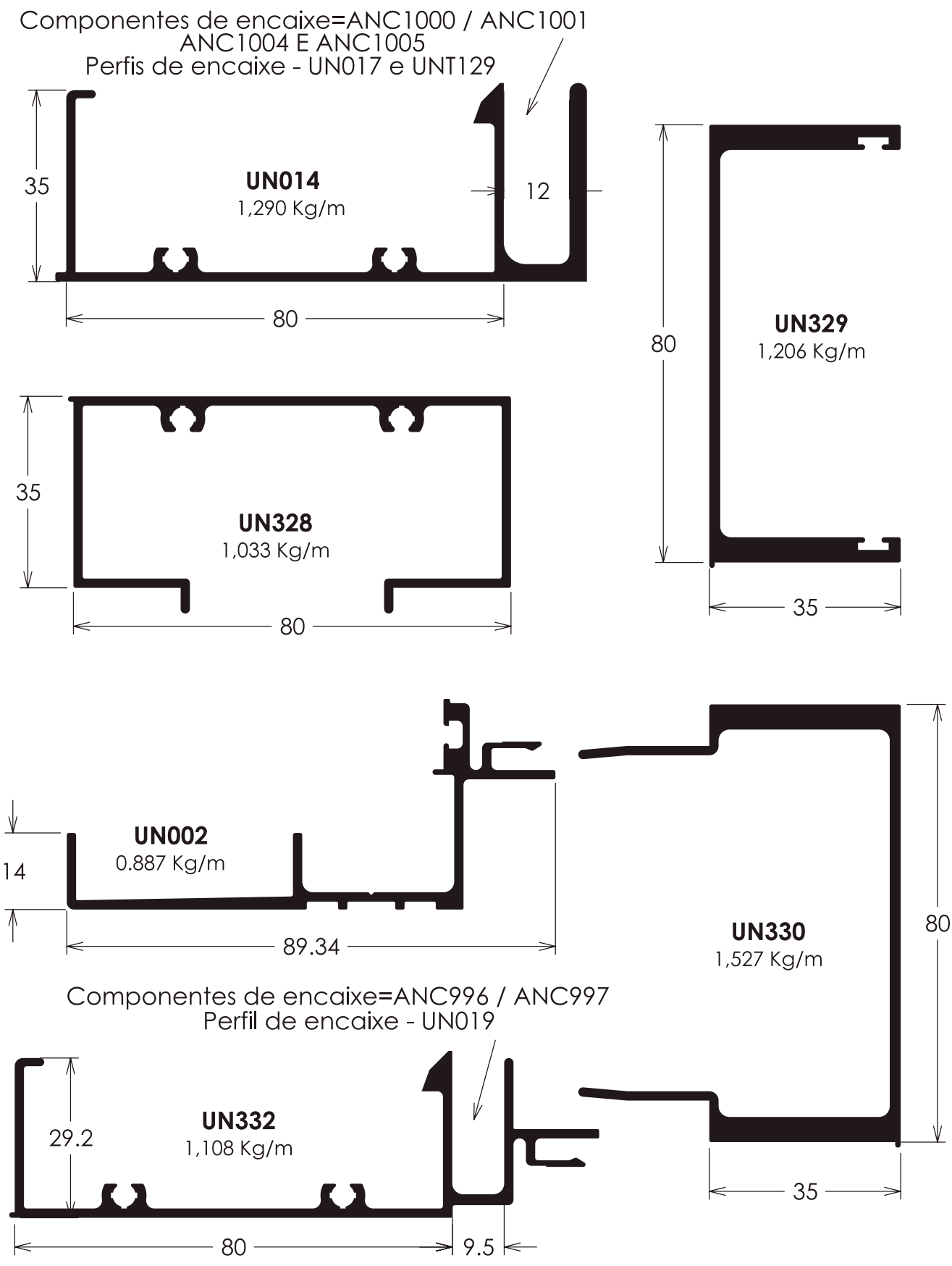
Perfis 80-35R



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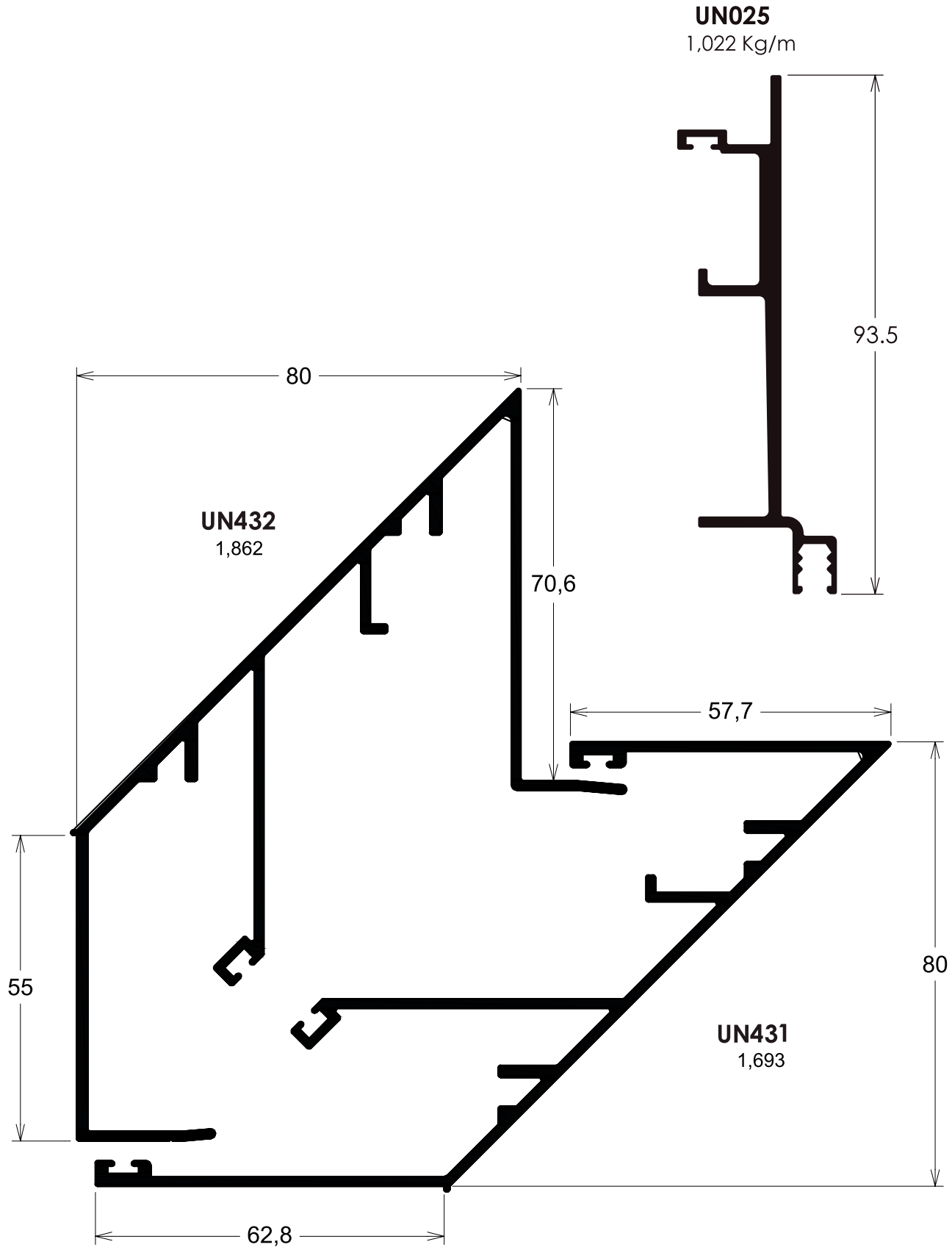
Perfis 80-35R



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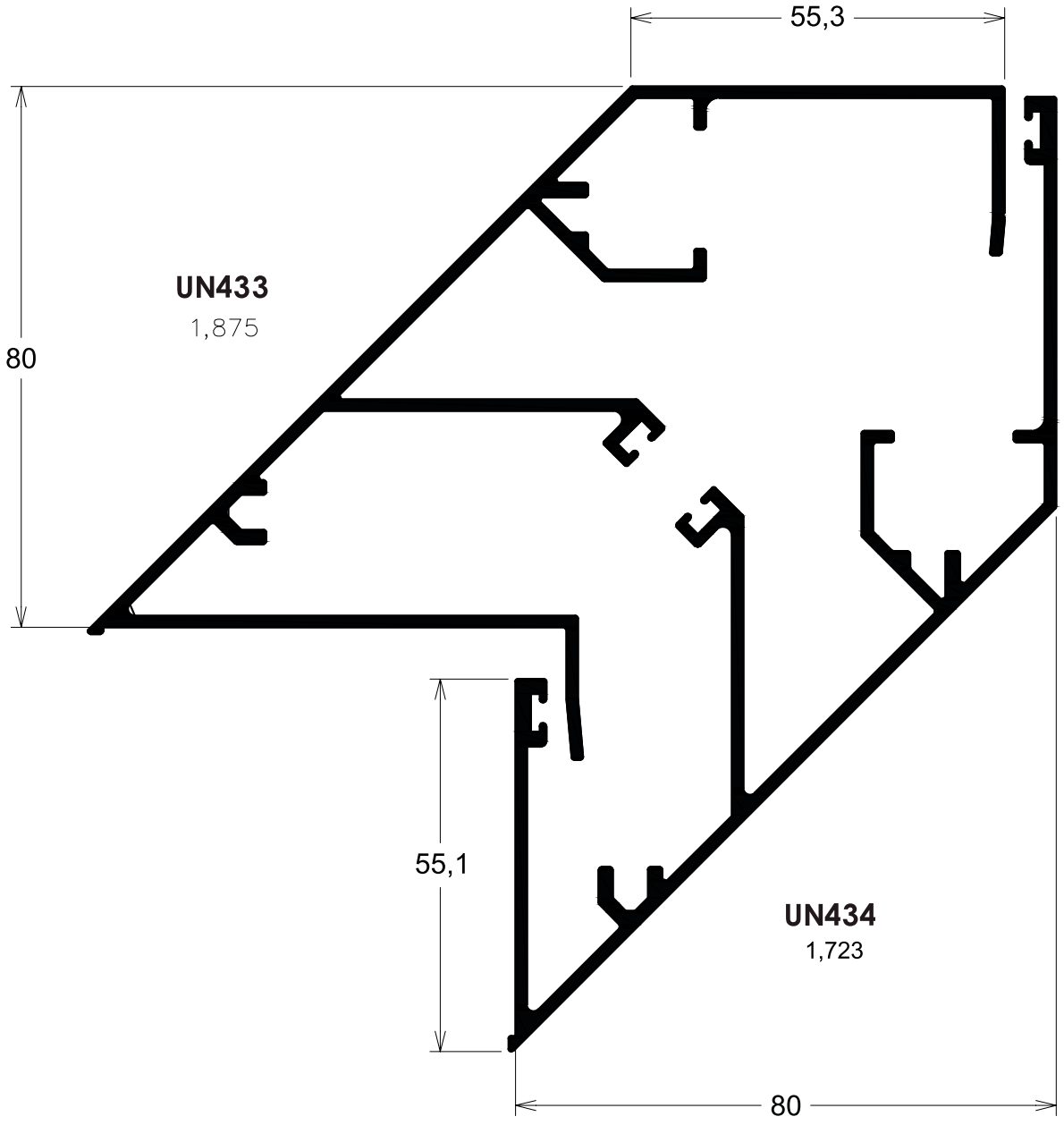
Perfis 80-35R



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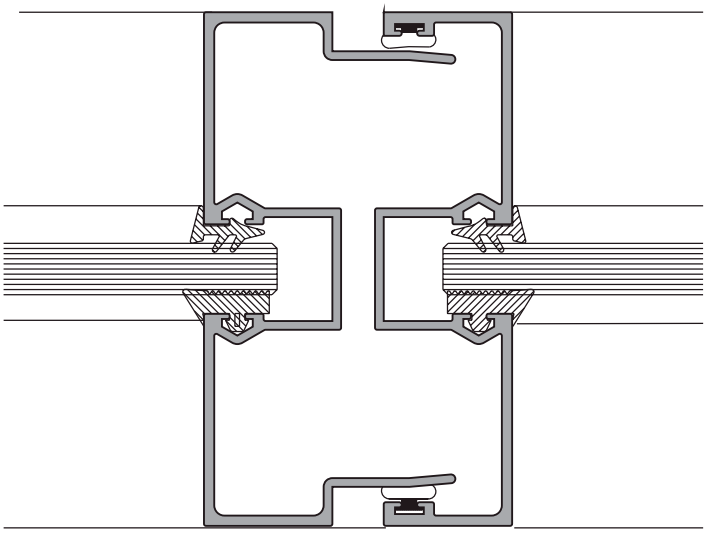
Módulo 100 Encaixilhado



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Montagem 100 Encaixilhado

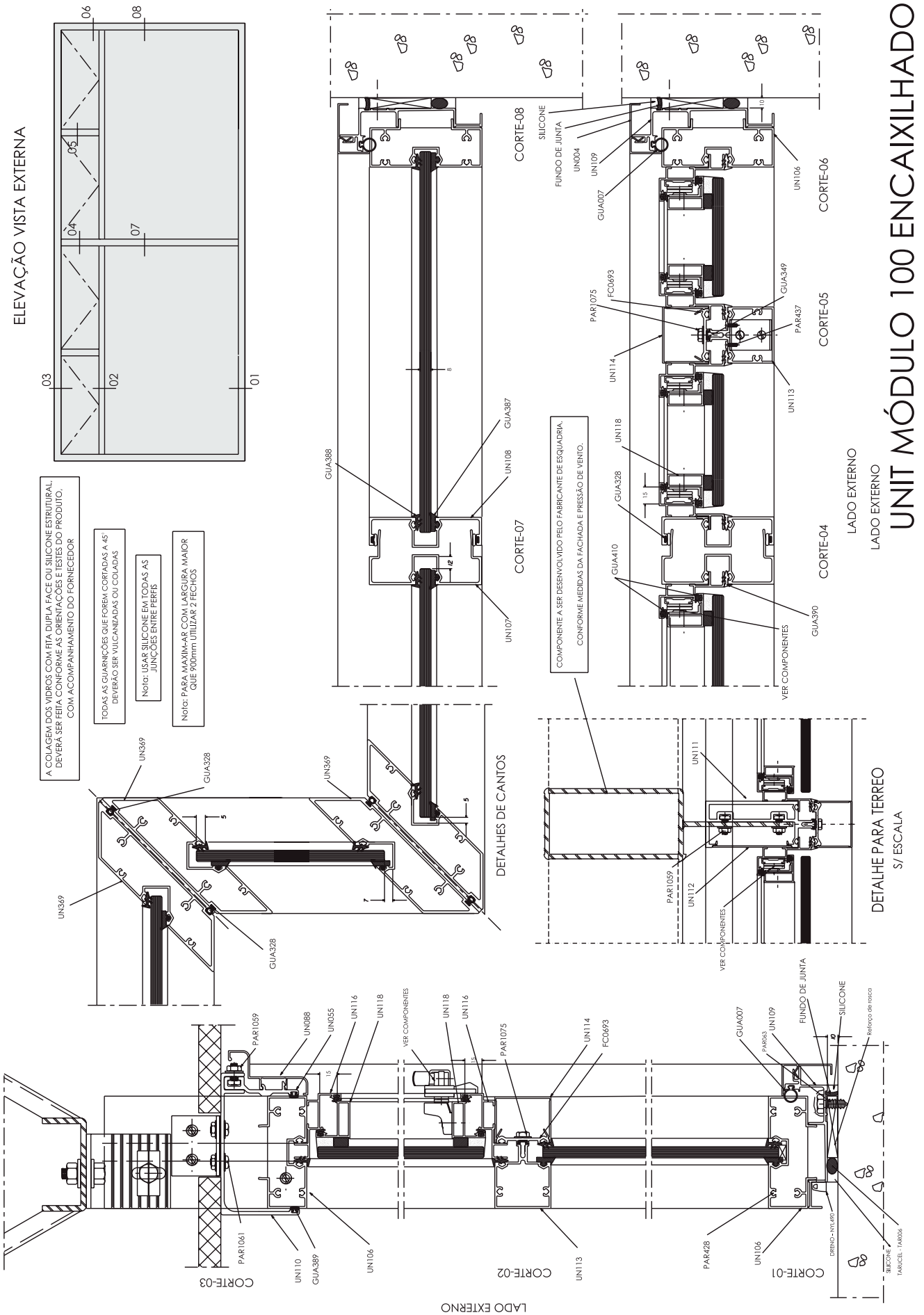

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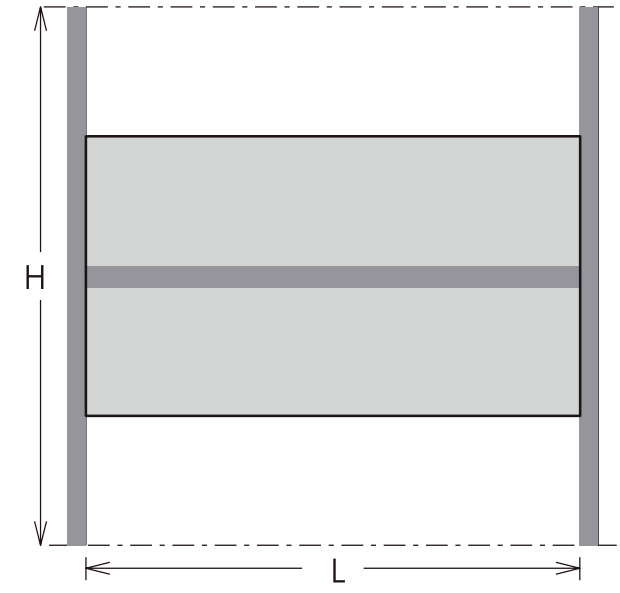
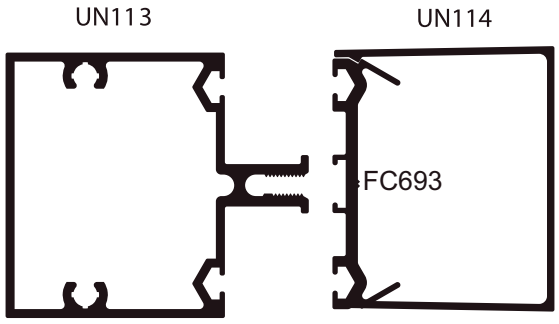
Diagrama de Dimensões

UNIT - Módulo 100 - Encaixilhado



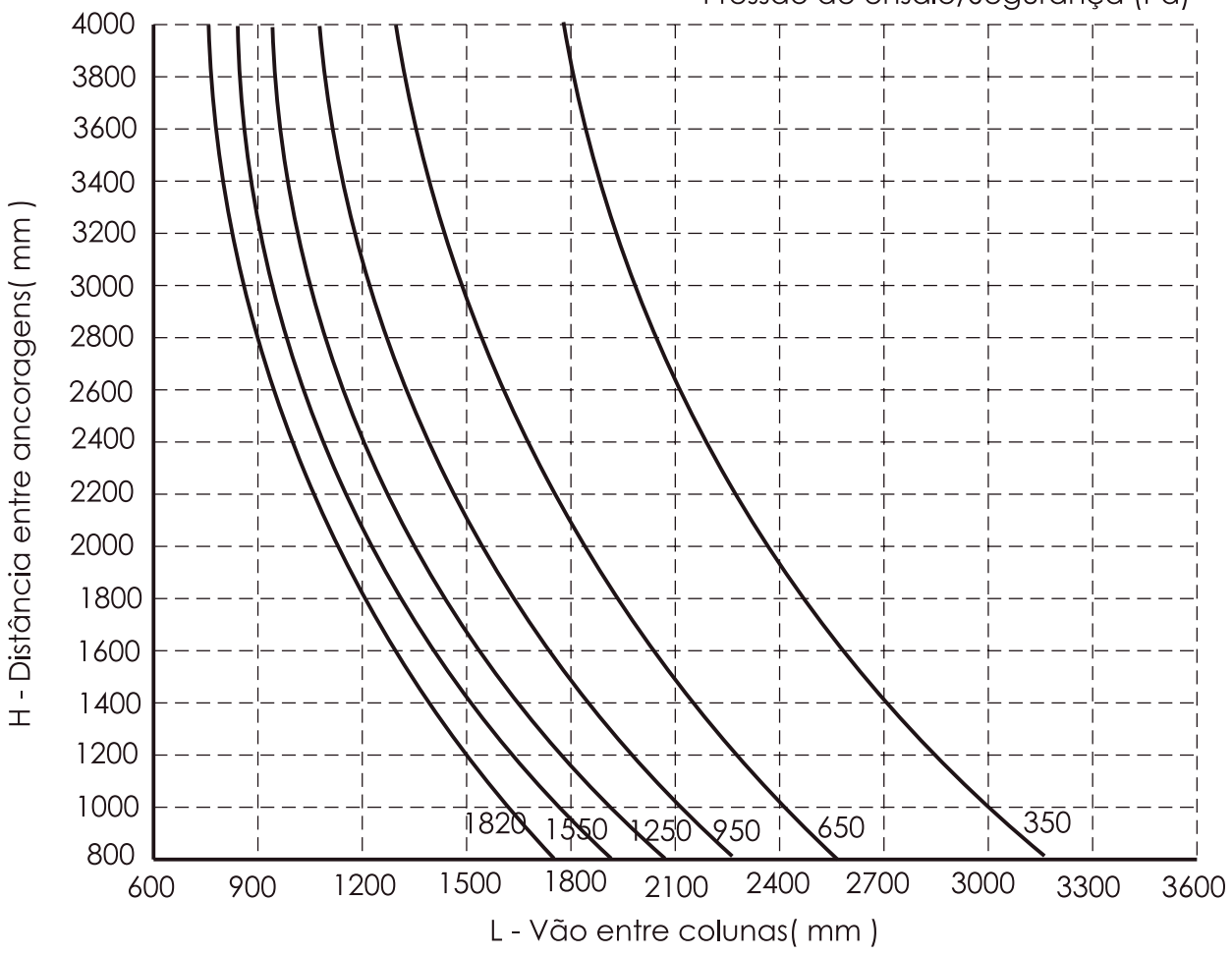


Área =446 mm^2
Jx = 143077 mm^4
Wx = 4580 mm^3
H = 62,5 mm

Liga 6060 T5

Tensão adm = 7 kg/mm^2
Flecha adm = H/175 ou 30 mm

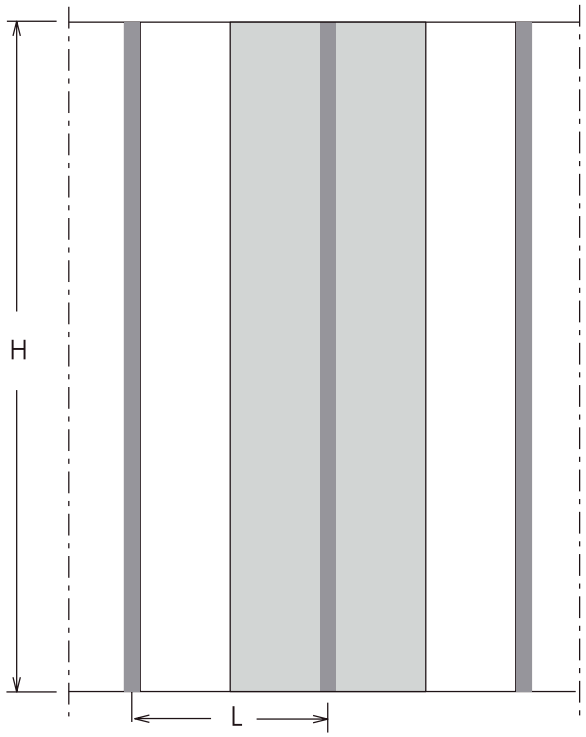
Pressão de ensaio/Segurança (Pa)

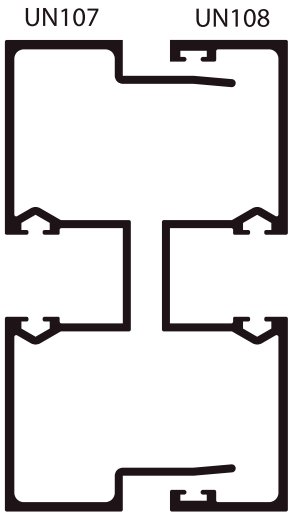


Unit® | Marca e Modelos Registrados

Diagrama de Dimensões

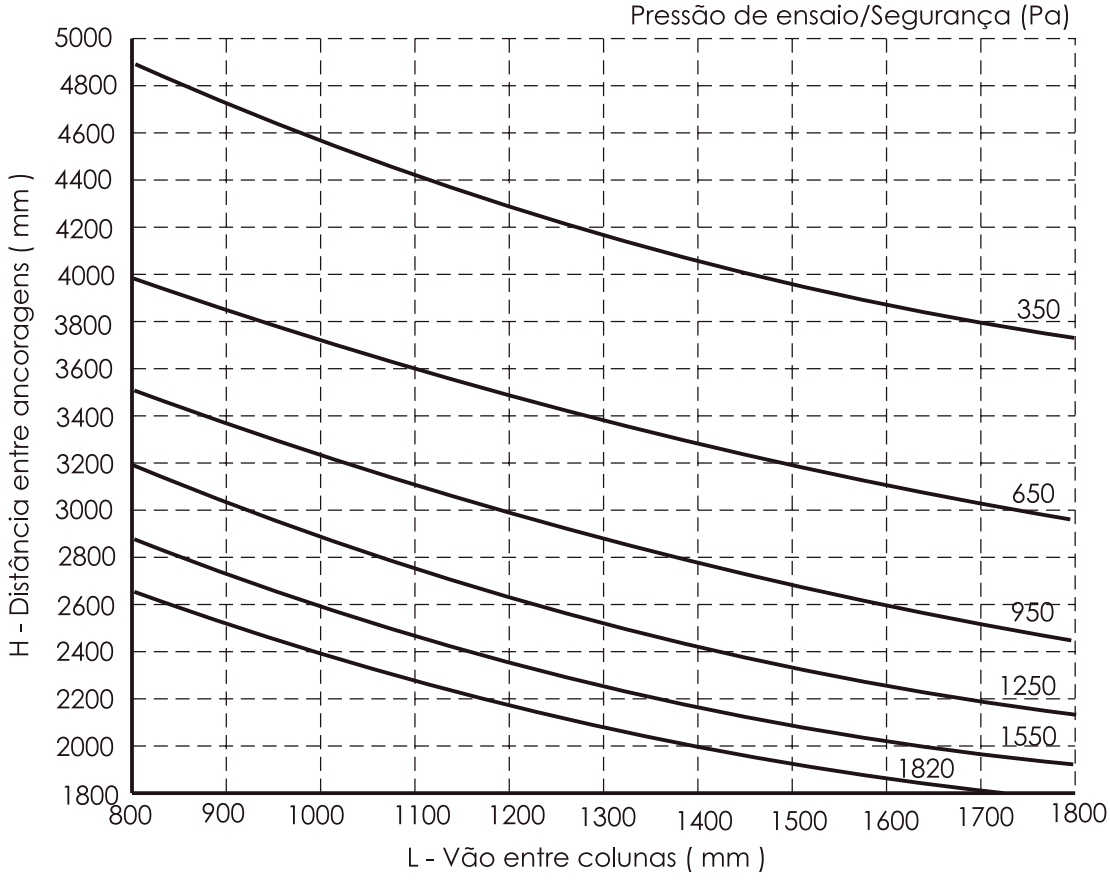
UNIT - Módulo 100 - Encaixilhado





Área =940 mm^2
Jx = 1065572 mm^4
Wx = 21311 mm^3
H = 100 mm

Liga 6060 T5
Tensão adm = 7 kg/mm^2
Flecha adm= H/175 ou 30 mm
Pressão de ensaio/Segurança (Pa)



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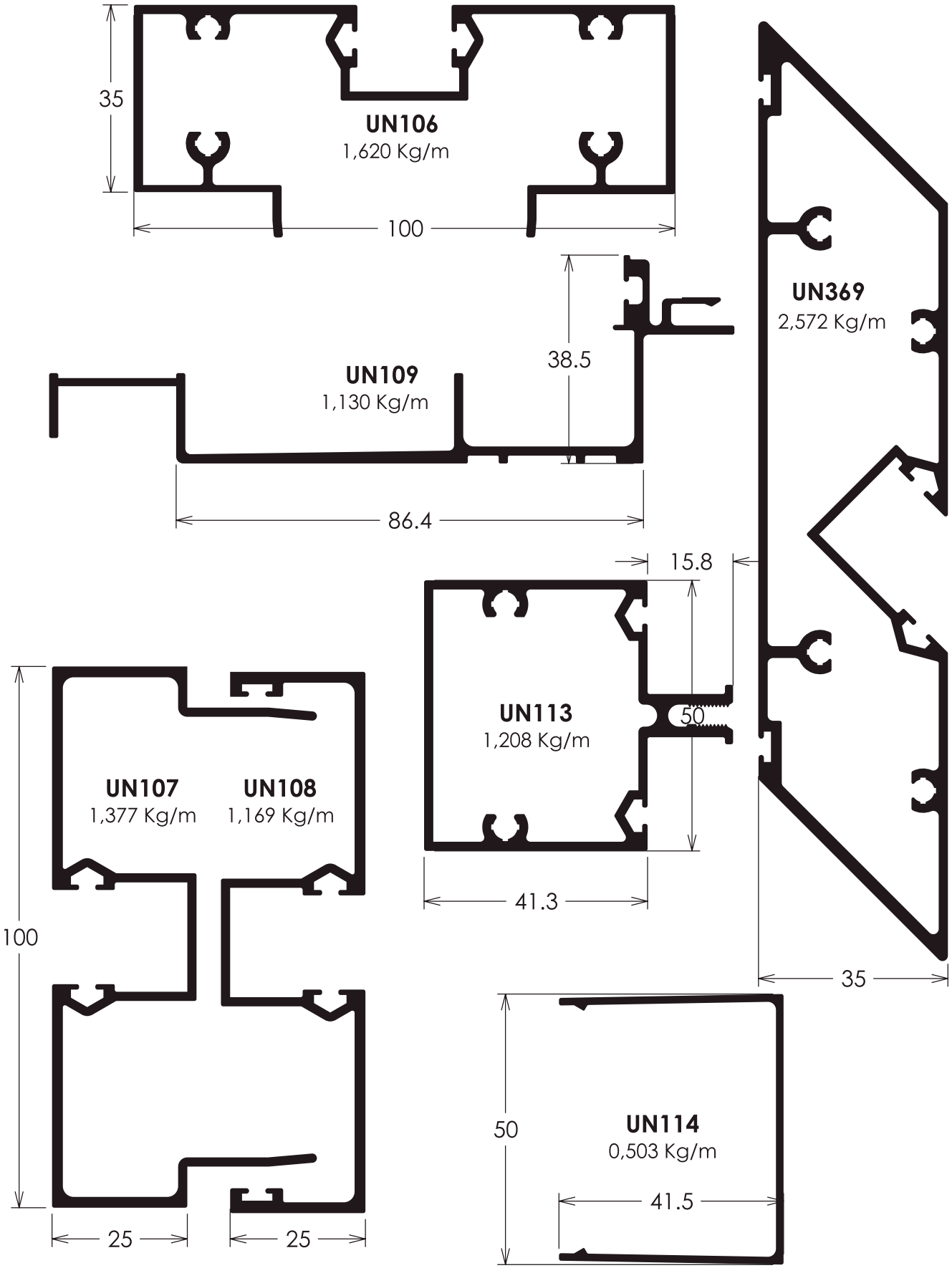
Perfis 100 Encaixilhado



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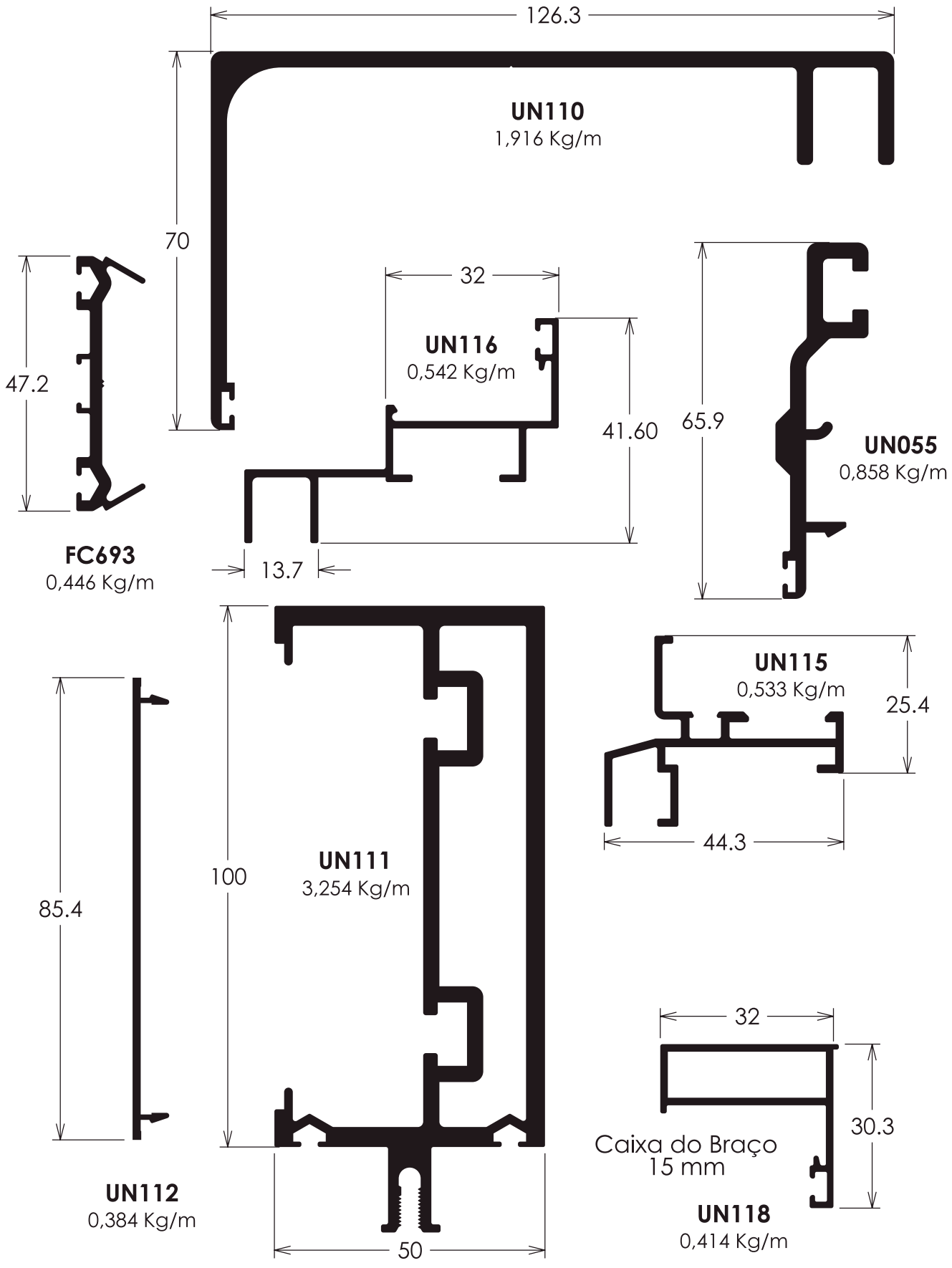
Perfis 100 Encaixilhado



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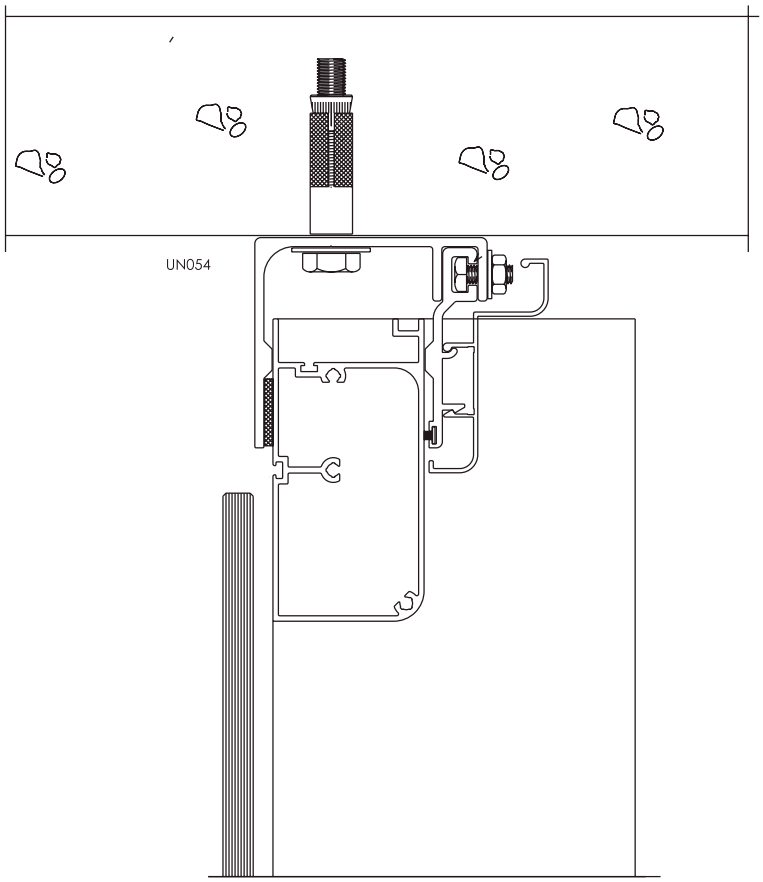
Módulo 120

FACHADA CONTÍNUA



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Montagem 120

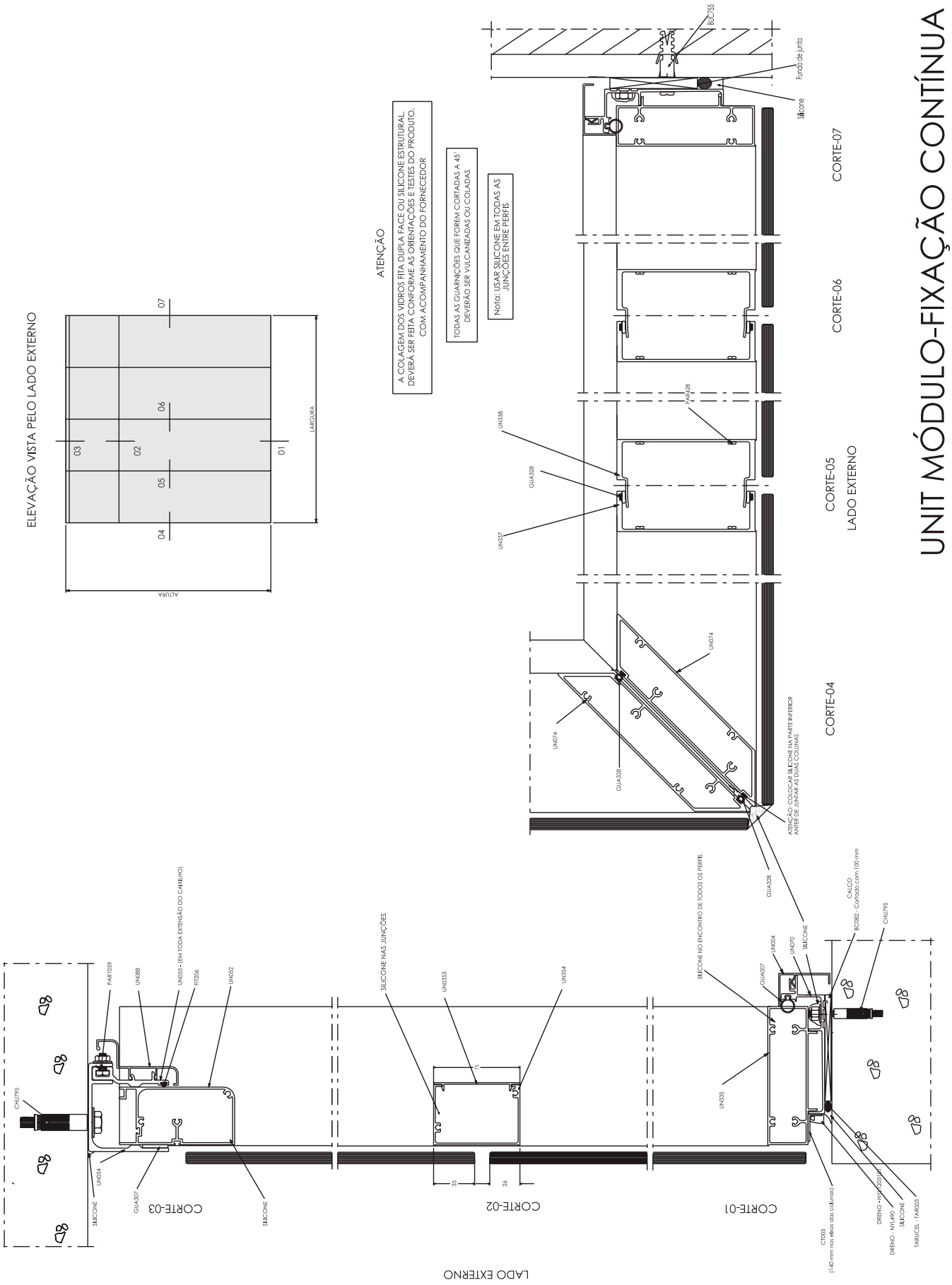
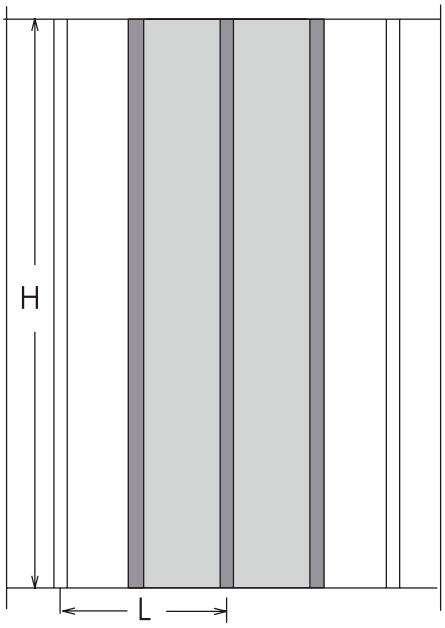
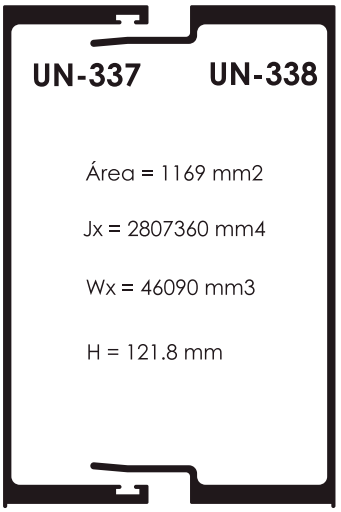


Diagrama de Dimensões

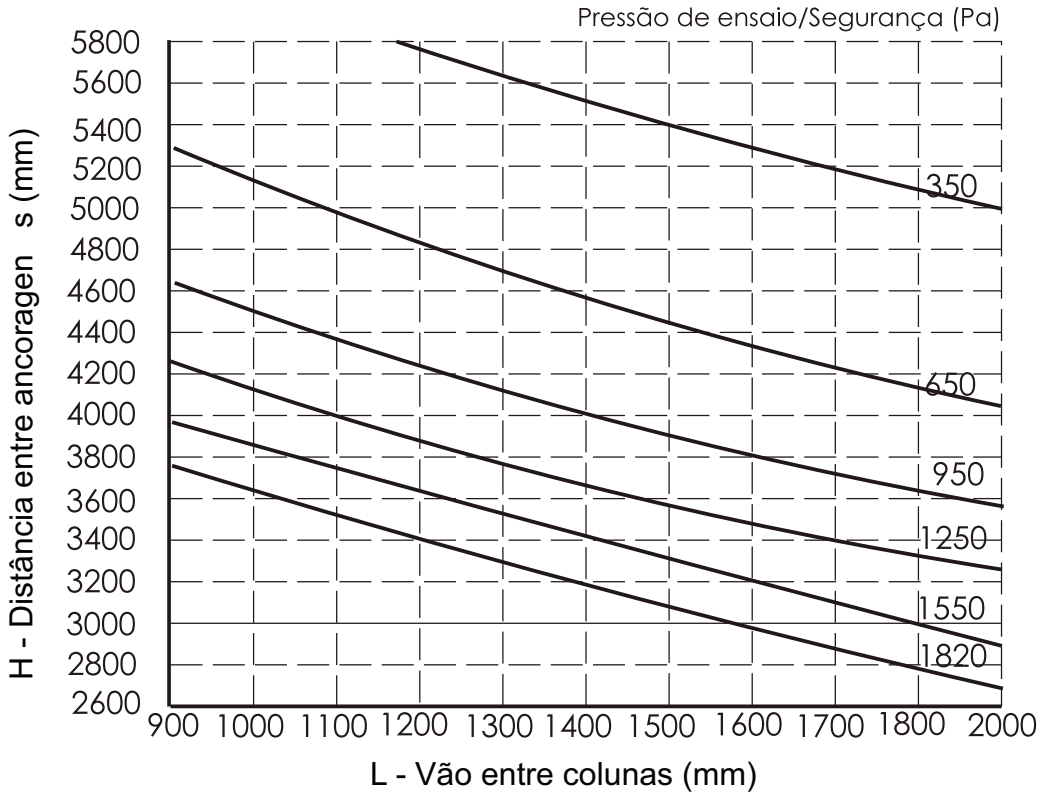
Unit - Módulo de Fixação Contínua

Gráfico Correspondente ao Conjunto
UN-337/338 e utilizando UN-0052/0054/0055 na parte superior





Liga 6060 T5
Tensão adm = 7 kg/mm2
Flecha adm = H/175 OU 30 mm



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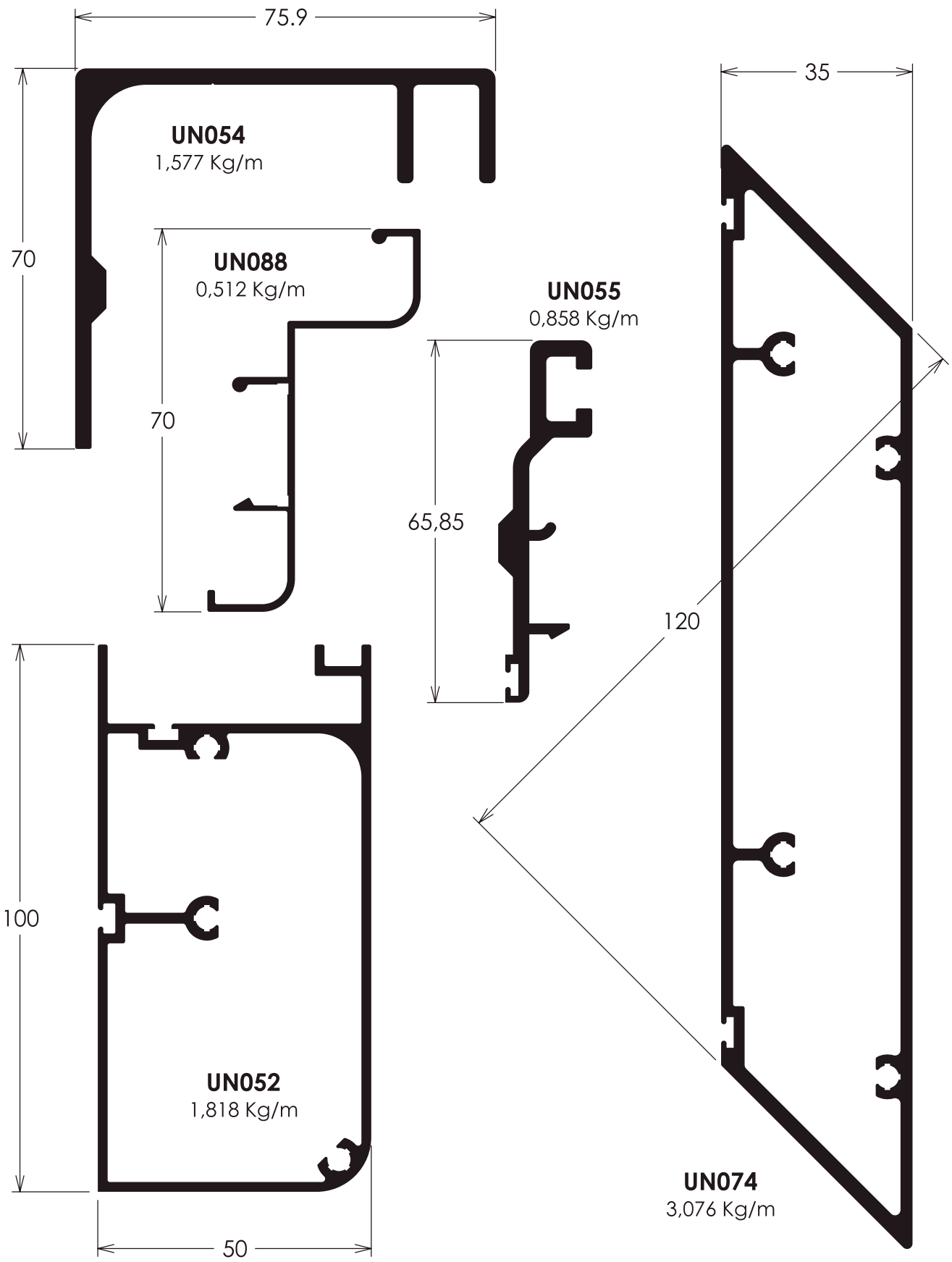
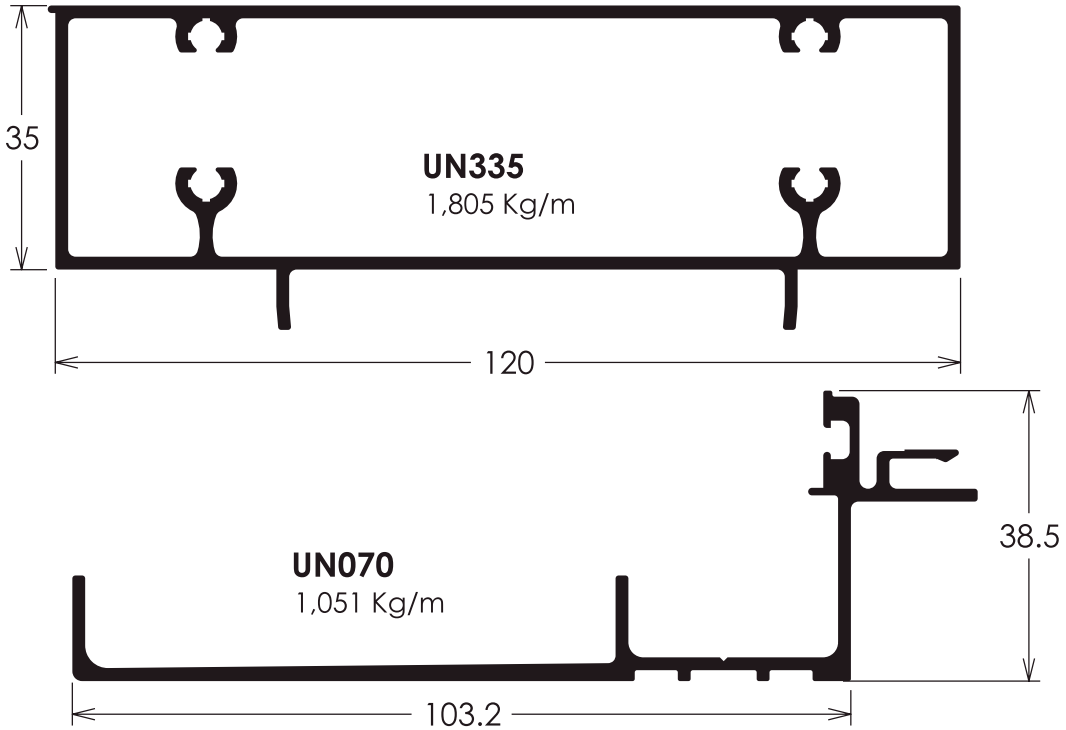
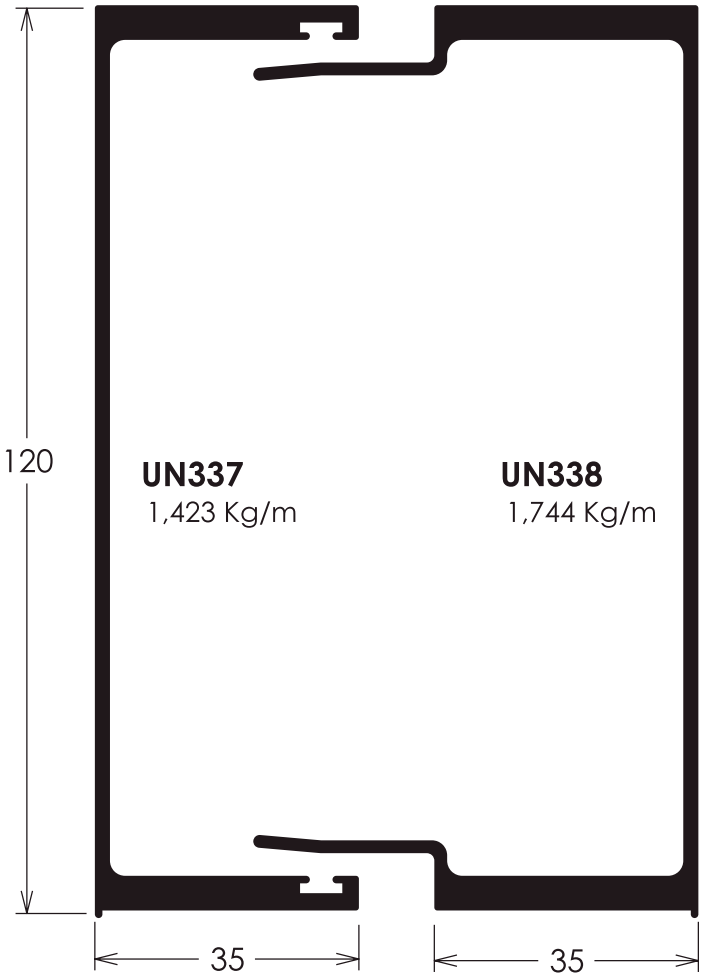
Perfis 120



Unit® | Marca e Modelos Registrados

Perfis 120





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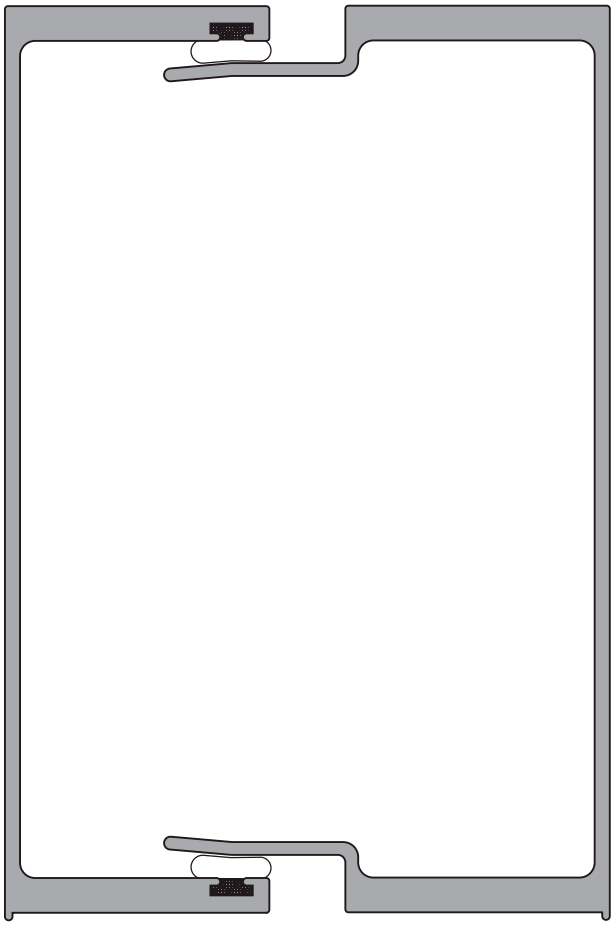
Módulo 120-35



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Montagem 120-35

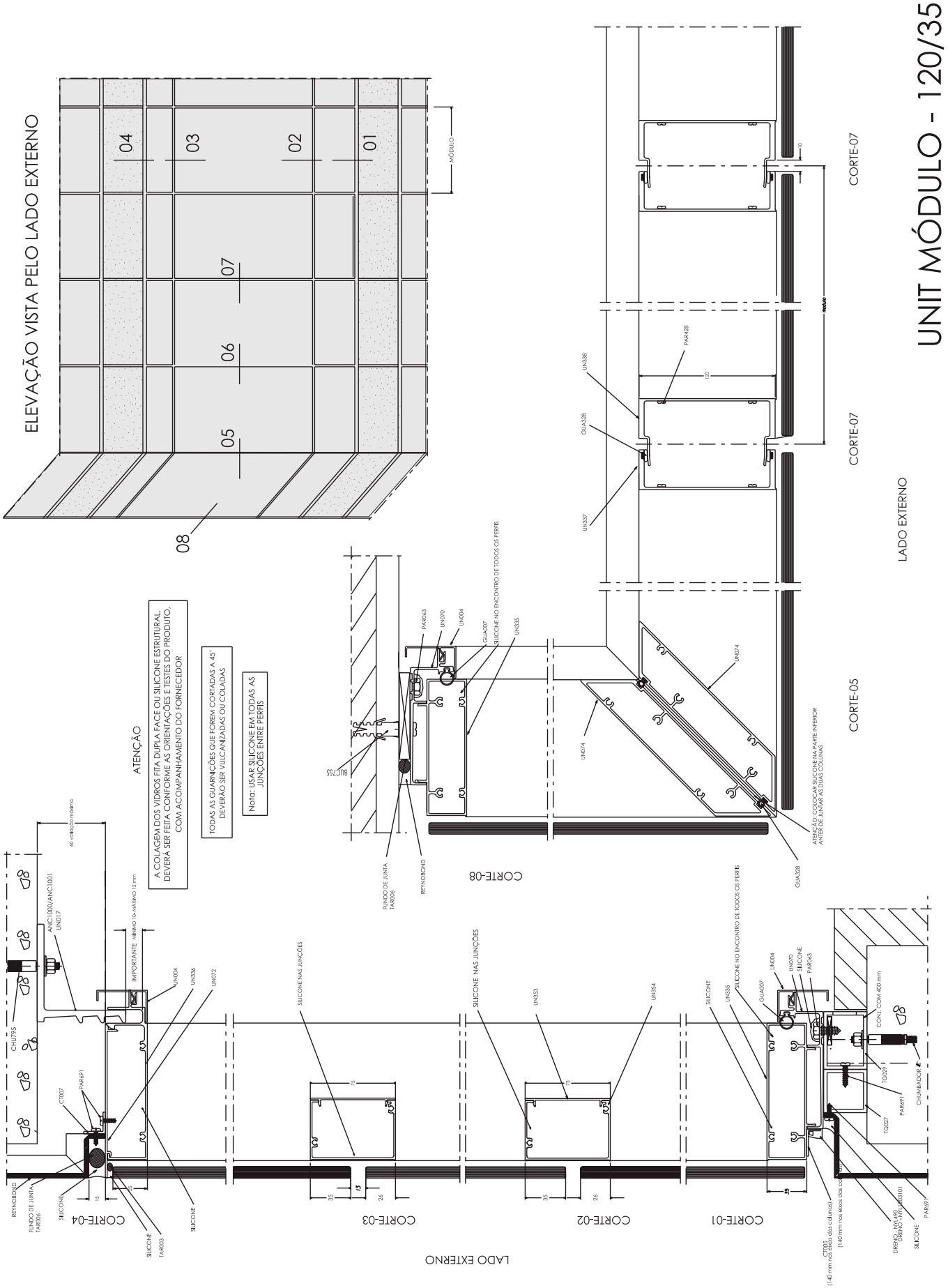

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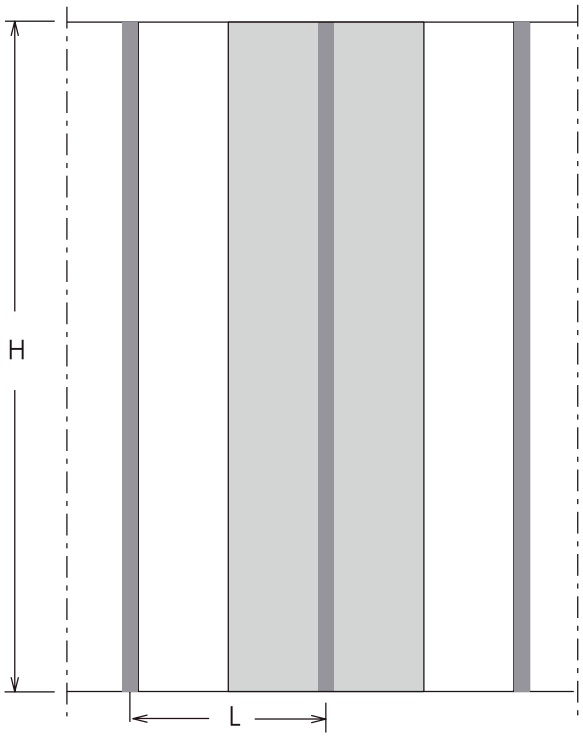
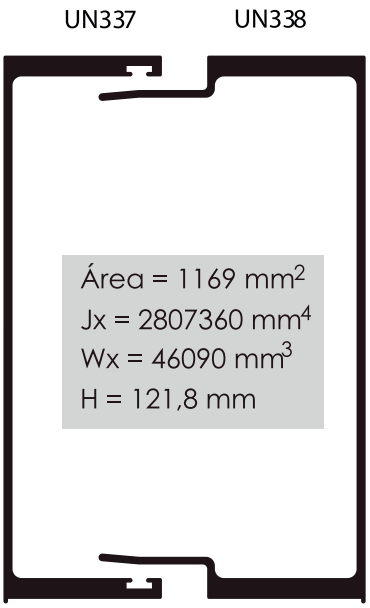
Diagrama de Dimensões

UNIT - Módulo 120/35



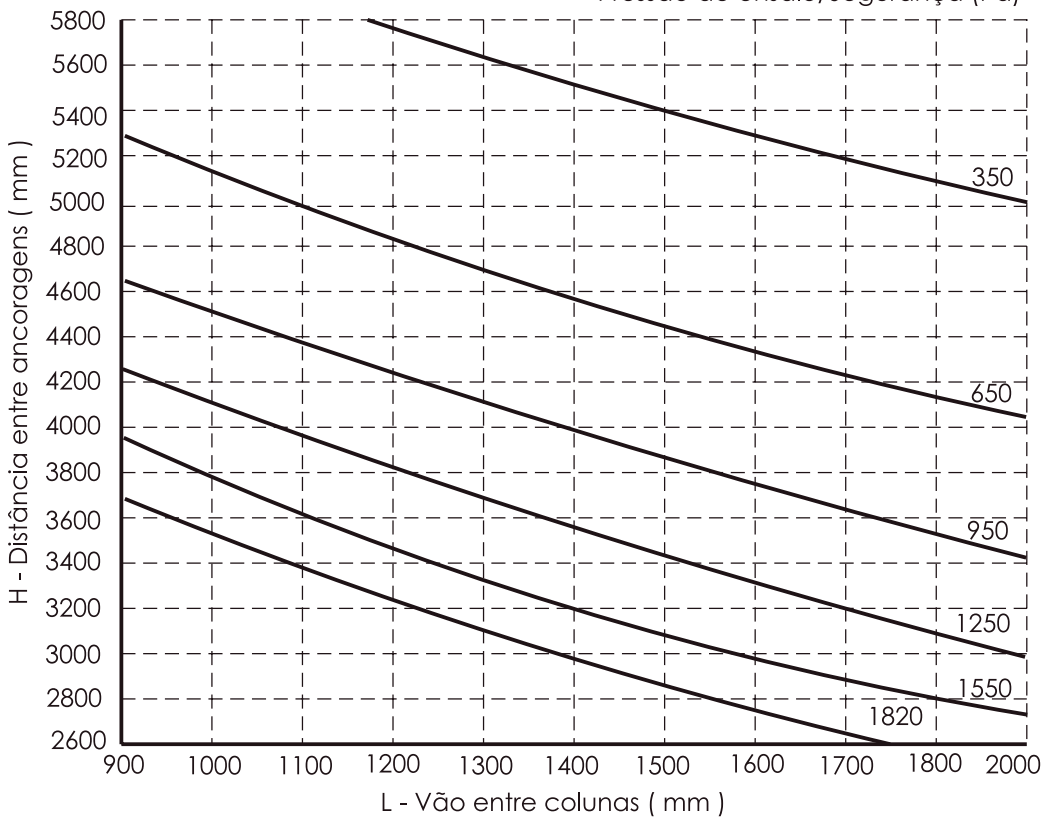


Liga 6060 T5

Tensão adm = 7 kg/mm^2

Flecha adm = H/175 OU 30 mm

Pressão de ensaio/Segurança (Pa)



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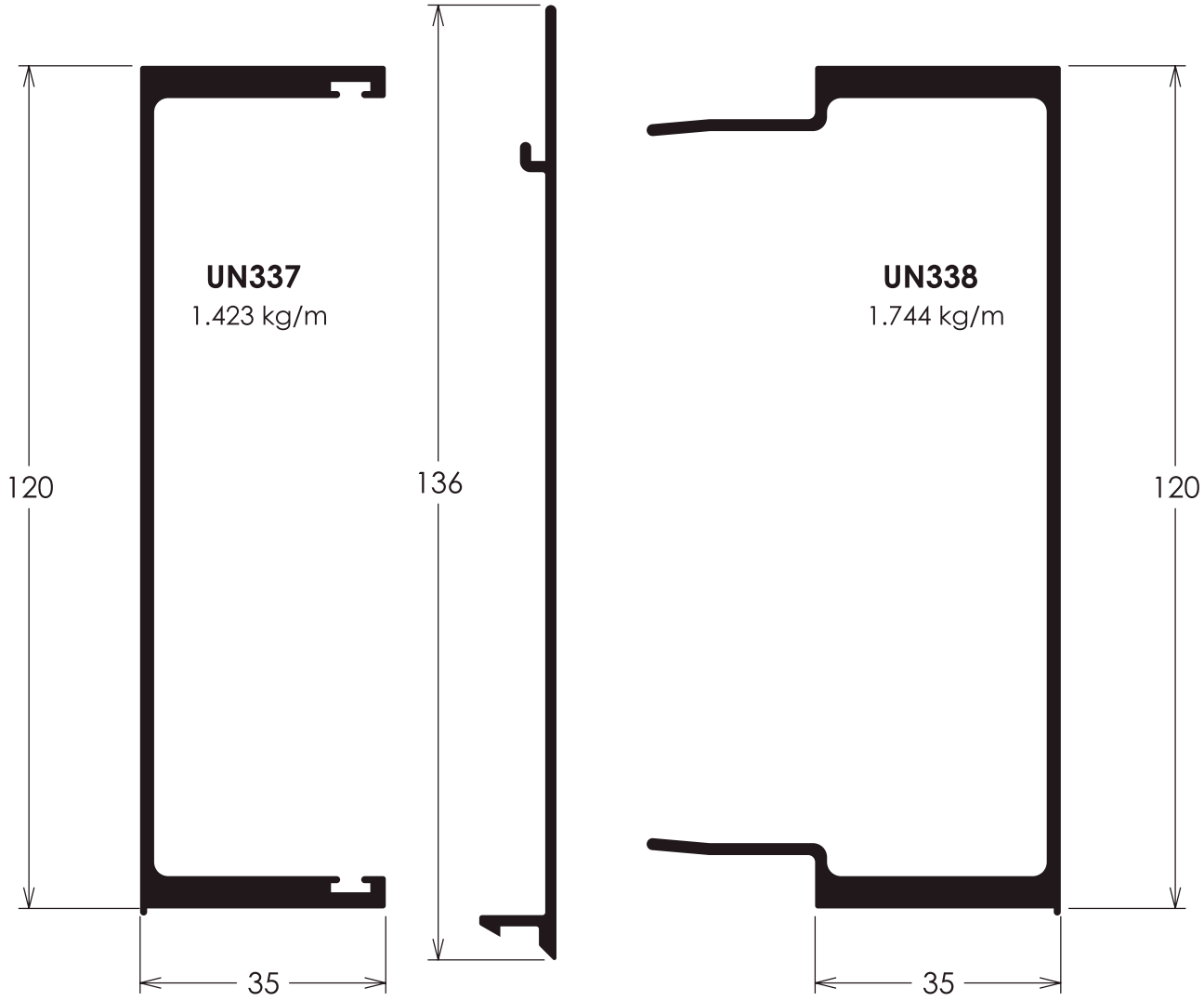
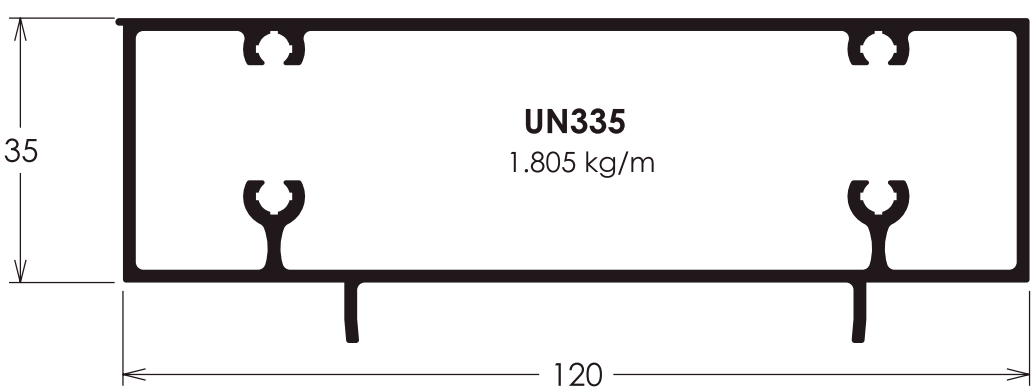
Perfis 120-35

UN072
0,666 kg/m





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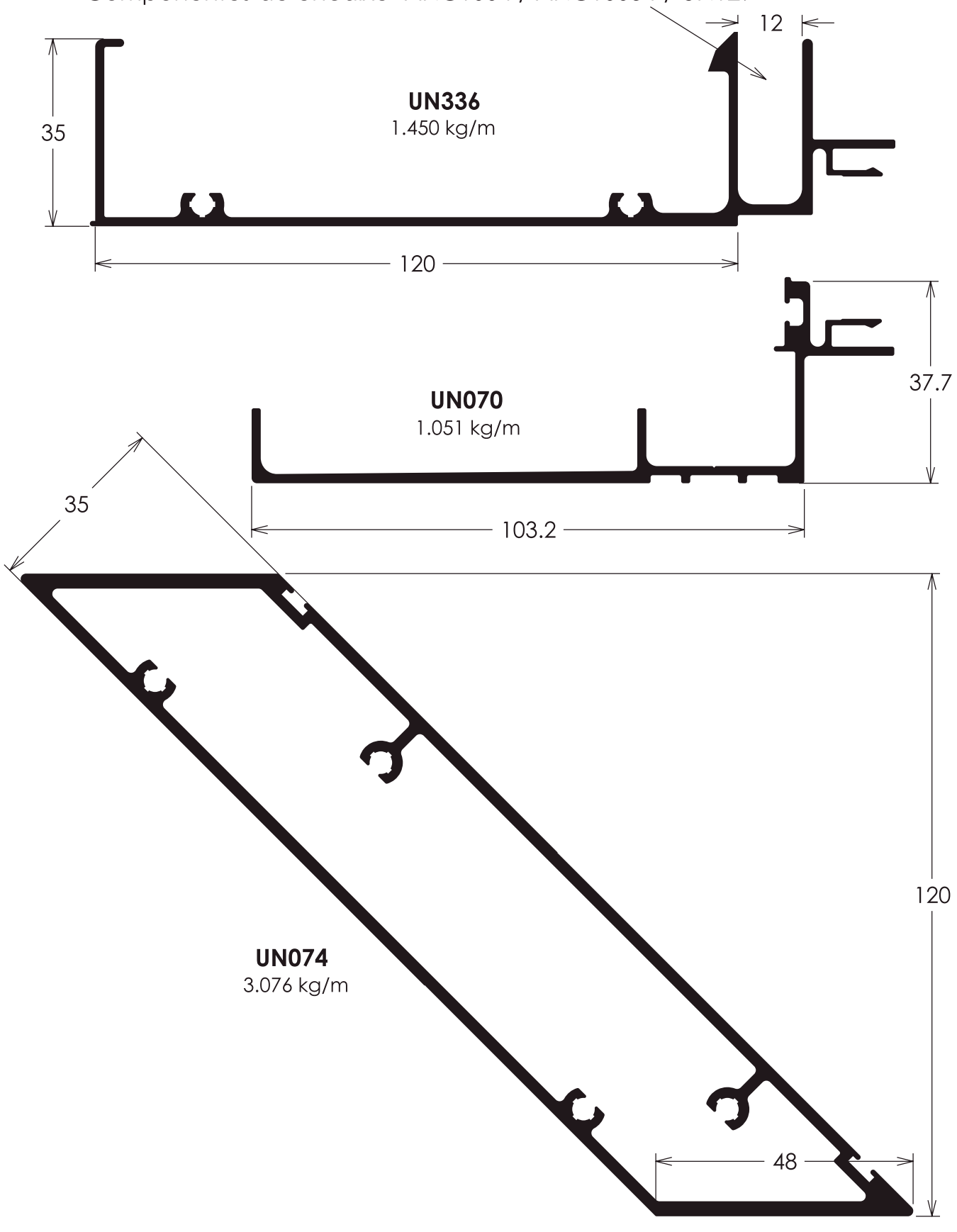
Perfis 120-35

Componentes de encaixe=ANC1000 / ANC1001 P/ UN017
Componentes de encaixe=ANC1004 / ANC1005 P/ UN129



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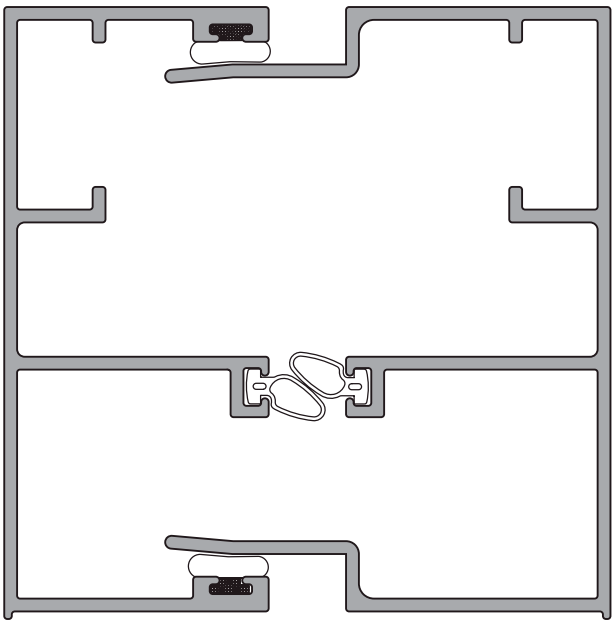
Módulo Fachada 80



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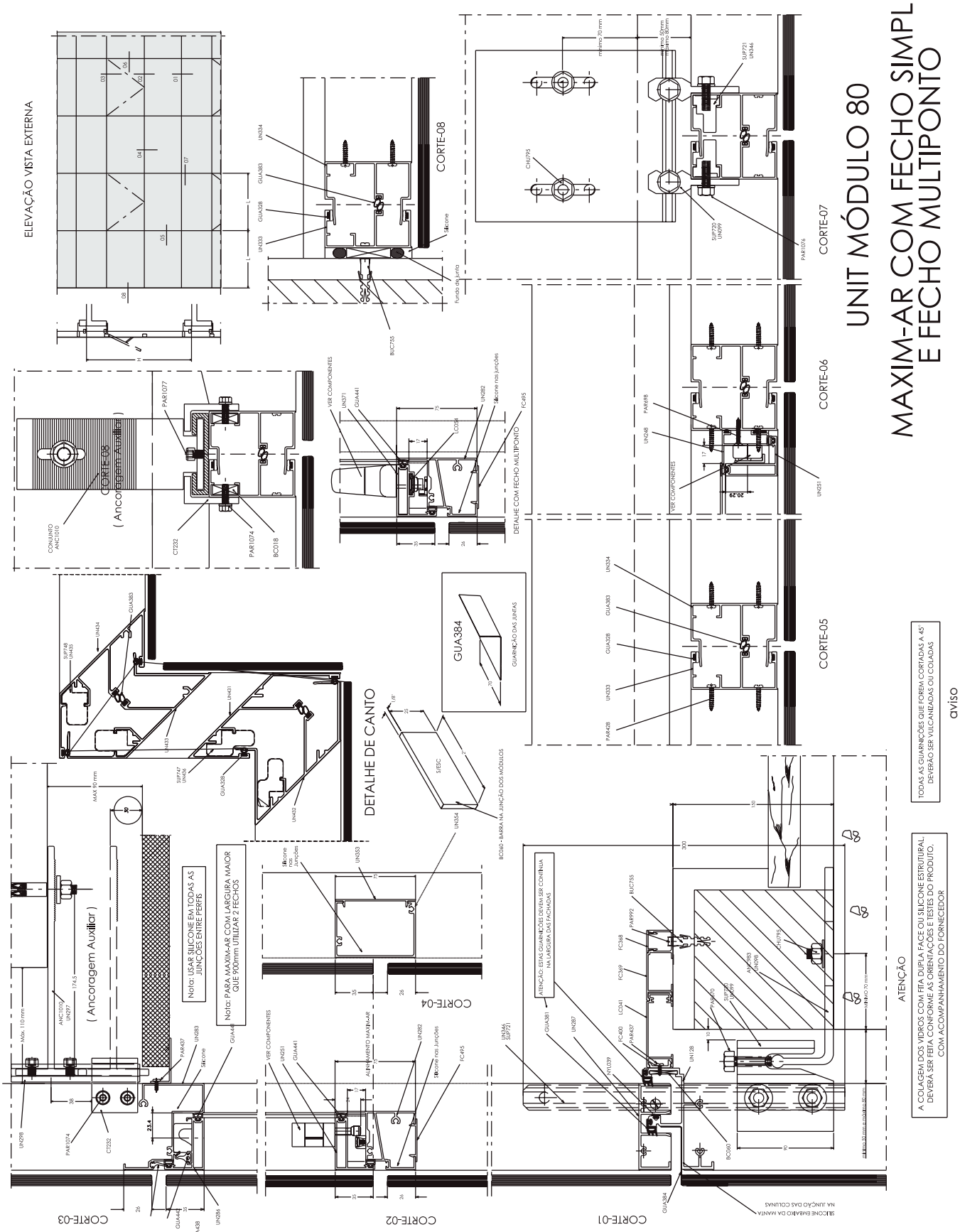
Montagem Fachada 80



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Montagem Fachada 80

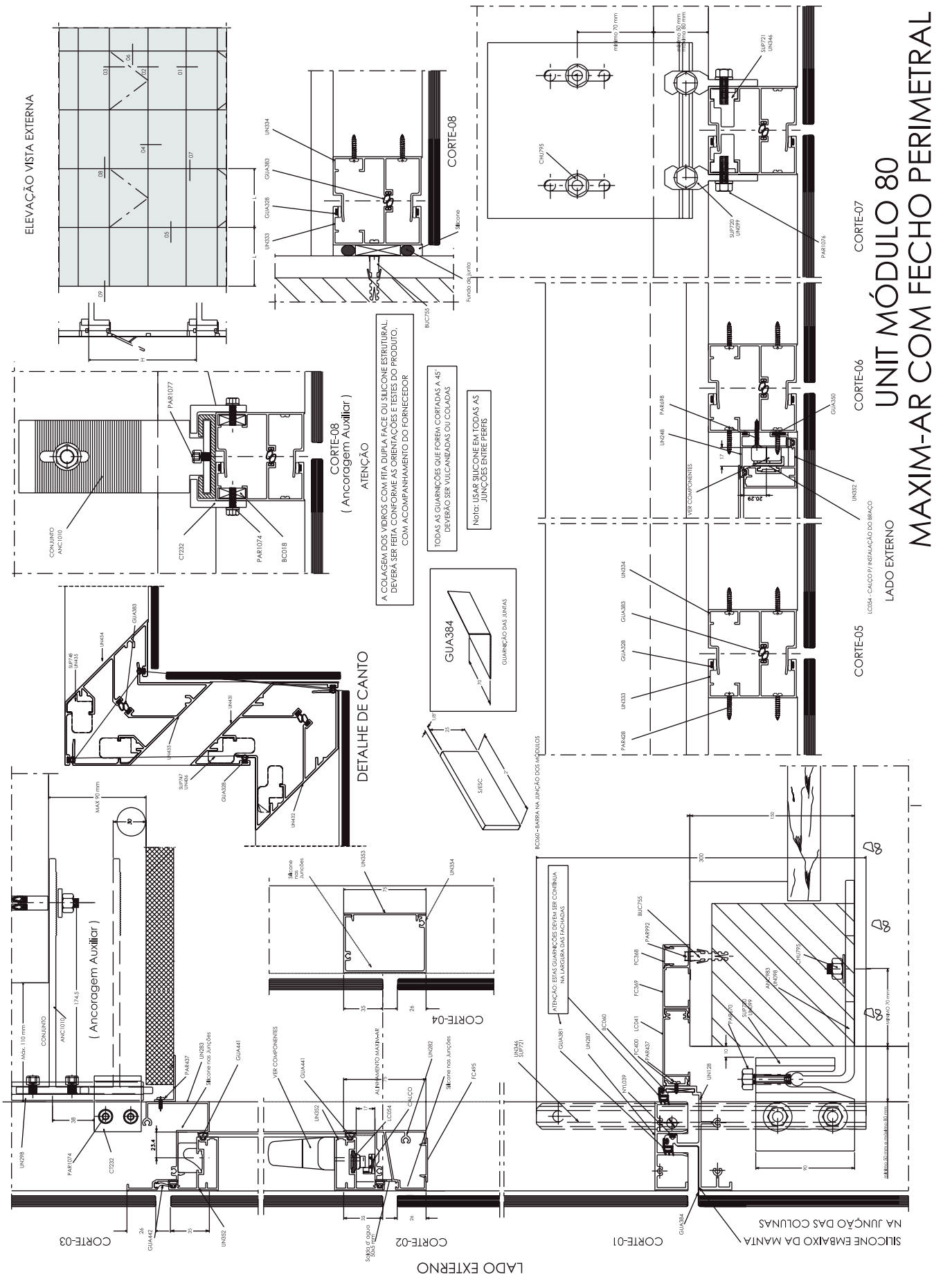

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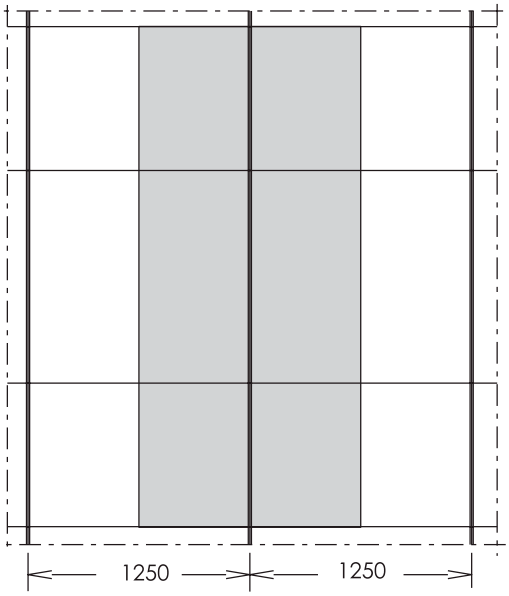
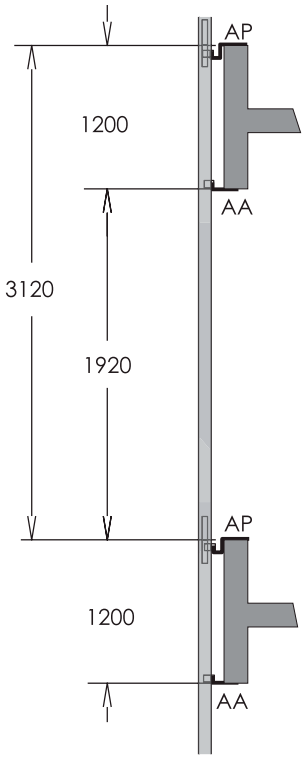
Diagrama de Dimensões

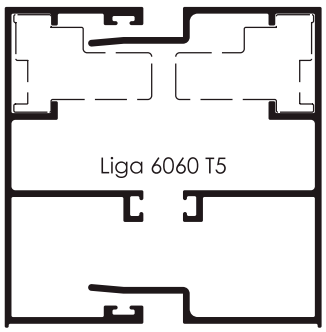
UNIT - Módulo Fachada 80 Auxiliar





Colunas

UN333 UN334

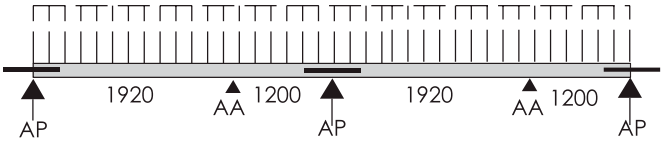


Área =853 mm^2
Jx = 690918 mm^4
Wx = 16984 mm^3
H = 81,4 mm

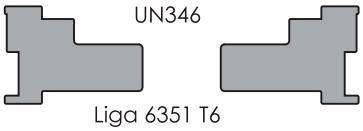
Pressão de ensaio
Flecha adm = 11 mm (H/175)

Ancoragem Principal (AP) E Auxiliar (AA)

Coluna contínua 2 pavimentos



Tirante
UN346



Liga 6351 T6

Área =1078 mm^2
Jx = 36490 mm^4
Wx = 2760 mm^3
H = 26,4 mm

Importante: Consultar o fabricante do vidro para determinar a espessura em função da pressão de segurança

Liga 6060 T5
Tensão adm = 7 kg/mm^2
Liga 6351 T6
Tensão adm = 15 kg/mm^2

Conclusão: Pela norma NBR 10821 - 2011, o conjunto (coluna-luva) com ancoragens principais e auxiliares, atende:

Pressão de ensaio máxima = 1630 Pa Pressaõa de segurança = 2440 Pa

Condição de utilização: 30 pavimentos ou 90 m na região IV
20 pavimentos ou 60 m na região V

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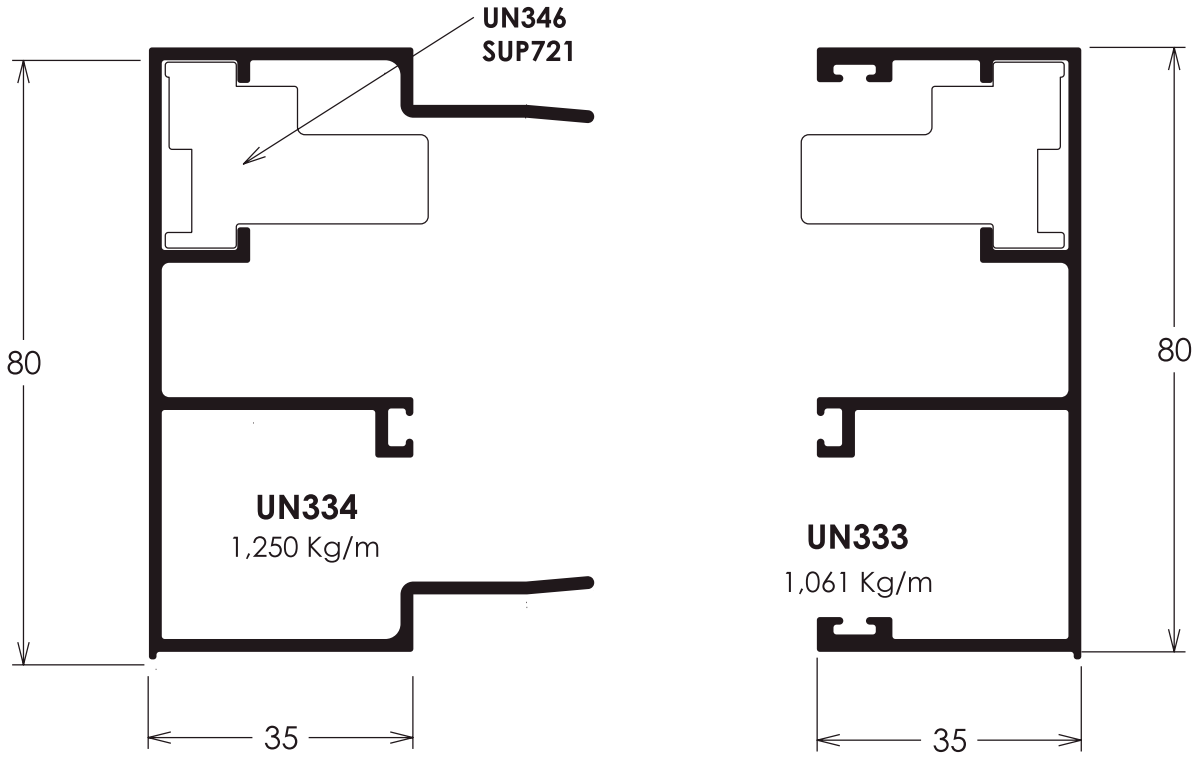
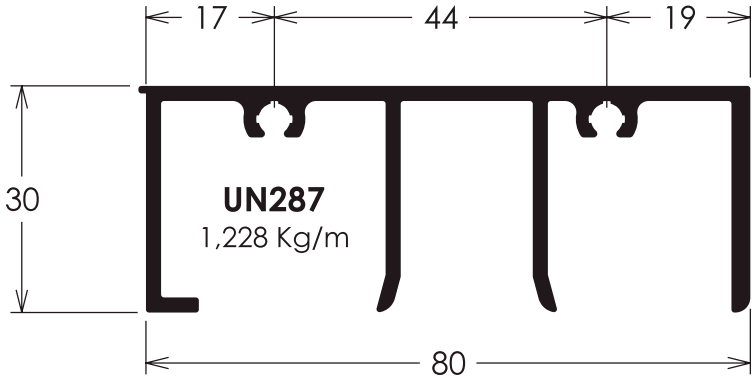
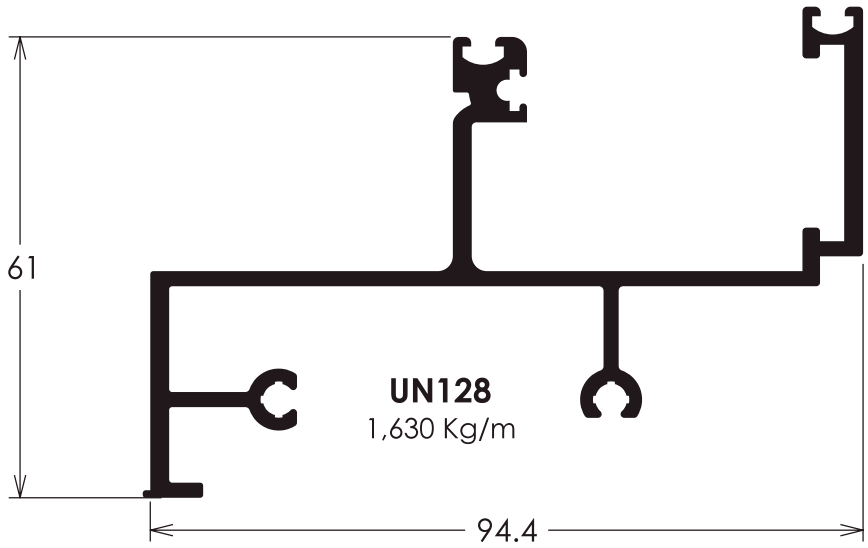
Perfis Fachada 80







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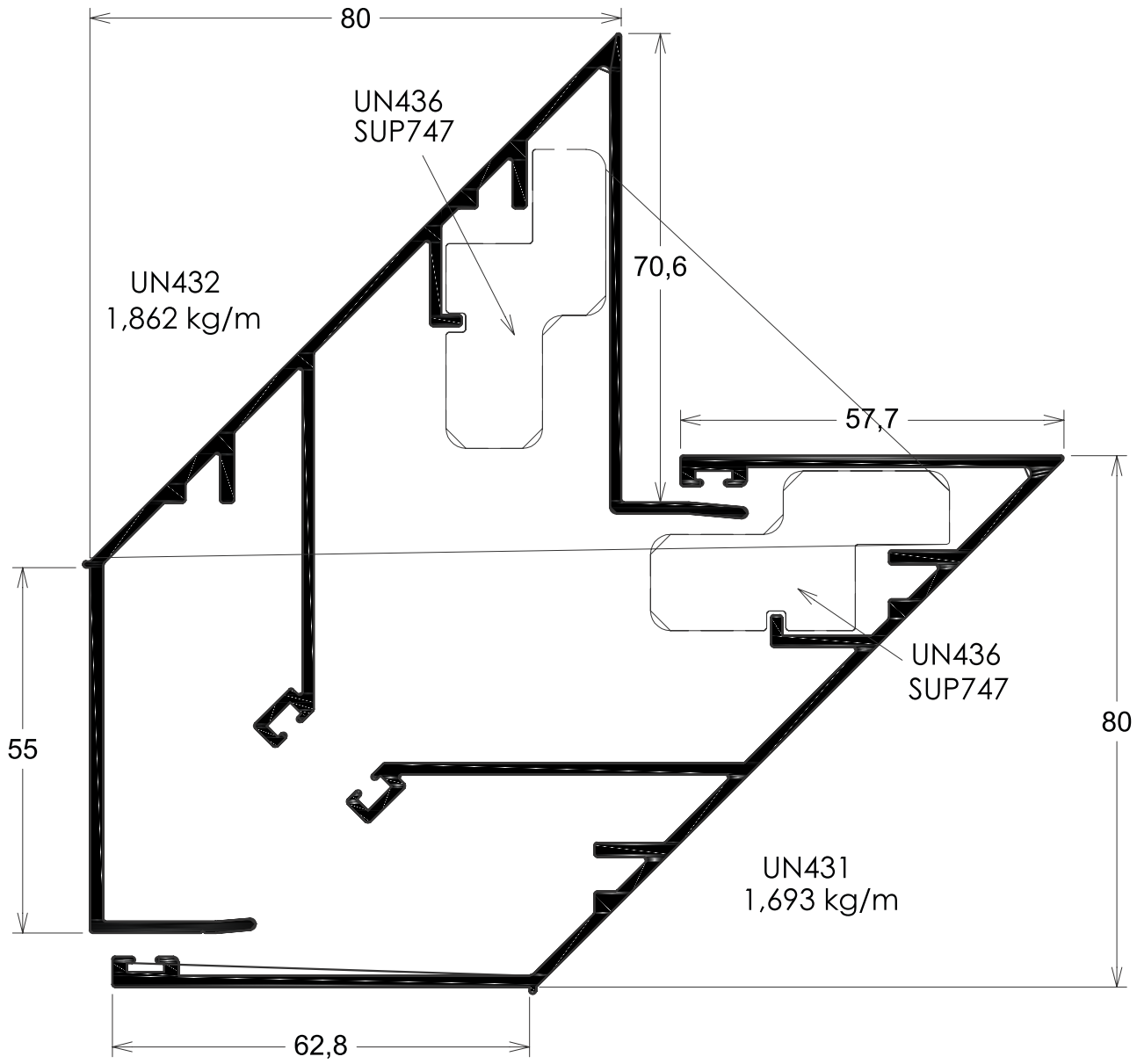
Perfis Fachada 80



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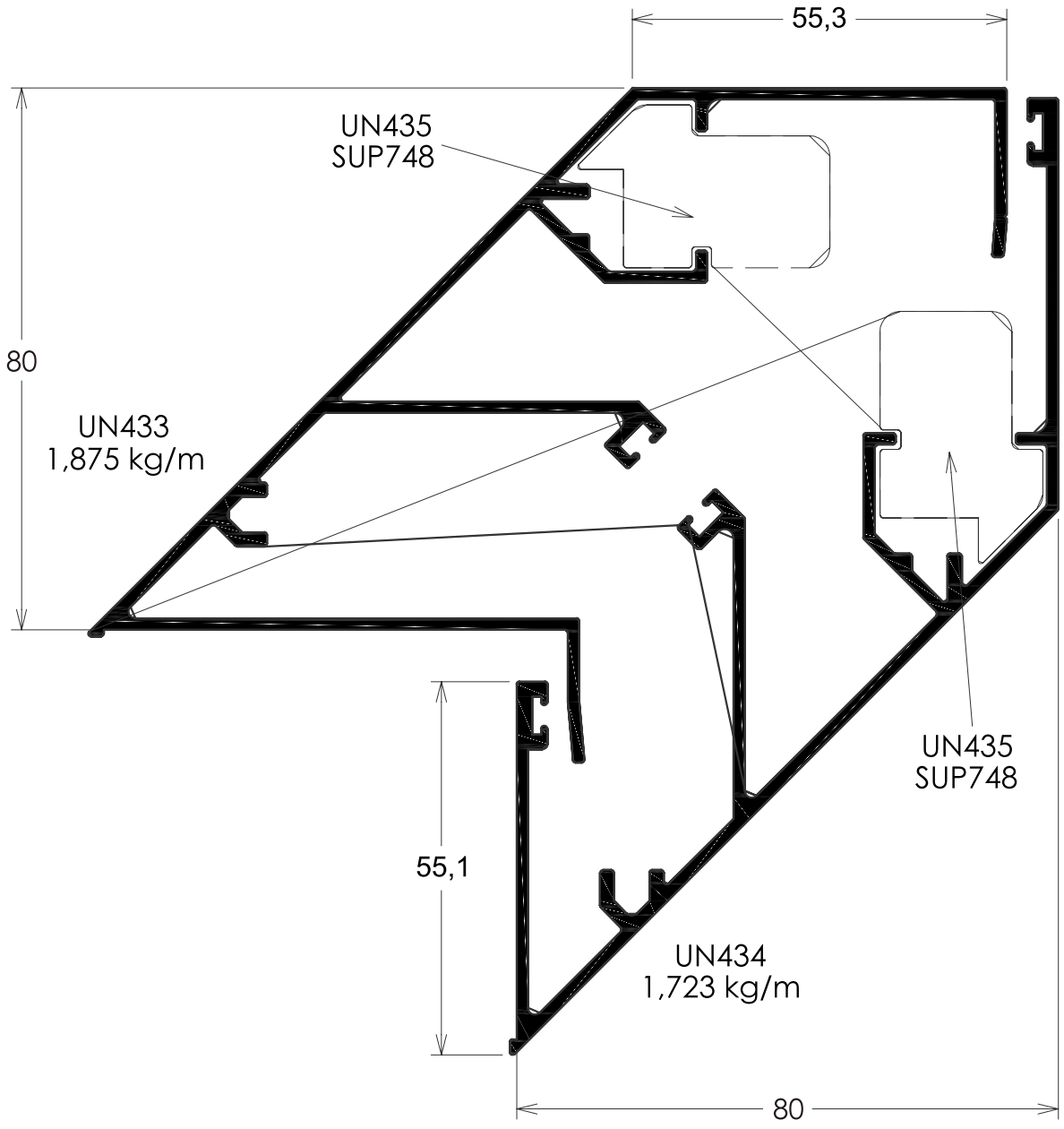
Perfis Fachada 80



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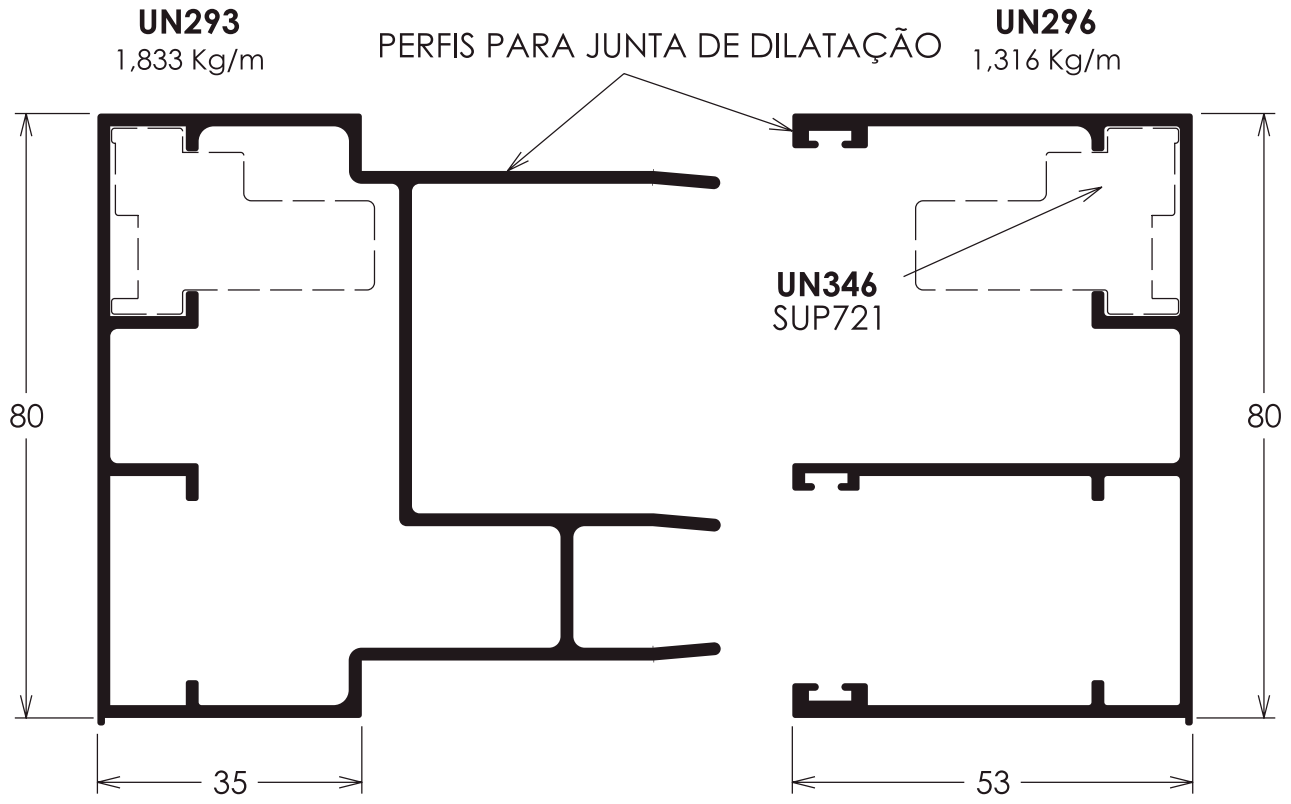
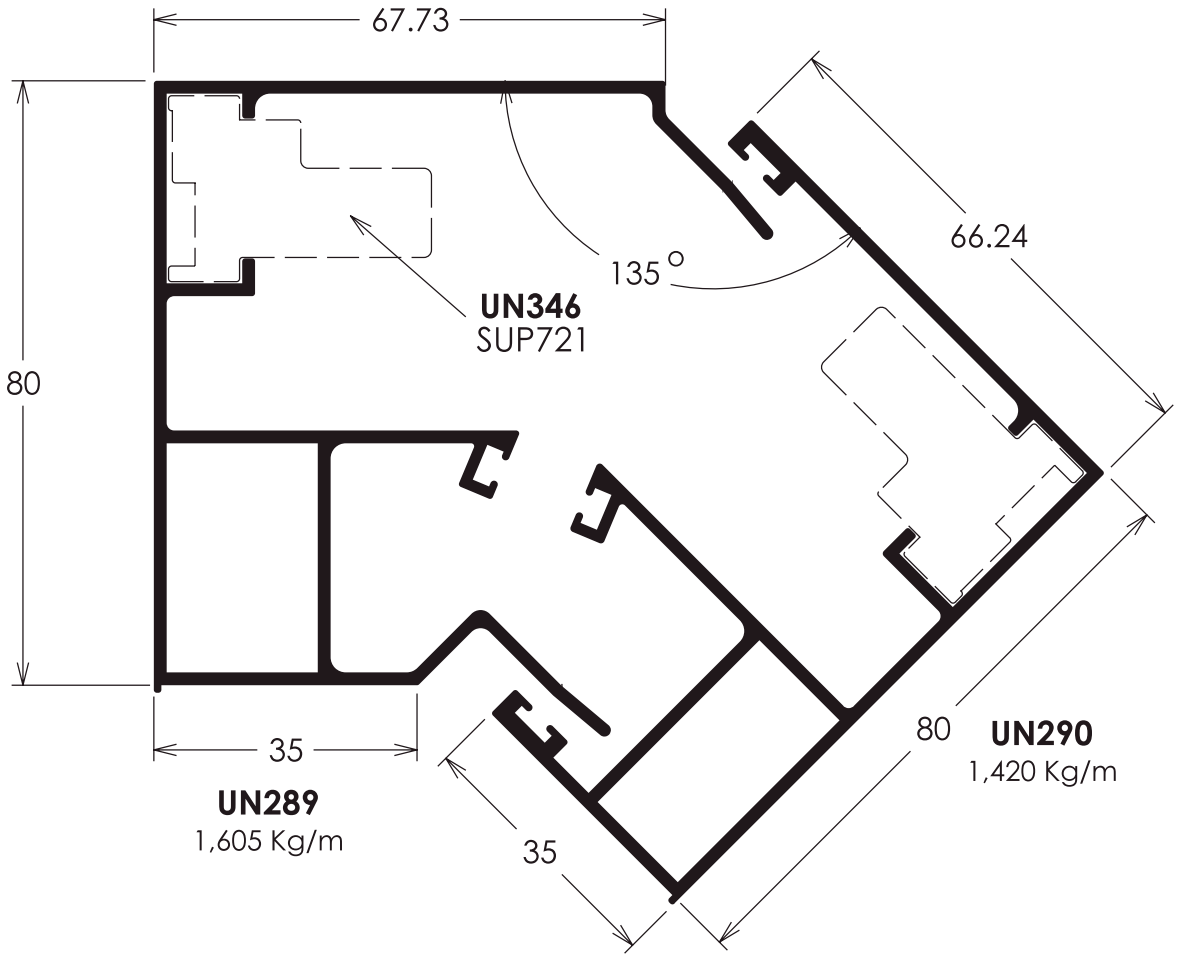
Perfis Fachada 80





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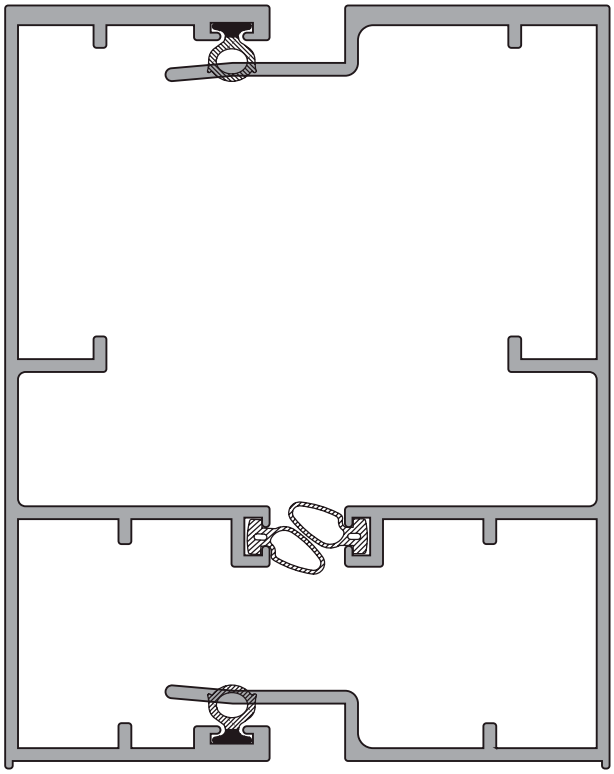
Módulo Fachada 100



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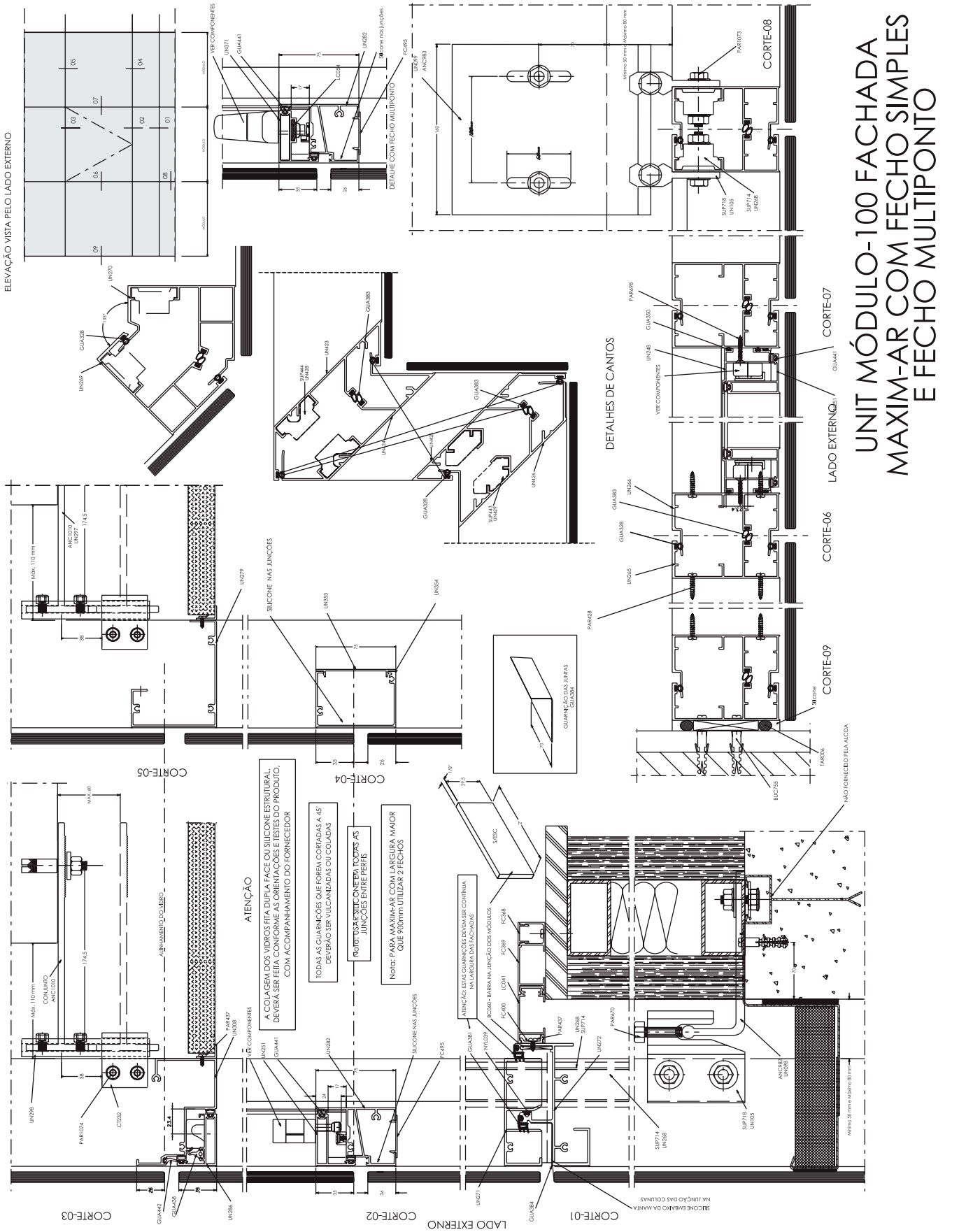
Montagem Fachada 100



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Montagem Fachada 100

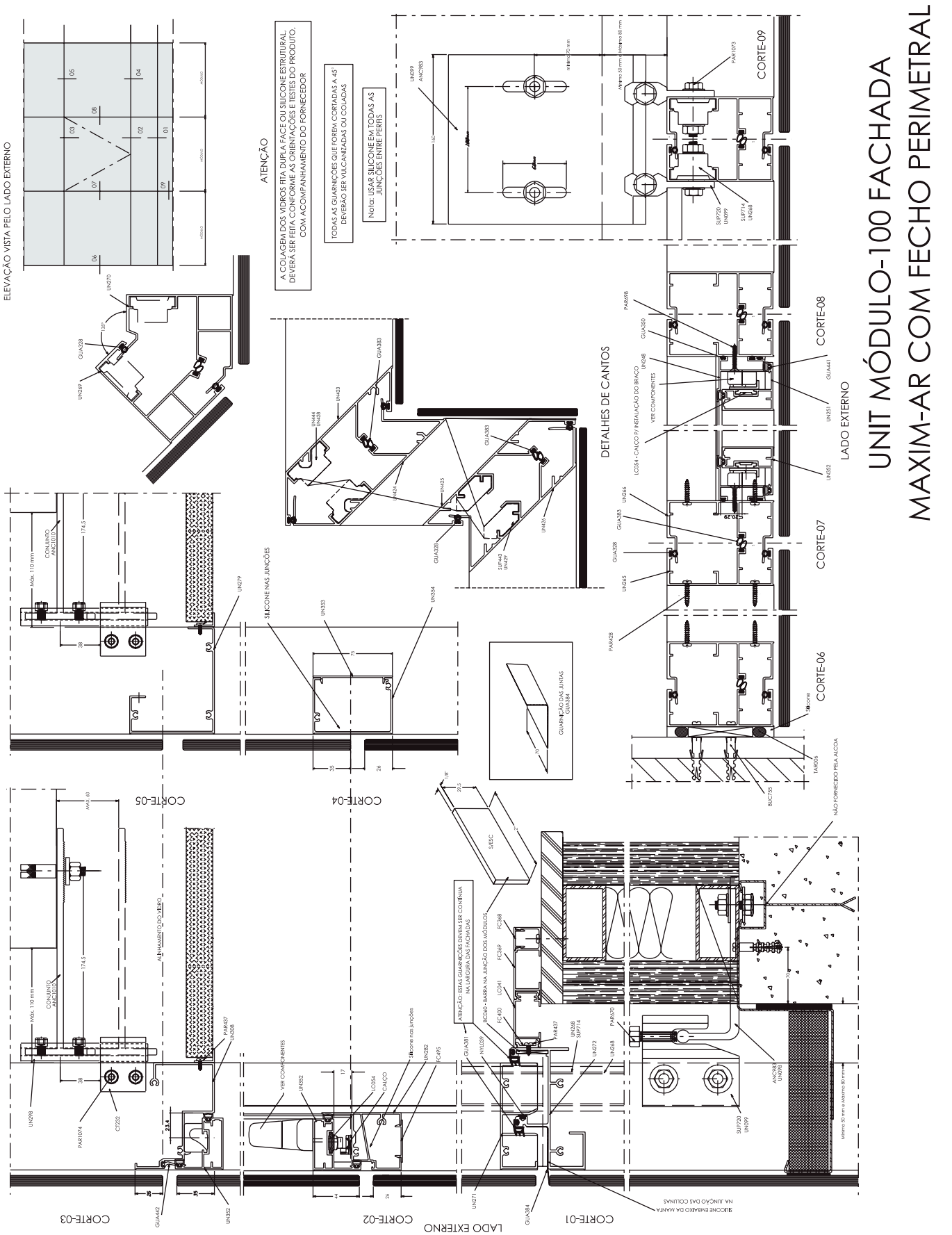

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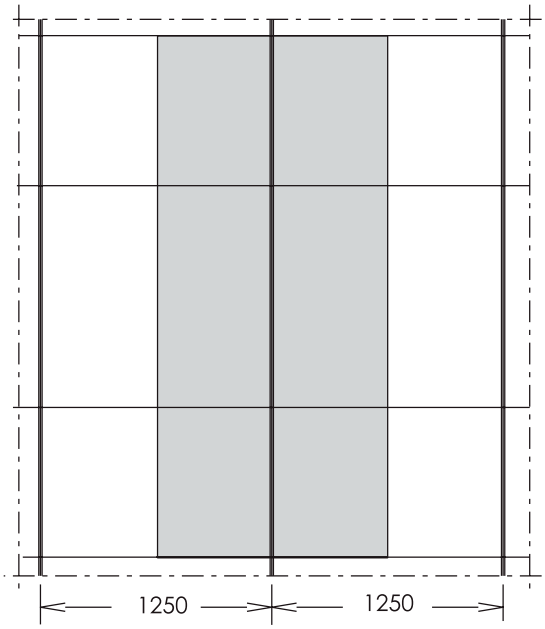
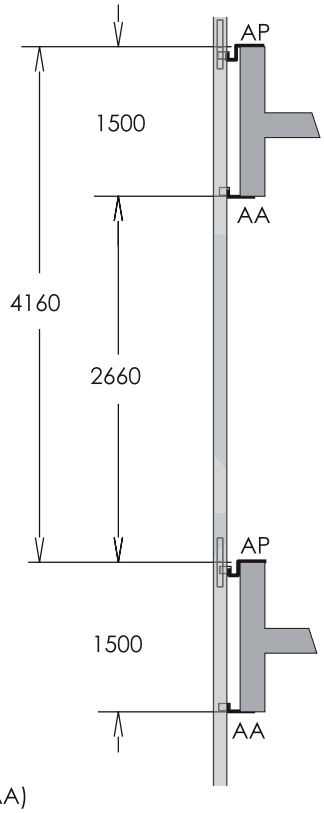
Diagrama de Dimensões

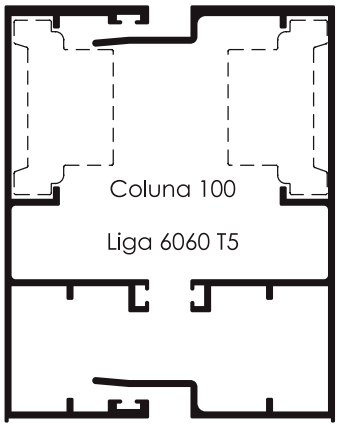
UNIT - Módulo Fachada 100 Auxiliar





o unas

UN265 UN266

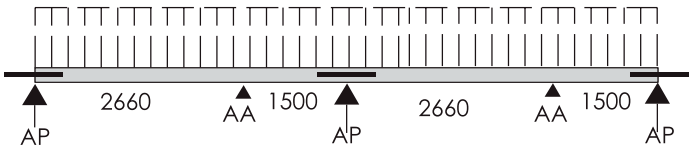


Área = 990 mm^2
Jx = 1317510 mm^4
Wx = 26074 mm^3
H = 101 mm

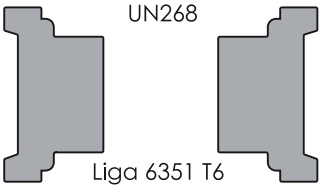
Pressão de ensaio
Flecha adm = 15.2 mm (H/175)

Ancoragem principal (AP) e auxiliar (AA)

Coluna contínua 2 pavimentos



Tirante
UN268



Área = 1450 mm^2
Jx = 165137 mm^4
Wx = 7826 mm^3
H = 42,2 mm

Importante: Consultar o fabricante do vidro para determinar a espessura em função da pressão de segurança

Liga 6351 T6
Tensão adm = 15 kg/mm^2

Liga 6060 T5
Tensão adm = 7 kg/mm^2

Conclusão: Pela norma NBR 10821 - 2011, o conjunto (coluna-luva) com ancoragens principais e auxiliares, atende:

Pressão de ensaio máxima = 2050 Pa

Pressão de segurança = 3070 Pa

Condição de utilização: 30 pavimentos ou 90 m na região V

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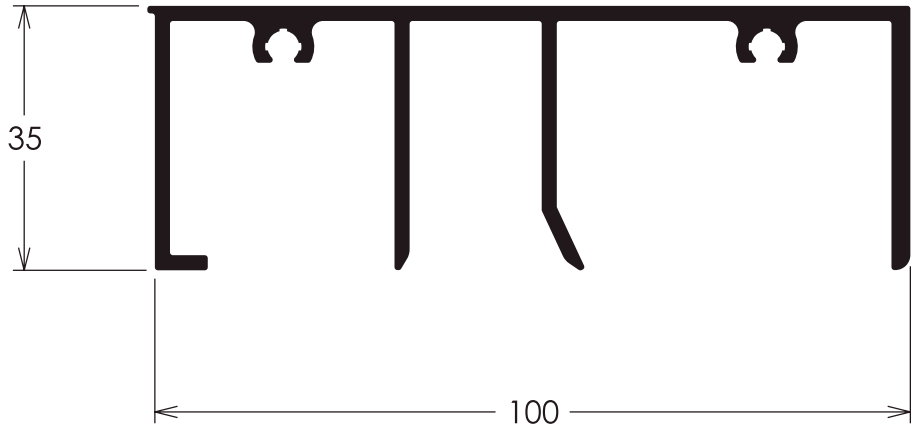
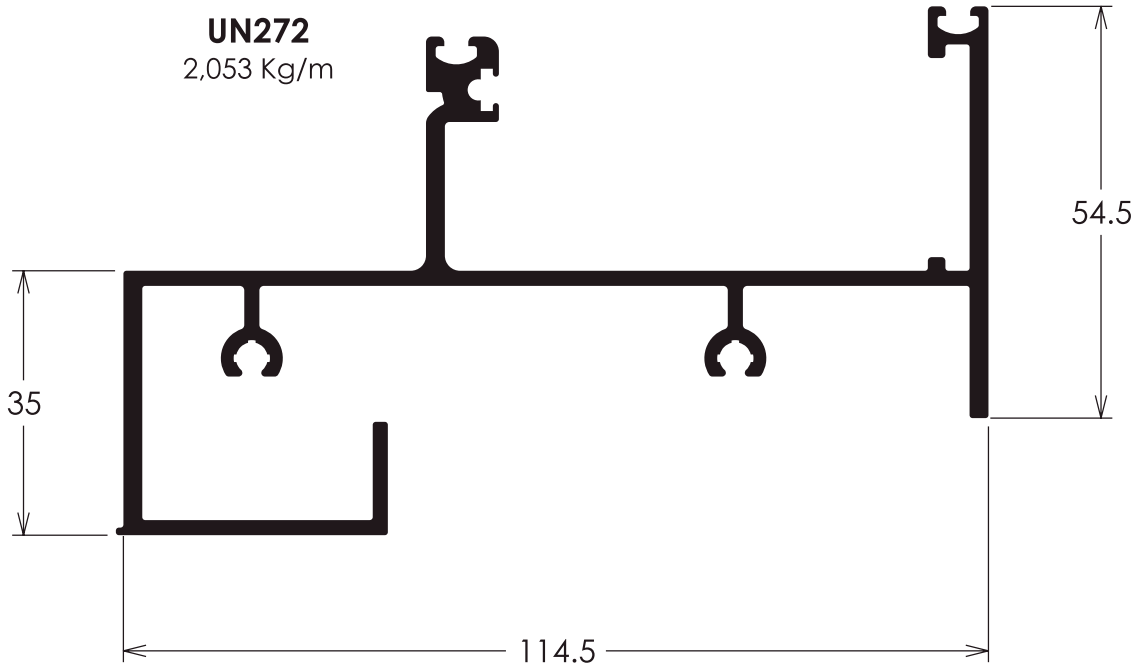
Perfis Fachada 100

UN271
1,482 Kg/m



UN272
2,053 Kg/m



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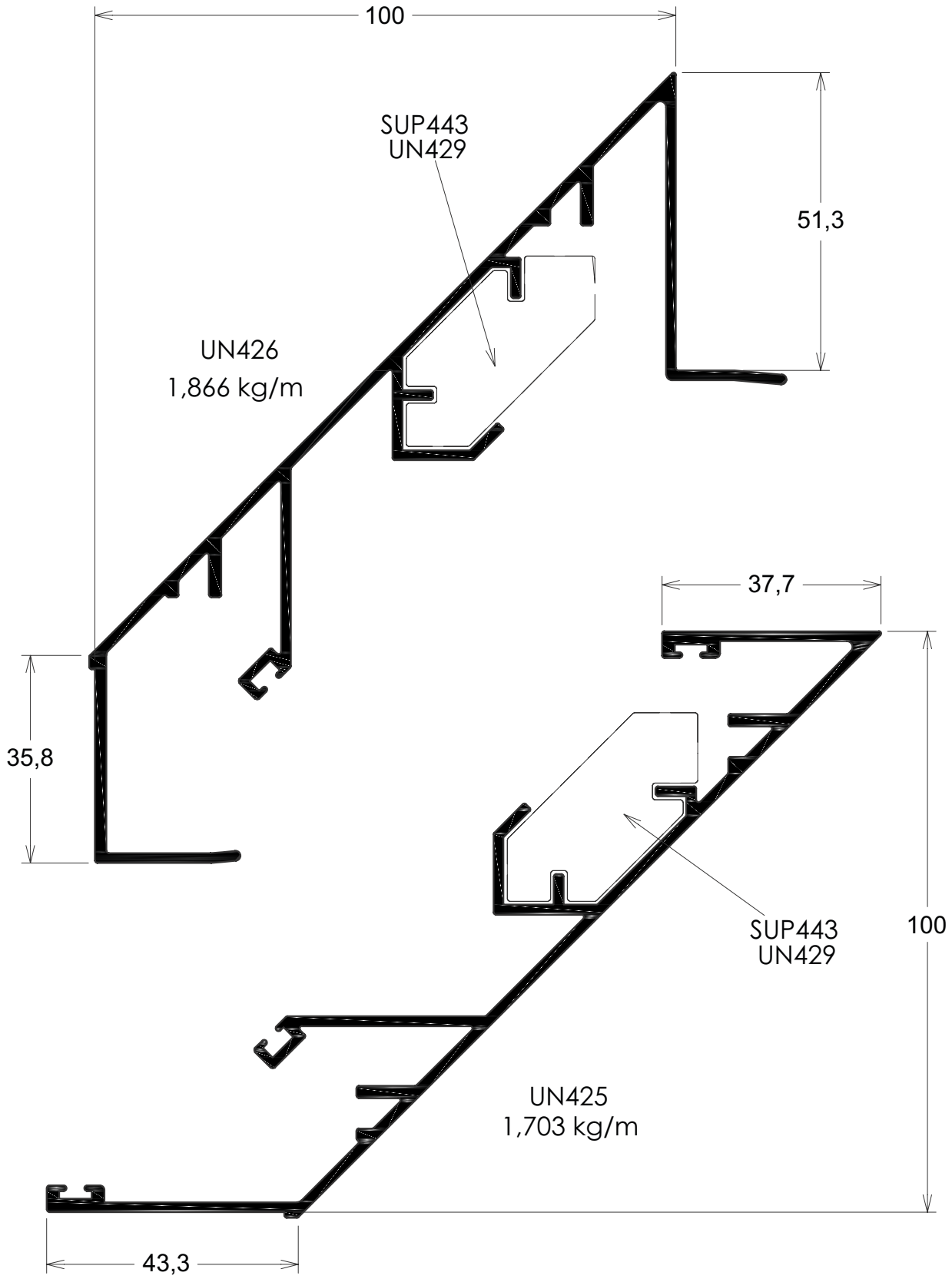
Perfis Fachada 100



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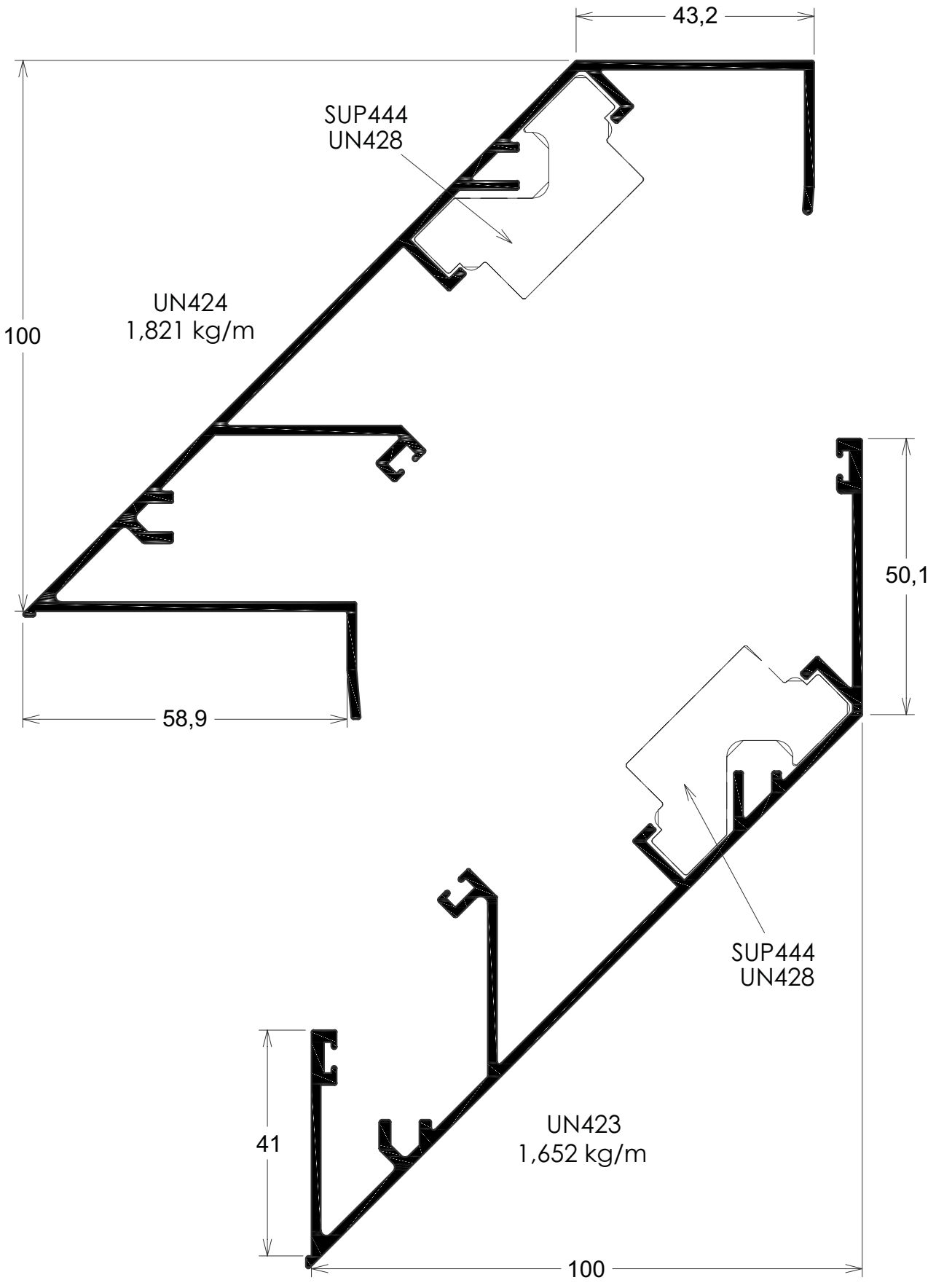
Perfis Fachada 100



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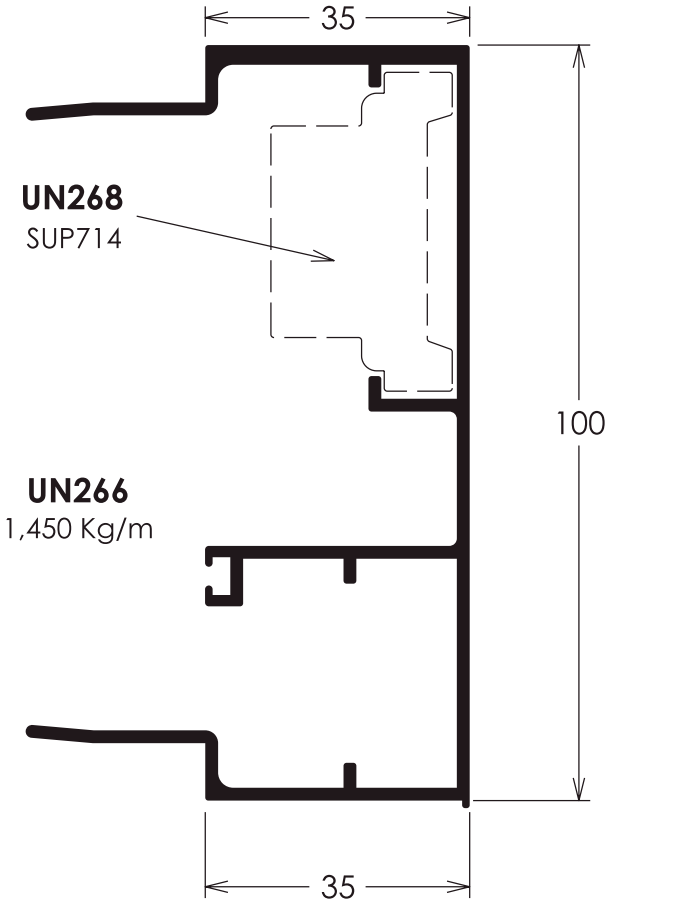
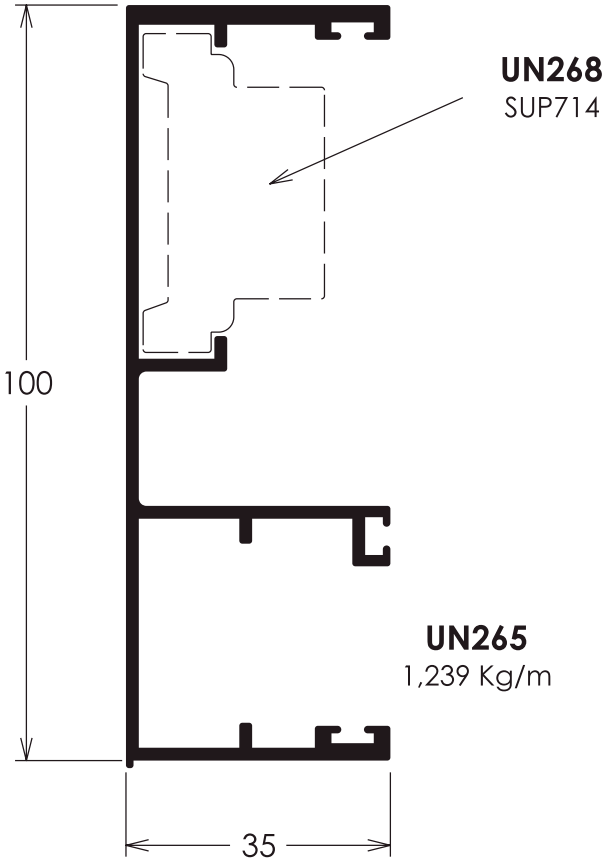
Perfis Fachada 100





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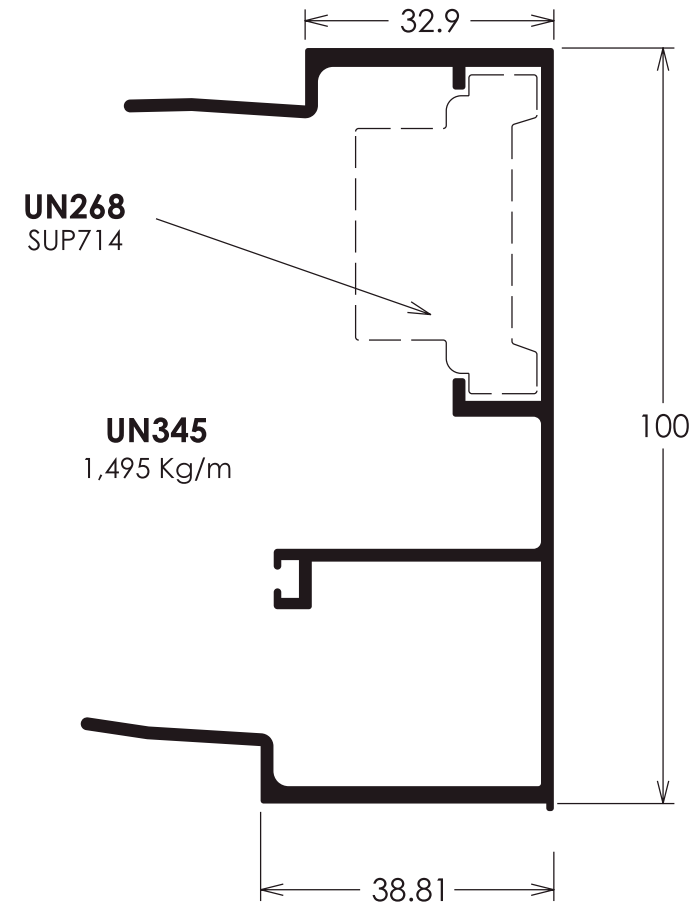
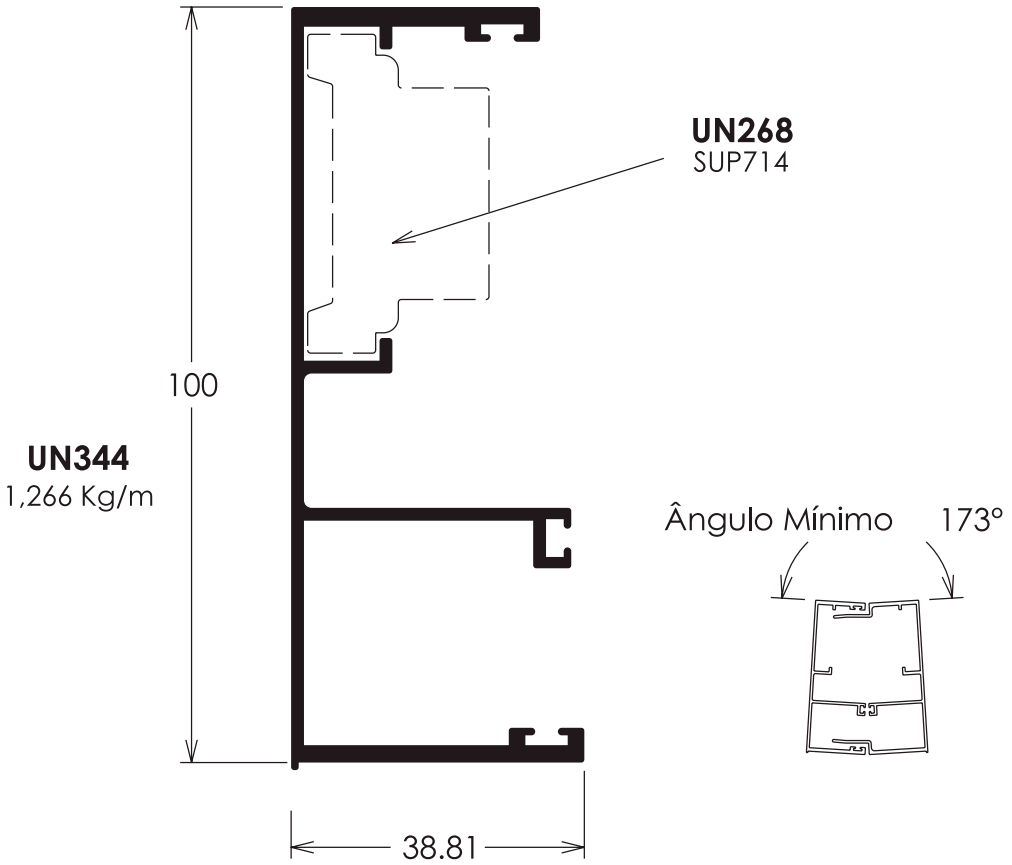
Perfis Fachada 100





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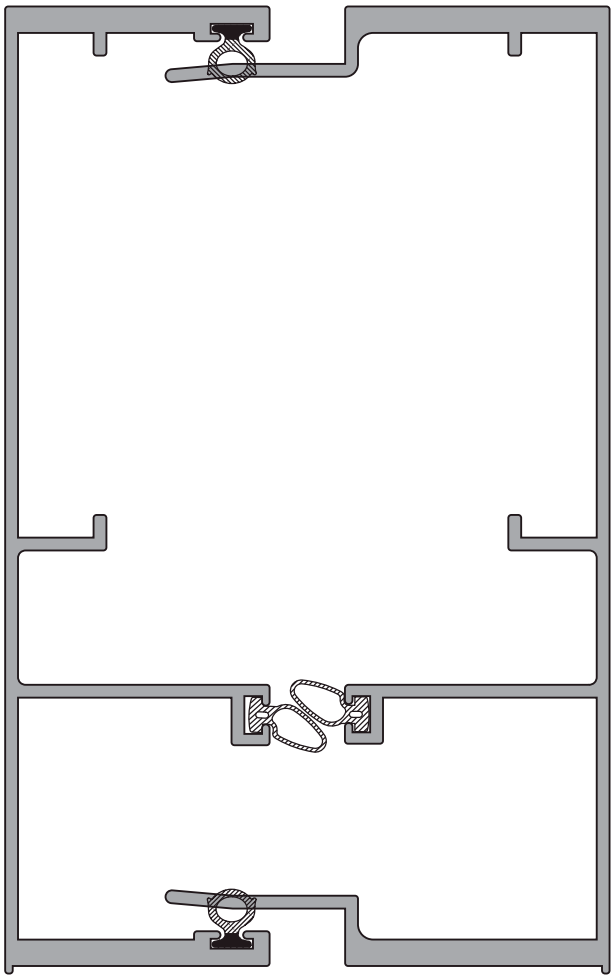
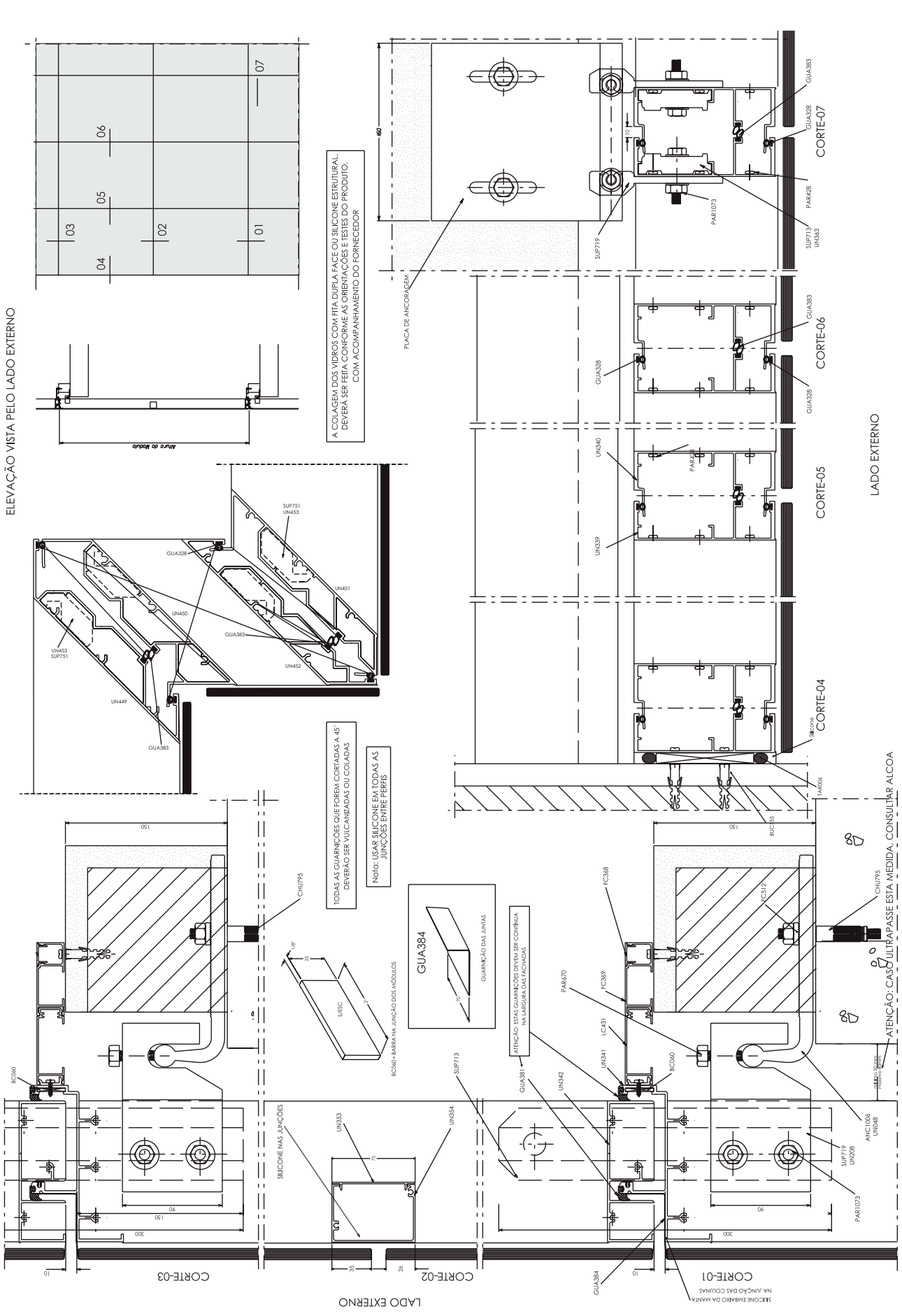
Módulo Fachada 127



Unit® | Marca e Modelos Registrados

Montagem Fachada 127



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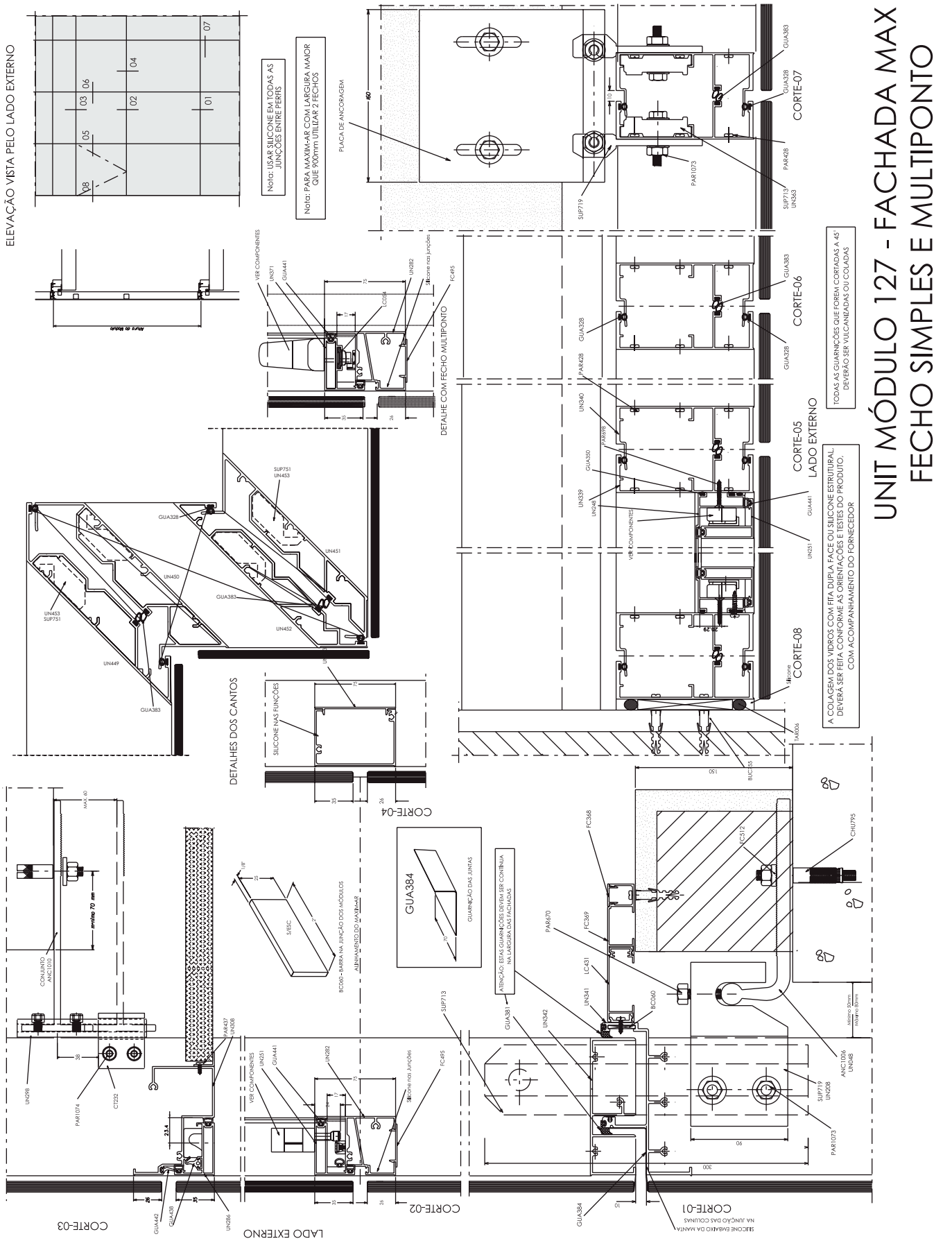
Montagem Fachada 127



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Montagem Fachada 127

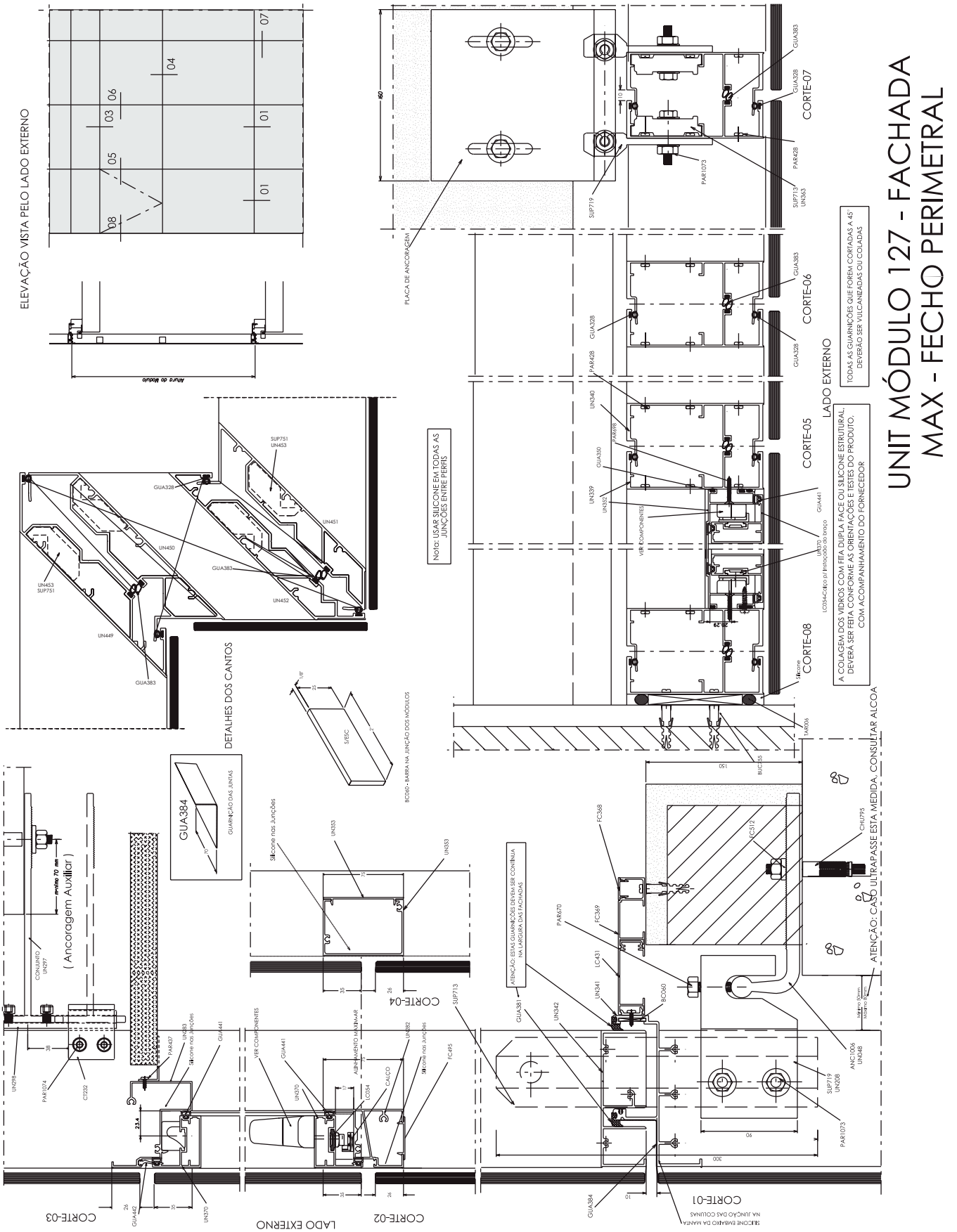

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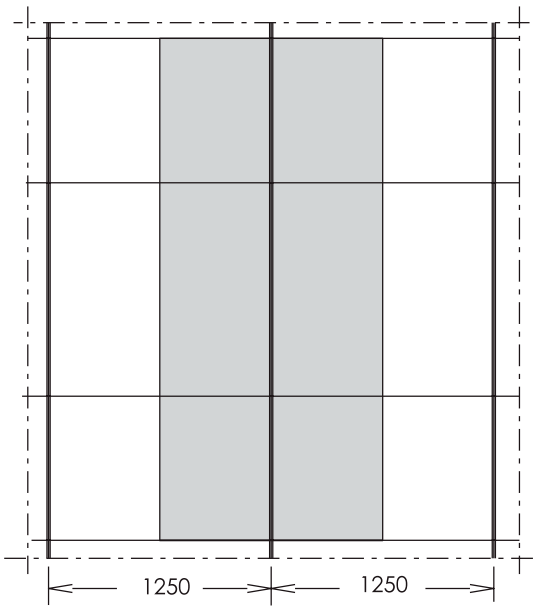
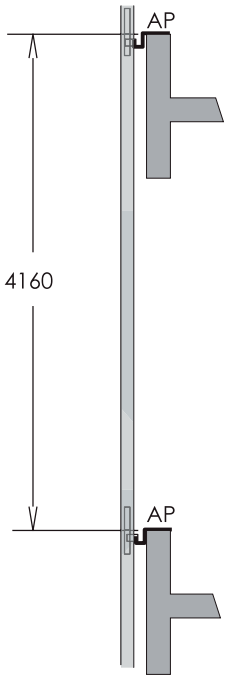
Diagrama de Dimensões

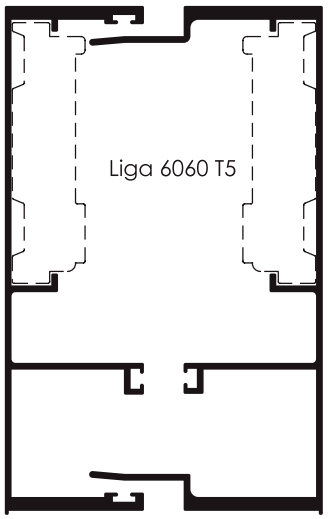
UNIT - Módulo Fachada 127





Colunas

UN339 UN340



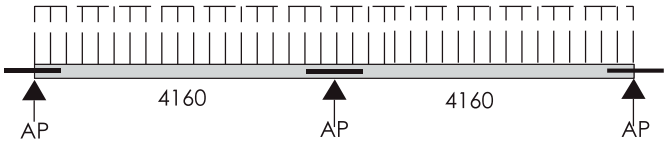
Área = 1207mm^2
Jx = 2811890 mm^4
Wx = 42044 mm^3
H = 137,8 mm

Pressão de ensaio

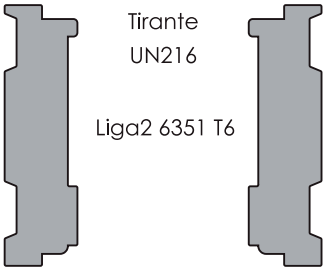
Flecha adm = 23.8 mm (H/175)

Somente ancoragens principais(AP)

Coluna contínua 2 pavimentos



Tirante
UN216



Área = 1932 mm^2
Jx = 633372 mm^4
Wx = 18895 mm^3
H = 67 mm

Importante: Consultar o fabricante do vidro para determinar a espessura em função da pressão de segurança

Liga 6060 T5
Tensão adm = 7 kg/mm^2

Liga 6351 T6
Tensão adm = 15 kg/mm^2

Conclusão: Pela norma NBR 10821 Revisada, o conjunto (coluna-luva)com ancoragens primcipais e auxiliares, atende:

Pressão de ensaio máxima = 1000 Pa Pressão de segurança = 1500 Pa

Condição de utilização: 2 pavimentos ou 6 m na região V
5 pavimentos ou 15 m na região IV

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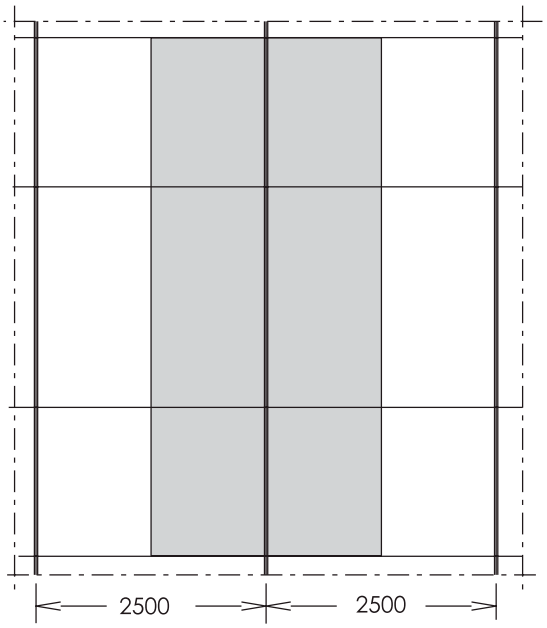
Diagrama de Dimensões

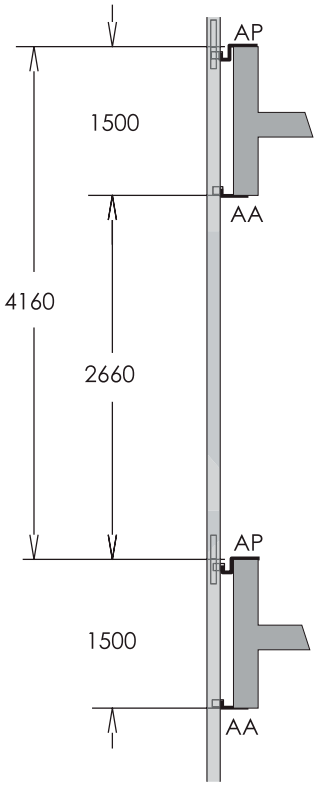
UNIT - Módulo Fachada 127 auxiliar

Liga 6060 T5
Liga 6351 T6



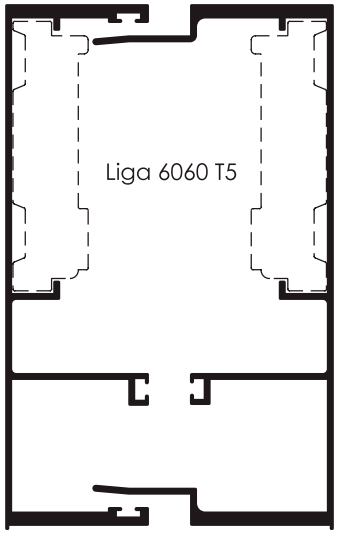
Pressão de ensaio

Flecha adm = 15.2 mm (H/175)



Colunas

UN339 UN340

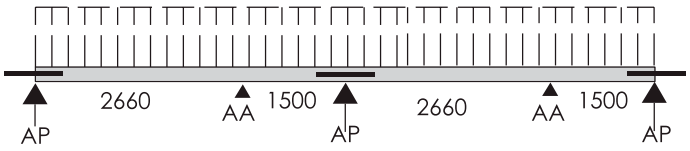


Área = 1207 mm^2
Jx = 2811890 mm^4
Wx = 42044 mm^3
H = 137,8 mm

Liga 6060 T5
Tensão adm = 7 kg/mm^2

Ancoragem principal (AP) e auxiliar(AA)

Coluna contínua 2 pavimentos



Importante: Consultar o fabricante do vidro para determinar a espessura em função da pressão de segurança

Tirante
UN216

Área = 1932 mm^2
Jx = 633372 mm^4
Wx = 18895 mm^3
H = 67 mm

Liga 6351 T6
Tensão adm = 15 kg/mm^2

Conclusão: Pela norma NBR 10821- 2011 Revisada, o conjunto (coluna-luva)com ancoragens principais e auxiliares, atende:

Pressão de ensaio máxima = 1850 Pa

Pressão de segurança = 2770 Pa

Condição de utilização: 30 pavimentos ou 90 m na região V

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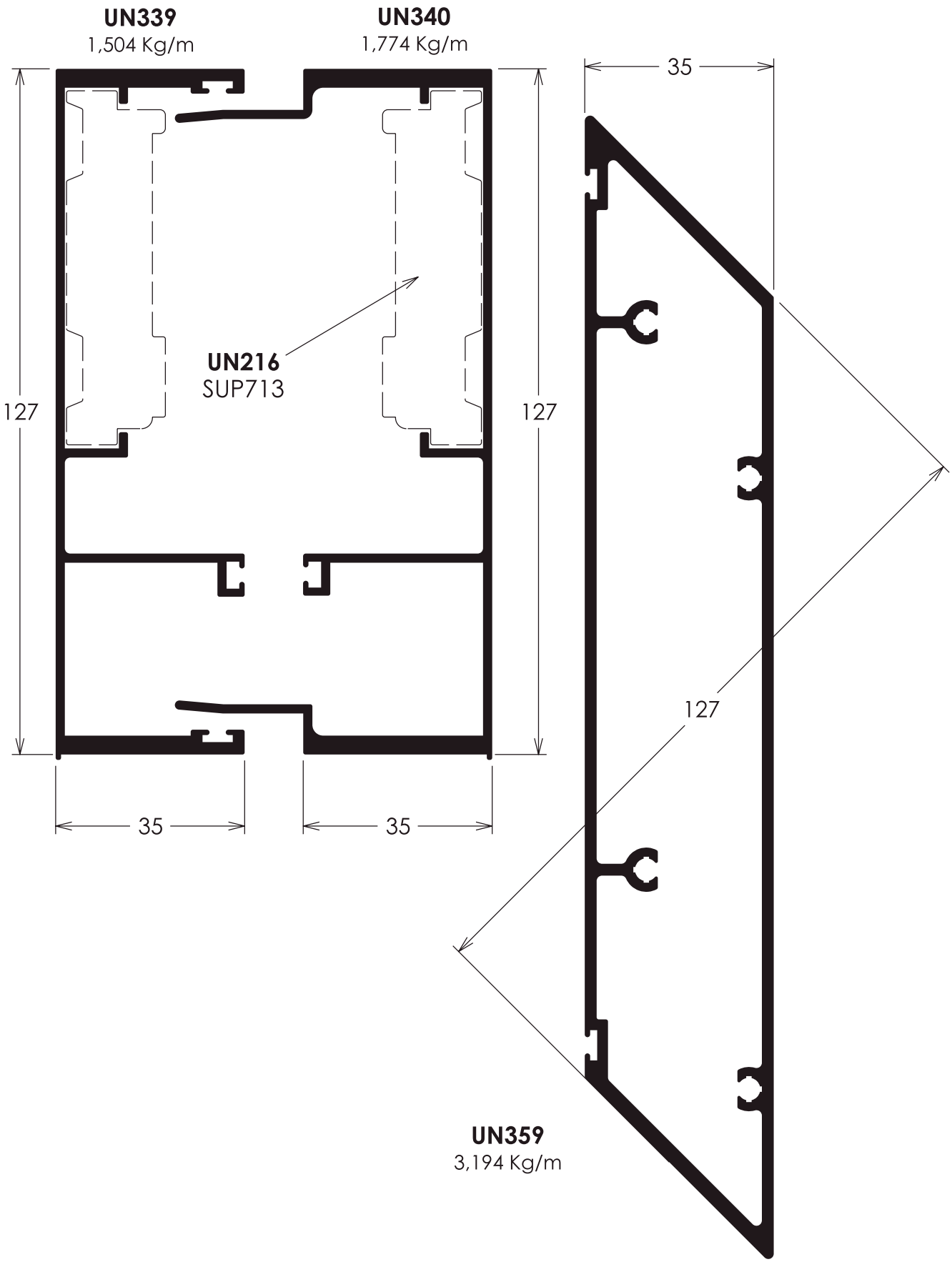
Perfis Fachada 127



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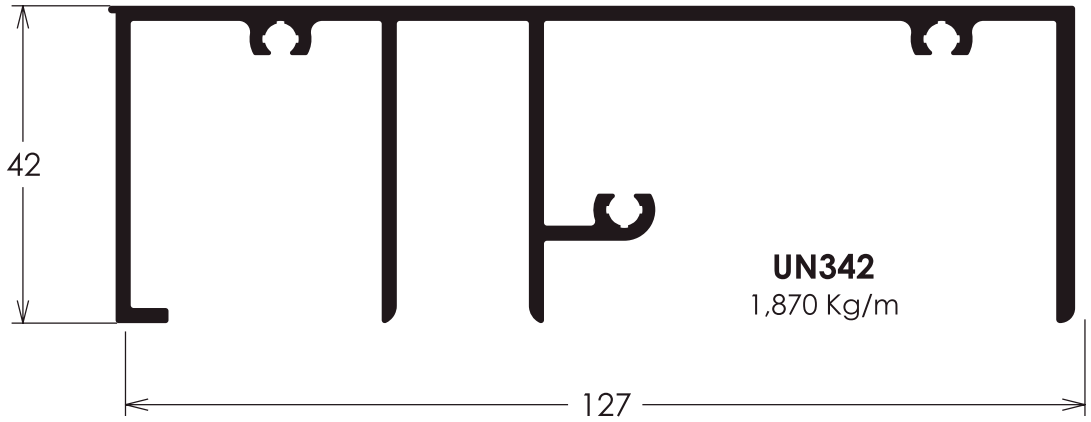
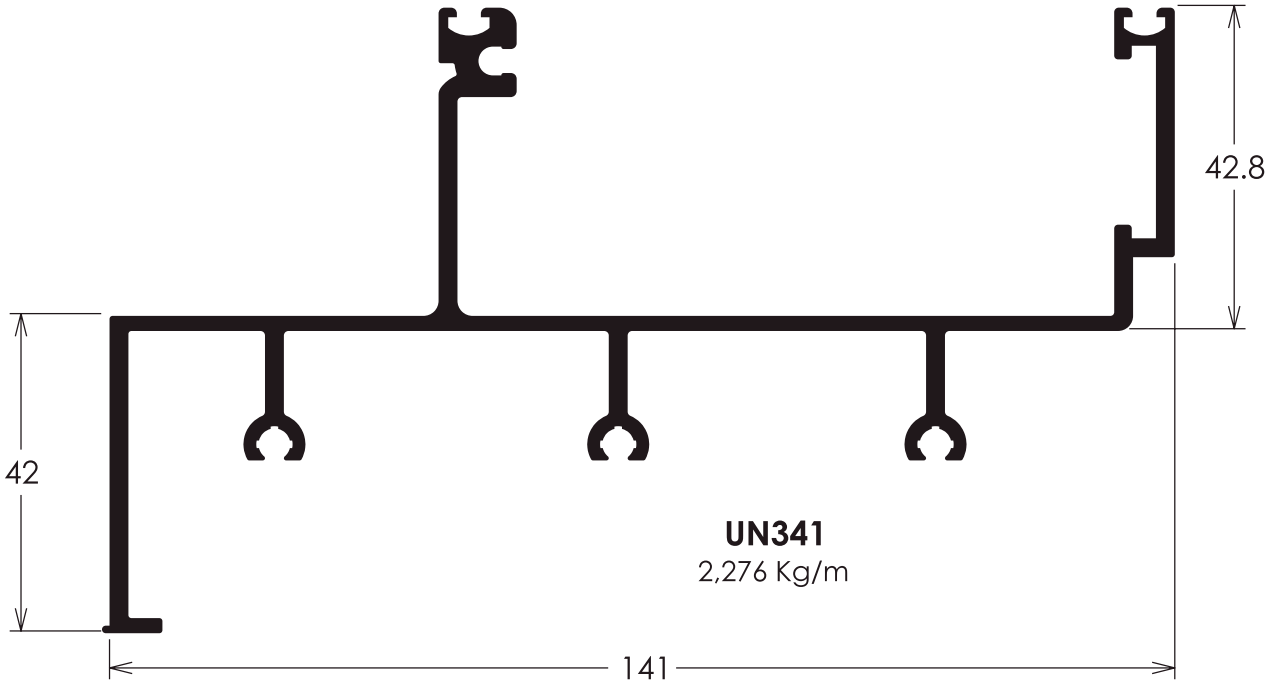
Perfis Fachada 127





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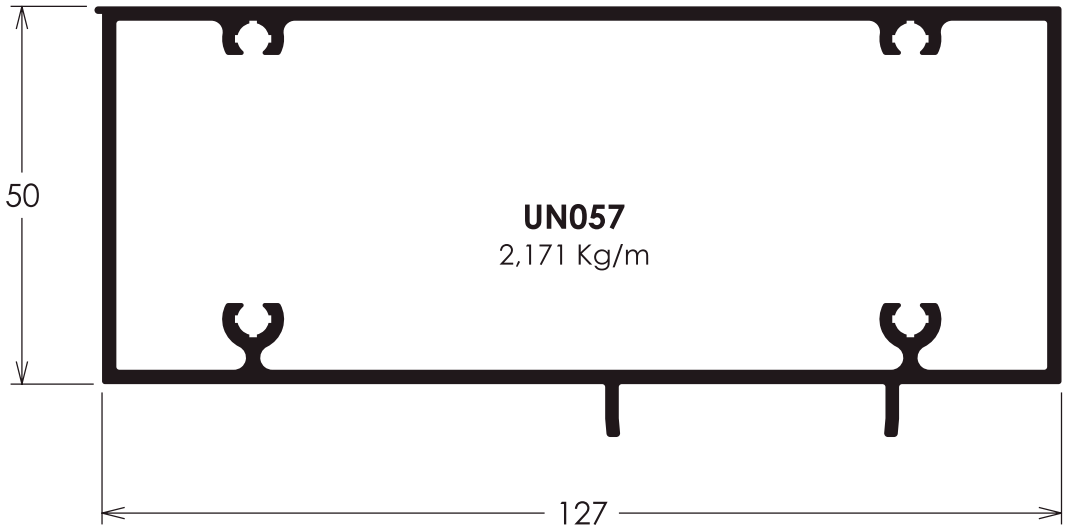
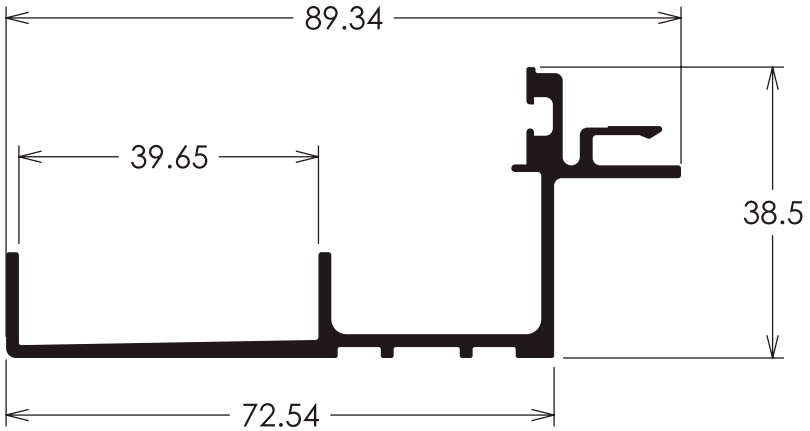
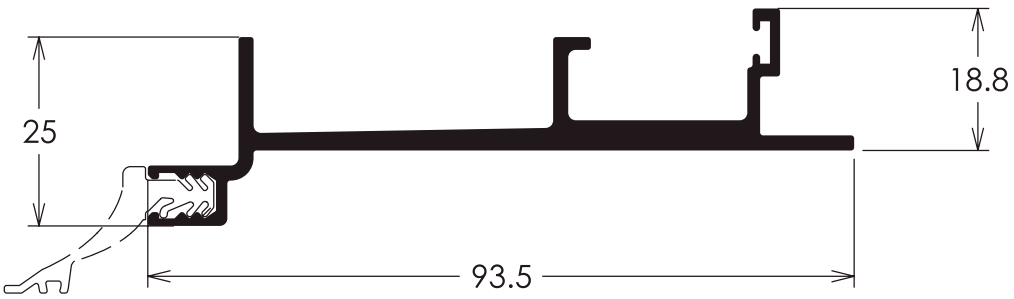
Perfis Fachada 127



UN057
2,171 Kg/m



UN002
0,887 Kg/m



GUA443

UN025
1,022 Kg/m

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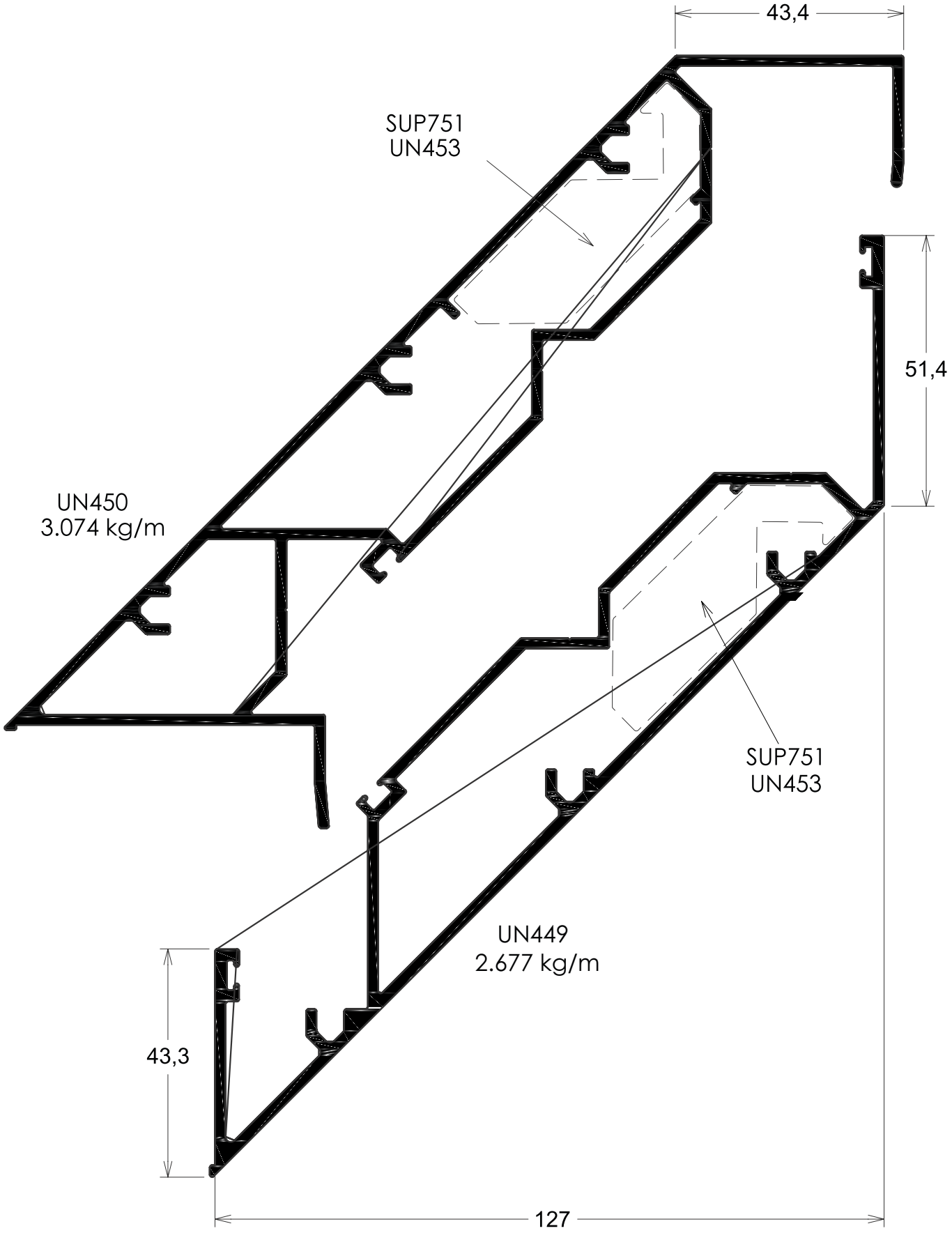
Perfis Fachada 127



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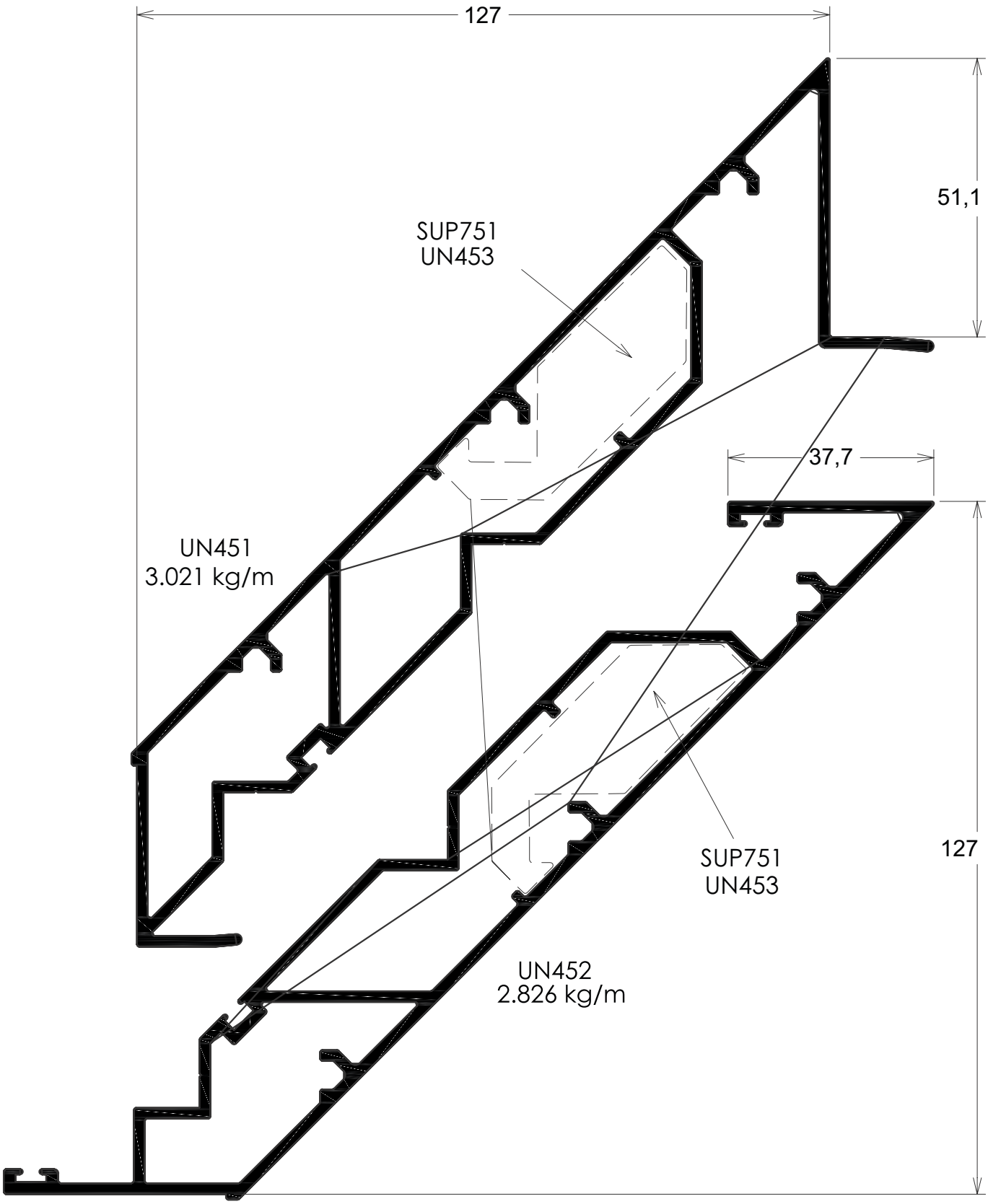
Perfis Fachada 127



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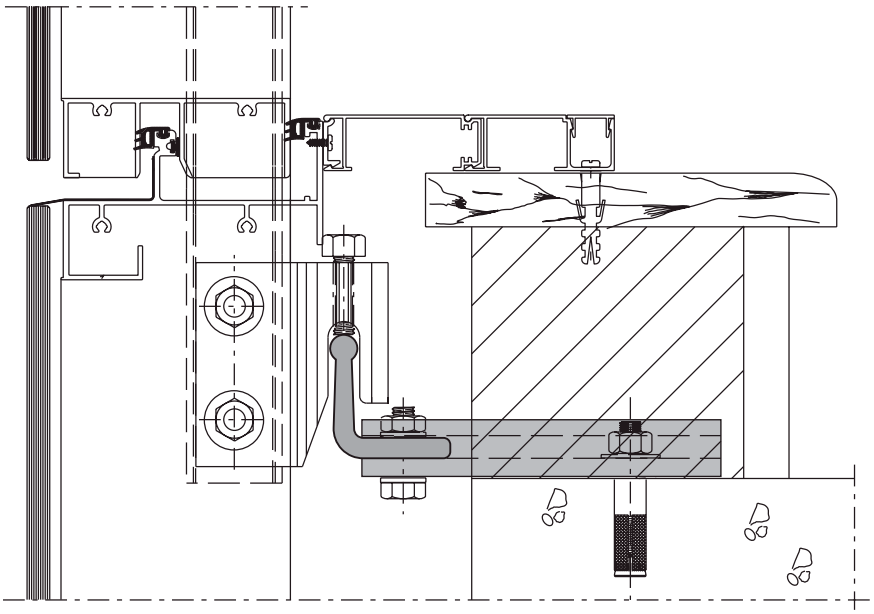
Módulo Anc. Telescópica



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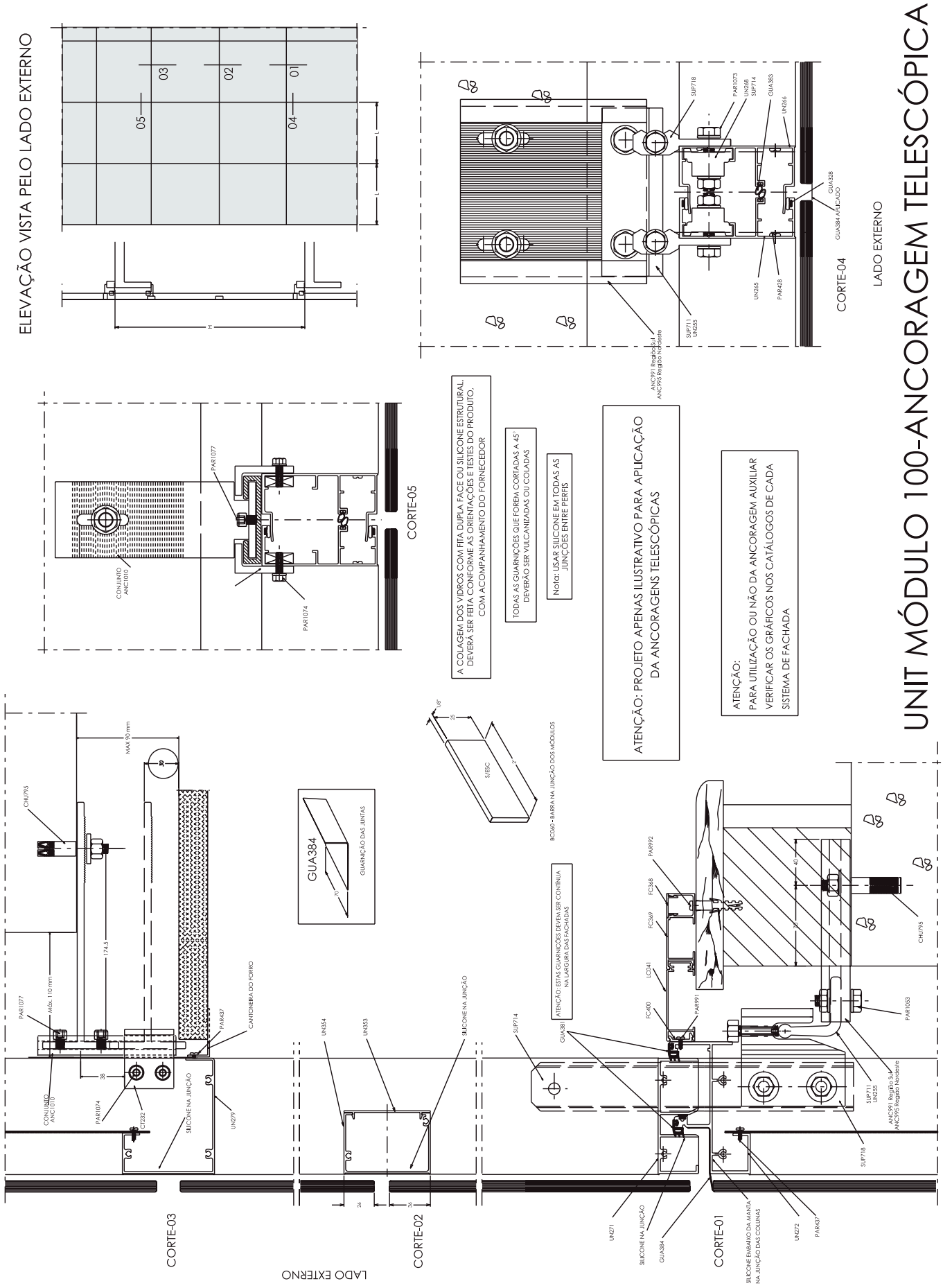
Montagem Anc. Telescópica

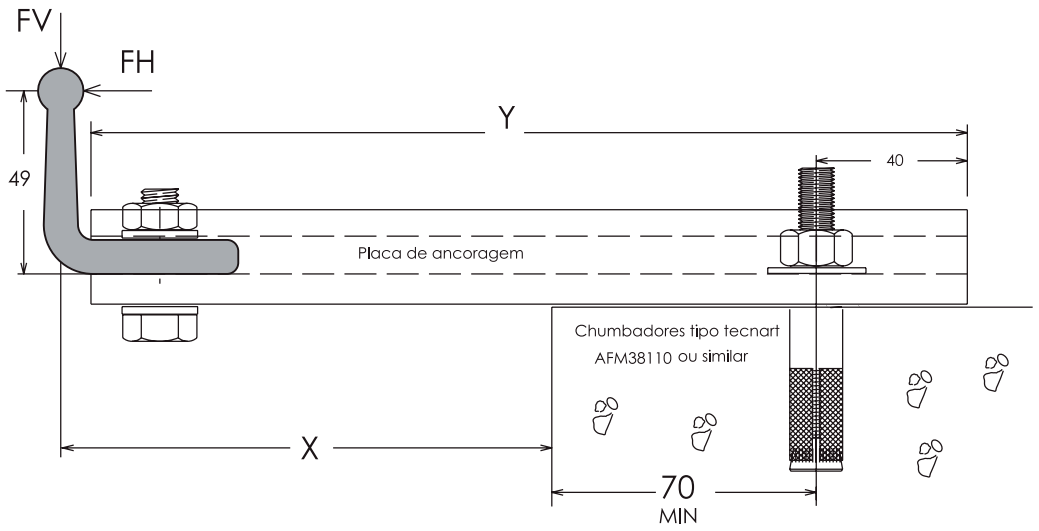


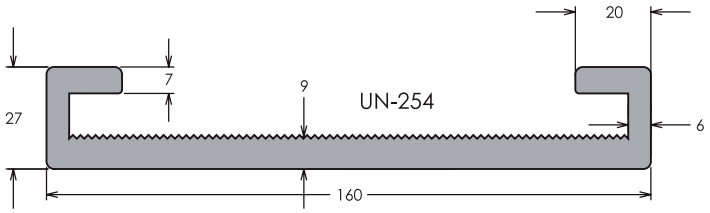
Unit® | Marca e Modelos Registrados

Diagrama de Dimensões

Unit - Ancoragem Telescópica

Ancoragem Principal UN254





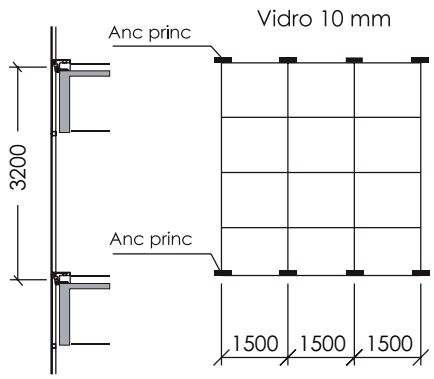
Peso = 4.8 kg/m

Área = 1772 mm^2
Jx = 100808 mm^4
Wx = 5311 mm^3

Peso do vidro = 25 kg/m^2 (10 mm)
Peso do caixilho = 10 kg/m^2
PV = 35 kg/m^2

6351 T6 Lr = 29 kg/mm^2 Le = 25.5 kg/mm^2

Só ancoragens principais
Pé Direito = 3200 mm



TENSÃO ADMISSÍVEL = 15 kg/mm2 (P. ENSAIO)

P ENSAIO (Pa)	P DISTR (kg/m)	FH (kg)	FV (kg)	T MAX (kg/mm2) PLACA	T MAX (kg/mm2) CANTONEIRA	FLECHA (mm)	X MAX (mm)	Y (mm)
800	120	384	168	8.6	9.7	0.9	140	242
1000	150	480	168	9.2	12.1	1	140	242
1200	180	576	168	10.2	14.5	1.2	140	242

TENSÃO LIMITE = 22.5 kg/mm2 (P. SEGURANCA)

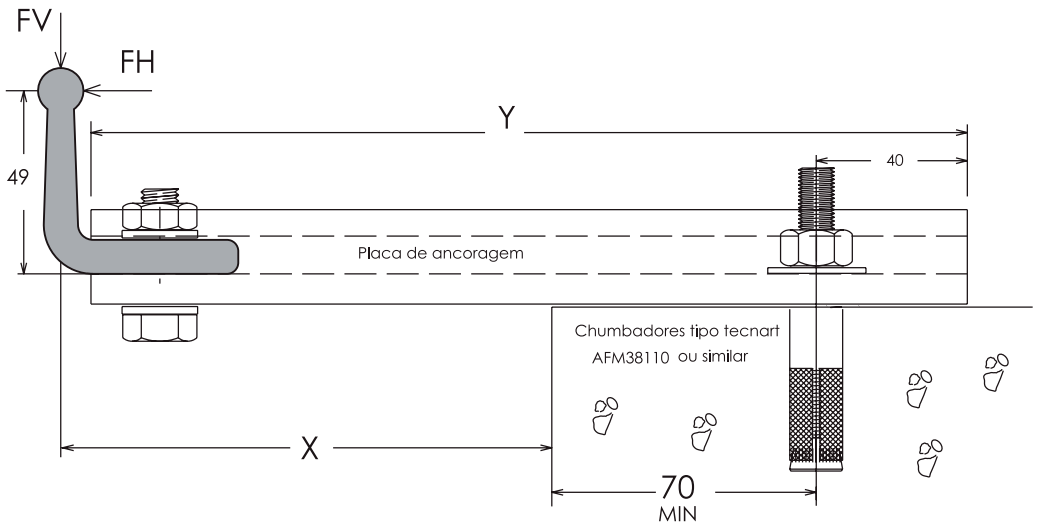
P SEGUR (Pa)	P DISTR (kg/m)	FH (kg)	FV (kg)	T MAX (kg/mm2) PLACA	T MAX (kg/mm2) CANTONEIRA	FLECHA (mm)	X MAX (mm)	Y (mm)
1200	180	576	168	10.2	14.5	1.2	140	242
1500	225	720	168	11.6	18	1.5	140	242
1800	270	864	168	13.1	21.7	1.7	140	242

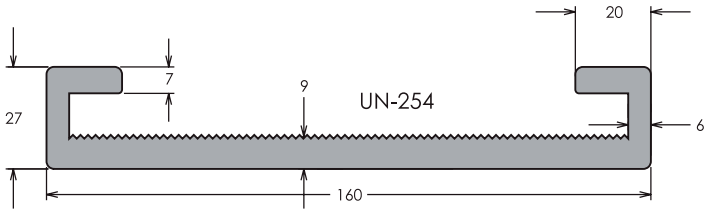
Unit® | Marca e Modelos Registrados

Diagrama de Dimensões

Unit - Ancoragem Telescópica

Ancoragem Principal UN254





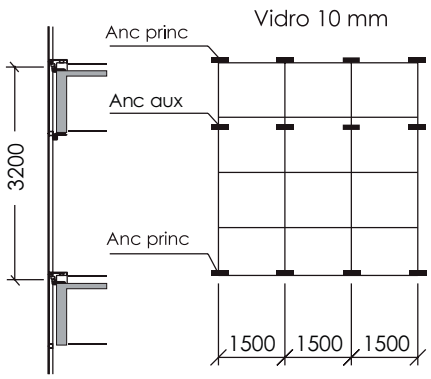
Peso = 4.8 kg/m

Área = 1772 mm^2
Jx = 100808 mm^4
Wx = 5311 mm^3

Peso do vidro = 25 kg/m^2 (10 mm)
Peso do caixilho = 10 kg/m^2
PV = 35 kg/m^2

6351 T6 Lr = 29 kg/mm^2 Le = 25.5 kg/mm^2

Ancoragens principais e auxiliares
Pé Direito = 3200 mm



TENSÃO ADMISSÍVEL = 15 kg/mm2 (P. ENSAIO)

P ENSAIO (Pa)	P DISTR (kg/m)	FH (kg)	FV (kg)	T MAX (kg/mm2) PLACA	T MAX (kg/mm2) CANTONEIRA	FLECHA (mm)	X MAX (mm)	Y (mm)
800	120	192	168	6.3	4.9	0.64	140	242
1000	150	240	168	6.8	6.1	0.71	140	242
1200	180	288	168	7.3	7.3	0.8	140	242
1500	225	360	168	8	9.1	0.9	140	242
1800	270	432	168	8.7	10.9	1.0	140	242

TENSÃO LIMITE = 22.5 kg/mm2 (P. SEGURANCA)

P SEGUR (Pa)	P DISTR (kg/m)	FH (kg)	FV (kg)	T MAX (kg/mm2) PLACA	T MAX (kg/mm2) CANTONEIRA	FLECHA (mm)	X MAX (mm)	Y (mm)
1200	180	288	168	7.3	7.3	0.8	140	242
1500	225	360	168	8	9.1	0.9	140	242
1800	270	432	168	8.7	10.9	1.0	140	242
2250	338	541	168	9.8	13.6	1.2	140	242
2700	405	648	168	10.9	16.3	1.4	140	242

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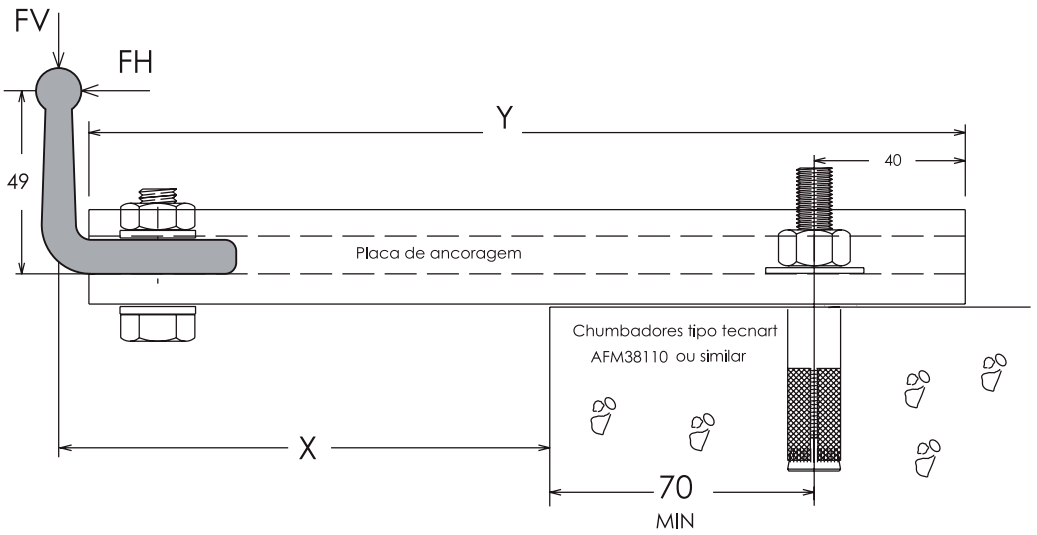
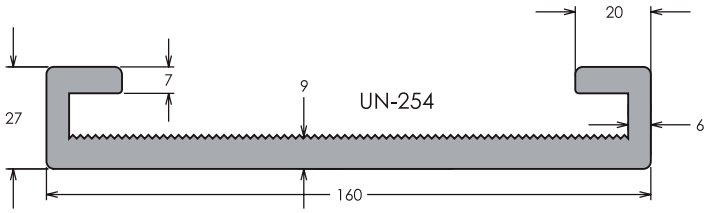
Diagrama de Dimensões

Unit - Ancoragem Telescópica

Ancoragem Principal UN254





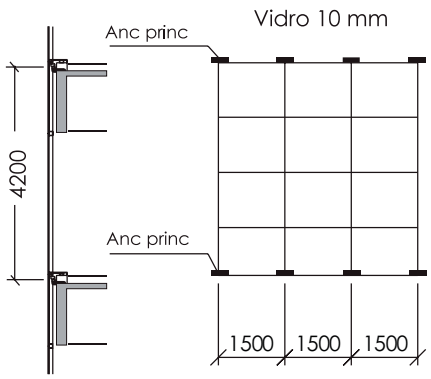
Peso = 4.8 kg/m

Área = 1772 mm^2
Jx = 100808 mm^4
Wx = 5311 mm^3

Peso do vidro = 25 kg/m^2 (10 mm)
Peso do caixilho = 10 kg/m^2
PV = 35 kg/m^2

6351 T6 Lr = 29 kg/mm^2 Le = 25.5 kg/mm^2

Só ancoragens principais
Pé Direito = 4200 mm



TENSÃO ADMISSÍVEL = 15 kg/mm2 (P. ENSAIO)

P ENSAIO (Pa)	P DISTR (kg/m)	FH (kg)	FV (kg)	T MAX (kg/mm2) PLACA	T MAX (kg/mm2) CANTONEIRA	FLECHA (mm)	X MAX (mm)	Y (mm)
800	120	504	221	10.8	12.7	1.2	140	242
1000	150	630	221	12.1	15.8	1.4	140	242

TENSÃO LIMITE = 22.5 kg/mm2 (P. SEGURANCA)

P SEGUR (Pa)	P DISTR (kg/m)	FH (kg)	FV (kg)	T MAX (kg/mm2) PLACA	T MAX (kg/mm2) CANTONEIRA	FLECHA (mm)	X MAX (mm)	Y (mm)
1200	180	756	221	13.4	19	1.6	140	242
1500	225	945	221	15.4	23.8	1.9	140	242

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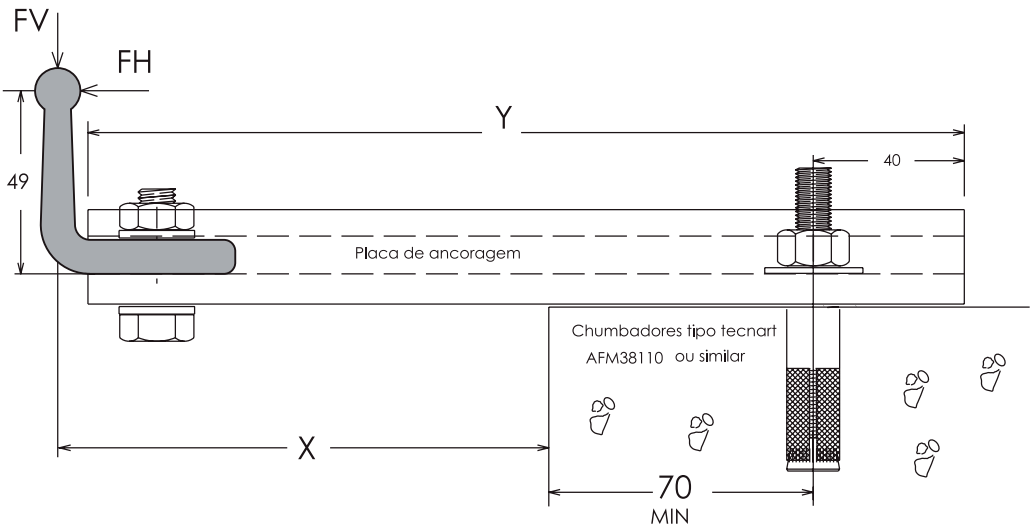
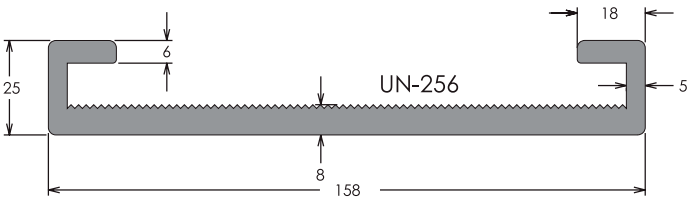
Diagrama de Dimensões

Unit - Ancoragem Telescópica

Ancoragem Principal UN256



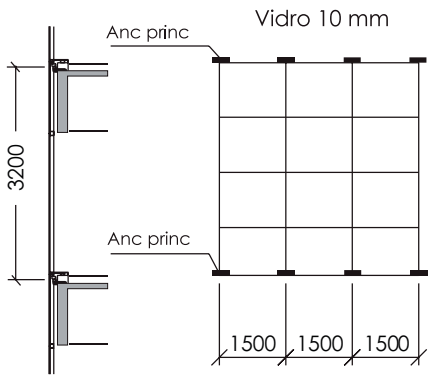


Peso = 4.1 kg/m

Área = 1510 mm^2
Jx = 71451 mm ^{4}
Wx = 3976 mm^3

6351 T6 Lr = 29 kg/mm^2 Le = 25.5 kg/mm^2

Só ancoragens principais
Pé Direito = 3200 mm



Peso do vidro = 25 kg/m^2 (10 mm)
Peso do caixilho = 10 kg/m^2
PV = 35 kg/m^2

TENSÃO ADMISSÍVEL = 15 kg/mm2 (P. ENSAIO)

P ENSAIO (Pa)	P DISTR (kg/m)	FH (kg)	FV (kg)	T MAX (kg/mm2) PLACA	T MAX (kg/mm2) CANTONEIRA	FLECHA (mm)	X MAX (mm)	Y (mm)
800	120	384	168	11	9.7	1.25	140	242
1000	150	480	168	12.3	12.3	1.44	140	242
1200	180	576	168	13.6	14.5	1.62	140	242

TENSÃO LIMITE = 22.5 kg/mm2 (P. SEGURANCA)

P SEGUR (Pa)	P DISTR (kg/m)	FH (kg)	FV (kg)	T MAX (kg/mm2) PLACA	T MAX (kg/mm2) CANTONEIRA	FLECHA (mm)	X MAX (mm)	Y (mm)
1200	180	576	168	13.6	14.5	1.62	140	242
1500	225	720	168	15.5	18	1.9	140	242
1800	270	864	168	17.4	21.7	2.2	140	242

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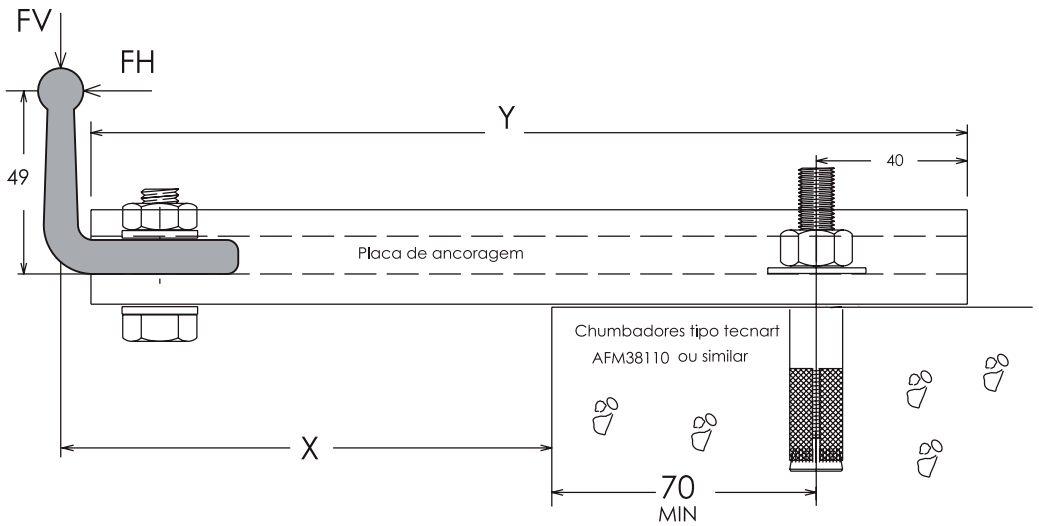
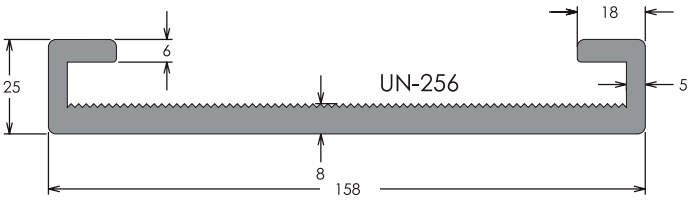
Diagrama de Dimensões

Unit - Ancoragem Telescópica

Ancoragem Principal UN256





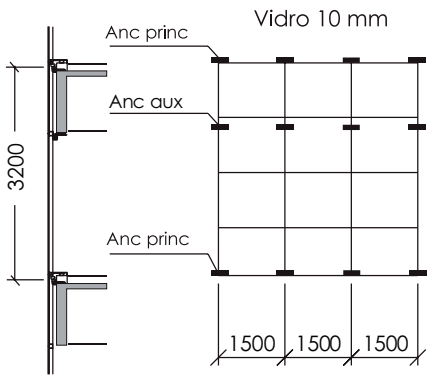
Peso = 4.1 kg/m

Área = 1510 mm^2
Jx = 71451 mm ^{4}
Wx = 3976 mm^3

6351 T6 Lr = 29 kg/mm^2 Le = 25.5 kg/mm^2

Peso do vidro = 25 kg/m^2 (10 mm)
Peso do caixilho = 10 kg/m^2
PV = 35 kg/m^2

Ancoragens principais e auxiliares
Pé Direito = 3200 mm



TENSÃO ADMISSÍVEL = 15 kg/mm2 (P. ENSAIO)

P ENSAIO (Pa)	P DISTR (kg/m)	FH (kg)	FV (kg)	T MAX (kg/mm2) PLACA	T MAX (kg/mm2) CANTONEIRA	FLECHA (mm)	X MAX (mm)	Y (mm)
800	120	192	168	8.5	4.9	0.87	140	242
1000	150	240	168	9.1	6.1	0.97	140	242
1200	180	288	168	9.7	7.3	1.1	140	242
1500	225	360	168	10.7	9.1	1.2	140	242
1800	270	432	168	11.7	10.9	1.3	140	242

TENSÃO LIMITE = 22.5 kg/mm2 (P. SEGURANCA)

P SEGUR (Pa)	P DISTR (kg/m)	FH (kg)	FV (kg)	T MAX (kg/mm2) PLACA	T MAX (kg/mm2) CANTONEIRA	FLECHA (mm)	X MAX (mm)	Y (mm)
1200	180	288	168	9.7	7.3	1.1	140	242
1500	225	360	168	10.7	9.1	1.2	140	242
1800	270	432	168	11.7	10.9	1.3	140	242
2250	338	541	168	13.1	13.6	1.5	140	242
2700	405	648	168	14.5	16.3	1.7	140	242

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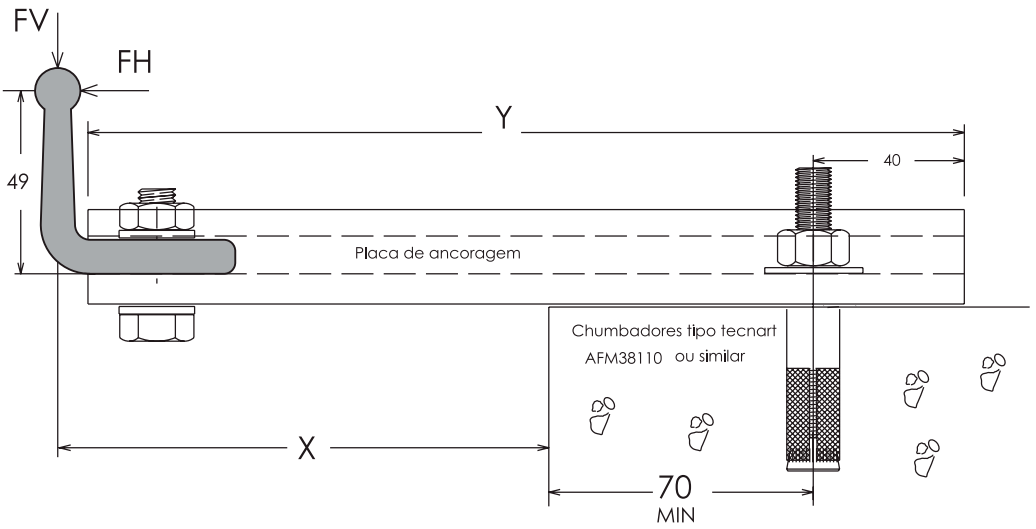
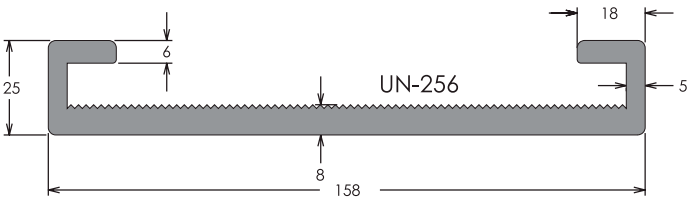
Diagrama de Dimensões

Unit - Ancoragem Telescópica

Ancoragem Principal UN256



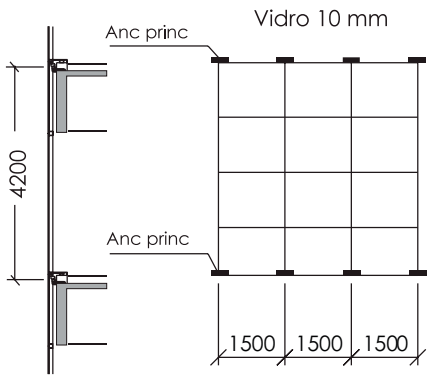


Peso = 4.1 kg/m

Área = 1510 mm^2
Jx = 71451 mm ^{4}
Wx = 3976 mm^3

6351 T6 Lr = 29 kg/mm^2 Le = 25.5 kg/mm^2

Só ancoragens principais
Pé Direito = 4200 mm



Peso do vidro = 25 kg/m^2 (10 mm)
Peso do caixilho = 10 kg/m^2
PV = 35 kg/m^2

TENSÃO ADMISSÍVEL = 15 kg/mm2 (P. ENSAIO)

P ENSAIO (Pa)	P DISTR (kg/m)	FH (kg)	FV (kg)	T MAX (kg/mm2) PLACA	T MAX (kg/mm2) CANTONEIRA	FLECHA (mm)	X MAX (mm)	Y (mm)
800	120	504	221	14.5	12.7	1.6	140	242
1000	150	630	221	15.6	15.8	1.7	130	232

TENSÃO LIMITE = 22.5 kg/mm2 (P. SEGURANCA)

P SEGUR (Pa)	P DISTR (kg/m)	FH (kg)	FV (kg)	T MAX (kg/mm2) PLACA	T MAX (kg/mm2) CANTONEIRA	FLECHA (mm)	X MAX (mm)	Y (mm)
1200	180	756	221	17.8	19	2.1	140	242
1500	225	945	221	20.3	23.8	2.4	130	232

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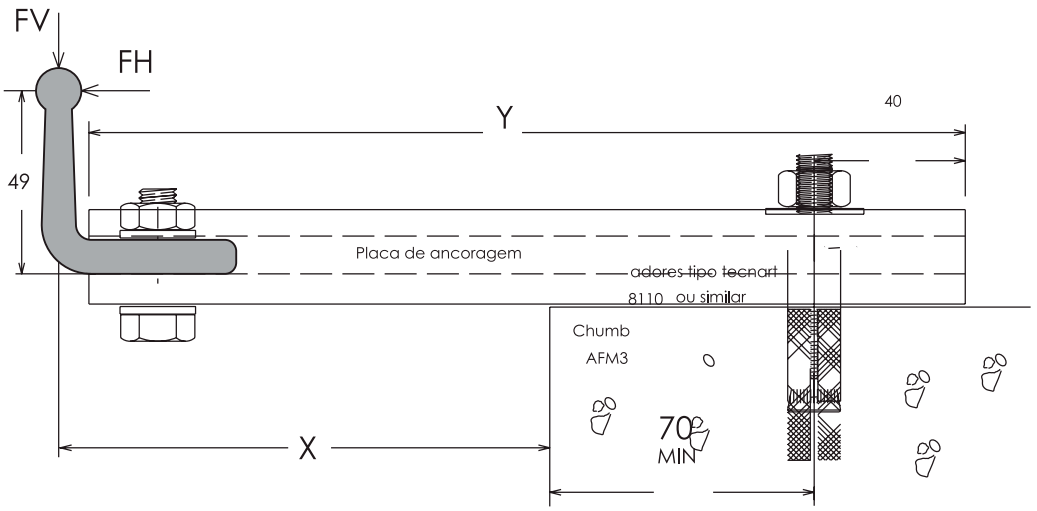
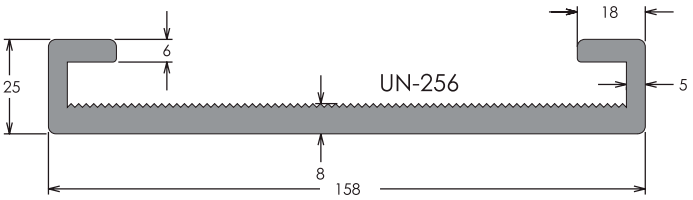
Diagrama de Dimensões

Unit - Ancoragem Telescópica

Ancoragem Principal UN256





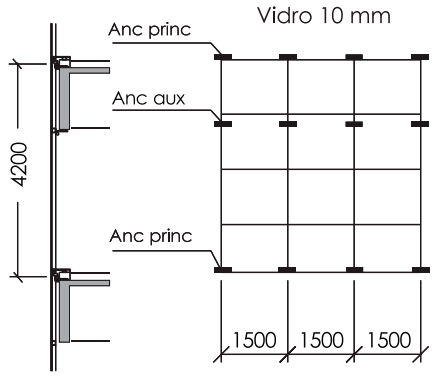
Peso = 4.1 kg/m

Área = 1510 mm^2
Jx = 71451 mm ^{4}
Wx = 3976 mm^3

6351 T6 Lr = 29 kg/mm^2 Le = 25.5 kg/mm^2

Peso do vidro = 25 kg/m^2 (10 mm)
Peso do caixilho = 10 kg/m^2
PV = 35 kg/m^2

Ancoragens principais e auxiliares
Pé Direito = 4200 mm



TENSÃO ADMISSÍVEL = 15 kg/mm2 (P. ENSAIO)

P ENSAIO (Pa)	P DISTR (kg/m)	FH (kg)	FV (kg)	T MAX (kg/mm2) PLACA	T MAX (kg/mm2) CANTONEIRA	FLECHA (mm)	X MAX (mm)	Y (mm)
800	120	252	221	11	6.4	1.1	140	242
1000	150	315	221	12	8	1.3	140	242
1200	180	378	221	12.8	9.6	1.4	140	242
1500	225	473	221	14	12	1.6	140	242
1800	270	567	221	15.3	14.3	1.8	140	242

TENSÃO LIMITE = 22.5 kg/mm2 (P. SEGURANCA)

P SEGUR (Pa)	P DISTR (kg/m)	FH (kg)	FV (kg)	T MAX (kg/mm2) PLACA	T MAX (kg/mm2) CANTONEIRA	FLECHA (mm)	X MAX (mm)	Y (mm)
1200	180	378	221	12.8	9.6	1.4	140	242
1500	225	473	221	14	12	1.6	140	242
1800	270	567	221	15.3	14.3	1.8	140	242
2250	338	710	221	17.2	18	2.0	140	242
2700	405	851	221	19.1	21.4	2.3	140	242

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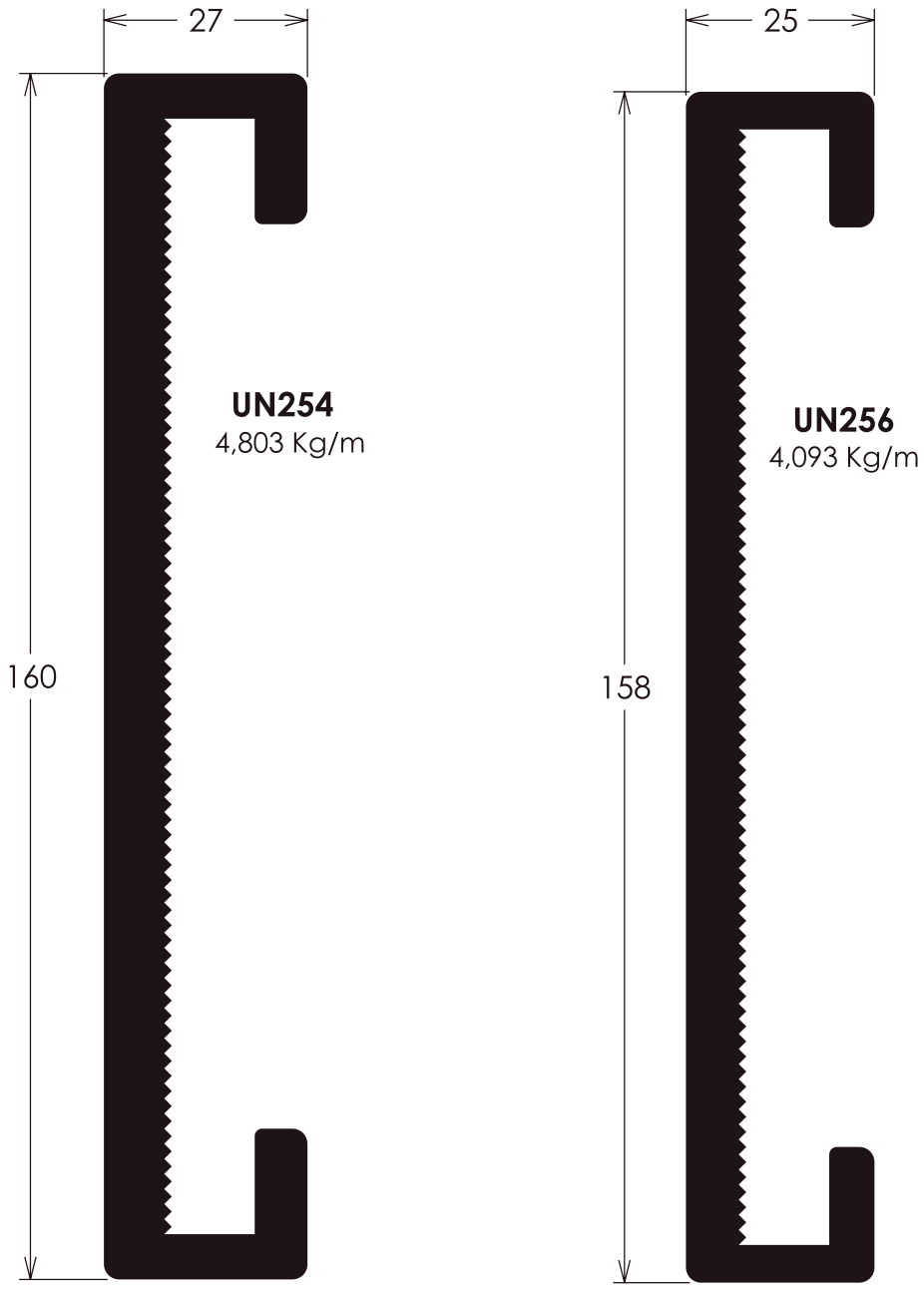
Perfis Anc. Telescópica



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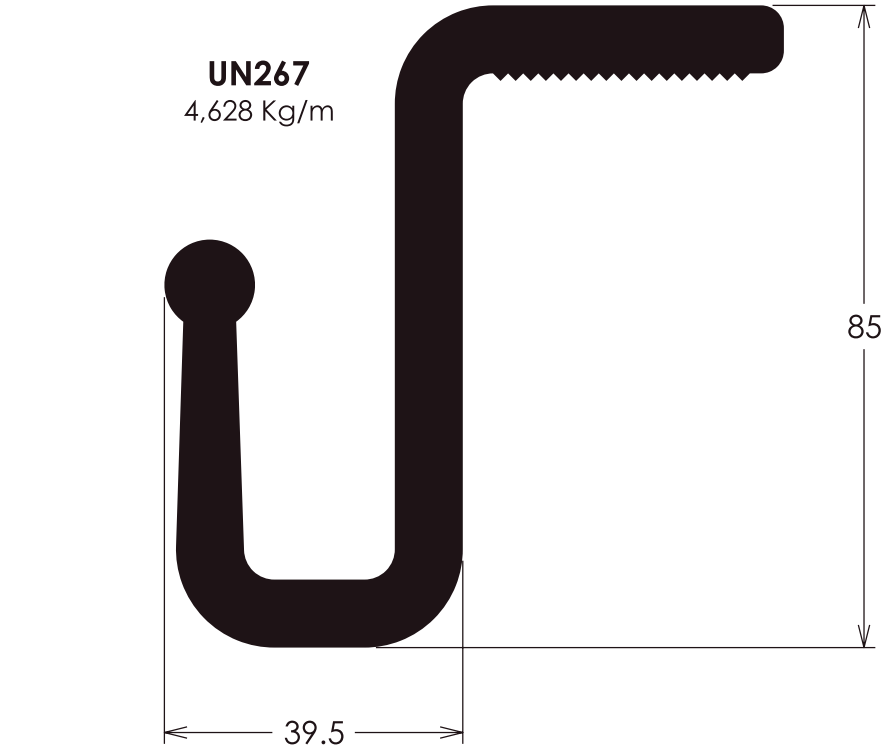
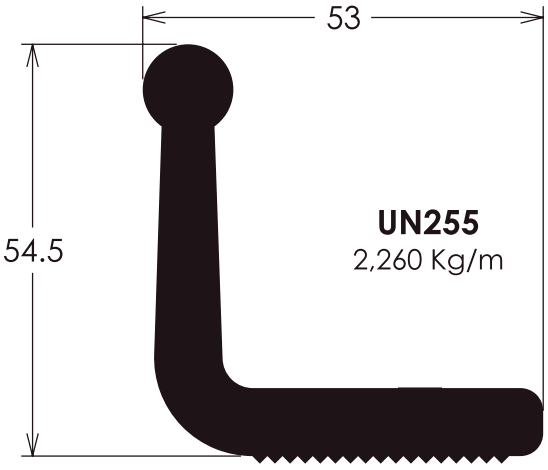
Perfis Anc. Telescópica





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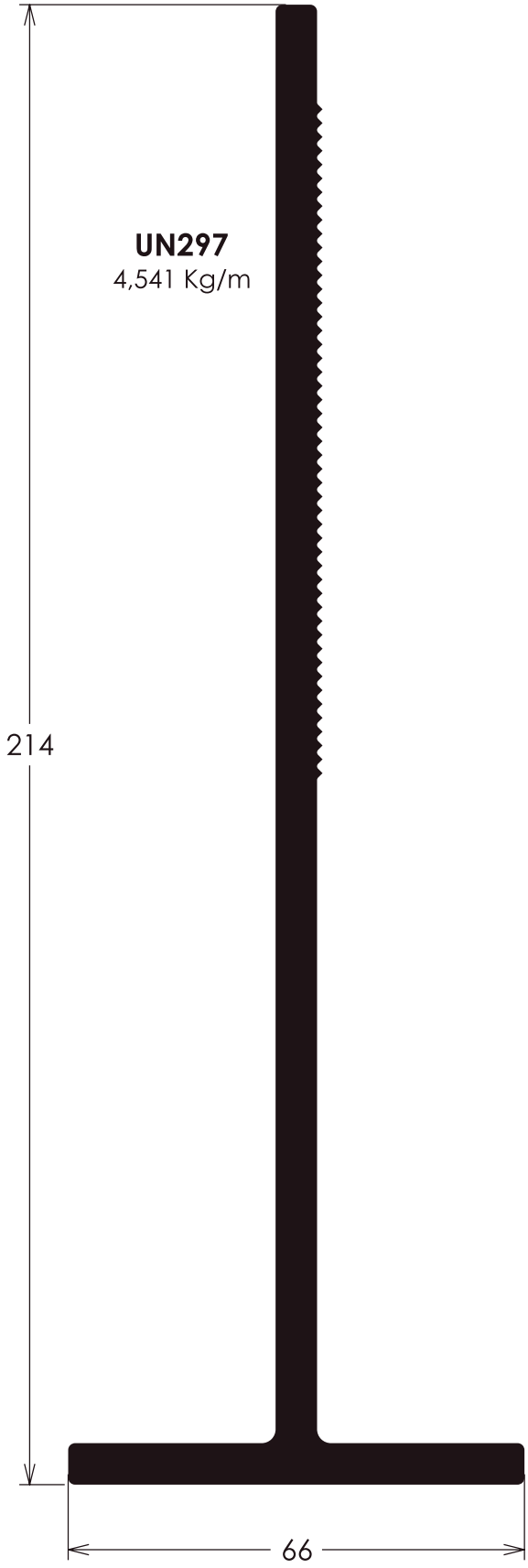
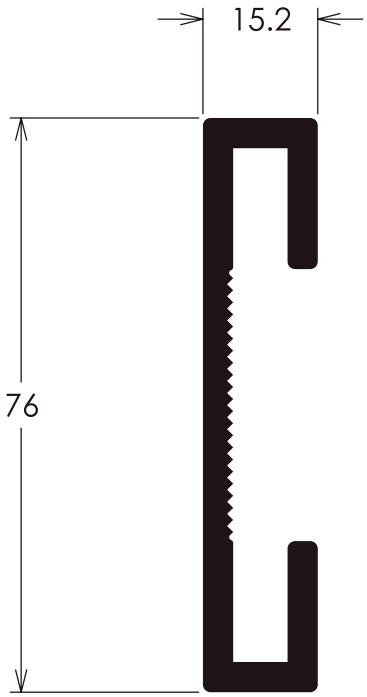
Perfis Anc. Telescópica





UN298
1,370 Kg/m

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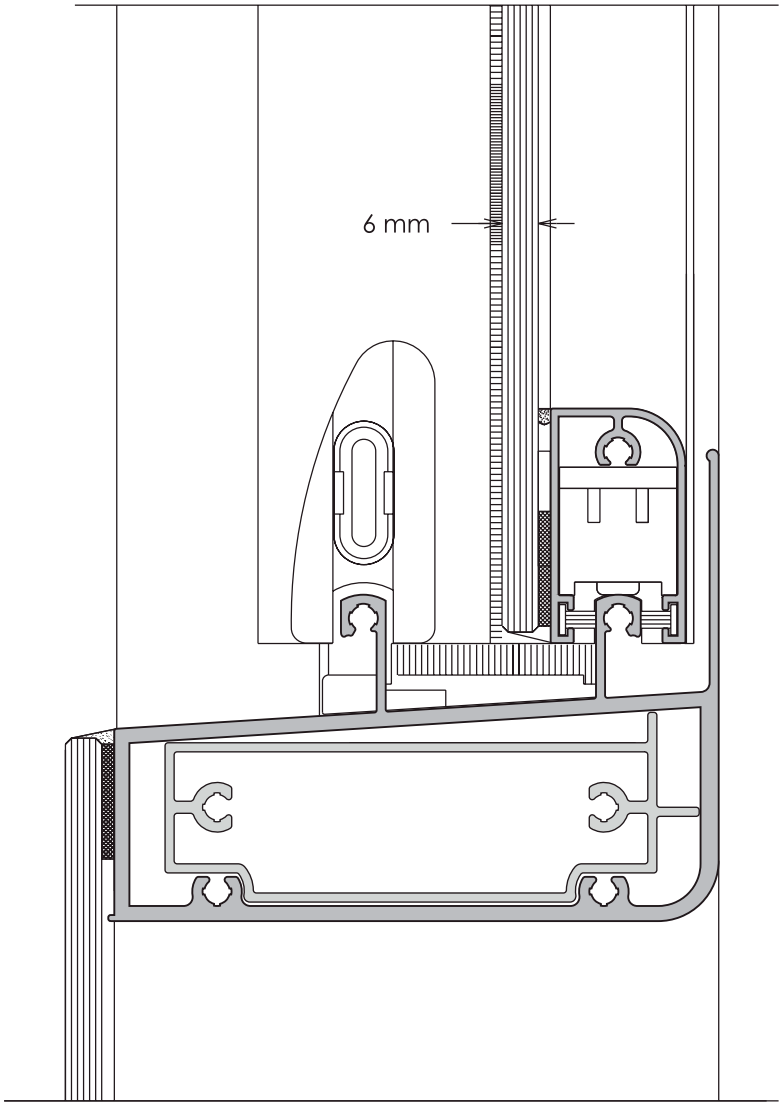
Módulo Fachada Extrema



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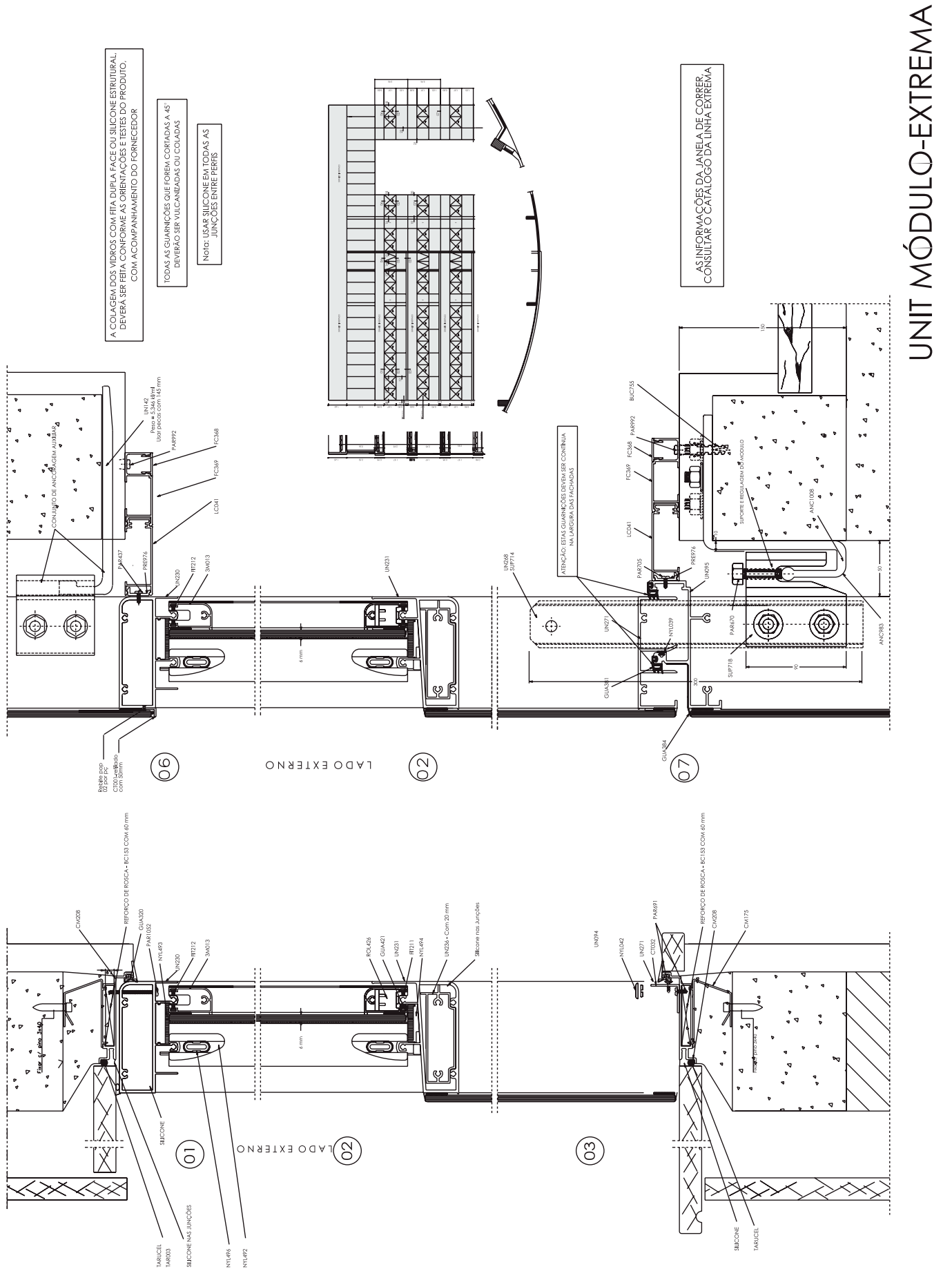
Montagem Fachada Extrema



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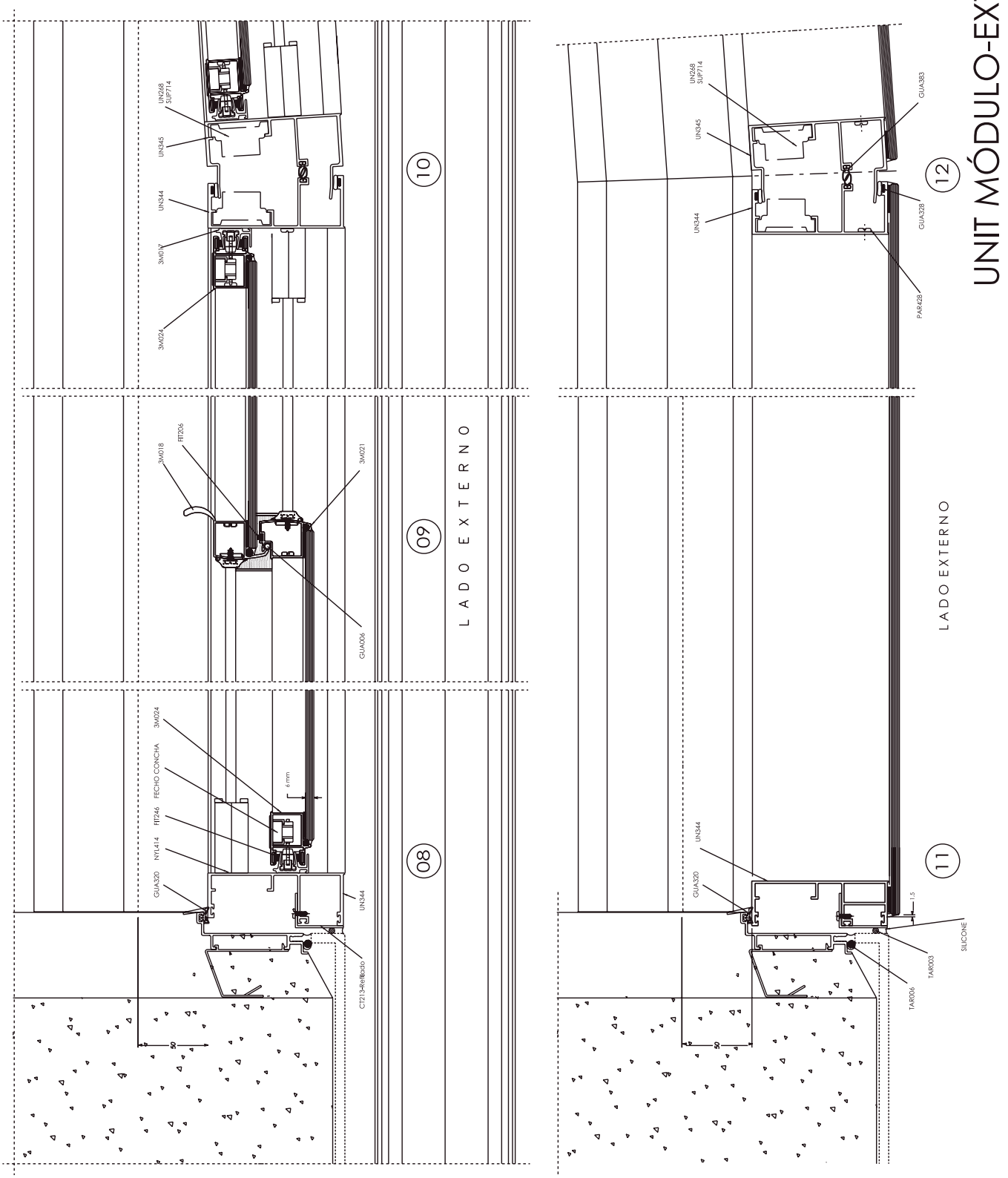
Montagem Fachada Extrema



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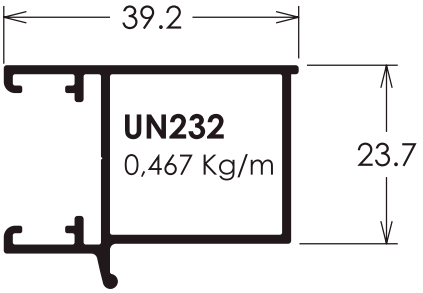
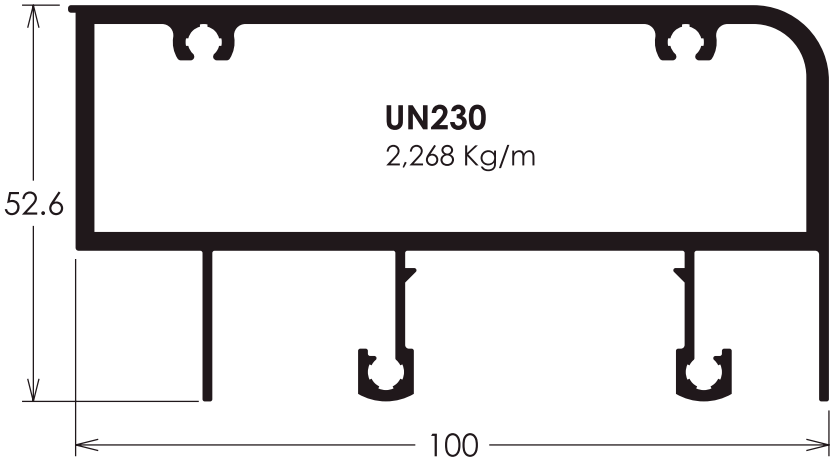
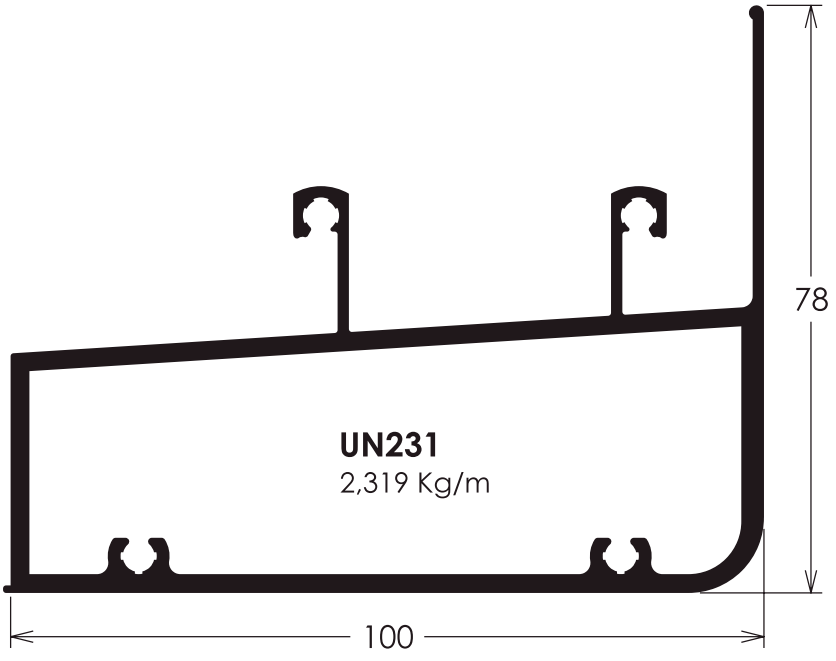
Perfis Fachada Extrema

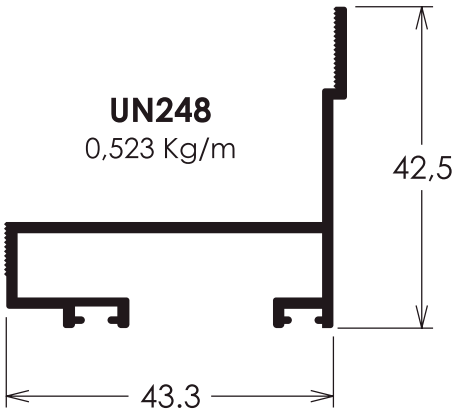




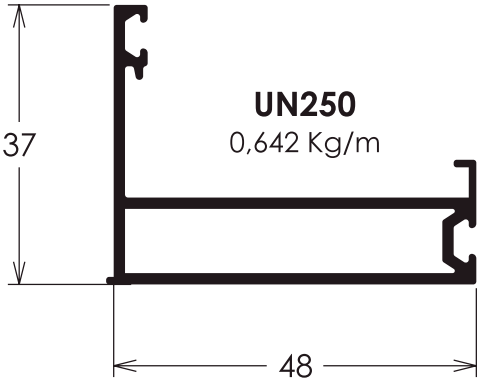


Unit® | Marca e Modelos Registrados

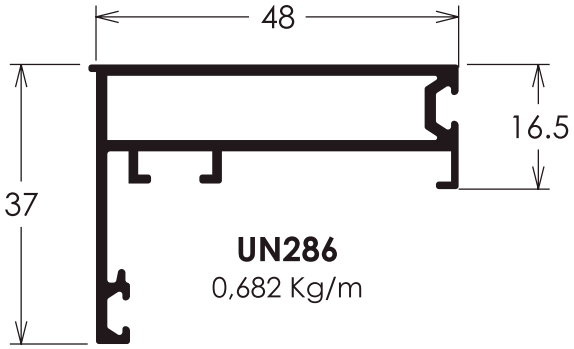
Perfis Módulos Diversos



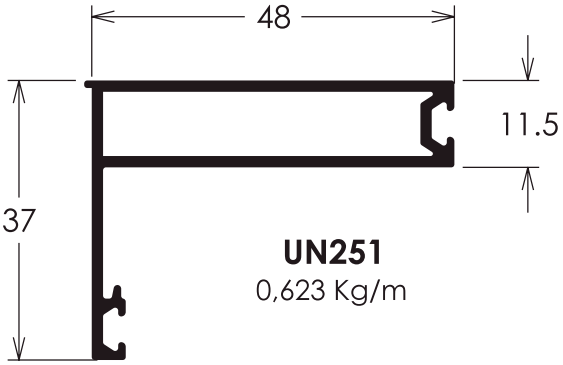
UN248
0,523 Kg/m



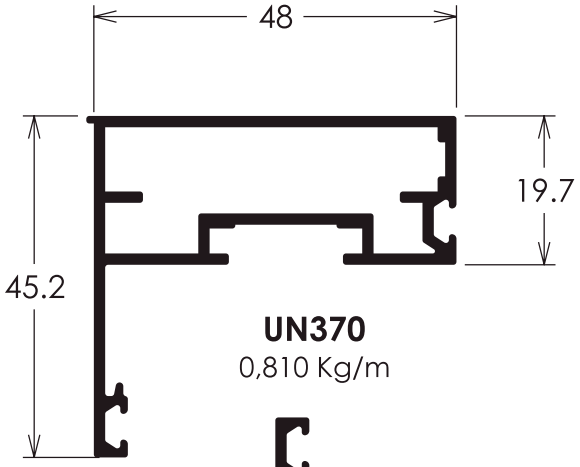
UN250
0,642 Kg/m



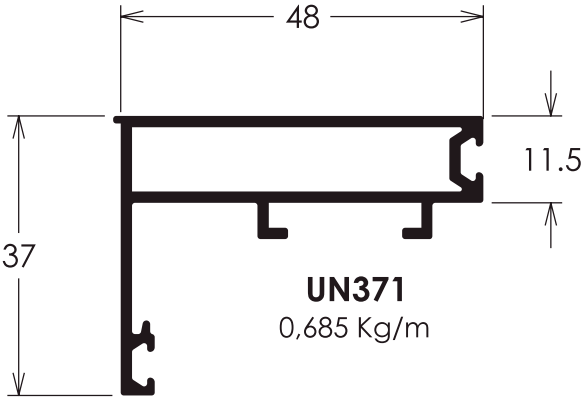
UN286
0,682 Kg/m



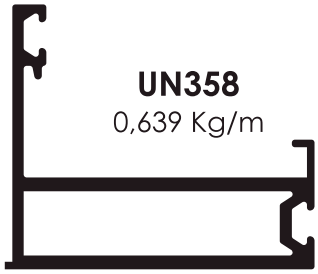
UN251
0,623 Kg/m



UN370
0,810 Kg/m



UN371
0,685 Kg/m



UN358
0,639 Kg/m

LC054
0,158 Kg/m

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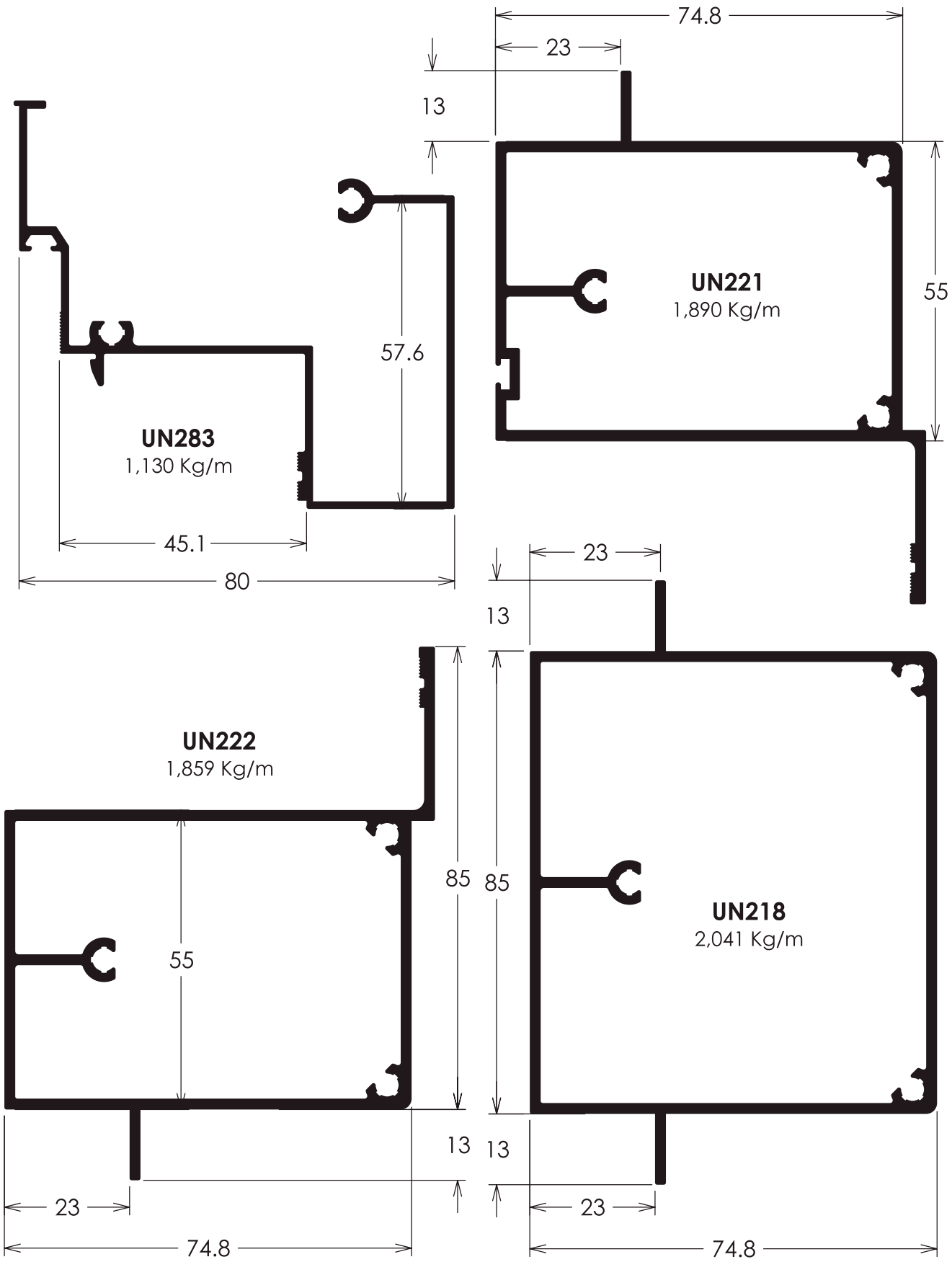
Perfis Módulos Diversos



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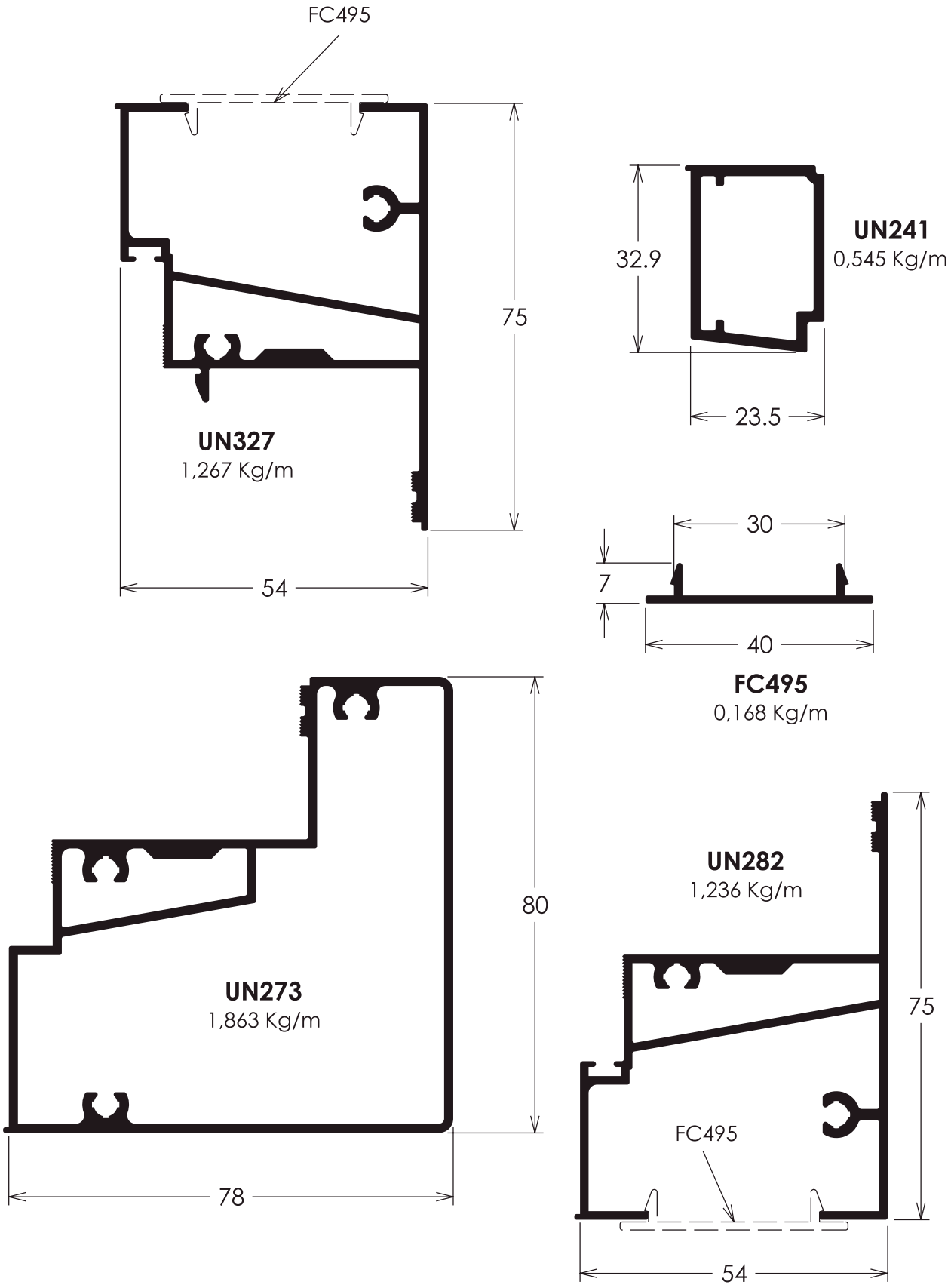
Perfis Módulos Diversos



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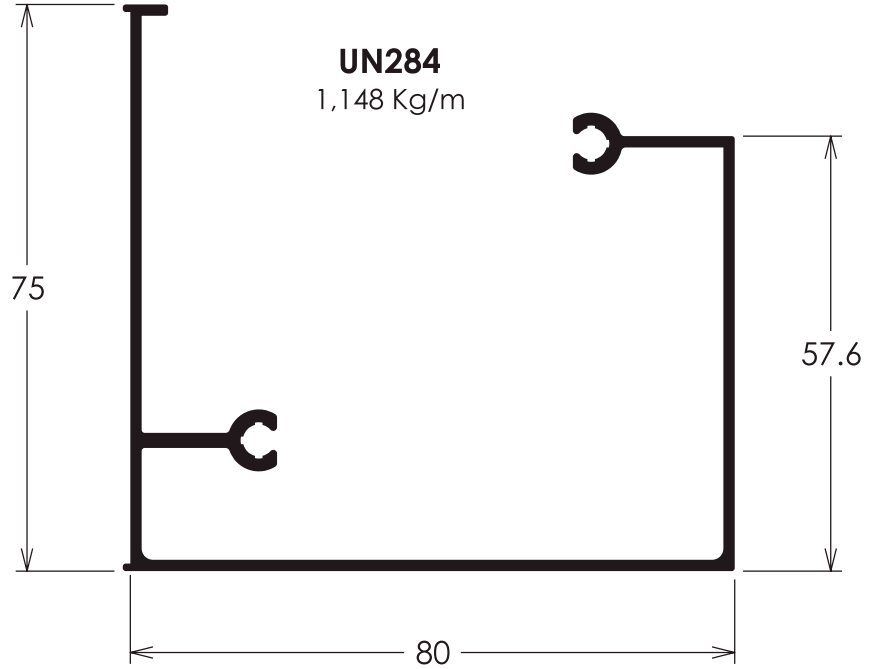
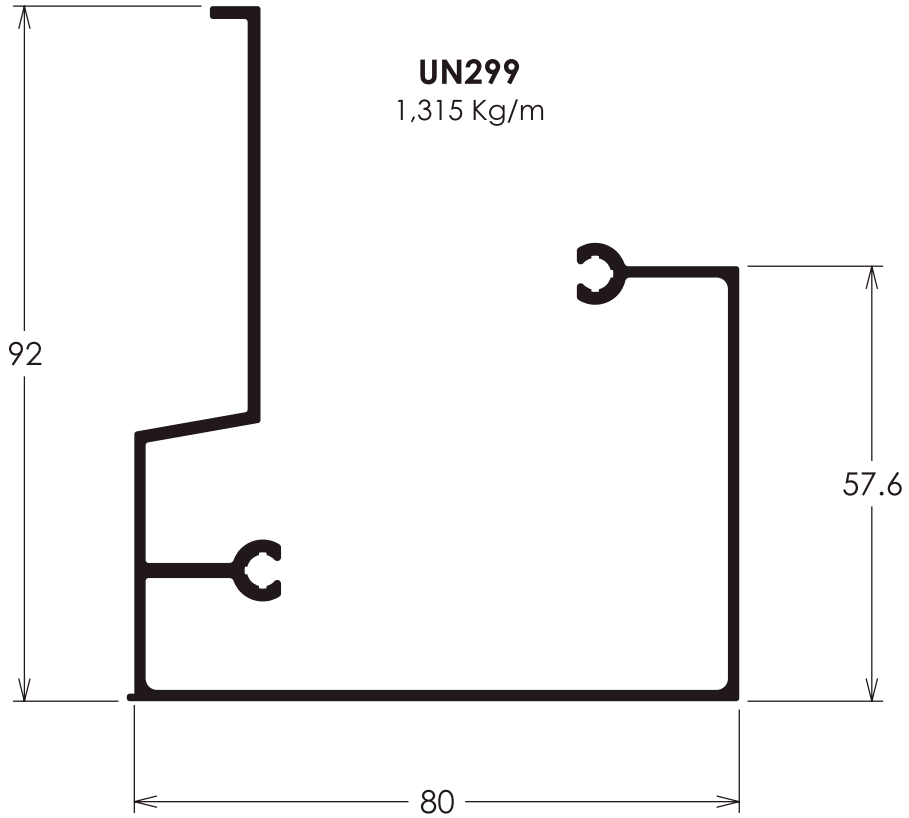
Perfis Módulos Diversos

UN284
1,148 Kg/m



UN299
1,315 Kg/m



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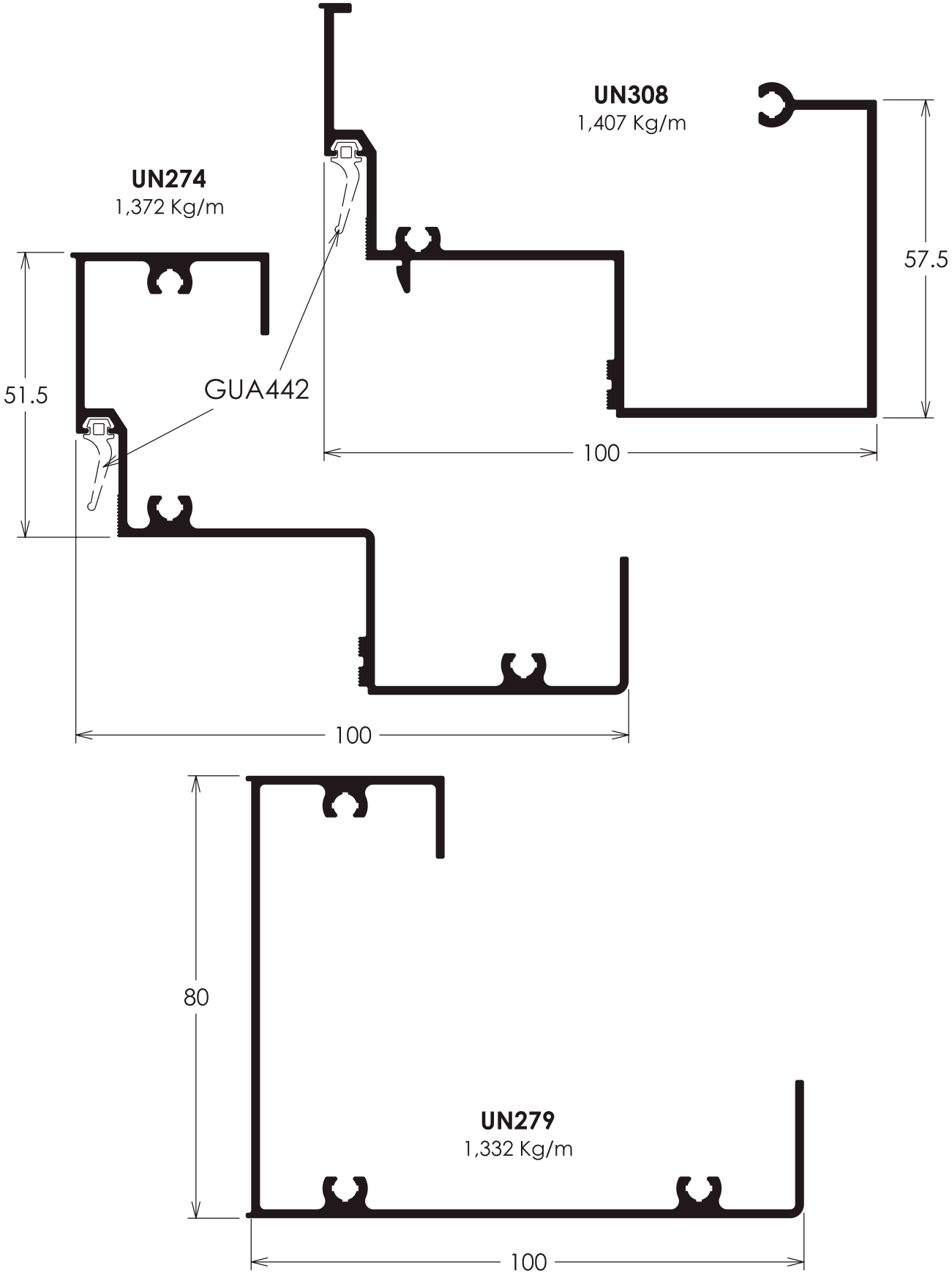

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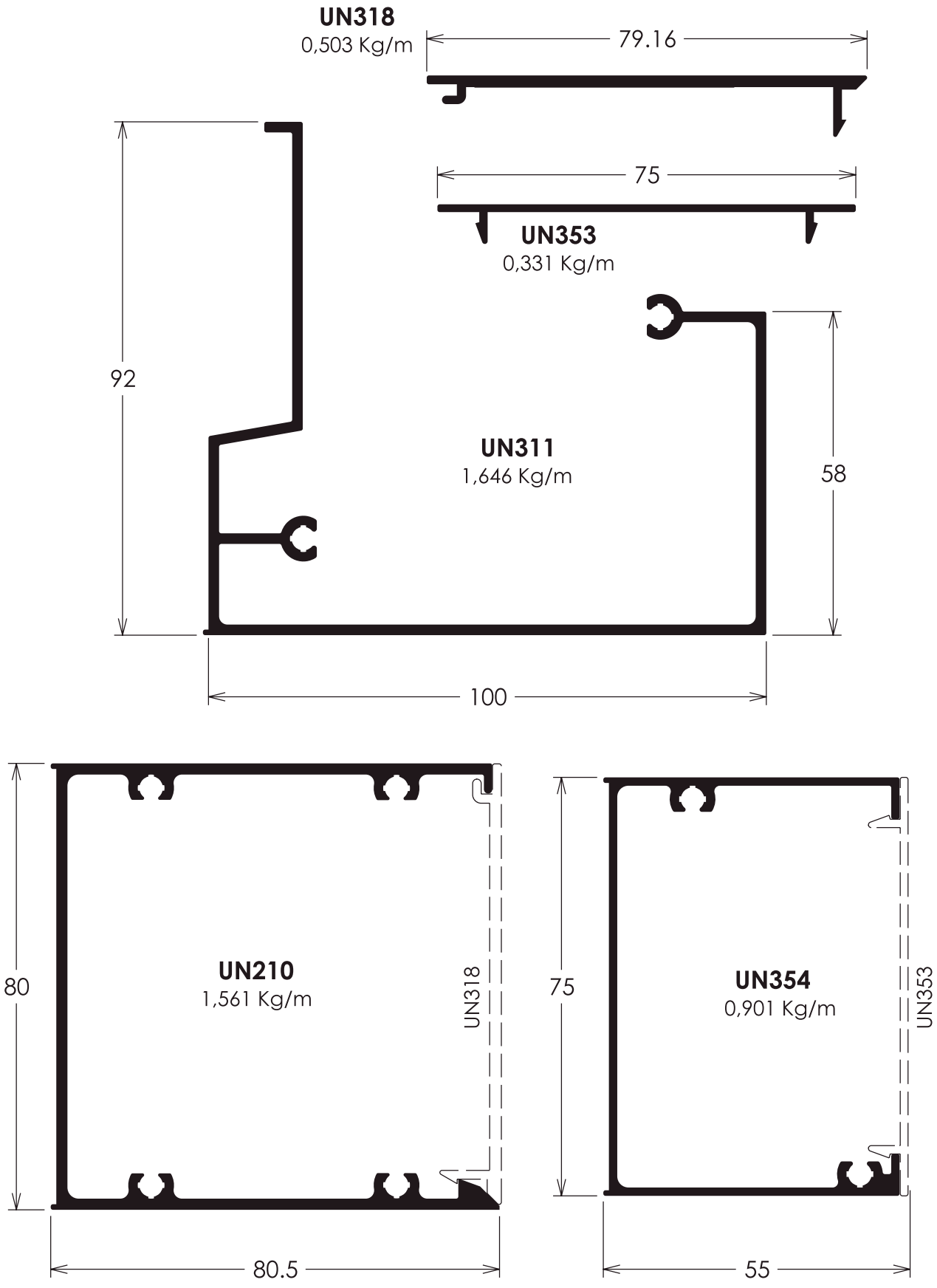

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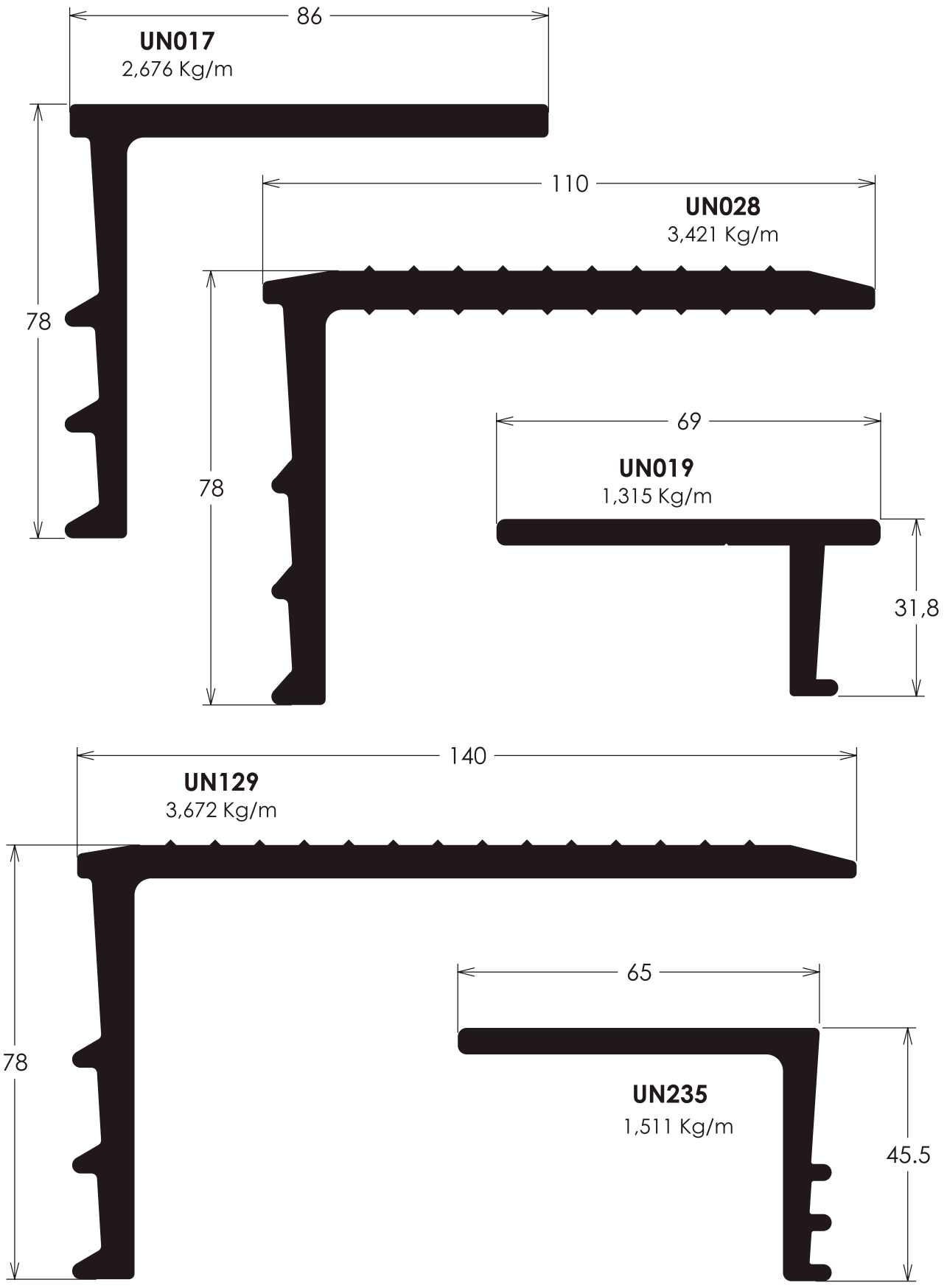

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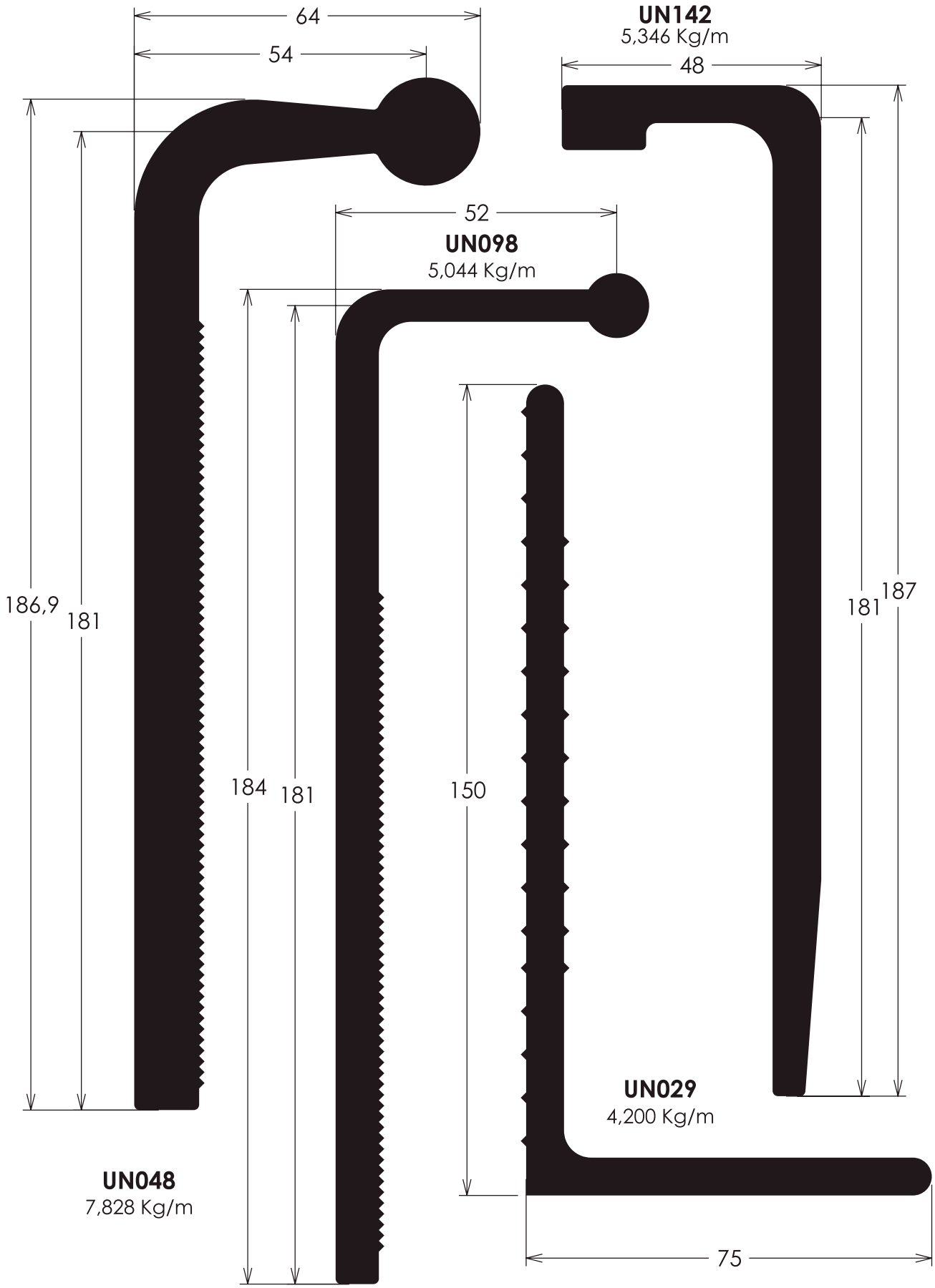
Perfis Módulos Diversos



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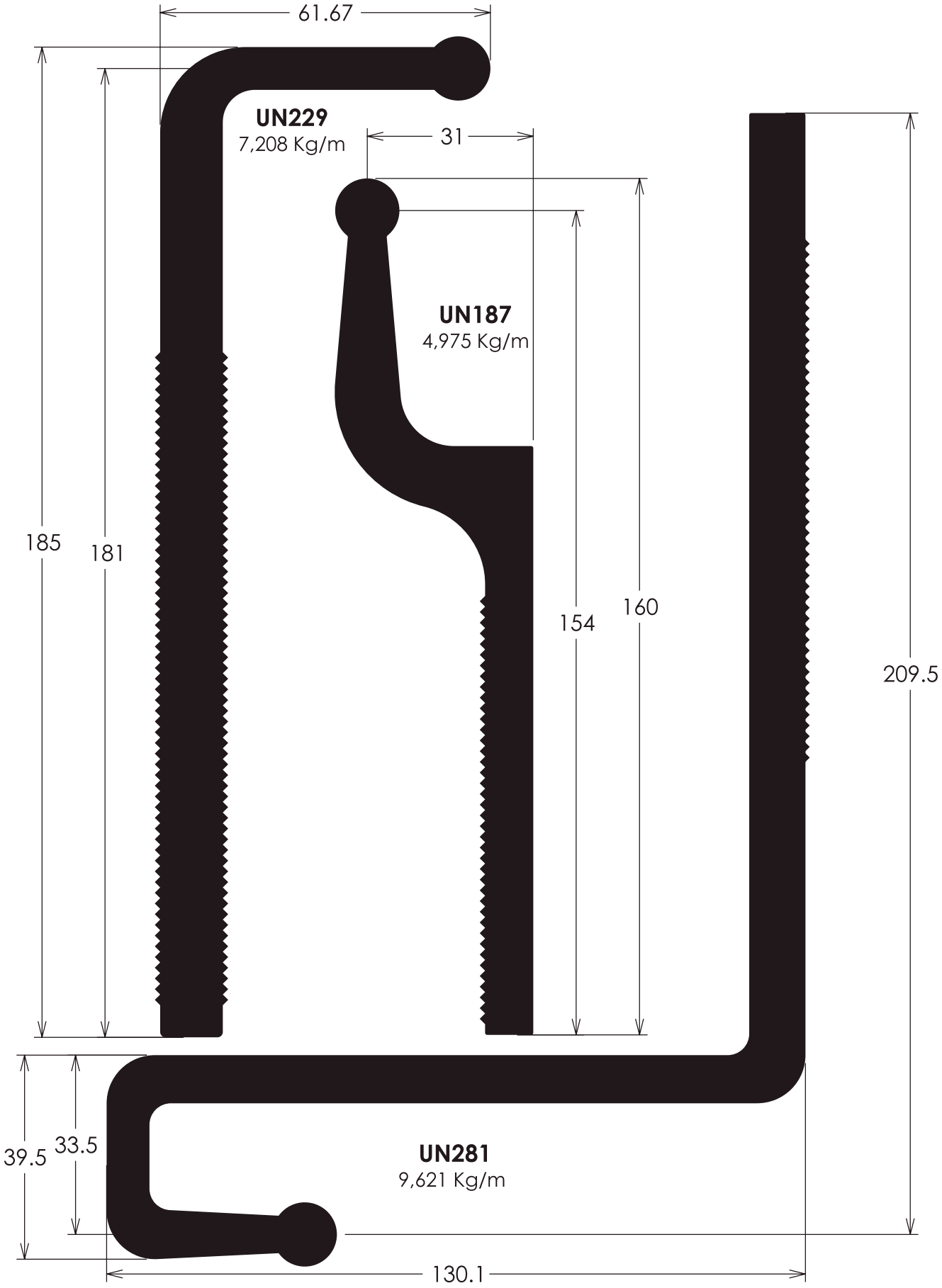
Perfis Módulos Diversos



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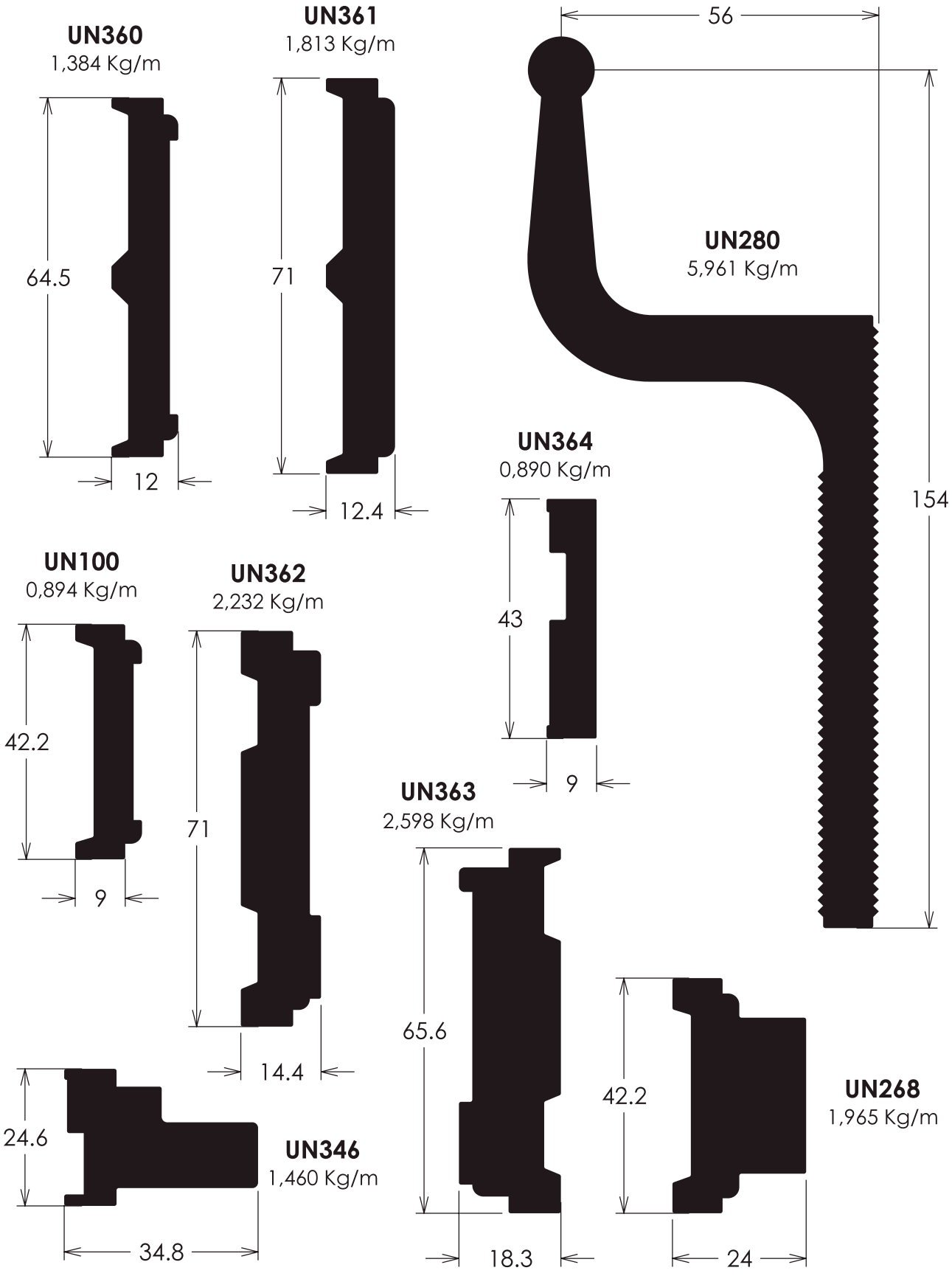
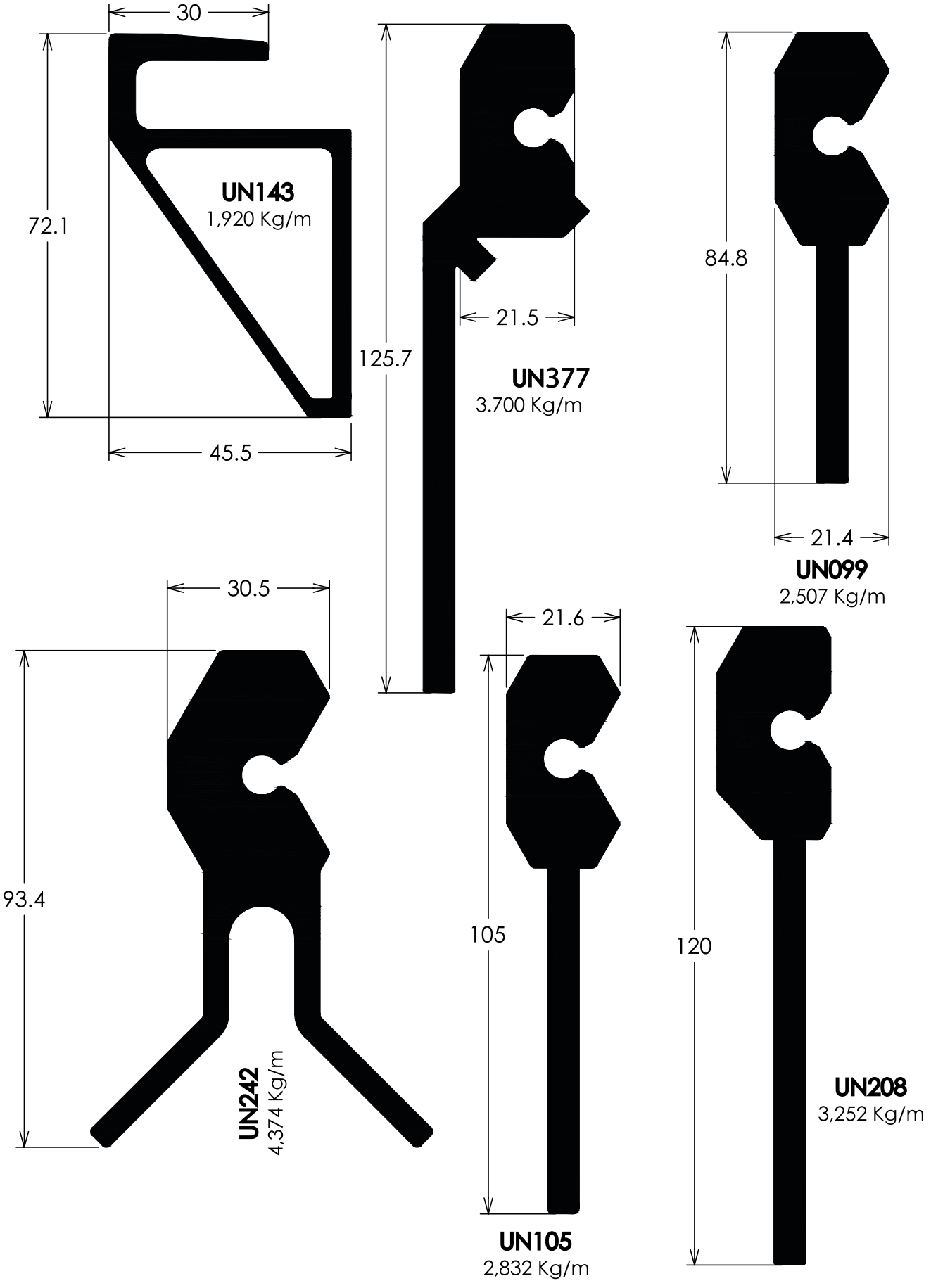
Perfis Módulos Diversos



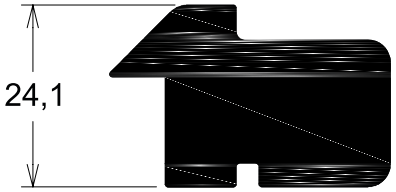
Unit® | Marca e Modelos Registrados

Perfis Módulos Diversos

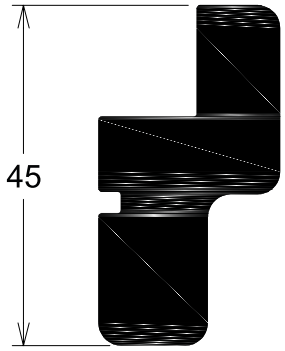


Unit® | Marca e Modelos Registrados

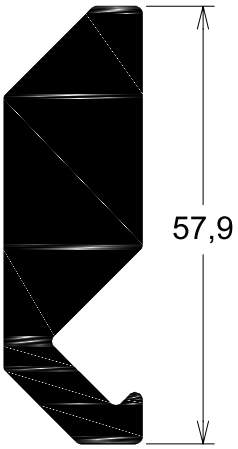
Perfis Módulos Diversos



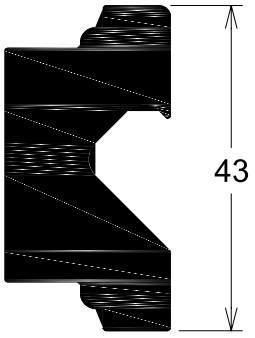
UN435
1,742 kg/m



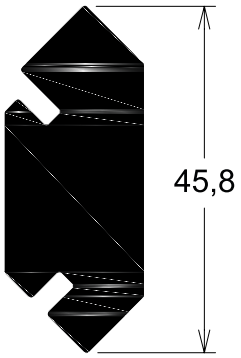
UN436
1,857 kg/m



UN453
2.178 kg/m



UN428
1,832 kg/m



UN429
1,717 kg/m

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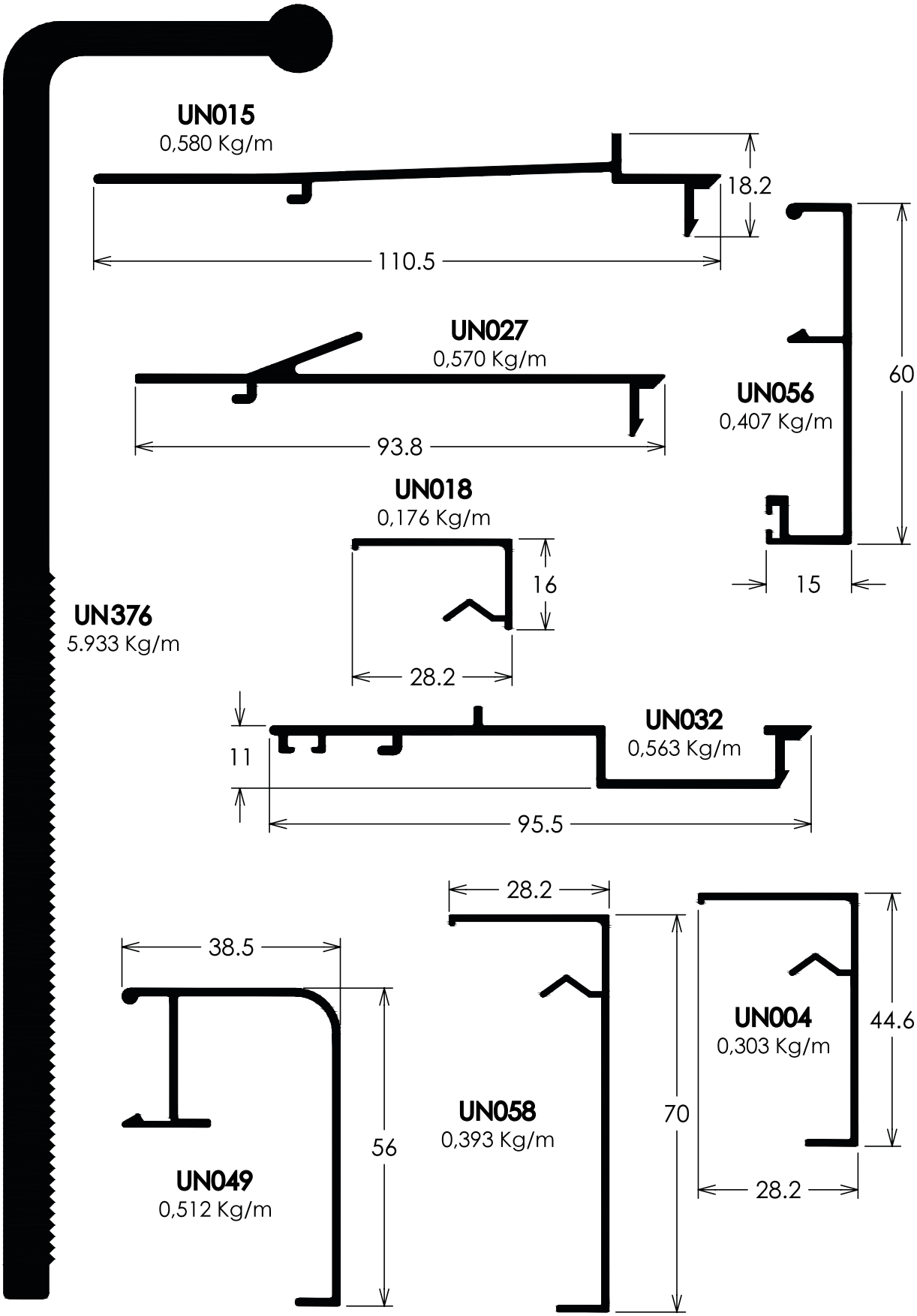
Perfis Módulos Diversos



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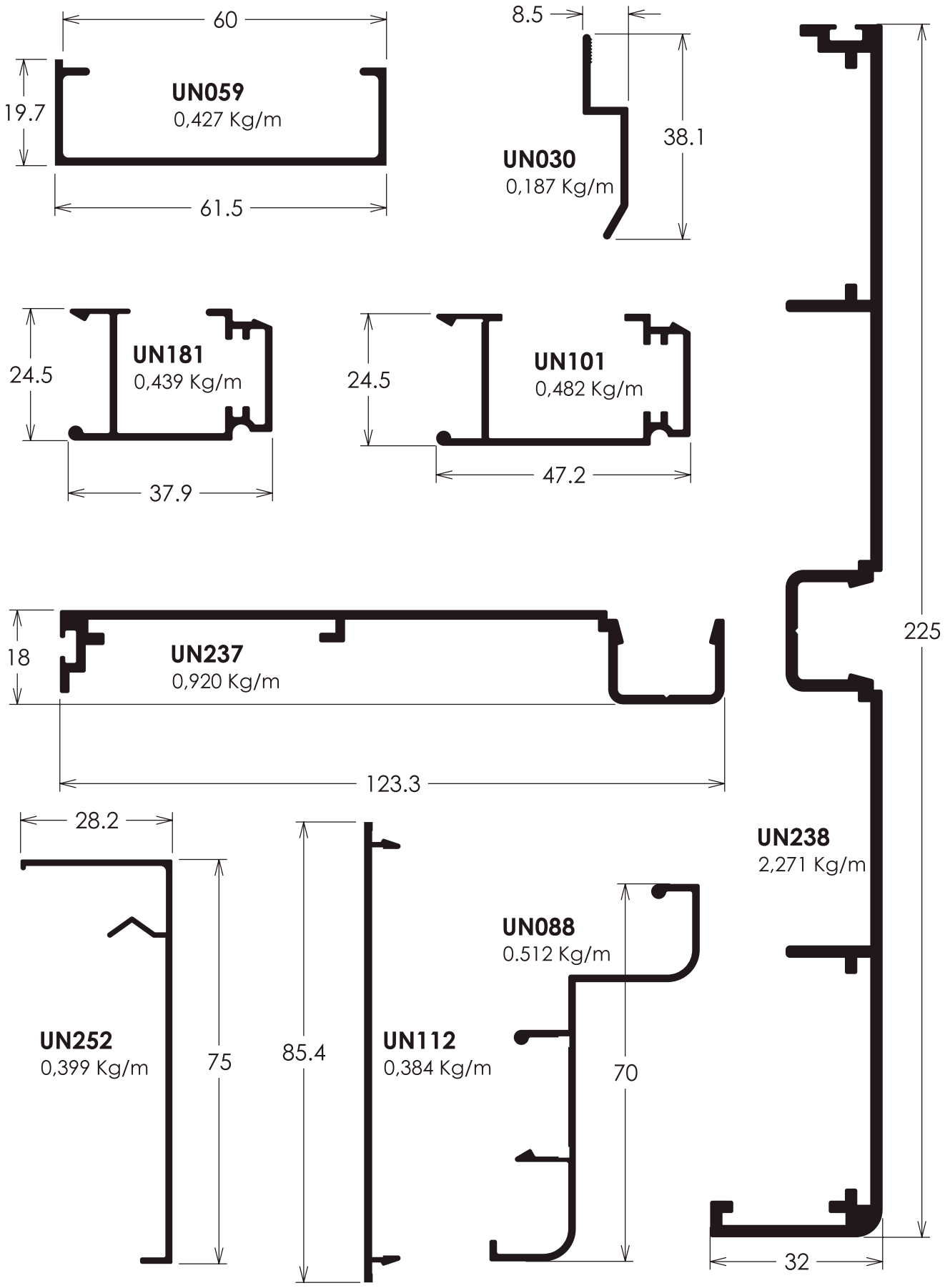
Perfis Módulos Diversos



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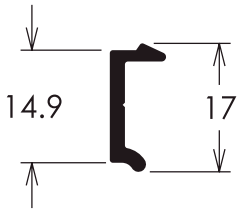
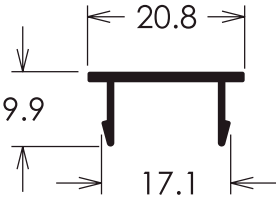
Perfis Módulos Diversos

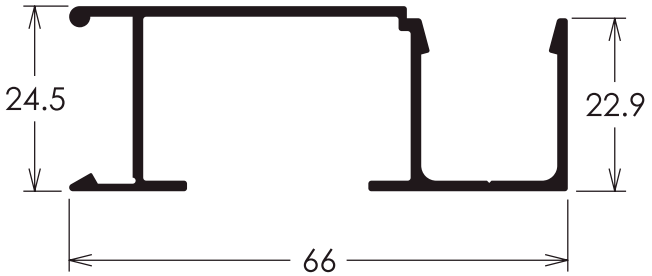


VL047
0,121 Kg/m

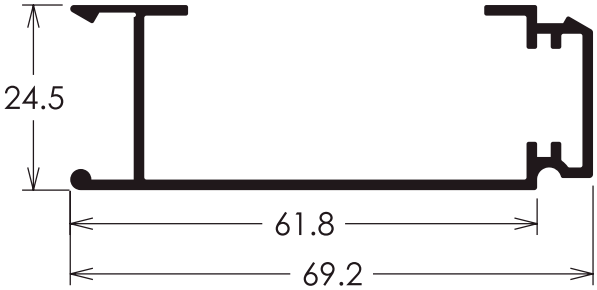
FC400
0,152 Kg/m



FC368
0,130 Kg/m

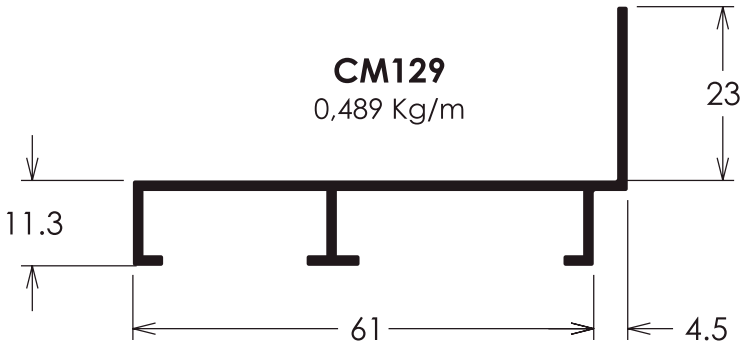


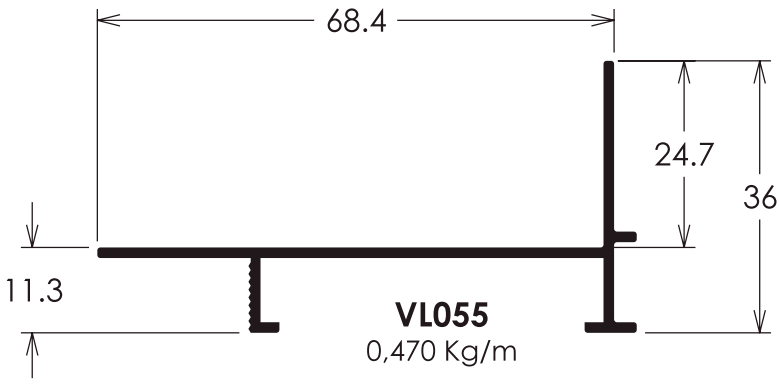
FC369
0,605 Kg/m



LC041
0,605 Kg/m

CM129
0,489 Kg/m





VL055
0,470 Kg/m

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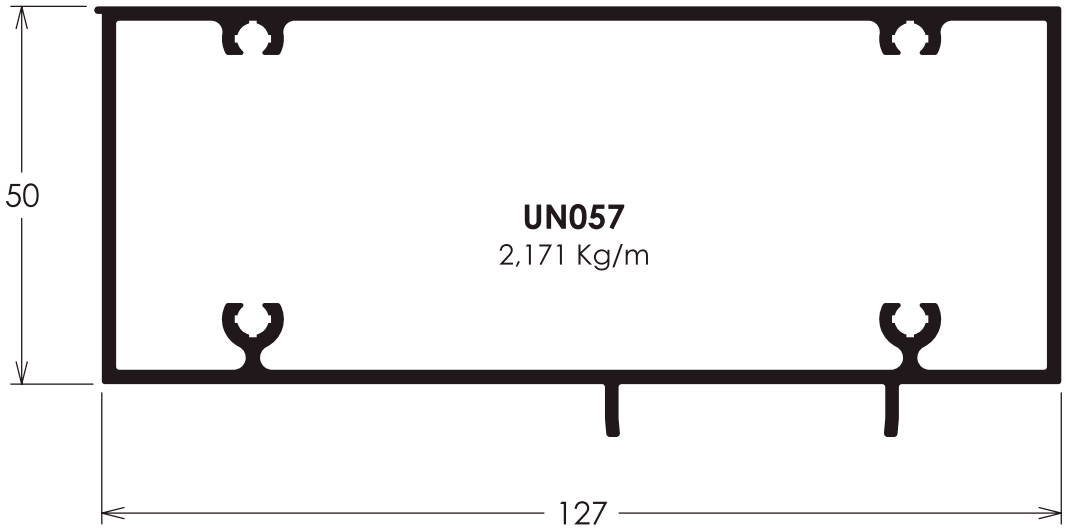
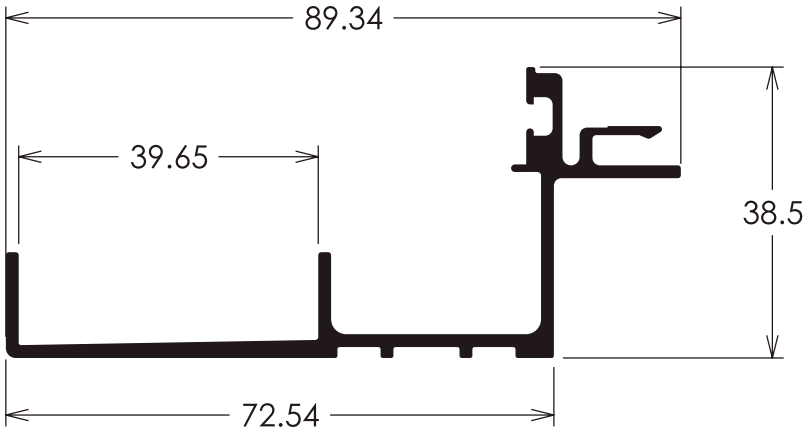
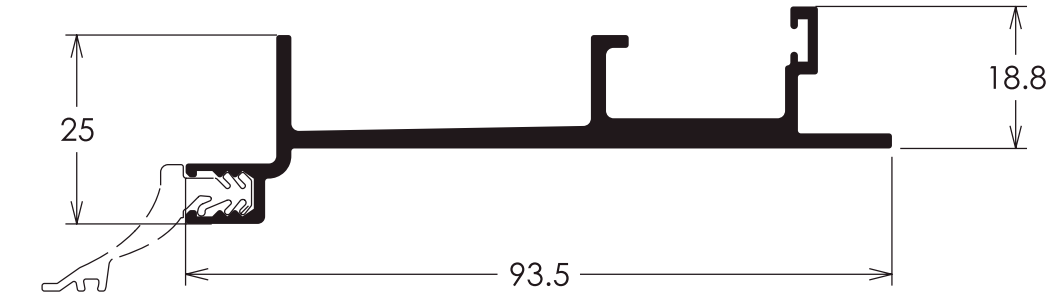
Perfis Módulos Diversos



UN057
2,171 Kg/m



UN002
0,887 Kg/m



GUA443

UN025
1,022 Kg/m

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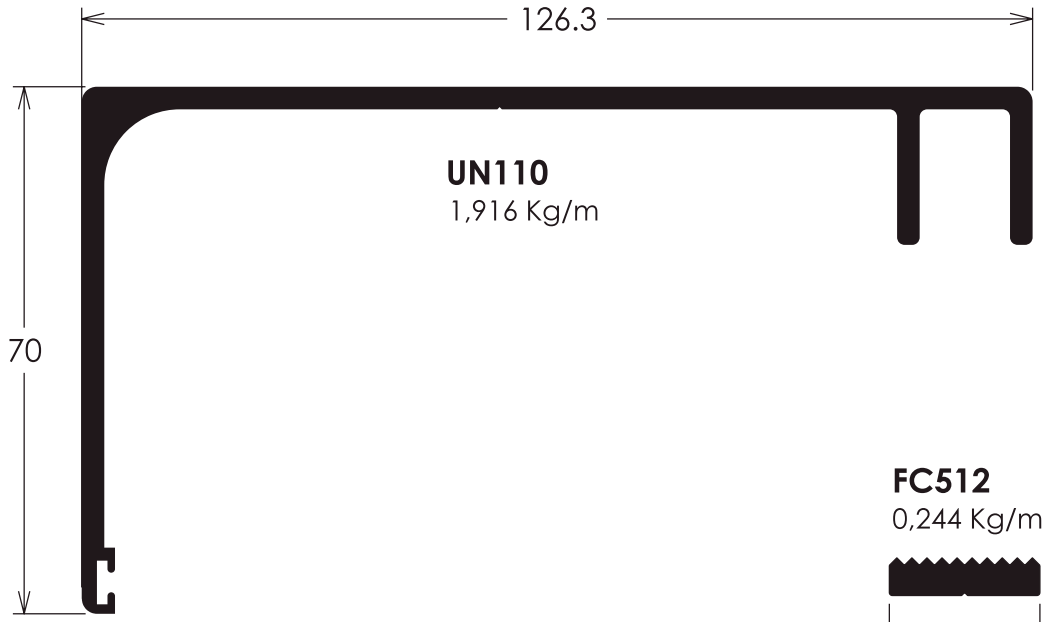
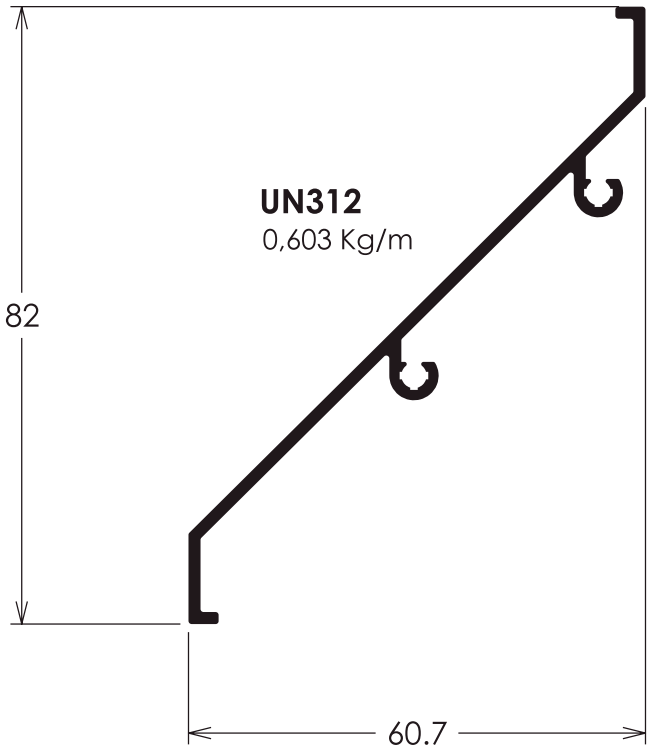
Perfis Módulos Diversos



FC512
0,244 Kg/m



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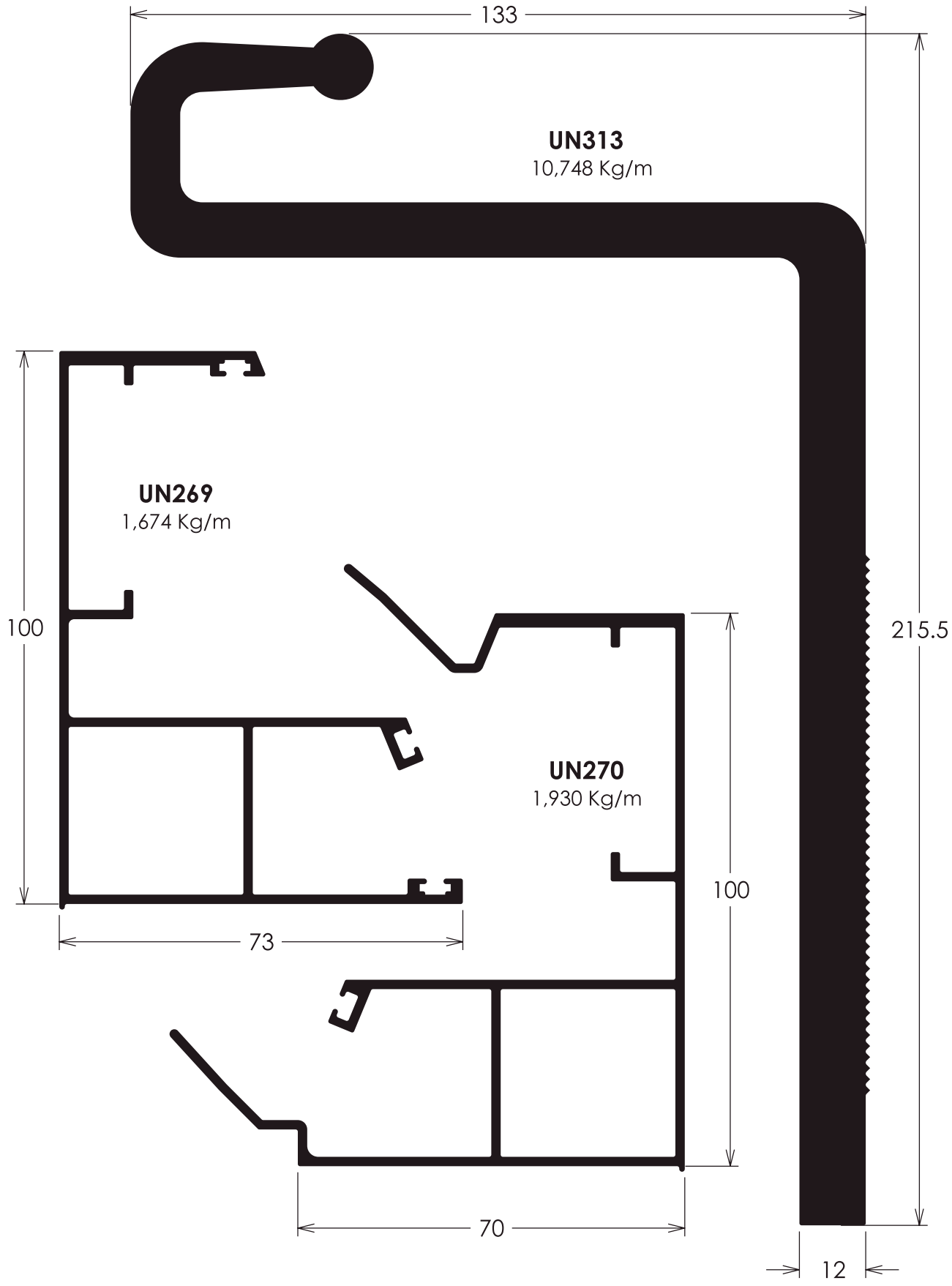
Perfis Módulos Diversos



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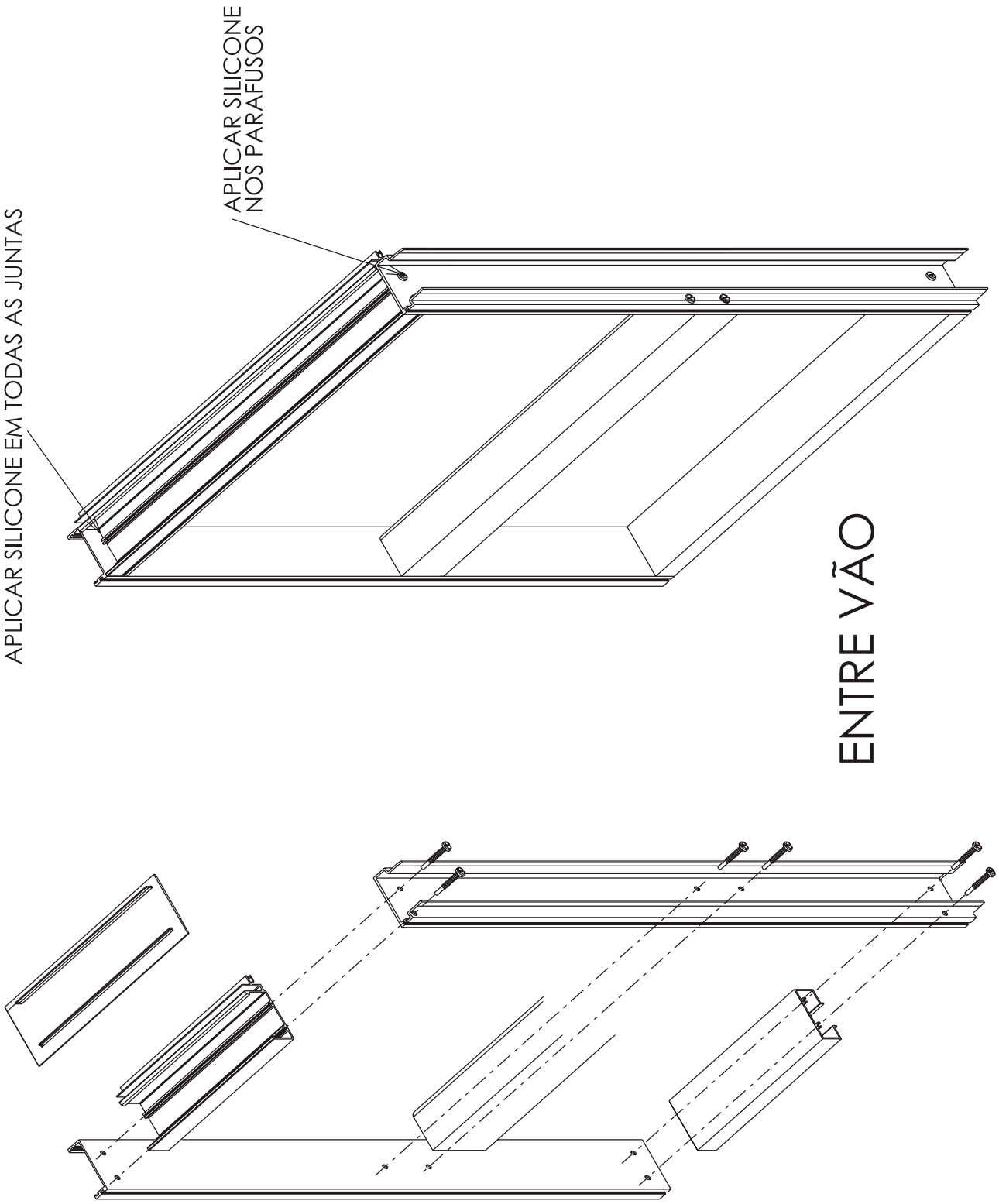
Esquema de Montagem



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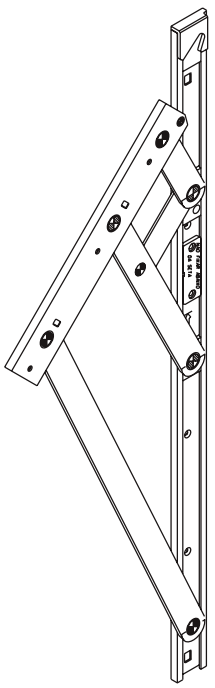
Componentes

Cód.	Pág.
ANC983	U-06
ANC990	U-07
ANC991	U-10
ANC992	U-08
ANC995	U-10
ANC996	U-01
ANC997	U-01
ANC998	U-02
ANC999	U-02
ANC1000	U-03
ANC1001	U-03
ANC1002	U-04
ANC1003	U-04
ANC1004	U-05
ANC1005	U-05
ANC1006	U-06
ANC1007	U-07
ANC1008	U-09
ANC1009	U-09
ANC1011	U-08
ANC1012	U-17
ANC1014	U-25
ANC1020	U-20
ANC1021	U-14
ANC1022	U-13
ANC1027	U-23
ANC1028	U-24
ARR759	U-07
BRA588	T-02
BRA589	T-02
BRA590	T-02
BRA591	T-02
BRA762	T-01
BRA763	T-01
BRA764	T-01
BRA806	T-01
BRA807	T-01
BRA808	T-01
BRA809	T-02
BRA810	T-02
BRA811	T-02
BRA812	T-02
BRA813	T-02
CHU794	T-06
CHU795	T-06
FEC450	T-02
FEC451	T-02
FEC1070	T-03
FIT206	T-05
GUA007	T-05
GUA307	T-05
GUA320	T-05
GUA328	T-05
GUA349	T-05
GUA350	T-05
GUA381	T-05

Cód.	Pág.
GUA383	T-05
GUA384	T-05
GUA387	T-05
GUA388	T-05
GUA389	T-05
GUA390	T-05
GUA410	T-05
GUA438	T-05
GUA441	T-05
GUA442	T-05
GUA443	T-05
KIT624	T-03
KIT640	T-03
LC054	T-03
NYL039	T-05
NYL490	T-05
PAR063	T-06
PAR428	T-06
PAR437	T-06
PAR670	T-06
PAR691	T-06
PAR698	T-06
PAR1052	T-06
PAR1053	T-06
PAR1059	T-06
PAR1061	T-06
PAR1071	T-06
PAR1072	T-06
PAR1073	T-06
PAR1074	T-06
PAR1075	T-06
PAR1076	T-06
PAR1077	T-06
PAR1084	T-06
PAR1085	T-06
SUP698	U-11
SUP711	U-11
SUP713	U-34
SUP714	U-33
SUP715	U-33
SUP717	U-29
SUP718	U-28
SUP719	U-28
SUP720	U-27
SUP721	U-33
SUP743	U-31
SUP744	U-31
SUP745	U-21
SUP747	U-30
SUP748	U-30
SUP749	U-18
SUP750	U-19
SUP751	U-32
SUP753	U-22
TAR003	T-05
TAR006	T-05

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

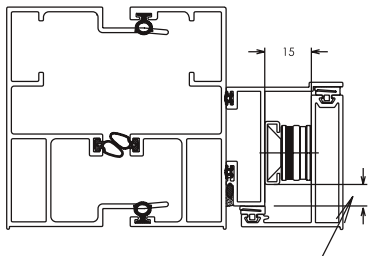
CONJUNTO DO BRAÇO - ALUMÍNIO - CAIXA 15 MM



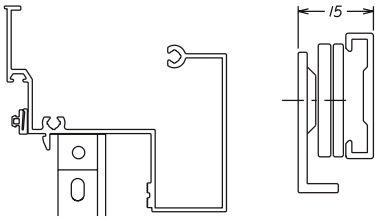
CÓDIGO	Dimensão (mm)	Altura da Folha (mm)	Largura da Folha (mm)	CARGA MÁXIMA
BRA762	342	Min. 390 Max. 600	Max. 1500	22Kg
BRA763	600	Min. 640 Max. 1000	Max. 1500	35Kg
BRA764	951	Min. 1000 Max. 1200	Max. 1500	45Kg

CONJUNTO DO BRAÇO - INOX - CAIXA 15 MM

CÓDIGO	Dimensão (mm)	Altura da Folha (mm)	Largura da Folha (mm)	CARGA MÁXIMA
BRA806	313,5	Max. 600	Max. 1500	22Kg
BRA807	512	Max. 1000	Max. 1500	35Kg
BRA808	617	Max. 1200	Max. 1500	45Kg



Obs: Verificar no catálogo do fornecedor as referências para instalação dos braços



DETALHE DE USO

Braço Maxim-ar
Cor: preto,fosco e branco

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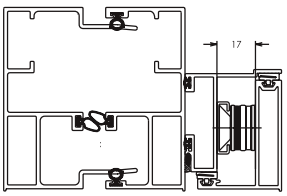
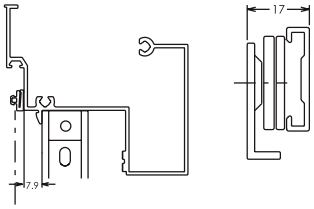


CONJUNTO DO BRAÇO - INOX - CAIXA 17 MM

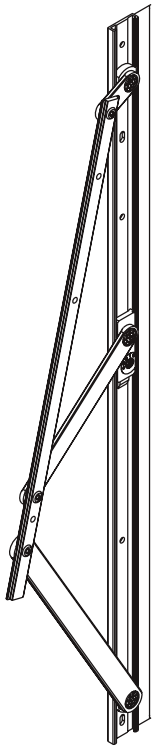
CÓDIGO	COMP. A	FOLHA MÁXIMA		CARGA MÁXIMA	ABERTURA MÁXIMA
		ALTURA	LARGURA		
BRA809	313	600	1500	22KG	20°
BRA810	356	800	1500	40 KG	20°
BRA811	516	1500	1500	75KG	15°
BRA812	562	1500	1500	100 KG	15°
BRA 813	662	1500	1500	125 KG	15°

EMBALAGEM 1 PAR



DETALHE DE USO

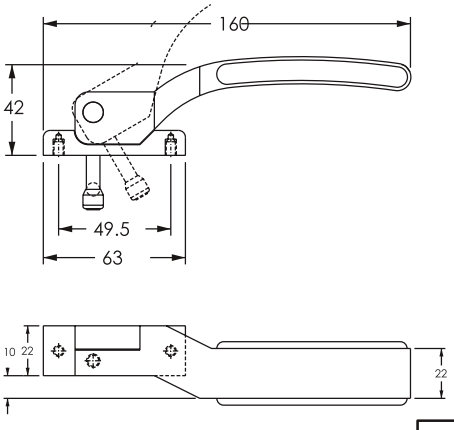
Braço Maxim-ar
Cor: preto,fosco e branco

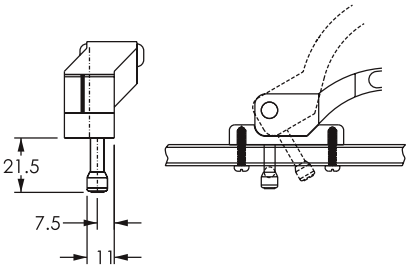


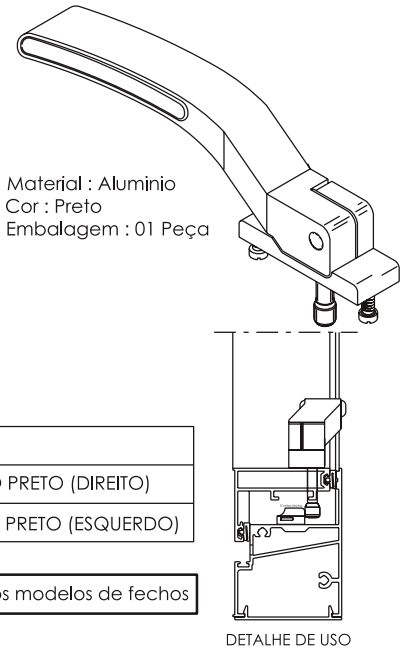
CONJUNTO DO BRAÇO - ALUMÍNIO - CAIXA 17 MM

CÓDIGO	COMP. A	FOLHA MÁXIMA		CARGA MÁXIMA
		ALTURA	LARGURA	
BRA588	342	Min: 588 Min: 600	1500	22KG
BRA589	600	Min: 640 Min: 1000	1500	35KG
BRA590	951	Min: 990 Min: 1200	1500	42KG
BRA591	1200	Min: 1240 Min: 1500	1500	74KG

Obs: Verificar no catálogo do fornecedor as referências para instalação dos braços







Material : Aluminio
Cor : Preto
Embalagem : 01 Peça

CÓDIGO	DESCRIÇÃO
FEC450	FECHO ARTICULADO ALUMINIO PRETO (DIREITO)
FEC451	FECHO ARTICULADO ALUMINIO PRETO (ESQUERDO)

NOTA: Verificar nos fornecedores homologados outros modelos de fechos

DETALHE DE USO

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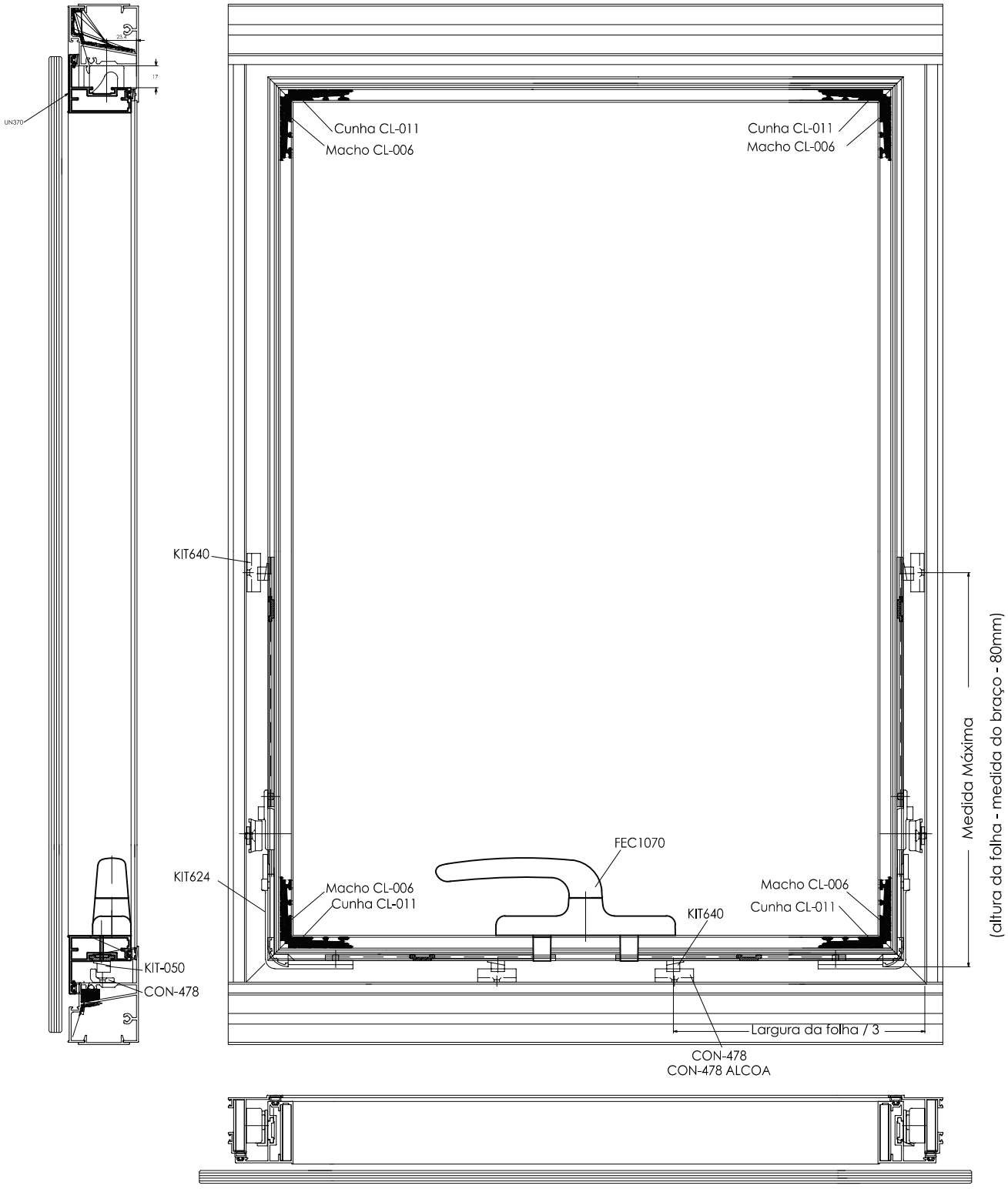
FECHO MULTI-PONTO

ESQUEMA DE TRAVAMENTO JANELA MAXIM-AR



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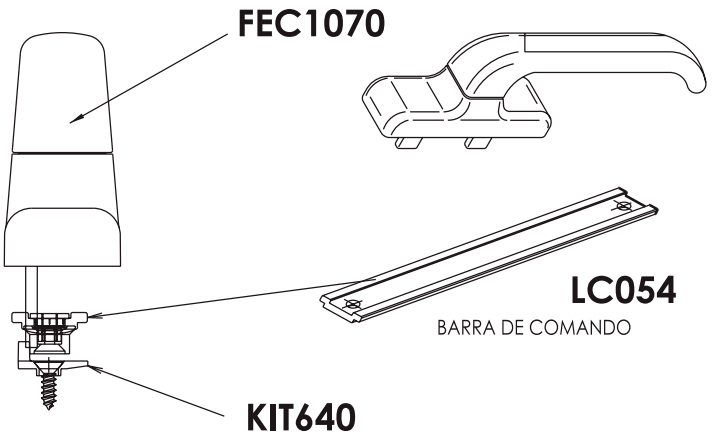
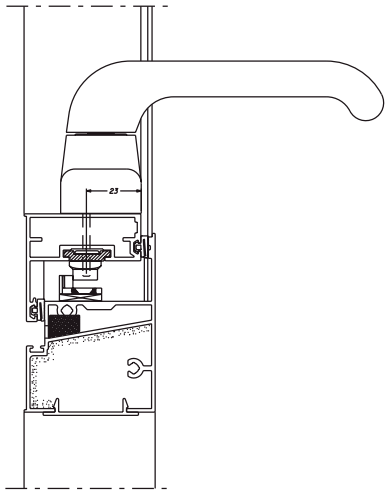
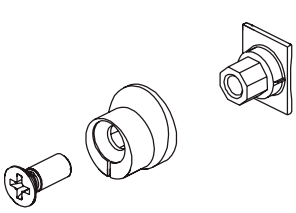
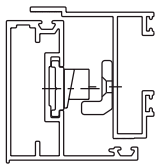
FECHO PERIMETRAL



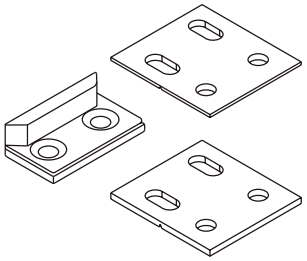


DETALHE PARA INSTALAÇÃO

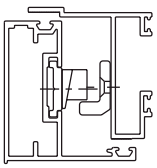




DETALHE PARA INSTALAÇÃO

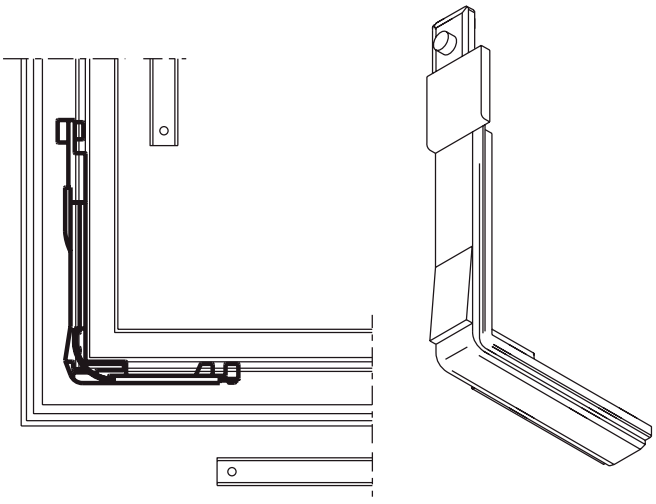


TRAVA COMPLEMENTAR



DETALHE PARA INSTALAÇÃO

KIT624



COMANDO DE TRANSMISSÃO ANGULAR

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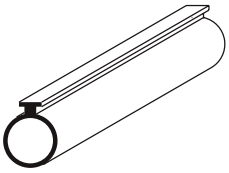
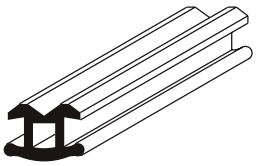
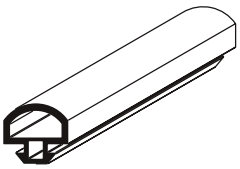


GUA007
Guarnição da Pingadeira

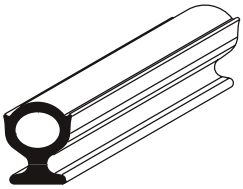


GUA350
Guarnição do Marco

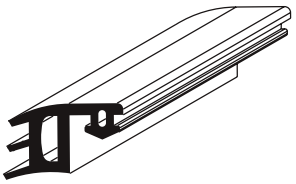


GUA441
Guarnição da Folha

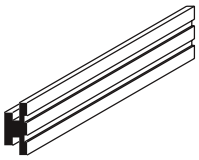
TAR003
Tarucel Ø 10 mm



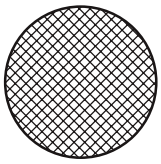
GUA328
Guarnição da Coluna



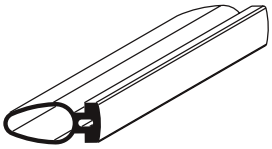
GUA381
Guarnição das travessas



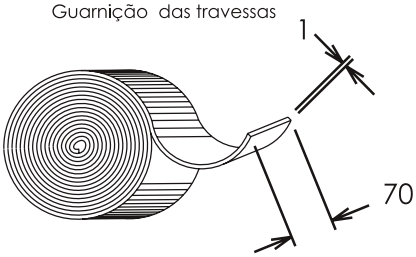
NYL039
Deslizante da travessa



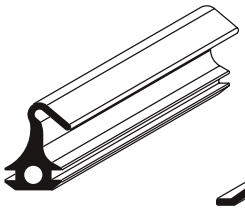
TAR006
Tarucel Ø 20 mm



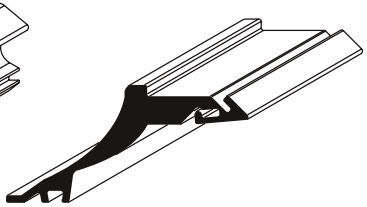
GUA383
Guarnição da Coluna



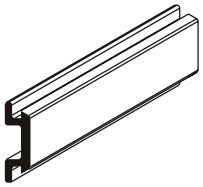
GUA384
Guarnição das Juntas
Borracha de Silicone



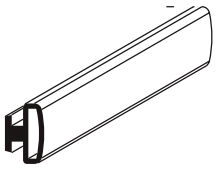
GUA438
Guarnição Superior
Folhas Max



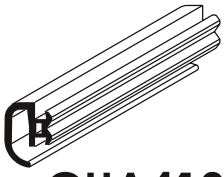
GUA443
Guarnição em Concreto



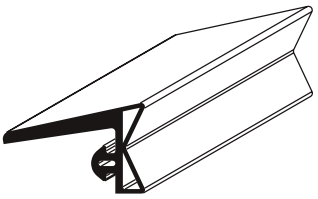
GUA349
Guarnição da Travessa



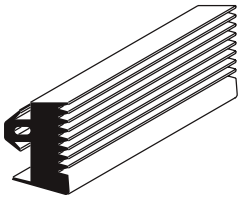
GUA389
Guarnição da Travessa
Telescópica



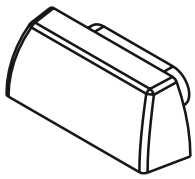
GUA410
Guarnição do Marco



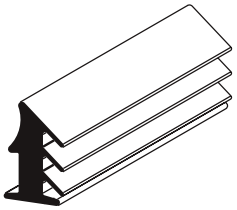
GUA320
Guarnição de cm



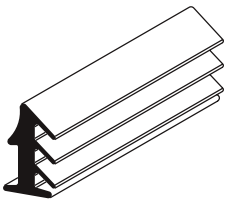
GUA387
Vidro de 8 mm



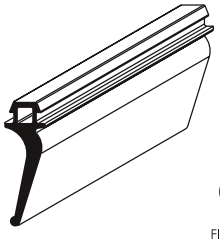
NYL490
Dreno



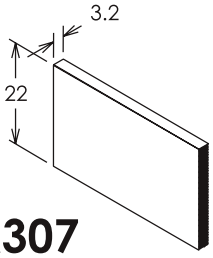
GUA388
Vidro de 8 mm



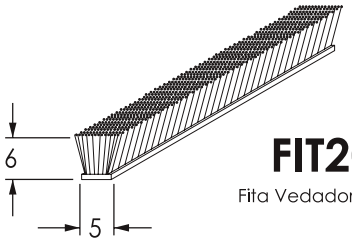
GUA390
Vidro de 9 mm



GUA442
Pingadeira



GUA307
FITA VEDANTE DE ESPUMA DE PVC- CELULAS FECHADAS
ADESIVA EM UMA DAS FACES



FIT206
Fita Vedadora 5x6mm

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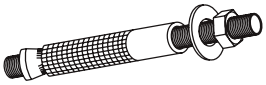
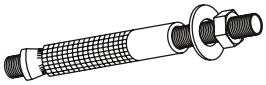


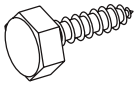
CHU794

CHUMBADOR C/PORCA,
ARRUELA E PRISIONEIRO - 9,5 mm x 120 mm



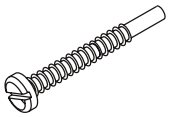
CHU795

CHUMBADOR C/PORCA,
ARRUELA E PRISIONEIRO - 9,5 mm x 80 mm



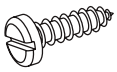
PAR063

Paraf. AA C.SEXT 4,8 x 19
AÇO INOX NATURAL



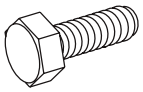
PAR428

Paraf. AA CP 4,8 x 32
AÇO INOX NATURAL



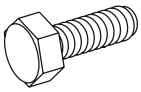
PAR437

PARAF. AA CP 3,5 x 9,5
AÇO INOX NATURAL



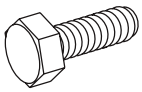
PAR670

PARAF. SEXT. 3/8" x 2"
AÇO INOX NATURAL



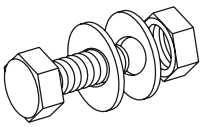
PAR1085

PARAF. SEXT. M10 x 25
AÇO INOX NATURAL



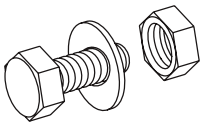
PAR1084

PARAF. SEXT. M10 x 35
AÇO INOX NATURAL



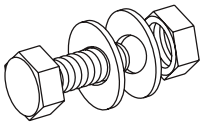
PAR1053

PARAF. SEXT. 3/8" x 1.1/4"
PORCA E 2 ARRUELAS
AÇO INOX NATURAL



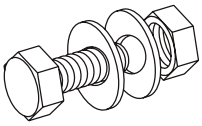
PAR1059

PARAF. SEXT. 1/4" x 5/8""
1 PORCA E ARRUELAS
AÇO INOX NATURAL



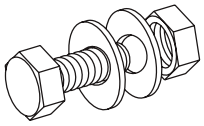
PAR1061

PARAF. SEXT. 3/16" x 1/2"
PORCA E 2 ARRUELAS
AÇO INOX NATURAL



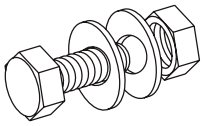
PAR1071

PARAF. SEXT. 3/16" x 1.3/4"
PORCA E 2 ARRUELAS
AÇO INOX NATURAL



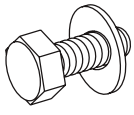
PAR1072

PARAF. SEXT. 3/16" x 1.1/2"
PORCA E 2 ARRUELAS
AÇO INOX NATURAL



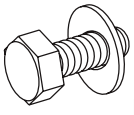
PAR1073

PARAF. SEXT. 3/8" x 1.3/4"
PORCA E 2 ARRUELAS
AÇO INOX NATURAL



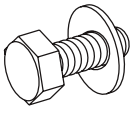
PAR1074

PARAF. SEXT. M6 x 20 C. ARRUELA
AÇO INOX NATURAL



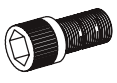
PAR1075

PARAF. SEXT. M4 x 16 C. ARRUELA
AÇO INOX NATURAL



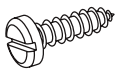
PAR1076

PARAF. SEXT. 3/8" x 1"
1 ARRUELA
AÇO INOX NATURAL



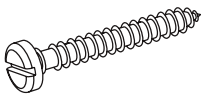
PAR1077

Paraf. CAB. CIL. C/SEXT. INT.-M6
AÇO INOX NATURAL



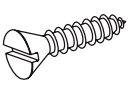
PAR691

PARAF. AA CP 4,8 x 13
AÇO INOX NATURAL



PAR1052

PARAF. AA CP 4,8 x 2"
AÇO INOX NATURAL



PAR698

PARAF. AA CX 4,2 x 25
AÇO INOX NATURAL

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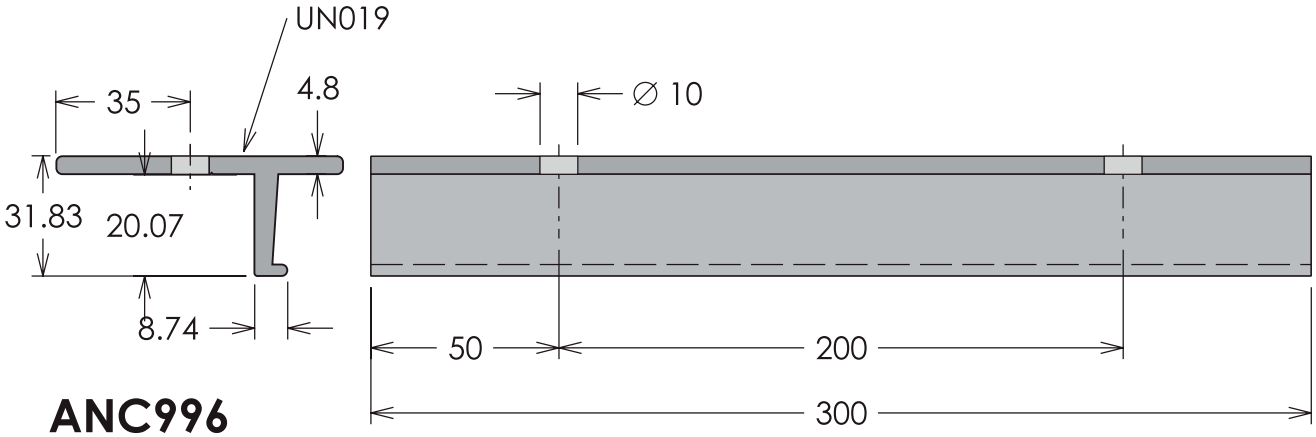
Usinagem

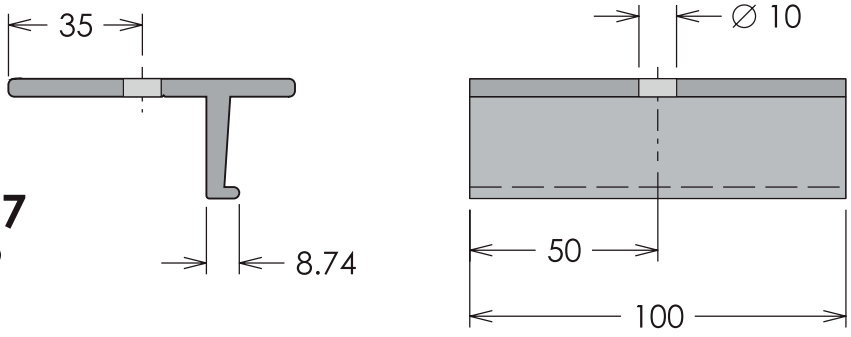
Ancoragem Superior - Entre Vãos



ANC996
UN019

Usados nos perfis UN323 UN319

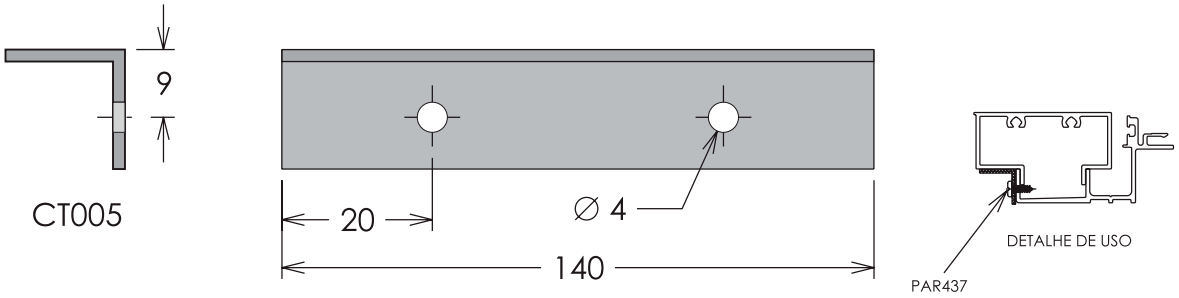
Ancoragem Superior Auxiliar



ANC997
UN019

Fazer 1 peça de cada p/ teste

Vedador da Junção das Colunas



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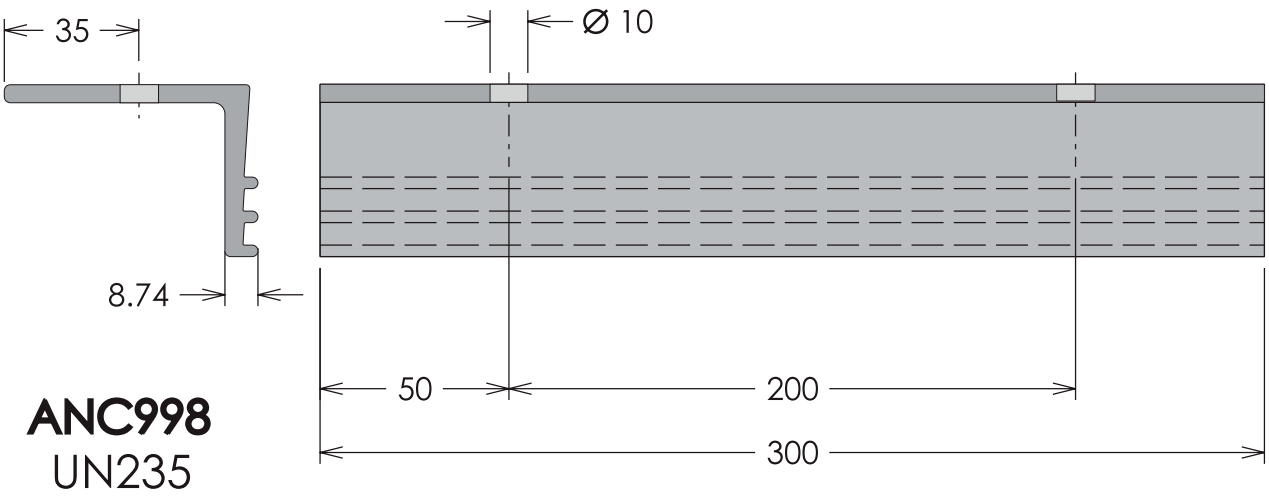
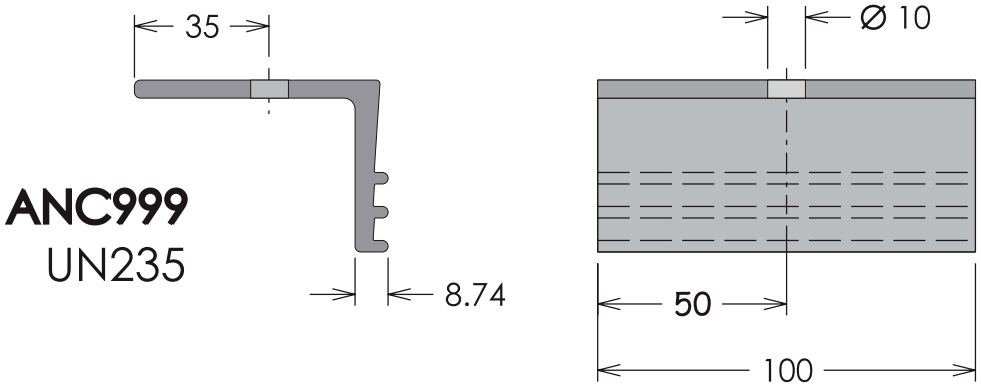
Ancoragem Superior - Entre Vãos



ANC998
UN235

Usados nos perfis UN063

Ancoragem Superior Auxiliar



ANC999
UN235

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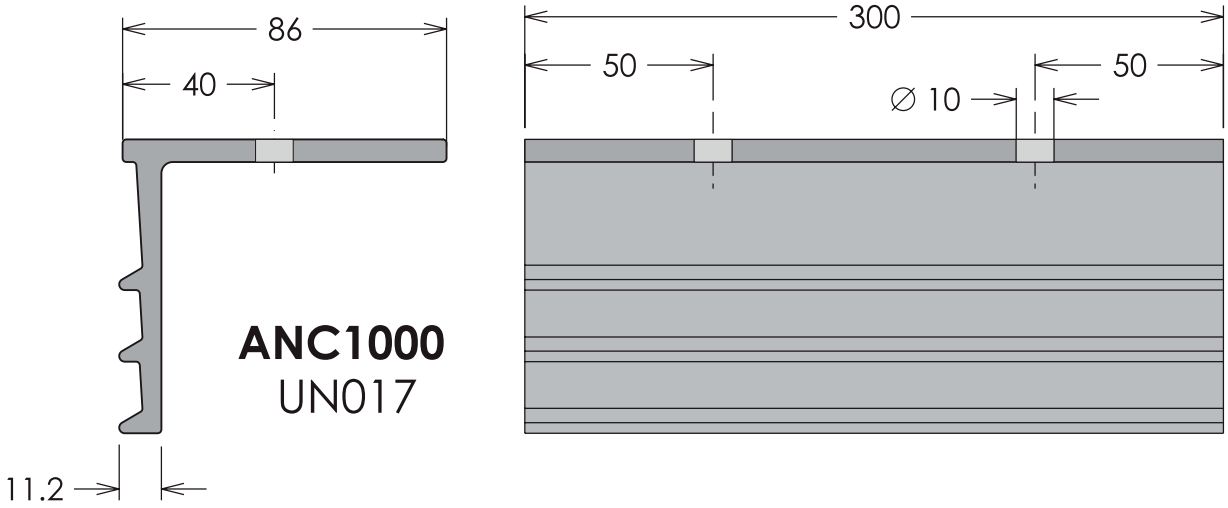
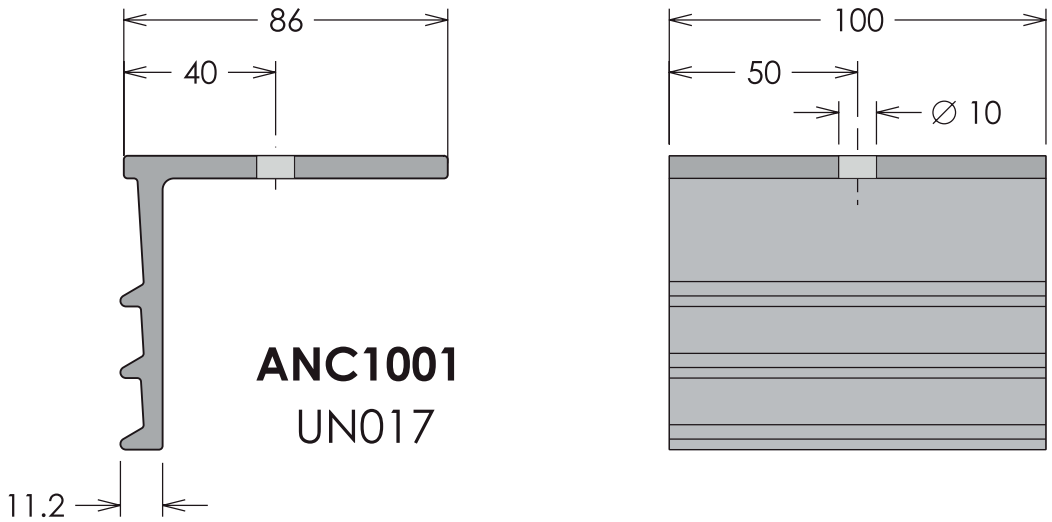
Ancoragem Superior - Entre Vãos



Usados nos perfis UN014 e UN336

Ancoragem Superior Auxiliar



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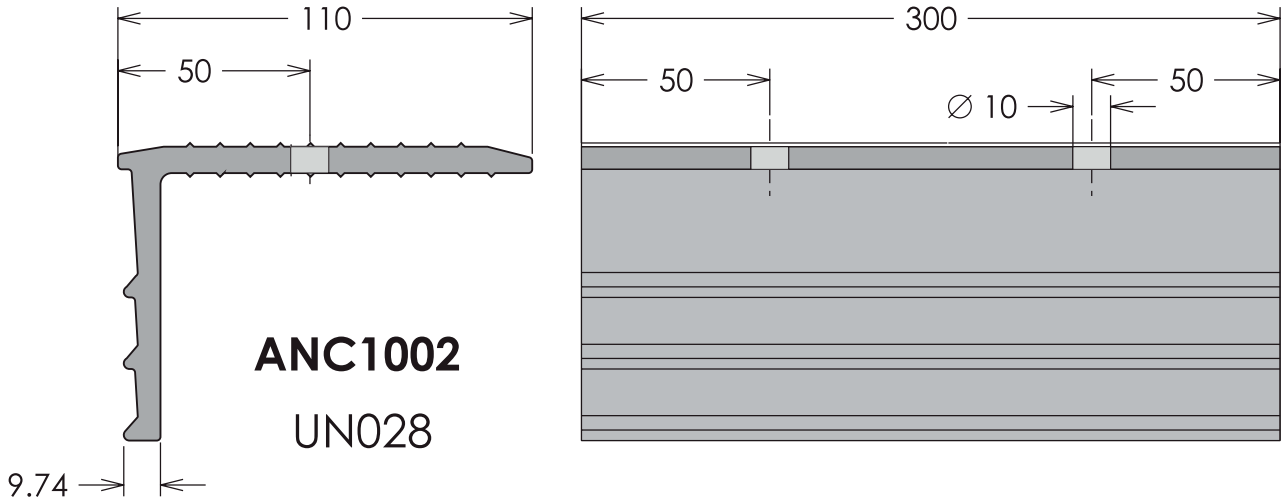
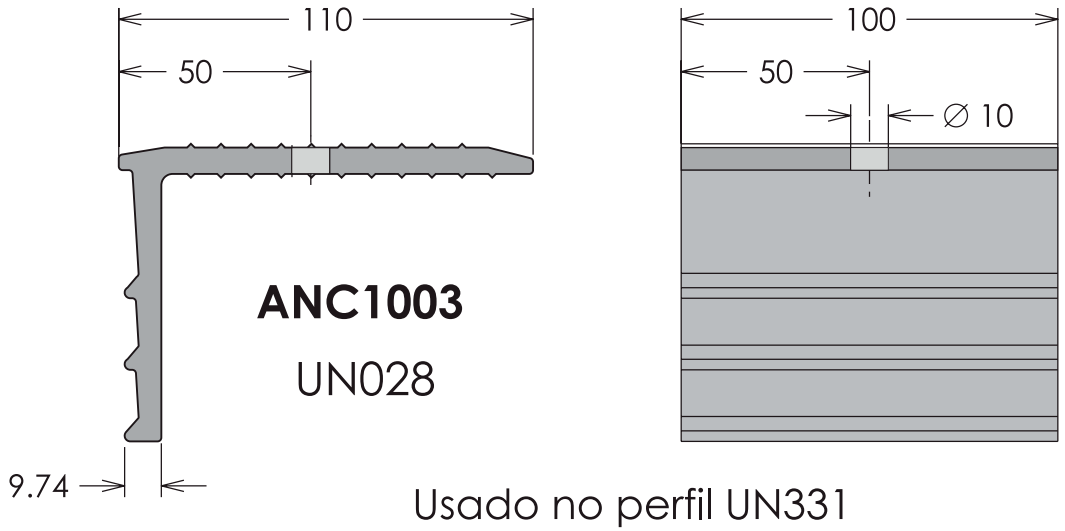
Ancoragem Superior - Entre Vãos



Usado no perfil UN331

Ancoragem Superior Auxiliar



Usado no perfil UN331

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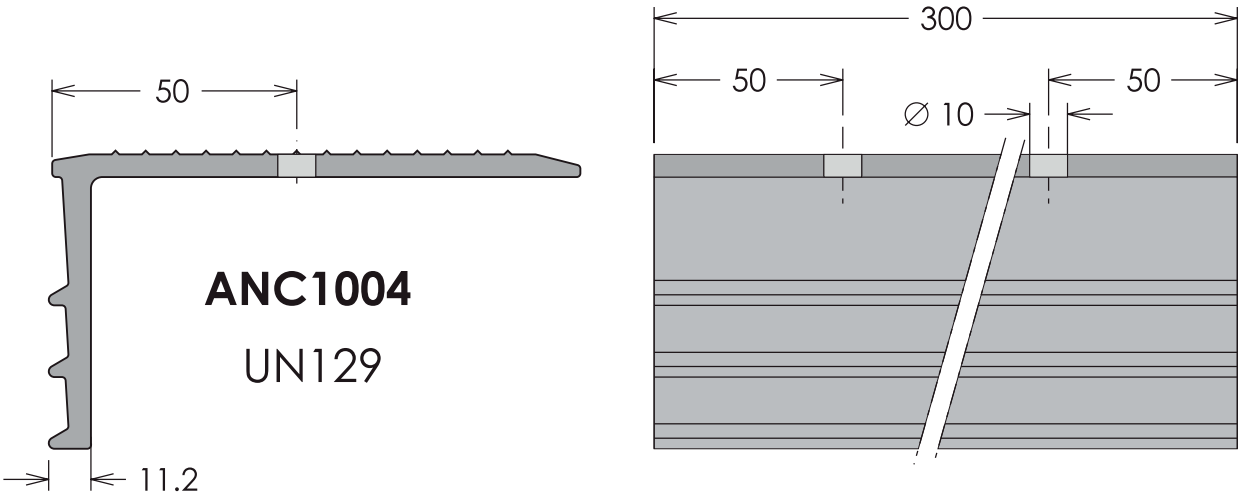
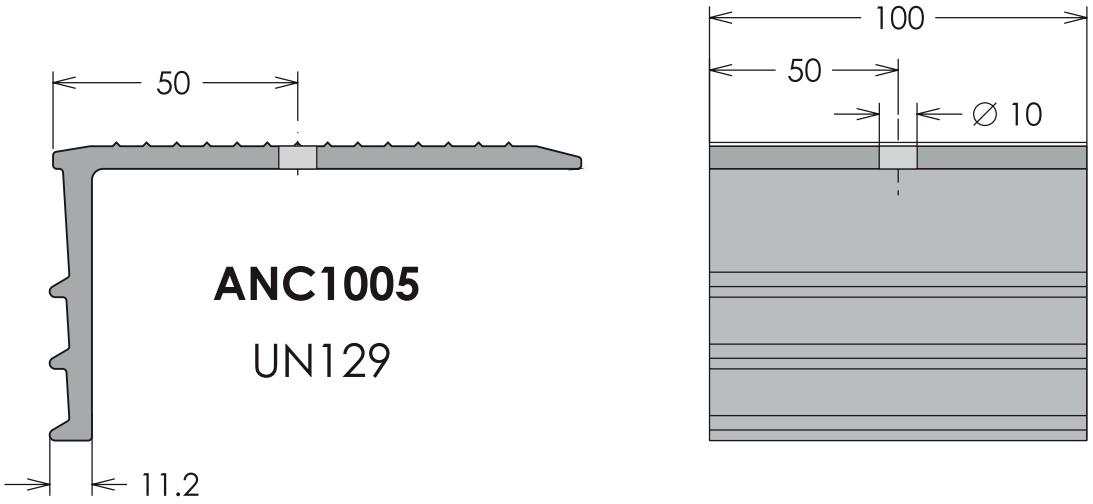
Ancoragem Superior - Entre Vãos



Usados nos perfis UN014 e UN336

Ancoragem Superior Auxiliar



Usados nos perfis UN014 e UN336

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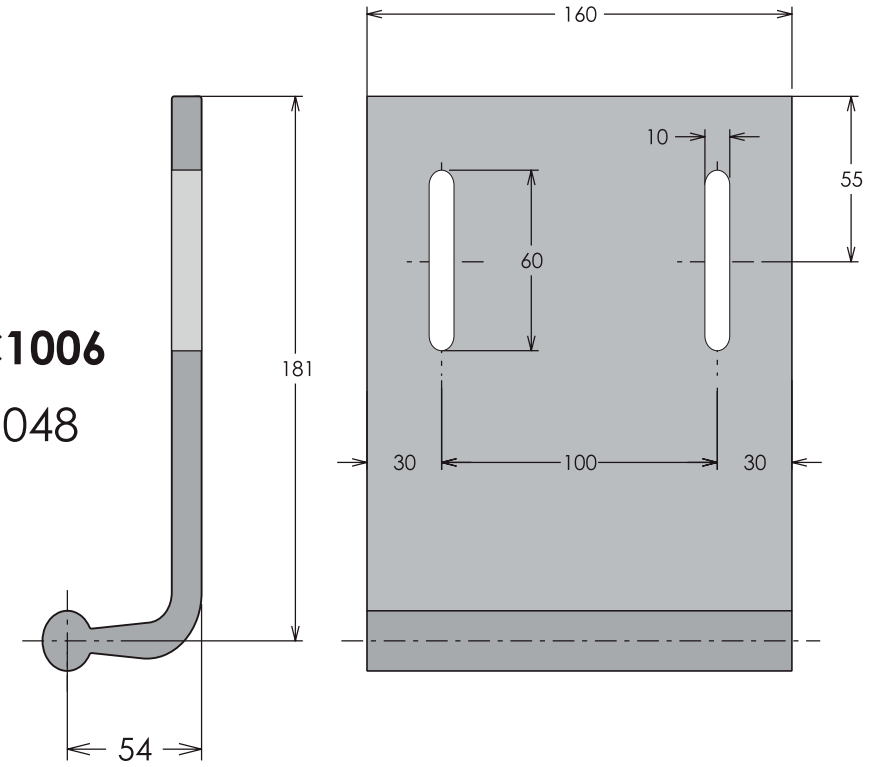
Ancoragem Principal

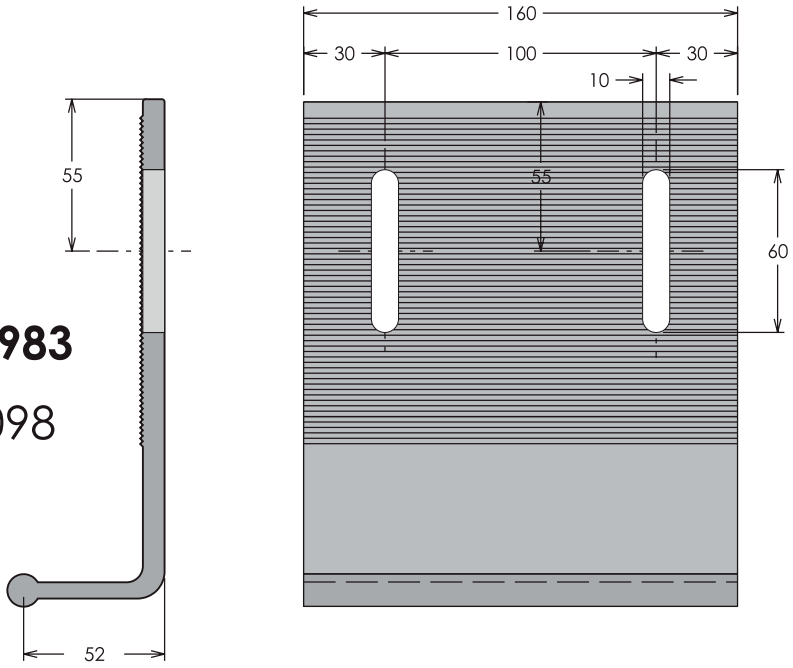
ANC1006

UN048



ANC983

UN098



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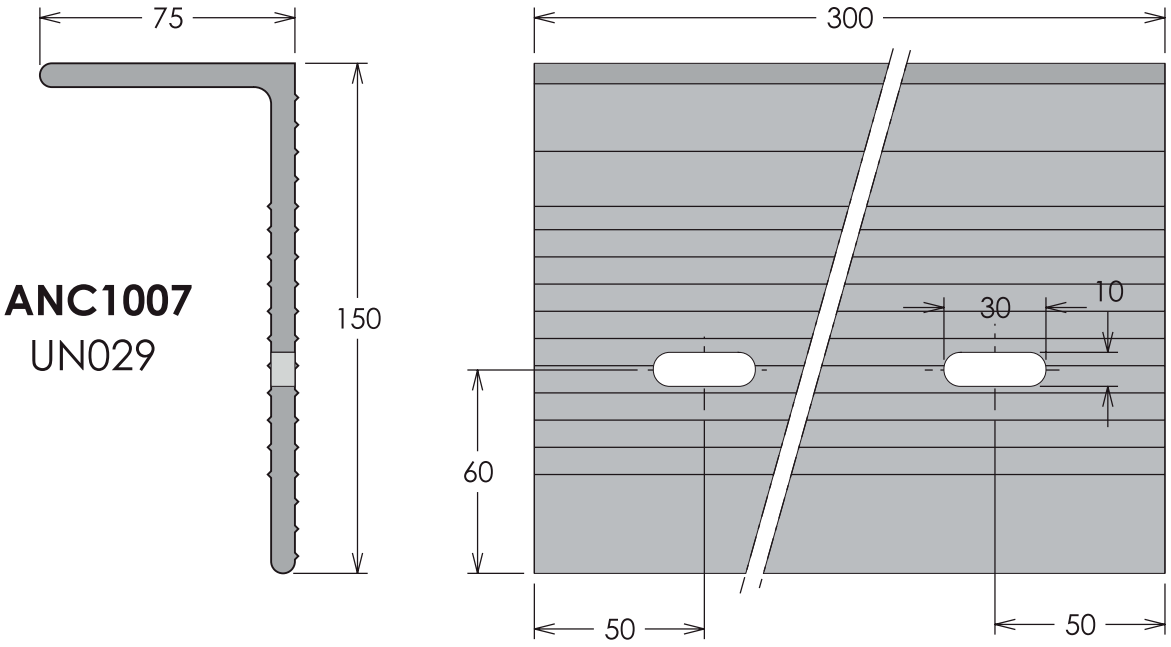
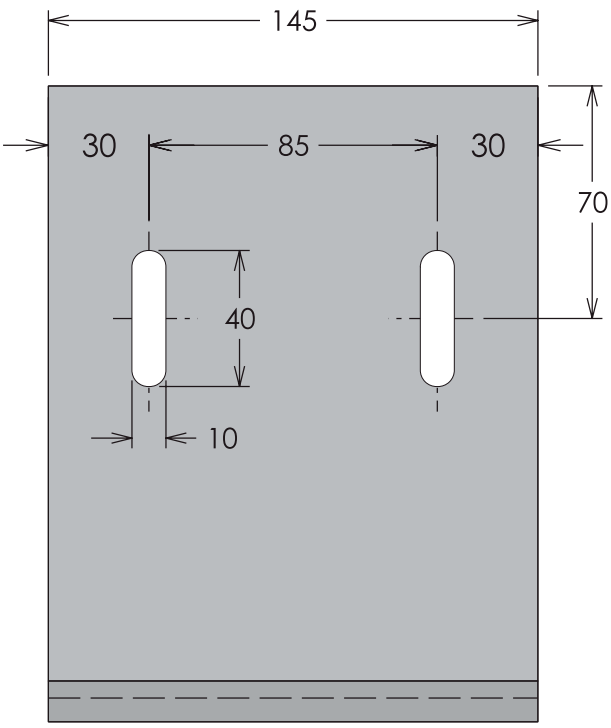
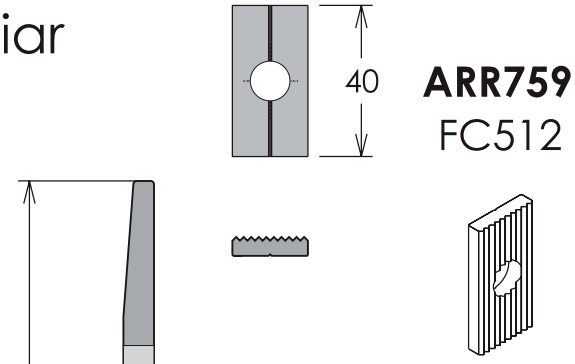
Ancoragem Frontal



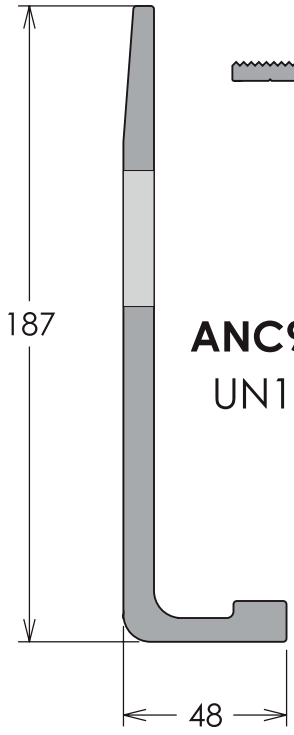
ANC1007
UN029

Ancoragem Auxiliar





ARR759
FC512



ANC990
UN142

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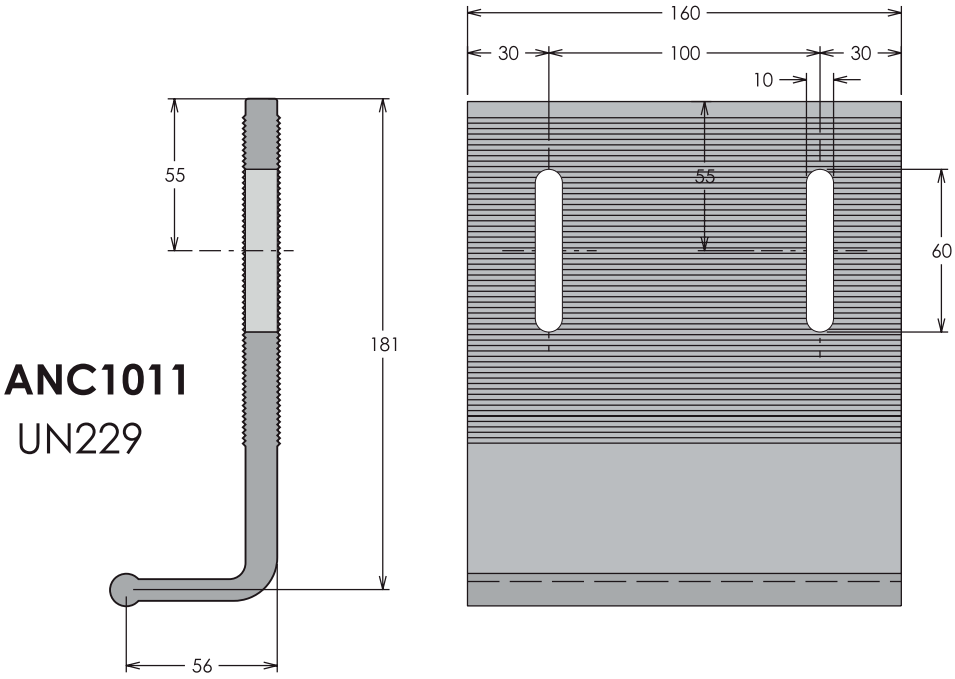
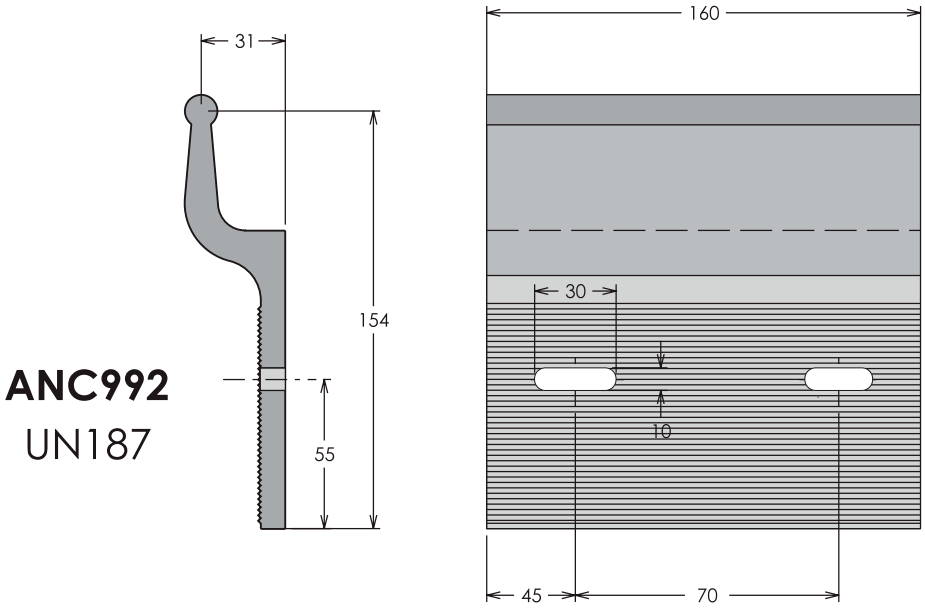
Ancoragem Principal



ANC1011
UN229

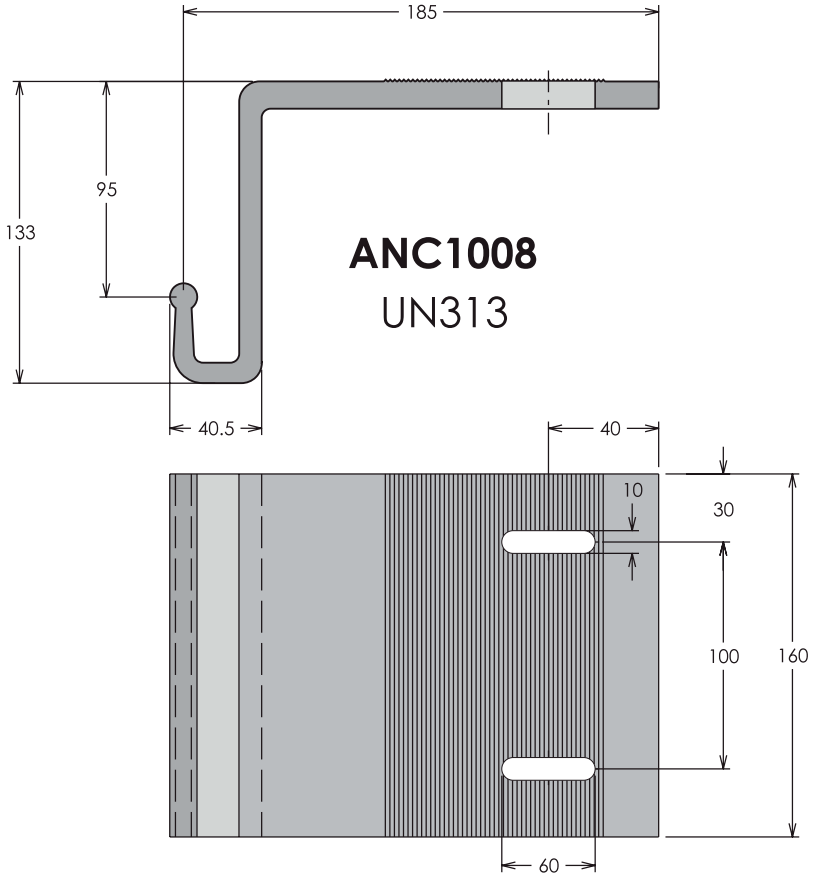
Ancoragem Frontal



ANC992
UN187

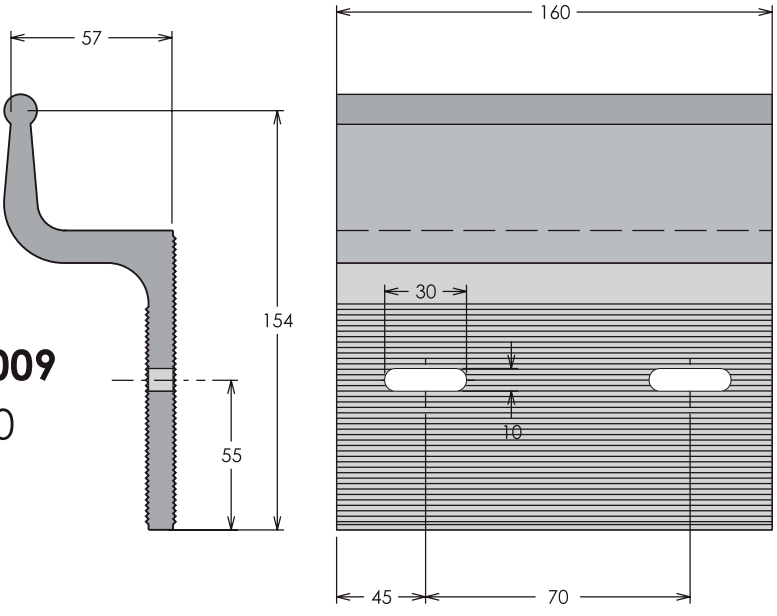
Unit® | Marca e Modelos Registrados

Ancoragem Principal



ANC1008
UN313

Ancoragem Frontal



ANC1009
UN280

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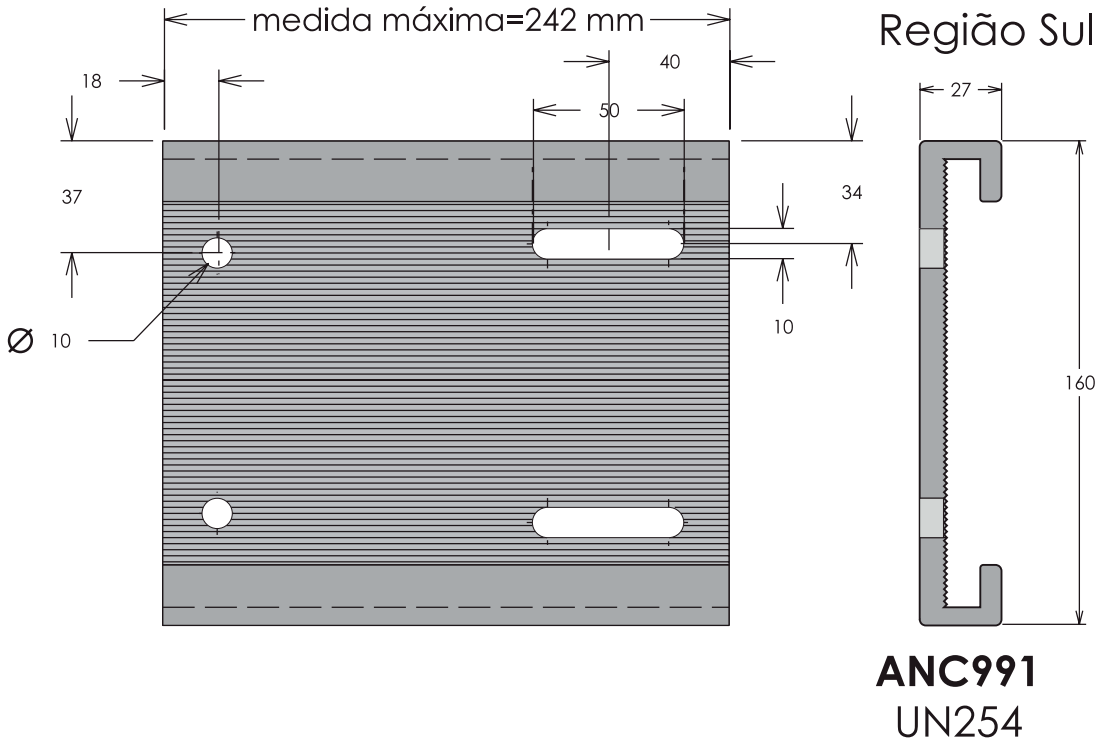
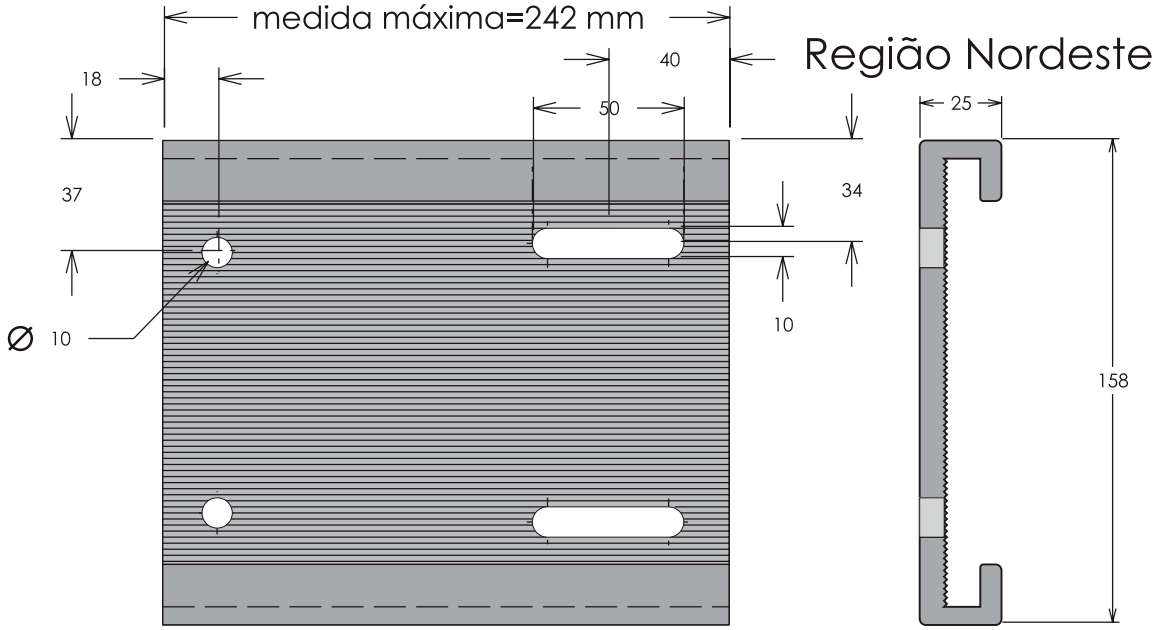
Ancoragem Telescópica



ANC991
UN254



ANC995
UN256

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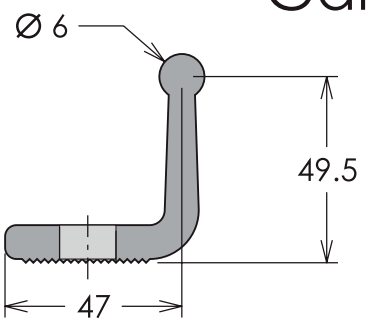
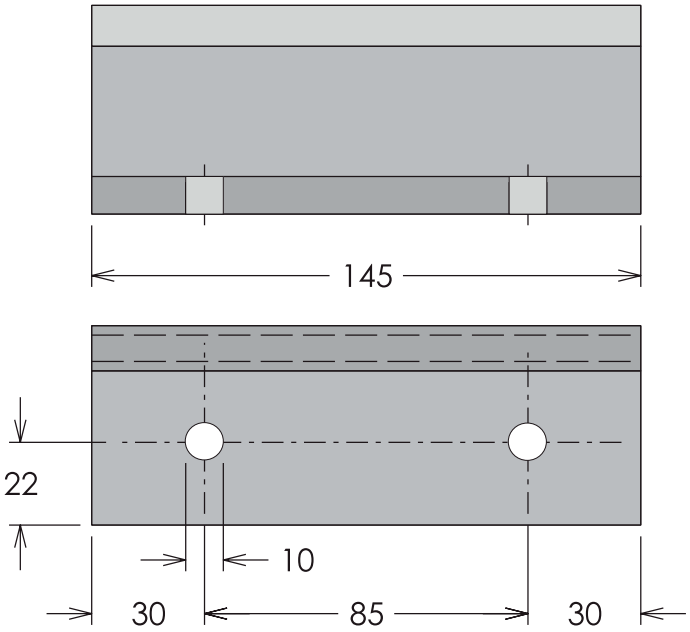
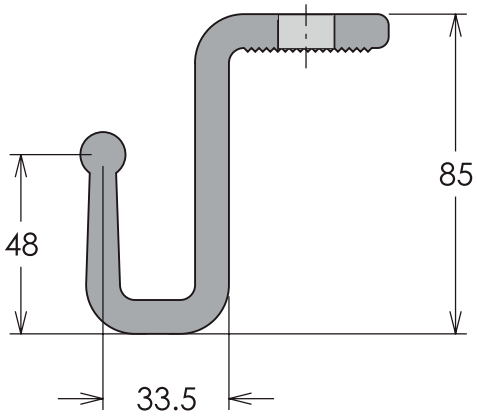
Gancho Telescópico

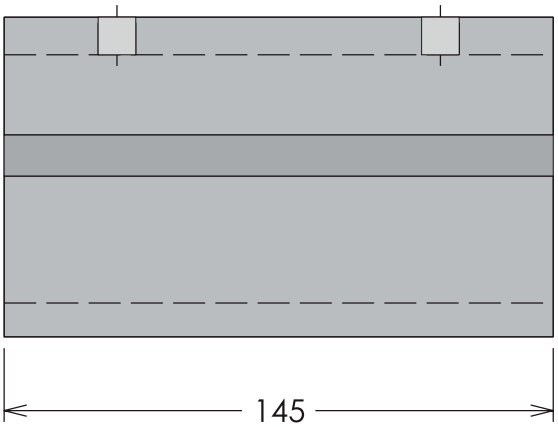


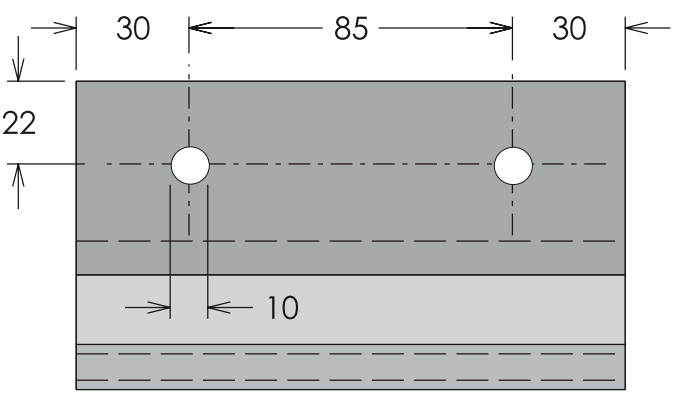
SUP711
UN255





SUP698
UN267





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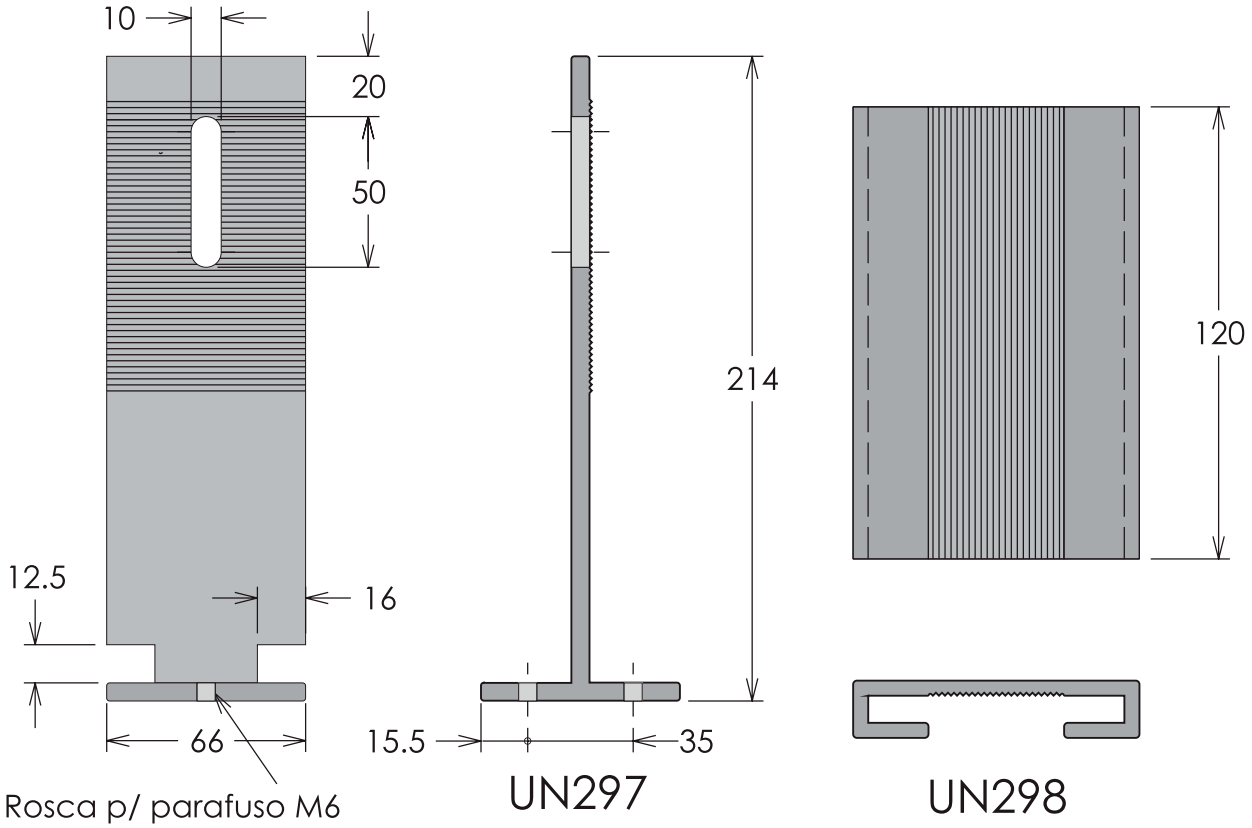
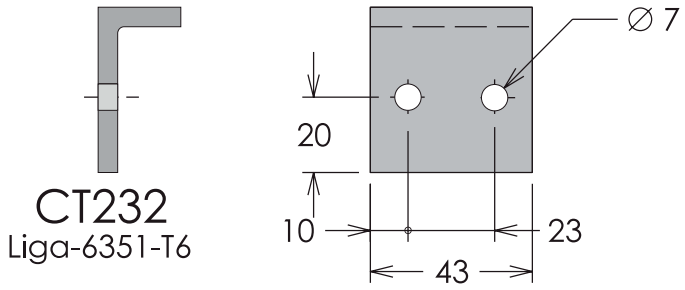
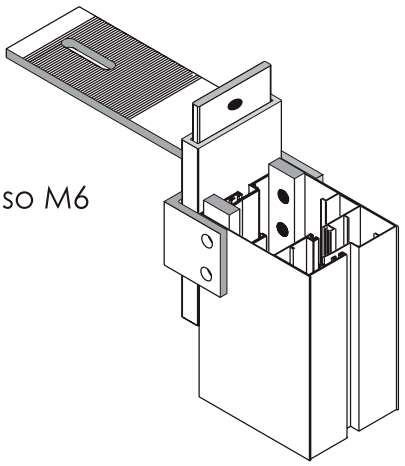
Ancoragem Telescópica Auxiliar





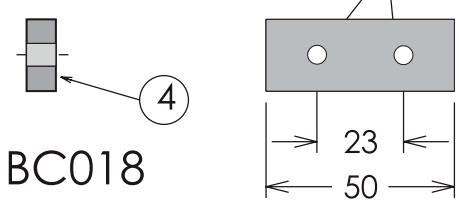
Duas peças p/ conjunto

Componente fornecido sem parafusos



DETALHE DE USO

Rosca p/ parafuso M6



Duas peças p/ conjunto

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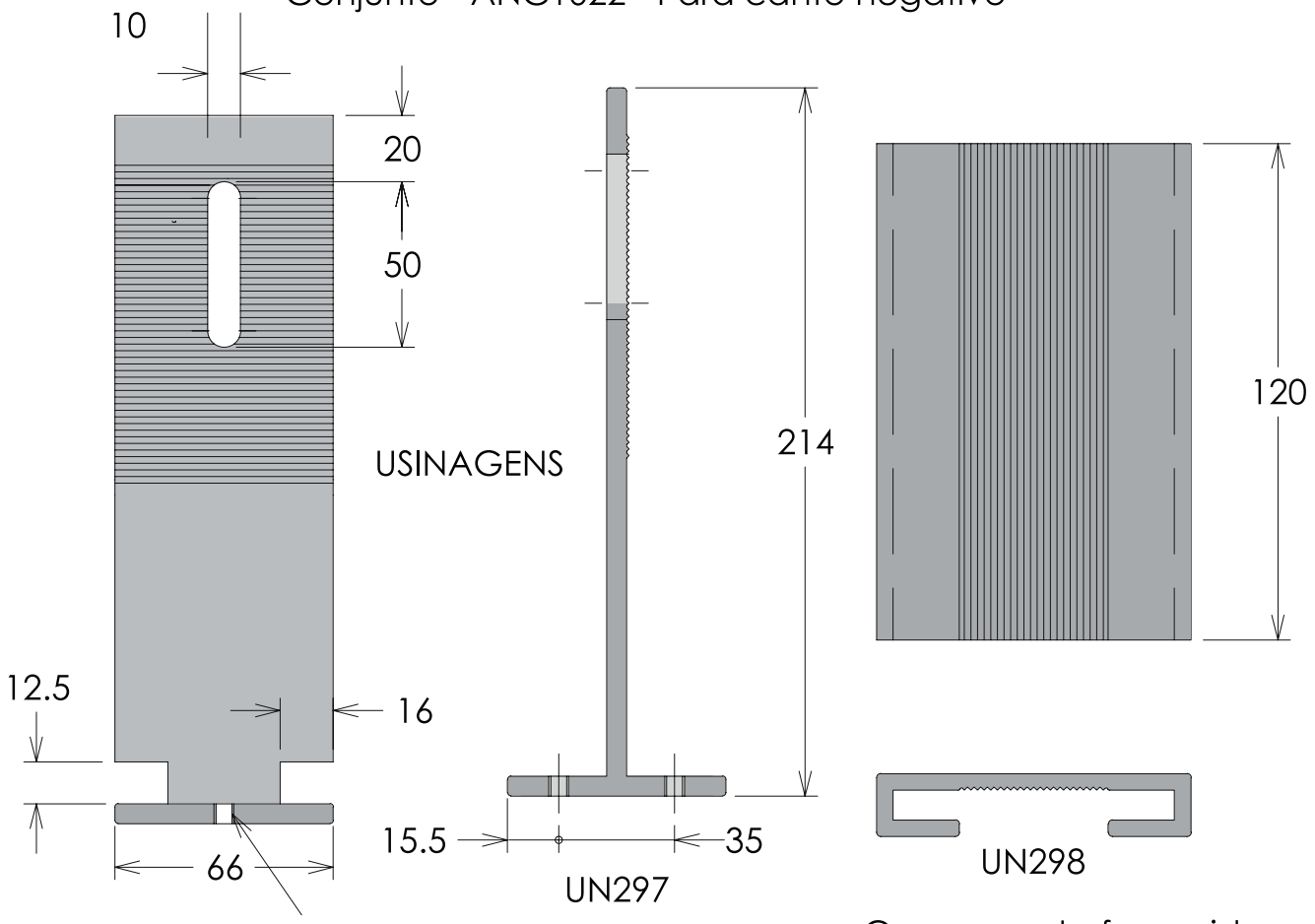
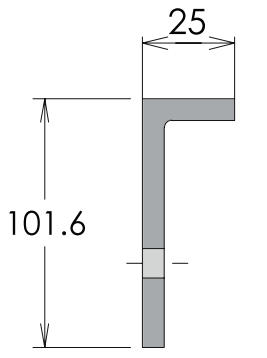
Anc. Telescópica Auxiliar-Canto
Conjunto - ANC1022 - Para canto negativo

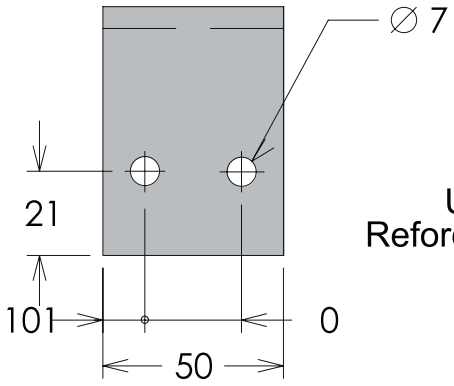


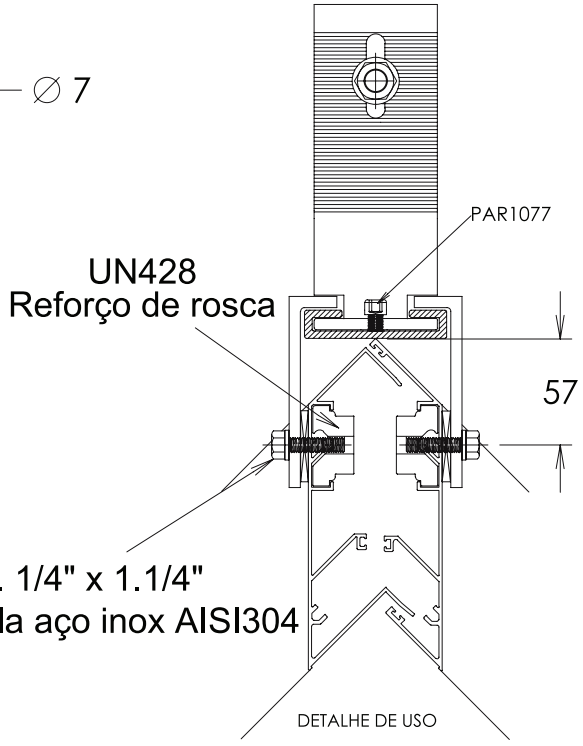
Rosca p/ parafuso M6

Componente fornecido
sem parafusos



TQO47-refilado
Fazer 2 pç. p/barra
Liga-6351-T6





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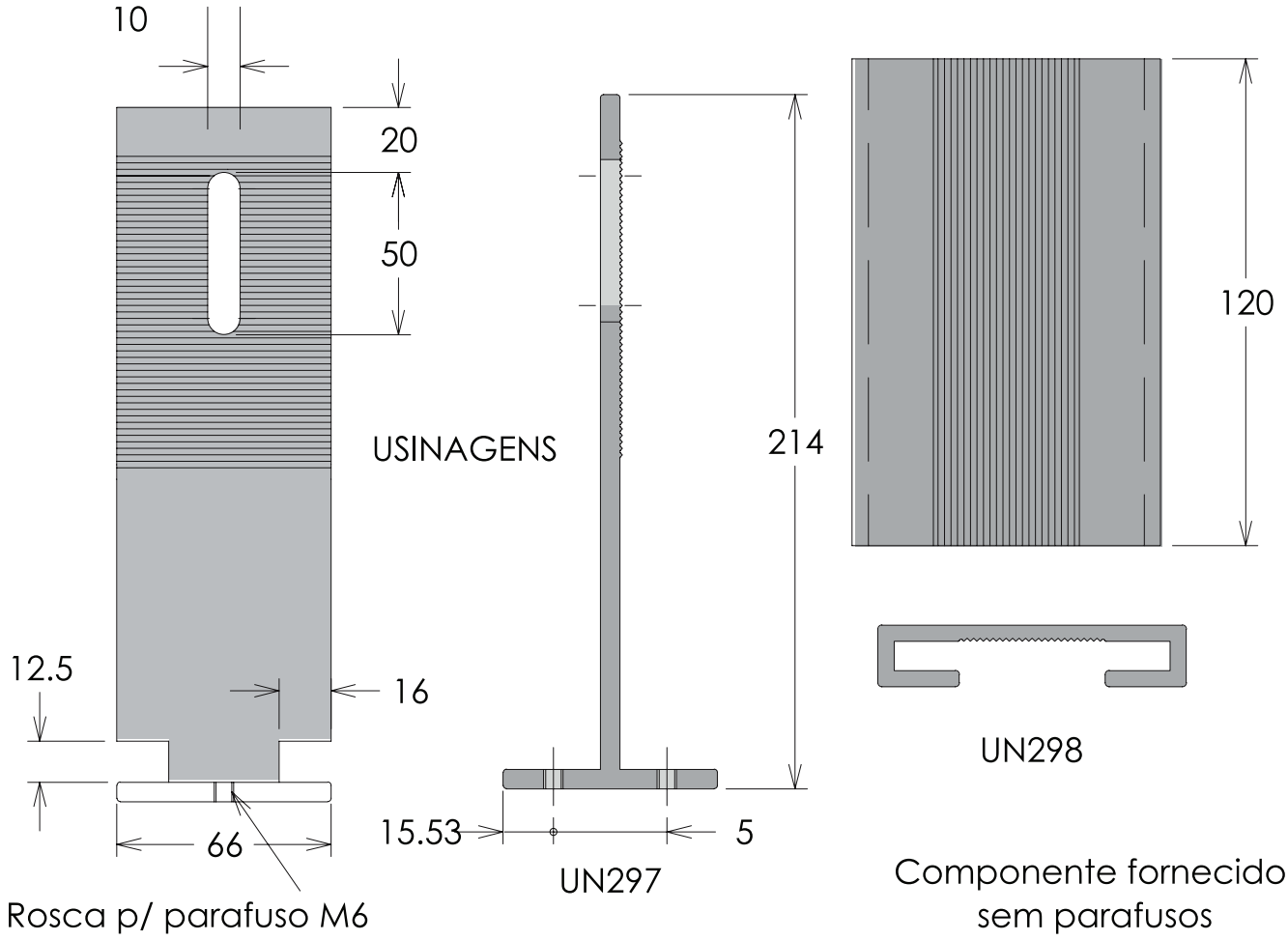
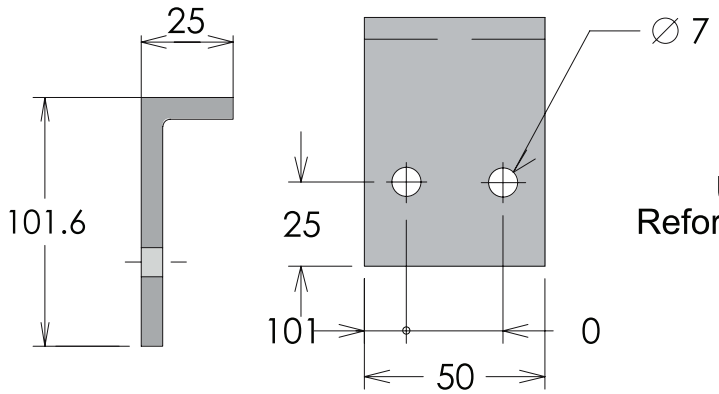
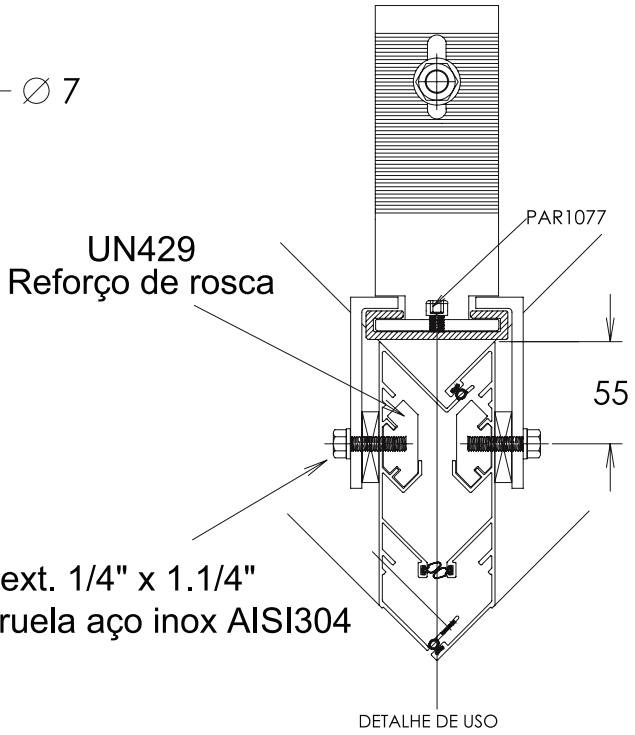
Anc. Telescópica Auxiliar-Canto
Conjunto - ANC1021 - Para canto positivo







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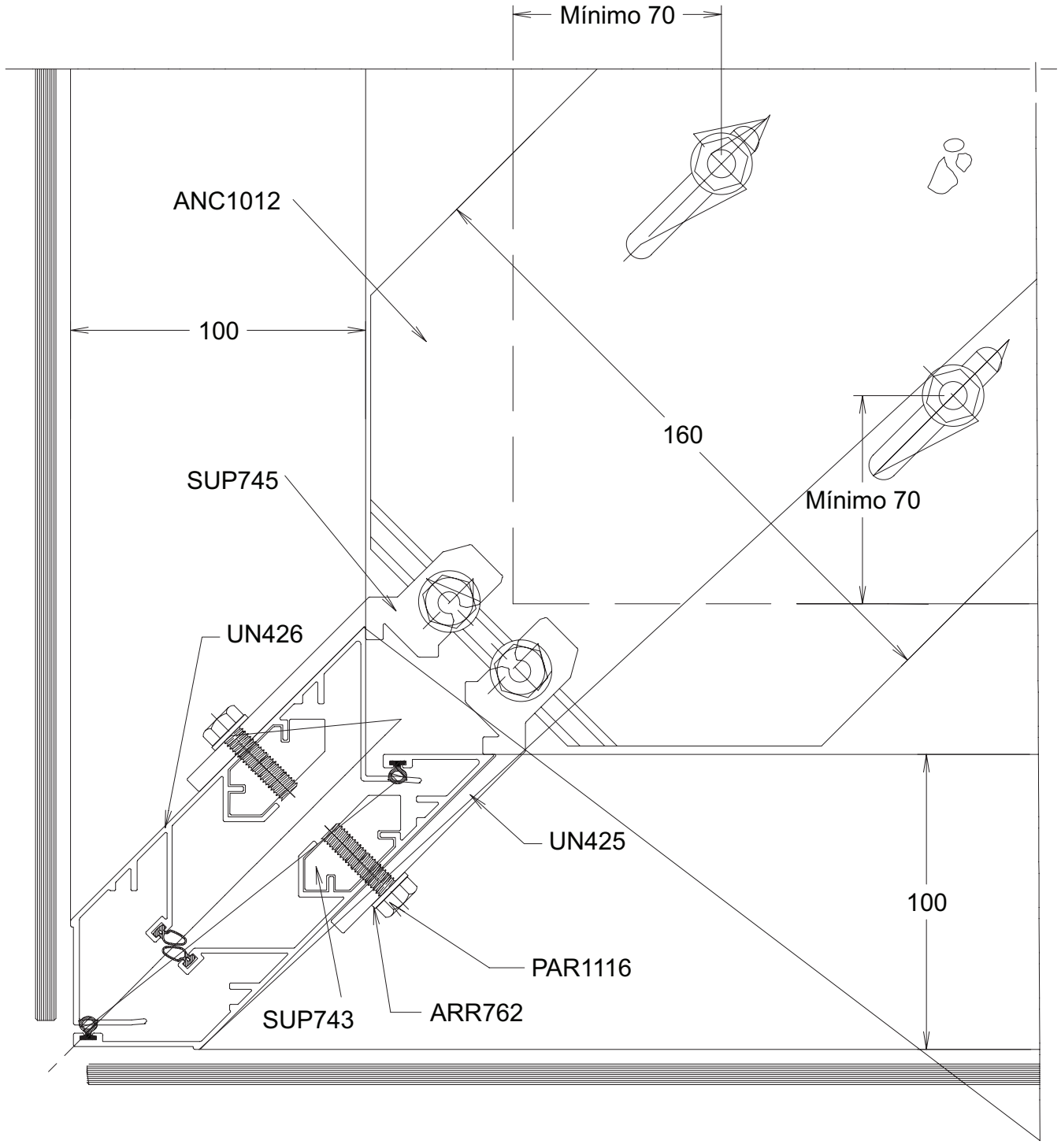
Canto Positivo



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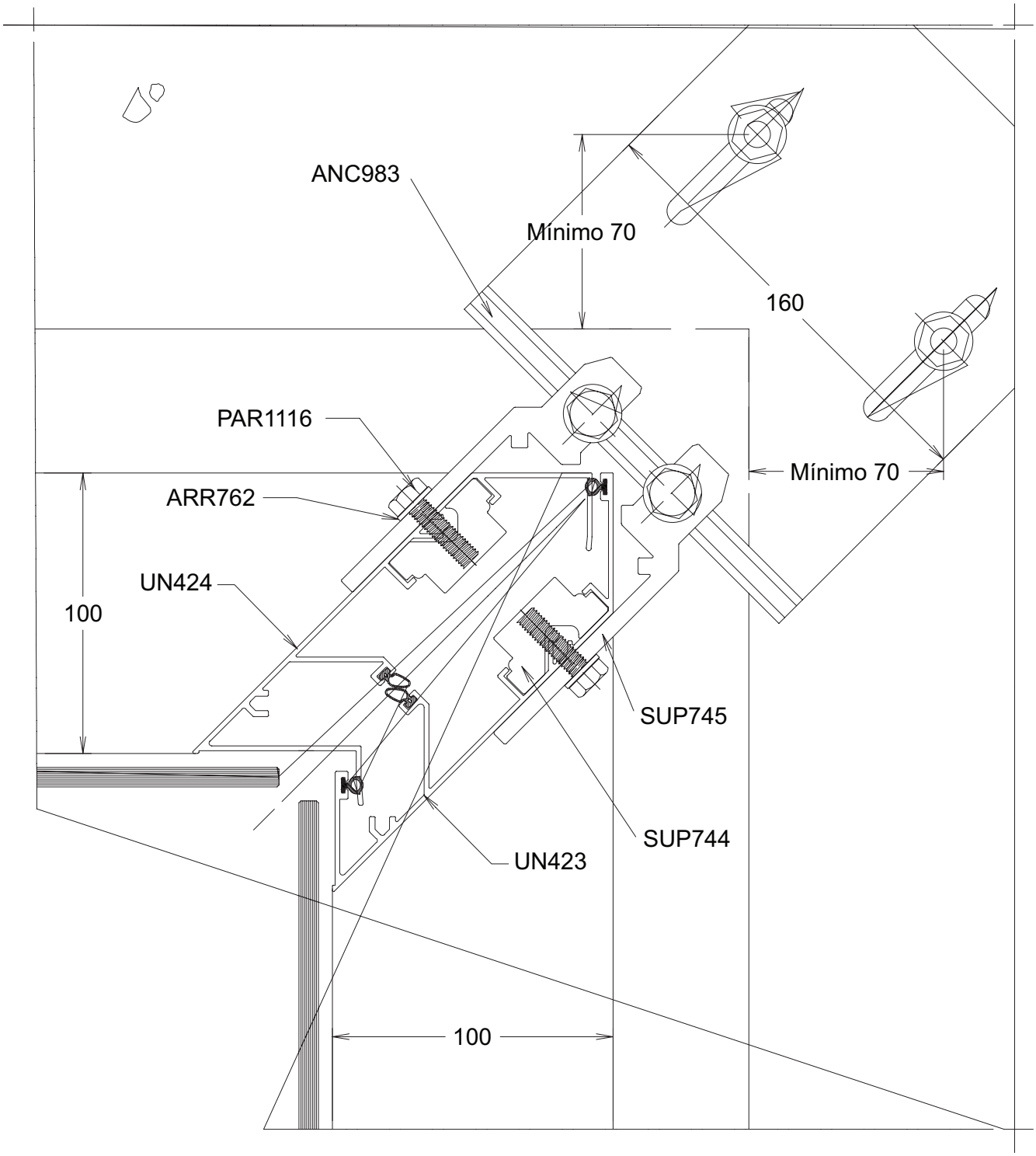
Canto Negativo



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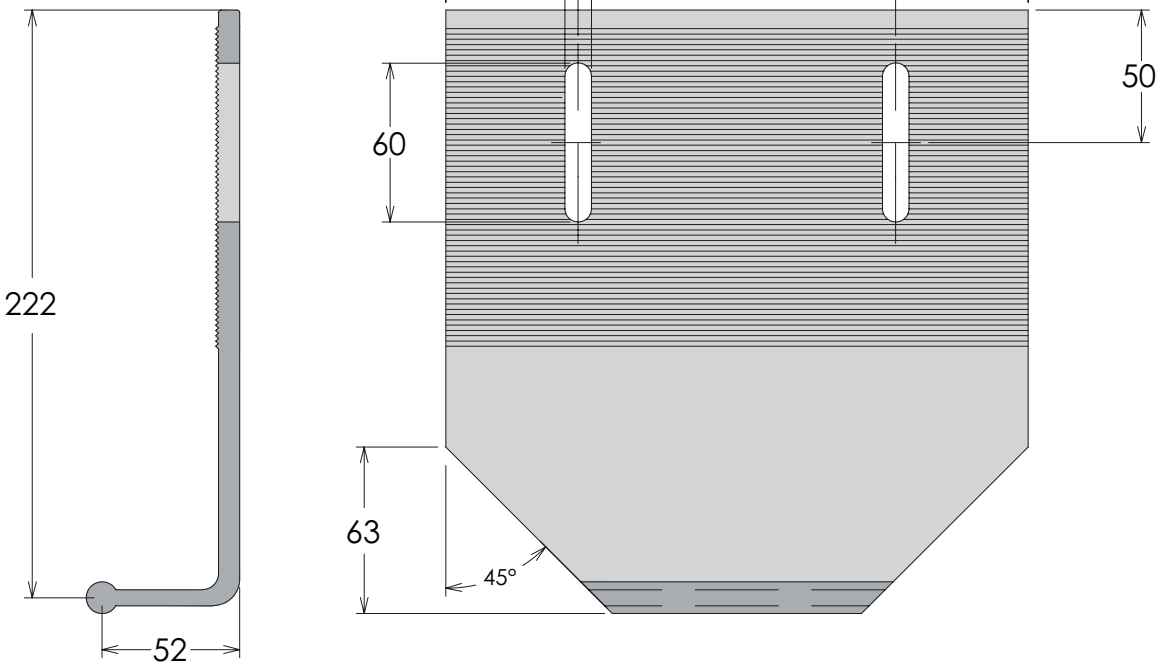
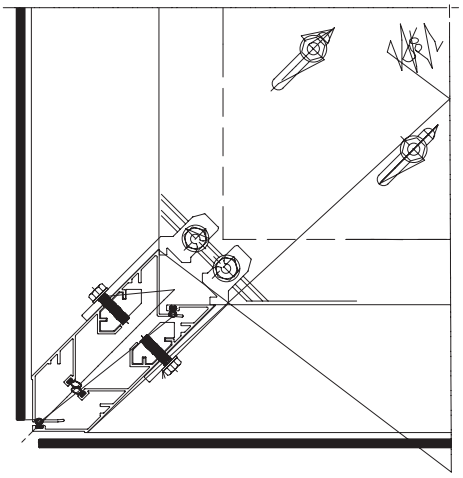
Ancoragem Principal de Canto POSITIVO

ANC1012
UN376



NOTA: Para o canto NEGATIVO, usar ANC983 (UN098)

Detalhe de uso



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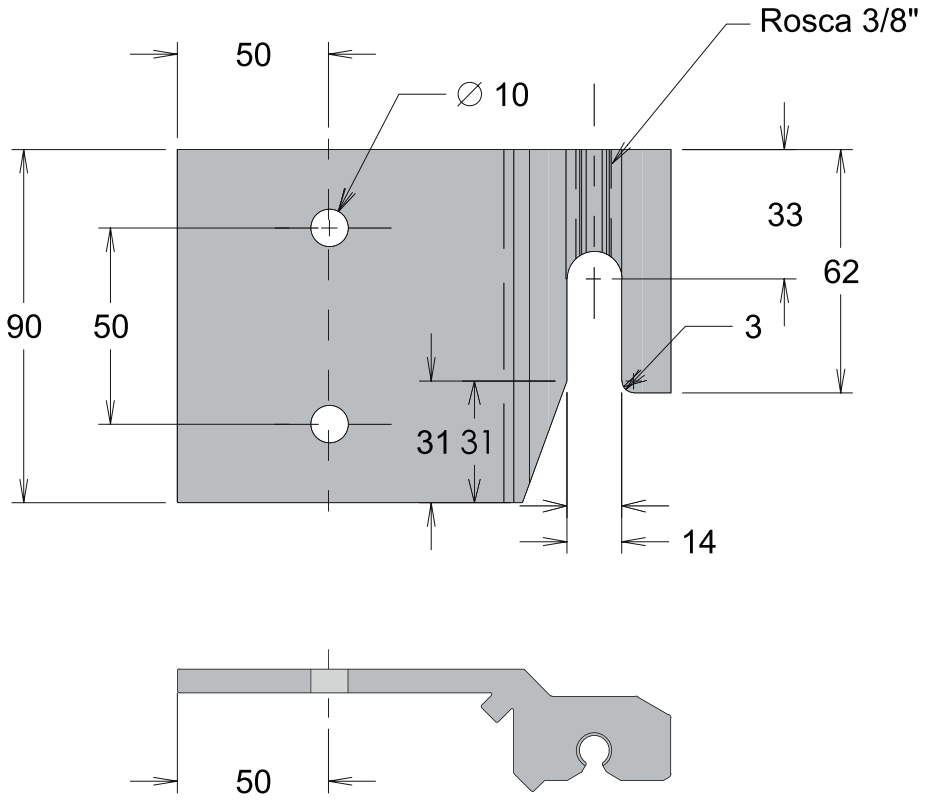
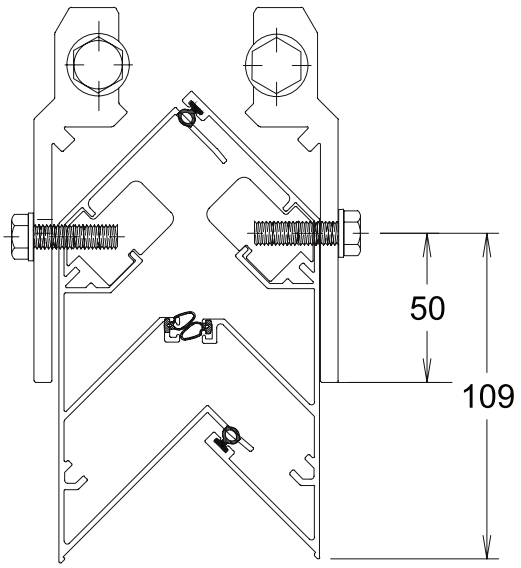
SUP749

Suporte para colunas de canto negativo
Coluna 80 mm

UN377





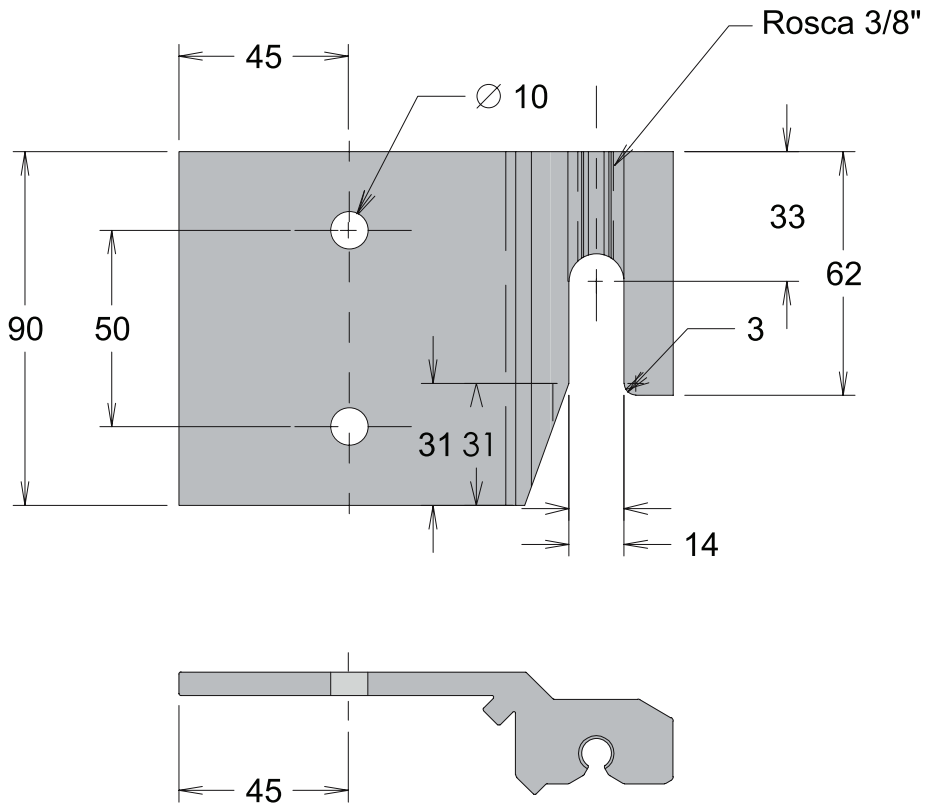
Detalhe de uso

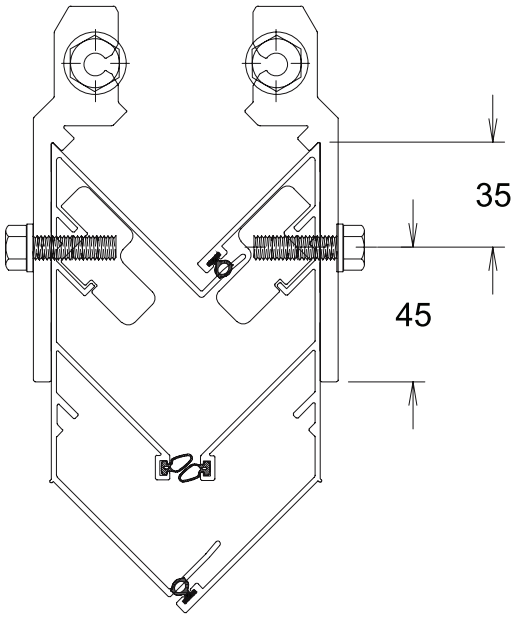
Unit® | Marca e Modelos Registrados

SUP750

Suporte para colunas de canto positivo
Coluna 80 mm

UN377



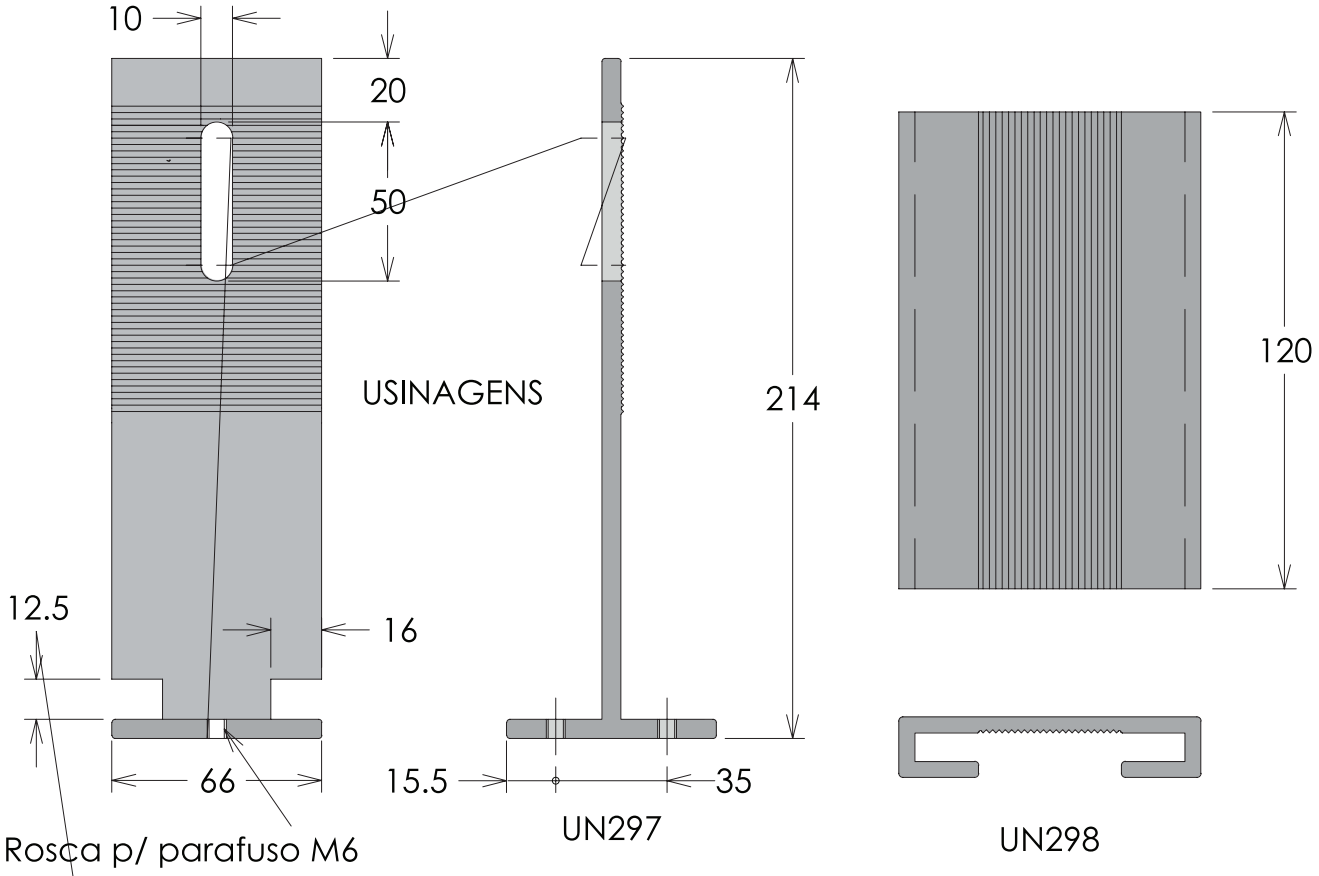


Detalhe de uso

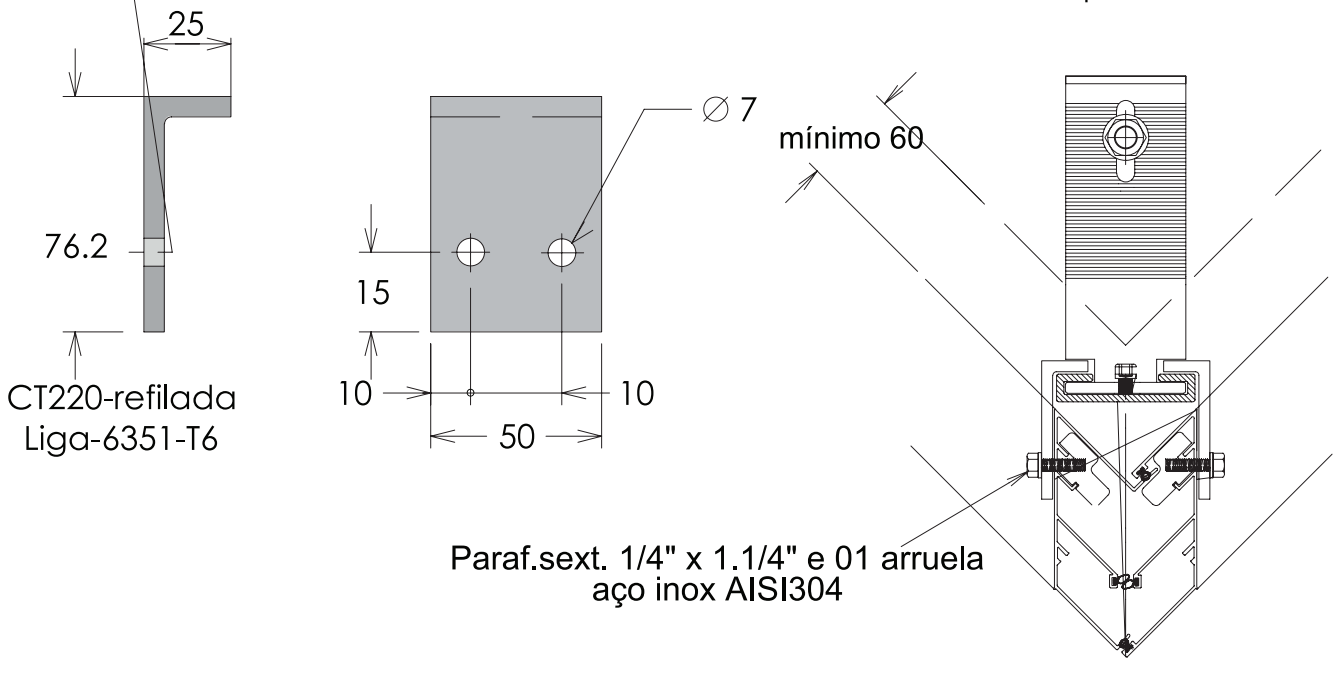
Unit® | Marca e Modelos Registrados

Ancoragem Auxiliar-Canto Positivo e Negativo

Conjunto - ANC1020



Componente fornecido sem parafusos



DETALHE DE USO

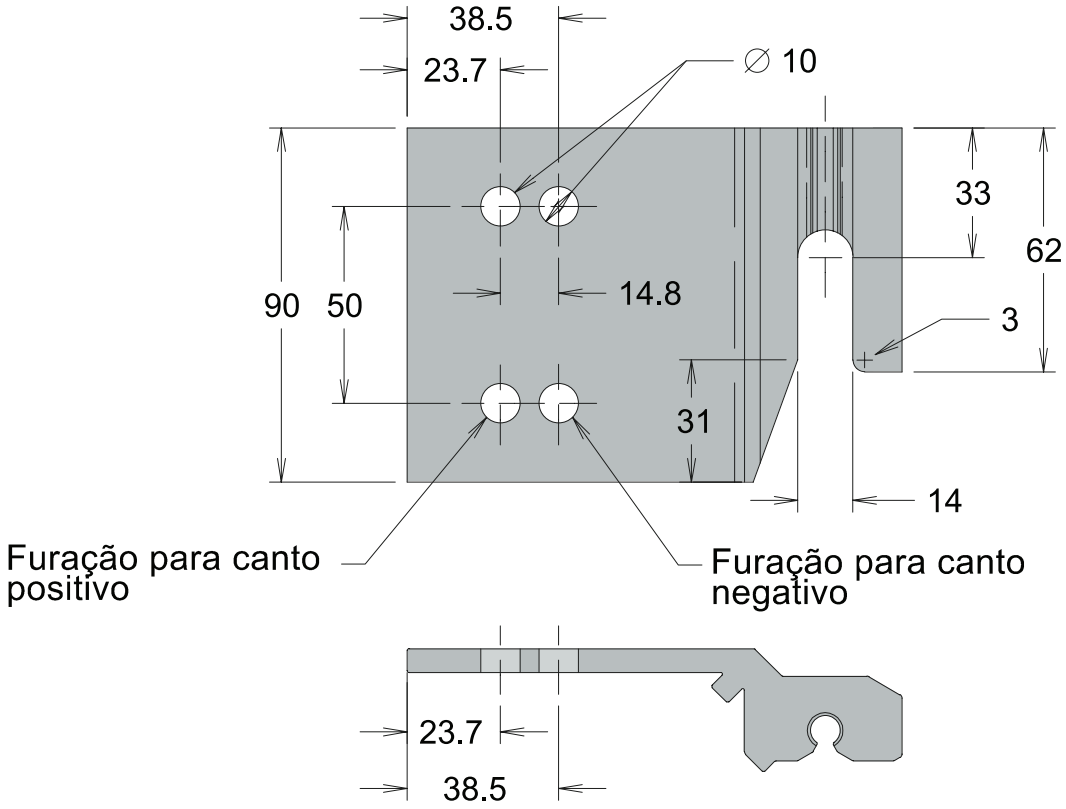
Unit® | Marca e Modelos Registrados

SUP745

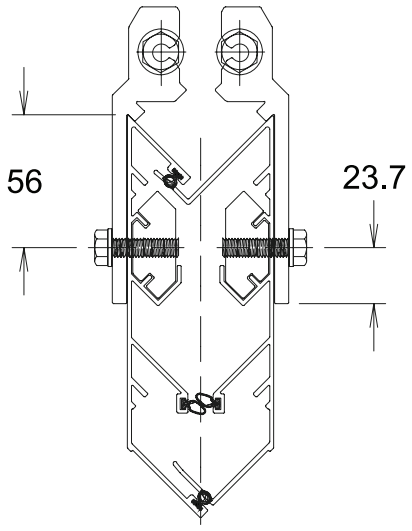
Suporte para colunas de canto positivo e negativo

Coluna 100 mm

UN377

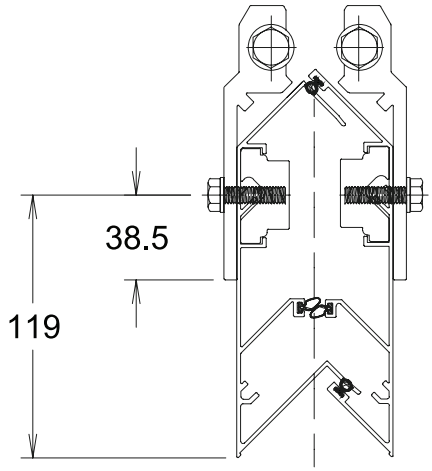


Canto Positivo



Detalhe de uso

Canto Negativo

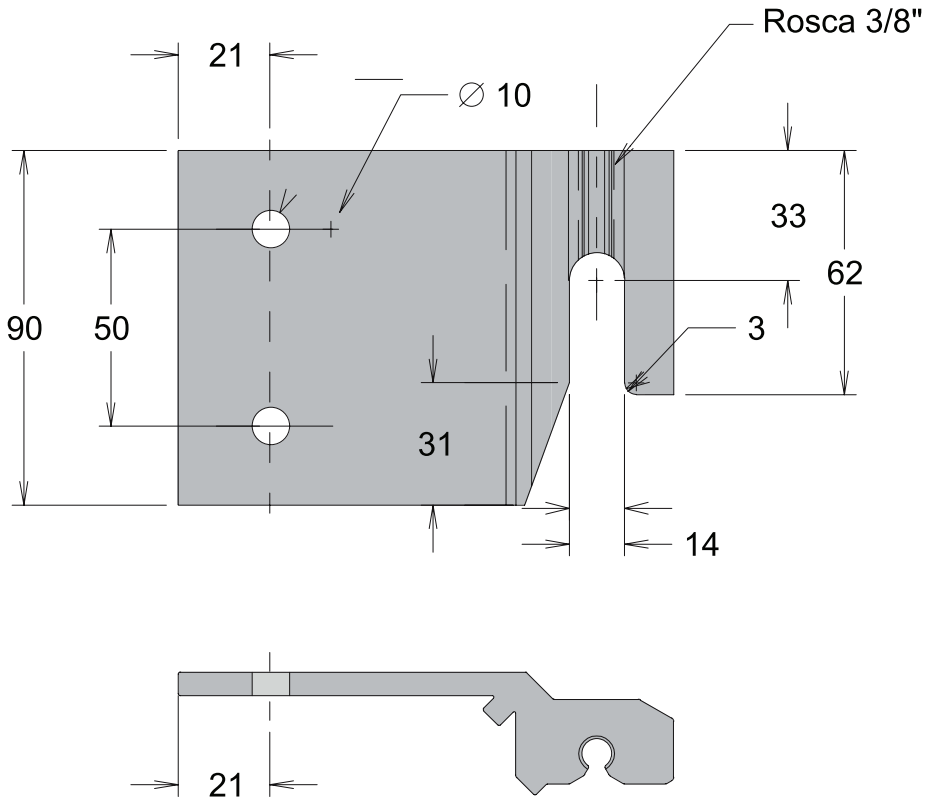


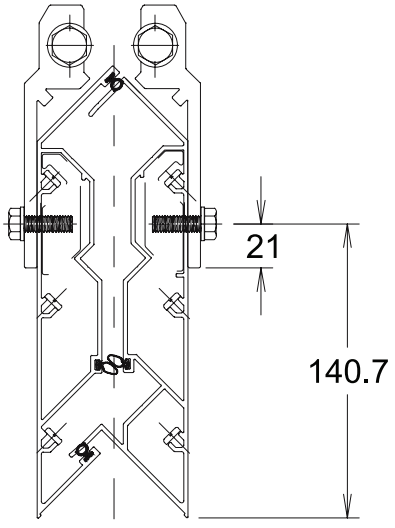
Detalhe de uso

Unit® | Marca e Modelos Registrados

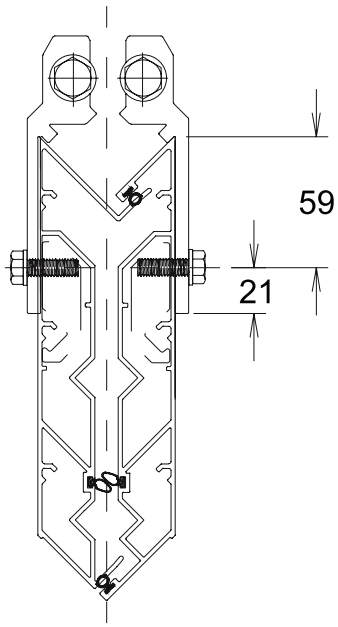
SUP753

Suporte para colunas de canto negativo e positivo
Coluna 127 mm
(UN377)





Canto negativo



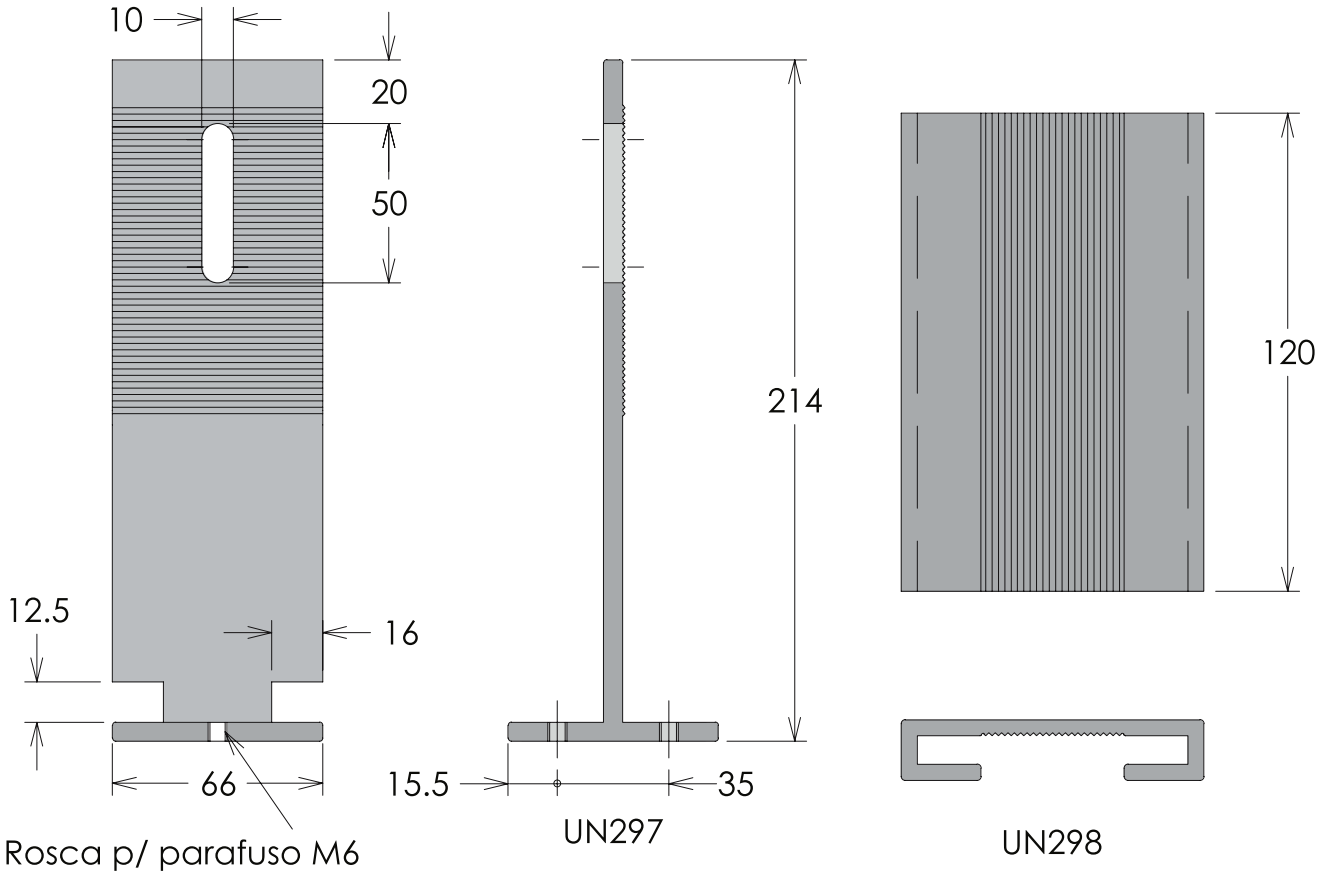
Canto positivo

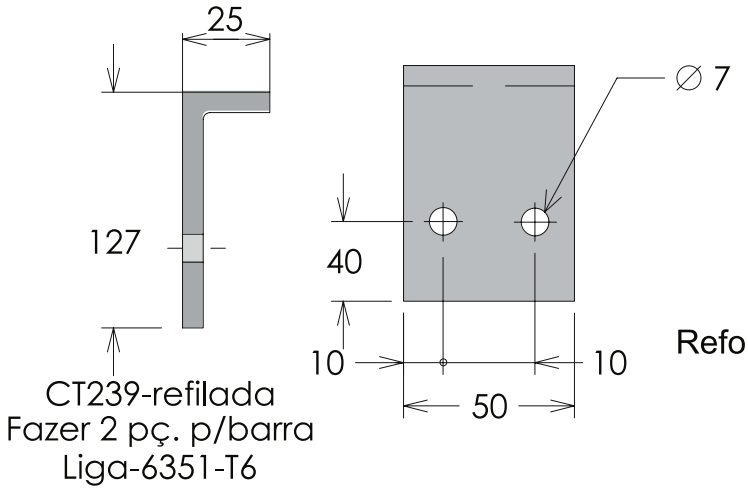
Detalhe de uso

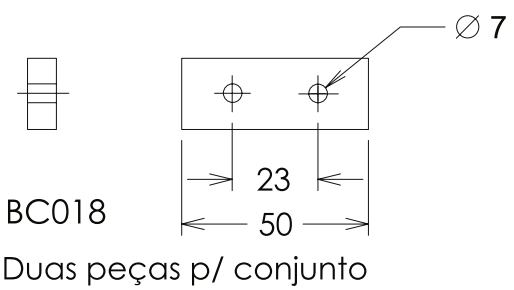
Unit® | Marca e Modelos Registrados

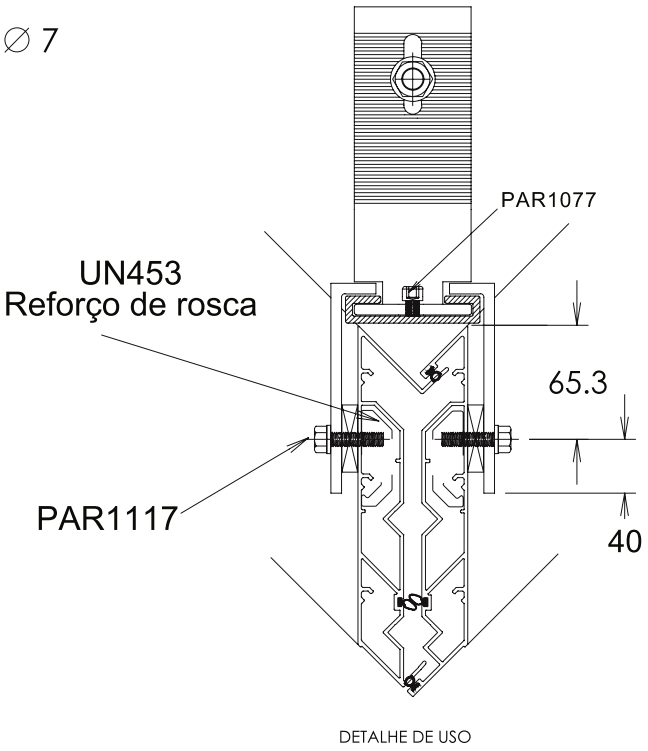
Conjunto - ANC1027

Anc. telescópica auxiliar-canto positivo - módulo 127





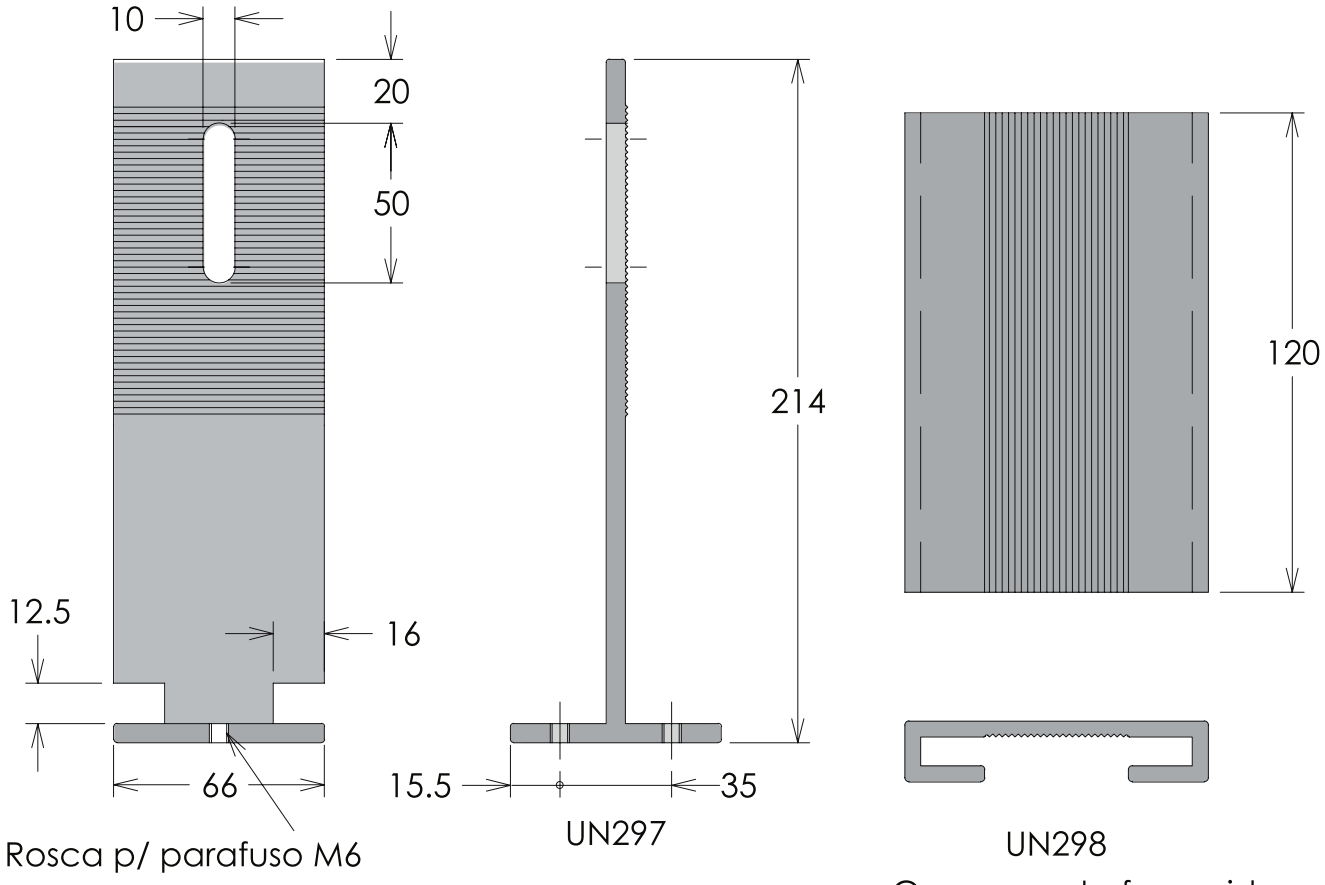




Unit® | Marca e Modelos Registrados

Conjunto - ANC1028

Anc. telescópica auxiliar-canto negativo - módulo 127

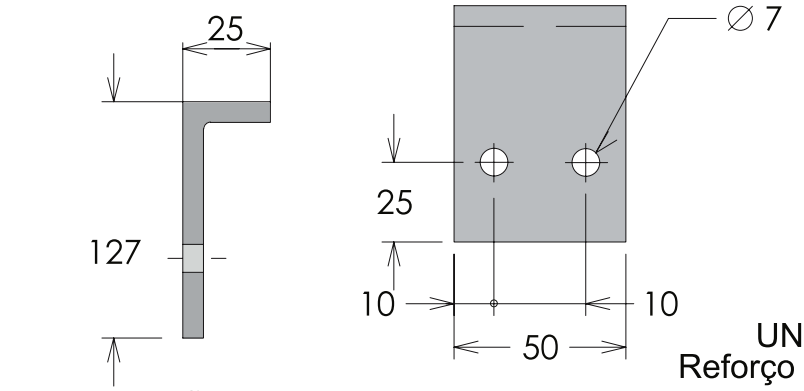


Rosca p/ parafuso M6

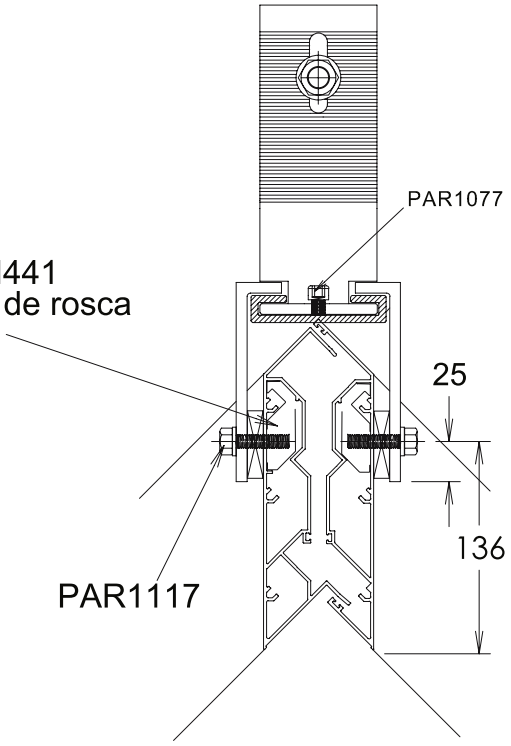
UN297

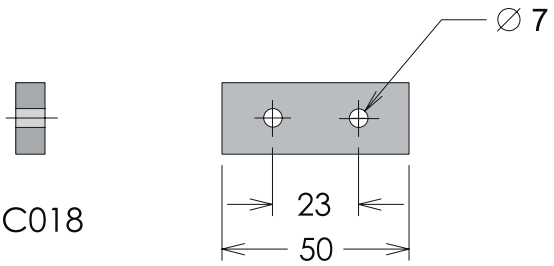
UN298

Componente fornecido sem parafusos



CT239-refilada
Fazer 2 pç. p/barra
Liga-6351-T6



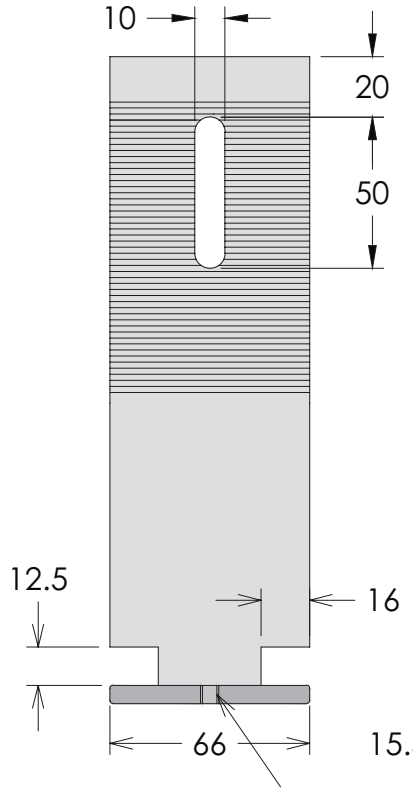


BC018

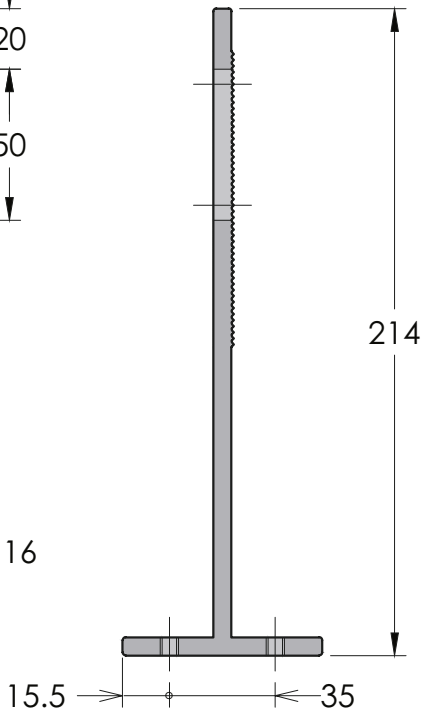
Duas peças p/ conjunto

Unit® | Marca e Modelos Registrados

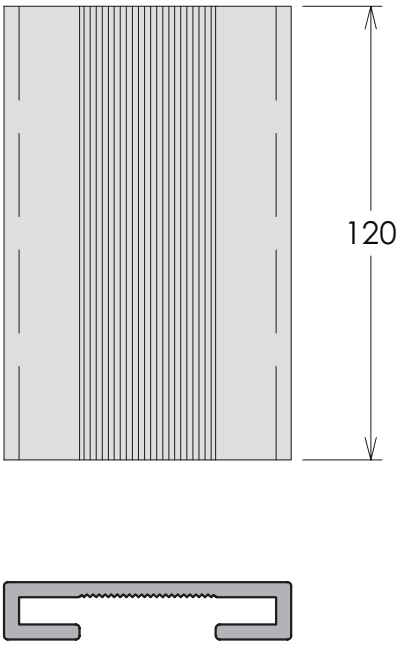
ANC1014-Anc. Telescópica Auxiliar



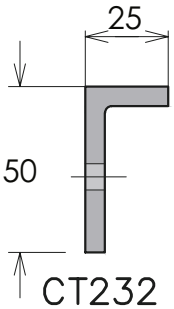
Rosca p/ parafuso M6



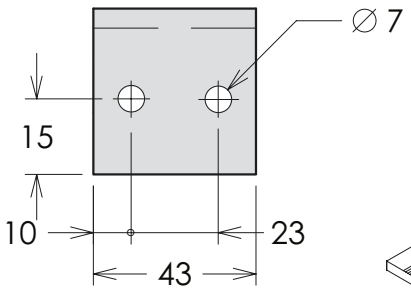
UN297



UN298

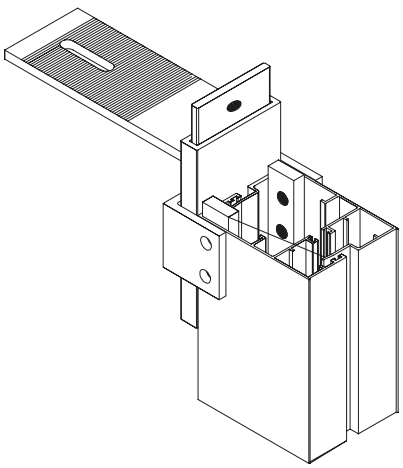


CT232
Liga-6351-T6



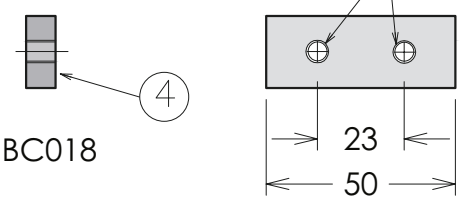
Duas peças p/ conjunto

Componente fornecido sem parafusos



DETALHE DE USO

Rosca p/ parafuso M6

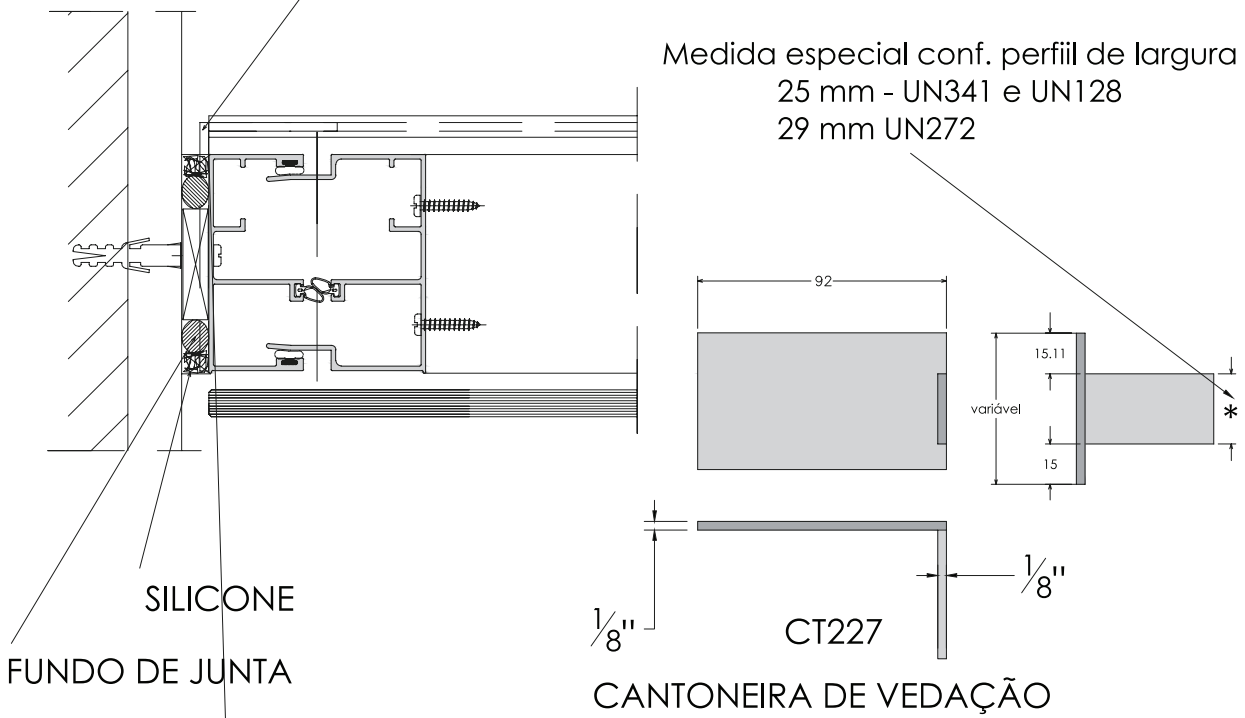


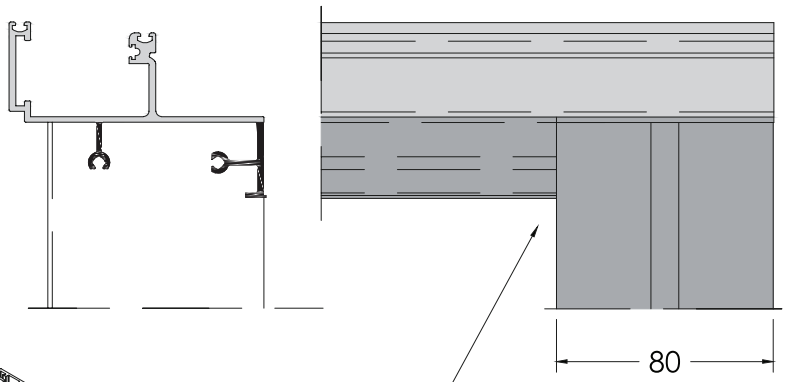
BC018

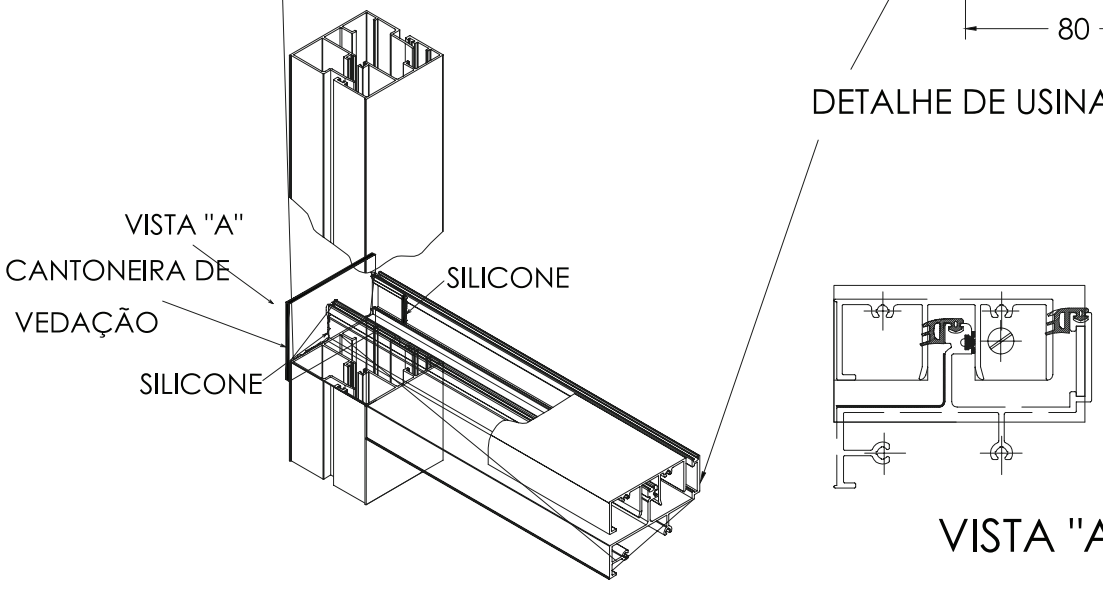
Duas peças p/ conjunto

Unit® | Marca e Modelos Registrados

CANTONEIRA DE VEDAÇÃO - CT227 - Refilada



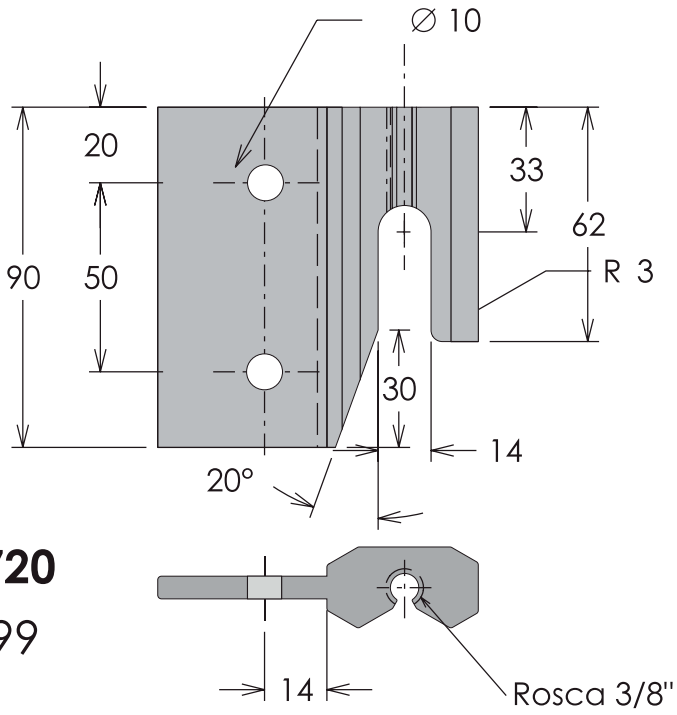




VISTA "A"

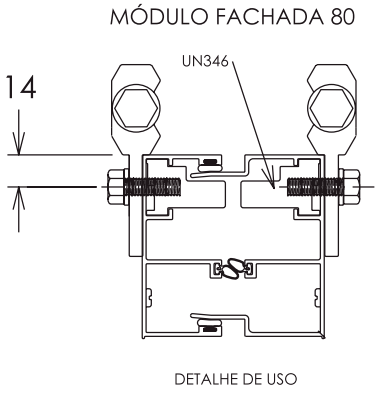
Unit® | Marca e Modelos Registrados

SUPORTE



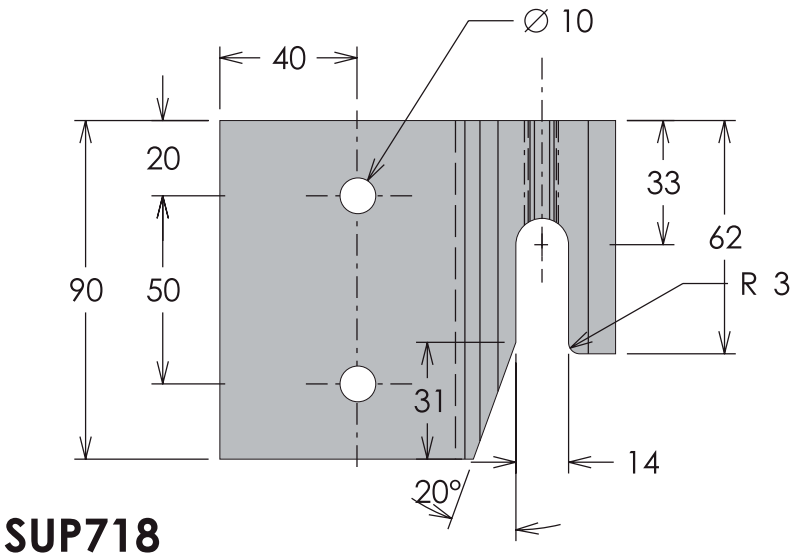
SUP720

UN099



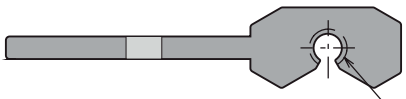
Unit® | Marca e Modelos Registrados

SUPORTE



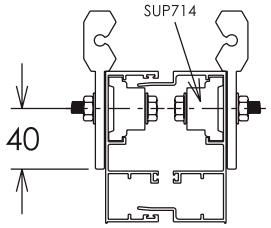
SUP718

UN105

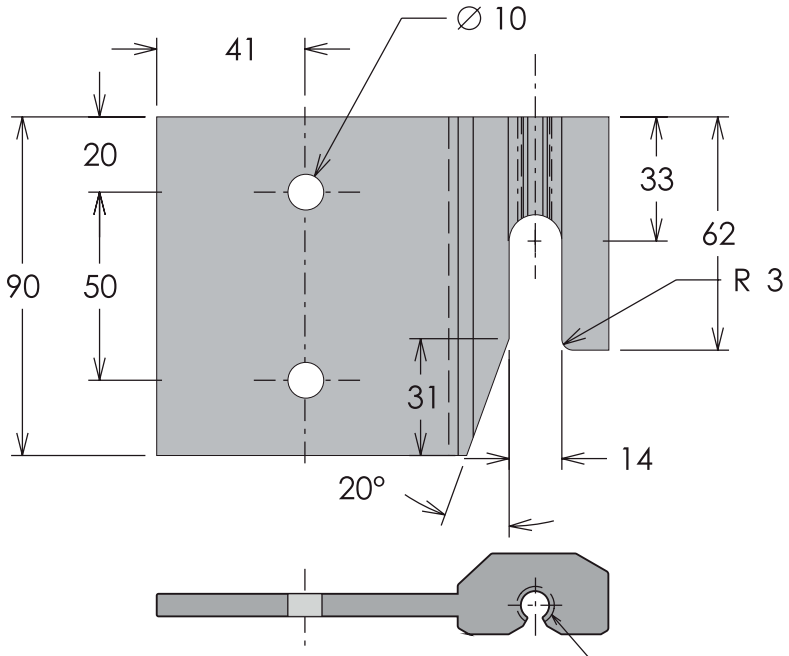


Rosca 3/8"

MÓDULO FACHADA 100



DETALHE DE USO

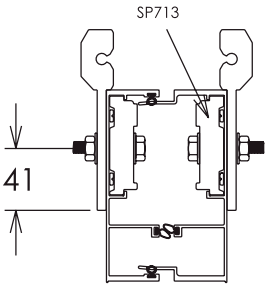


SUP719

UN208

Rosca 3/8"

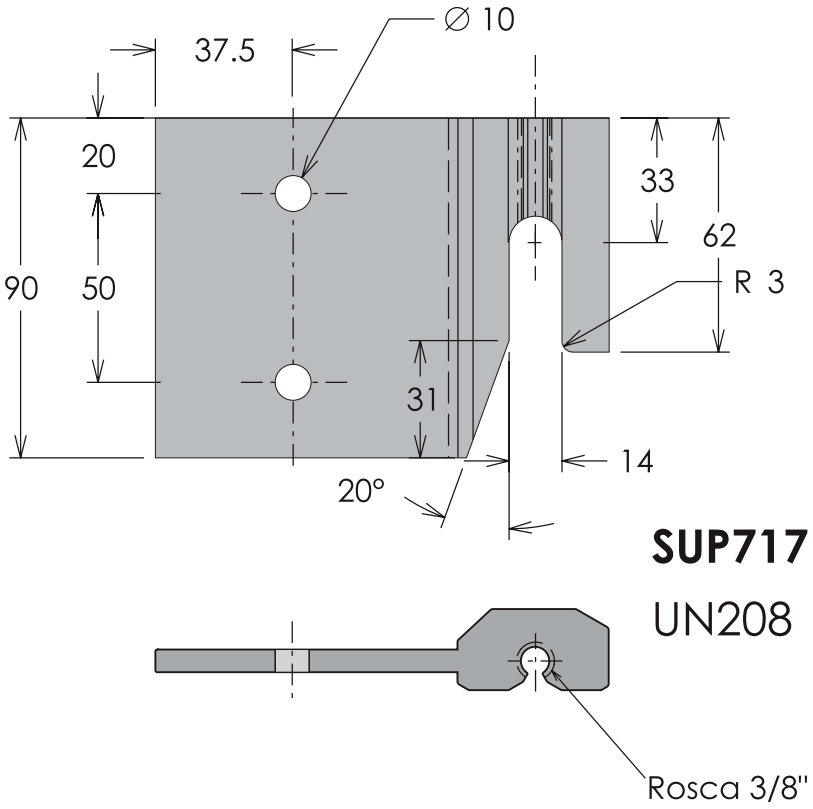
MÓDULO FACHADA 127



DETALHE DE USO

Unit® | Marca e Modelos Registrados

SUPORTE



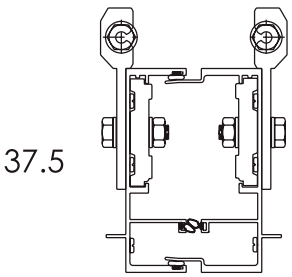
SUP717

UN208

Rosca 3/8"

MÓDULO FACHADA 135

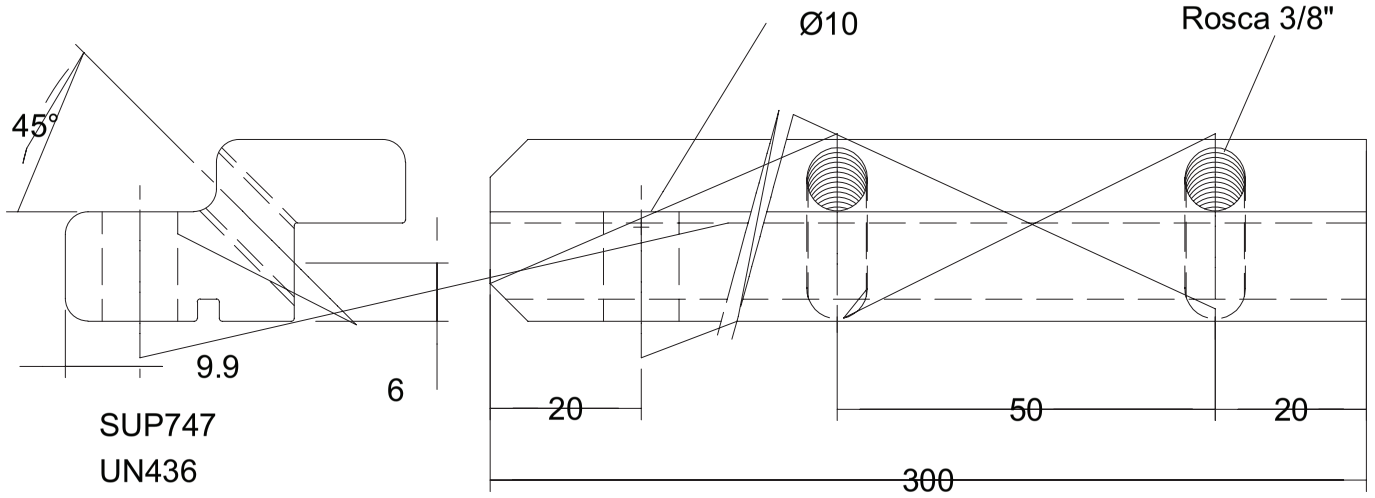
SUP715



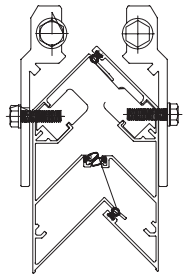
DETALHE DE USO

Unit® | Marca e Modelos Registrados

Tirante positivo - Coluna de canto 80

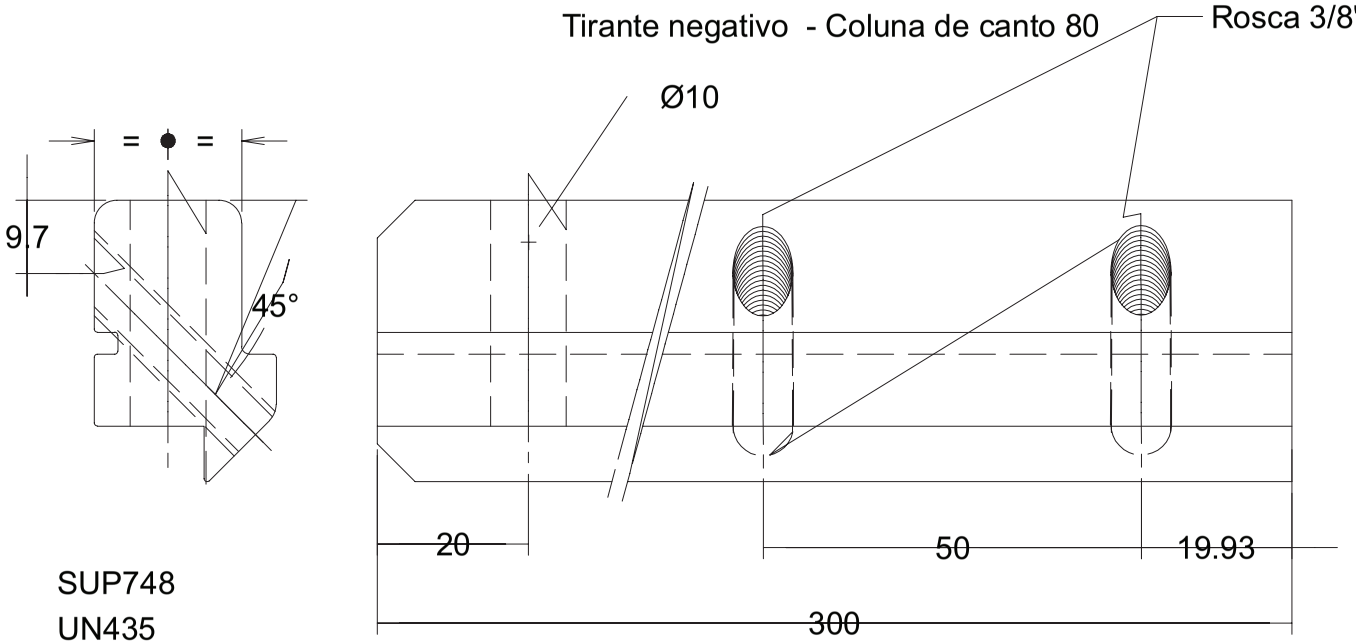


SUP747
UN436

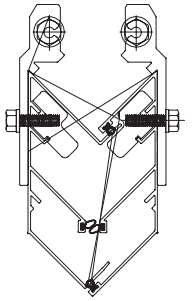


Detalhe de uso

Tirante negativo - Coluna de canto 80



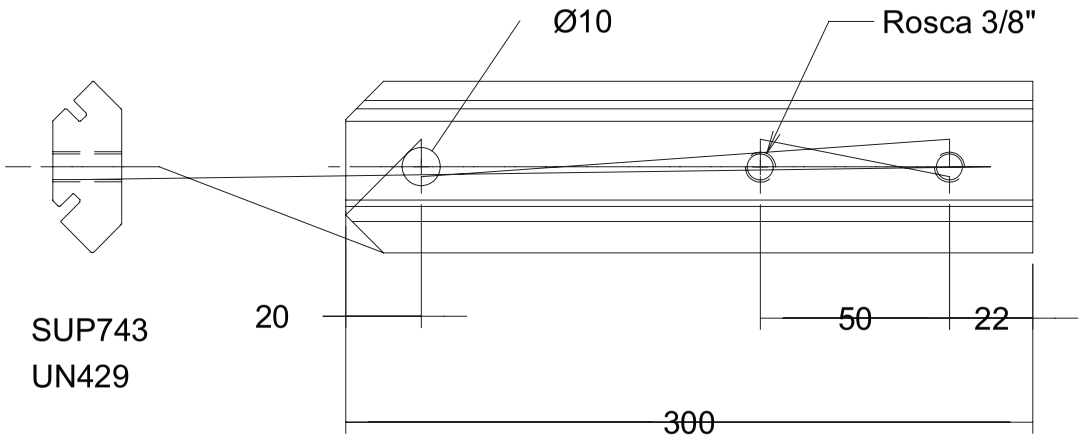
SUP748
UN435

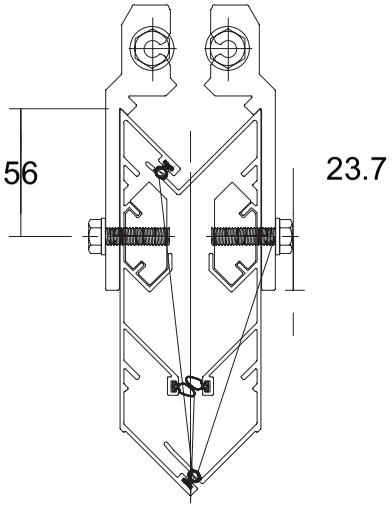


Detalhe de uso

Obs: O comprimento de 300 mm poderá ter variação conforme configuração da obra

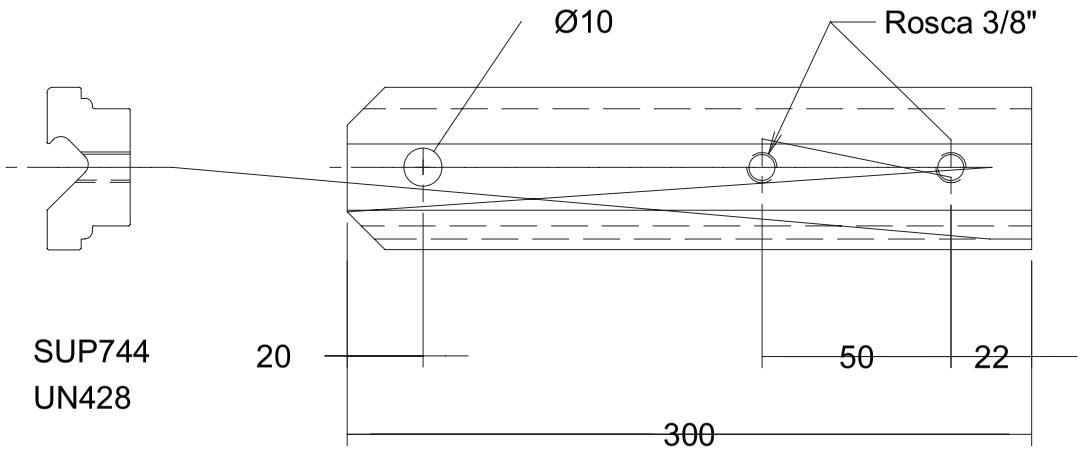
Tirante positivo - Coluna de canto 100

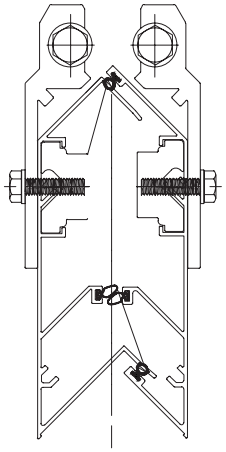




Detalhe de uso

Tirante negativo - Coluna de canto 100



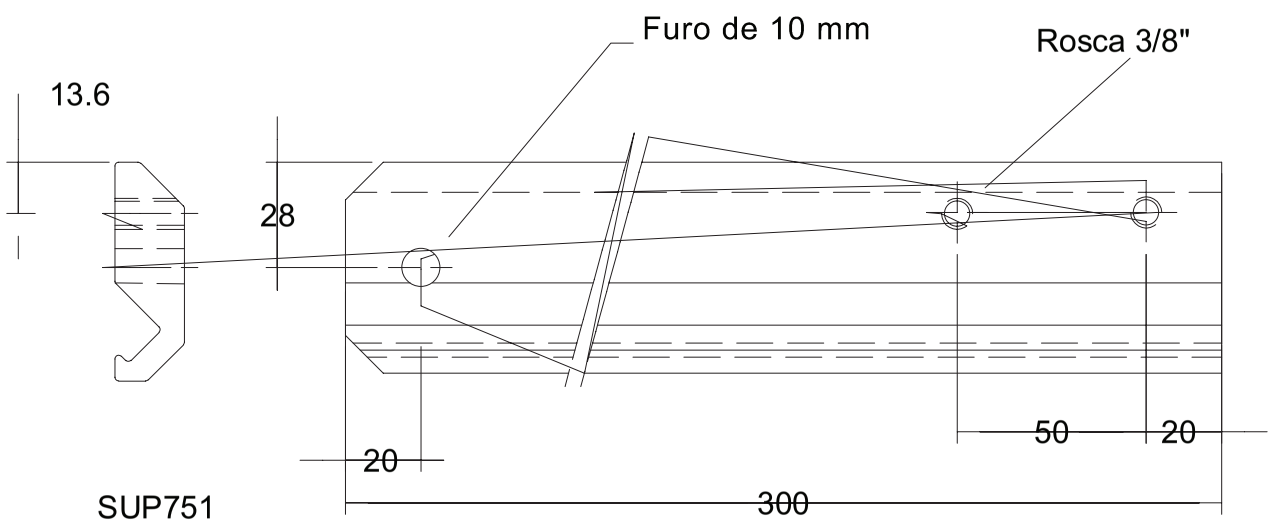


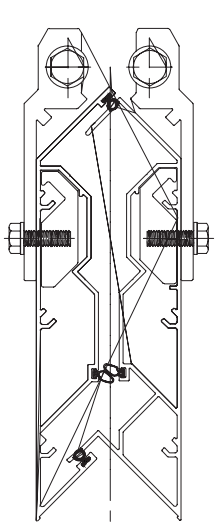
Detalhe de uso

Obs: O comprimento de 300 mm poderá ter variação conforme configuração da obra

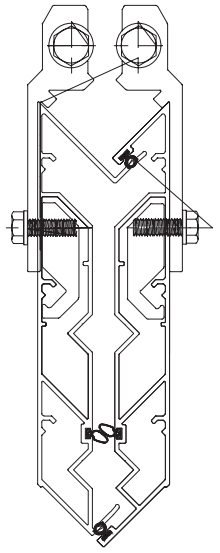
Unit® | Marca e Modelos Registrados

Tirante positivo e negativo - Coluna de canto 127





Canto negativo

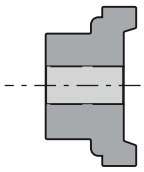


Canto positivo

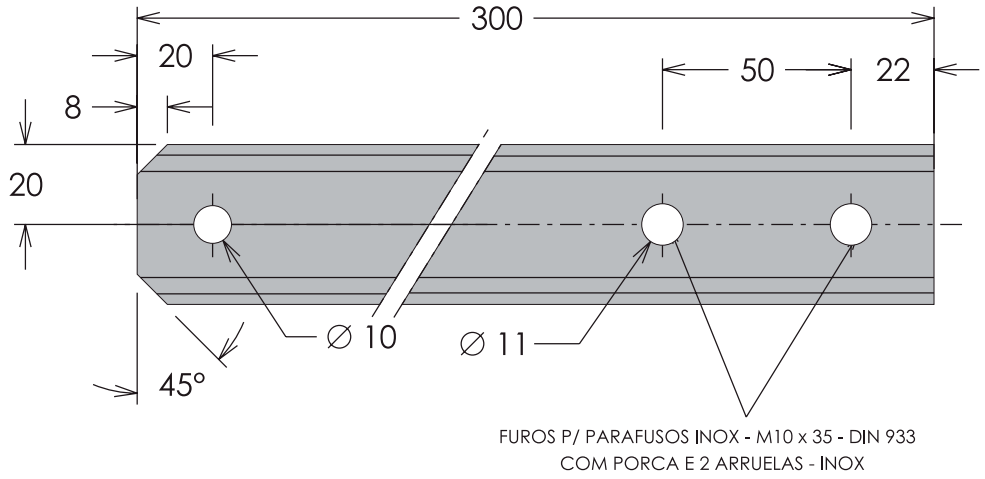
Detalhe de uso

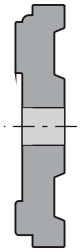
Obs: O comprimento de 300 mm poderá ter variação conforme configuração da obra

Tirantes

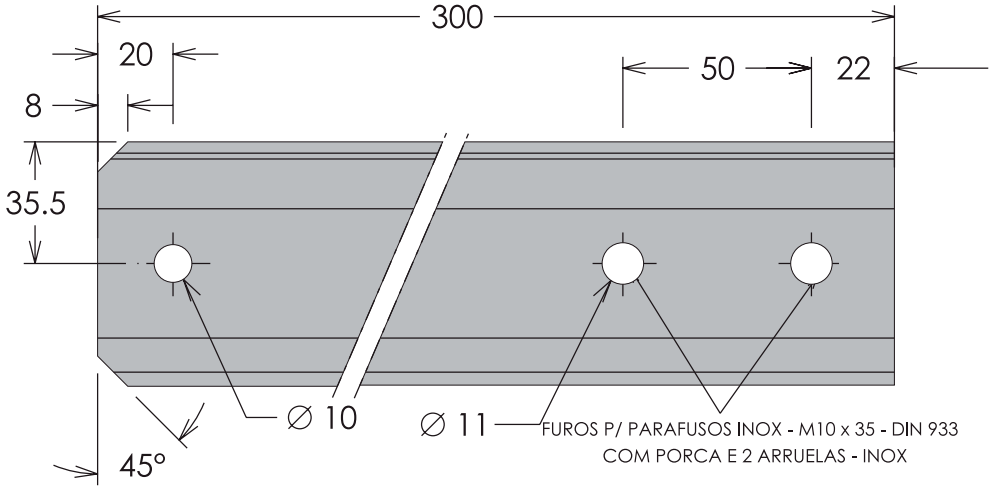


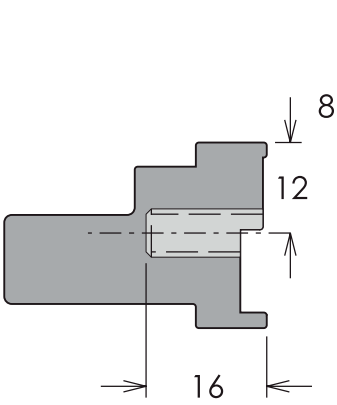
SUP714
UN268



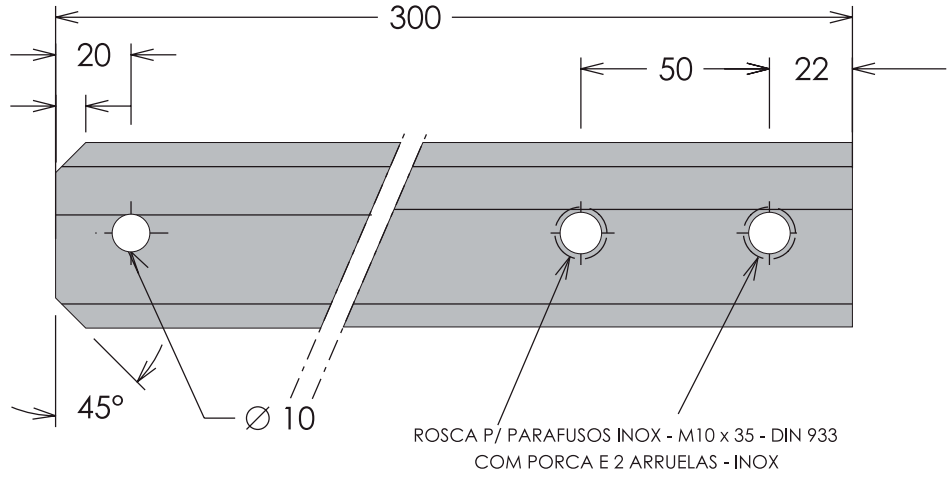


SUP715
UN215





SUP721
UN346



Obs: O comprimento de 300 mm poderá ter variação conforme configuração da obra

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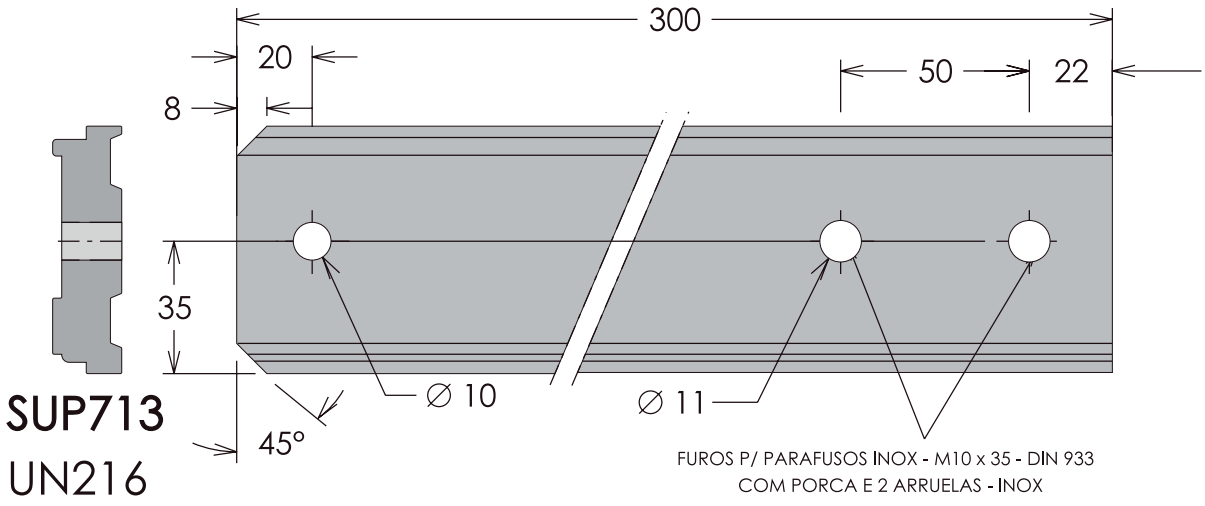
Tirantes



SUP713
UN216

Obs: O comprimento de 300 mm poderá ter variação conforme configuração da obra

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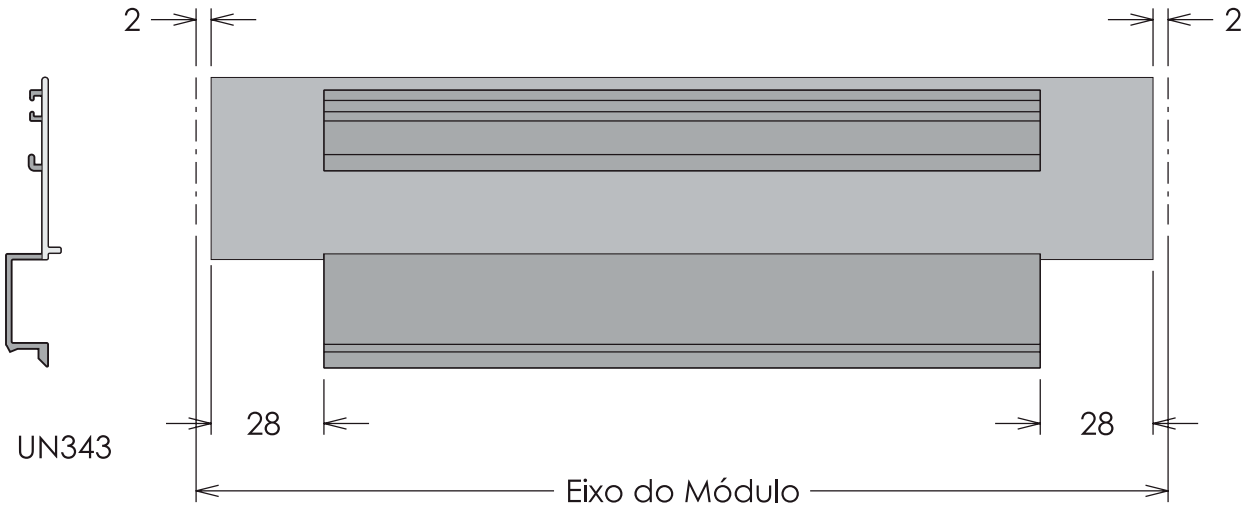
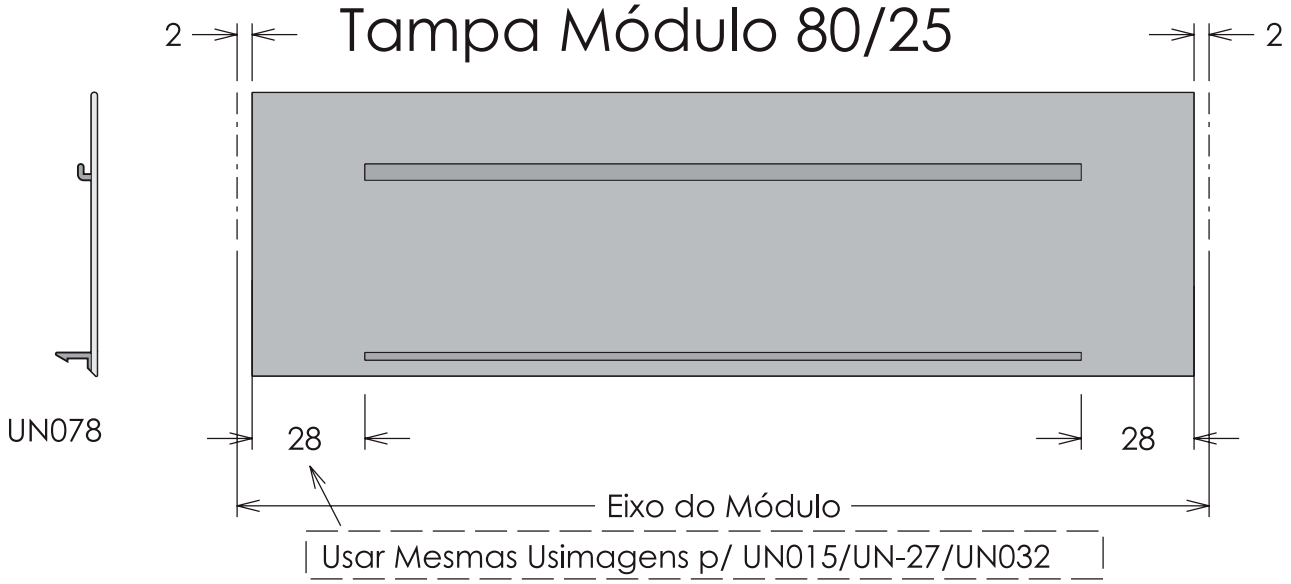
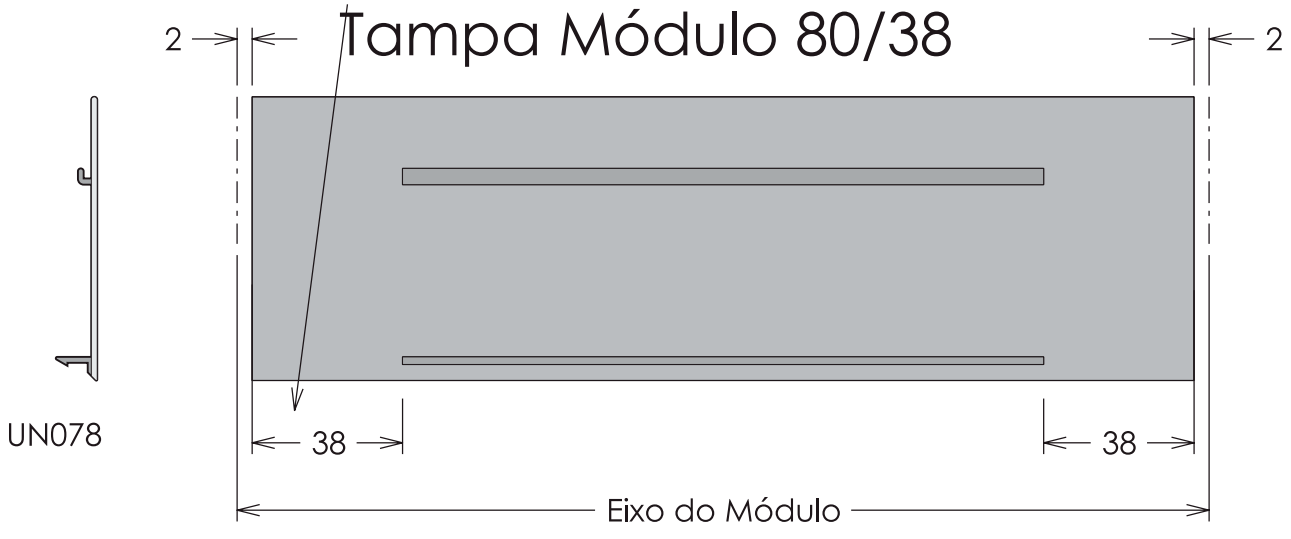
Tampa Módulo 60



Tampa Módulo 80/25



Tampa Módulo 80/38



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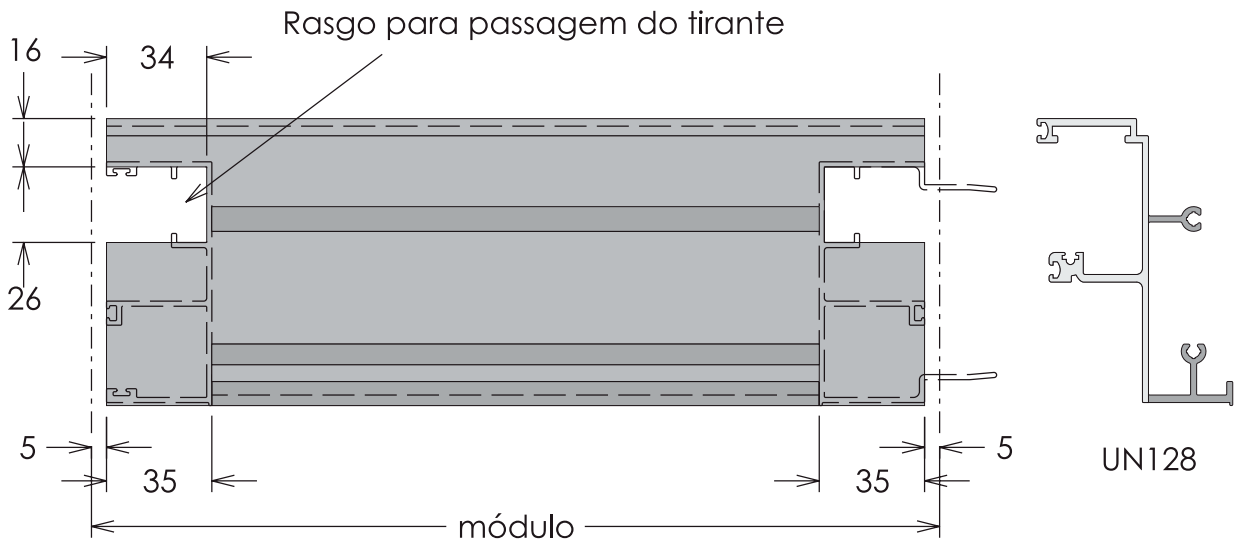

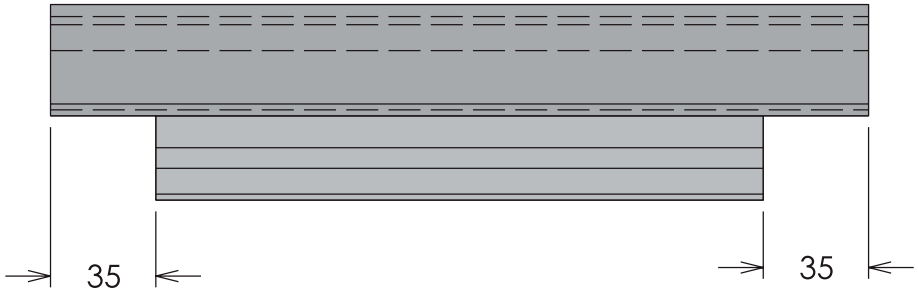

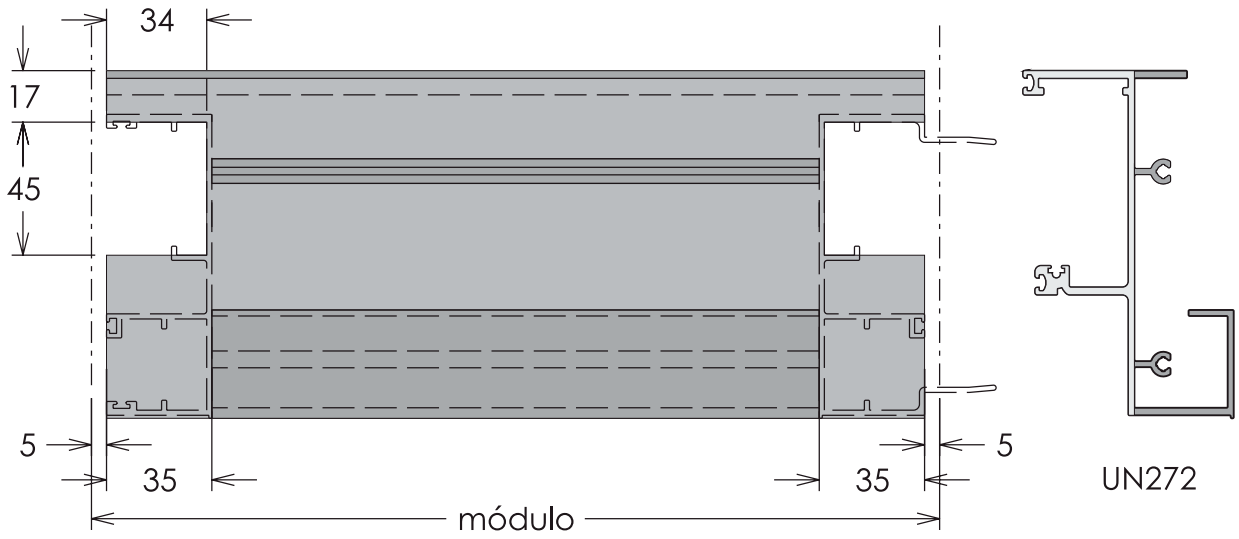

FAZER AMOSTRA PARA TESTE

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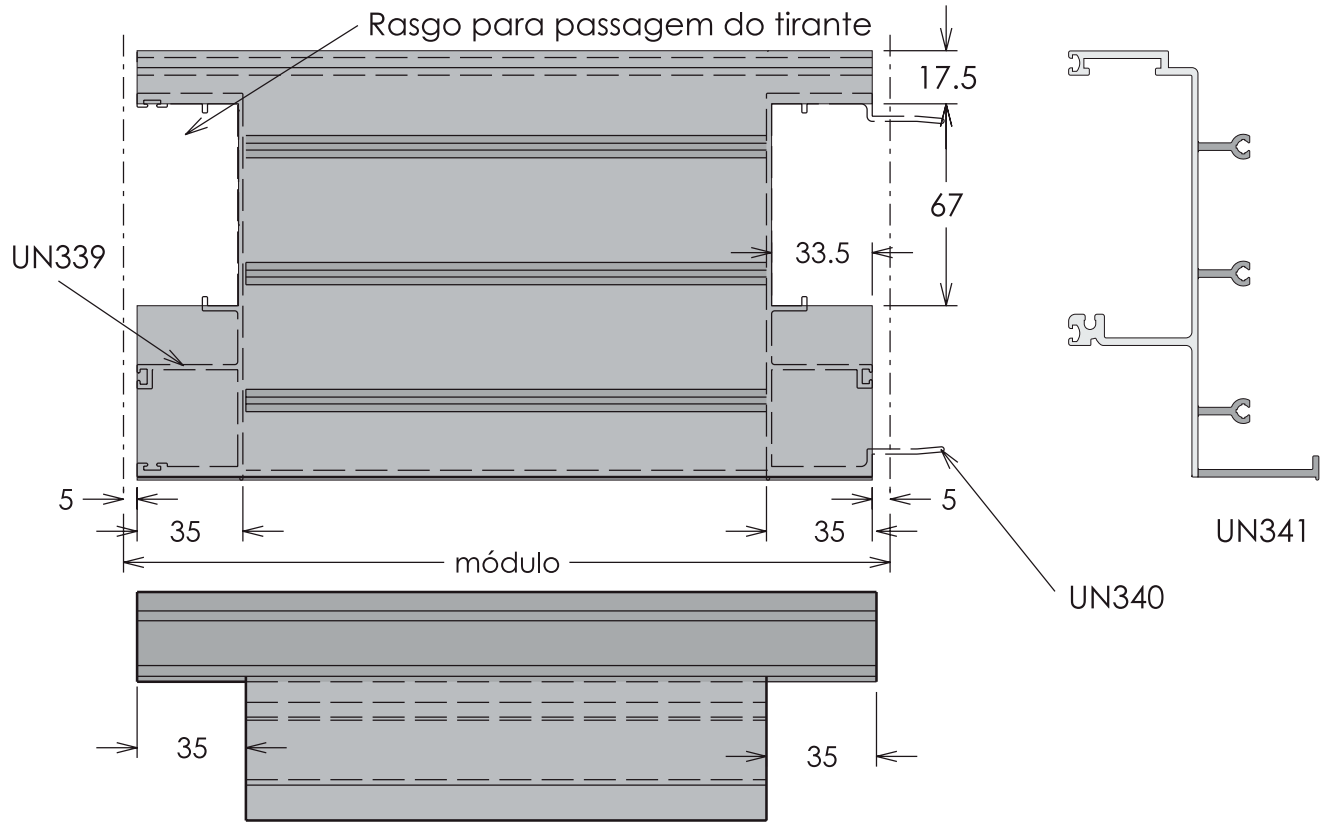
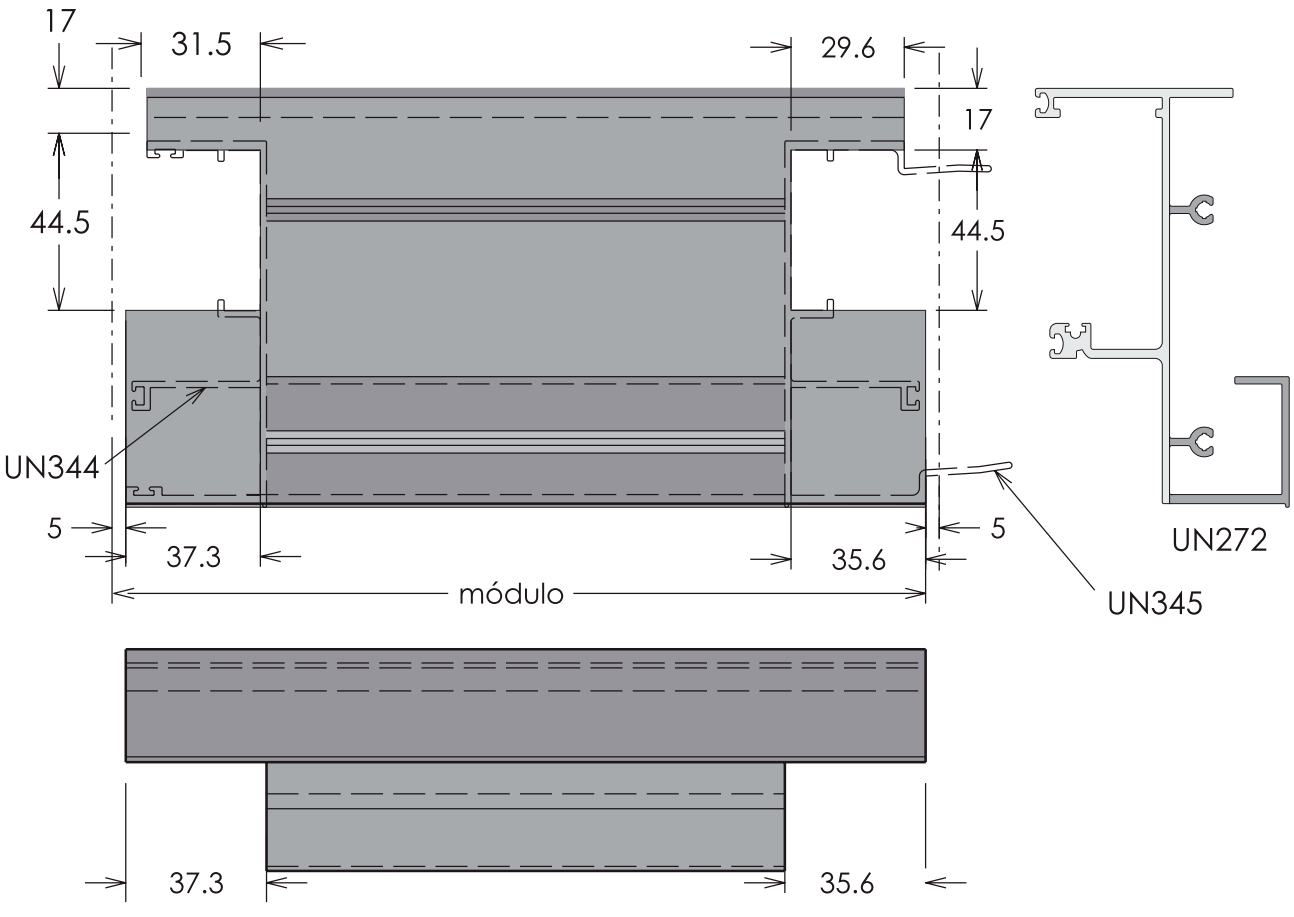
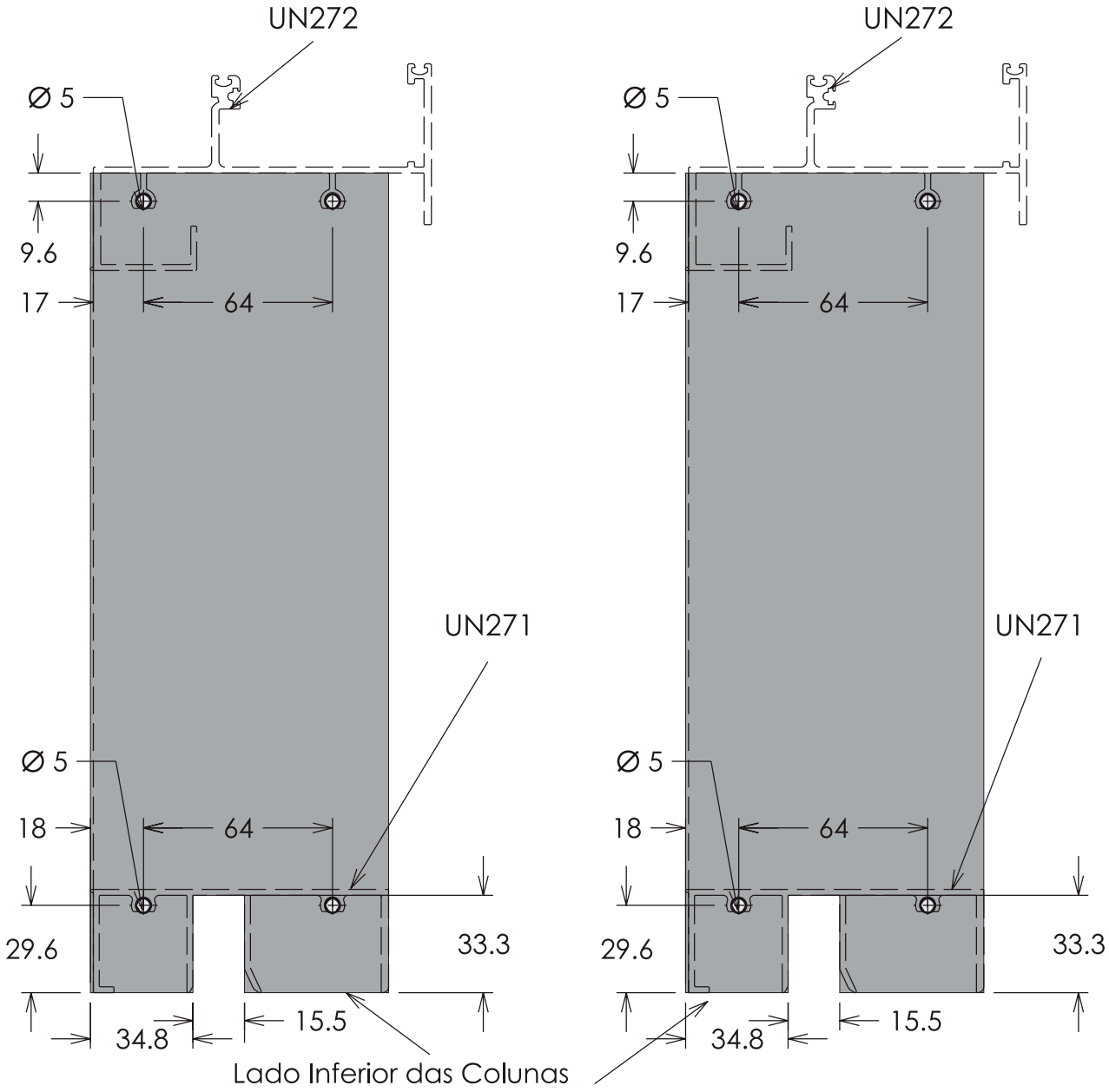




FAZER AMOSTRA PARA TESTE

Unit® | Marca e Modelos Registrados


UN272
Ø 5
9.6
17
64
UN271
18
29.6
33.3
34.8
15.5
Lado Inferior das Colunas
UN272
Ø 5
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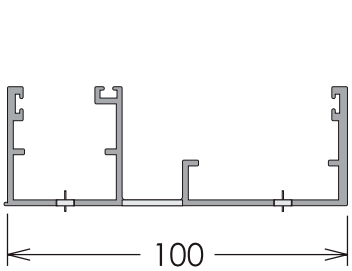
34.8
15.5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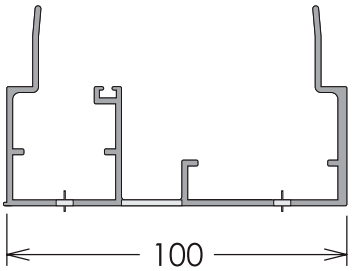
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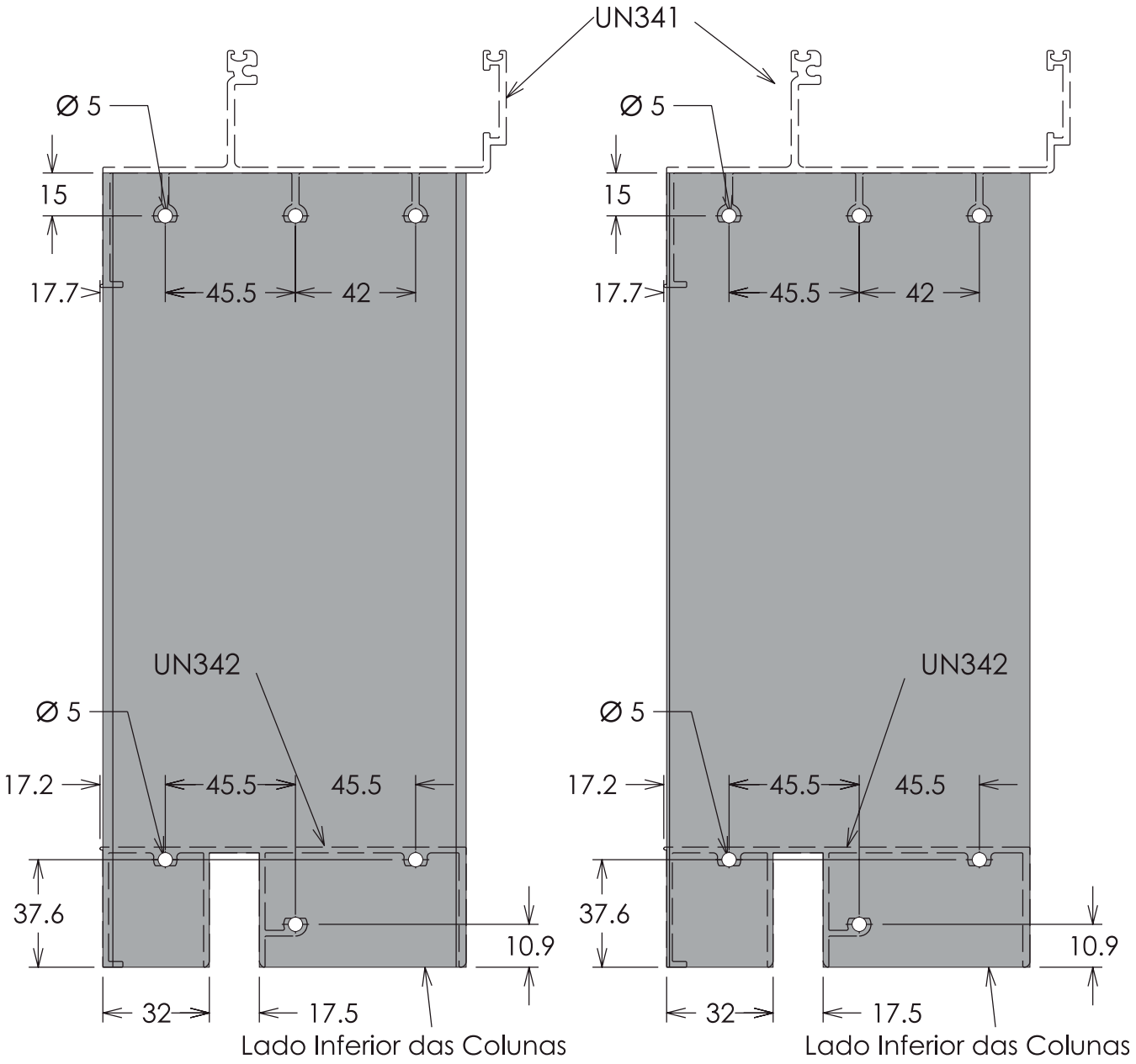

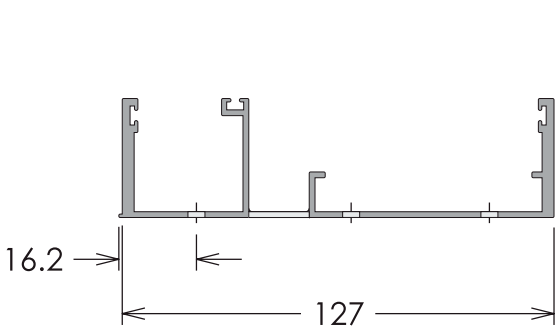

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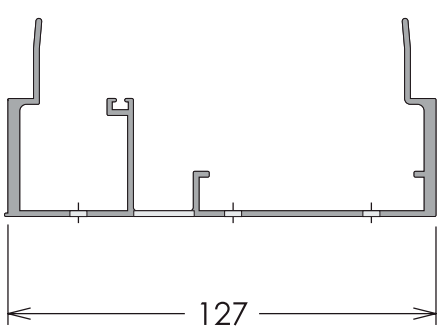

UN340

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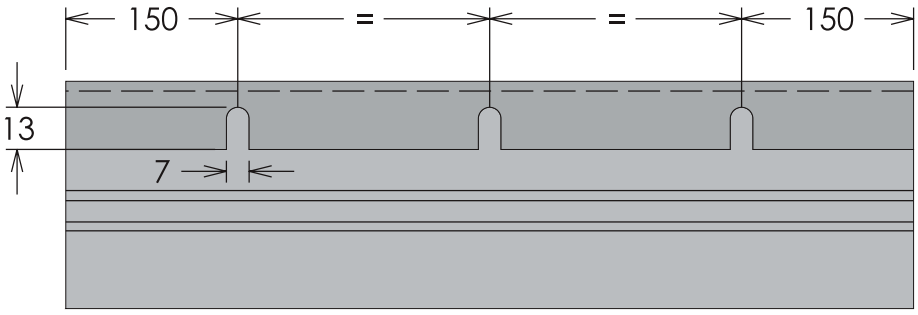

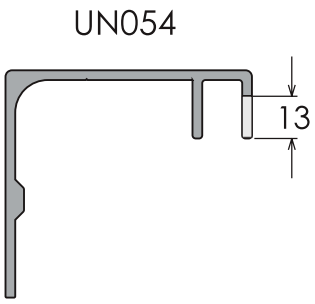

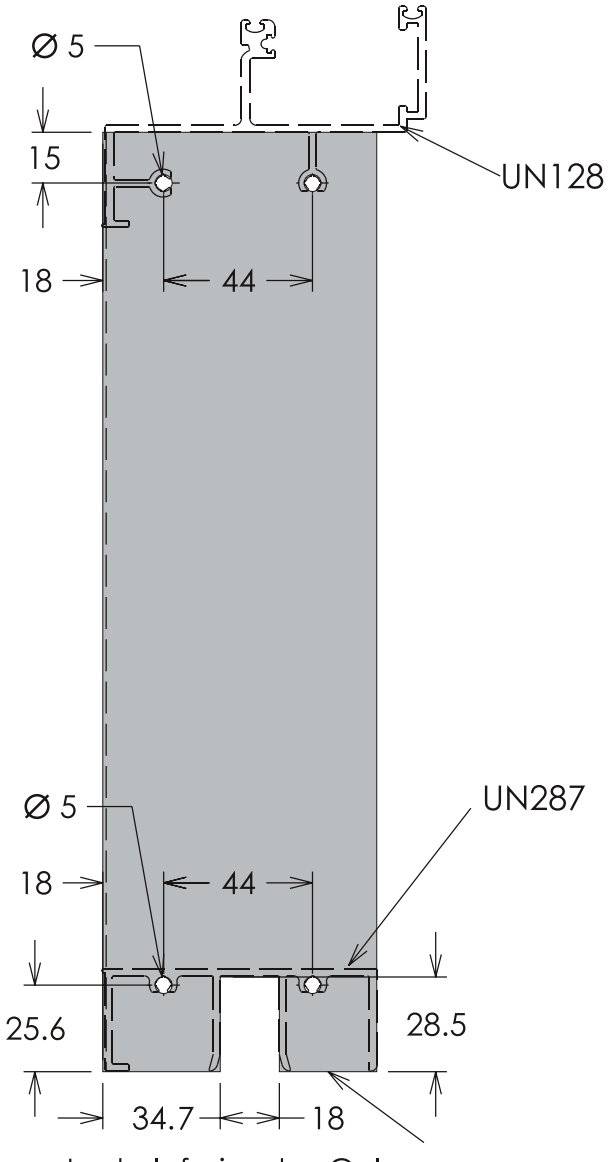

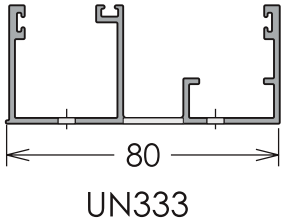

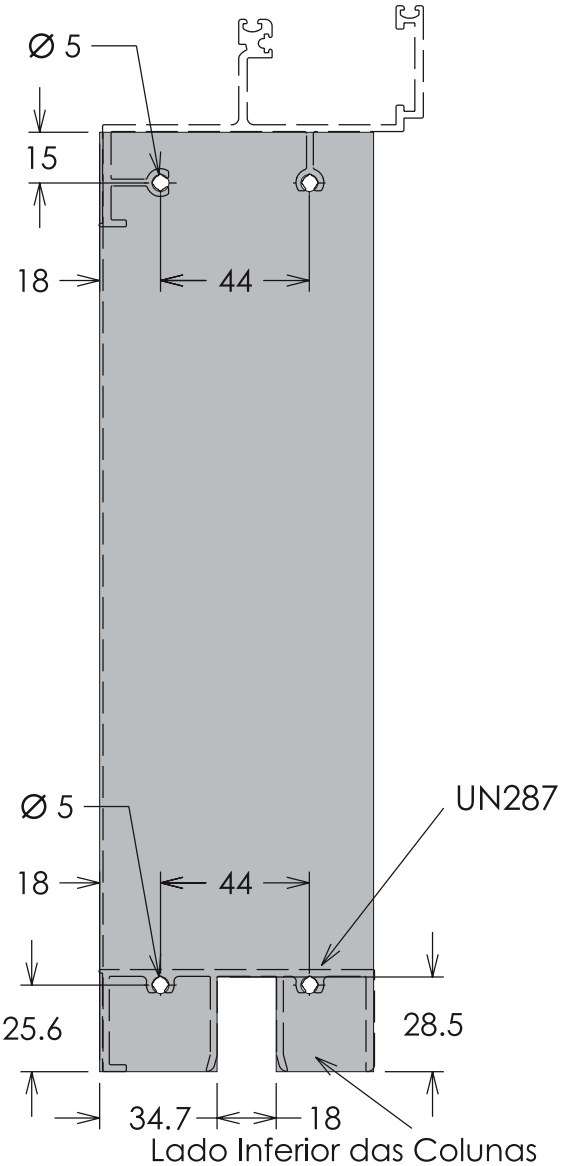

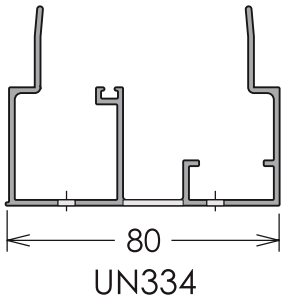

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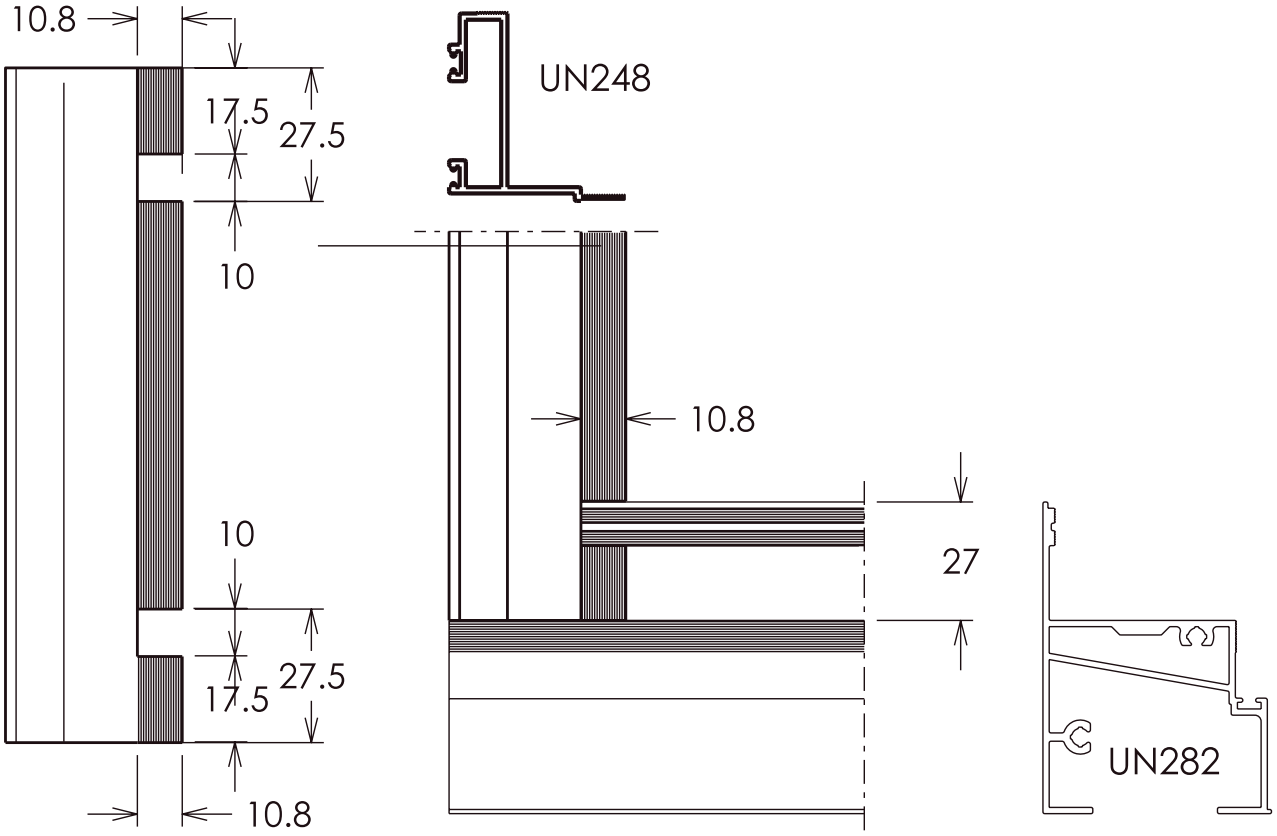

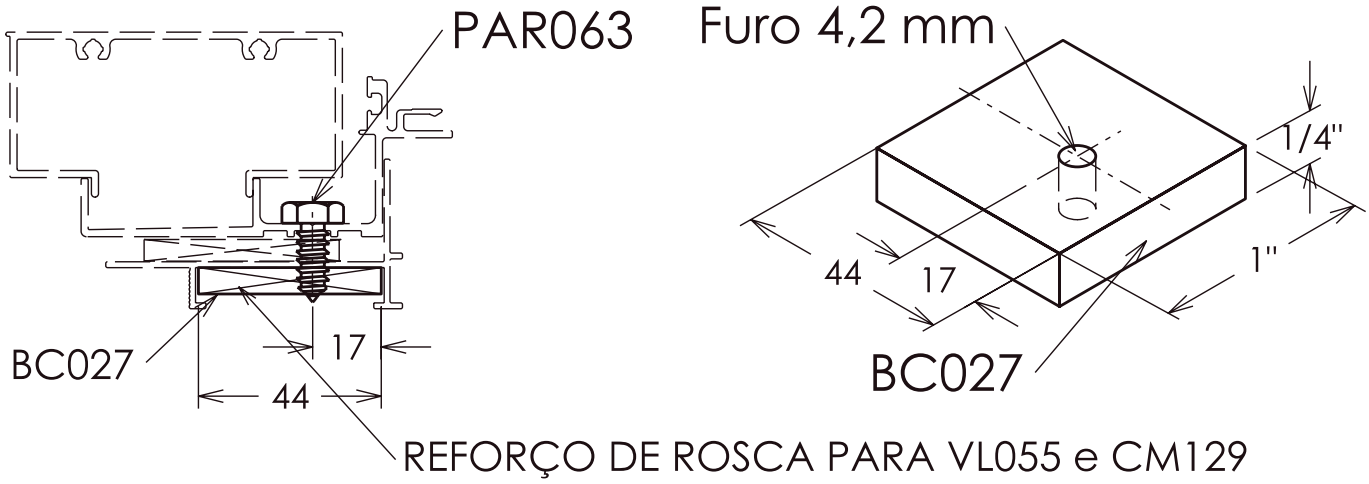

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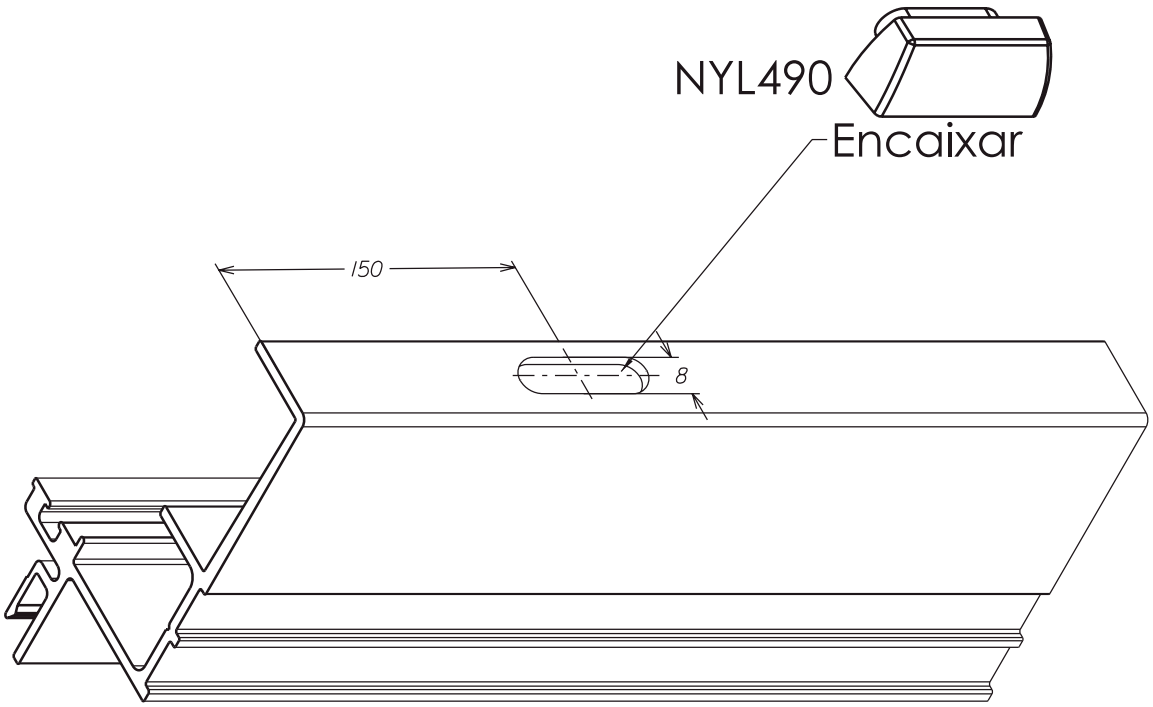
Usinagem para colocação do NYL490



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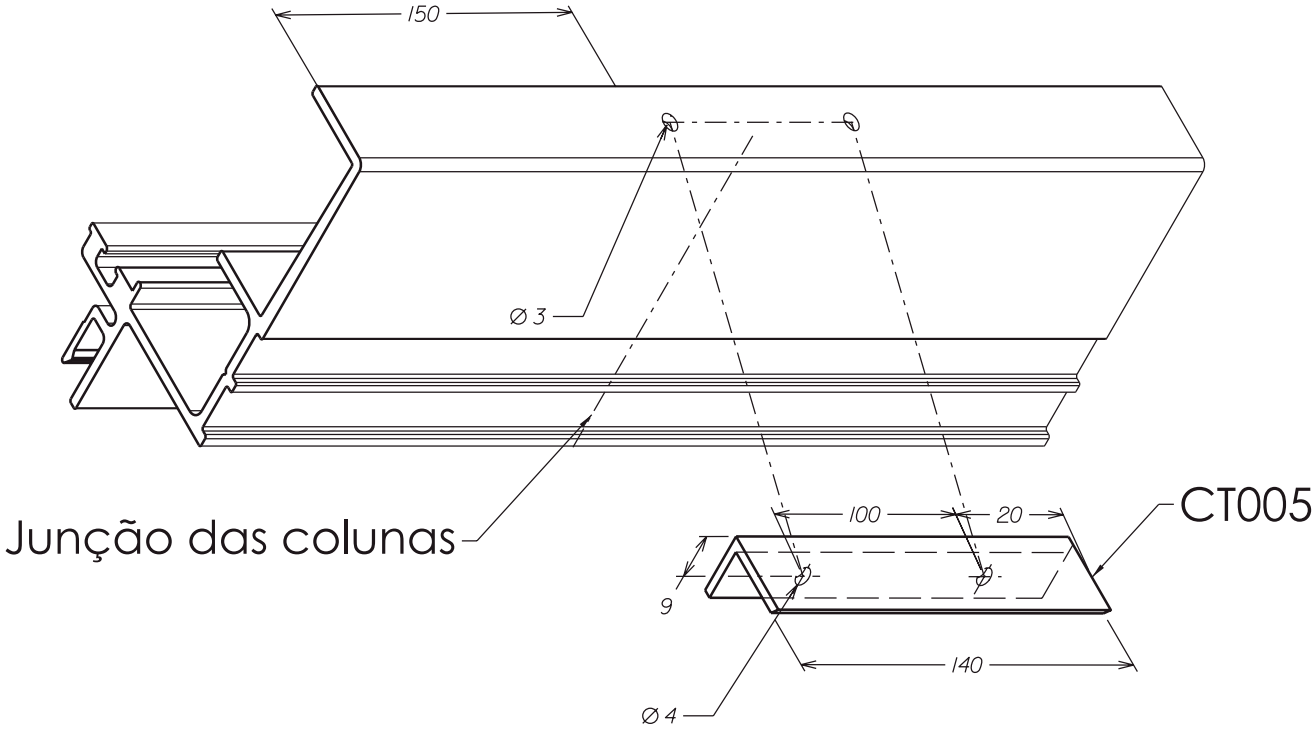

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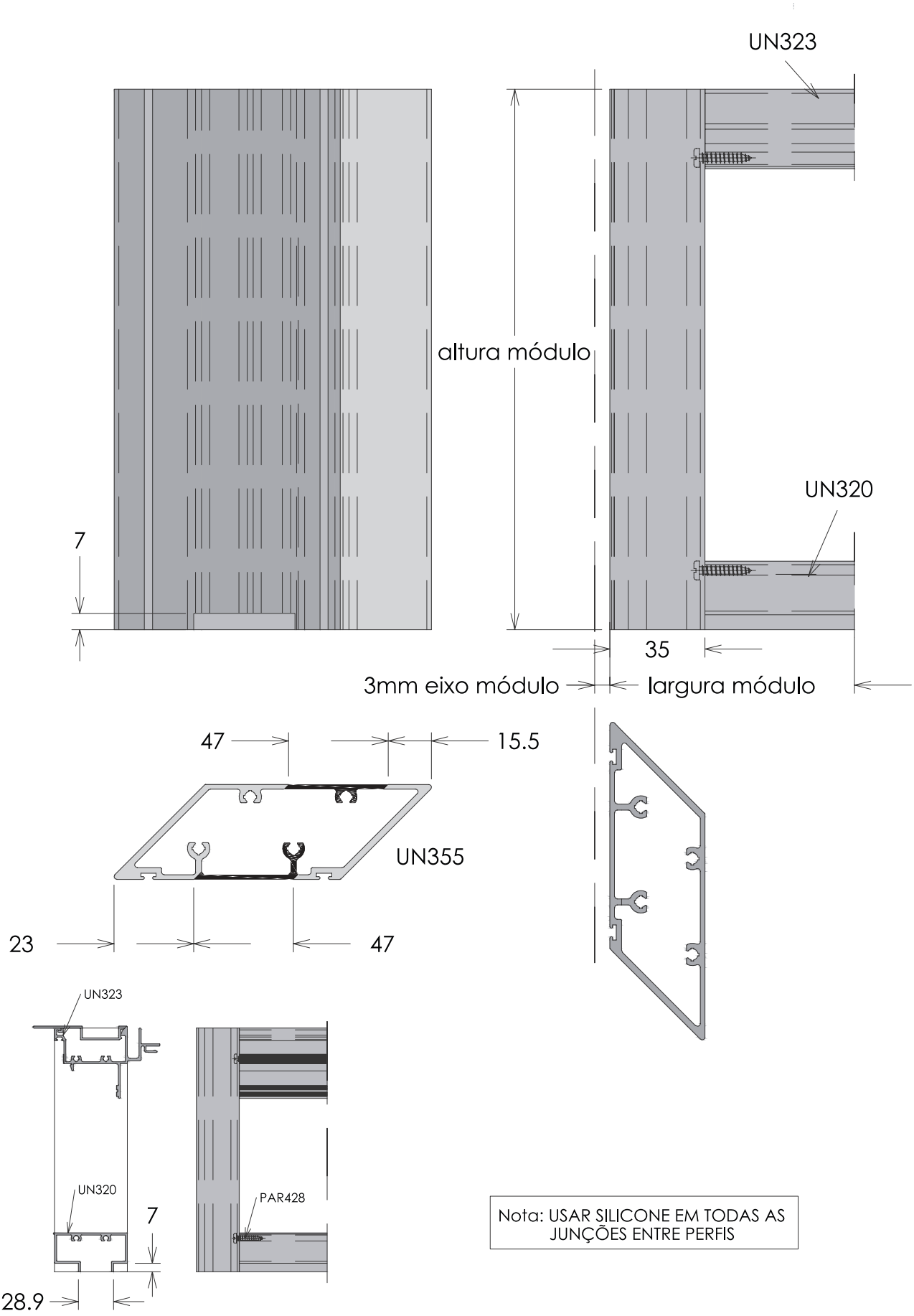
Detalhes Construtivos

Módulo 60-25



Nota: USAR SILICONE EM TODAS AS JUNÇÕES ENTRE PERFIS

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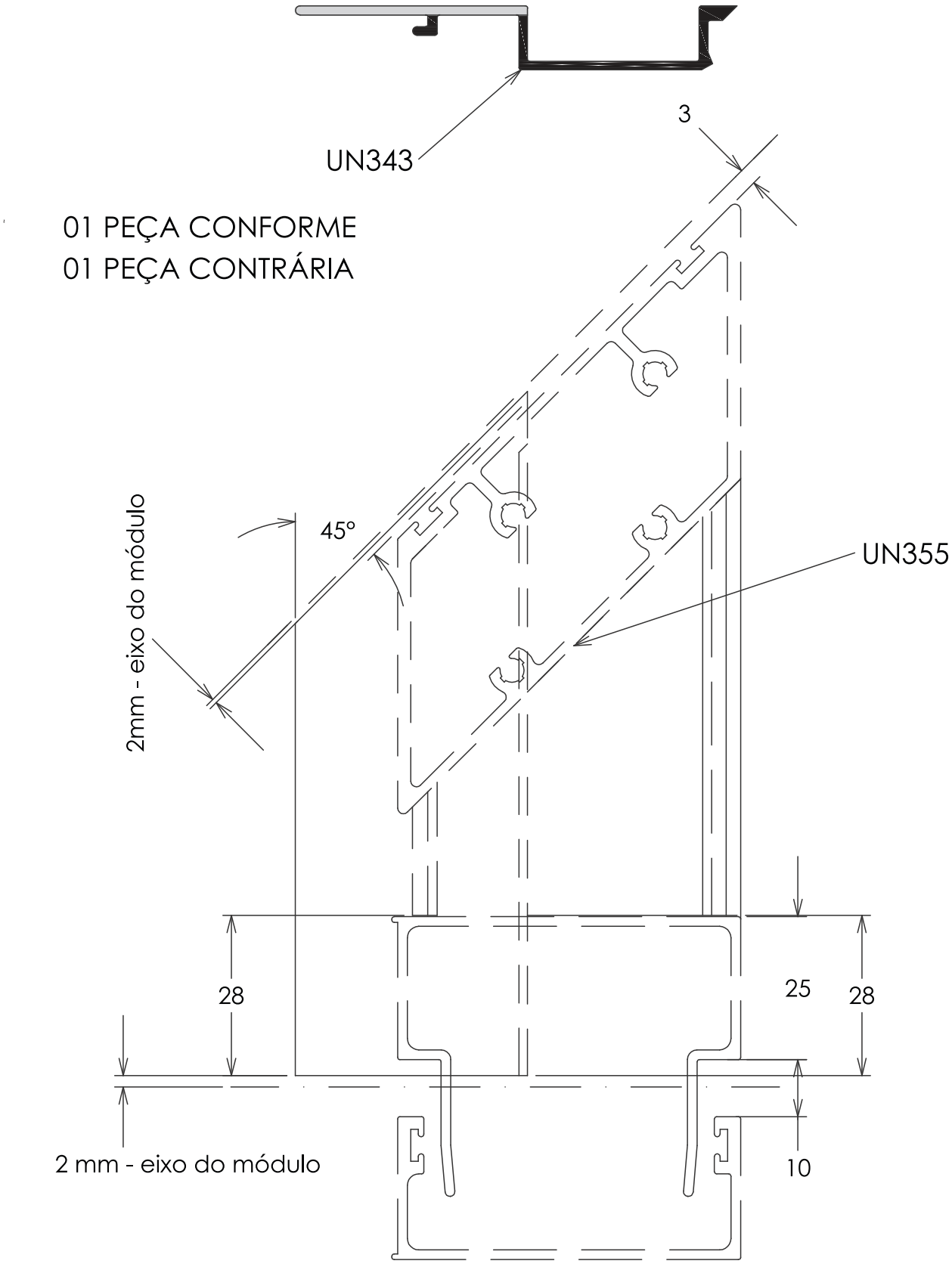
Módulo 60-25

CANTO NEGATIVO



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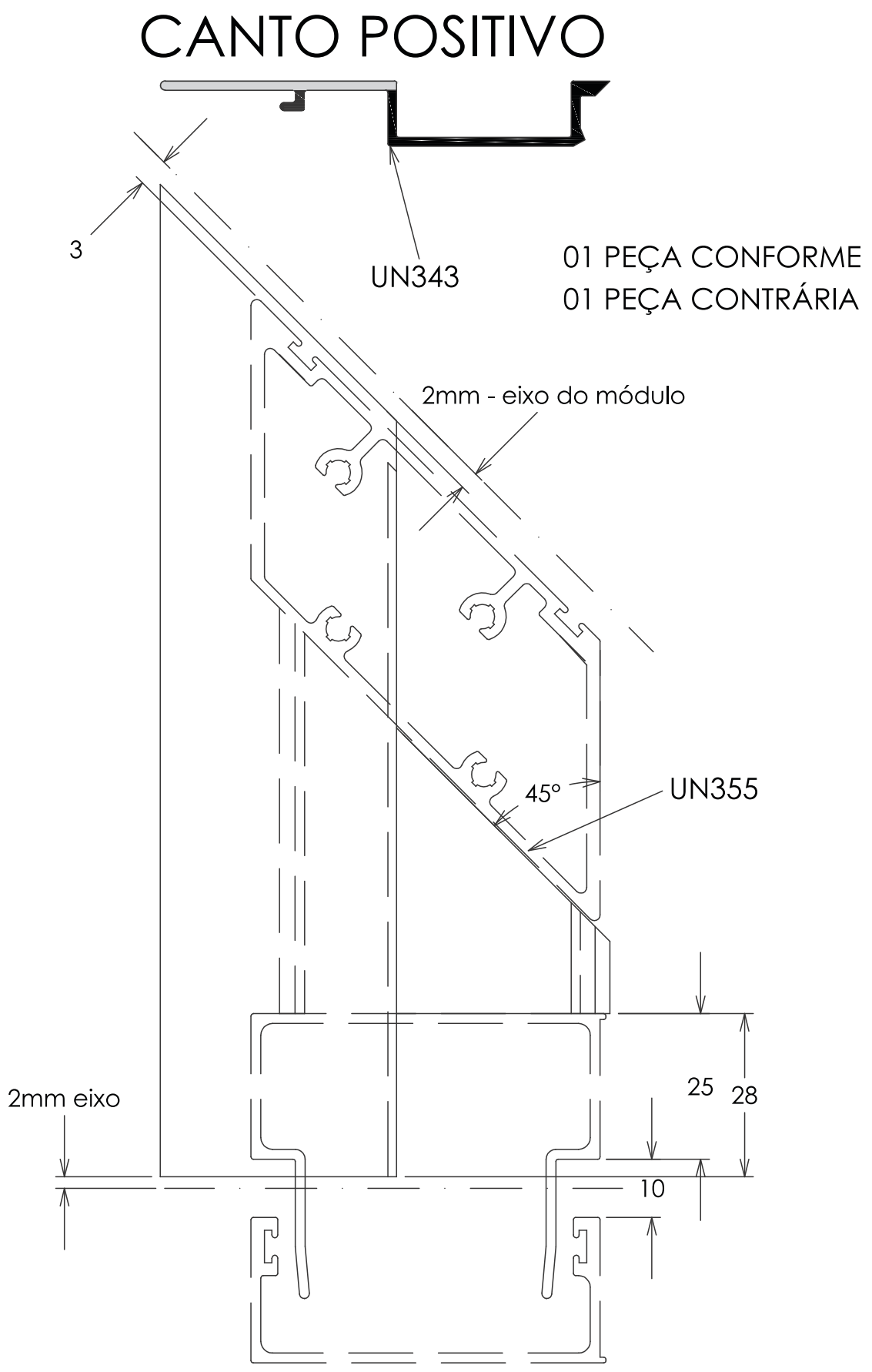
Módulo 60-25



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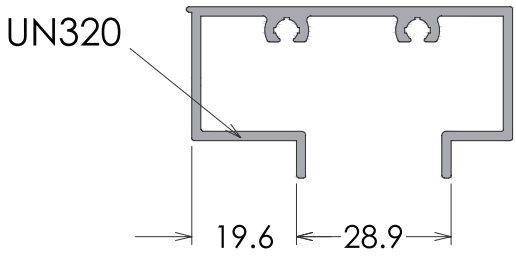
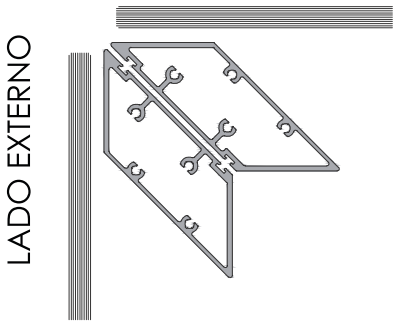
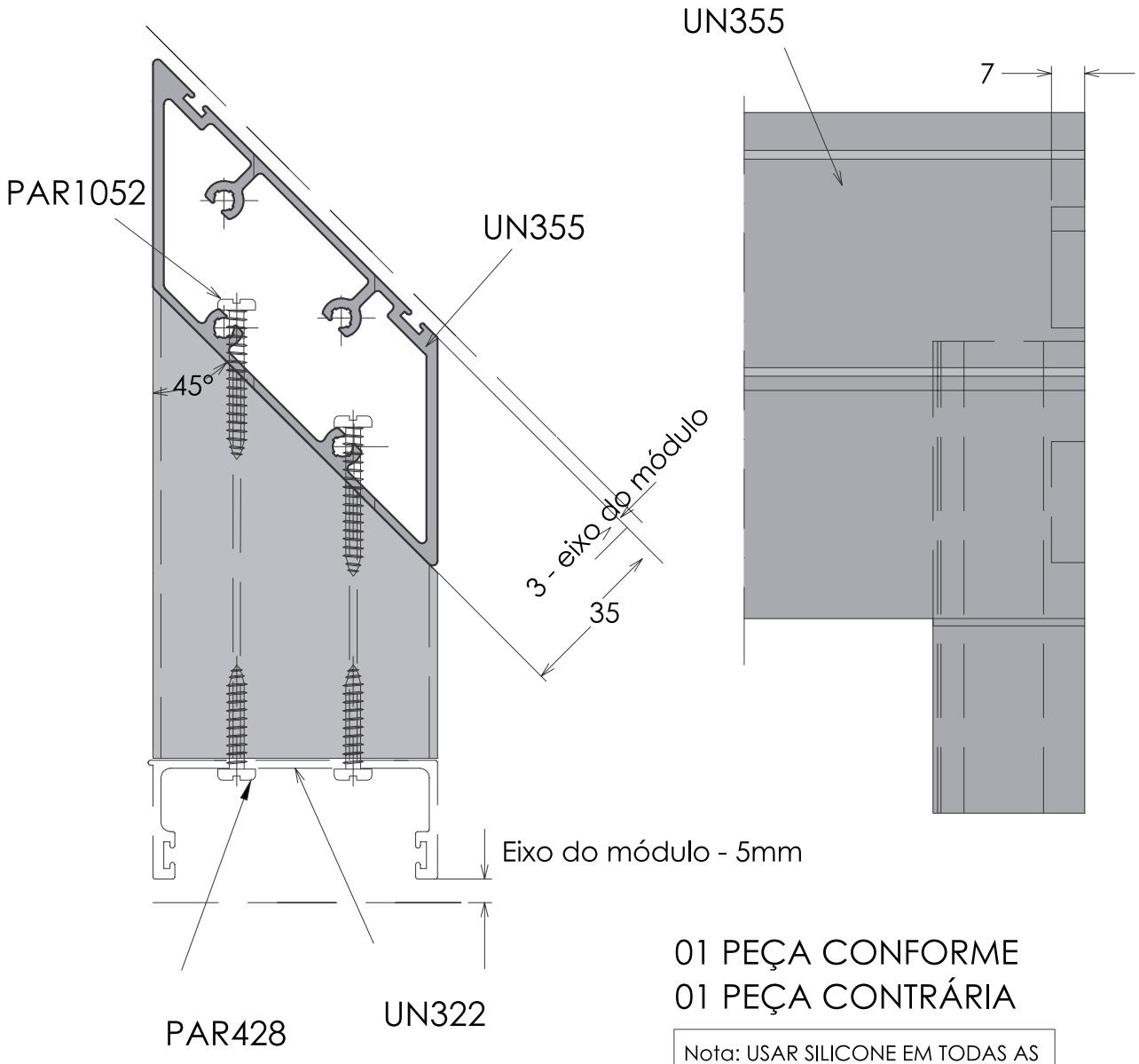
Módulo 60-25

CANTO POSITIVO







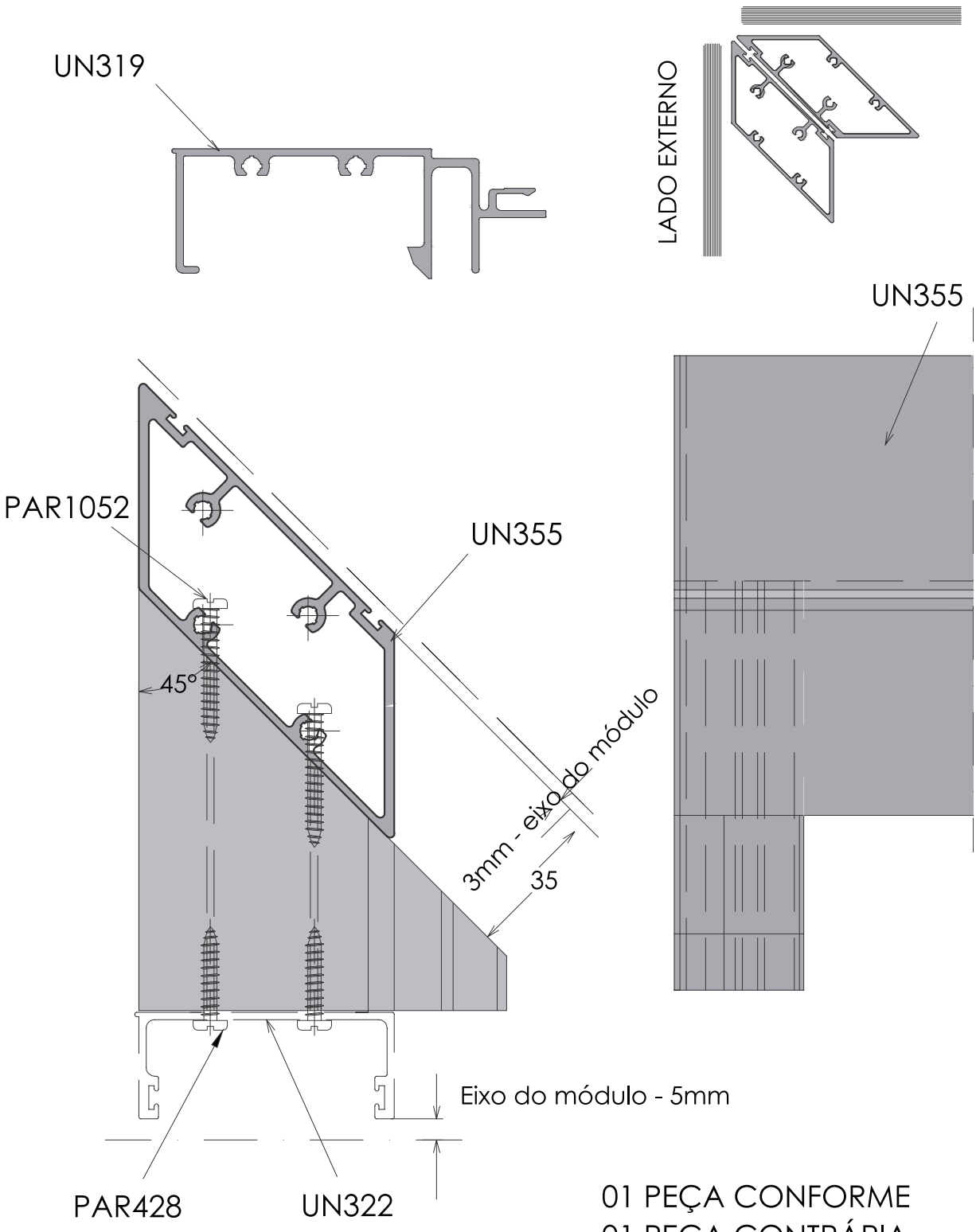
01 PEÇA CONFORME
01 PEÇA CONTRÁRIA

Nota: USAR SILICONE EM TODAS AS JUNÇÕES ENTRE PERFIS

Unit® | Marca e Modelos Registrados

Módulo 60-25

CANTO POSITIVO



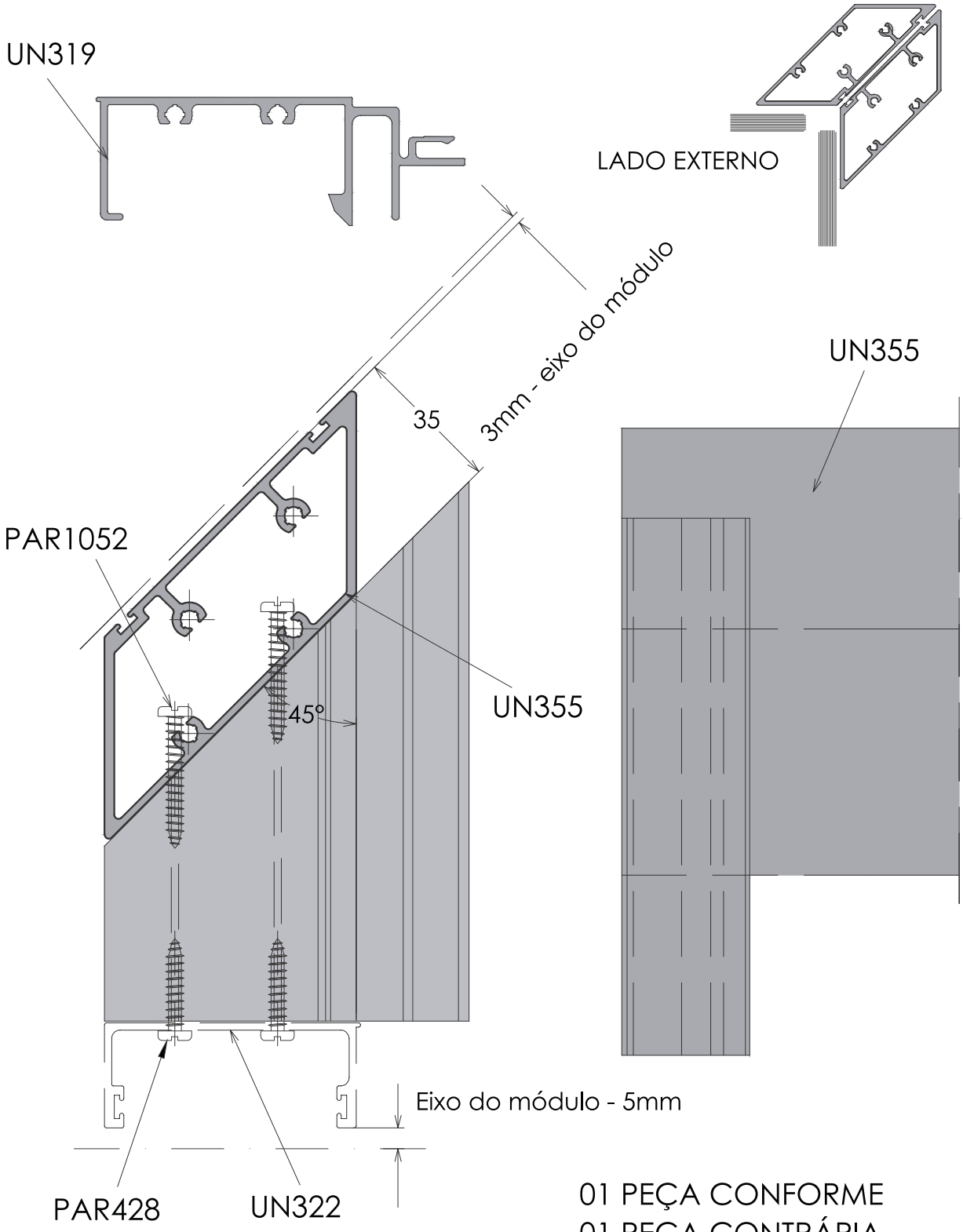
01 PEÇA CONFORME
01 PEÇA CONTRÁRIA

Nota: USAR SILICONE EM TODAS AS JUNÇÕES ENTRE PERFIS

Unit® | Marca e Modelos Registrados

Módulo 60-25

CANTO NEGATIVO



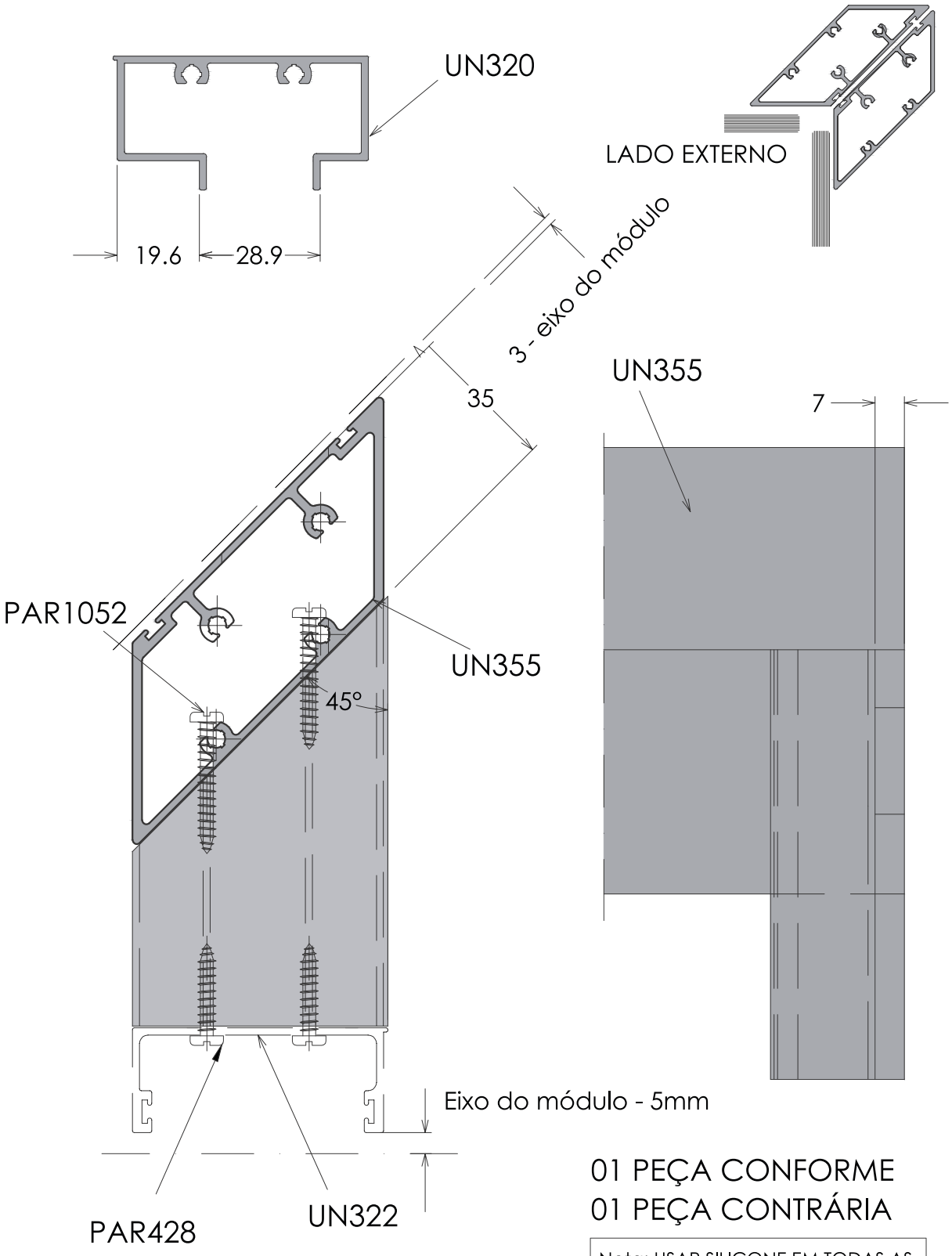
01 PEÇA CONFORME
01 PEÇA CONTRÁRIA

Nota: USAR SILICONE EM TODAS AS JUNÇÕES ENTRE PERFIS

Unit® | Marca e Modelos Registrados

Módulo 60-25

CANTO NEGATIVO



01 PEÇA CONFORME
01 PEÇA CONTRÁRIA

Nota: USAR SILICONE EM TODAS AS JUNÇÕES ENTRE PERFIS

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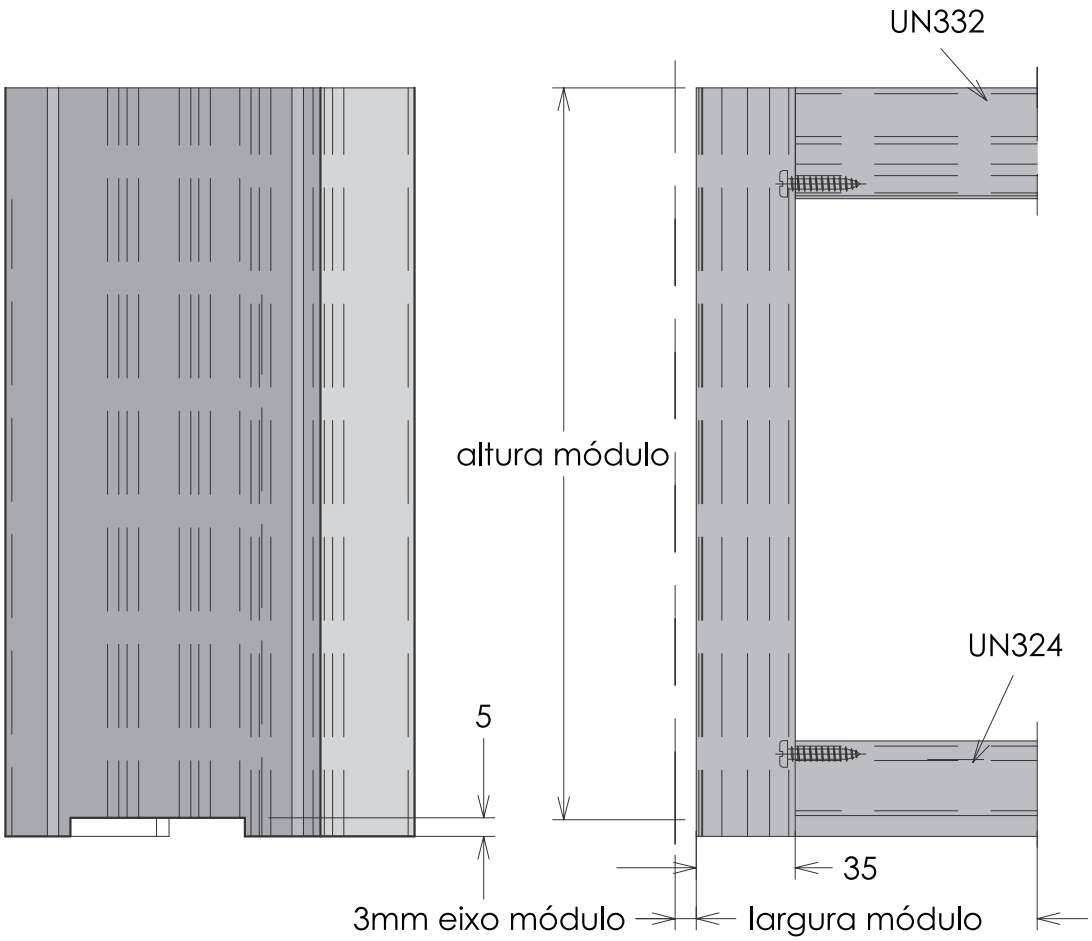
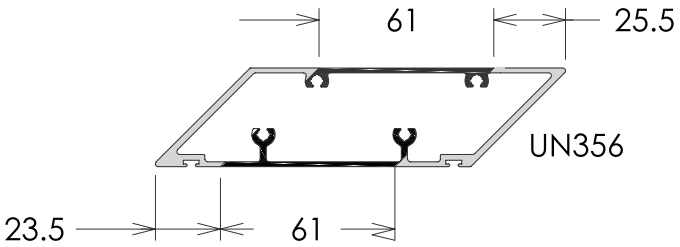
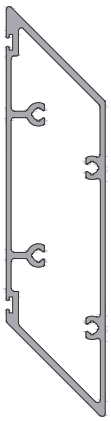
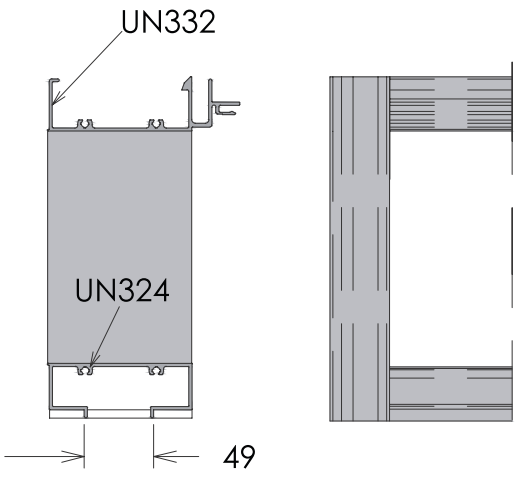
Módulo 80-25







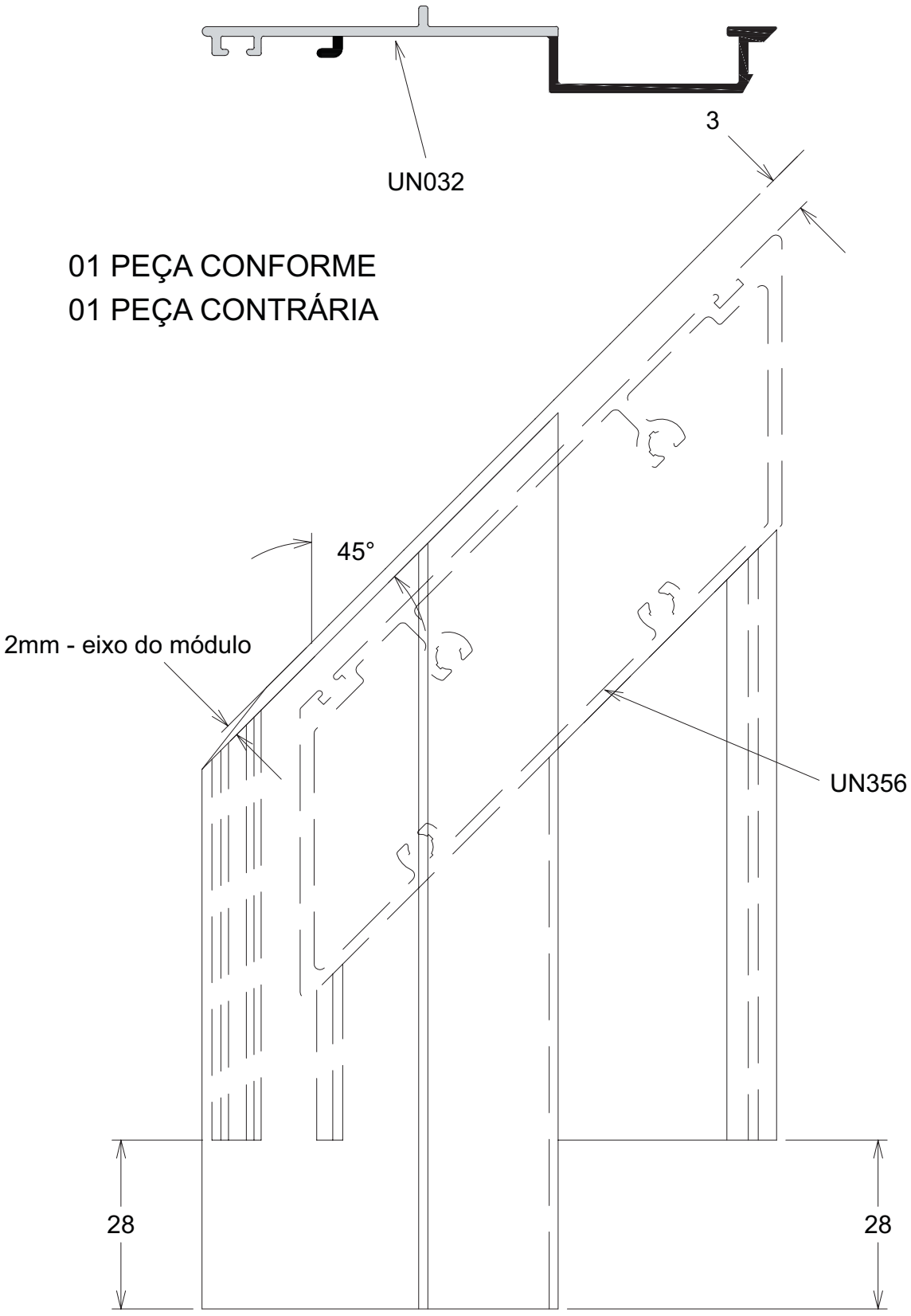


Nota: USAR SILICONE EM TODAS AS JUNÇÕES ENTRE PERFIS

Unit® | Marca e Modelos Registrados

Módulo 80-25

CANTO NEGATIVO



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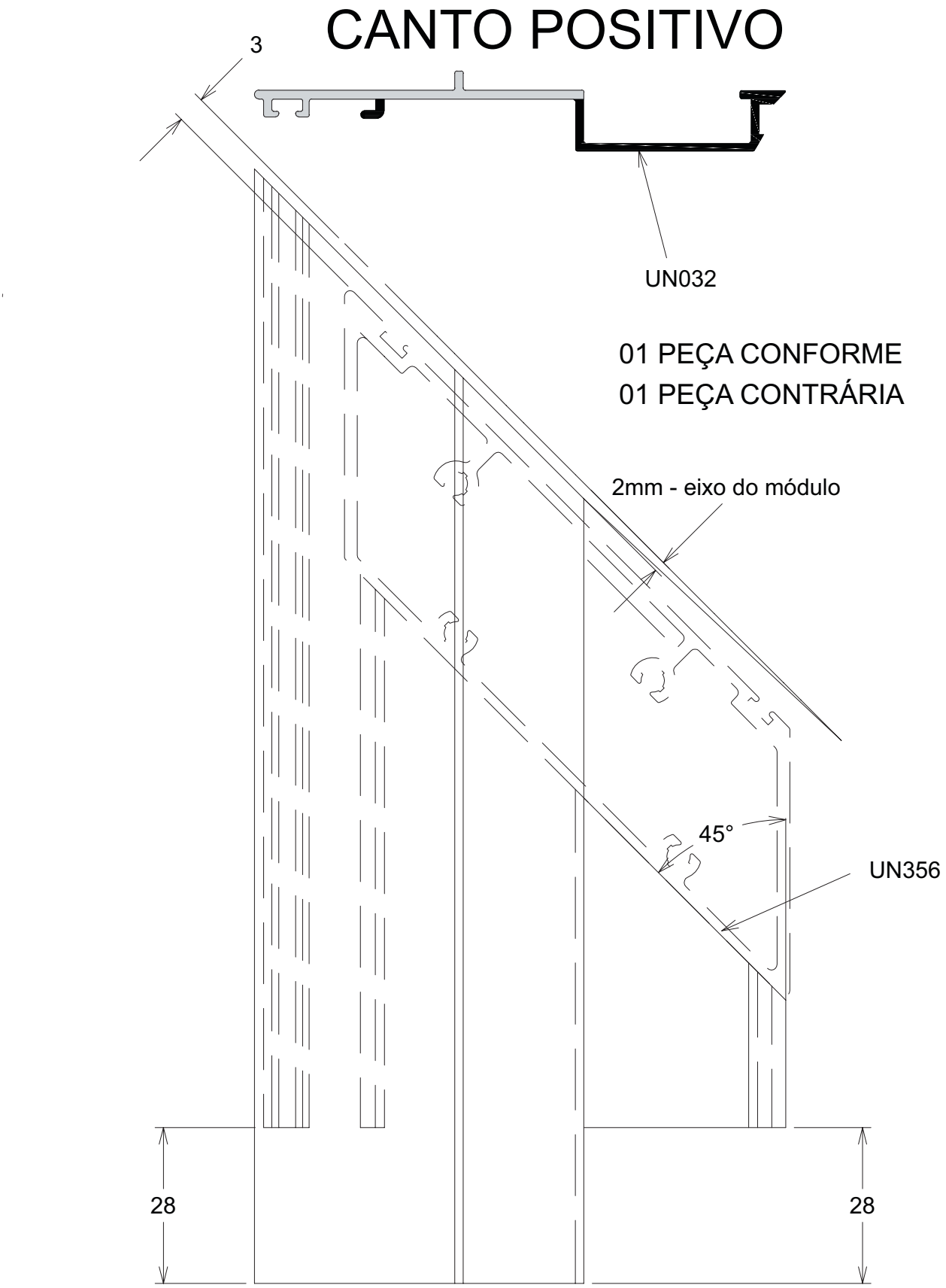
Módulo 80-25



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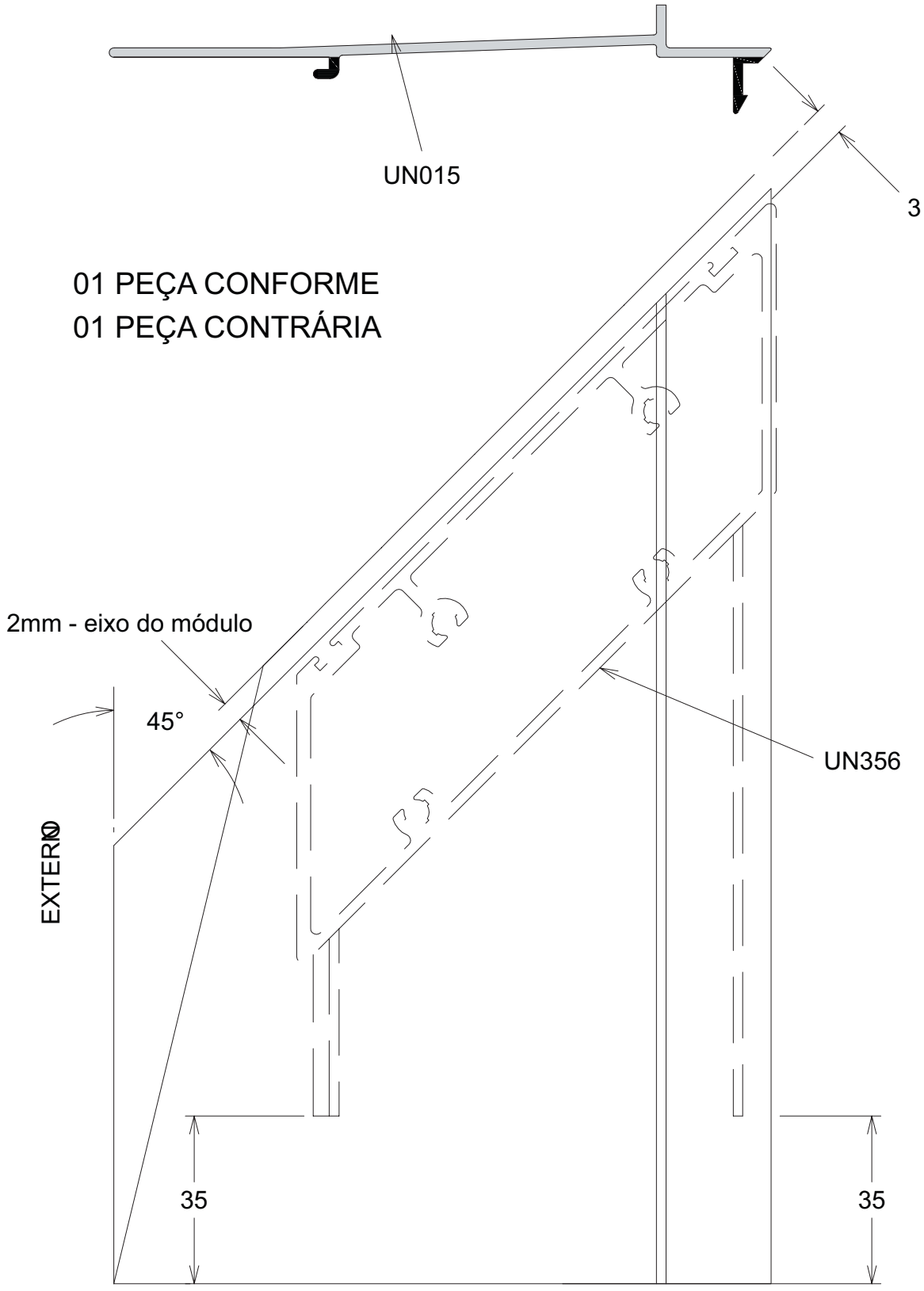
Módulo 80-25

CANTO NEGATIVO



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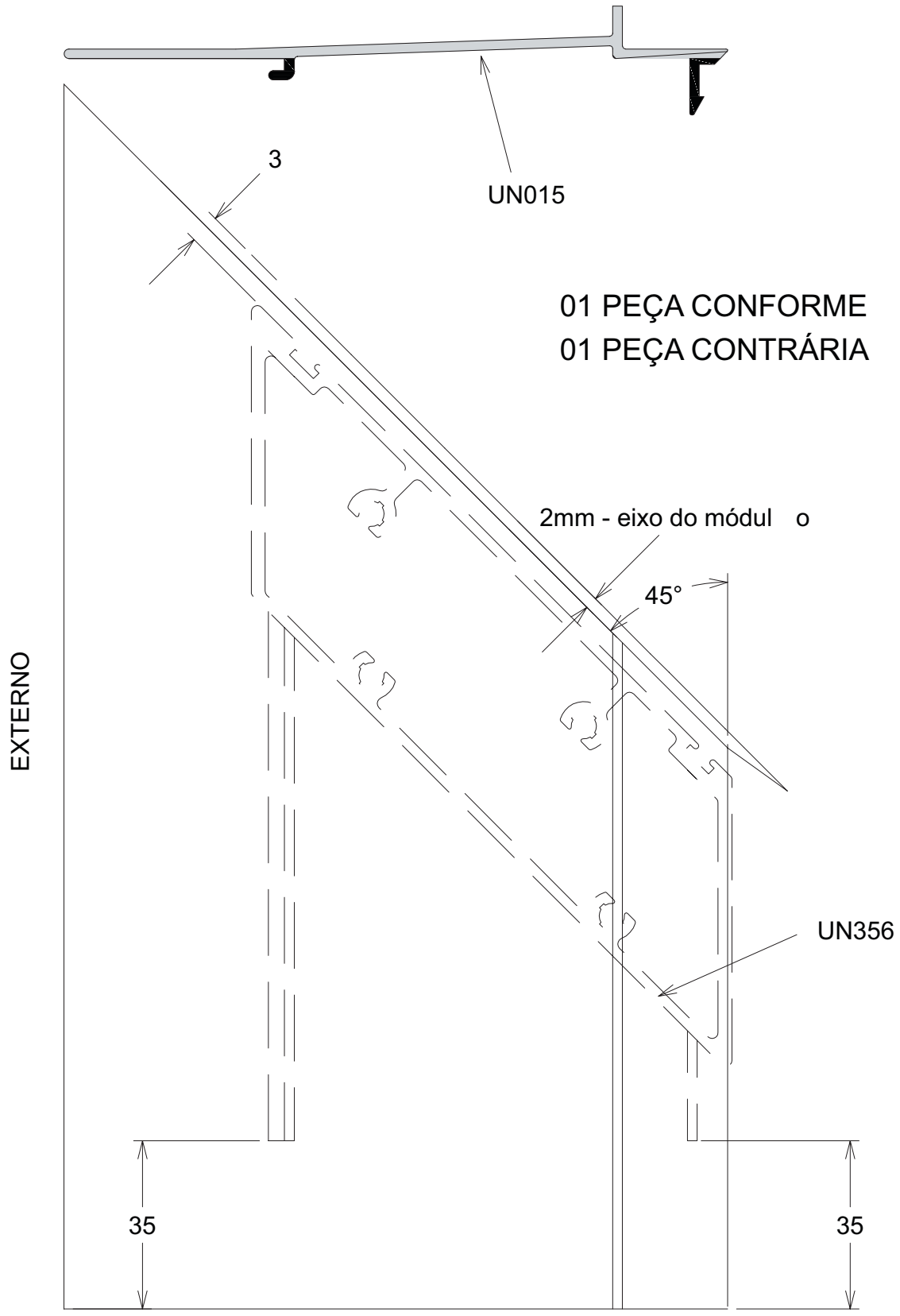
Módulo 80-25

CANTO POSITIVO



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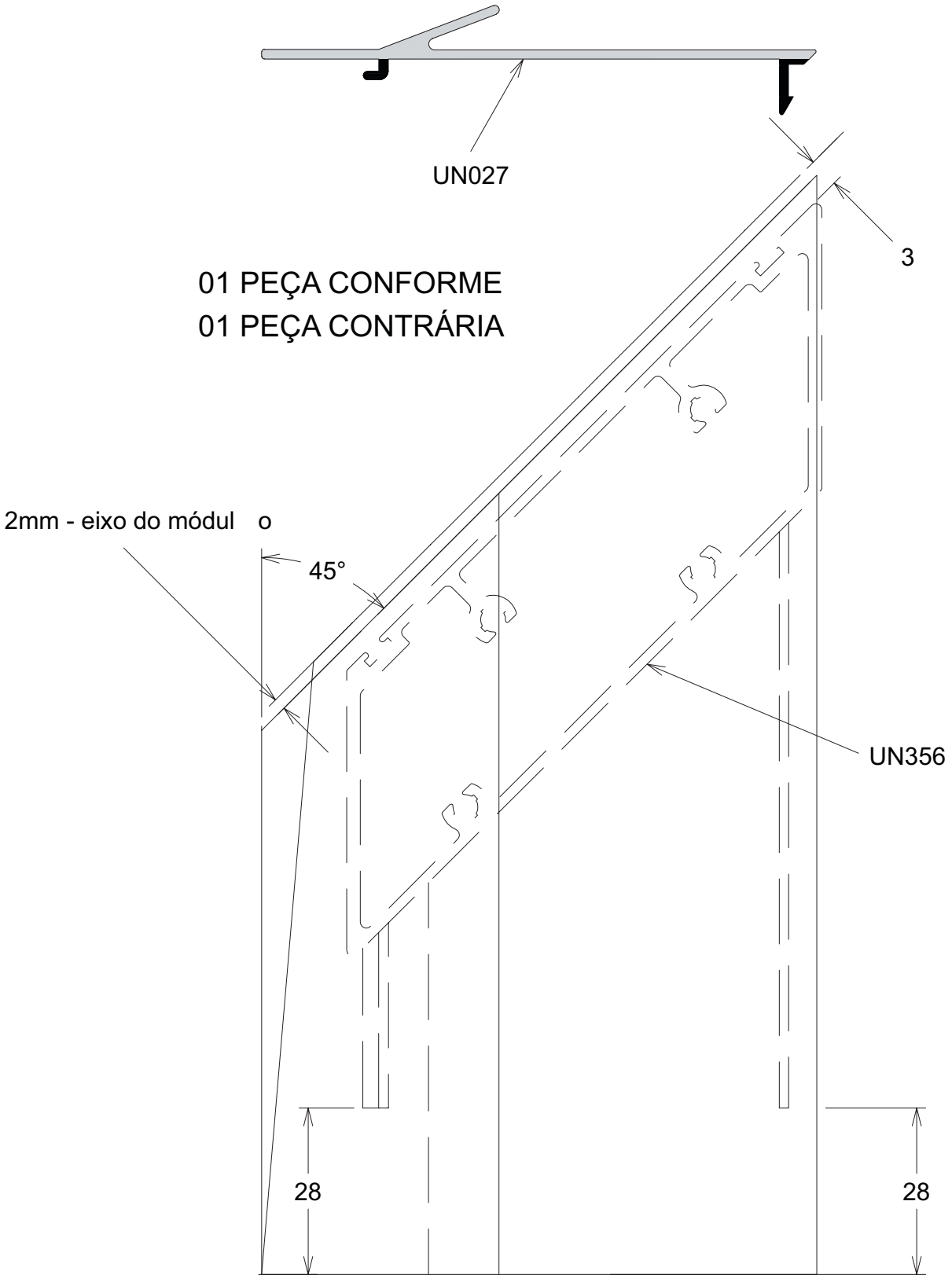
Módulo 80-25

CANTO NEGATIVO



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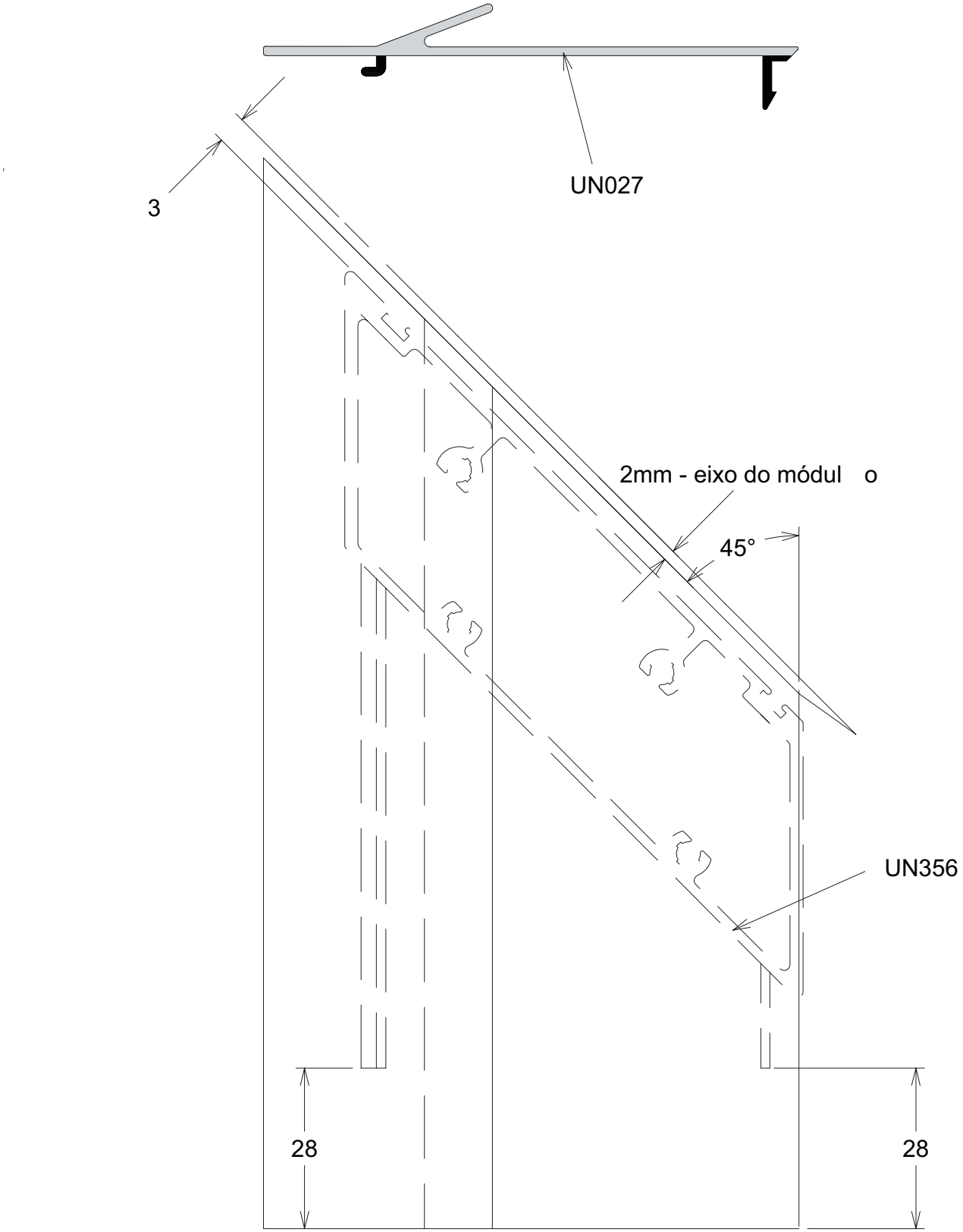
Módulo 80-25

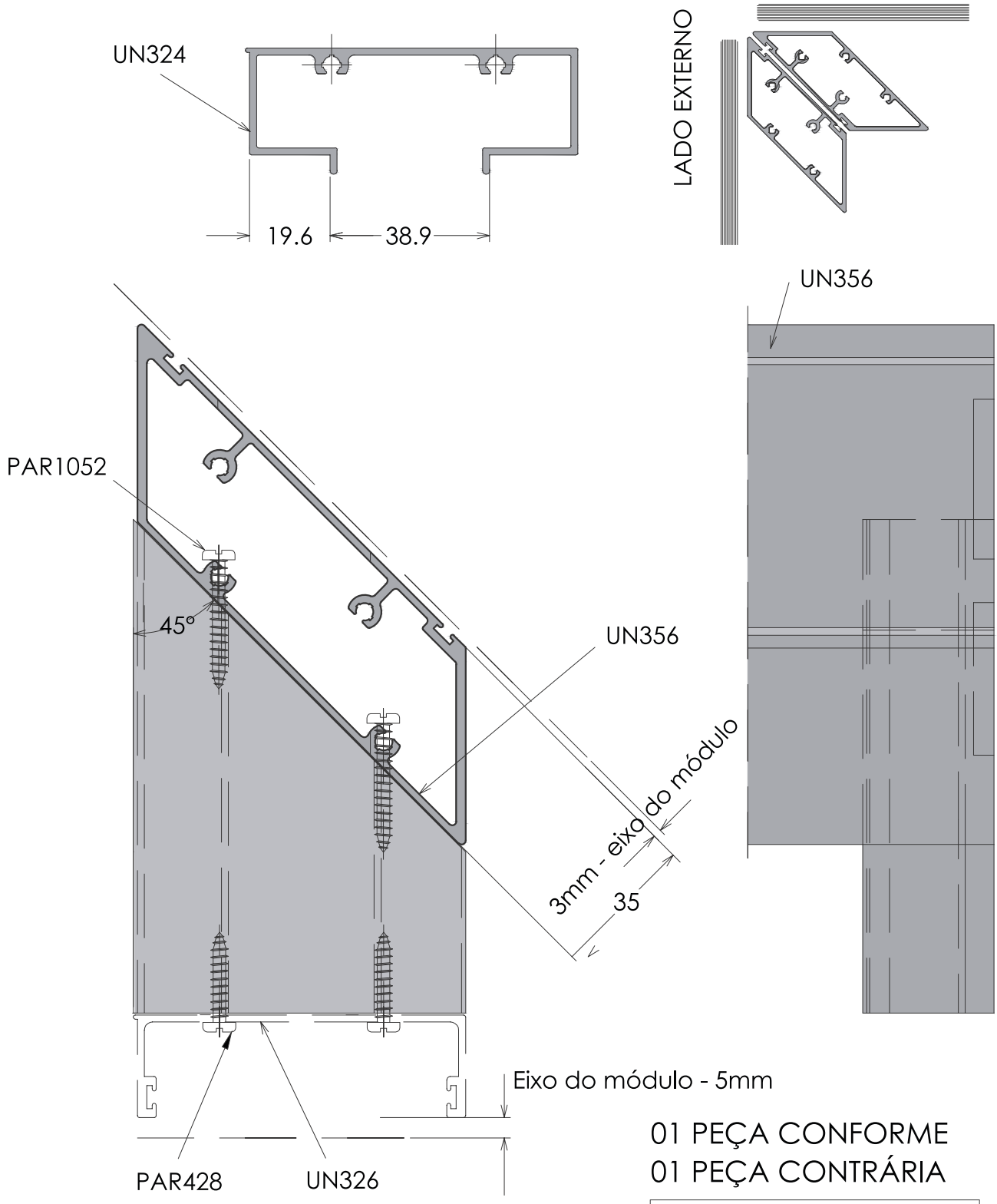
CANTO POSITIVO



Unit® | Marca e Modelos Registrados

Módulo 80-25

CANTO POSITIVO



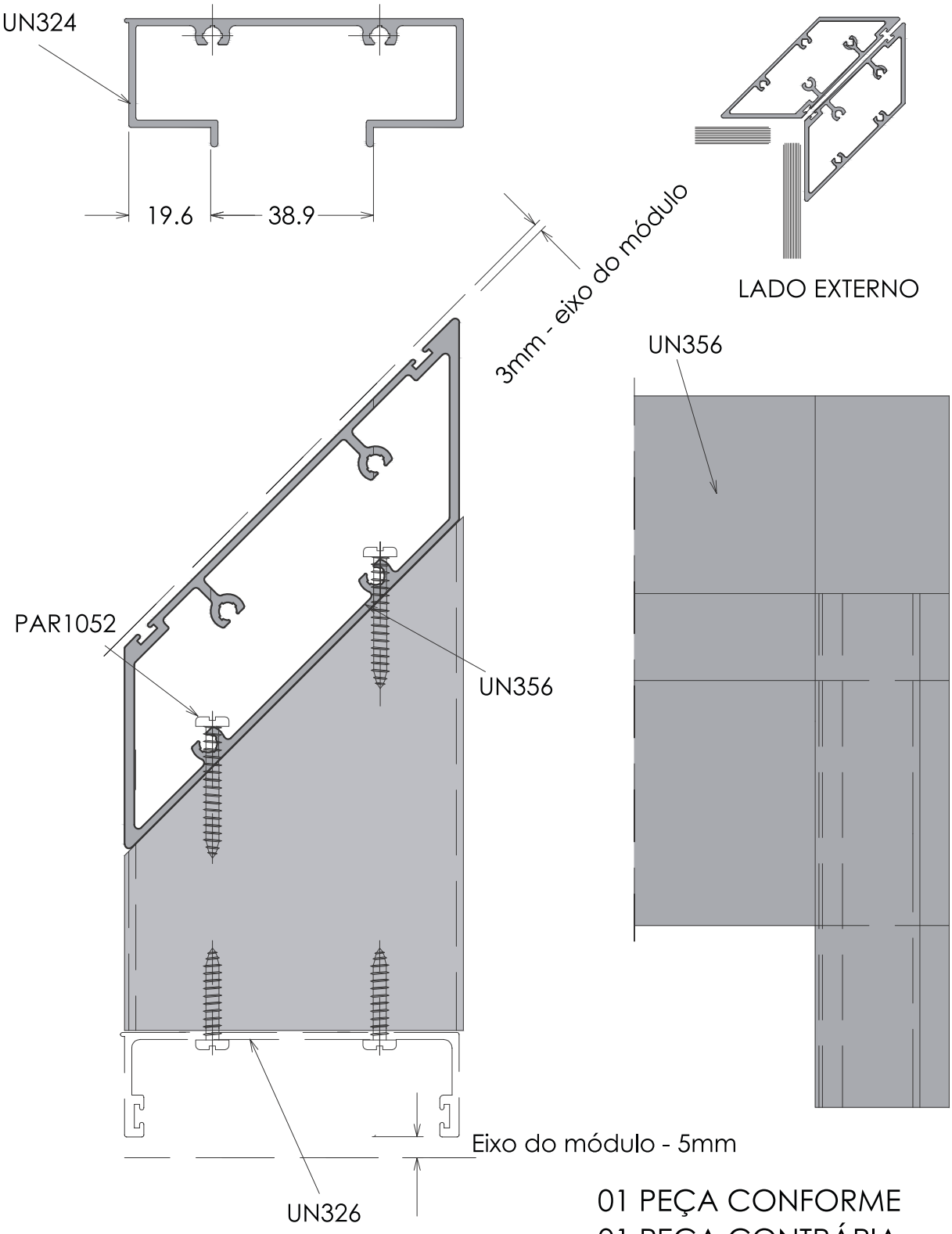
01 PEÇA CONFORME
01 PEÇA CONTRÁRIA

Nota: USAR SILICONE EM TODAS AS JUNÇÕES ENTRE PERFIS

Unit® | Marca e Modelos Registrados

Módulo 80-25

CANTO NEGATIVO



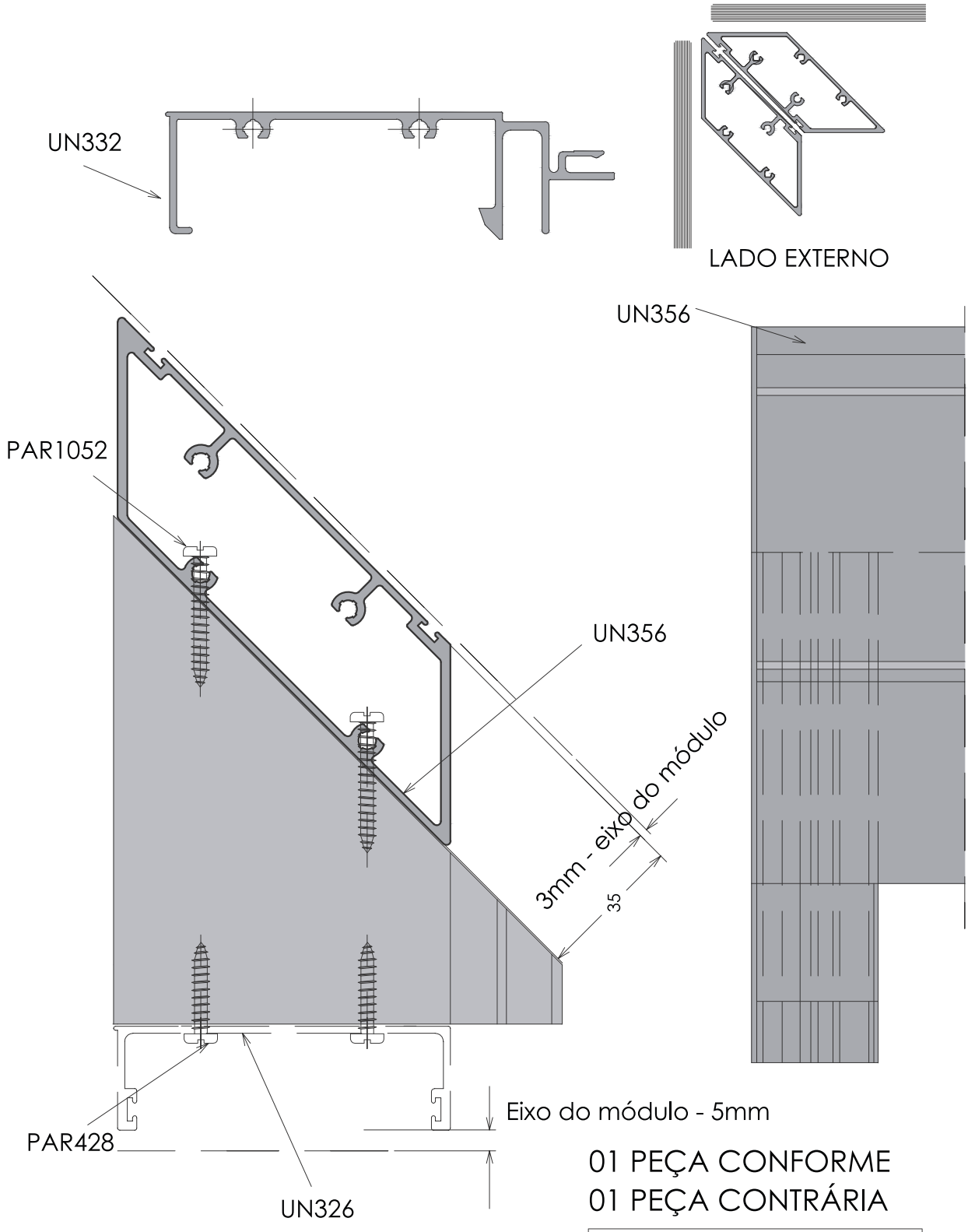
01 PEÇA CONFORME
01 PEÇA CONTRÁRIA

Nota: USAR SILICONE EM TODAS AS JUNÇÕES ENTRE PERFIS

Unit® | Marca e Modelos Registrados

Módulo 80-25

CANTO POSITIVO



01 PEÇA CONFORME
01 PEÇA CONTRÁRIA

Nota: USAR SILICONE EM TODAS AS JUNÇÕES ENTRE PERFIS

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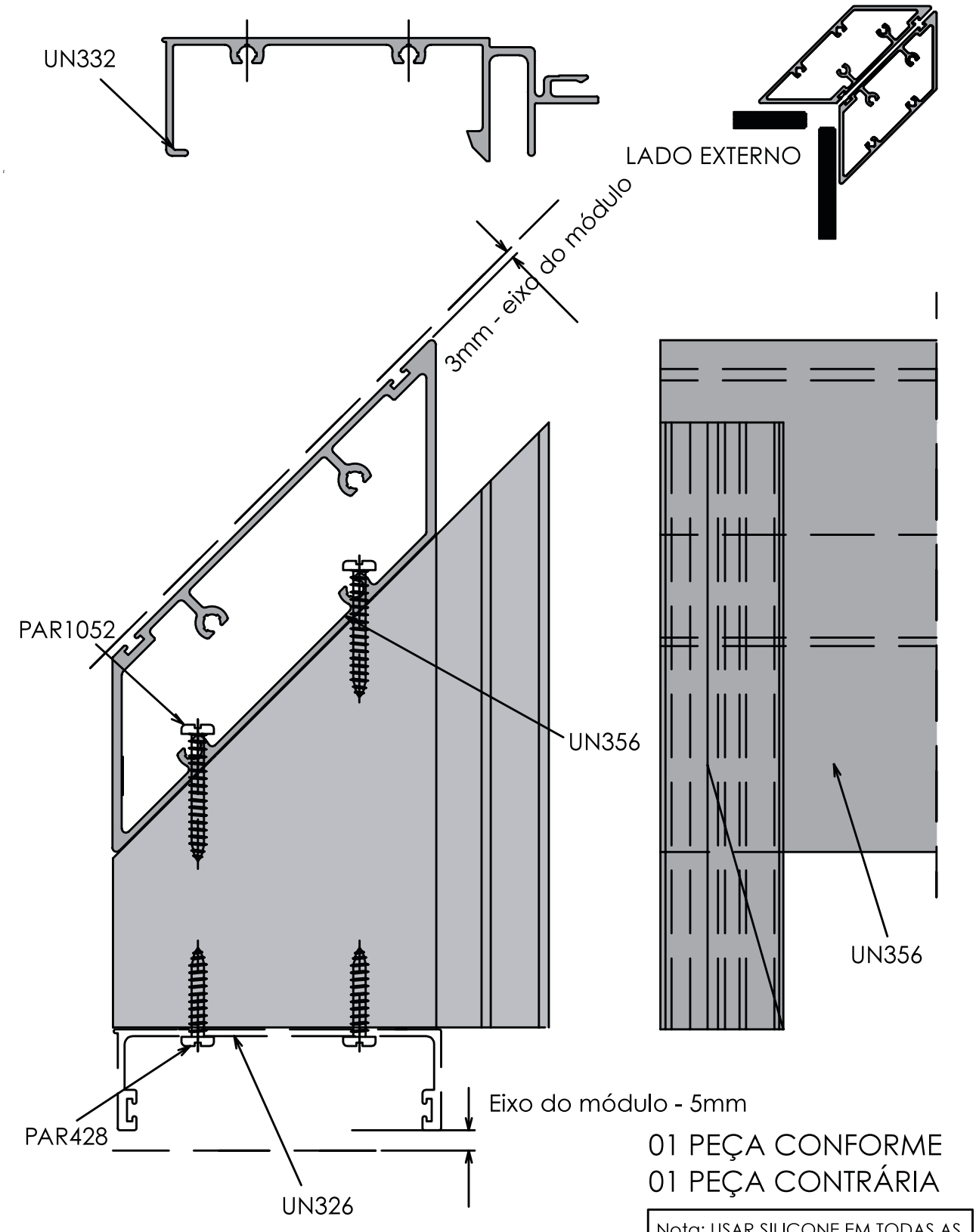
Módulo 80-25

CANTO NEGATIVO



01 PEÇA CONFORME
01 PEÇA CONTRÁRIA

Nota: USAR SILICONE EM TODAS AS JUNÇÕES ENTRE PERFIS

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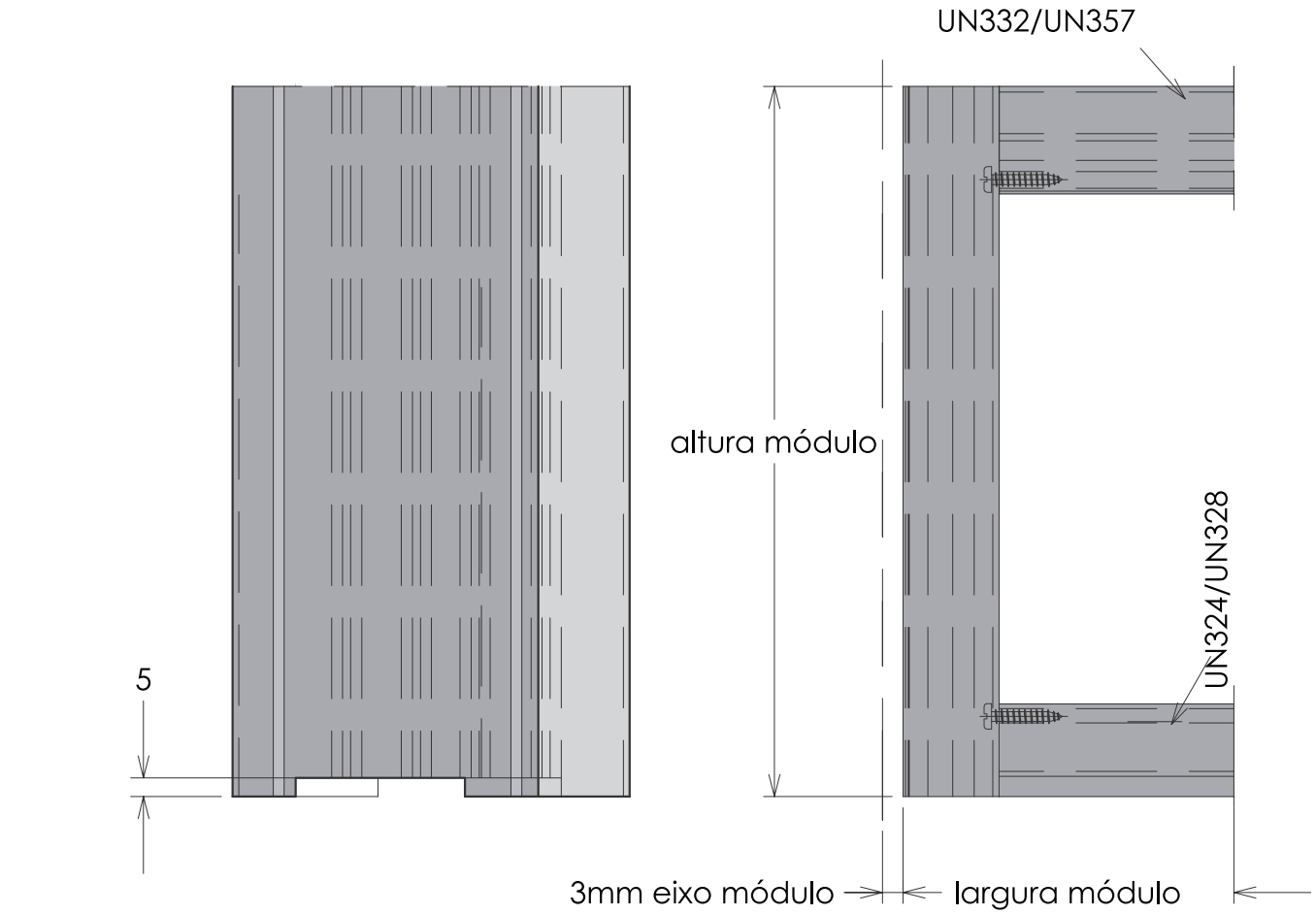
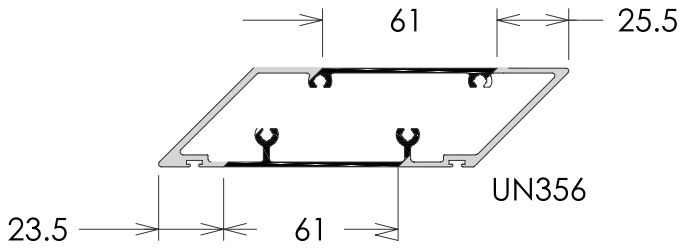
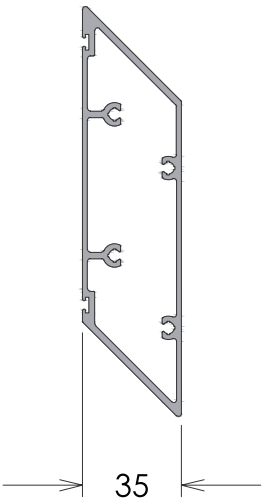
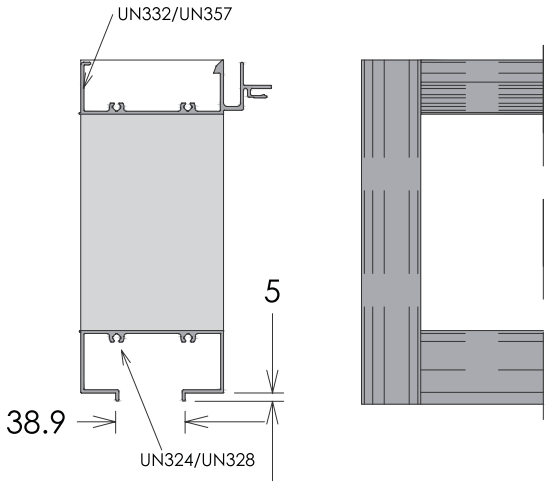
Módulo 80-35 Rebaixo









Nota: USAR SILICONE EM TODAS AS JUNÇÕES ENTRE PERFIS

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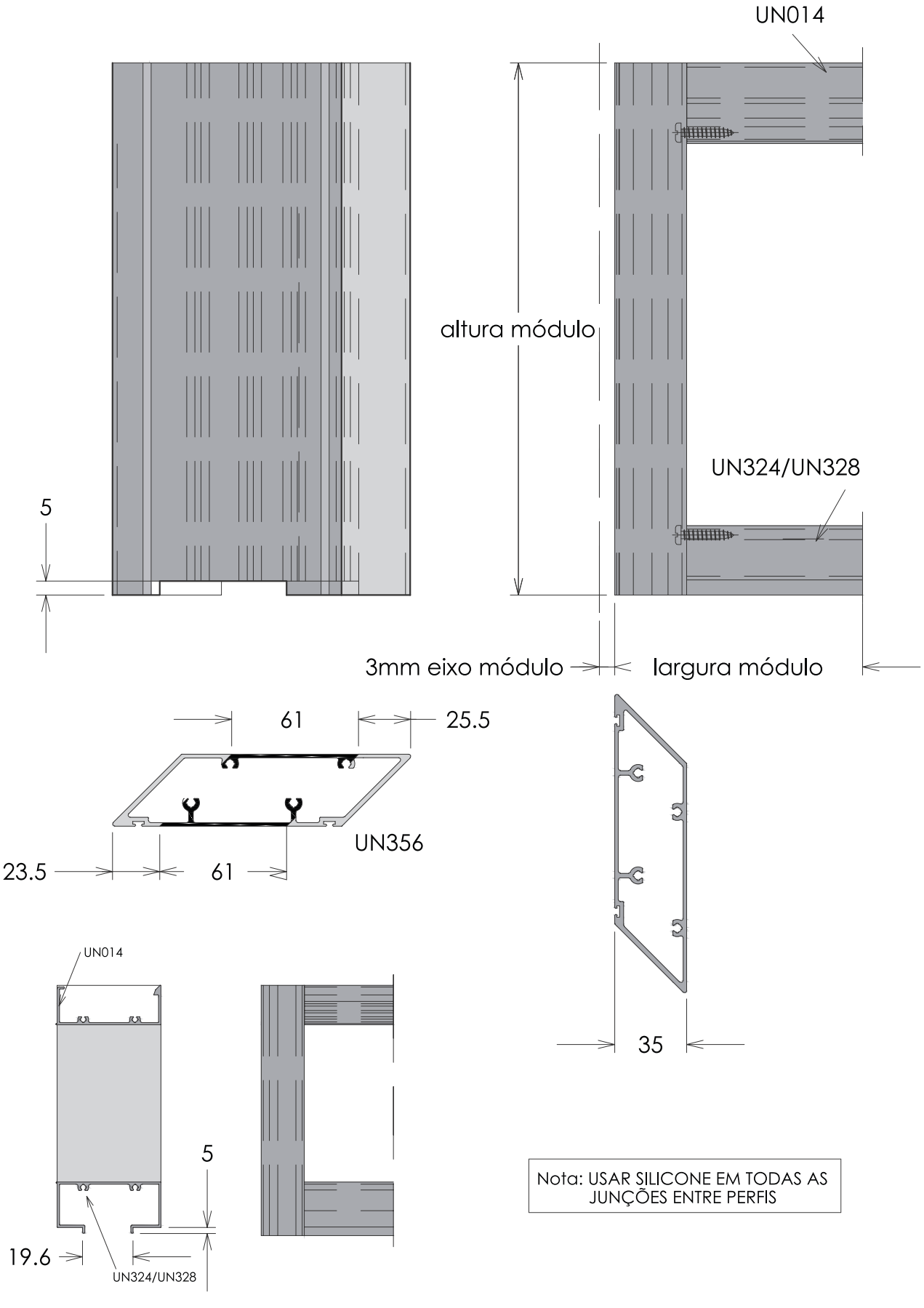
Módulo 80-35 Rebaixo



Nota: USAR SILICONE EM TODAS AS JUNÇÕES ENTRE PERFIS

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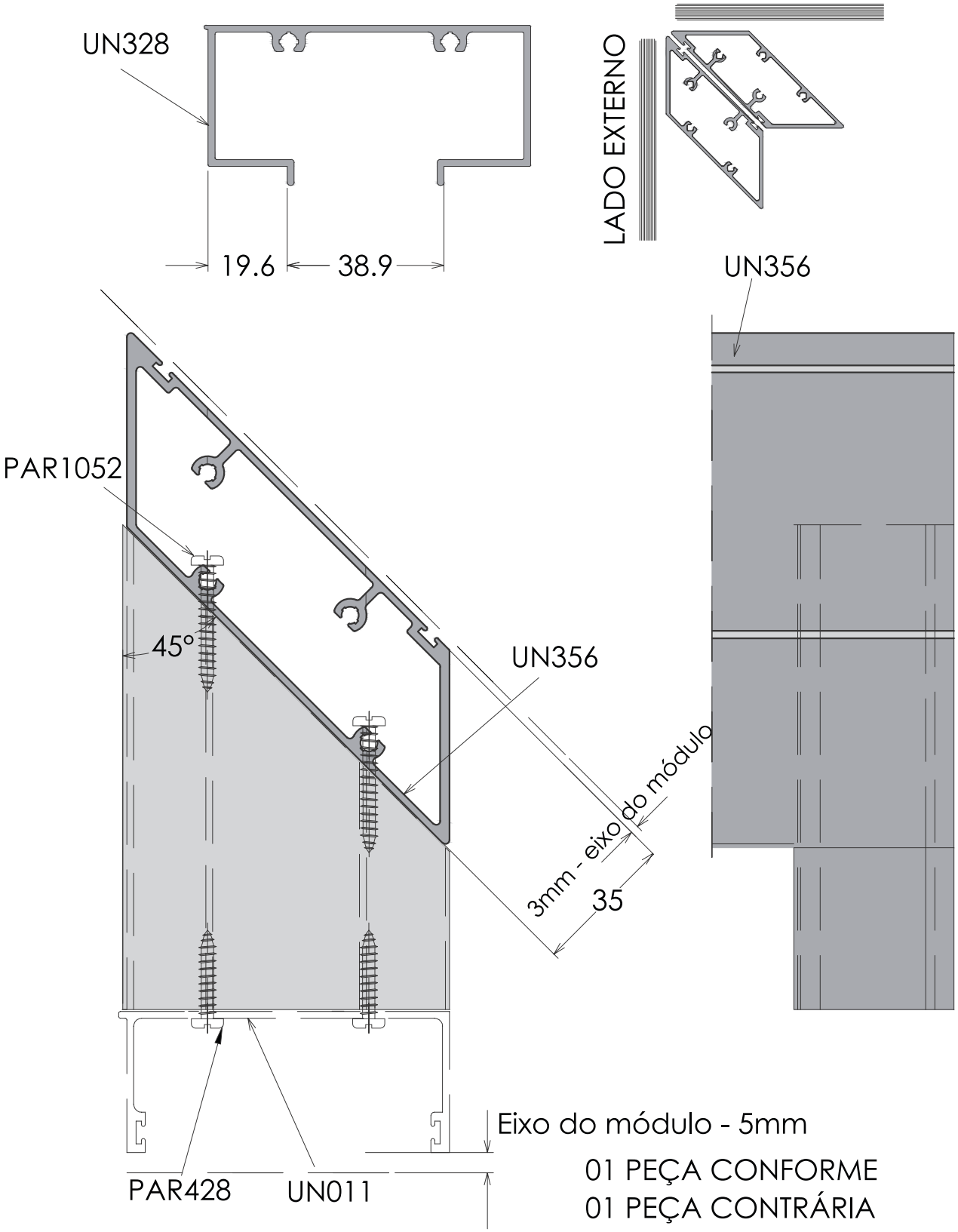
Módulo 80-35 Rebaixo

CANTO POSITIVO



01 PEÇA CONFORME
01 PEÇA CONTRÁRIA

Nota: USAR SILICONE EM TODAS AS JUNÇÕES ENTRE PERFIS

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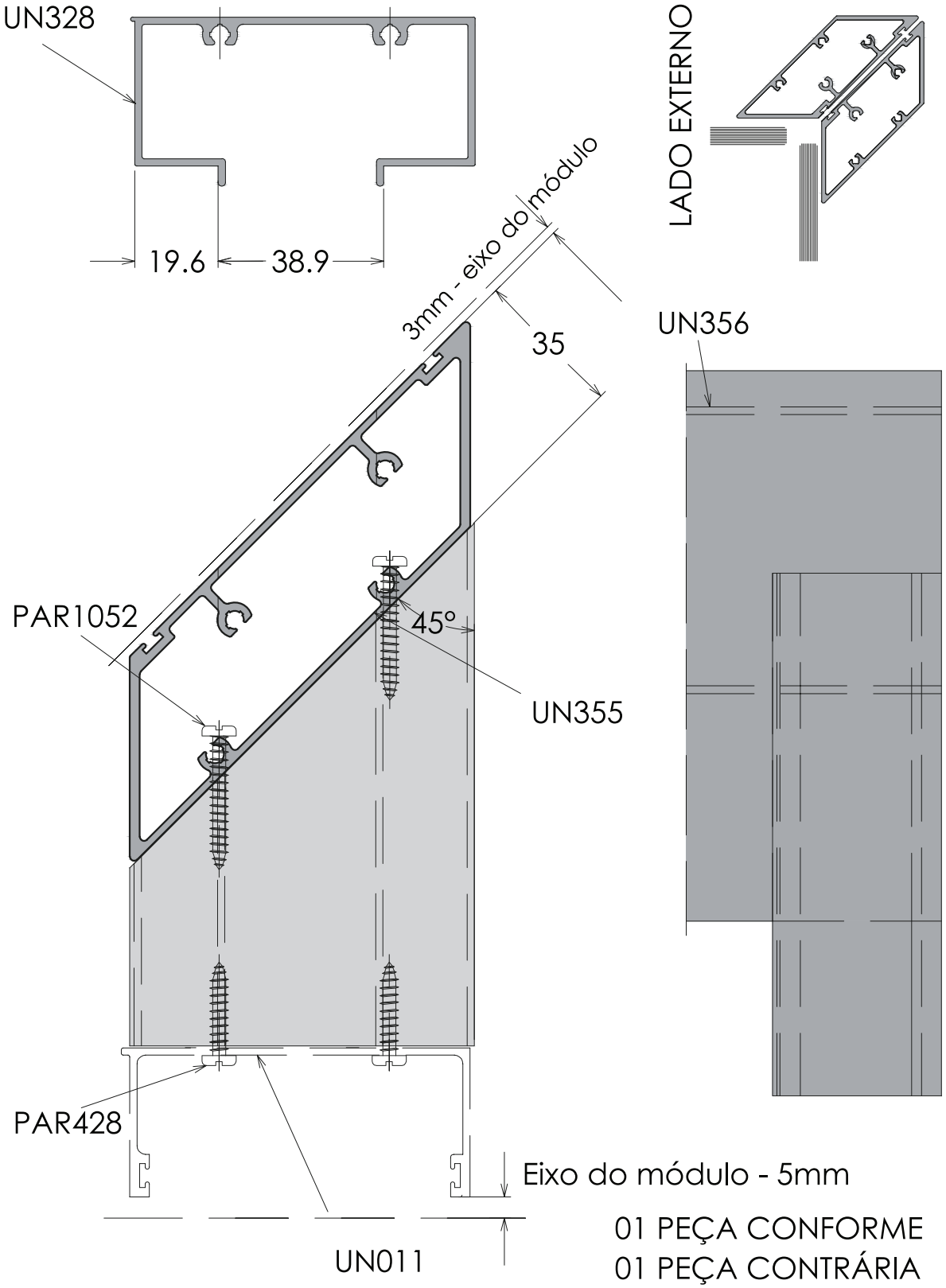
Módulo 80-35 Rebaixo

CANTO NEGATIVO



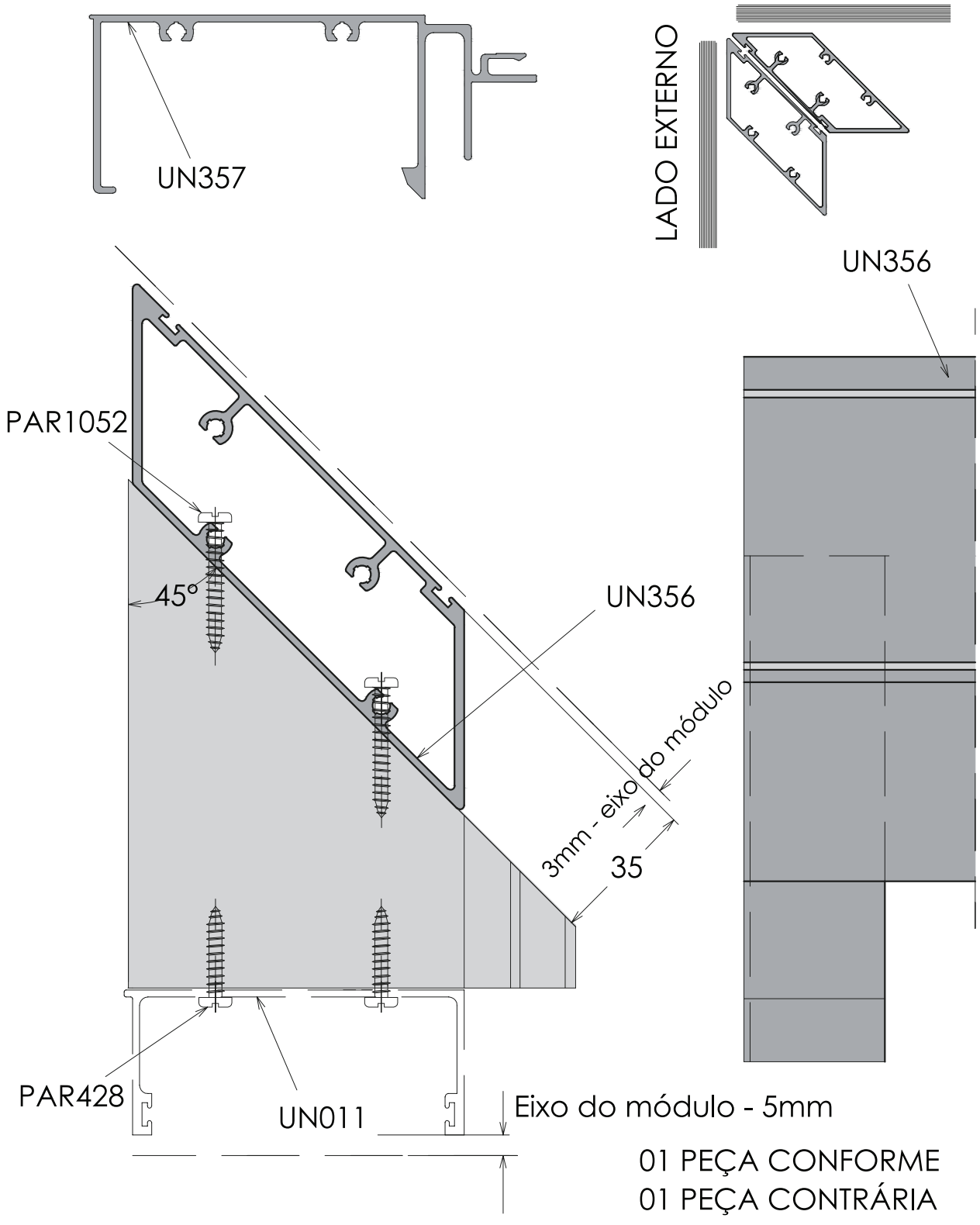
01 PEÇA CONFORME
01 PEÇA CONTRÁRIA

Nota: USAR SILICONE EM TODAS AS JUNÇÕES ENTRE PERFIS

Unit® | Marca e Modelos Registrados

Módulo 80-35 Rebaixo

CANTO POSITIVO



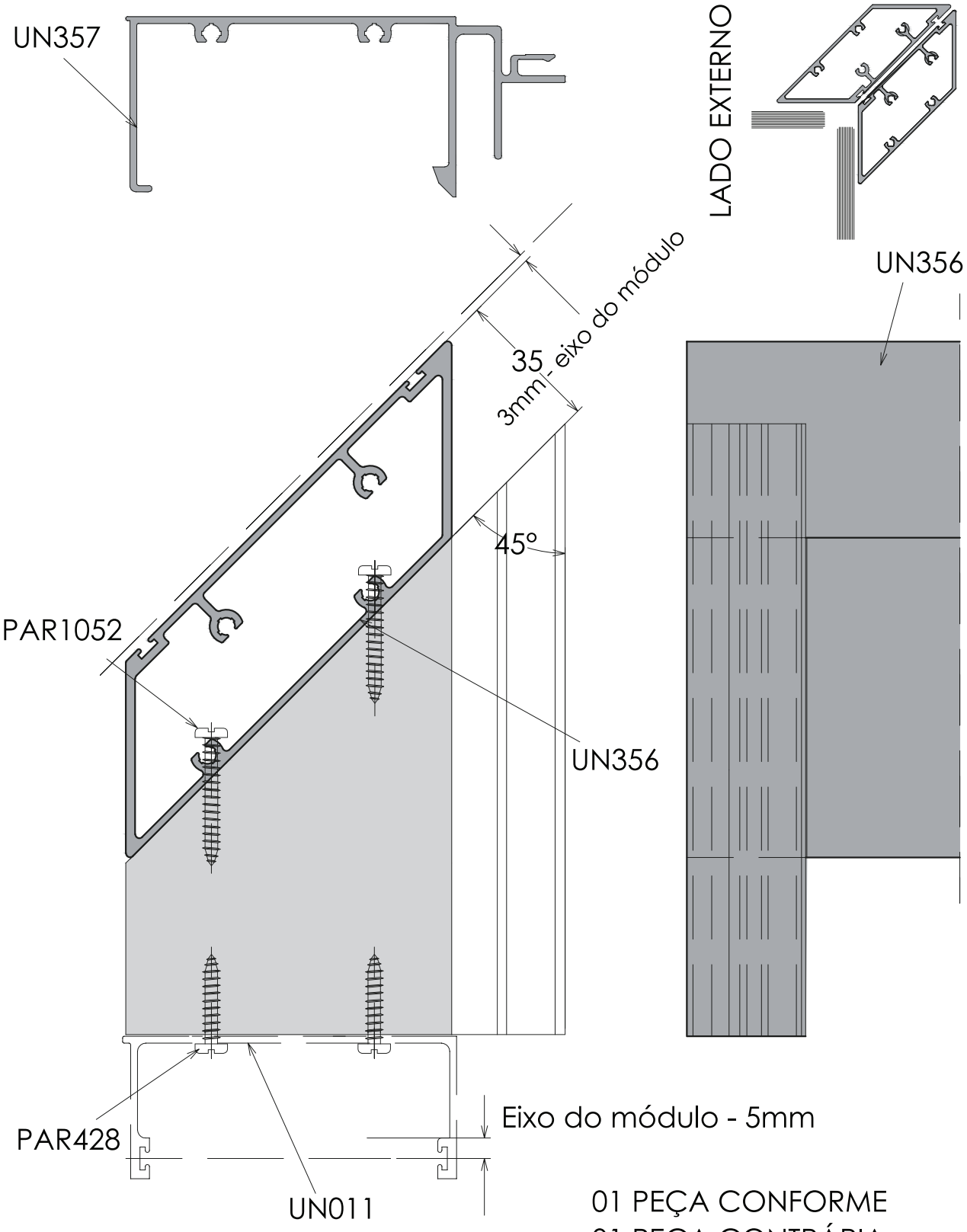
01 PEÇA CONFORME
01 PEÇA CONTRÁRIA

Nota: USAR SILICONE EM TODAS AS JUNÇÕES ENTRE PERFIS

Unit® | Marca e Modelos Registrados

Módulo 80-35 Rebaixo

CANTO NEGATIVO



01 PEÇA CONFORME
01 PEÇA CONTRÁRIA

Nota: USAR SILICONE EM TODAS AS JUNÇÕES ENTRE PERFIS

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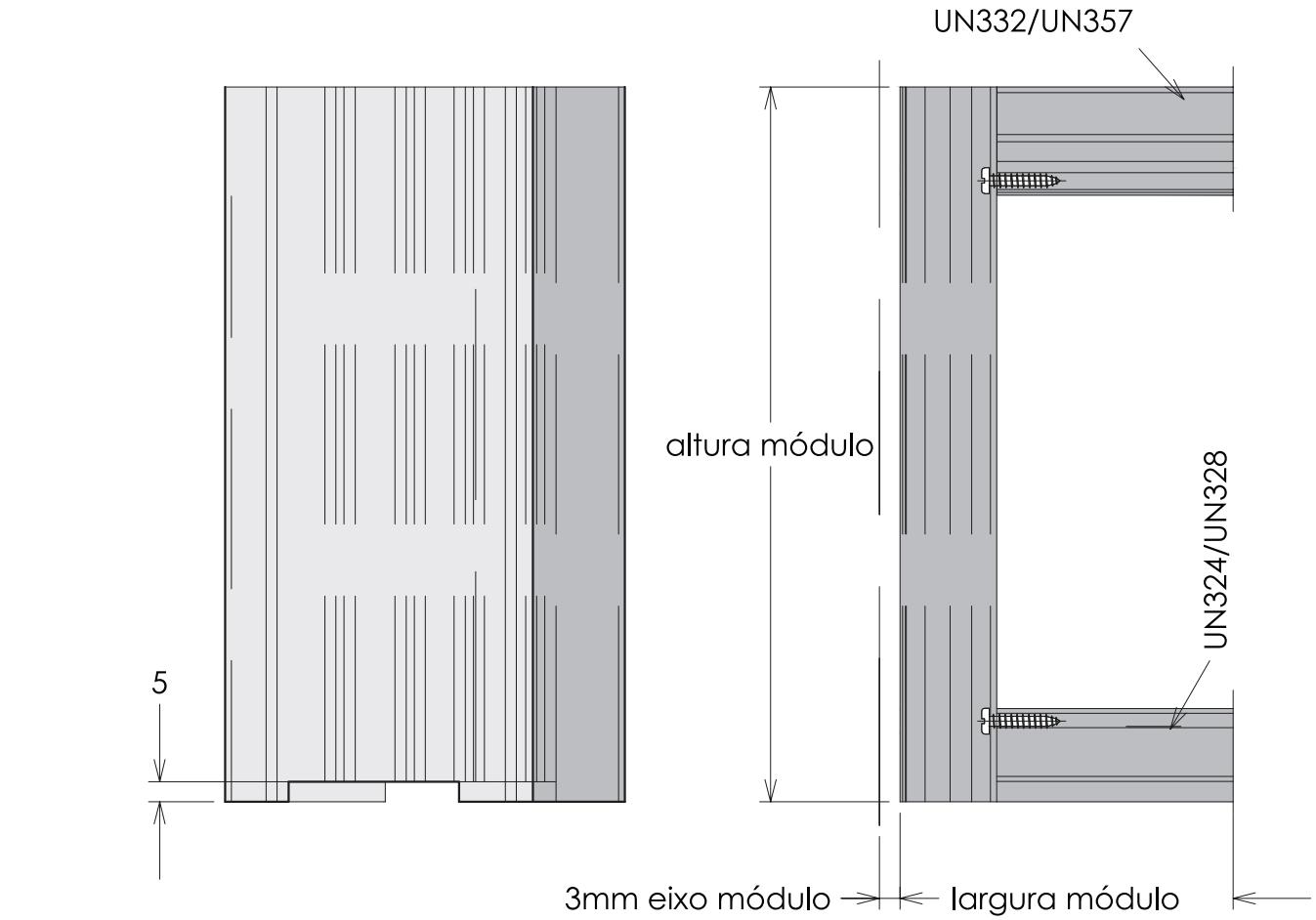
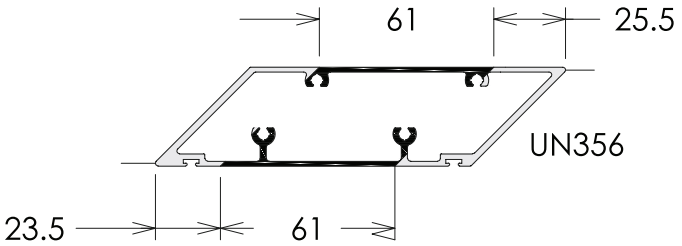
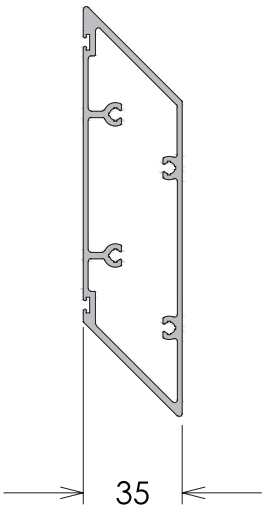
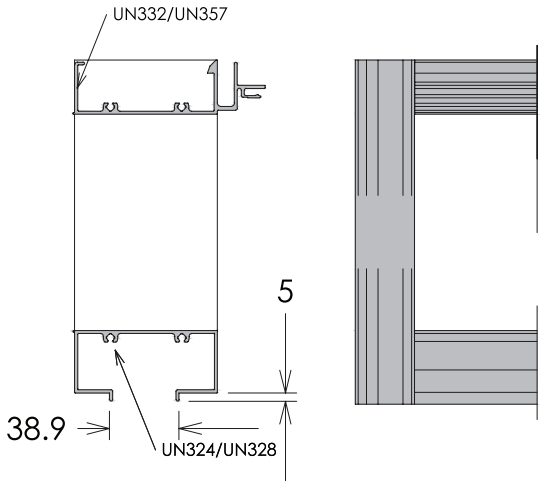
Módulo 80-35R









Nota: USAR SILICONE EM TODAS AS JUNÇÕES ENTRE PERFIS

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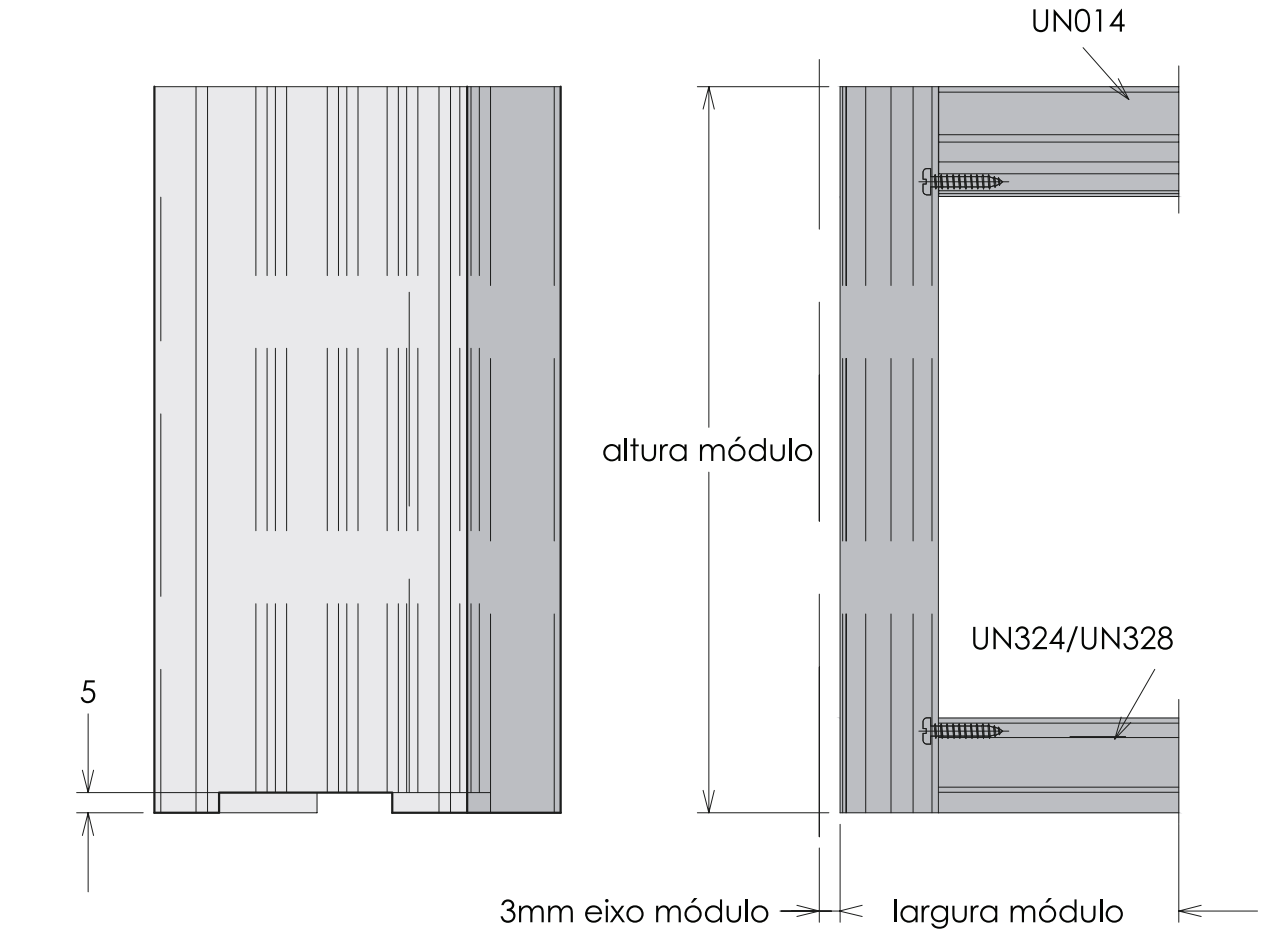
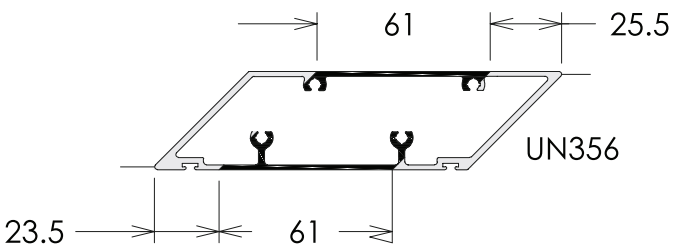
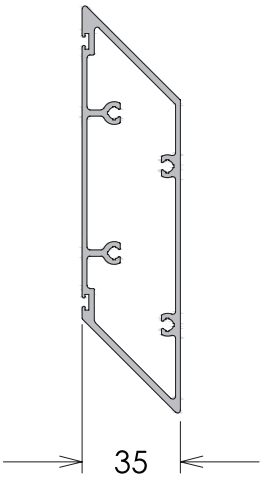
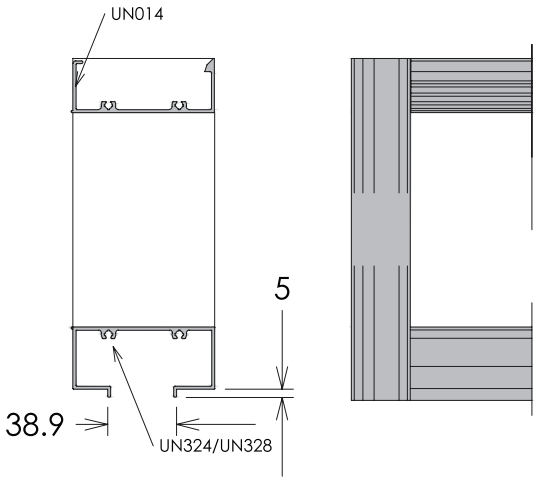
Módulo 80-35R









Nota: USAR SILICONE EM TODAS AS JUNÇÕES ENTRE PERFIS

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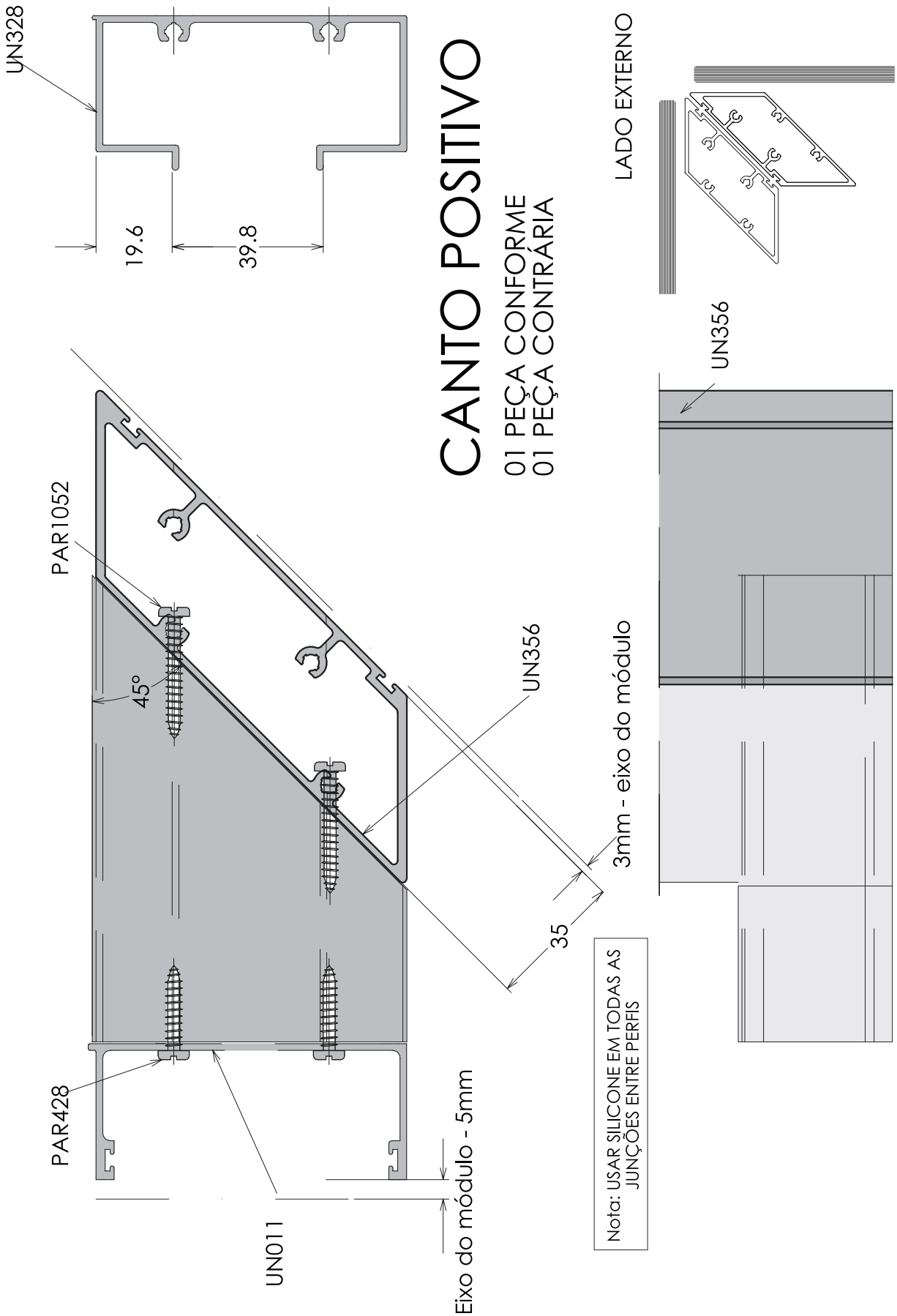
Módulo 80-35R



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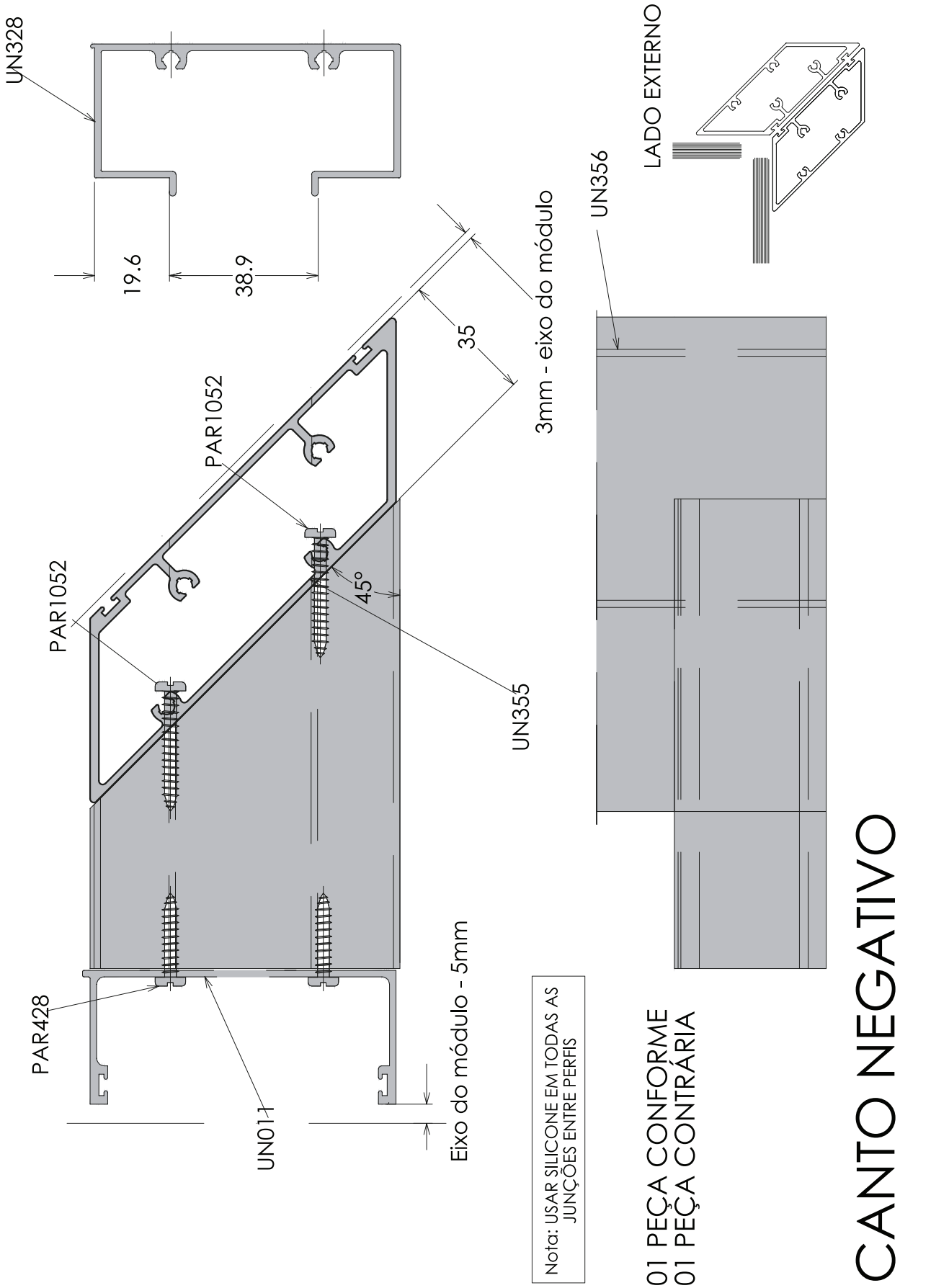
Módulo 80-35R



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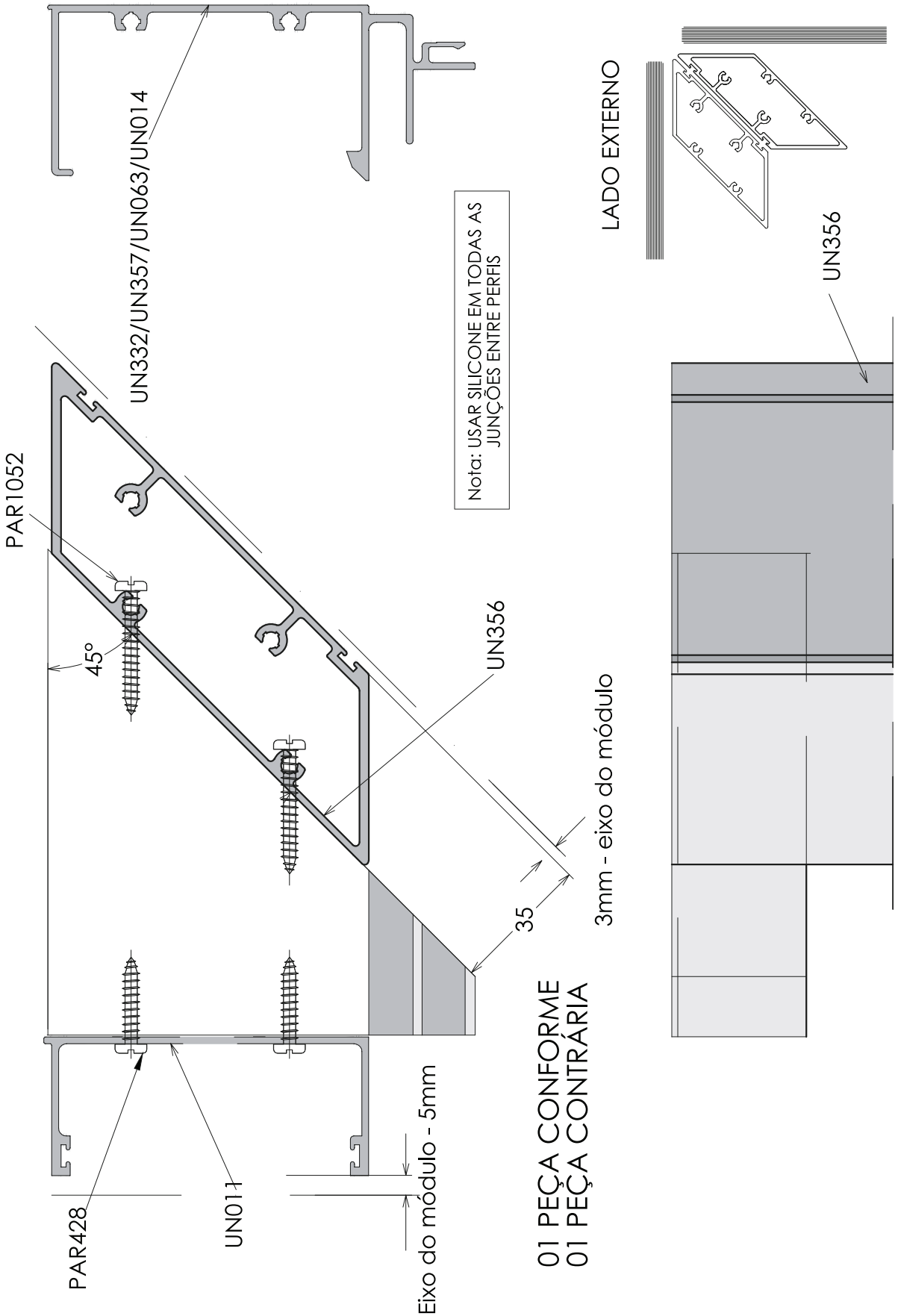
Módulo 80-35R



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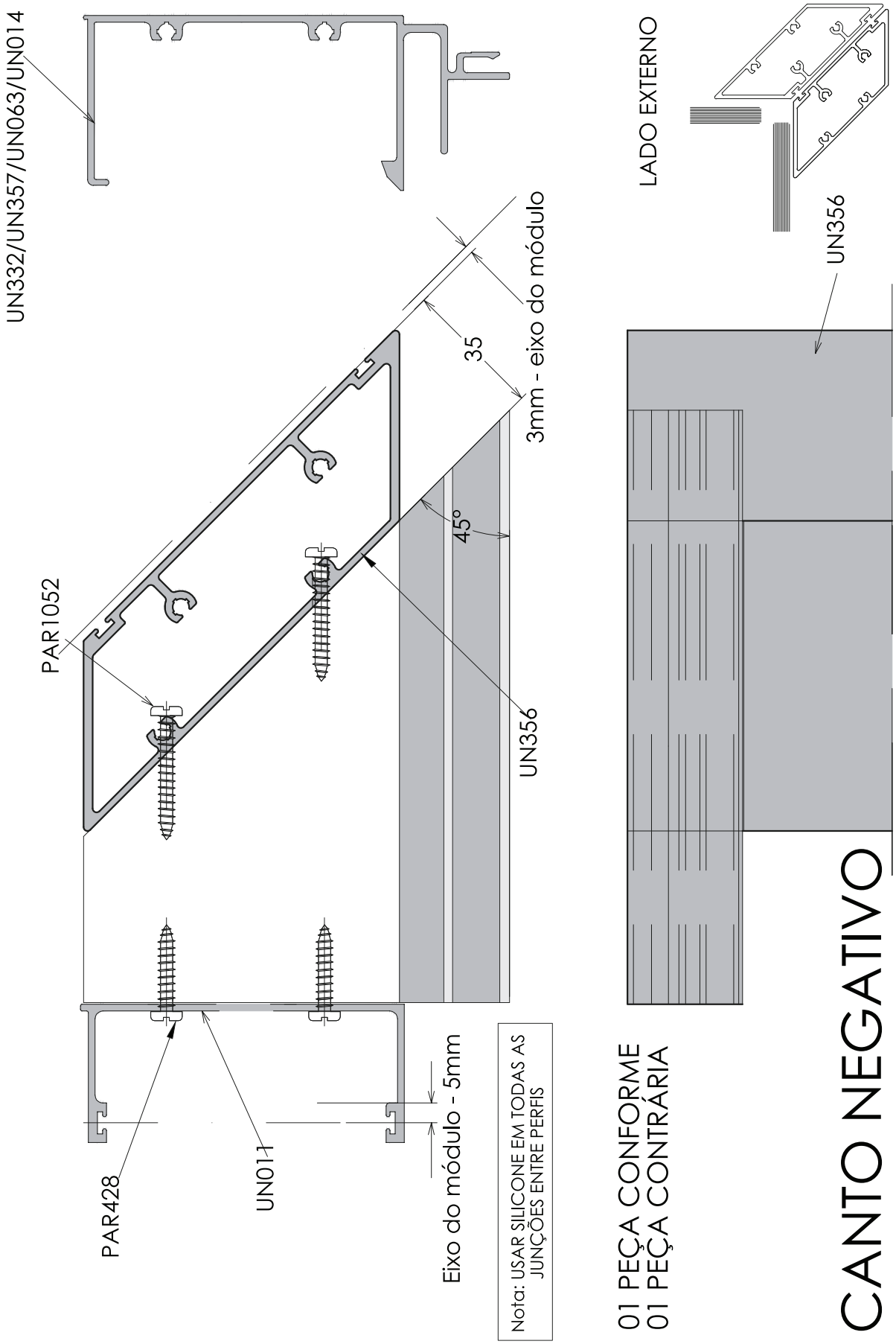
Módulo 80-35R



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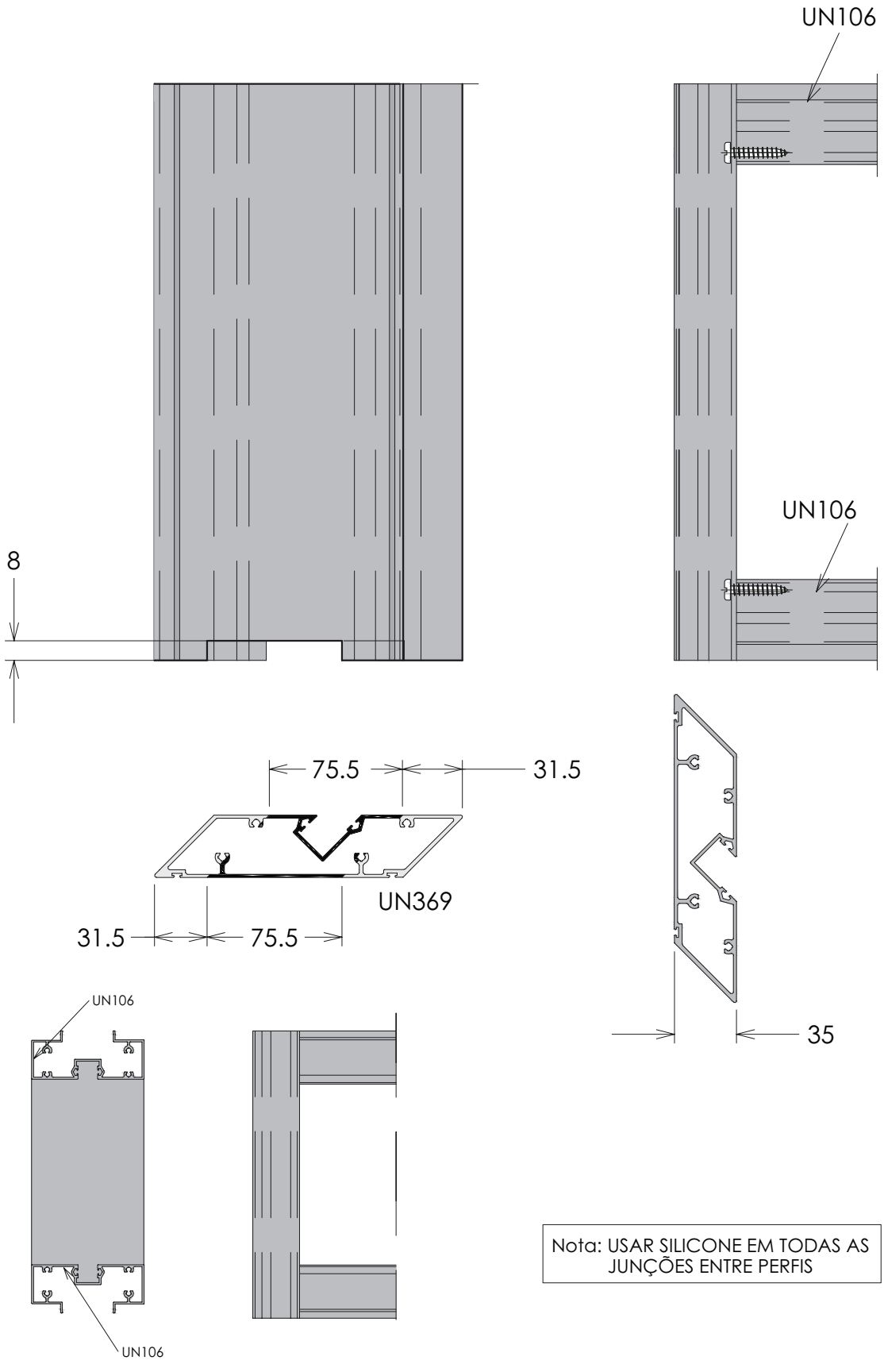
Módulo 100 Encaixilhado



Nota: USAR SILICONE EM TODAS AS JUNÇÕES ENTRE PERFIS

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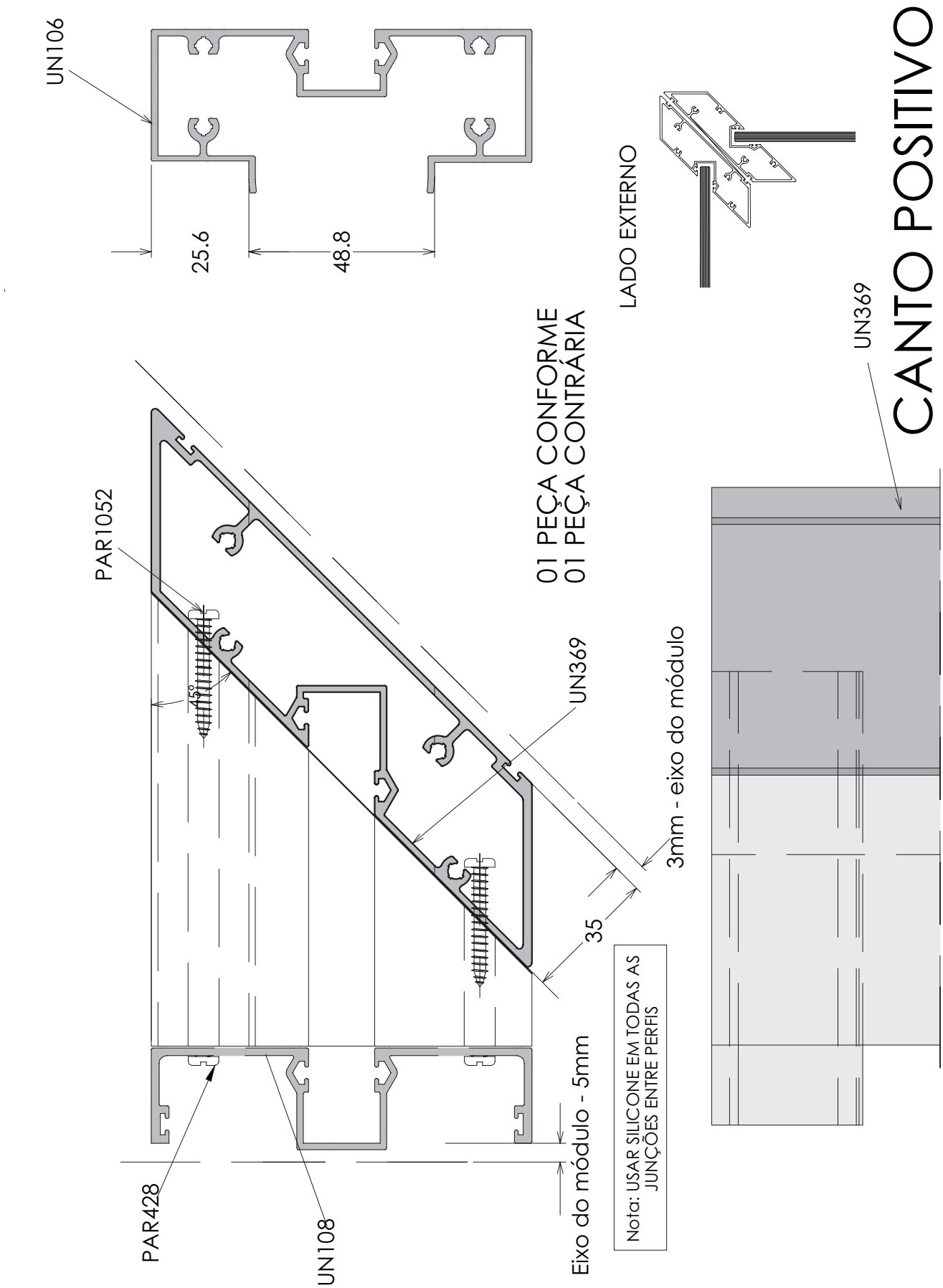
Módulo 100 Encaixilhado



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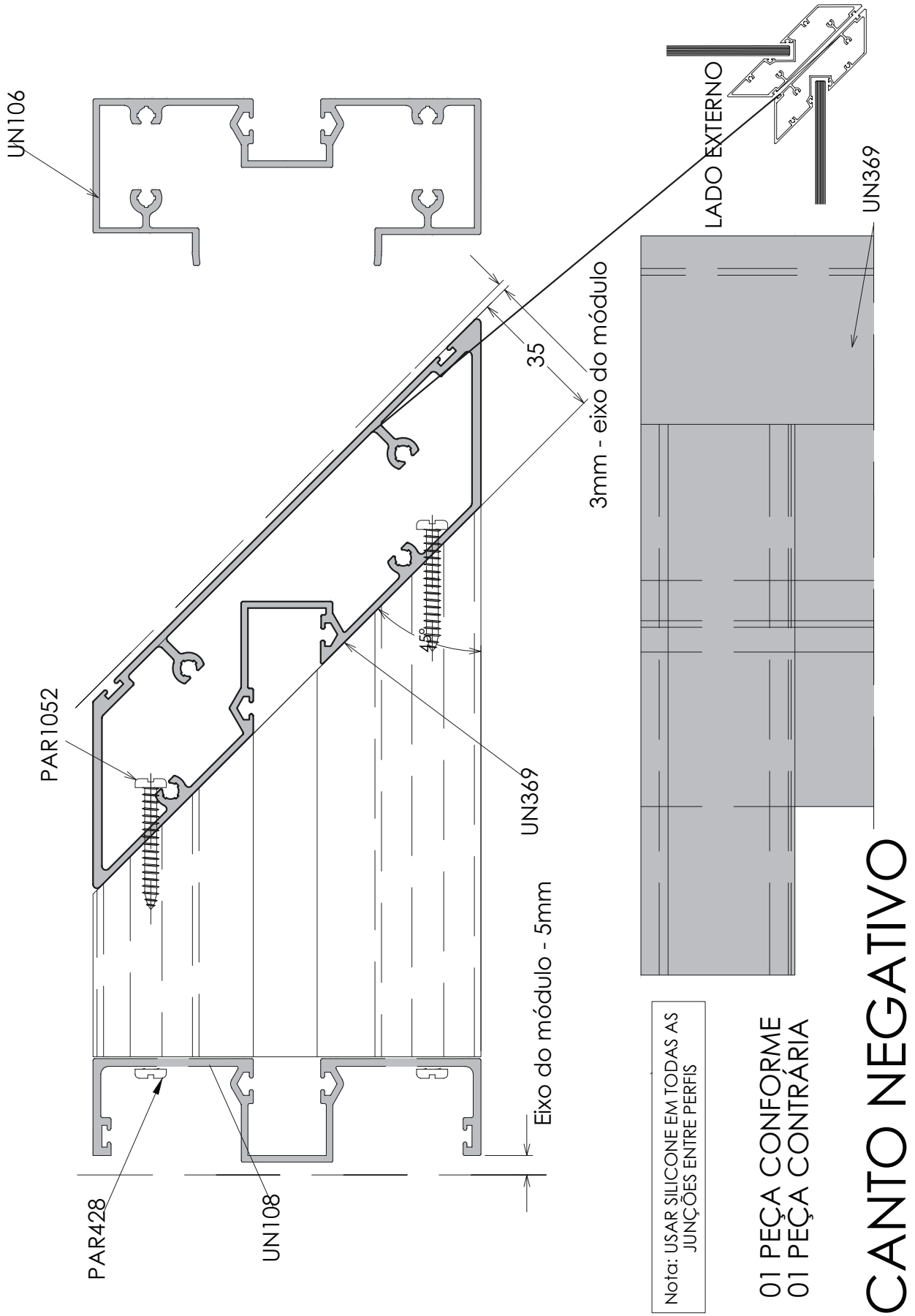
Módulo 100 Encaixilhado



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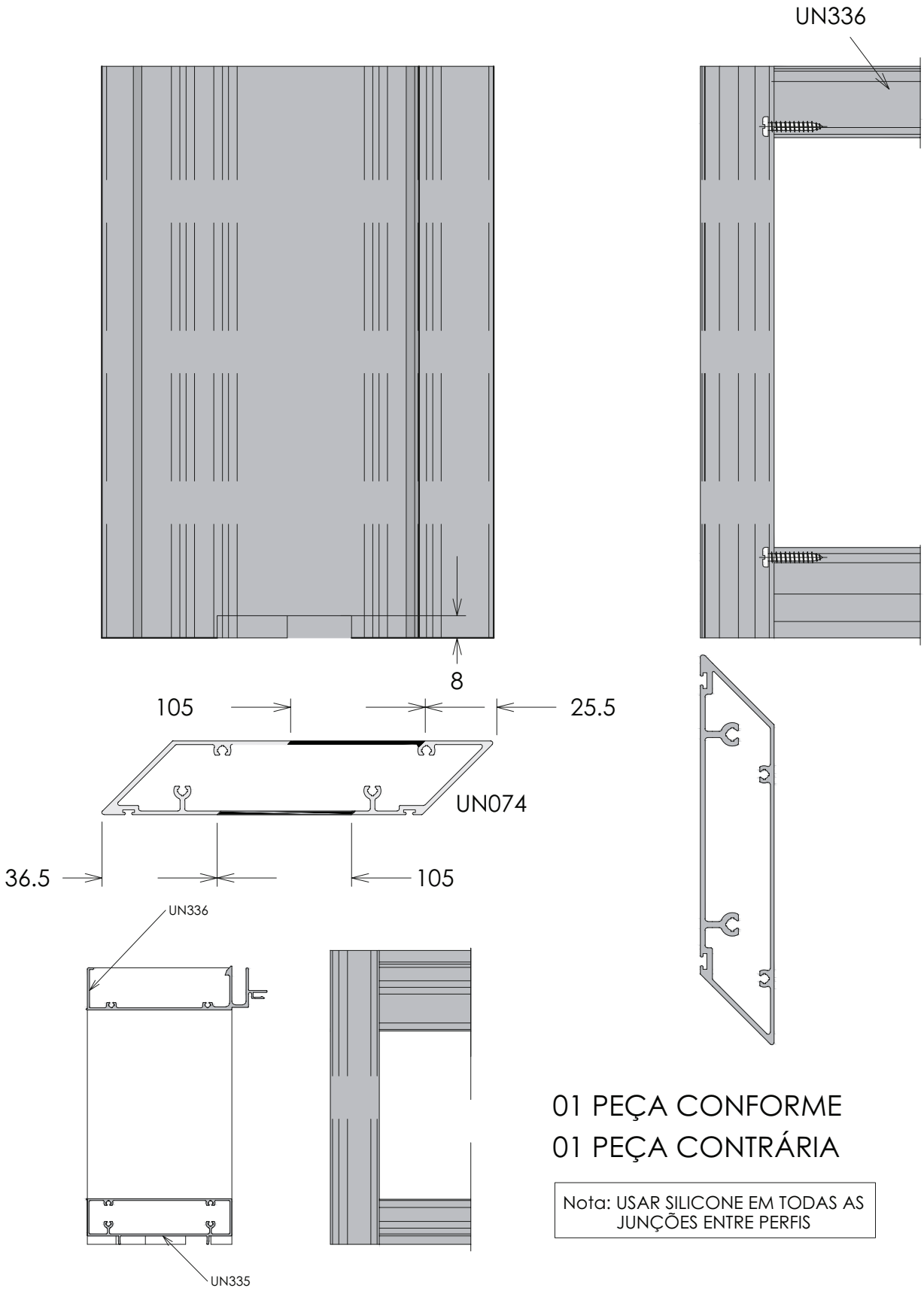
Módulo 120-35



01 PEÇA CONFORME
01 PEÇA CONTRÁRIA

Nota: USAR SILICONE EM TODAS AS JUNÇÕES ENTRE PERFIS

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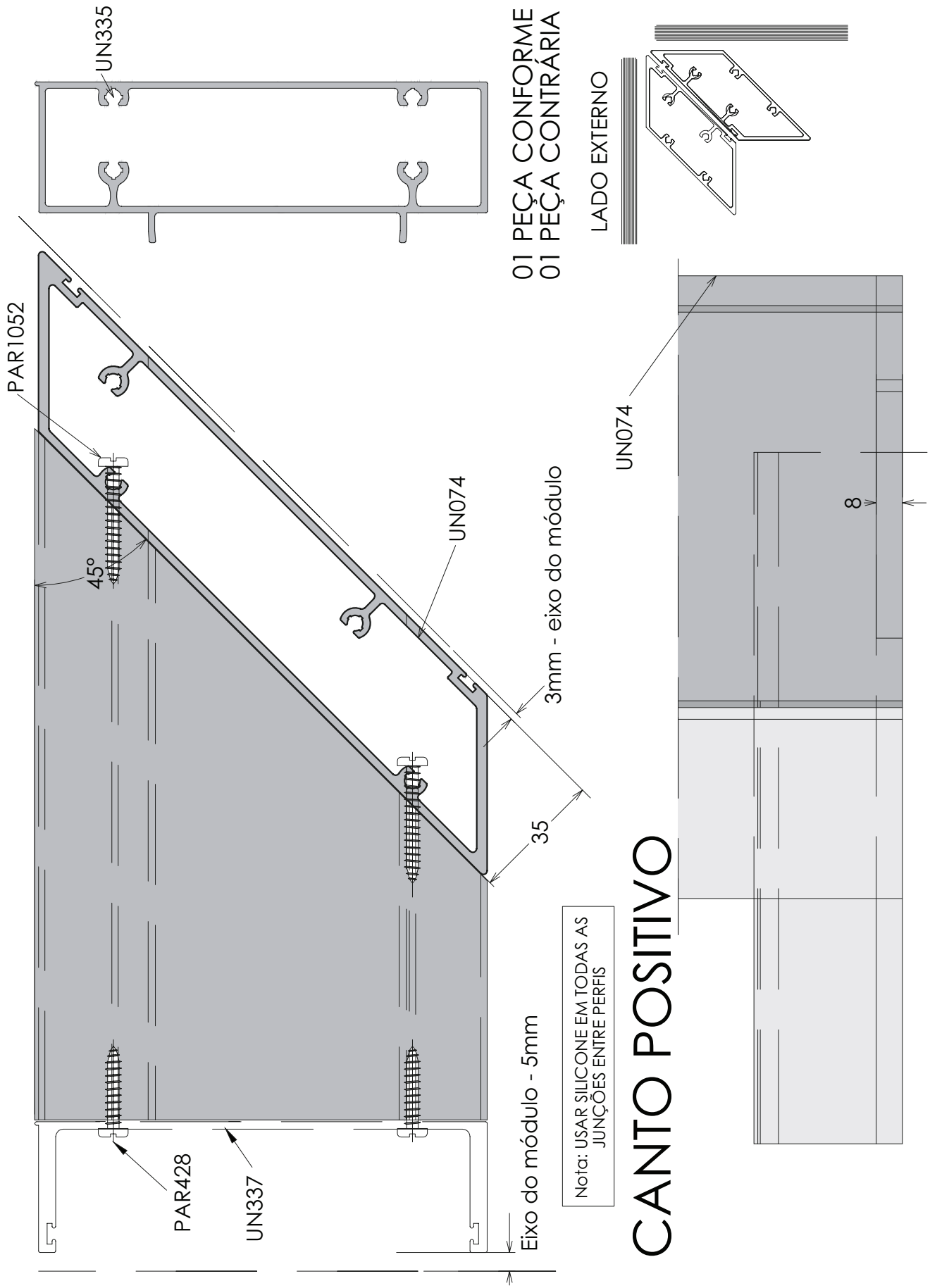
Módulo 120-35



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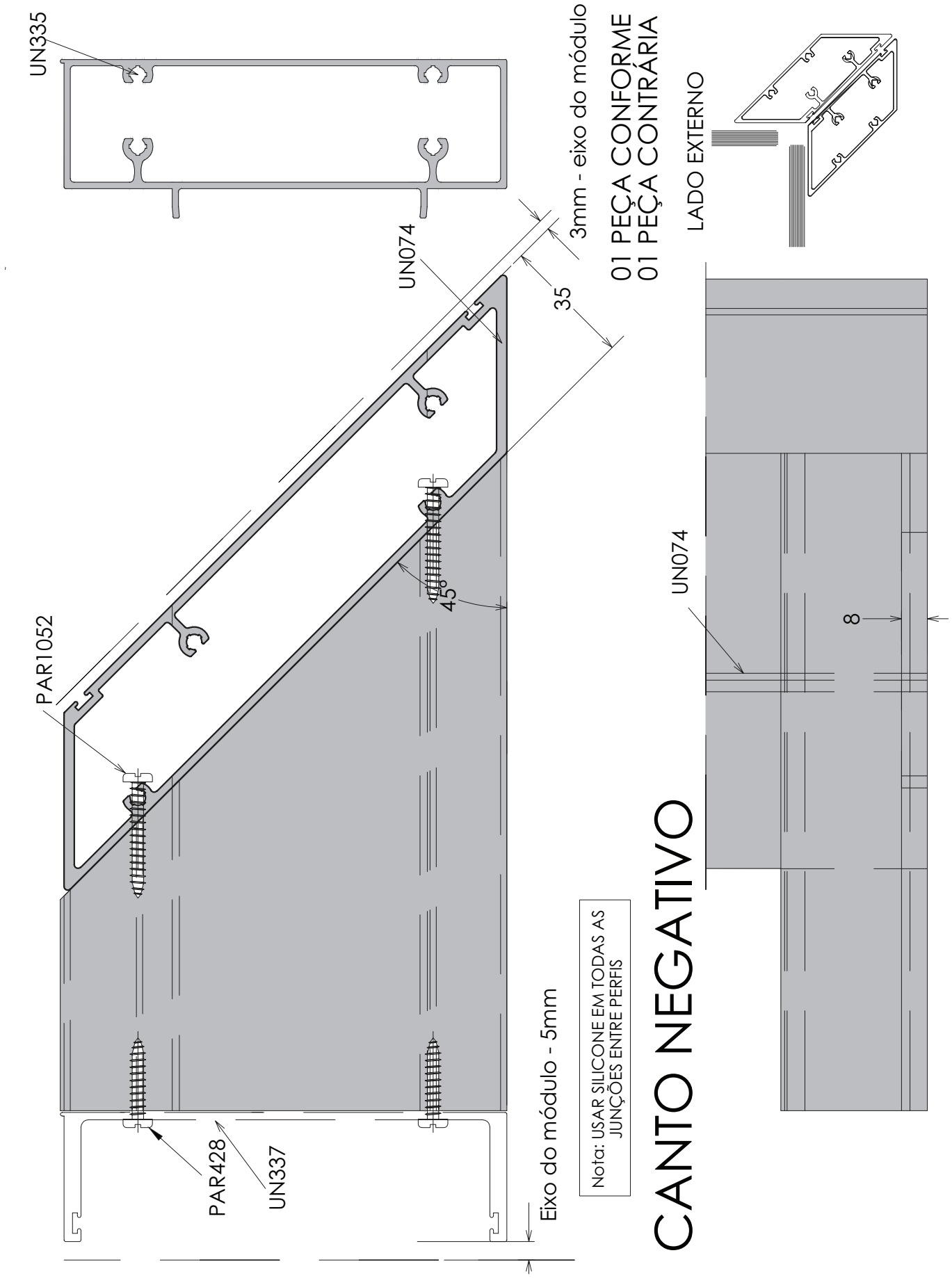
Módulo 120-35



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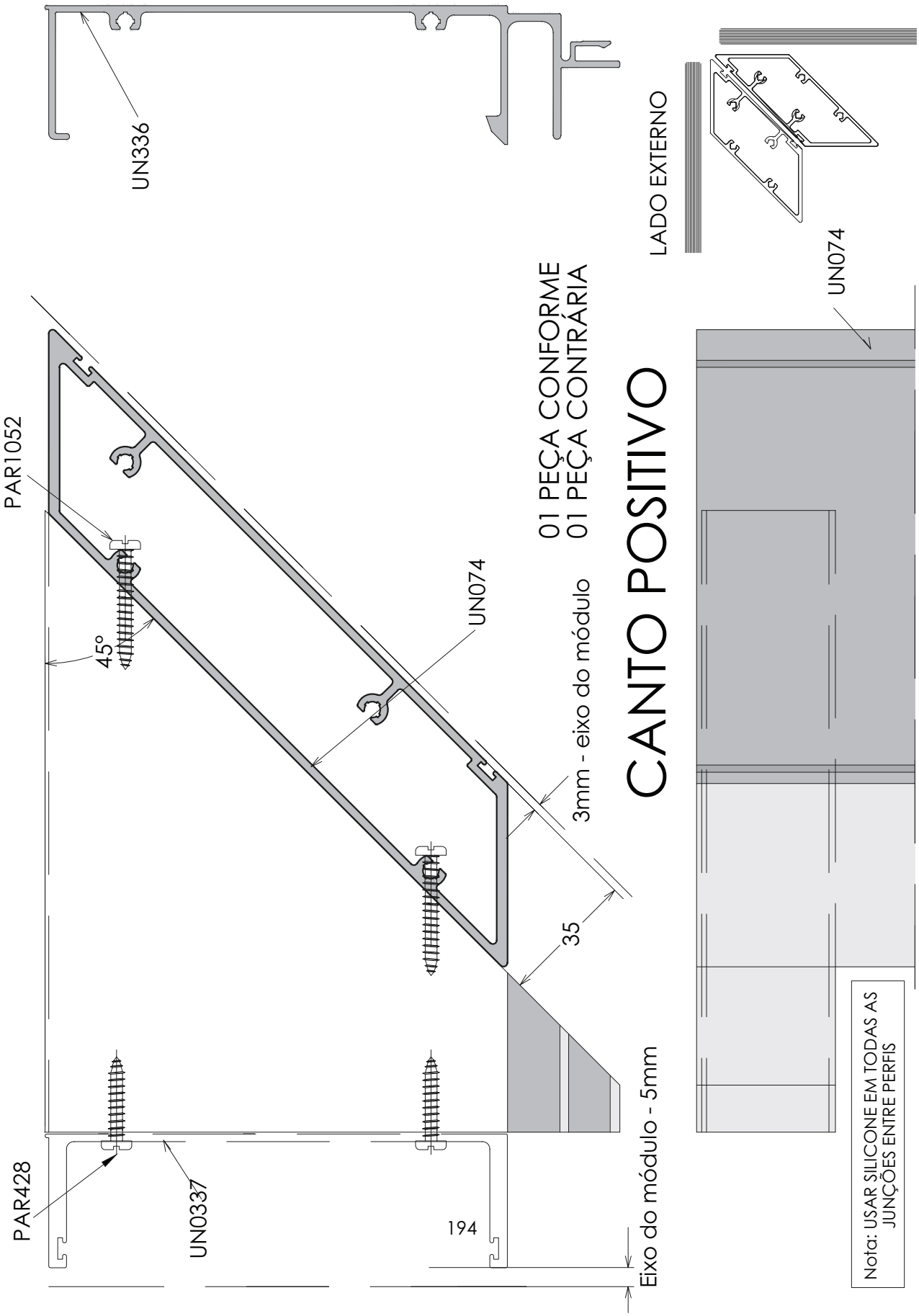
Módulo 120-35



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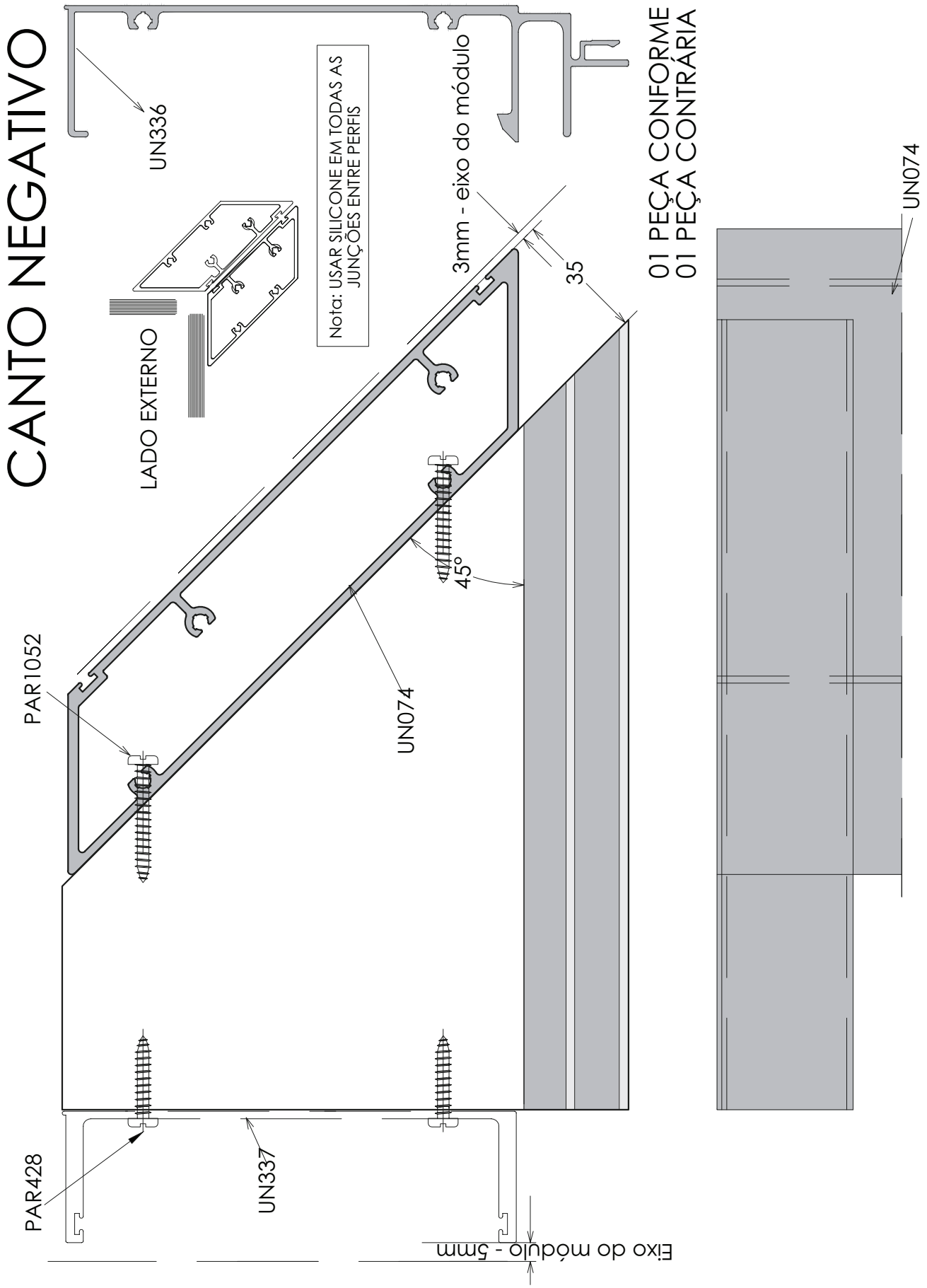
Módulo 120-35



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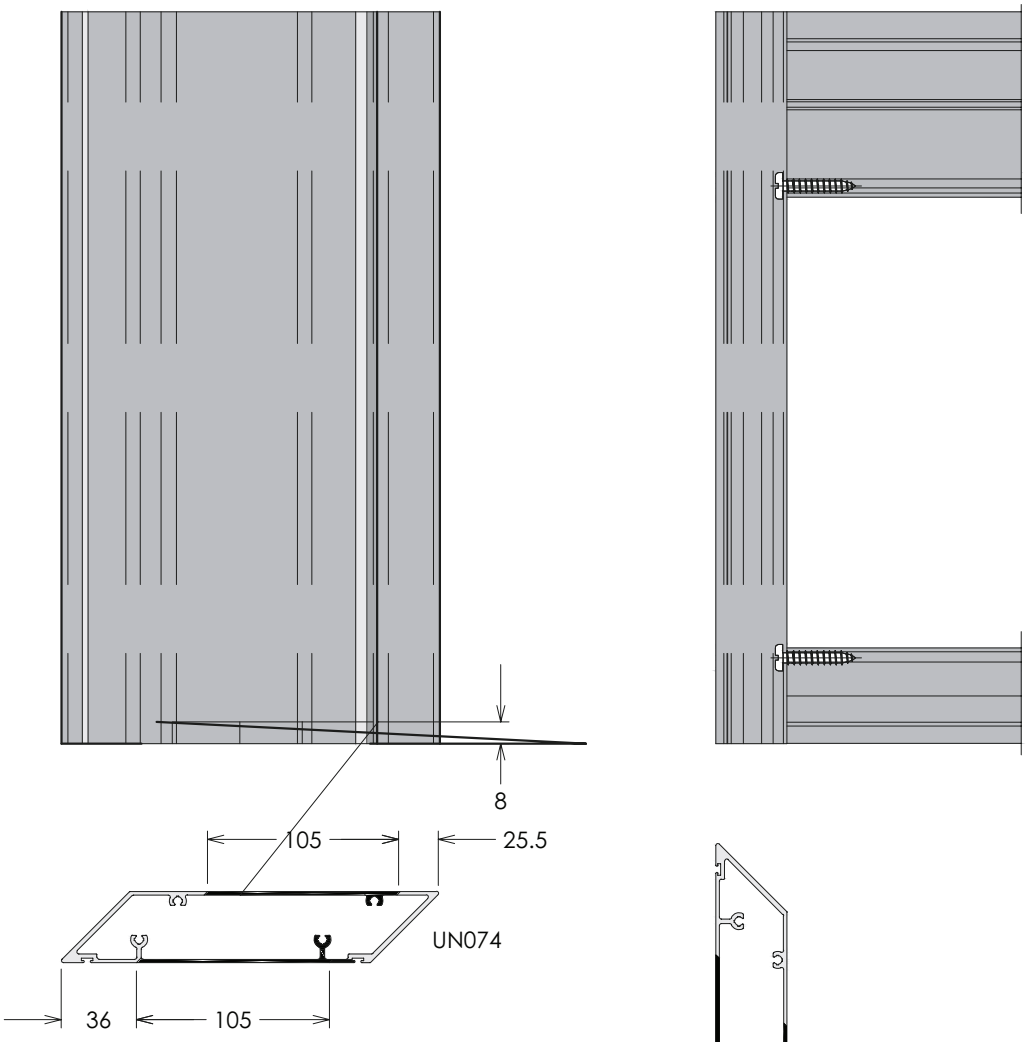
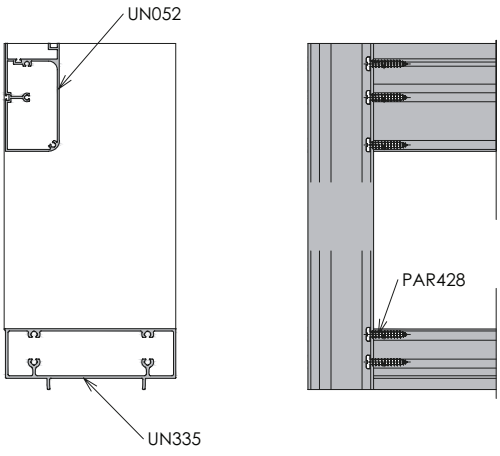
Módulo 120 Fix. Contínua



01 PEÇA CONFORME
01 PEÇA CONTRÁRIA



Nota: USAR SILICONE EM TODAS AS JUNÇÕES ENTRE PERFIS

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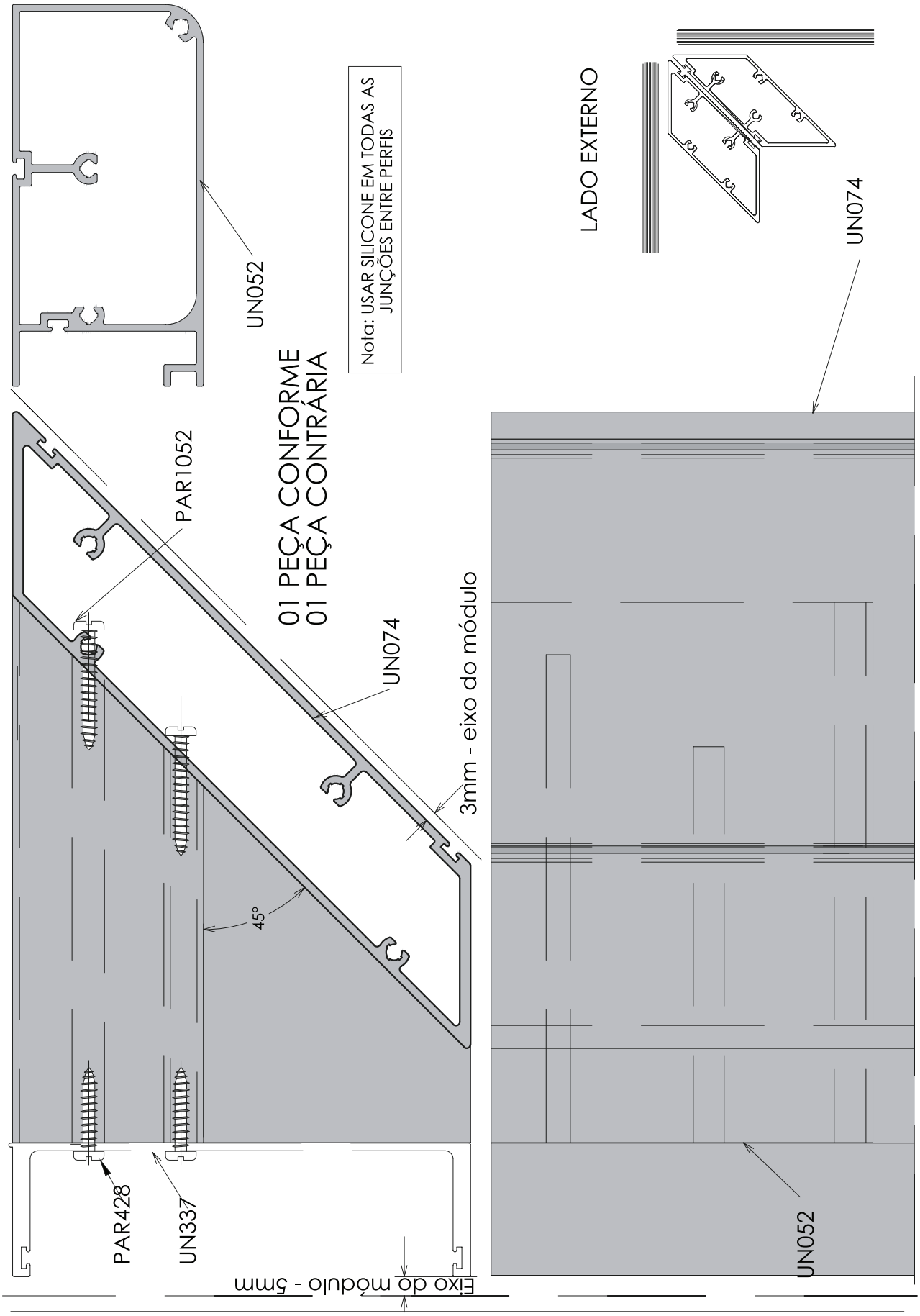
Módulo 120 Fix. Contínua



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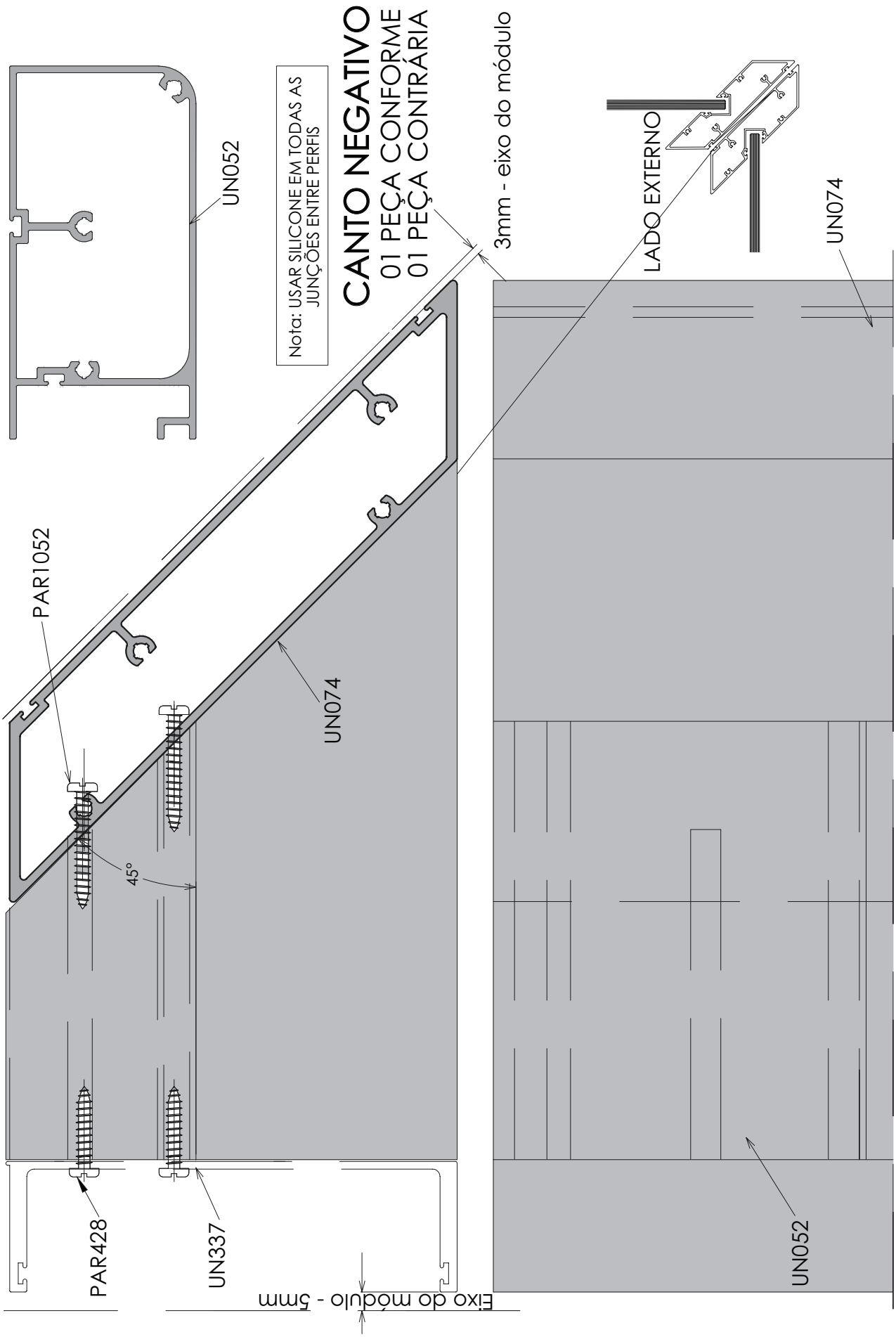
Módulo 120 Fix. Contínua



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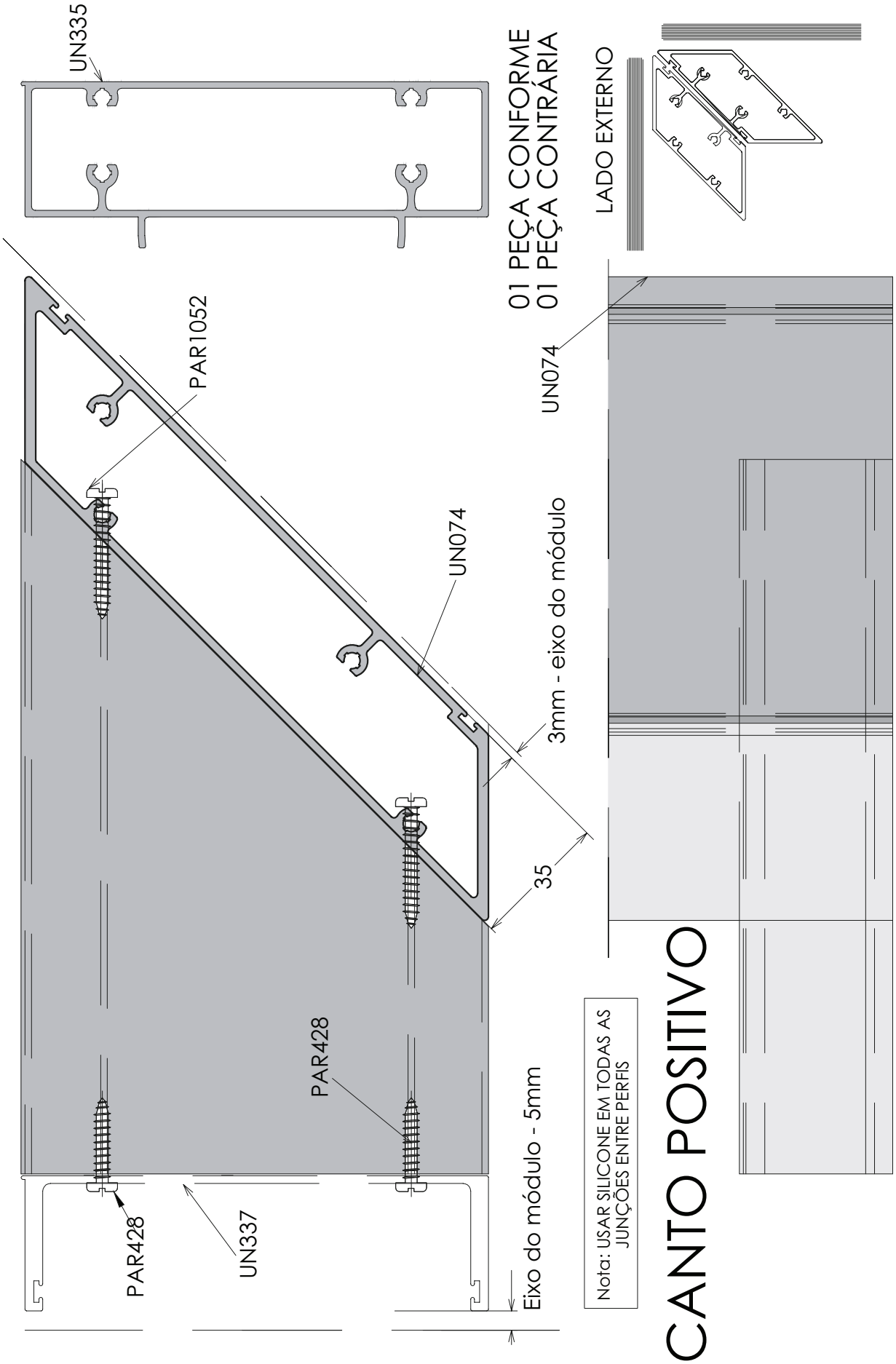
Módulo 120 Fix. Contínua



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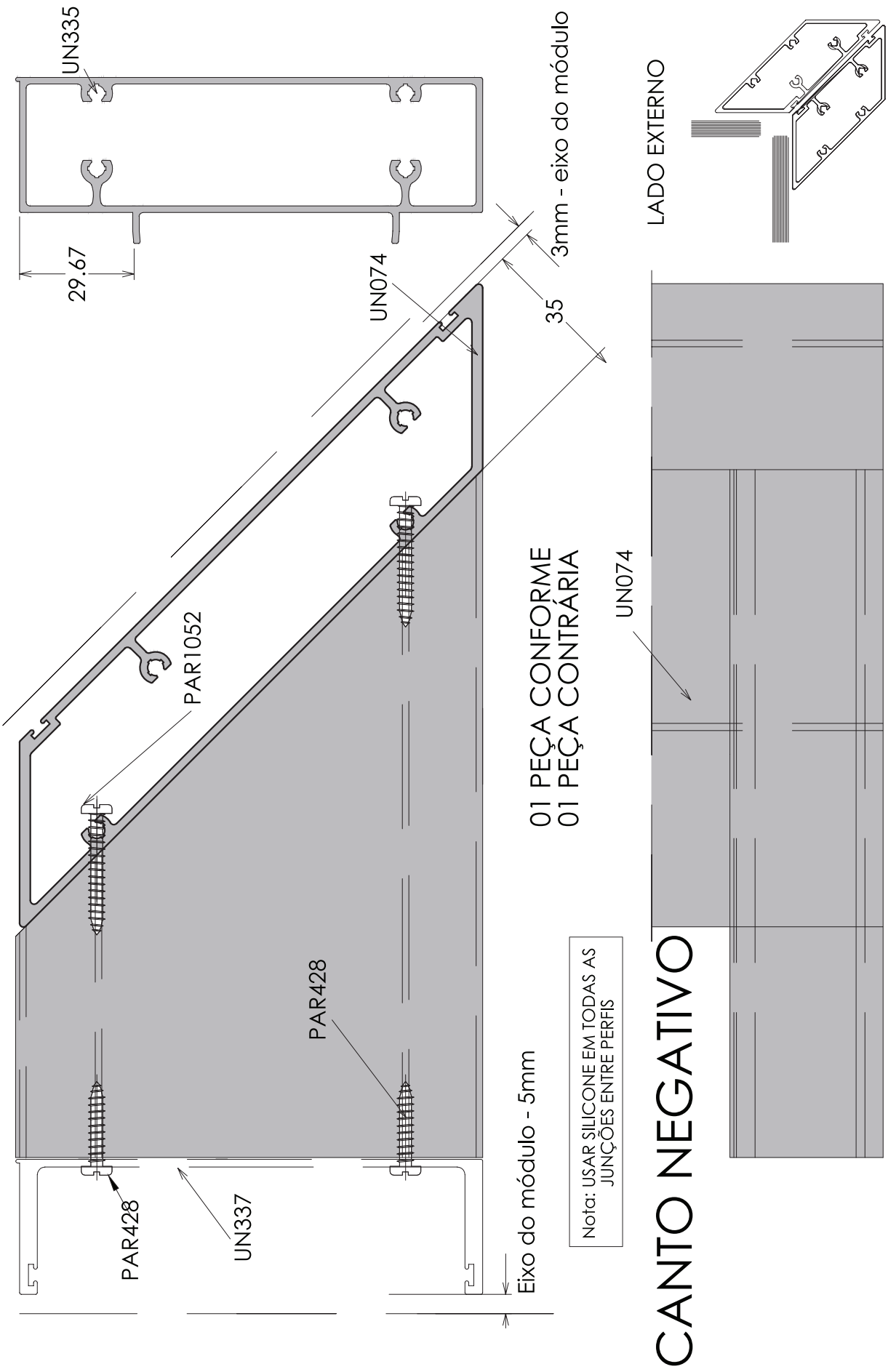
Módulo 120 Fix. Contínua



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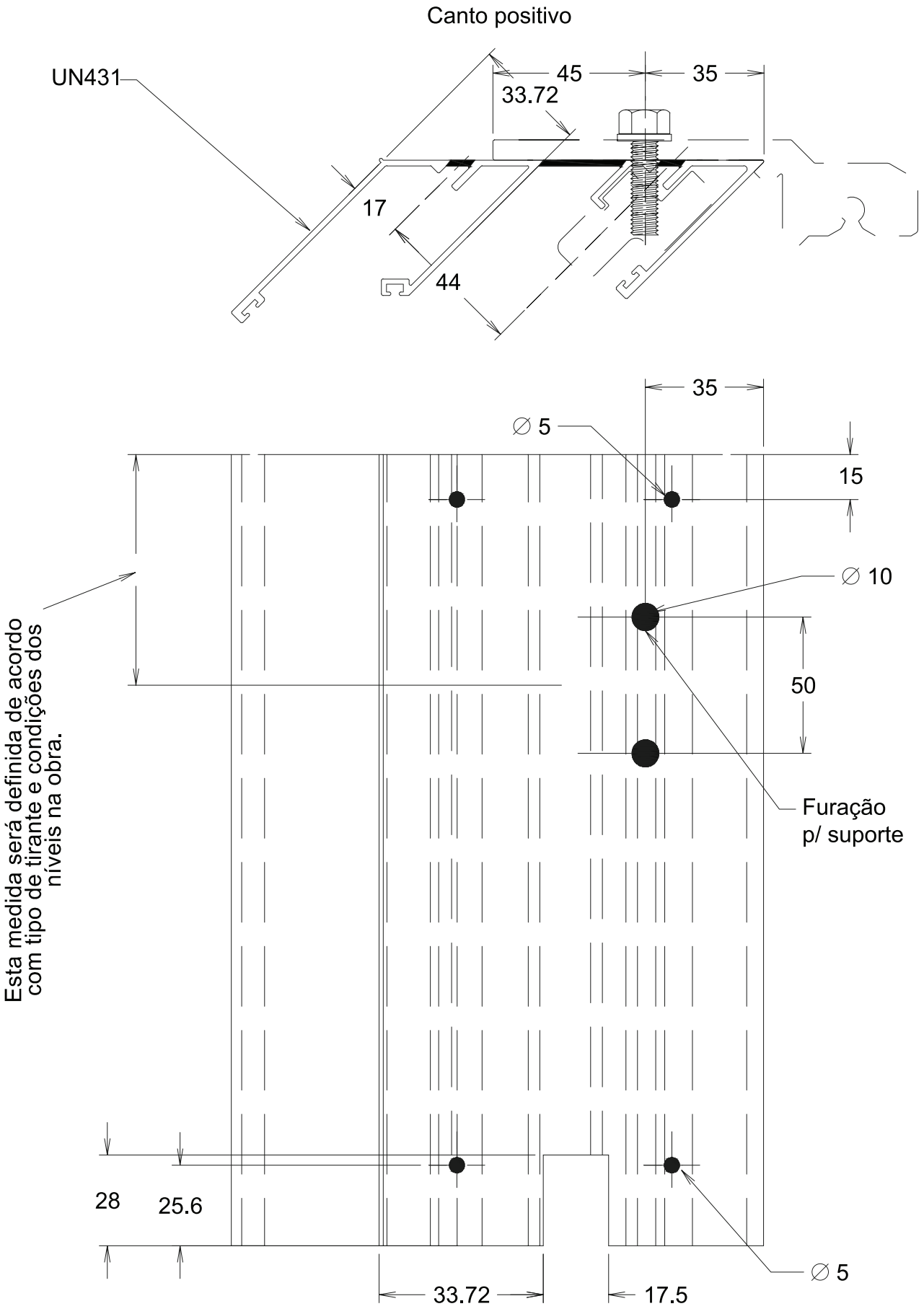
Usinagens



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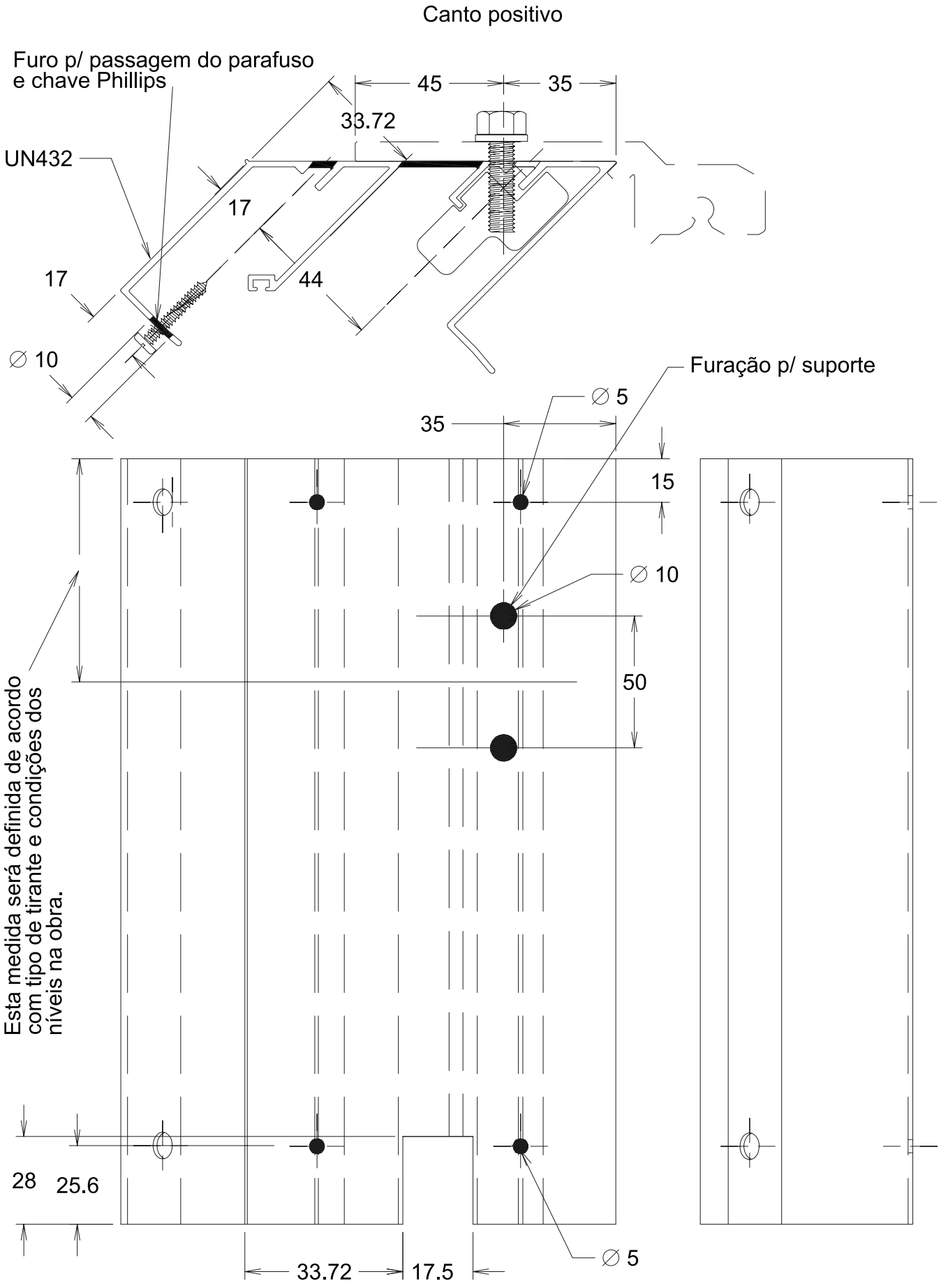
Usinagens



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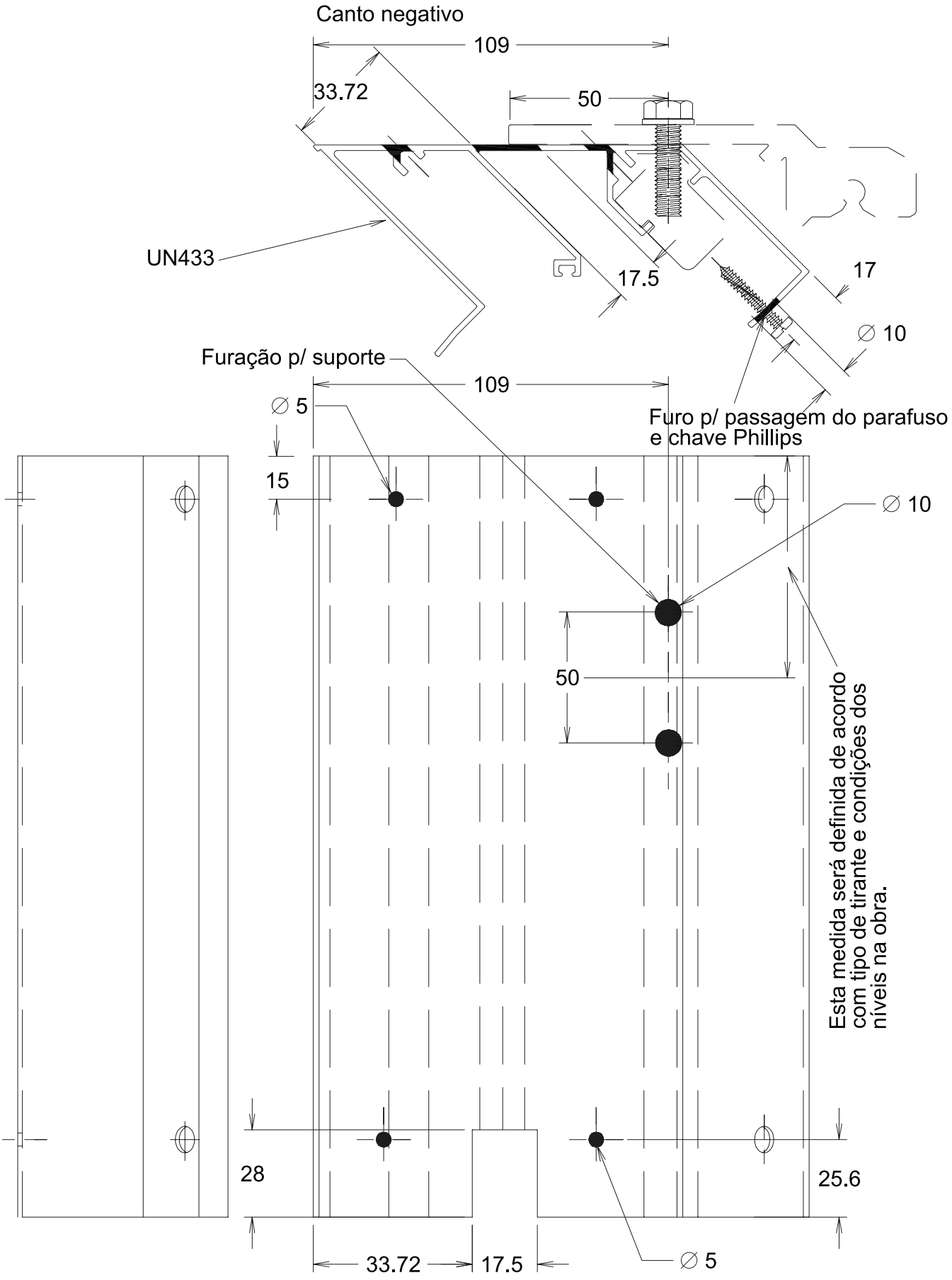
Módulo 120-35



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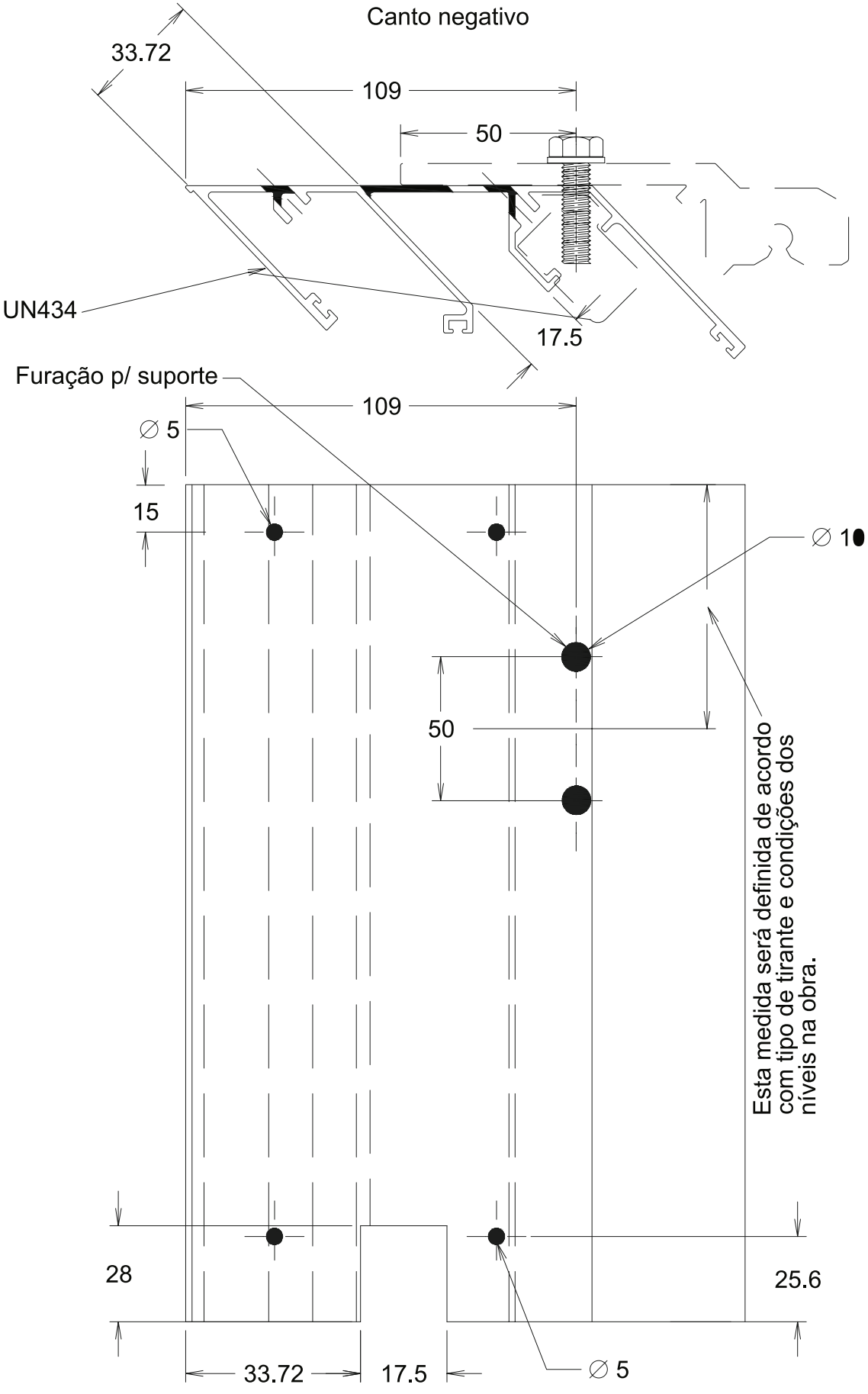
Módulo 120 Fix. Contínua



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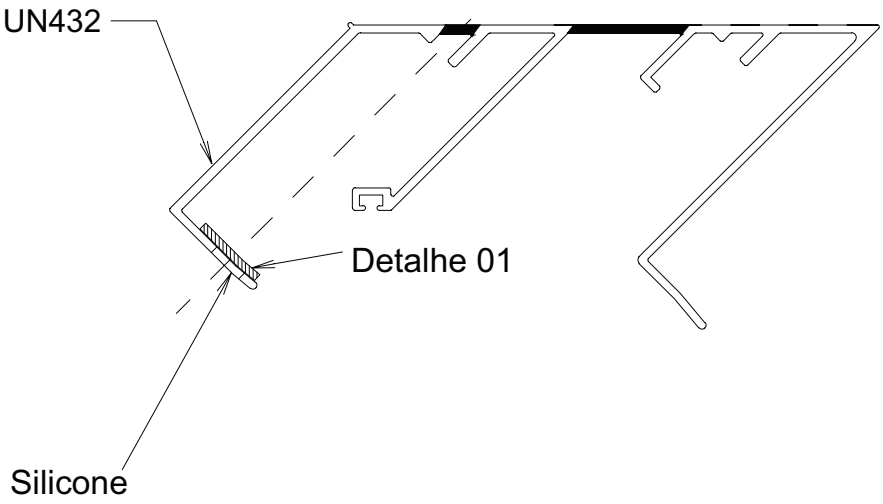
Componentes

Vedação do furo p/ passagem
do parafuso



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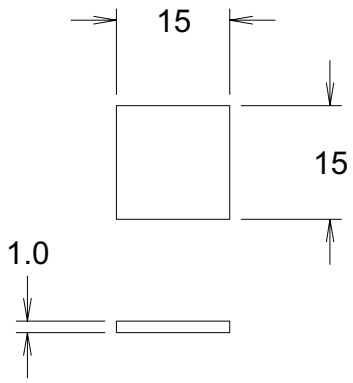

Material - GUA384

Padrão para todos os módulos

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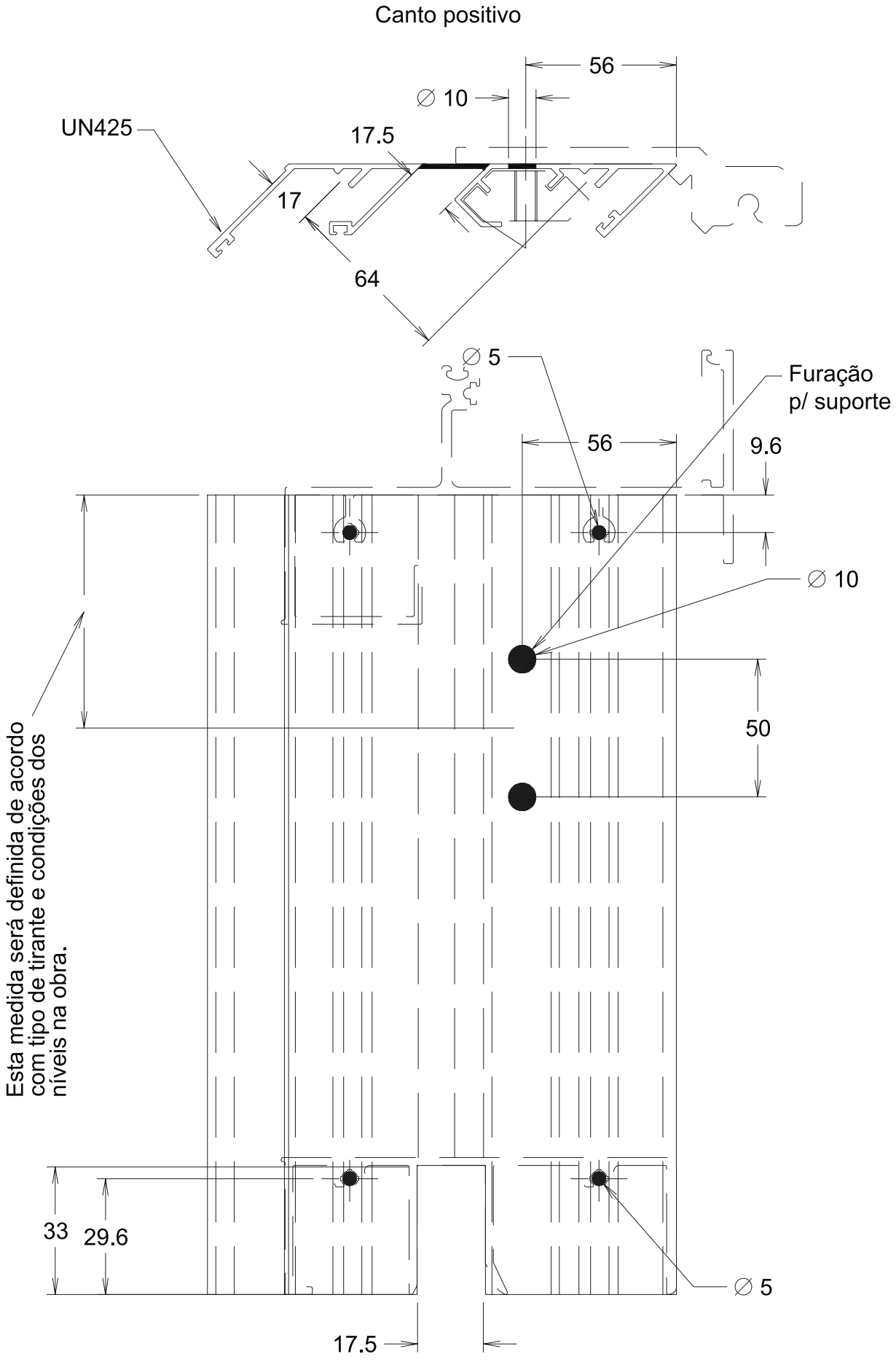
Usinagens



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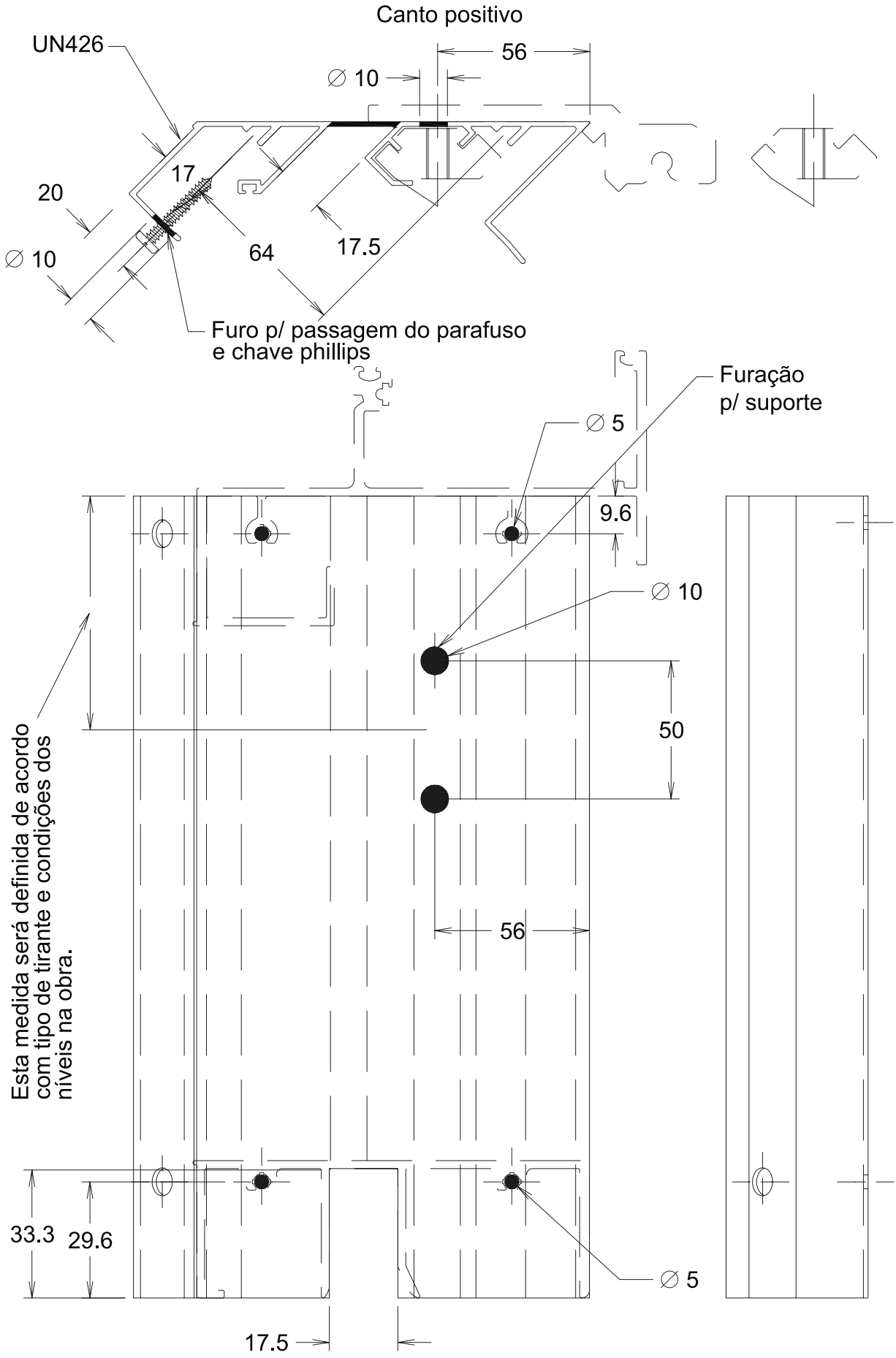
Usinagens



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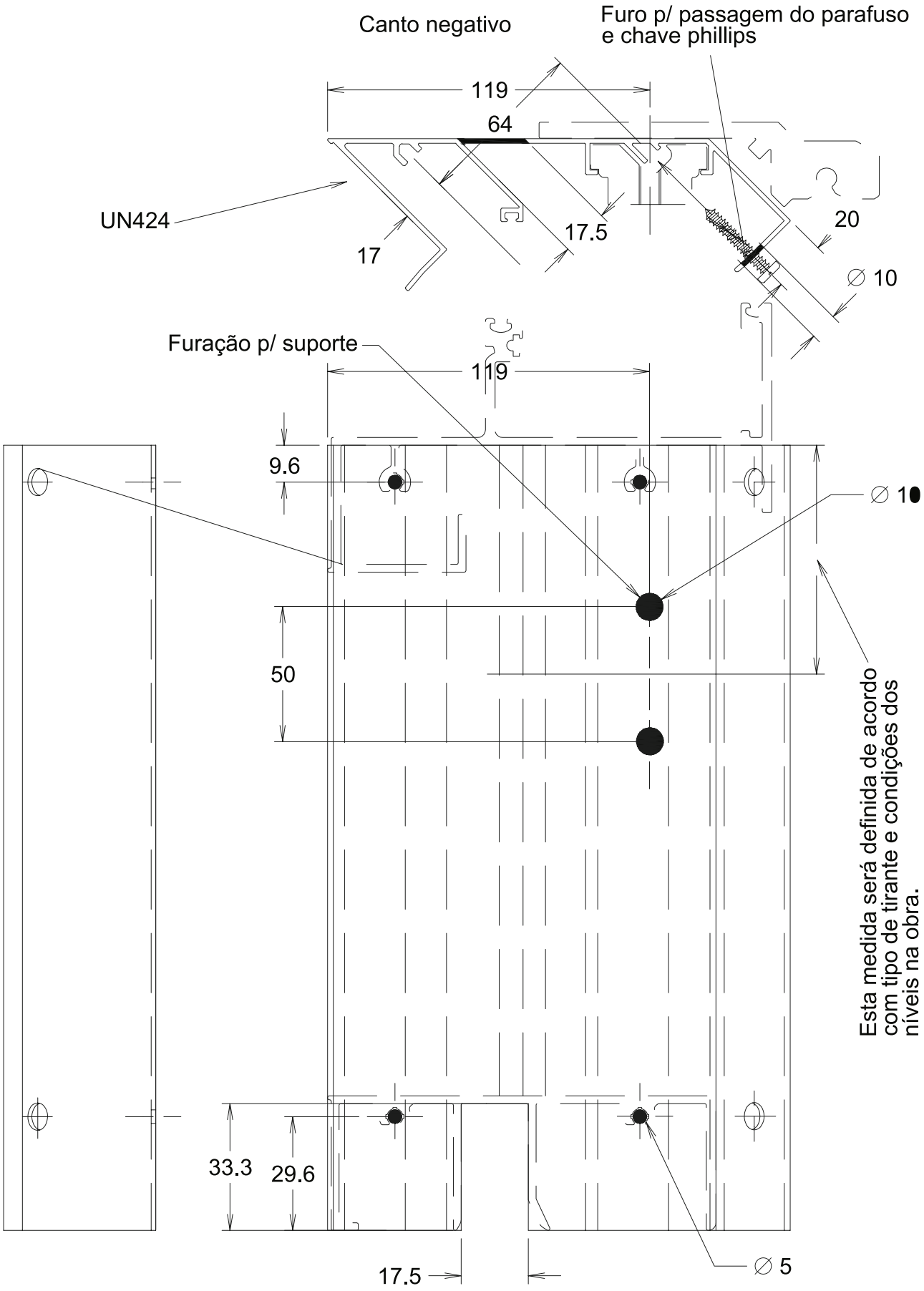
Usinagens



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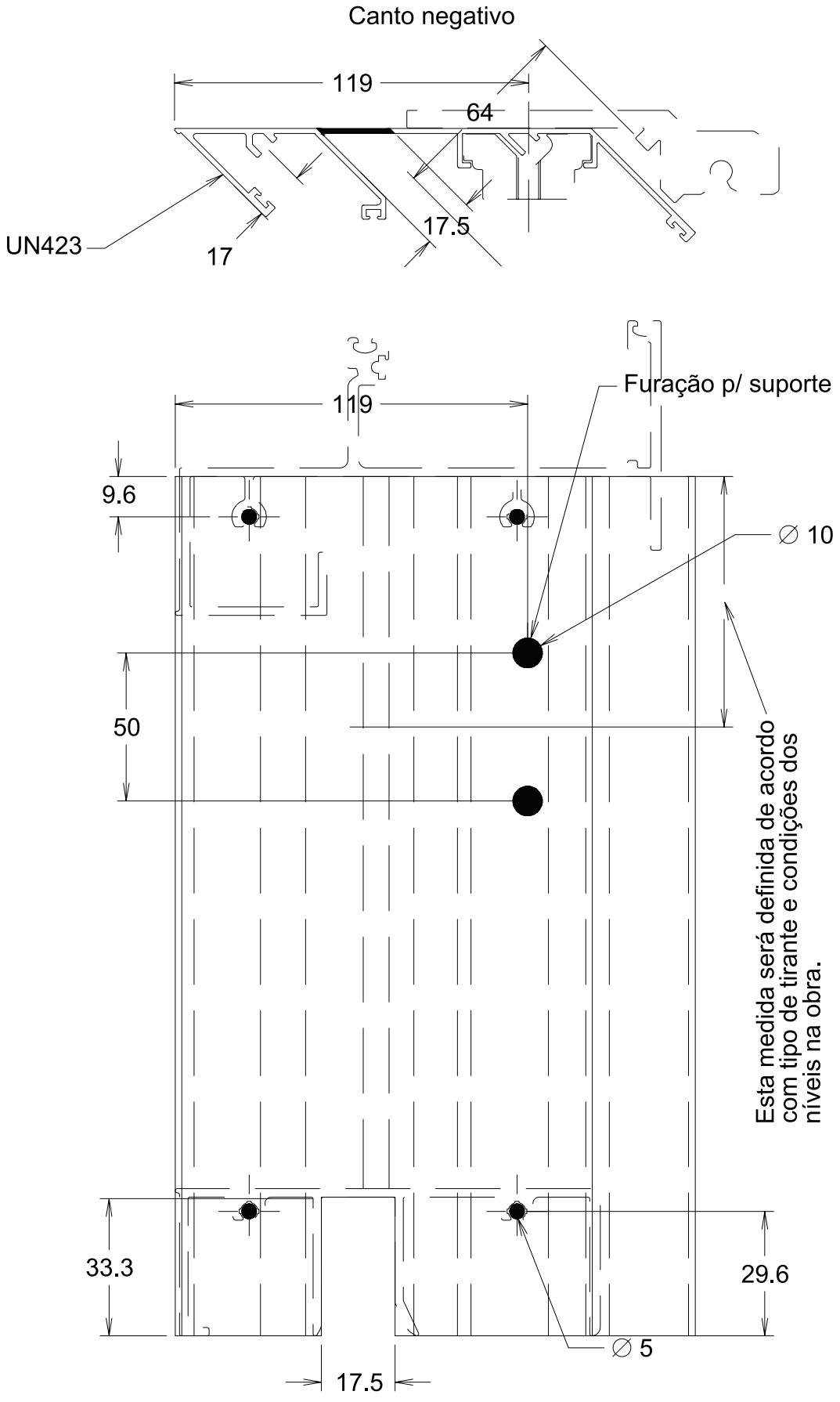
Usinagens



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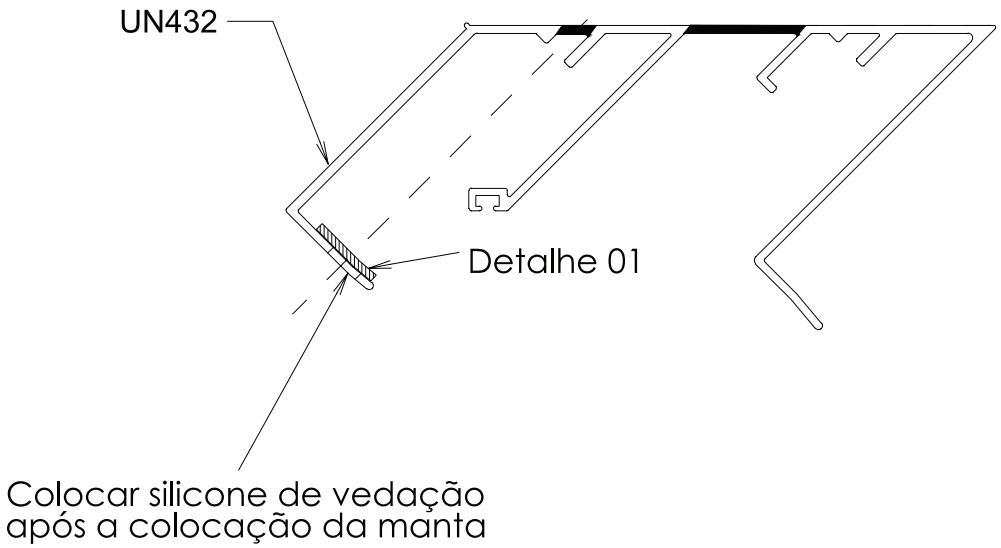
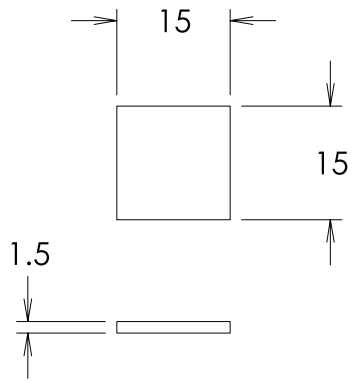
Componentes

Vedação do furo p/ passagem
do parafuso



Detalhe - 01



Material - Manta de EPDM ou Silicone

Padrão para todos os módulos

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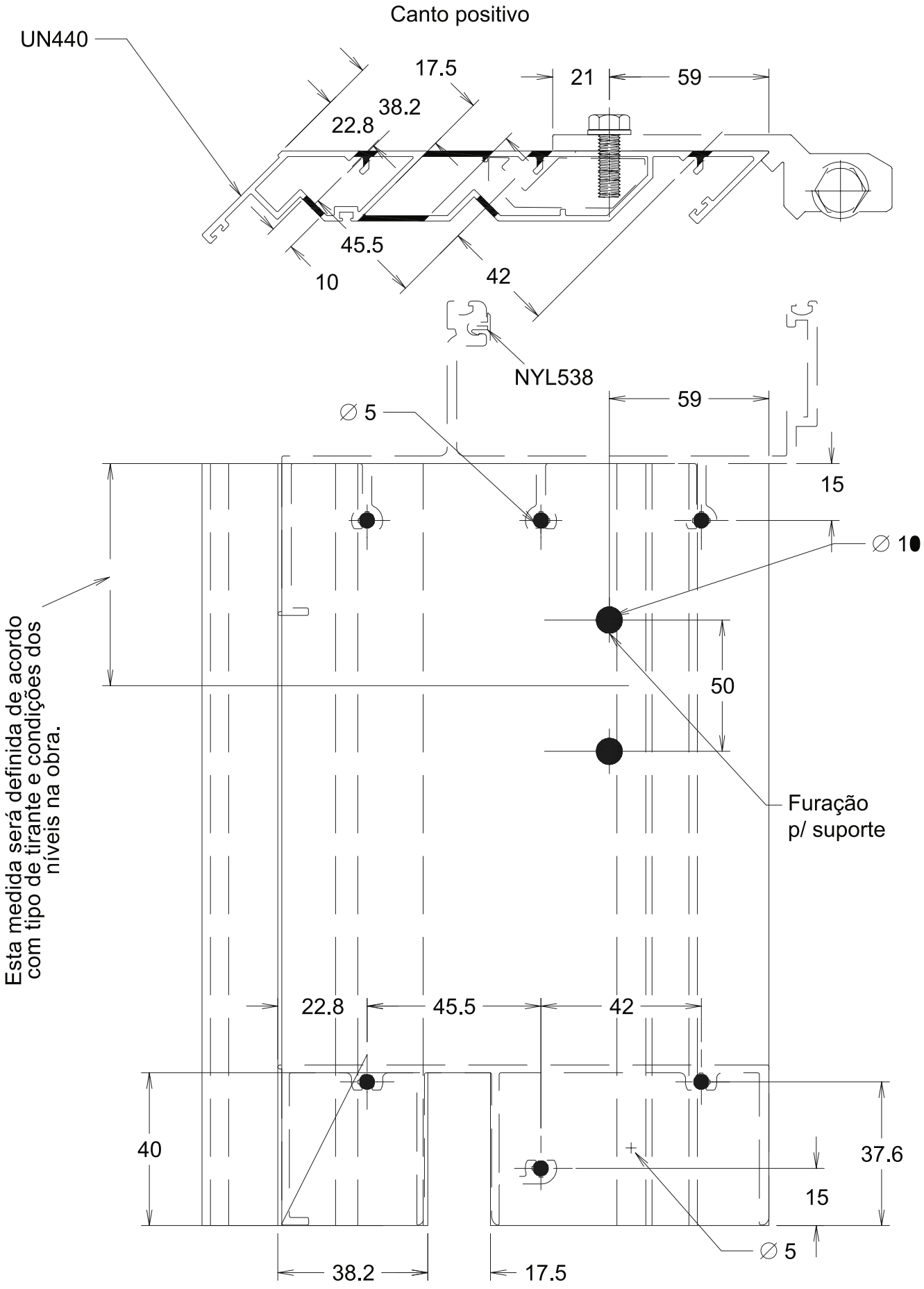
Usinagens



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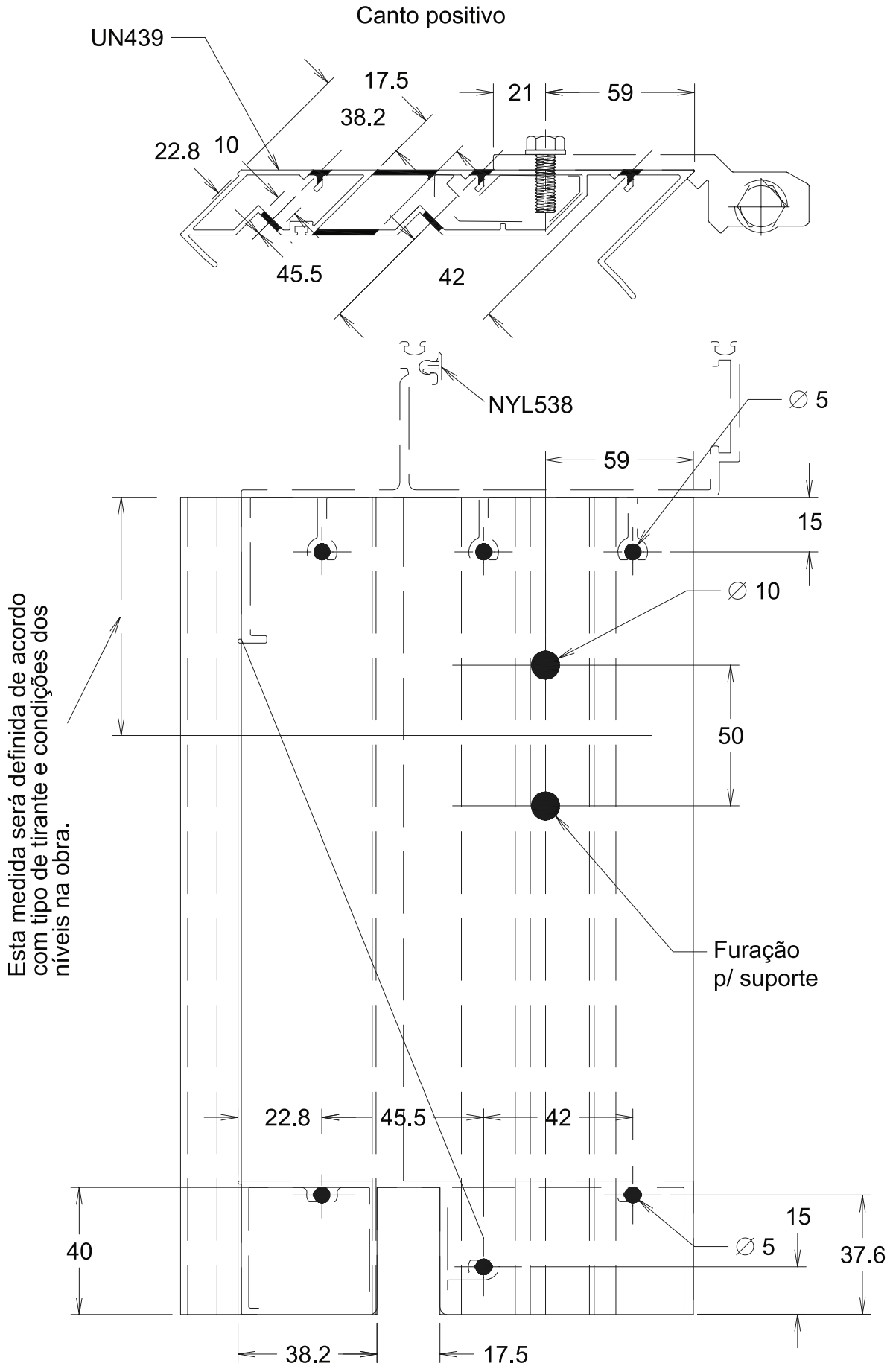
Usinagens



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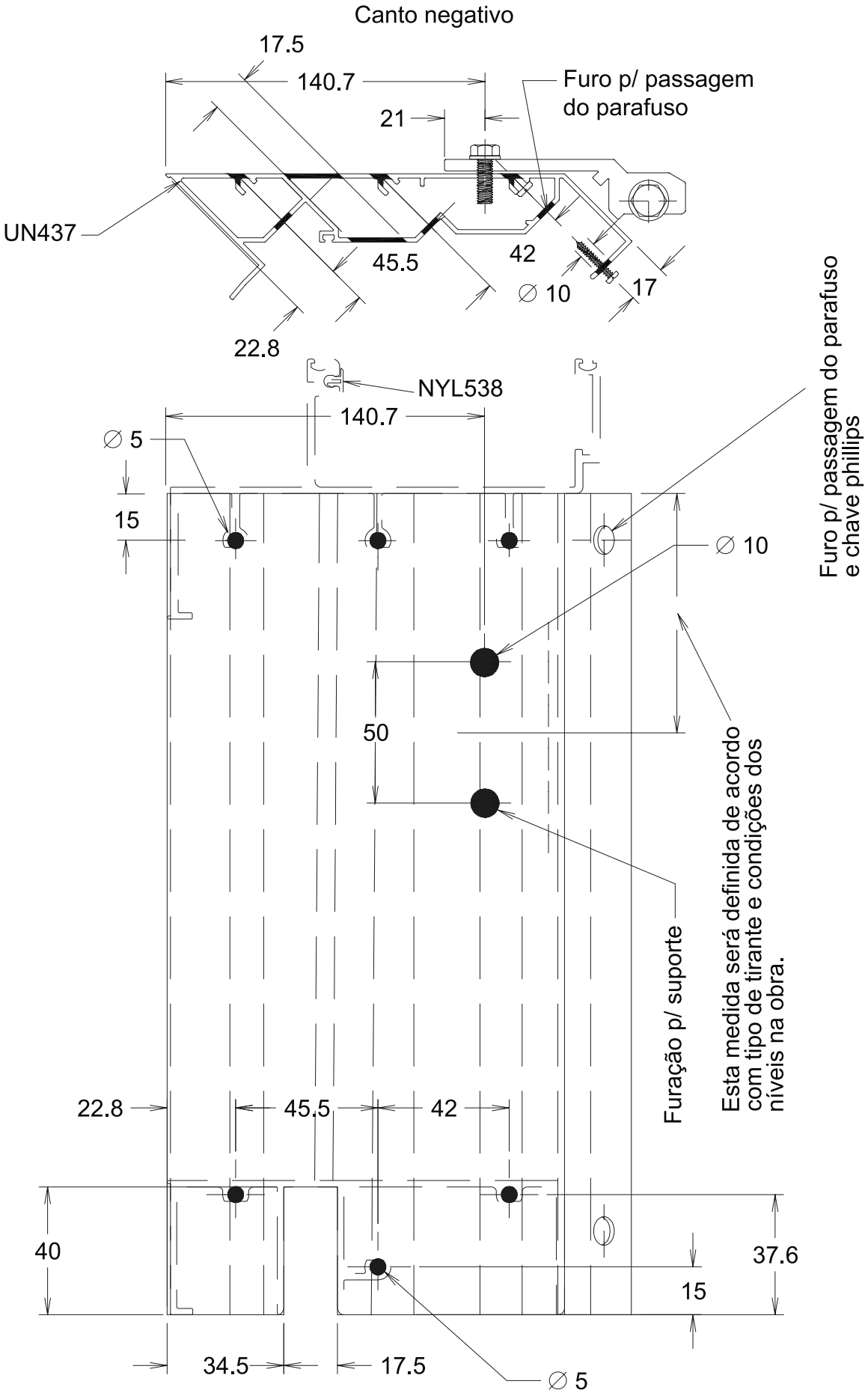
Usinagens



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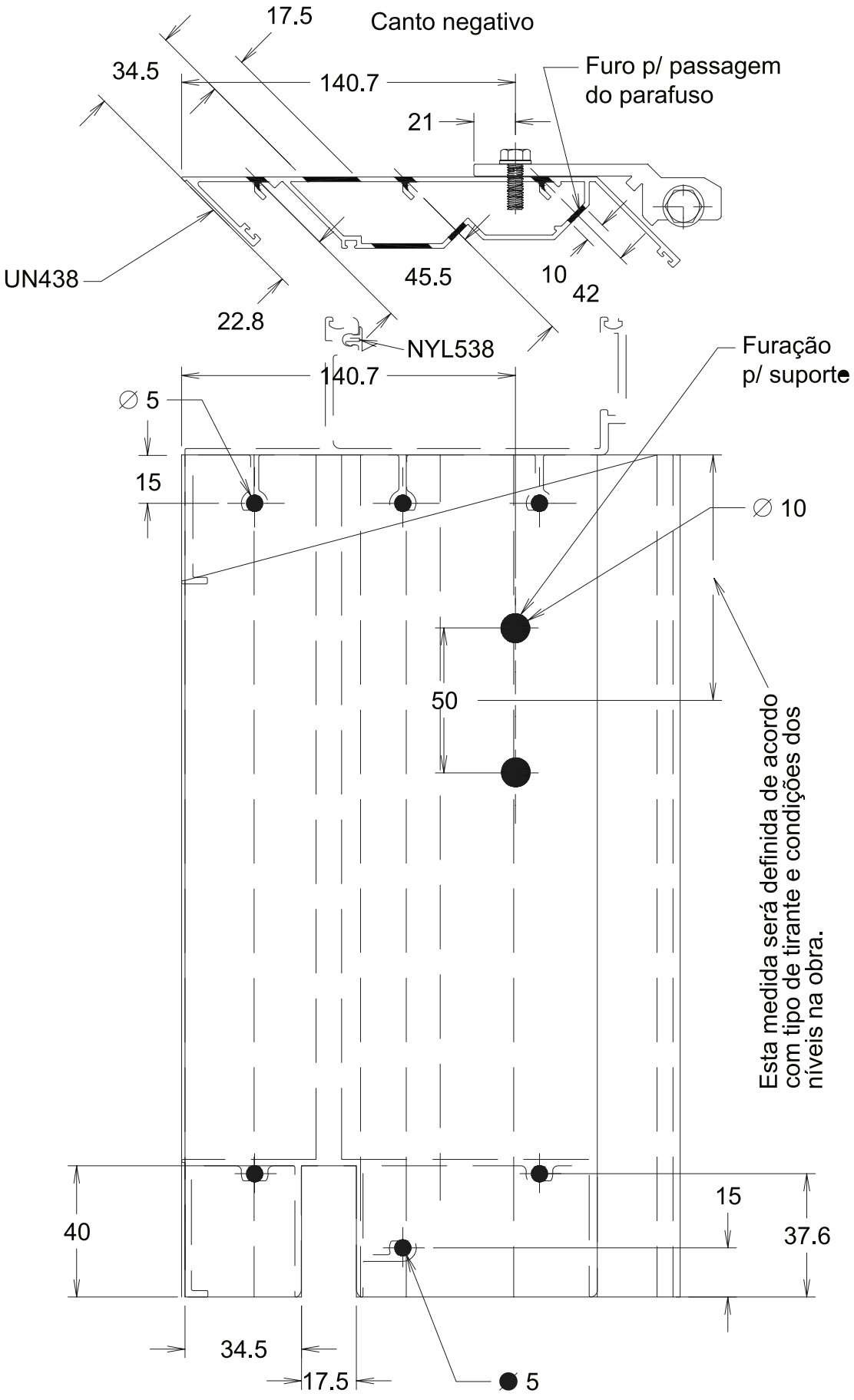
Usinagens



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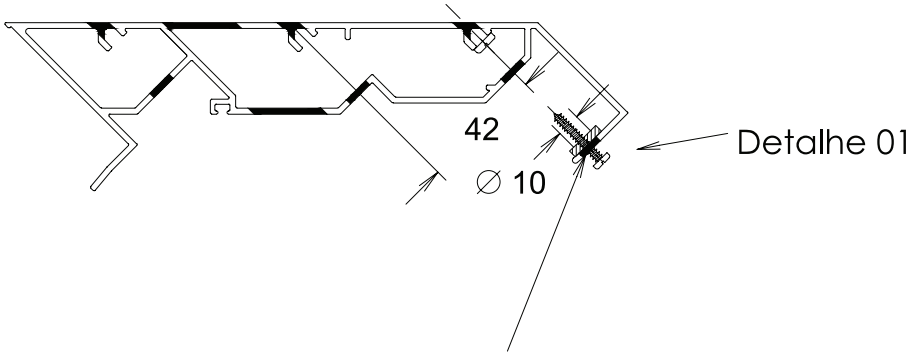
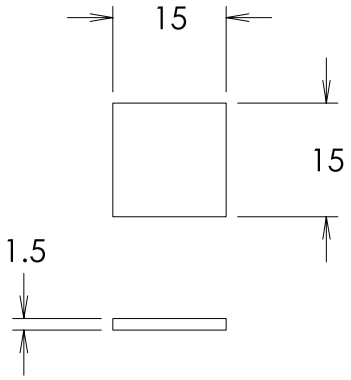
Componentes

Vedação do furo p/ passagem
do parafuso



Detalhe - 01



Material - Poliuretano de células fechadas
com uma face adesiva

Padrão para todos os módulos

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DESCRIÇÃO	PÁGINAS	DATA DA REVISÃO
NOVA VERSÃO CATÁLOGO	TODAS	OUT/2016
ATUALIZAÇÃO LOGOTIPOS	TODAS	AGO/2017
ATUALIZAÇÃO VISUAL	TODAS	MAIO/2018
UN449 E UN452 TROCADOS	O-02, O-03, O-04, O-10 E O-11	SETEMBRO/2018
UN449 E UN452 TROCADOS	ÍNDICE DE PERFIS	OUTUBRO/2018

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

UNIT

Catálogo Unit®
Edição 01
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