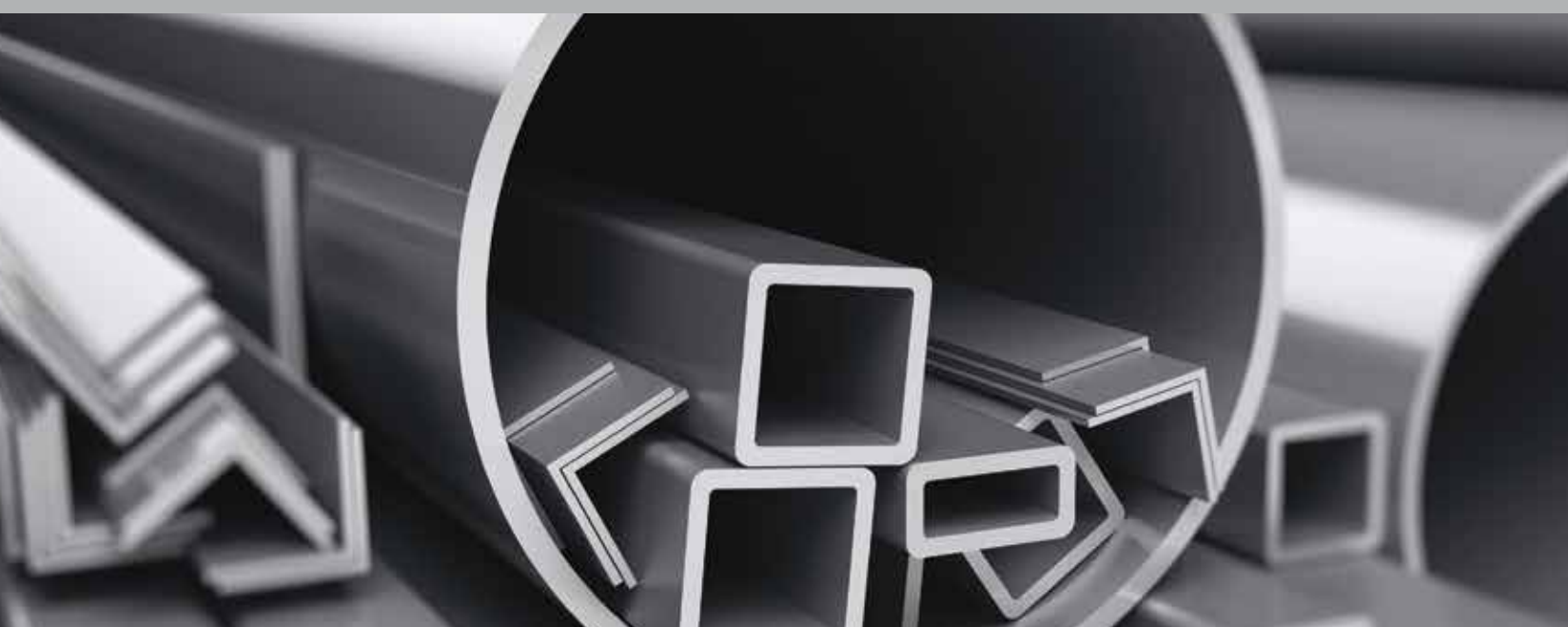
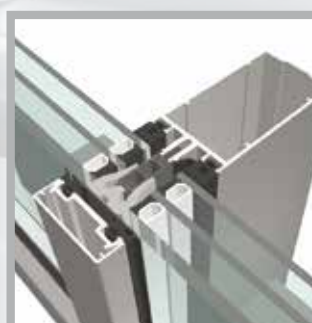




**Perfis Especiais
Industriais**



**Linha
Temperados**



**Linha
Esquadrias**



**Linha
Móveis**

- **Barras**
- **Cantoneiras**
- **Perfis**
- **Vergalhões**
- **Tubos**
- **Projetos Especiais**



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Institucional

Para cada perfil de negócio, uma solução em alumínio para incrementar seus produtos. E, claro, suas vendas.



Hyspex. Excelência que supera expectativas.

Especializada na fabricação de tubos e perfis de alumínio, a **Hyspex** é uma empresa genuinamente brasileira ética e transparente, com mais de 40 anos de experiência no setor. Uma companhia que tem a qualidade como marca registrada e que busca a excelência em todos os seus processos, desenvolvendo soluções sob medida para cada

necessidade, com extrema agilidade. Diferenciais que têm feito a **Hyspex** crescer e conquistar, a cada dia, mais mercado, clientes e admiradores. Afinal, quanto maior o desafio, maior o empenho da companhia em desenvolver soluções eficientes e competitivas. O que, sem dúvida, faz a diferença nos negócios.

Qualidade

Inovações que combinam a eficiência e a estética que você procura. Com a competitividade que você deseja.

A **Hyspex** oferece produtos e serviços que se encaixam nas mais diversas necessidades e perfis de negócios. Soluções que combinam a qualidade e a estética que você procura, com a eficiência que você necessita.

Além disso, desenvolve projetos de perfis de alumínio especiais, sob medida para seus clientes. Priorizando sempre a qualidade no acabamento, a precisão e a agilidade na entrega. Conheça algumas das ações da **Hyspex** e escolha a que mais se encaixa ao seu perfil de negócio.



O alumínio é o único metal 100% reciclável.

A **Hyspex** trabalha segundo as normas e critérios de sustentabilidade ambiental reconhecidos internacionalmente.

Soluções

Produtos e serviços para todos os mercados de negócios. Na medida certa para cada necessidade.



A **Hyspex** apresenta o seu catálogo geral com uma grande variedade de perfis para diversas utilizações.

Construção Civil

- Contramarcos e Conexões
- Linha 16 - Basculante
- Linha 16 - Janela de Correr
- Linha 16 - Hiper Modular
- Linha 23
- Linha 25
- Linha 25 90°
- Linha 28
- Linha Módulo Prático
- Linha Módulo Max
- Linha Porta Balcão
- Linha Porta de Giro
- Linha Fachada Cortina
- Linha Gradil
- Linha Portões
- Linha Lambris
- Linha Venezianas
- Linha Box
- Linha Box Temperado 8mm
- Linha Temperado 6mm
- Linha Temperado 8mm
- Linha Temperado 10mm

- Linha Envidraçamento de Sacadas
- Linha Divisórias
- Linha Estandes
- Linha Moveleira
- Linha Construção Básica
- Linha Acessórios

Industrial

- Linha Automação Industrial
- Linha Bicicletas
- Linha Cabo de Panela
- Linha Dissipadores e Conectores
- Linha Escadas
- Linha Malas

Transportes

- Linha Baú e Carrocerias
- Linha Capota Marítima
- Linha Janela Veicular

Aplicações Diversas

MATRIZ - Rua Armandina Braga de Almeida, 109 - Galpão B - Jd. Santa Emília
Guarulhos - SP - CEP 07141-003

FILIAL - Rua João Ranieri, 1.250 - Bonsucesso
Guarulhos - SP - CEP 07177-120

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EQUIVALÊNCIA ENTRE NORMAS

Liga ASTM	ABNT/Brasil	Alemanha (DIN)	Inglaterra (BS)	Itália (UNI)	França (NF ou AIR)
1050	1050	Al 99,5	1B	P-Al-P 99,5	A5
1100	1100	Al 99,0	1C	P-Al-P 99,0	A4
1350	1350	E-Al99,5	1E	-	A5/L
6005A	6005A	Al Mg Si 0,7	-	-	-
6060	6060	Al Mg Si 0,5	H-9	P-Al Si 0,4 Mg	A-GS
6061	6061	Al Mg Si Cu	H-20	P-Al Mg1 Si Cu	A-GSUC
6063	6063	Al Mg Si 0,5	H-9	P-Al Mg Si	A-GS
6101	6101	E-Al Mg Si 0,5	91E	P-Al Si 0,5 Mg	A-G S/L
6261	6261	-	-	-	-
6351	6351	Al Mg Si	H-30	P-Al Si Mg Mn	A-SGM
6463	6463	-	-	P-Al Mg Si / Cu	-

CARACTERÍSTICAS FÍSICAS DO ALUMÍNIO E OUTROS MATERIAIS

Propriedades físicas	Alumínio (1100)	Aço (1020)	Cobre (Puro)
Peso específico (kg/m³) x 10³	2,71	7,86	8,96
Temperatura de fusão (°C)	657	1500	1083
Módulo de elasticidade (kg/mm²)	7.000	21.000	11.250
Coefficiente de dilatação térmica linear - 20° a 100° C (M/M.K)	23,6x10 ⁻⁶	11,7.10 ⁻⁶	16,5.10 ⁻⁶
Condutibilidade térmica a 25°C (W/M.K)	222	52	394
Condutibilidade elétrica (%IACS) à 20°C	59	14,5	100

COMPOSIÇÃO QUÍMICA

ASTM	Si	Fe	Cu	Mn	Mg	Cr	Zn	i	Outros elementos		Alumínio (Mínimo)
									Cada	Total	
1050	0,25	0,40	0,05	0,05	0,05	-	0,05	0,03	0,03	-	99,50
1100	1,0	Si+Fe	0,05-0,20	0,05	-	-	0,10	-	0,05	0,15	99,00
1350	0,10	0,40	0,05	0,01	-	0,01	0,05	Ti+V<0,02	0,03	0,10	99,50
6005A	0,50-0,90	0,35	0,30	0,50	0,40-0,70	0,30	0,20	0,10	0,05	0,15	Restante
6060	0,30-0,6	0,10-0,30	0,10	0,10	0,35-0,60	0,05	0,15	0,10	0,05	0,15	Restante
6061	0,40-0,80	0,70	0,15-0,40	0,15	0,80-1,2	0,04-0,35	0,25	0,15	0,05	0,15	Restante
6063	0,20-0,60	0,35	0,10	0,10	0,45-0,90	0,10	0,10	0,10	0,05	0,15	Restante
6082	0,7-1,3	0,50	0,10	0,40-1,0	0,60-1,2	0,25	0,20	0,10	0,05	0,15	Restante
6101	0,30-0,70	0,50	0,10	0,03	0,35-0,8	0,03	0,10	-	0,03	0,10	Restante
6261	0,40-0,70	0,40	0,15-0,40	0,20-0,35	0,7-1,0	0,10	0,20	0,10	0,05	0,15	Restante
6351	0,7-1,3	0,50	0,10	0,40-0,8	0,40-0,8	-	0,20	0,20	0,05	0,15	Restante
6463	0,2-0,6	0,15	0,2	0,05	0,45-0,9	-	0,05	0,03	0,05	0,15	Restante

Os valores mencionados indicam porcentagens em peso e representam limites máximos, salvo quando expresso intervalo.

A composição química é equivalente a norma ASTM-B221 (ABNT-NBR 6834)

INFORMAÇÕES TÉCNICAS

PROPRIEDADES MECÂNICAS											
Propriedades de liga			Limite de resistência à tração Kg /mm²	Limite de escoamento Kg /mm²	Alongamento em 50 mm (%)	Dureza brinell 500/10 HB(2)	Limite de Resistência ao cizalhamento Kg/mm²	Resistência a Fadiga 500x10 6 Ciclos (Kg/mm²)			
Liga	Aplicações típicas	Têmpera									
1050	Equipamentos para indústrias químicas, alimentícias e de bebidas	0 H14 H18 H24	9,8 (9,1) 10,5 (11,2) 13,4 (14,4) - (11,2)	- (3,2) - (9,8) - (13,7) -	- (45) - (35) - (22) -	- (20) - (32) - (40) -	- (5,6) - (7,0) - (8,4) -	- (2,8) - (3,5) - (4,9) -			
1100	Painéis decorativos, etiquetas, utensílios domésticos, uso geral, peças estampadas, aletas.	0 H12 H14 H16 H18 F	10,7* 9,7 11,2 (12,0) 13,3 15,4 (21,0) -	- (3,5) - - (11,2) - - (16,1) -	- (45) - - (25) - - (20) -	- (23) - - (34) - - (44) -	- (6,3) - - (7,7) - (8,4) - (9,1) -	- (3,5) - - (4,9) - (5,5) - (6,3) -			
1200	Equipamento para indústrias químicas, alimentícias e de bebidas	0 H14 H18	10,9* (8,4) 11,2 (12,0) 15,4 (21,0)	- (3,5) - (11,2) - (16,1)	- (45) - (25) - (20)	- (23) - (32) - (44)	- (16,3) - (7,7) - (9,1)	- (3,5) - (4,9) - (6,3)			
2117	Rebites	T4	26,7 (30,2)	12,6 (17,0)	18 (27)	- (70)	18,3 (19,7)	- (13,5)			
2017	Peças com elevada resistência mecânica - usinagem	0 T4	24,6 (18,3) 38,7 (45,7)	- (9,8) 22,5 (29,6)	16 (30) 16 (24)	- (45) - (105)	- (12,7) - (26,7)	- (9,1) - (12,6)			
2024	Peças com elevada resistência mecânica - forjagem	0 T4	24,6* (22,5) 40,0 (45,7)	13,3* (11,2) 29,5 (36,5)	12 (15) 12 (17)	- (42) - (105)	- (12,6) - (28,8)	- (8,4) - (12,6)			
2014	Peças com elevada resistência mecânica - forjagem	0 T4 T6	21,1* (20,4) 35,1 (43,6) 42,2 (47,1)	12,6* (10,5) 24,6 (29,5) 37,2 (42,9)	12 (14) 12 (18) 7 (11)	- (45) - (105) - (135)	- (12,6) - (26,7) - (31,6)	- (7,7) - (12,6) - (12,6)			
2011	Peças usinadas em torno automático	T3 T6 T8	30,1 (33,9) 29,6 (34,0) - (41,5)	23,8 (29,7) - (23,0) - (31,5)	10 (15) - (16) - (12)	- (95) - - (100)	- (21,0) - - (24,5)	- (12,6) - - (12,5)			
4043	Solda	-	-	-	-	-	-	-			
4047	Solda	-	-	-	-	-	-	-			
6063	Caixilharia e ornamentos - anodização fosca	0 T4A T5 T6C T8A T8D T8E	11,9* (10,5) 11,1 (14,1) 15,4 (19,6) 18,3 (22,1) 21,0 (28,0) 25,9 (30,8) - (19,0)	- (3,5) 6,0 (8,4) 11,9 (16,8) 14,8 (19,7) 17,5 (25,2) 23,8 (28,7) - (17,0)	- (40) 16 (25) 8 (16) 8 (14) 8 (13) 7 (12) - (10)	- (26)** - (48)** - (66) - (68) - - -	- (7,7) - (10,0) - (12,0) - (15,5) - (15,5) - (12,5) - (19,0)	- (5,5) - (6,5) - (7,0) - (7,0) - - -			
6463	Frisos decorativos com alta refletividade	T4A T6C	- (14,0) - (24,0)	- (7,0) - (21,0)	- (20) - (12)	- (42) - (74)	- (10,0) - (15,5)	- (7,0) - (7,0)			
6101	Aplicação elétrica - boa resistência mecânica	T5 T6 T6A T6B	- (18,5) 20,4 (25,5) 19,0 (21,0) 14,0 (18,0)	- (15,0) 17,5 (23,0) 15,5 (18,0) 10,5 (14,0)	- - (13) - - (20)	- - (78) - (62) - (54)	- %ACS - -	55,0 55,0 56,0 57,0			
6351	Estruturas e pesas usinadas	0 T4 T6	- (12,6) 19,0 (25,3) 29,5 (32,3)	- (5,6) 11,9 (15,5) 26,0 (30,2)	- (25) 18 (20) 10 (13)	- - (60) - (95)	- - (15,5) - (20,5)	- - (9,5) - (9,5)			
6053	Rebites	T4 T6	17,6 (21,1) 22,5 (24,6)	- 14,1	- 14	- - (70)	11,9 15,5 (18,3)	- - (9,0)			
5056	Rebites e Solda	0 H34 H38	31,6* (29,5) 33,0 (35,2) 38,7 (40,7)	- (14,1) - (28,1) - (33,7)	10 (35) - (20) -	- (65) - (95) - (100)	- (18,3) - (20,4) - (22,5)	- (14,1) - (14,8) - (15,5)			
5052	Estrutura (expostas ao ar marinho)	0 H34 H38	21,8* (20,4) 23,9 (26,0) 27,4 (30,2)	- (9,8) - (20,4) - (26,7)	25 (30) - (14) - (8)	- (45) - (67) - (80)	- (12,6) - (14,7) - (16,9)	- (11,2) - (12,6) - (14,1)			
6061	Estruturas e Rebites	0 T4 T6 T9	15,5* (14,1) 18,3 (24,6) 26,7 (31,0) 35,1 (36,6)	11,2* (8,4) - (14,8) 24,6 (28,2) - (33,0)	16 (24) 16 (20) 10 (16) 12 (18)	- (30) - (65) - (95) -	- (8,5) - (15,5) - (19,0) -	- (6,3) - (9,8) - (9,8) -			

PROPRIEDADES MECÂNICAS

6261	Estruturas	T4	-	(22,0)	-	(13,0)	-	(17)	-	(70)	-	-	-	-
		T4A	-	(19,0)	-	(11,0)	-	(17)	-	(60)	-	-	-	-
		T6	28,0	(30,0)	25,4	(27,0)	10	(12)	-	(95)	-	-	-	-
		T6C	23,4	(27,0)	20,3	(23,0)	7	(10)	-	(85)	-	-	-	-
6261	Peças usinadas em torno automático	T3	-	(35,7)	-	(34,7)	-	(7)	-	(104)	-	-	-	-
		T4	-	(27,4)	-	(18,3)	-	(18)	-	(63)	-	-	-	-
		T6	-	(37,0)	-	(32,4)	-	(15)	-	(90)	-	-	-	-
		T8	-	(41,4)	-	(39,8)	-	(12)	-	(104)	-	-	-	-
7104	Estruturas	T4A	20,8	(23,4)	13,1	(16,1)	13	(16)	-	(70)	-	-	-	-

OBS.: (-) = Os valores entre parênteses são típicos, correspondem uma média de valores observados.

* = Indica-se o valor máximo para garantir um completo recozimento.

CARACTERÍSTICAS ESPECÍFICAS

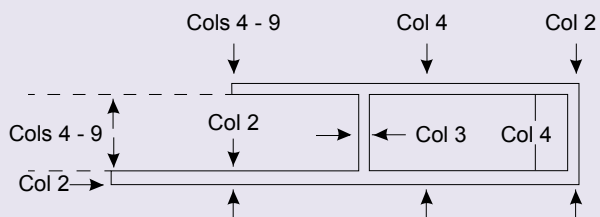
Liga	Resistência à corrosão	Anodização		Solda MIG	Solda TIG	Usinagem	Deformabilidade a frio	Brasagem	Outras
		Decorativa	Protetora						
1050	A	A	A	A	A	E	A	A	-
1100	A	A	A	A	A	E	A	A	-
1350	A	A	A	A	A	E	A	A	-
6005A	A	C	A	A	A	C	C	B	-
6060	A	A	A	A	A	D	B	A	-
6061	A	D	A	A	A	C	C	B	-
6063	A	A	A	A	A	D	B	A	-
6101	A	A	A	A	A	D	B	A	-
6261	A	C	A	A	A	C	C	B	-
6351	A	D	A	A	A	C	C	C	-
6463	A	A	A	A	A	D	B	A	-

Índices de "A até E" em ordem de mérito

N - Não apropriado

TOLERÂNCIA DE DIMENSÕES

Extrusão

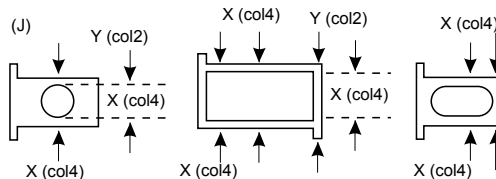
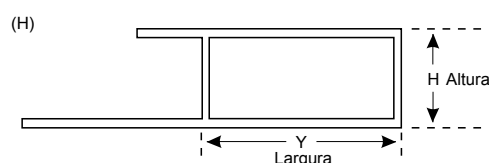
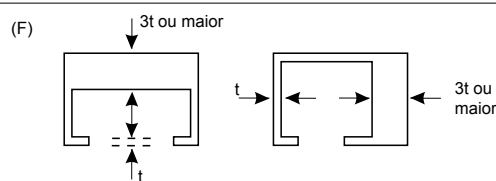
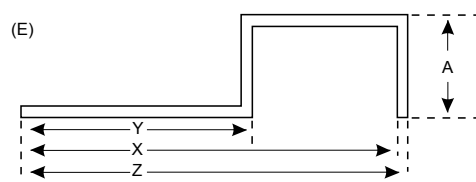


- Para os produtos extrudados são adotadas as tolerâncias contidas na norma ABNT NBR 8116 - alumínio e suas ligas - que é baseada na ASTM (ANSI H35.2 - M);
- Dadas as necessidades de constante atualização da norma NBR 8116, devido aos avanços das indústrias produtoras de alumínio e as necessidades cada vez maiores das indústrias usuárias de perfis extrudados, os valores constantes desta tabela estão sujeitos a mudanças;
- Nesta página, apresentaremos apenas a tabela mais usual, sendo que informações complementares poderão ser obtidas com os técnicos da Hyspex;
- A tabela apresenta as tolerâncias padronizadas;
- Quando nenhuma tolerância é mostrada, deve ser estabelecida de comum acordo entre o comprador e o fornecedor.

TOLERÂNCIA DE DIMENSÕES

Dimensão nominal (mm)	Tolerância na seção transversal do perfil							
	Dimensões do metal				Dimensões entre superfícies metálicas			
	Dimensão nominal onde 75% ou mais é metal (E) (F)				Desvio permissível da dimensão nominal quando mais de 25% da dimensão for vazio (G) (H)			
	Todas as dimensões exceto aquelas incluídas na coluna 3	Espessuras de parede, circulando um vazio de 70 mm ou mais (I) (J)	Nas dimensões medidas a uma distância "A" da base da aba					
			5 a 15	15 a 30	30 a 60	60 a 100	100 a 150	150 a 200
Coluna								
1	2	3	4	5	6	7	8	9
até 3,2	0,15	± 10% da espessura especificada Máximo: ± 1,50 Mínimo: ± 0,25	0,25	0,30	-	-	-	-
3,2 a 6,3	0,18		0,30	0,36	0,41	-	-	-
6,3 a 12,5	0,20		0,36	0,41	0,46	0,50	-	-
12,5 a 20	0,23		0,41	0,46	0,50	0,56	-	-
20 a 25	0,25		0,46	0,50	0,56	0,64	0,76	-
25 a 40	0,30		0,54	0,58	0,66	0,76	0,88	-
40 a 50	0,36		0,60	0,66	0,78	0,92	1,05	1,25
50 a 100	0,60		0,86	0,96	1,20	1,45	1,70	2,05
100 a 150	0,86		1,10	1,25	1,65	2,00	2,40	2,80
150 a 200	1,10		1,35	1,55	2,40	2,50	3,05	3,55
200 a 250	1,35		1,65	1,90	2,50	3,05	3,70	4,30

- Vergalhões, barras e perfis extrudados. Tolerâncias na seção transversal em milímetros para mais ou para menos. Essas tolerâncias aplicam-se a perfis extrudados exceto na têmpera "O" (estado cozido) e "F" (como fabricado).
- (A) Estas tolerâncias-padrão aplicam-se a perfis comuns; podem ser necessárias tolerâncias mais amplas para alguns perfis e podem ser possíveis tolerâncias mais estreitas para outros, dependendo do acordo prévio entre o comprador e o fornecedor.
- (B) As tolerâncias para perfis extrudados nas ligas e têmperas especiais devem ser negociadas entre o comprador e o fornecedor.
- (C) A tolerância aplicável a uma dimensão composta de dois ou mais componentes é a soma das tolerâncias das dimensões componentes, se todas elas forem indicadas.
- (D) Se uma tolerância dimensional especificada não for simétrica, então o valor da tolerância-padrão a ser aplicado é aquele que seria aplicado à média das dimensões máxima e mínima permitíveis pela tolerância inicialmente especificada.
- (E) Estas tolerâncias não se aplicam a dimensões "X" e "Z" do exemplo, mesmo quando "Y" for 75% ou mais de "X". Para as tolerâncias aplicáveis às dimensões "X" e "Z" usar as colunas 4, 5, 6, 7, 8 e 9 dependendo da distância A.
- (F) A tolerância na espessura da parede dos perfis tubulares ou semitubulares deve ser combinada entre o comprador e o fornecedor, quando a espessura nominal de uma parede for três ou mais vezes maior que a parede oposta.
- (G) Nos pontos situados a 5 mm ou menos do início da aba, aplicam-se as tolerâncias da coluna 2.
- (H) As seguintes tolerâncias são aplicadas no caso de perfis tubulares:
 - » Para a largura (L), a tolerância é a indicada na coluna 4 para a altura (H);
 - » Para a altura (H), a tolerância é a indicada na largura (L);

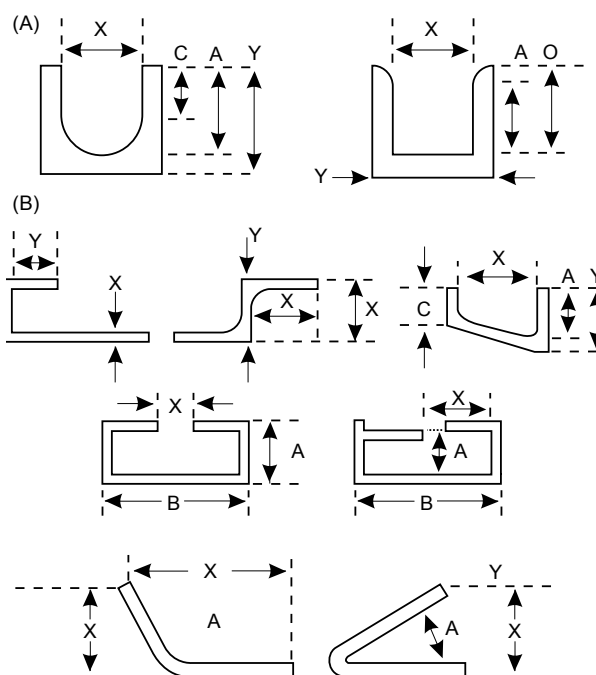


- » Em nenhum caso pode a tolerância para a largura ou altura ser menor que a tolerância para os cantos (coluna 2, dimensões do metal).
- » Exemplo de um perfil tubular tendo as dimensões externas retangulares de (25 x 75 mm):
- » A tolerância na largura é 0,46 mm e a tolerância nos cantos (coluna 2, dimensões do metal) é 0,60 mm para a largura e 0,25 mm para a altura. Notar que a tolerância de 0,46 mm na coluna 4 deve ser ajustada a 0,60 mm para não ficar menor que a tolerância na coluna 2.

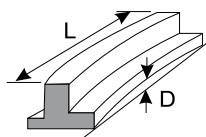
- (I) Quando as dimensões especificadas forem externas e internas. Ao invés da própria espessura da parede, o desvio permissível (excentricidade) indicado na coluna 3 se aplica à espessura média da parede.
- (J) No caso de perfis tubulares normais, aplica-se a tolerância-padrão para a espessura-padrão, para espessura da parede dos tubos redondos extrudados.

EXEMPLOS

- (A) Dimensões de vazios internos (perfis tubulares): todas as dimensões indicadas por "Y" são classificadas como "dimensões do metal" obedecendo às tolerâncias indicadas na coluna 2. Dimensões indicadas por "X" são classificadas como "dimensões incluindo vazios internos", sendo as tolerâncias aplicáveis determinadas pela coluna 4, a não ser que 75% ou mais da dimensão seja metal, caso este em que se aplica a coluna 2.
- (B) Dimensões dos vazios não totalmente circunscritos por metal. As tolerâncias aplicáveis à dimensão "X" podem ser enquadradas num dos três casos a seguir:
 - » Localizar a dimensão (X) na coluna 1;
 - » Determinar que coluna, de 4 a 9, é aplicável, dependendo da distância (A);
 - » Localizar a tolerância correta entre as colunas 4 e 9, na mesma linha que a dimensão (X);
 - » As dimensões (Y) correspondem às do metal e as tolerâncias são determinadas pela coluna 2;
 - » As distâncias (C) são mostradas somente para indicar dimensões incorretas, que não devem ser utilizadas para determinar que coluna, de 4 a 9, deve de aplicar;
 - » Localizar a distância (B) na coluna 1;
 - » Determinar que coluna, de 4 a 9, é aplicável dependendo da distância (A);
 - » Localizar a tolerância correta entre as colunas 4 e 9, na mesma linha do valor escolhida na coluna 1;
 - » As tolerâncias aplicáveis às dimensões (X) não são determinadas pela tabela e sim pelas tolerâncias-padrão aplicáveis aos ângulos (A).

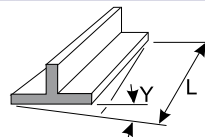


RETILINEARIDADE



Diâmetro do menor círculo circunscrito (mm) (1)	Espessura mínima (mm)	Desvio (D) permissível por metro de comprimento (mm) (2)
Até 38,09	Até 2,4	4,0
Até 38,09	Acima de 2,4	1,0
Acima de 38,10	Qualquer	1,0

TORÇÃO



Diâmetro do menor círculo circunscrito (mm) (1)	Desvio permissível (graus)		
	Por metro de comprimento	No comprimento total	Torção máxima
Até 38,09	3,3	3,3 x L (metros)	7%
De 38,09 à 76,19	1,6	1,6 x L (metros)	5%
Acima de 76,20	0,8	0,8 x L (metros)	3%

COMPRIMENTO			
Diâmetro do menor círculo circunscrito (mm) (1)	Desvio permissível em relação ao comprimento nominal (somente a mais) (mm)		
	COMPRIMENTO NOMINAL		
	Até 3.660	3.661 a 9.150	9.151 a 15.250
Até 76,19	3,2	6,4	9,5
76,20 a 203,19	4,8	7,9	11,1
Acima de 203,20	6,4	9,5	12,7

TOLERÂNCIAS DIMENSIONAIS DE DIÂMETRO EM TUBOS REDONDOS (ANSI - H35.2 - ABNT - NBR8116)			
Diâmetro Nominal (mm)	Desvio permissível do diâmetro médio $\frac{AA + BB}{2}$ em relação diâmetro nominal (+_mm)	Desvio permissível do diâmetro em qualquer ponto em relação ao diâmetro nominal (+_mm)(1)	
			
Tubos extrudados			
6,35 a 25,39	0,25	0,51	
25,40 a 50,79	0,30	0,64	
50,80 a 101,59	0,38	0,76	
101,60 a 152,39	0,64	1,27	
152,40 a 203,19	0,89	1,90	
203,20 a 253,99	1,14	2,54	
Tubos treilados			
		Ligas não tratáveis ter- micamente	Ligas tratáveis termicamente
Até12,73	0,08	0,08	0,15
12,74 a 25,40	0,10	0,10	0,20
25,41 a 50,80	0,13	0,13	0,25
50,81 a 76,20	0,15	0,15	0,30
76,21 a 127,00	0,20	0,20	0,41
127,01 a 152,40	0,25	0,25	0,51
152,41 a 203,20	0,38	0,38	0,76

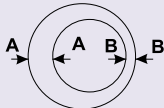
ANGULARIDADE	
Espessura mínima da aba (mm) (3)	Desvio permissível em relação ao ângulo nominal (graus) (4)
Até 4,75	+2,0
de 4,76 a 19,04	+1,5
acima de 19,05	+1,0

Corte Final - Desvio permissível do quadro, aproximadamente de 1°.

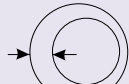
1. Para vergalhões diâmetro nominal, para barras argura nominal;
 2. Para se obter o desvio permissível em barras de mais de 1 metro de comprimento multiplica-se o valor do comprimento em metros pelo valor do desvio por metro;
 3. Quando houver duas abas adjacentes considera-se a de menor espessura;
 4. Quando o espaço limitado pelo ângulo é todo metal, considera-se a menor espessura de metal no vértice do ângulo.
- a. Não é aplicado na têmpera 0, tubos em rolos cuja espessura de parede for inferior a 0,5 mm ou 2,5% do diâmetro externo ou diâmetro da circunferência equivalente (diâmetro do círculo cuja circunferência mede o perímetro do tubo);
b. Exemplo: em um tubo retangular extrudado de 76,20x38,10mm, a tolerância na largura (76,20) é de 0,63 mm e na altura (38,10) é de 0,89 mm.

TOLERÂNCIAS DIMENSIONAIS DE ALTURA E LARGURA - TUBOS QUADRADOS, RETANG, SEXTAVADOS E OITAVADOS			
Diâmetro Nominal (mm)	Desvio permissível da altura ou largura em relação à dimensão nominal (+_mm)		
	Nos cantos	Em lados opostos (a)	
	Tubos quadrados e retangulares	Tubos quadrados sextavados e oitavados	Tubos retangulares
			
	Tubos extrudados		
12,70 a 19,05	0,30	0,51	A tolerância para a largura é o valor da tolerância para uma dimensão igual a altura e inversamente, mas em nenhum caso esta tolerância é menor do que nos cantos. (b)
19,06 a 25,40	0,36	0,51	
25,41 a 50,80	0,46	0,63	
50,81 a 101,60	0,63	0,89	
101,61a 126,70	0,89	1,14	
126,71 a 152,40	1,14	1,40	
	Tubos treilados		
Até 12,70	0,08	0,15	A tolerância para a largura é o valor da tolerância para uma dimensão igual a altura e inversamente, mas em nenhum caso esta tolerância é menor do que nos cantos. (b)
12,71 a 25,40	0,10	0,20	
25,41 a 50,80	0,13	0,25	
50,81 a 76,20	0,15	0,30	
76,21 a 127,00	0,20	0,41	
127,01 a 152,40	0,25	0,51	
152,41a 203,20	0,38	0,76	

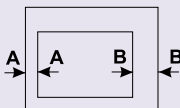
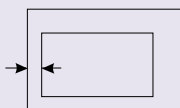
ESPESSURA DE PAREDE - TUBOS EXTRUDADOS TUBOS REDONDOS EXTRUDADOS

Espessura nominal da parede (mm)	Desvio permitido da espessura média $\frac{AA + BB}{2}$ em relação à espessura nominal (+_mm)				Desvio permitido da espessura em qualquer ponto em relação à espessura média (+_mm)
					
	Diâmetro Externo (mm)				
	Até 31,75	31,75 a 76,19	76,20 a 126,99	acima de 127,00	
Até 1,19	0,15	--	--	--	10% de espessura média da parede. Máximo: 1,52 Mínimo: 0,25
1,20 a 1,55	0,18	0,20	0,20	0,25	
1,56 a 1,95	0,20	0,20	0,23	0,30	
1,96 a 3,15	0,23	0,23	0,25	0,38	
3,16 a 6,34	0,23	0,23	0,33	0,51	
6,35 a 9,51	0,28	0,28	0,41	0,63	
9,52 a 12,69	--	0,38	0,53	0,89	
12,70 a 19,04	--	0,51	0,71	1,14	

ESPESSURA DE PAREDE TUBOS TREFILADOS

Espessura nominal da parede (mm)	Desvio permitido da espessura média AA+BB em relação à espessura normal (+_mm)	Desvio permitido da espessura em qualquer ponto em relação à nominal (+_mm)	
			
		Para tubos redondos em ligas não tratáveis termicamente	Para tubos redondos em ligas tratáveis termicamente e para outros tubos em qualquer liga (2)
0,25 a 0,89	0,05	0,05	10% da espessura nominal Mínimo 0,08
0,90 a 1,24	0,08	0,08	
1,25 a 2,10	0,10	0,10	
2,11 a 3,05	0,13	0,15	
3,06 a 5,16	0,15	0,20	
5,17 a 7,62	0,20	0,30	
7,63 a 9,52	0,38	0,51	
9,53 a 12,70	0,51	0,76	

TUBOS QUADRADOS, RETANGULARES, SEXTAVADOS E OITAVADOS - EXTRUDADOS

Espessura nominal da parede (mm)	Desvio permitido da espessura média AA+BB em relação à espessura normal (+_mm)	Desvio permitido da espessura em qualquer ponto em relação à espessura média (excentricidade)(+_mm)		
				
	DCC - Diâmetro do círculo circunscrito (mm)			
	menor que 127,0	maior que 127,0	menor que 127,0	maior que 127,0
Até 1,19	0,13	0,20	0,13	10% da espessura média da parede. Máximo: 1,52 Mínimo: 0,25
1,20 a 1,55	0,15	0,23	0,18	
1,56 a 1,95	0,18	0,25	0,25	
1,96 a 3,15	0,18	0,25	0,25	
3,16 a 6,34	0,20	0,38	0,36	
6,35 a 9,51	0,28	0,51	0,63	
9,52 a 12,69	0,36	0,76	0,76	
12,70 a 19,04	0,63	1,02	1,02	

- Para tubos em rolos deverão ser aplicados os valores para ligas tratáveis termicamente.
- Para liga 50mm T8, a única tolerância de espessura de parede aplicável é o desvio permitido em qualquer ponto, e este é 15% da espessura especificada.

COMPRIENTO - TUBOS TREFILADOS

Diâmetro Externo ou Largura nominal (mm)	Desvio permitido em relação ao comprimento nominal (somente a mais, mm)				
	Comprimento nominal (mm)			Roios	
	até 3.660	3.661 a 9.150	9.151 a 15.150	até 30 m	30 a 75 m
Até 6,34	6,4	9,5	12,7	5%	+_10%
6,35 a 31,74	3,2	6,4	9,5	5%	+_10%
31,75 a 76,19	3,2	6,4	9,5	--	--
76,20 a 203,20	4,8	7,9	11,1	--	--

RETILINEARIDADE - TUBOS TREFILADOS

Diâmetro externo ou largura nominal (mm)	Desvio permitido por metro de comprimento (1) (2) (mm)
Abaixo de 9,52	38,75
9,53 a 152,39	0,78
152,40 e acima	1,55

- Não aplicável em temperas 0.
- Não aplicável para comprimentos abaixo de 3 metros.

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
CONTRAMARCOS E CONEXÕES		
72299	CL-006	6.002
72301	CM-174	6.001
72434	-	6.002
73940	Y-120	6.001
77080	CM-063	6.001
78830	CL-009	6.002
78870	CL-011	6.002

LINHA 16 - BASCULANTE		
70158	-	7.001
70159	-	7.004
70161	-	7.002
70162	-	7.004
72087	-	7.004
72088	-	7.005
72089	-	7.003
72091	-	7.001
72092	-	7.003
72093	-	7.002
72191	-	7.005
72192	-	7.004
72193	-	7.001
72248	-	7.002
72249	-	7.005
72251	-	7.005
78740	-	7.001
78750	-	7.005
78760	-	7.002
78770	-	7.004
78780	-	7.003
78790	-	7.001
79940	-	7.003
79950	-	7.003
79960	-	7.004
79970	-	7.002
79980	-	7.001
79990	-	7.002

LINHA 16 - JANELA DE CORRER		
10109	-	8.005
70046	-	8.013

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
70048	-	8.011
70049	-	8.011
70052	-	8.009
70053	-	8.009
70054	-	8.009
70056	-	8.012
70058	-	8.009
70059	-	8.012
70062	-	8.010
70084	-	8.011
70089	-	8.011
70108	-	8.005
70111	-	8.003
70112	-	8.003
70113	-	8.007
70114	-	8.007
70115	-	8.007
70116	-	8.007
70154	-	8.008
70155	-	8.008
70156	-	8.008
70157	-	8.008
70163	-	8.009
70164	-	8.008
70168	-	8.006
70169	-	8.006
70172	-	8.003
70173	-	8.004
70174	-	8.004
70175	-	8.006
70176	-	8.006
70177	-	8.005
70178	-	8.003
70179	-	8.004
70181	-	8.004
70182	-	8.006
71029	-	8.010
72019	-	8.010
72073	-	8.010
72082	-	8.005
72116	-	8.012
72126	-	8.013

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
72182	-	8.001
72183	-	8.001
72184	-	8.002
72185	-	8.002
72186	-	8.002
72187	-	8.002
72217	-	8.002
72232	-	8.009
72233	-	8.013
72235	-	8.001
72236	-	8.013
78800	-	8.013
78810	-	8.001
78820	-	8.006
78880	-	8.013
78900	-	8.014

LINHA 16 - HIPER MODULAR		
72196	-	9.003
72197	-	9.003
72198	-	9.003
72199	-	9.002
72201	-	9.002
72202	-	9.002
72203	-	9.001
72204	-	9.001
72205	-	9.005
72206	-	9.005
72207	-	9.005
72208	-	9.005
72209	-	9.004
72211	-	9.004
72212	-	9.004
72213	-	9.004
72242	-	9.001
72243	-	9.001

LINHA 23		
73870	-	10.001
73880	-	10.001

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
LINHA 25		
71001	Y-196	11.005
71002	25-548	11.009
71003	Y-195L	11.005
71004	-	11.013
71005	P-319	11.006
71006	-	11.012
71007	25-026	11.010
71008	-	11.010
71009	Y-197	11.013
71011		11.013
71012	25-122	11.004
71013	-	11.014
71014	T-214	11.014
71015	P-412	11.009
71016	P-414	11.009
71017	L-387	11.011
71018	A-139	11.006
71019	FC-070	11.005
71021	A-048	11.006
71022	25-506	11.007
71023	25-507	11.007
71024	25-803	11.003
71025	P-574	11.010
71026	25-584	11.004
71027	25-701	11.004
72610	Y-126	11.011
72620	P-147	11.013
72630	Y-195L	11.006
72640	P-140	11.008
72930	P-227	11.012
72940	A-058	11.013
72950	P-318	11.008
73610	A-056	11.011
73700	P-146	11.012
73770	P-152	11.007
73780	P-151	11.007
73790	A-055	11.008
73800	Y-215	11.010
73820	U-522	11.013
73910	E-277	11.001
73950	I-105	11.012

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
75880	-	11.001
75890	Z-174	11.001
75900	Z-176	11.002
75910	Z-175	11.002
75920	E-221	11.003
75930	N-1581	11.003
76200	-	11.008
76220	-	11.009
76520	Y-126L	11.011
76530	Z-175	11.002
76540	P-318L	11.005

LINHA 25 90°		
70107	SU-188	12.011
72311	SU-121 / E-645	12.006
72312	SU-122 / E-646	12.006
72313	SU-123 / E-647	12.007
72319	SU-013 / E-573	12.005
77017	SU-005	12.002
77019	SU-090	12.016
77197	SU-243	12.010
77198	SU-245	12.009
77199	SU-242	12.010
77201	SU-200	12.016
77203	SU-108	12.016
77204	SU-083	12.014
77205	SU-042	12.009
77206	SU-084	12.015
77207	SU-230	12.004
77208	SU-225	12.008
77209	SU-014 / E-574	12.005
77211	SU-012 / Y-778	12.005
77212	SU-011	12.004
77213	SU-010	12.004
77215	SU-228	12.001
77216	SU-276	12.014
77218	SU-006	12.002
77221	SU-061	12.012
77222	SU-063	12.011
79000	E-566	12.001
79040	SU-007 / Y-776	12.003
79050	SU-008 / E-568	12.003

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
79060	E-578	12.001
79070	SU-039 / A-282	12.009
79080	SU-040 / P-630	12.010
79090	SU-041 / P-629	12.010
79100	SU-050 / P-668	12.008
79120	SU-055 / A-285	12.012
79130	SU-056 / A-273	12.012
79140	SU-068 / A-284	12.012
79150	SU-069 / A-254	12.013
79160	SU-070 / A-256	12.013
79170	SU-079 / Y-779	12.014
79180	SU-080 / P-639	12.015
79190	SU-081 / P-637	12.016
79200	SU-082 / P-638	12.015
79210	SU-086 / P-640	12.015
79220	SU-102 / U-1230	12.017
79230	SU-103 / U-1231	12.017
79240	SU-186	12.011
79250	SU-187	12.013
79260	SU-190	12.013
79270	SU-192	12.009
79280	SU-227	12.008
79290	SU-228	12.001

LINHA 28		
73710	U-804	13.003
73740	P-513	13.002
73750	Y-625	13.002
73760	P-515	13.002
73820	U-522	13.003
73830	Y-328	13.003
73840	Y-301	13.001
73850	Y-325	13.001
73860	P-530	13.003
73870	P-518	13.001
73930	P-514	13.002

MÓDULO PRÁTICO		
70198	MP-409	14.001
70199	MP-354	14.003
72001	MP-309	14.003
72002	MP-070	14.005

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
72004	BG-202	14.005
72005	MP-069	14.005
74310	MP-363	14.002
76560	MP-352	14.003
76570	MP-357	14.001
76580	MP-360	14.002
76590	MP-300	14.004
76600	MP-302	14.004
76610	MP-321	14.004
76620	MP-336	14.004
76980	MP-361	14.002
76990	MP-358	14.001
77000	MP-322	14.003

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
72234	-	17.002
72237	-	17.003
72263	-	17.003
72264	-	17.002
72336	-	17.002
78840	-	17.005
78850	-	17.004
78860	-	17.002

FACHADA CORTINA

72315	FC-012 / A-072	18.001
72316	FC-013 / U-621	18.001
72317	FC-014 / U-615	18.001

MÓDULO MAX

76290	25-314	15.001
76300	25-301	15.001
76550	25-311	15.001
76640	25-312	15.001
76650	MM-376	15.001

LINHA GRADIL

70027	CG-083	19.001
70028	CG-074	19.002
70032	CG-075	19.002
70033	CG-077	19.002
71700	CG-145	19.002
72295	-	19.003
72510	D-095	19.002
72910	D-082	19.003
72920	D-055	19.003
78630	CG-072	19.001

LINHA PORTA BALCÃO

72371	-	16.003
72372	-	16.002
72373	-	16.003
72374	-	16.002
72375	-	16.001
72376	-	16.001
72377	-	16.001
72378	-	16.002
72379	-	16.003
70042	-	17.001
70043	-	17.004
70055	-	17.003
70151	-	17.005
70152	-	17.004
70153	-	17.003
70165	-	17.001
72111	-	17.001
72188	-	17.005
72189	-	17.004
72194	-	17.001

LINHA PORTÕES

70143	-	20.001
71600	U-1098	20.006
71890	E-364	20.007
72321	-	20.001
72426	-	20.002
72427	-	20.003
72459	D-069L	20.004
72478	A-101	20.007
72479	-	20.005
72481	-	20.005
72650	D-069	20.004
72660	D-079	20.003
73640	D-078	20.003
74340	-	20.007
75480	78-137	20.002

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
76680	U-990	20.006
76780	-	20.006
77030	-	20.007
77060	U-990L	20.006

LINHA LAMBRIS		
72290	-	21.001
72293	LB-069P	21.005
72307	-	21.006
72308	LB-070P	21.006
72309	Y-335	21.003
72314	Y-429	21.003
72322	LB-069	21.005
72345	-	21.004
72359	-	21.004
72404	-	21.002
72425	-	21.004
72463	-	21.001
72464	LB-036 / Y-335L	21.002

LINHA VENEZIANAS		
70041	-	22.002
70166	-	22.002
71910	Z-201	22.001
72008	-	22.001
72214	-	22.003
72215	-	22.003
72411	-	22.001
73810	Z-148	22.002
73920	Z-203	22.003
76690	Z-145	22.003
77214	VZ-051	22.001
78200	Z-169	22.002

LINHA BOX (LISO)		
72840	U-1056	23.001
72870	U-397	23.001
72880	E-117	23.001
72890	U-399	23.001
72900	I-083	23.001

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
LINHA BOX (FRISADO)		
70830	U-654	23.002
71370	U-562	23.003
71380	E-256	23.002
71390	U-655	23.002
71400	U-653	23.002
71440	I-154	23.003
71540	BX-153	23.002
72320	Y-311	23.003
72400	A-087	23.003
76740	U-1002	23.003

LINHA BOX (SOROBOX LISO)		
78210	BX-087 LISO	23.004
78220	BX-089 LISO	23.004
78230	BX-090 LISO	23.004
78240	BX-085 LISO	23.004
78250	CHAPÉU RX LISO	23.004

LINHA BOX (SOROBOX FRISADO)		
71530	-	23.005
72507	-	23.005
72508	-	23.006
76380	BX-087	23.006
76390	-	23.006
76400	BX-090	23.006
76410	BX-085	23.006
76420	BX-089	23.006
76430	BX-086R	23.005
77040	BX-0860	23.005

LINHA BOX TEMPERADO 8MM		
70025	-	24.003
70026	-	24.003 / 27.007
72085	-	24.002
72277	-	24.003
72344	-	24.002
72484	-	24.004
73000	-	24.003
73010	-	24.001
73060	-	24.002
73110	-	24.004

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
76470	-	24.004
76770	-	24.003
76850	-	24.002
76860	-	24.004
76870	-	24.003
78360	-	24.001
79770	-	24.004
79780	-	24.004
79790	-	24.001

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
76460	-	26.005
76470	-	26.007
76480	-	26.006
76490	-	26.005
76500	-	26.006
76860	-	26.007
77870	-	26.001
77880	-	26.001
78900	-	26.005

LINHA TEMPERADO 6MM		
72469	-	25.001
72471	-	25.001
72472	-	25.001
72473	-	25.001
72474	-	25.001
72475	-	25.001
72476	-	25.002
72477	-	25.002
78930	-	25.002
78940	-	25.002
78950	-	25.002

LINHA TEMPERADO 8MM		
70117	-	26.004
70118	-	26.005
72096	-	26.002
72097	-	26.002
72142	-	26.003
72143	-	26.003
72144	-	26.005
72145	-	26.006 / 27.008
72342	-	26.003
72343	-	26.003
72361	-	26.004
72465	-	26.004
72466	-	26.004
72780	-	26.002
72790	-	26.002
73110	-	26.006
76440	-	26.001
76450	-	26001/ 27.004

LINHA TEMPERADO 10MM		
70026	-	27006 / 24.003
70142	-	27.005
71028	-	27.005
71600	-	27.004
71920	-	27.008
72094	-	27.007
72144	-	27.005
72145	-	27008 / 26006
72279	-	27.004
72281	-	27.008
72282	-	27.005
72467	-	27.002
72468	-	27.002
72670	L-713	27.001
72680	E-512	27.001
72690	-	27.006
76450	-	27.004 / 26001
76510	-	27.008
76700	-	27.001
76760	-	27.008
76780	-	27.004
76790	-	27.007
76800	U-1109	27.007
76810	-	27.007
76820	-	27.007
76830	-	27.002
76840	-	27.002
76890	E-306L	27.006
76900	-	27.001
76910	-	27.008
77210	-	27.008

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
77850	-	27.003
77860	-	27.003
79810	-	27.003
79820	-	27.003
79830	-	27.008
79840	-	27.006

ENVIDRAÇAMENTO DE SACADAS		
70134	-	28.001
70135	-	28.001
70136	-	28.001
70137	-	28.001
72009	-	28.003
72011	-	28.002
72012	-	28.002
72013	-	28.003
72036	-	28.003
76020	-	28.004
76030	-	28.004
76040	-	28.004
76050	-	28.004
76060	-	28.004
77660	-	28.002
77670	-	28.002

DIVISÓRIAS (COMUM)		
71820	-	29.001
74780	-	29.001
74890	-	29.001
75870	-	29.001

DIVISÓRIAS (PISO TETO)		
74460	-	29.002
74470	-	29.007
74480	-	29.004
74500	-	29.003
74640	-	29.003
74830	-	29.004
74840	-	29.004
74850	-	29.006
75540	-	29.002
75560	-	29.002

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
75570	-	29.007
75700	-	29.005
75710	-	29.005
75720	-	29.006
75730	-	29.003
75750	-	29.004
75850	-	29.003
75860	-	29.002
76270	-	29.005

ESTANDES		
71240	-	30.001
71420	-	30.001
71590	-	30.002
72410	-	30.002
72410	-	30.002
72470	-	30.002
73560	-	30.002
74110	-	30.001
74530	-	30.001
74930	-	30.001
77140	-	30.001

LINHA MOVELEIRA (CABIDEIROS)		
70150	-	31.001
71200	-	31.001
74260	-	31.001
74490	-	31.001
75020	-	31.001
76080	-	31.001

LINHA MOVELEIRA (CADEIRAS)		
70050	-	31.002
70690	-	31.002
72960	-	31.002
74230	-	31.002
75150	-	31.003
78270	-	31.002
78280	-	31.002

LINHA MOVELEIRA (DIVERSOS)		
70171	-	31.004

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
72278	-	31.004
77890	-	31.004

LINHA MOVELEIRA (PORTAS)		
70016	-	31.005
70102	-	31.010
70129	-	31.009
71041	-	31.008
71044	-	31.008
72072	-	31.005
72083	-	31.005
72104	-	31.010
72105	-	31.010
72107	-	31.008
72130	-	31.010
72266	-	31.009
72271	-	31.005
72272	-	31.009
72273	-	31.007
72274	-	31.006
72275	-	31.007
72341	-	31.006
74920	-	31.006
77400	-	31.009
77420	-	31.005
77950	-	31.006
77960	-	31.006
79860	-	31.005
79870	-	31.009
79880	-	31.007
79890	-	31.006

LINHA MOVELEIRA (PUXADORES)		
70017	-	31.011
70018	-	31.011
70021	-	31.014
70064	-	31.014
70065	-	31.011
70123	-	31.012
70124	-	31.011
71038	-	31.013
71039	-	31.013

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
71042	-	31.013
71043	-	31.013
72053	-	31.011
72056	-	31.014
72057	-	31.014
72141	-	31.014
72150	-	31.013
72241	-	31.013
72304	-	31.012
75620	-	31.015
77900	-	31.011
77910	-	31.012
77940	-	31.012
78000	-	31.015
78010	-	31.015
78020	-	31.015
78030	-	31.015
78260	-	31.012
78350	-	31.014
78640	-	31.012
80090	-	31.015

LINHA MOVELEIRA (TESTEIRAS)		
70192	-	31.016
70193	-	31.016

LINHA MOVELEIRA (TRILHOS)		
70122	-	31.019
70186	-	31.017
71600	-	31.017
72023	-	31.019
72024	-	31.019
72025	-	31.020
72026	-	31.020
72027	-	31.020
72084	-	31.019
72148	-	31.018
72454	-	31.018
72455	-	31.019
76680	-	31.017
77060	-	31.017
77195	-	31.020

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
77196	-	31.020
77920	-	31.019
77930	-	31.018

CONSTRUÇÃO BÁSICA (ARREM)		
71310	-	32.001
71320	-	32.001
71330	-	32.001
71340	-	32.002
71740	-	32.001
72000	-	32.002
72020	-	32.002
72440	-	32.001
72740	-	32.001

CONSTRUÇÃO BÁSICA (BRAÇO)		
78710	-	32.003
78720	-	32.003

CONSTRUÇÃO BÁSICA (CANTO)		
72800	-	32.004
72850	-	32.004
72860	-	32.004
74420	-	32.004

CONSTRUÇÃO BÁSICA (CORTINA)		
70001	-	32.007
70390	-	32.005
71110	-	32.006
71120	-	32.006
71250	-	32.005
72420	-	32.007
72430	-	32.007
72720	-	32.005
72730	-	32.005
72750	-	32.005
72970	-	32.006
73600	-	32.007

CONSTRUÇÃO BÁSICA (FORRO)		
70490	-	32.008
71460	-	32.008

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
71660	-	32.008

CONSTRUÇÃO BÁSICA (RÉGUA)		
40070	-	32.009
72335	-	32.009
75810	-	32.009
4007L	-	32.009

CONSTRUÇÃO BÁSICA (RODO)		
70210	-	32.010
70220	-	32.010
70700	-	32.011
74740	-	32.010
74750	-	32.010
74760	-	32.011
74900	-	32.010
74910	-	32.010
73400	-	32.012
74140	-	32.012

ACESSÓRIOS		
70034	-	33.002
72328	-	33.002
72329	-	33.002
72331	-	33.001
73420	-	33.001
73430	-	33.002
73440	-	33.002
77700	-	33.001
77710	-	33.001
78150	-	33.001
78160	-	33.001

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
AUTOMAÇÃO INDUSTRIAL (ESTRUTURAL)		
70029	-	34.001
70031	-	34.001
74290	-	34.002
74300	-	34.001
77270	-	34.001

AUTOMAÇÃO INDUSTRIAL (TRILHO)		
70128	-	34.003
76340	-	34.003
76970	-	34.003
77540	-	34.003

BICICLETAS (AROS)		
70870	-	35.002
71430	-	35.001
72180	-	35.002
74320	-	35.001
74810	-	35.001
75030	-	35.001
75780	-	35.001
76090	-	35.002
76280	-	35.002
76720	-	35.001
77190	-	35.002

BICICLETAS (ACESSÓRIOS)		
74330	-	35.003
75630	-	35.003
75670	-	35.003
75990	-	35.003
76140	-	35.003
76160	-	35.004
78170	-	35.003

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
CABO DE PAINEL		
70290	-	36.001
70970	-	36.002
70980	-	36.001
70990	-	36.002
71280	-	36.001
71940	-	36.001
71950	-	36.002
71960	-	36.002
72500	-	36.002
72600	-	36.002
72990	-	36.001
74240	-	36.001

DISSIPADORES E CONECTORES		
70230	-	37.003
70820	-	37.002
70880	-	37.003
70900	-	37.002
70910	-	37.002
70930	-	37.001
70940	-	37.001
71710	-	37.002
71720	-	37.001
71750	-	37.002
71800	-	37.003
71810	-	37.003
71840	-	37.003
72980	-	37.001
73590	-	37.001
75180	-	37.001
75960	-	37.004
76070	-	37.004
76230	-	37.004
76920	-	37.002

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
ESCADAS (DOMÉSTICAS)		
70022	-	38.002
72167	-	38.002
72168	-	38.002
72990	-	38.001
73190	-	38.001
73660	-	38.001
74150	-	38.003
74210	-	38.003
74710	-	38.001
70104	-	38.004
70105	-	38.004
70106	-	38.004
70710	-	38.004

MALAS		
71470	-	39.001
71480	-	39.001
72350	-	39.001
72360	-	39.001
72560	-	39.001
75790	-	39.001
75800	-	39.001

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
BAÚ E CARROCERIAS		
70170	-	40.001
70540	-	40.001
71040	-	40.001
71730	-	40.001
71830	-	40.001
73670	-	40.002
78130		40.001

CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
73490	-	42.003
73500	-	42.004
73510	-	42.003
73520	-	42.003
73540	-	42.003
73550	-	42.002
73580	-	42.003

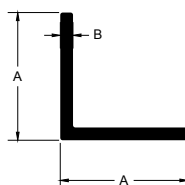
CAPOTA MARÍTIMA		
70160	-	41.001
73220	-	41.001
73230	-	41.001
74450	-	41.001
74490	-	41.001
74510	-	41.001
75550	-	41.002
75580	-	41.002

CAPOTA MARÍTIMA		
70160	-	41.001
73220	-	41.001
73230	-	41.001
74450	-	41.001
74490	-	41.001
74510	-	41.001
75550	-	41.002
75580	-	41.002

JANELA VEICULAR		
70110	-	42.001
70140	-	42.001
70640	-	42.004
71490	-	42.002
72060	-	42.003
72070	-	42.002
72080	-	42.004
72170	-	42.001
72310	-	42.002
72810	-	42.001
72820	-	42.004
73480	-	42.004

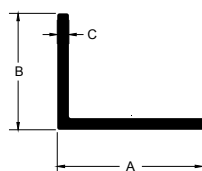
CÓDIGO HYSPEX	CÓDIGO EQUIVALÊNCIA	PÁG.
APLICAÇÕES DIVERSAS		
70440	-	43.004
70460	-	43.003
70470	-	43.003
70780	-	43.005
70790	-	43.005
70920	-	43.001
71000	-	43.004
71170	-	43.001
71450	-	43.003
71510	-	43.002
71520	-	43.002
71640	-	43.002
71880	-	43.001
72133	-	43.006
72260	-	43.001
72300	-	43.003
73200	-	43.005
73210	-	43.005
74410	-	43.002
74590	-	43.007
74650	-	43.002
76120	-	43.003
76350	-	43.006
76710	-	43.001
78070	-	43.002
78180	-	43.006
78300	-	43.004
78310	-	43.004
78320	-	43.001
78410	-	43.007
78420	-	43.007
80400	-	43.003

CANTONEIRAS ABAS IGUAIS



CÓDIGO		DIMENSÕES				PESO (Kg/m)
HYSPEX	EQUIVALÊNCIA	MILÍMETROS		POLEGADAS		
		A	B	A	B	
50180	-	12.70	1.00	1/2	-	0.066
50140	CT-001	12.70	1.58	1/2	1/16	0.102
50260	-	15.87	1.00	5/8	-	0.083
50130	CT-005	15.87	1.58	5/8	1/16	0.129
50170	-	19.05	1.00	3/4	-	0.101
50110	-	19.05	1.50	3/4	-	0.149
50010	CT-007	19.05	1.58	3/4	1/16	0.156
50270	-	19.05	2.50	3/4	-	0.241
50250	-	25.40	1.00	1	-	0.135
50020	-	25.40	1.30	1	-	0.174
50030	CT-016	25.40	1.58	1	1/16	0.211
50190	CT-019	25.40	3.17	1	1/8	0.409
50060	-	31.75	1.58	1.1/4	1/16	0.265
50120	CT-022	31.75	3.17	1.1/4	1/8	0.518
50220	CT-023	31.75	4.76	1.1/4	3/16	0.758
50290	CT-047	38.10	1.58	1.1/2	1/16	0.319
50040	CT-026	38.10	3.17	1.1/2	1/8	0.627
50070	CT-027	50.80	4.76	2	3/16	0.921
50100	CT-031	50.80	2.00	2	-	0.540
50200	CT-032	50.80	3.17	2	1/8	0.846
50230	CT-033	50.80	4.76	2	3/16	1.249
50210	CT-422	50.80	6.35	2	1/4	1.639

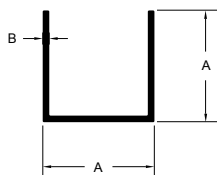
CANTONEIRAS ABAS DESIGUAIS



CÓDIGO		DIMENSÕES						PESO (Kg/m)
HYSPEX	EQUIVALÊNCIA	MILÍMETROS			POLEGADAS			
		A	B	C	A	B	C	
50280	-	20.00	6.00	2.00	-	-	-	0.130
50150	CT-204	25.40	12.70	3.17	1	1/2	1/8	0.300
50330	-	25.40	15.00	3.00	1	-	-	0.304
50090	-	50.00	25.00	1.00	-	-	-	0.201

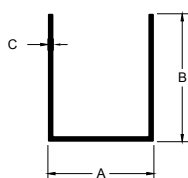
50240	CT-217	50.80	25.40	3.17	2	1	1/8	0.627
50160	CT-218	50.80	31.75	2.00	2	1.1/4	-	0.437
50320	-	60.00	49.00	5.00	-	-	-	1.410

PERFIL U ABAS IGUAIS



CÓDIGO		DIMENSÕES				PESO (Kg/m)
HYSPEX	EQUIVALÊNCIA	MILÍMETROS		POLEGADAS		
		A	B	A	B	
71360	-	9.00	1.00	-	-	0.067
72530	PU-001	9.52	1.58	3/8	1/16	0.109
72010	PU-002	12.70	1.58	1/2	1/16	0.149
72230	-	12.70	2.00	1/2	-	0.184
74080	-	14.00	1.00	-	-	0.108
72520	-	15.87	1.20	5/8	-	0.146
76820	-	15.87	1.40	5/8	-	0.170
71550	PU-004	15.87	1.58	5/8	1/16	0.190
71560	-	25.40	1.58	1	1/16	0.313
74010	-	38.10	2.00	1.1/2	-	0.598

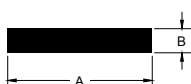
PERFIL U ABAS DESIGUAIS



CÓDIGO		DIMENSÕES						PESO (Kg/m)
HYSPEX	EQUIVALÊNCIA	MILÍMETROS			POLEGADAS			
		A	B	C	A	B	C	
72760	PU-303	9.52	12.70	1.58	3/8	1/2	1/16	0.136
73470	-	11.00	18.00	1.40	-	-	-	0.168
76960	-	11.00	22.00	1.00	-	-	-	0.143
71970	-	12.70	9.52	1.58	1/2	3/8	1/16	0.122
72540	-	12.70	25.40	1.58	1/2	1	1/16	0.258
73530	-	12.90	22.00	1.50	-	-	-	0.219
77800	-	15.00	8.00	2.00	-	-	-	0.146
76810	-	15.00	25.00	1.20	-	-	-	0.205
73730	-	15.00	25.00	1.30	-	-	-	0.220
71570	-	15.00	25.00	1.58	-	-	1/16	0.265
77030	-	19.00	35.00	1.20	-	-	-	0.315
74280	-	21.50	14.00	1.50	-	-	-	0.189

72550	-	22.00	7.00	3.00	-	-	-	0.244
72140	-	22.00	12.00	3.00	-	-	-	0.325
73720	-	25.00	15.00	1.58	-	-	1/16	0.222
71080	PU-211	25.40	12.70	3.17	1	1/2	1/8	0.381
74020	-	43.00	42.00	2.00	-	-	-	0.652
71100	-	45.00	29.00	1.60	-	-	-	0.432

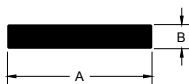
BARRA CHATA REGULAR



CÓDIGO		DIMENSÕES				PESO (Kg/m)
HYSPEX	EQUIVALÊNCIA	MILÍMETROS		POLEGADAS		
		A	B	A	B	
60780	-	9.00	1.20	-	-	0.029
60740	-	9.00	1.58	-	1/16	0.039
60190	-	9.52	1.58	3/8	1/16	0.041
60230	-	9.52	2.50	3/8	-	0.064
60200	-	9.52	3.17	3/8	1/8	0.082
60760	-	10.00	1.00	-	-	0.027
60150	-	10.00	2.00	-	-	0.054
60940	-	10.00	2.20	-	-	0.060
60750	-	11.00	1.50	-	-	0.045
60310	-	11.50	2.50	-	-	0.078
60180	-	12.50	2.50	-	-	0.085
60610	-	12.60	10.00	-	-	0.341
60680	-	12.70	1.00	1/2	-	0.034
60290	-	12.70	1.58	1/2	1/16	0.054
60120	BC-002	12.70	3.17	1/2	1/8	0.109
60480	BC-003	12.70	4.76	1/2	3/16	0.164
60210	BC-004	12.70	6.35	1/2	1/4	0.219
60700	-	13.00	2.00	-	-	0.070
60790	-	15.00	2.50	-	-	0.102
60330	-	15.87	1.58	5/8	1/16	0.068
60350	-	15.87	2.00	5/8	-	0.086
60060	BC-008	15.87	3.17	5/8	1/8	0.136
60450	BC-009	15.87	4.76	5/8	3/16	0.205
60270	BC-231	16.00	2.00	-	-	0.087
60950	-	16.00	2.50	-	-	0.108
60360	-	19.05	1.58	3/4	1/16	0.082
60410	-	19.05	2.00	3/4	-	0.103
60050	BC-015	19.05	3.17	3/4	1/8	0.164
60590	BC-016	19.05	4.76	3/4	3/16	0.246
60910	BC-017	19.05	6.35	3/4	1/4	0.328
60990	-	19.05	7.93	3/4	5/16	0.409
60810	-	19.05	11.11	3/4	7/16	0.574
60580	BC-021	22.22	3.17	7/8	1/8	0.191

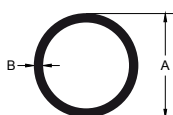
60550	BC-023	22.22	6.35	7/8	1/4	0.382
60570	-	25.00	4.25	-	-	0.288
60040	BC-329	25.40	1.58	1	1/16	0.109
60770	-	25.40	2.00	1	-	0.138
60220	BC-025	25.40	3.17	1	1/8	0.218
60870	-	25.40	4.00	1	-	0.275
60070	BC-026	25.40	4.76	1	3/16	0.328
60540	BC-027	25.40	6.35	1	1/4	0.437
60130	-	25.40	7.93	1	5/16	0.546
60850	BC-029	25.40	9.52	1	3/8	0.655
60920	-	25.40	75.00	1	-	5.163
60880	-	30.20	4.00	-	-	0.327
60520	BC-036	31.75	3.17	1.1/4	1/8	0.273
60530	BC-037	31.75	4.76	1.1/4	3/16	0.410
60600	BC-038	31.75	6.35	1.1/4	1/4	0.546
60970	BC-040	31.75	9.52	1.1/4	3/8	0.819
60560	-	35.00	12.70	-	1/2	1.205
60470	-	36.50	1.80	-	-	0.178
60620	-	38.10	1.58	1.1/2	1/16	0.163
60320	BC-050	38.10	3.17	1.1/2	1/8	0.327
60440	BC-051	38.10	4.76	1.1/2	3/16	0.491
60490	BC-052	38.10	6.35	1.1/2	1/4	0.656
60690	BC-443	38.10	7.93	1.1/2	5/16	0.819
60890	BC-053	38.10	9.52	1.1/2	3/8	0.983
60860	BC-054	38.10	12.70	1.1/2	1/2	1.311
60930	-	41.27	12.70	1.5/8	1/2	1.420
60710	BC-173	44.45	9.52	1.5/8	3/8	1.147
60650	BC-448	44.45	12.70	1.5/8	1/2	1.530
60640	BC-060	50.80	3.17	2	1/8	0.436
60430	BC-061	50.80	4.76	2	3/16	0.655
60460	-	50.80	6.00	2	-	0.826
60510	BC-062	50.80	6.35	2	1/4	0.874
60380	BC-063	50.80	9.52	2	3/8	1.311
60240	BC-064	50.80	12.70	2	1/2	1.748
60980	BC-254	60.00	5.00	-	-	0.813
60800	-	61.00	3.00	-	-	0.496
60630	BC-068	63.50	4.76	2.1/2	3/16	0.819
60340	BC-070	63.50	9.52	2.1/2	3/8	1.638
60370	BC-071	63.50	12.70	2.1/2	1/2	2.185
60840	-	64.00	4.00	-	-	0.694
60730	-	66.67	12.70	2.5/8	1/2	2.295
60100	BC-072	76.20	3.17	3	1/8	0.655
60250	BC-073	76.20	12.70	3	1/2	2.623
60500	-	80.00	4.76	-	3/16	1.032
60260	-	82.55	12.70	3.1/4	1/2	2.841
60900	-	95.30	1.20	-	-	0.310

BARRA CHATA COM RAIOS



CÓDIGO		DIMENSÕES				PESO (Kg/m)
HYSPEX	EQUIVALÊNCIA	MILÍMETROS		POLEGADAS		
		A	B	A	B	
60300	-	9.52	4.76	3/8	3/16	0.109
61000	-	12.50	1.58	-	1/16	0.052
60140	-	17.00	3.17	-	1/8	0.140
60170	-	61.00	2.00	-	-	0.328

TUBO REDONDO



CÓDIGO		DIMENSÕES				PESO (Kg/m)
HYSPEX	EQUIVALÊNCIA	MILÍMETROS		POLEGADAS		
		A	B	A	B	
34350	-	7.50	1.25	-	-	0.066
34200	-	7.93	1.30	5/16	-	0.073
33970	-	9.40	1.50	-	-	0.101
32780	-	9.52	1.00	3/8	-	0.072
32590	-	9.52	1.30	3/8	-	0.091
31980	TR-002	9.52	1.58	3/8	1/16	0.107
31730	-	9.52	2.76	3/8	-	0.159
30620	-	9.52	3.15	3/8	-	0.171
33110	-	10.50	2.50	-	-	0.170
34590	-	11.11	1.00	7/16	-	0.086
34520	-	11.11	1.30	7/16	-	0.108
34370	-	11.11	2.75	7/16	-	0.195
32720	TR-1015	12.70	1.00	1/2	-	0.099
32580	-	12.70	1.20	1/2	-	0.117
30650	TR-005	12.70	1.58	1/2	1/16	0.149
31010	-	12.70	1.85	1/2	-	0.171
32540	-	12.70	2.50	1/2	-	0.217
32390	TR-220	12.70	3.17	1/2	1/8	0.257
31890	-	12.90	1.80	-	-	0.170
31190	-	12.90	2.40	-	-	0.214
34610	-	13.80	2.45	-	-	0.236
31840	-	13.80	2.90	-	-	0.265

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TABELADOS



31560	-	14.00	2.00	-	-	0.204
30490	-	14.28	2.00	9/16	-	0.209
34020	-	14.30	1.00	-	-	0.113
30010	TR-011	15.87	1.00	5/8	-	0.126
32000	TR-012	15.87	1.20	5/8	-	0.150
30780	-	15.87	1.40	5/8	-	0.172
31040	TR-014	15.87	1.58	5/8	1/16	0.192
32250	-	15.87	2.50	5/8	-	0.284
34450	-	15.87	2.93	-	-	0.323
32240	-	15.87	3.00	5/8	-	0.328
30450	TR-250	15.87	3.17	5/8	1/8	0.342
31780	-	15.87	4.20	5/8	-	0.417
32530	-	16.00	5.00	-	-	0.468
34650	-	16.20	2.40	-	-	0.282
34630	-	16.20	3.00	-	-	0.337
34310	-	16.20	4.20	-	-	0.428
34800	-	16.20	4.60	-	-	0.454
32840	-	17.70	3.10	-	-	0.385
31340	-	18.00	3.55	-	-	0.436
34620	-	18.80	3.35	-	-	0.440
30700	TR-927	19.05	1.00	3/4	-	0.153
32450	TR-019	19.05	1.20	3/4	-	0.182
30030	-	19.05	1.30	3/4	-	0.196
30660	TR-020	19.05	1.58	3/4	1/16	0.235
32080	TR-021	19.05	2.50	3/4	-	0.352
30050	-	19.05	3.50	3/4	-	0.463
31790	-	19.05	4.45	3/4	-	0.552
33430	-	19.05	5.52	3/4	-	0.635
34340	-	19.05	6.35	3/4	1/4	0.685
33420	-	19.08	0.80	-	-	0.124
34050	-	19.30	1.25	-	-	0.192
34660	-	19.50	3.25	-	-	0.449
30550	-	19.80	3.15	-	-	0.446
33480	-	20.00	5.10	-	-	0.646
32300	-	20.00	5.75	-	-	0.696
33940	-	20.00	6.50	-	-	0.746
34510	-	20.63	1.80	13/16	-	0.288
33620	-	20.63	2.36	13/16	-	0.366
34040	-	20.70	2.65	-	-	0.407
33740	-	21.34	2.77	-	-	0.437
31550	-	21.50	5.50	-	-	0.748
33860	-	21.80	3.45	-	-	0.538
30280	-	22.00	3.00	-	-	0.485
33350	-	22.00	3.40	-	-	0.538
32830	-	22.00	3.90	-	-	0.613
33690	-	22.00	6.75	-	-	0.875
30060	TR-032	22.22	1.00	7/8	-	0.180
34850	TR-952	22.22	1.24	7/8	-	0.221
31030	-	22.22	1.40	7/8	-	0.248
31170	TR-035	22.22	1.58	7/8	1/16	0.277
31290	TR-862	22.22	2.00	7/8	-	0.344
34580	-	22.22	2.50	7/8	-	0.419
31320	-	22.22	3.17	7/8	1/8	0.513
30530	-	22.22	4.00	7/8	-	0.619

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34720	-	22.22	5.06	7/8	-	0.738
34570	-	23.00	1.00	-	-	0.187
31500	-	23.00	4.50	-	-	0.708
30320	-	23.80	2.38	-	3/32	0.433
32620	-	24.00	1.10	-	-	0.214
33930	-	24.00	3.50	-	-	0.610
33570	-	24.60	4.70	-	-	0.795
34810	-	24.60	5.40	-	-	0.881
31750	-	25.00	3.50	-	-	0.640
30570	TR-039	25.40	1.00	1	-	0.207
32220	-	25.40	1.10	1	-	0.227
30080	-	25.40	1.20	1	-	0.247
30090	TR-040	25.40	1.58	1	1/16	0.320
30840	TR-041	25.40	2.00	1	-	0.398
34560	-	25.40	2.30	1	-	0.452
30470	-	25.40	3.80	1	-	0.698
34440	-	25.40	5.20	1	-	0.893
33950	-	25.40	5.85	1	-	0.972
30440	-	25.40	6.35	1	1/4	1.028
30520	-	25.40	7.45	1	-	1.137
32520	-	26.00	4.00	-	-	0.748
33670	-	26.70	2.00	-	-	0.420
32860	TR-997	26.70	2.67	-	-	0.545
34240	-	26.80	3.40	-	-	0.676
31850	-	26.90	4.70	-	-	0.887
32800	-	27.00	4.60	-	-	0.876
33700	-	27.00	9.25	-	-	1.396
34680	-	27.50	2.50	-	-	0.531
30430	-	28.00	1.30	-	-	0.295
34490	-	28.00	6.40	-	-	1.175
34790	TR-378	28.57	1.00	1.1/8	-	0.234
30120	-	28.57	1.10	1.1/8	-	0.257
30940	-	28.57	1.30	1.1/8	-	0.301
33830	-	28.57	2.38	1.1/8	3/32	0.530
34360	-	28.57	4.76	1.1/8	3/16	0.963
34750	-	28.57	6.15	1.1/8	-	1.172
33900	-	28.60	4.85	-	-	0.979
31240	-	29.00	4.50	-	-	0.937
33750	-	29.20	5.00	-	-	1.029
34030	-	29.80	4.90	-	-	1.037
34470	-	30.00	5.20	-	-	1.096
34780	-	30.16	4.83	1.3/16	-	1.040
34640	-	30.16	5.18	1.3/16	-	1.100
34690	-	30.16	7.33	1.3/16	-	1.422
30140	TR-1157	31.75	1.10	1.1/4	-	0.287
30740	TR-055	31.75	1.58	1.1/4	1/16	0.405
30180	-	31.75	1.80	1.1/4	-	0.458
30310	-	31.75	2.00	1.1/4	-	0.506
30170	TR-058	31.75	3.17	1.1/4	1/8	0.770
30190	-	31.75	6.00	1.1/4	-	1.313
34330	-	31.75	6.35	1.1/4	1/4	1.371
34500	-	32.00	1.30	-	-	0.339
31690	-	32.00	7.50	-	-	1.562
31450	-	32.20	7.60	-	-	1.571

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TABELADOS

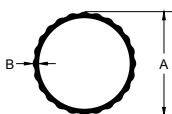


33680	-	33.30	5.95	-	-	1.383
33770	-	33.30	7.65	-	-	1.668
33470	-	33.32	8.71	-	-	1.822
32700	-	33.40	6.80	-	-	1.537
33140	-	34.50	7.50	-	-	1.721
30200	-	34.92	1.00	1.3/8	-	0.288
33760	-	34.92	3.50	1.3/8	-	0.935
32190	-	35.00	1.10	-	-	0.317
30980	-	35.00	5.50	-	-	1.379
34190	-	35.00	5.75	-	-	1.430
30970	-	35.00	13.20	-	-	2.446
33210	-	35.30	6.15	-	-	1.524
34060	-	37.50	1.58	-	1/16	0.482
30500	-	38.00	7.00	-	-	1.845
30210	-	38.10	1.00	1.1/2	-	0.315
32040	-	38.10	1.28	1.1/2	-	0.401
30720	TR-070	38.10	1.58	1.1/2	1/16	0.490
34550	-	38.10	2.00	1.1/2	-	0.614
33790	-	38.10	2.40	1.1/2	-	0.728
30220	TR-073	38.10	3.17	1.1/2	1/8	0.941
33200	TR-1164	38.10	6.35	1.1/2	1/4	1.714
34250	-	38.10	7.94	1.1/2	-	2.035
34110	-	38.10	9.85	1.1/2	-	2.365
34300	-	40.00	2.00	-	-	0.646
34460	-	41.00	5.75	-	-	1.723
32750	-	41.27	1.58	1.5/8	1/16	0.533
33220	-	41.50	1.10	-	-	0.378
34120	-	42.00	1.75	-	-	0.599
31740	-	42.00	8.00	-	-	2.312
33920	-	42.20	3.60	-	-	1.181
34480	-	42.90	6.95	-	-	2.124
31620	-	42.90	7.95	-	-	2.362
33780	-	42.90	10.55	-	-	2.901
34820	-	43.50	1.50	-	-	0.536
30330	-	43.70	15.10	-	-	3.671
32380	-	43.70	16.10	-	-	3.777
34280	-	43.80	2.85	-	-	0.992
30240	-	44.45	1.10	1.3/4	-	0.405
31600	-	44.45	1.58	1.3/4	1/16	0.576
34070	TR-086	44.45	3.17	1.3/4	1/8	1.112
33030	-	44.45	6.00	1.3/4	-	1.961
33490	TR-1055	45.50	5.60	-	-	1.899
32490	-	46.00	6.50	-	-	2.182
32950	-	47.60	8.25	-	-	2.759
34600	TR-094	47.60	9.12	-	-	2.983
34760	-	47.62	8.75	1.7/8	-	2.891
34420	-	48.00	4.00	-	-	1.496
33630	-	50.00	9.50	-	-	3.270
30350	-	50.80	1.00	2	-	0.423
34320	-	50.80	1.30	2	-	0.547
30380	-	50.80	1.50	2	-	0.629
31510	TR-098	50.80	1.58	2	1/16	0.661
32470	TR-099	50.80	2.00	2	-	0.830
34260	TR-921	50.80	4.00	2	-	1.591

Retornar ao Sumário • Versão Digital

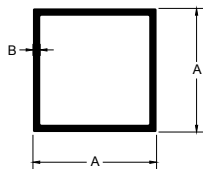
33870	-	51.10	8.65	-	-	3.121
34670	-	54.00	13.50	-	-	4.647
32930	-	55.20	9.75	-	-	3.767
33270	-	58.80	10.75	-	-	4.391
31390	-	63.30	1.58	-	1/16	0.829
30880	TR-114	63.50	3.17	2.1/2	1/8	1.626
32850	-	63.50	3.40	2.1/2	-	1.737
34740	-	63.50	8.50	-	-	3.974
31230	-	66.00	10.00	-	-	4.760
33510	-	69.00	3.00	-	-	1.683
31800	-	69.85	1.10	2.3/4	-	0.643
34730	-	75.00	14.50	-	-	7.457
34380	-	76.20	1.25	3	-	0.796
34700	TR-248	76.20	2.20	3	-	1.384
34710	-	76.20	3.00	3	-	1.867
35260	TR-160	101.60	1.50	4	-	1.278
35300	-	150.00	5.00	-	-	6.172
35290	-	156.00	8.00	-	-	10.080

TUBO REDONDO ESTRIADO



CÓDIGO		DIMENSÕES				PESO (Kg/m)
HYSPEX	EQUIVALÊNCIA	MILÍMETROS		POLEGADAS		
		A	B	A	B	
32650	-	19.05	1.20	3/4	-	0.182
30670	-	22.22	1.40	7/8	-	0.247
32680	-	25.40	1.10	1	-	0.227
31480	-	25.40	1.40	1	-	0.285
32770	-	28.57	1.40	1.1/8	-	0.323

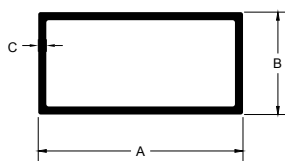
TUBO QUADRADO



CÓDIGO		DIMENSÕES				PESO (Kg/m)
HYSPEX	EQUIVALÊNCIA	MILÍMETROS		POLEGADAS		
		A	B	A	B	
40720	-	12.70	1.00	1/2	-	0.126
40760	-	15.87	0.80	5/8	-	0.131

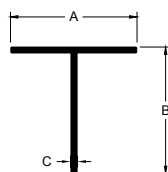
40810	TQ-076	15.87	1.00	5/8	-	0.161
40770	-	19.05	0.80	3/4	-	0.158
40730	TQ-004	19.05	1.00	3/4	-	0.196
40610	TQ-003	19.05	1.58	3/4	1/16	0.299
40750	-	25.40	0.80	1	-	0.213
40650	TQ-023	25.40	1.00	1	-	0.264
40600	TQ-009	25.40	1.58	1	1/16	0.408
40660	TQ-010	25.40	2.00	1	-	0.507
40590	-	27.60	1.10	-	-	0.316
40630L	-	38.10	0.80	1.1/2	-	0.323
40630	-	38.10	1.10	1.1/2	-	0.441
40680	-	38.10	1.40	1.1/2	-	0.557
40780	-	50.80	1.10	2	-	0.592
40670	-	50.80	1.30	2	-	0.698
40640	-	50.80	2.00	2	-	1.058
40790	TQ-072	76.20	2.00	3	-	1.609
40800	TQ-034	101.60	2.50	4	-	2.684

TUBO RETANGULAR



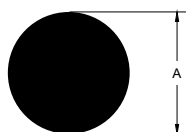
CÓDIGO		DIMENSÕES						PESO (Kg/m)
HYSPEX	EQUIVALÊNCIA	MILÍMETROS			POLEGADAS			
		A	B	C	A	B	C	
40010L	-	25.40	12.70	0.80	1	1/2	-	0.158
40010	-	25.40	12.70	1.00	1	1/2	-	0.195
40120	-	30.00	15.00	1.00	-	-	-	0.233
40040	-	30.00	18.20	1.20	-	-	-	0.298
40090	-	32.00	7.00	0.90	2	-	-	0.181
40080	TG-083	50.80	12.70	1.10	2	1/2	-	0.365
40060	TG-004	50.80	12.70	1.58	2	1/2	1/16	0.517
40070L	-	50.80	25.40	0.80	2	1	-	0.323
40070	TG-073	50.80	25.40	1.00	2	1	-	0.402
40030	-	50.80	25.40	1.58	2	1	1/16	0.625
40050	-	50.80	38.10	1.58	2	1.1/2	1/16	0.734
40100	-	76.20	38.10	1.40	3	1.1/2	-	0.846
40110	-	95.00	50.80	1.40	-	2	-	1.085
40160	-	101.60	50.80	1.30	4	2	-	1.055
40150	TG-072	101.60	50.80	2.00	4	2	-	1.609

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CÓDIGO		DIMENSÕES						PESO (Kg/m)
HYSPEX	EQUIVALÊNCIA	MILÍMETROS			POLEGADAS			
		A	B	C	A	B	C	
70480	PT-004	19.05	19.05	1.58	3/4	3/4	1/16	0.156
72413	-	25.40	25.40	1.00	1	1	-	0.135
73050	PT-009	25.40	25.40	1.58	1	1	1/16	0.210
71780	PT-010	25.40	25.40	3.17	1	1	1/8	0.409
70500	-	38.10	38.10	2.38	1 1/2	1 1/2	3/32	0.480
75820	-	50.80	44.70	3.20	2	2	-	0.839

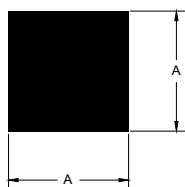
VERGALHÃO REDONDO



CÓDIGO		DIMENSÕES		PESO (Kg/m)
HYSPEX	EQUIVALÊNCIA	MILÍMETROS		
		A	A	
80440	-	4.00	-	0.034
80330	-	4.60	-	0.045
80490	-	5.55	7/32	0.066
80050	-	6.35	1/4	0.086
80070	VR-004	7.93	5/16	0.134
80030	VR-005	9.52	3/8	0.193
80110	VR-006	10.00	-	0.213
80340	VR-009	11.11	7/16	0.263
80060	VR-010	12.70	1/2	0.343
80360	VR-012	14.28	9/16	0.434
80020	VR-063	15.87	5/8	0.536
80480	VR-067	16.00	-	0.545
80310	VR-205	16.50	-	0.579
80190	-	18.70	-	0.744
80080	VR-016	19.05	3/4	0.772
80250	VR-088	20.00	-	0.851
80280	VR-105	22.00	-	1.030
80160	VR-018	22.22	7/8	1.051
80290	VR-080	25.00	-	1.330
80130	VR-020	25.40	1	1.373

80320	-	27.00	-	1.552
80410	VR-021	28.57	1.1/8	1.737
80210	VR-089	30.00	-	1.916
80140	VR-023	31.75	1	2.146
80170	VR-024	34.92	1.3/8	2.595
80350	VR-187	36.00	-	2.758
80120	VR-025	38.10	1.1/2	3.090
80260	VR-026	40.00	-	3.405
80510	-	49.00	-	5.110
80420	VR-090	50.00	-	5.321
80230	VR-031	57.15	2.1/4	6.952
80150	VR-033	63.50	2.1/2	8.582

VERGALHÃO QUADRADO



CÓDIGO		DIMENSÕES		PESO (Kg/m)
HYSPEX	EQUIVALÊNCIA	MILÍMETROS		
		A	A	
80530	-	4.76	3/16	0.061
80520	VQ-001	6.35	1/4	0.109
80450	VQ-003	9.52	3/8	0.246
80300	-	10.00	-	0.271
80430	VQ-004	11.11	7/16	0.335
80500	VQ-005	12.70	1/2	0.437
80390	-	15.00	-	0.610
80090	-	18.25	-	0.903
80240	VQ-009	25.40	1	1.748

VERGALHÃO SEXTAVADO

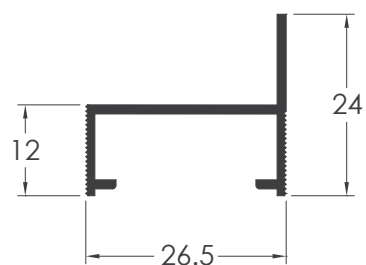


CÓDIGO		DIMENSÕES		PESO (Kg/m)
HYSPEX	EQUIVALÊNCIA	MILÍMETROS		
		A	A	
80460	VS-006	15.87	5/8	0.590
80470	-	17.46	11/16	0.714

77080

0.204 Kg/m

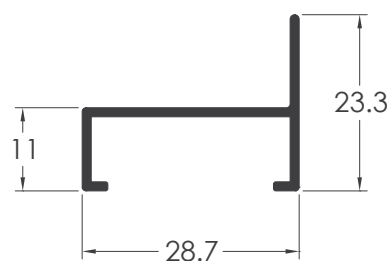
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73940

0.210 Kg/m

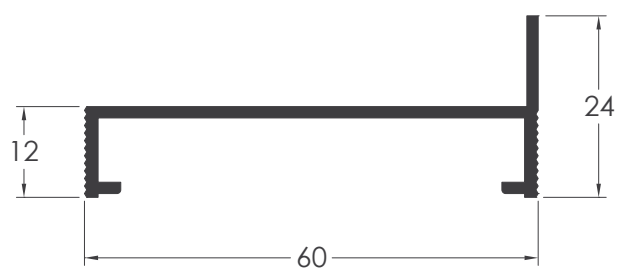
Y-120



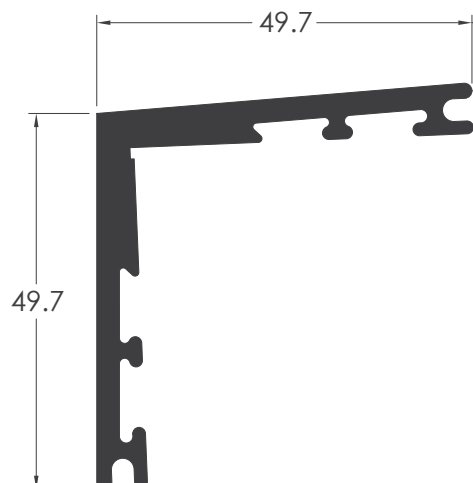
72301

0.409 Kg/m

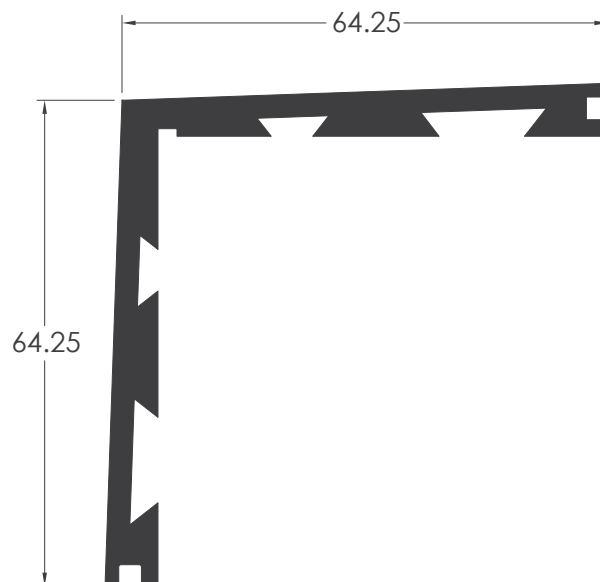
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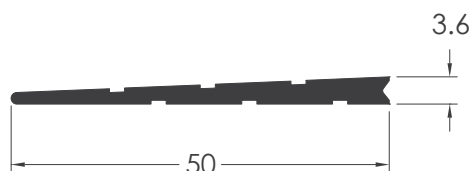
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CL-006	



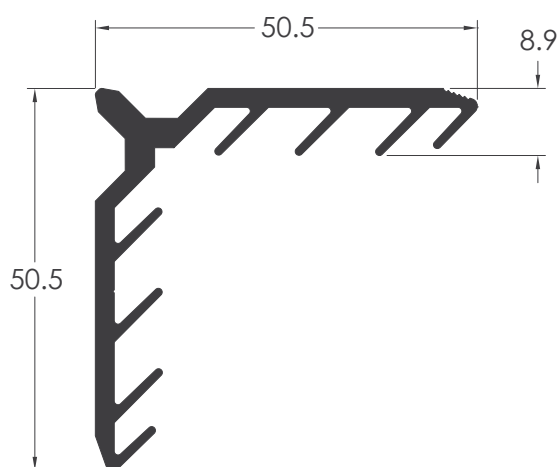
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CL-009	



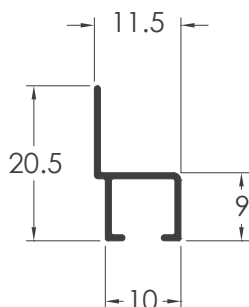
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CL-011	



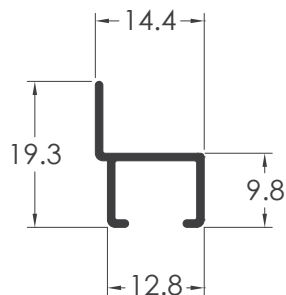
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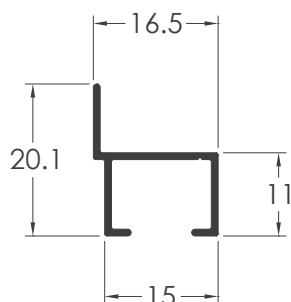
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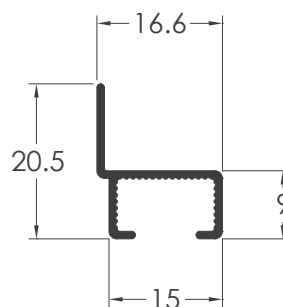
78740	0.119 Kg/m
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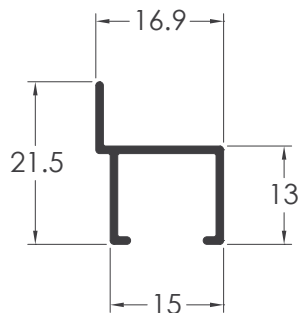
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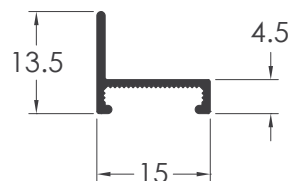
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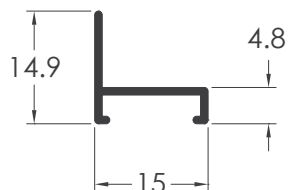
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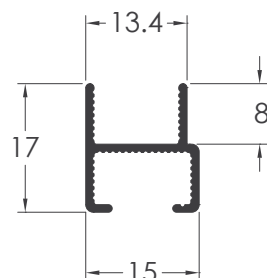
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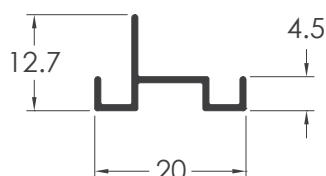
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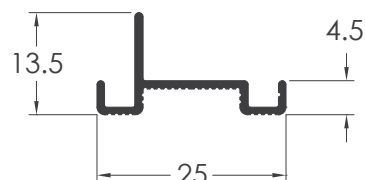
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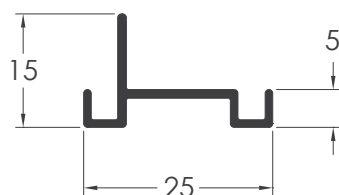
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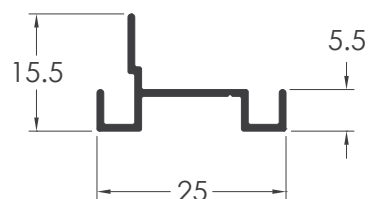
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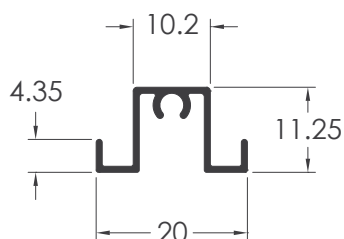
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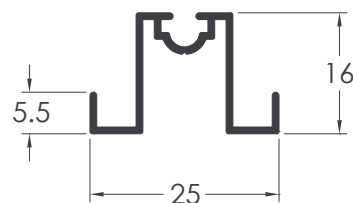
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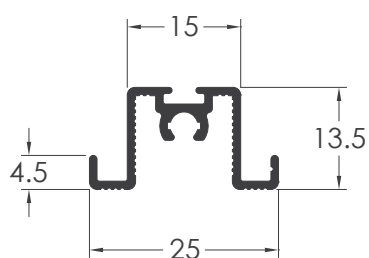
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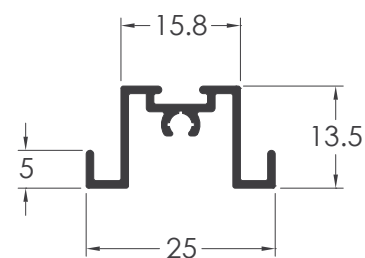
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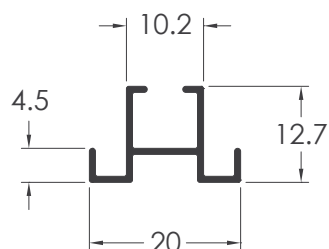
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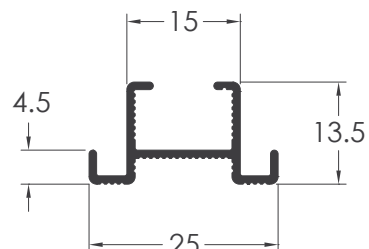
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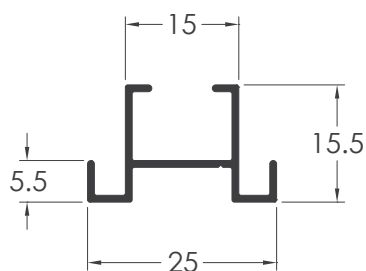
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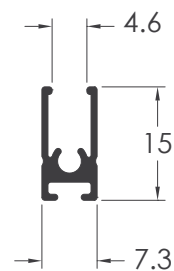
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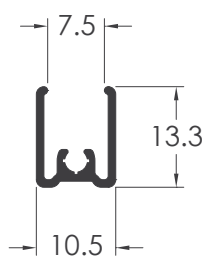
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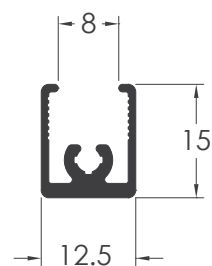
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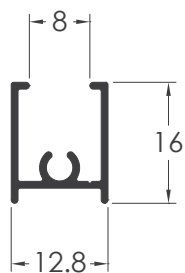
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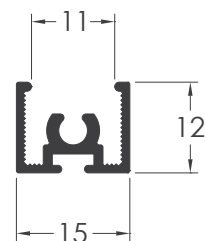
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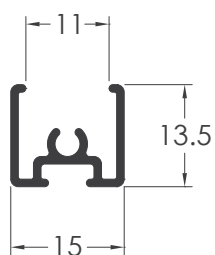
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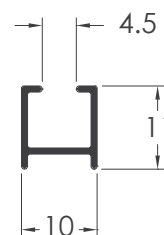
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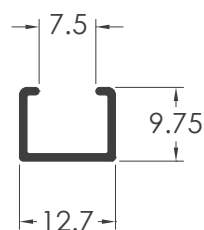
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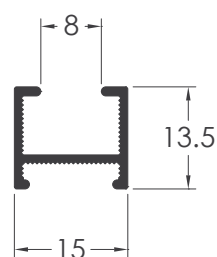
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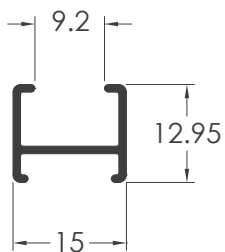
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72191	0.133 Kg/m
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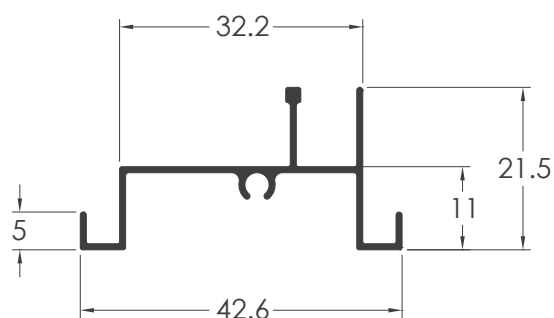
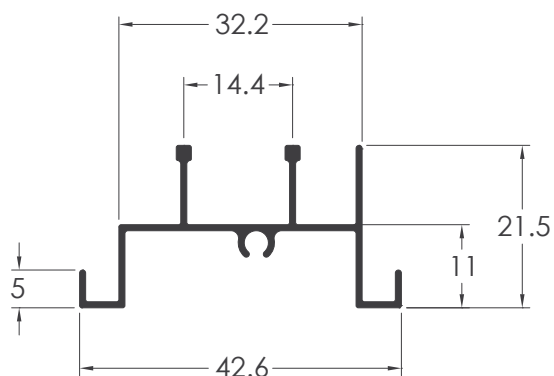


72251	0.118 Kg/m
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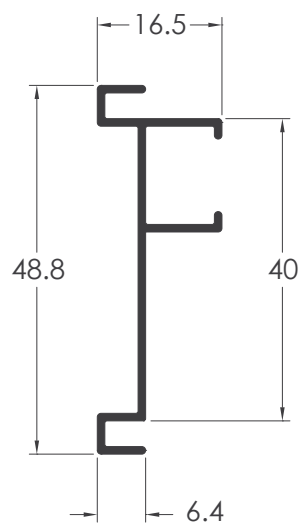
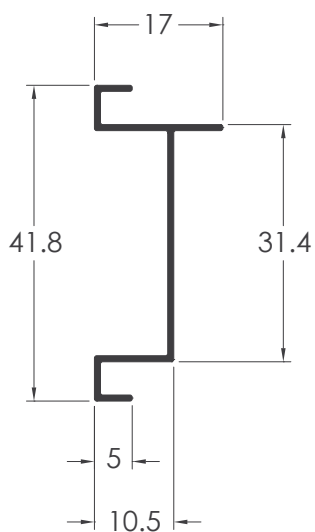
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72183	0.226 Kg/m
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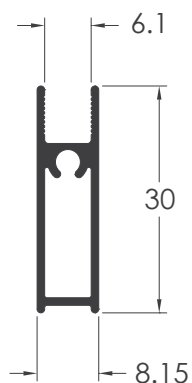


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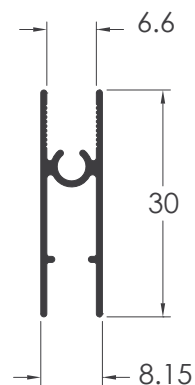
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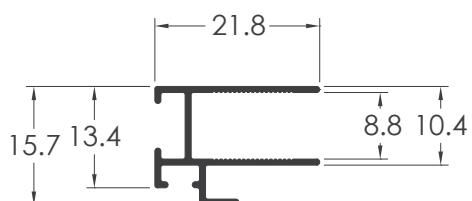
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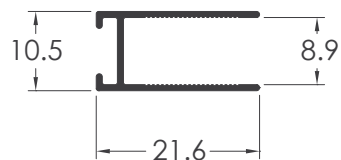
72187	0.164 Kg/m
-	



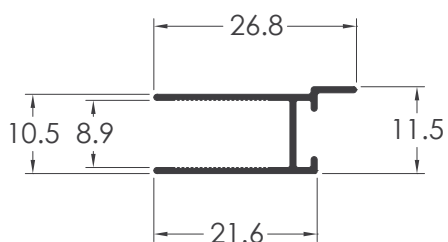
72184	0.147 Kg/m
-	



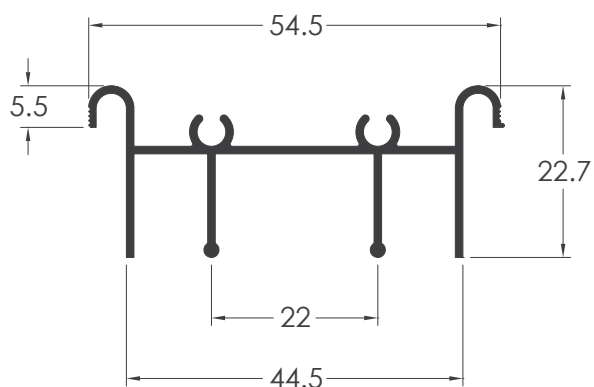
72185	0.114 Kg/m
-	



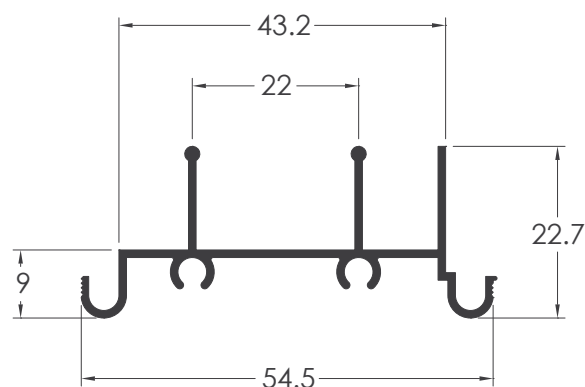
72217	0.127 Kg/m
-	



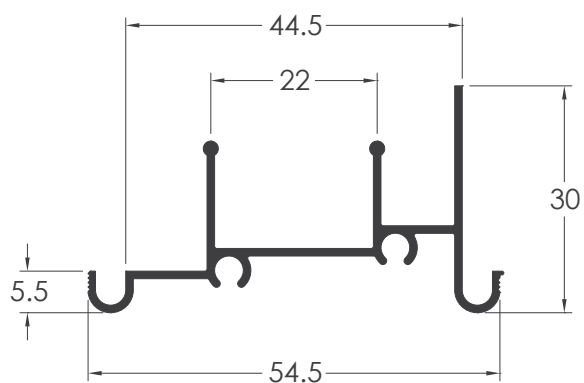
70178	0.407 Kg/m
-	



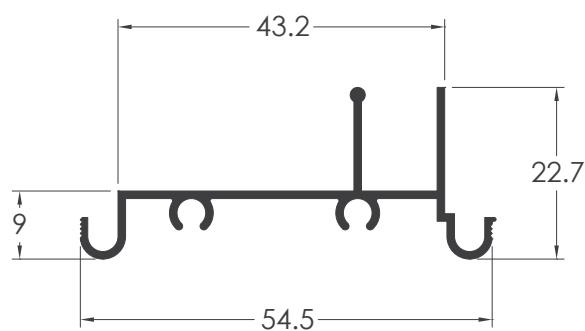
70111	0,370 Kg/m
-	



70172	0.378 Kg/m
-	

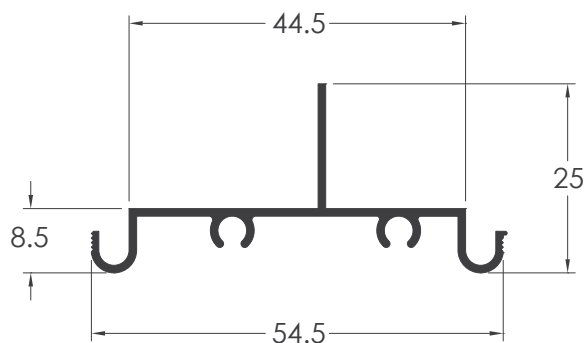
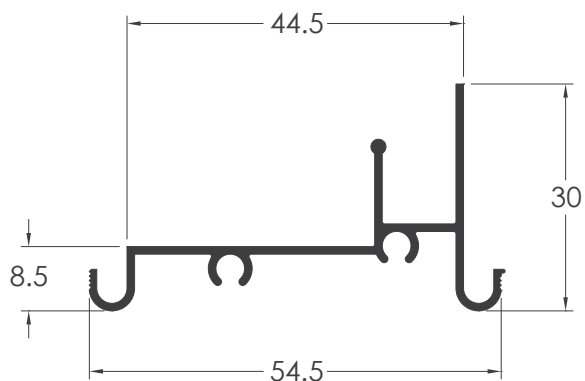


70112	0,329 Kg/m
-	



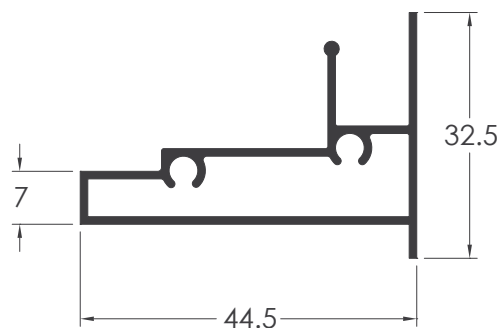
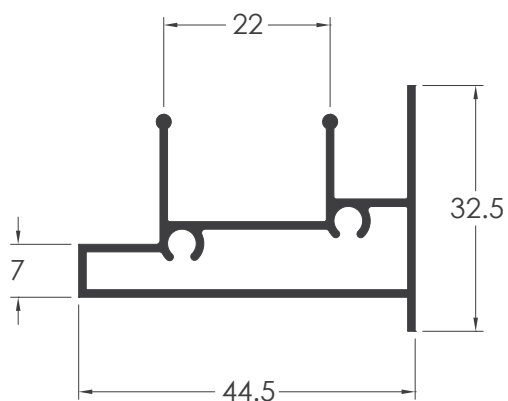
70173	0.378 Kg/m
-	

70174	0.296 Kg/m
-	

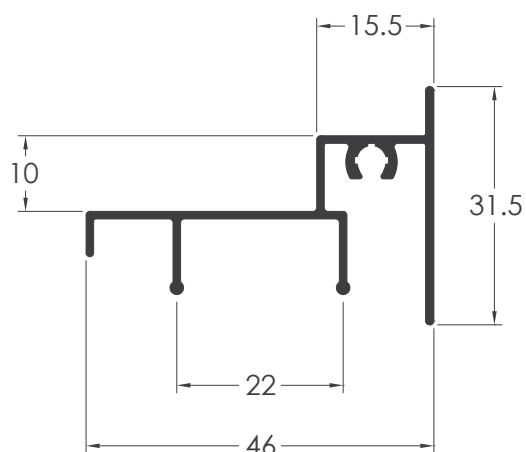


70181	0.466 Kg/m
-	

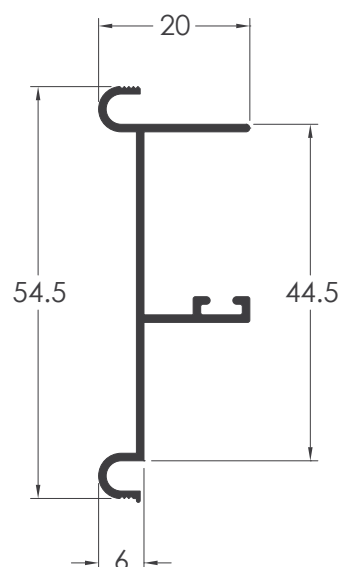
70179	0.424 Kg/m
-	



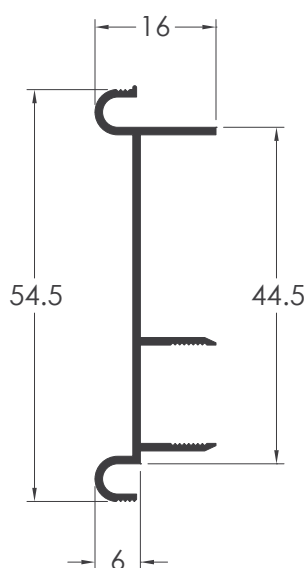
72082	0.364 Kg/m
-	



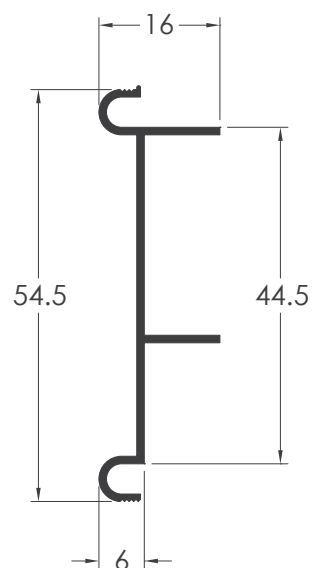
70177	0.281 Kg/m
-	



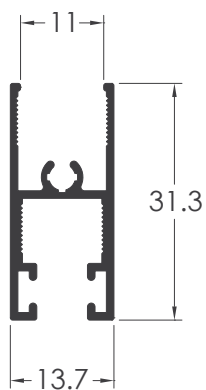
70108	0,261 Kg/m
-	



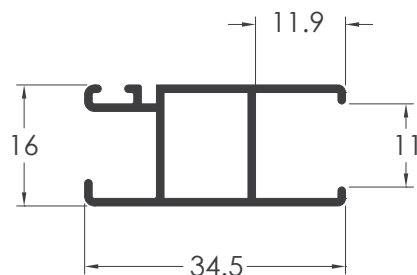
70109	0.240 Kg/m
-	



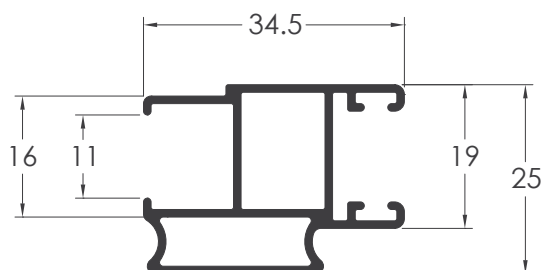
70176	0.281 Kg/m
-	



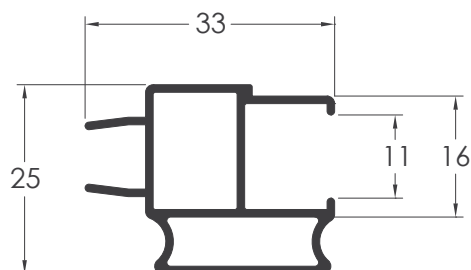
70175	0.292 Kg/m
-	



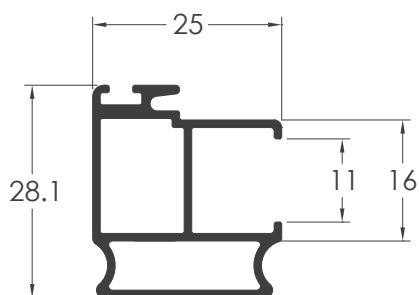
70168	0.430 Kg/m
-	



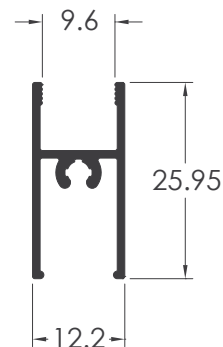
70182	0.382 Kg/m
-	



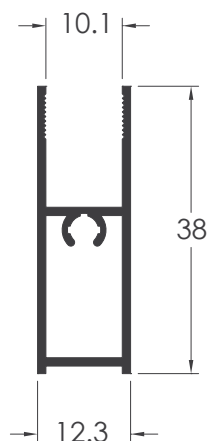
70169	0.382 Kg/m
-	



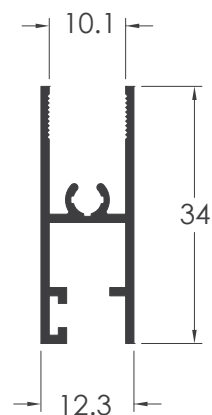
78820	0.208 Kg/m
-	



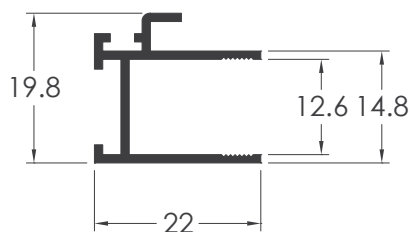
70113	0.305 Kg/m
-	



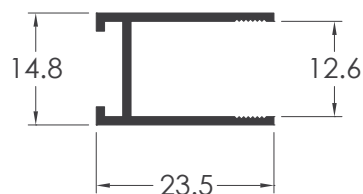
70114	0.276 Kg/m
-	



70115	0,212 Kg/m
-	

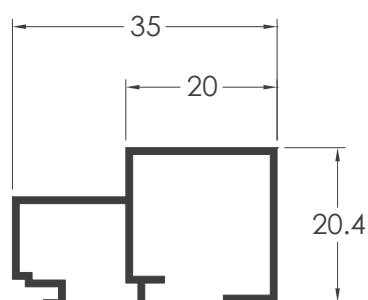
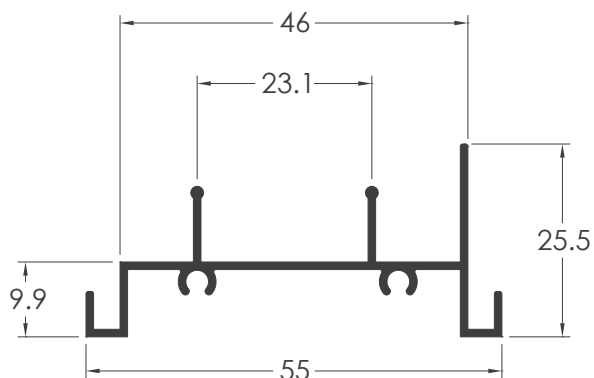


70116	0.181 Kg/m
-	



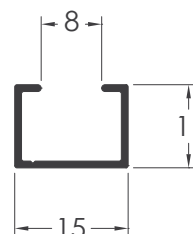
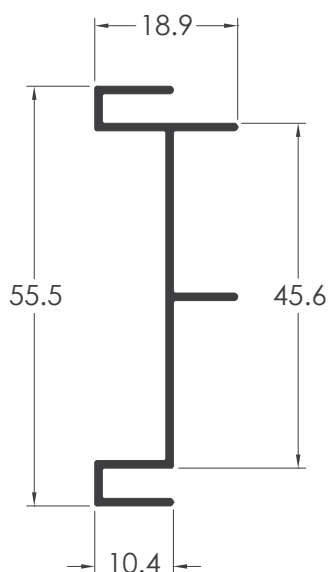
70156	0.365 Kg/m
-	

70155	0.258 Kg/m
-	

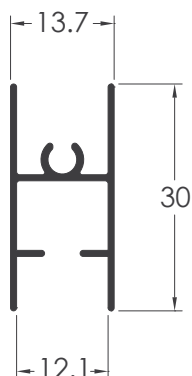


70154	0.297 Kg/m
-	

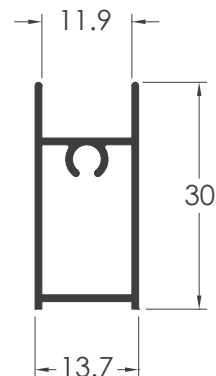
70157	0.098 Kg/m
-	



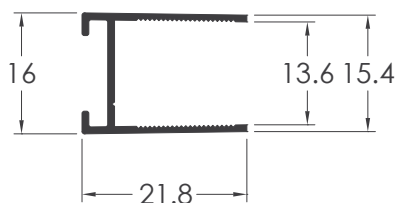
70053	0.195 Kg/m
-	



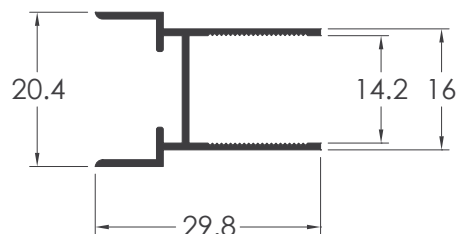
70054	0.227 Kg/m
-	



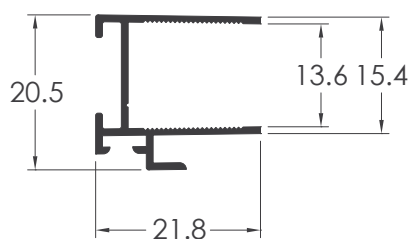
70058	0.140 Kg/m
-	



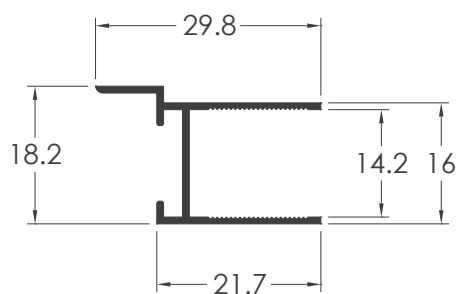
70163	0.189 Kg/m
-	



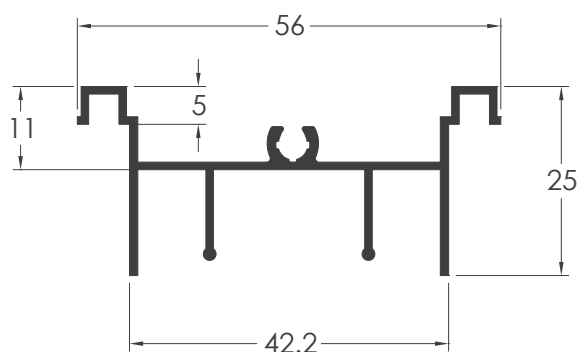
70052	0.173 Kg/m
-	



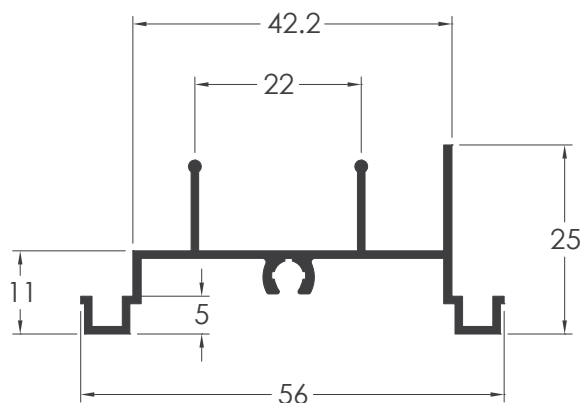
72232	0.164 Kg/m
-	



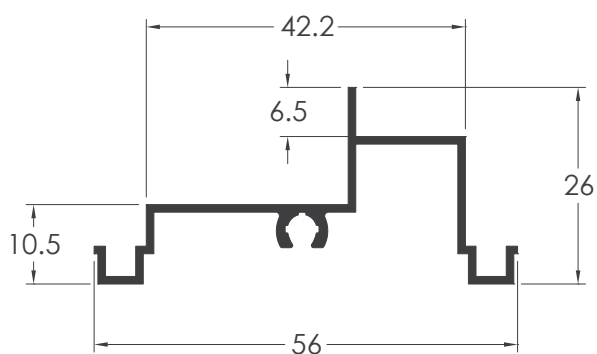
71029	0.424 Kg/m
-	



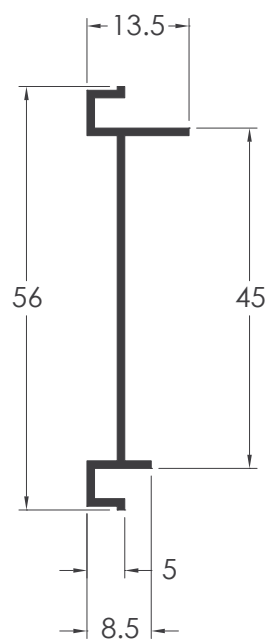
72019	0,382 Kg/m
-	



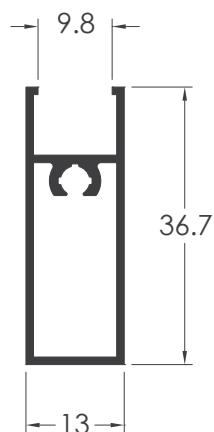
72073	0.333 Kg/m
-	



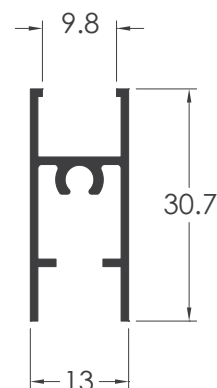
70062	0.227 Kg/m
-	



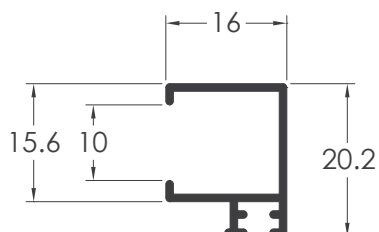
70048	0.301 Kg/m
-	



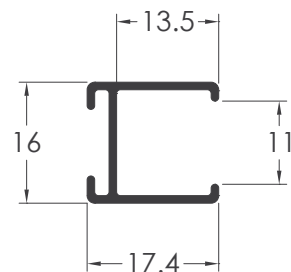
70049	0.243 Kg/m
-	



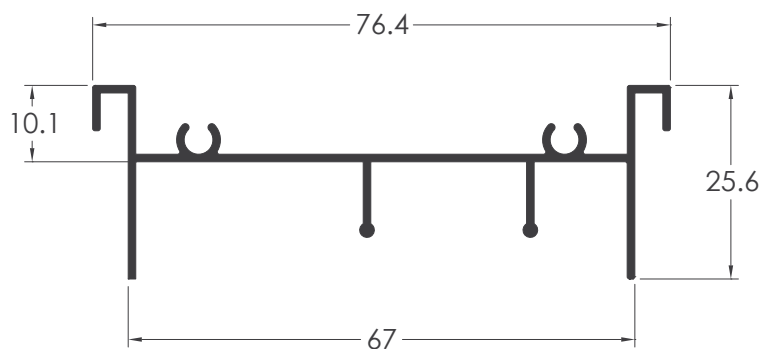
70084	0.171 Kg/m
-	



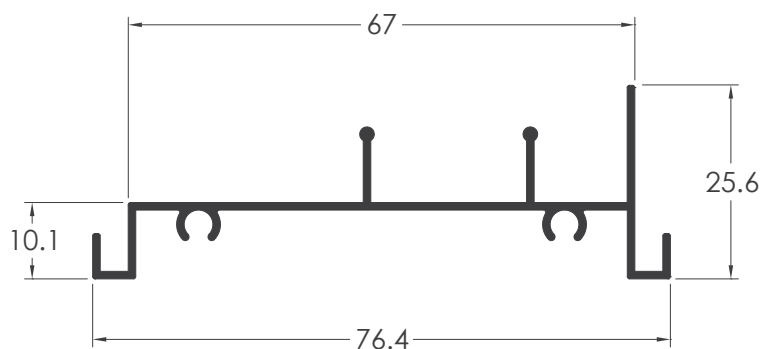
70089	0.152 Kg/m
-	



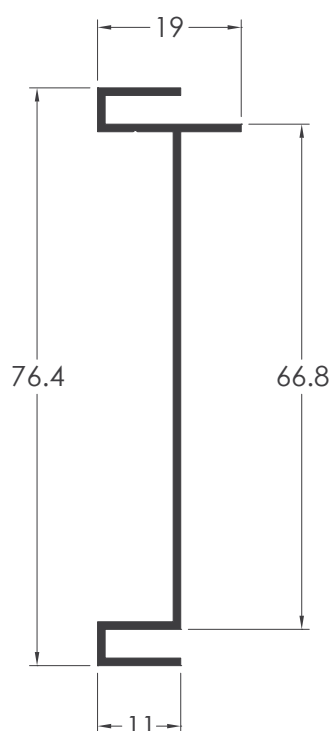
72116	0.477 Kg/m
-	



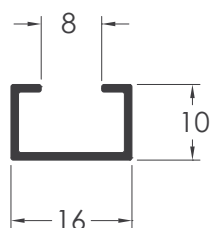
70059	0.434 Kg/m
-	



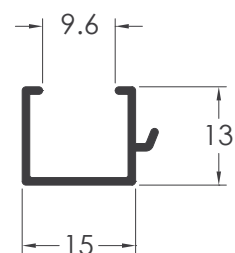
70056	0.336 Kg/m
-	



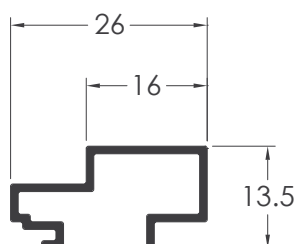
72236	0,108 Kg/m
-	



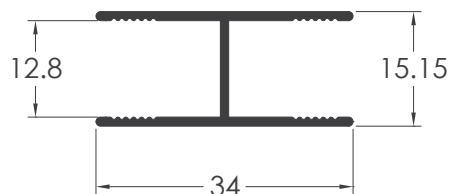
78800	0.125 Kg/m
-	



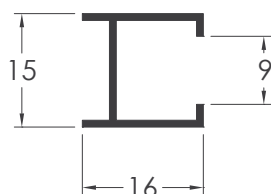
72233	0,178 Kg/m
-	



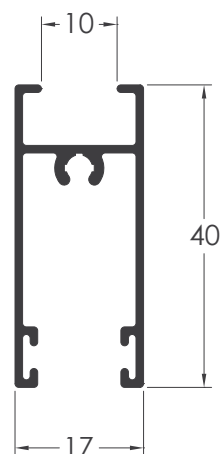
78880	0.247 Kg/m
-	



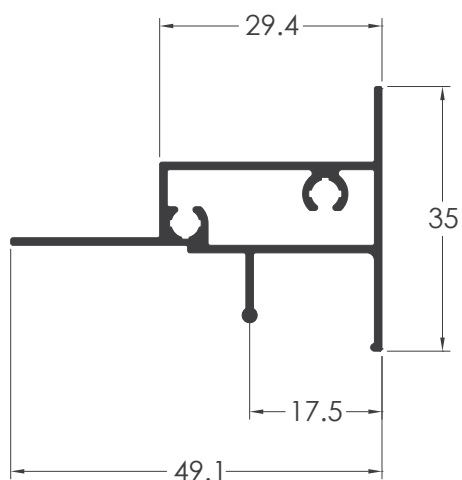
70046	0.120 Kg/m
-	



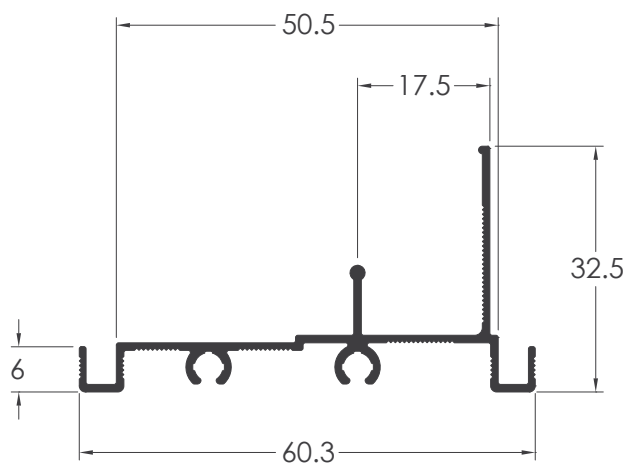
72126	0.345 Kg/m
-	



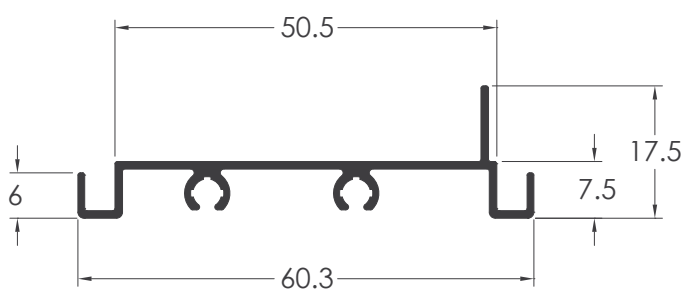
72243	0.426 Kg/m
-	



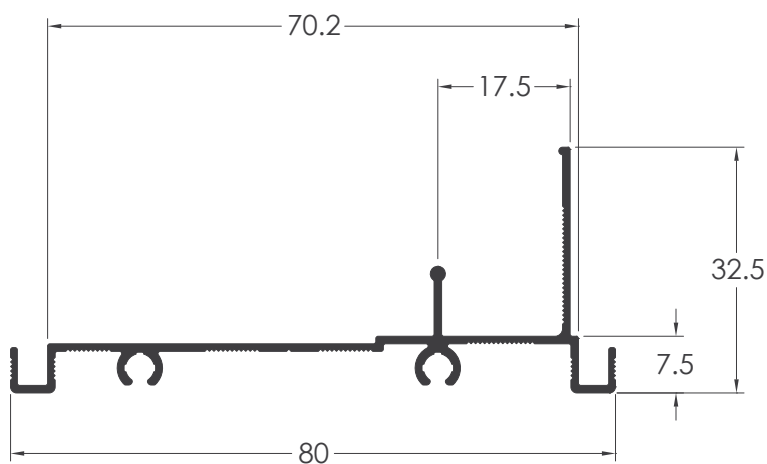
72204	0.368 Kg/m
-	



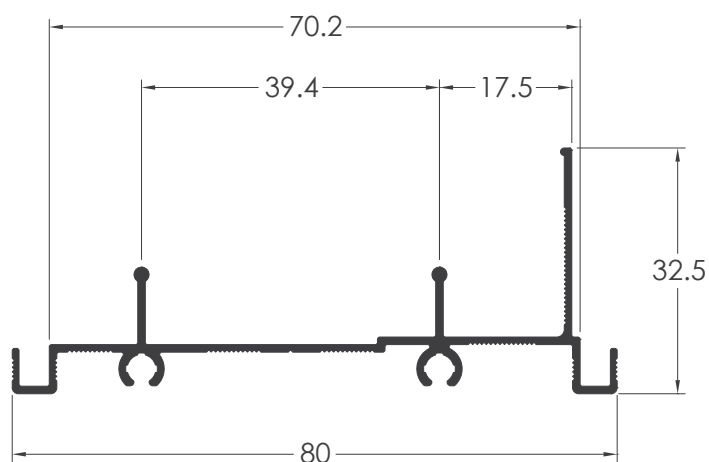
72242	0.326 Kg/m
-	



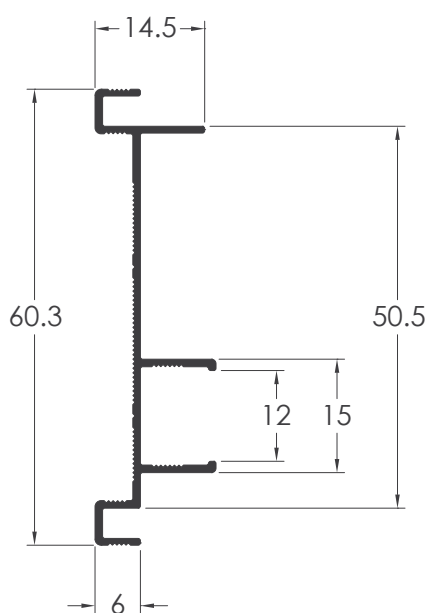
72203	0.418 Kg/m
-	



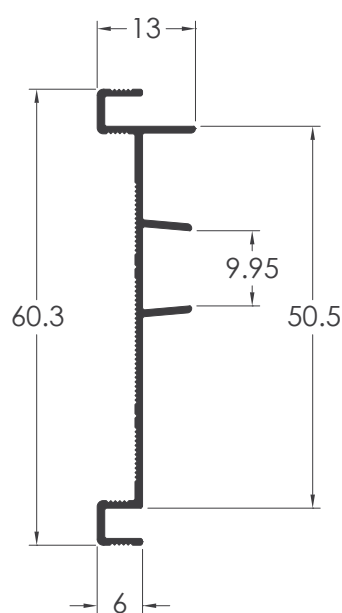
72202	0.449 Kg/m
-	



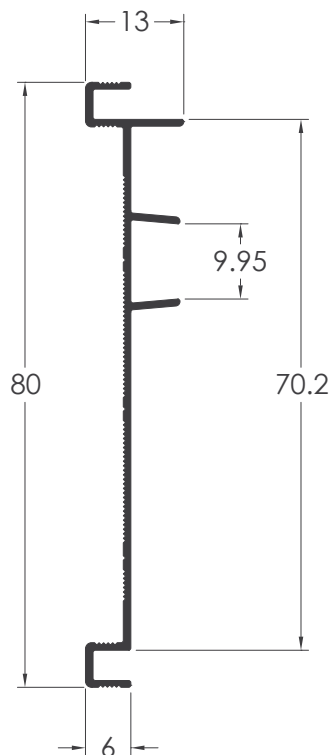
72199	0.268 Kg/m
-	



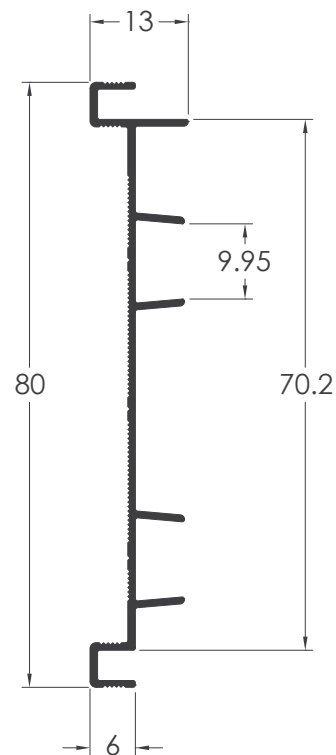
72201	0.243 Kg/m
-	



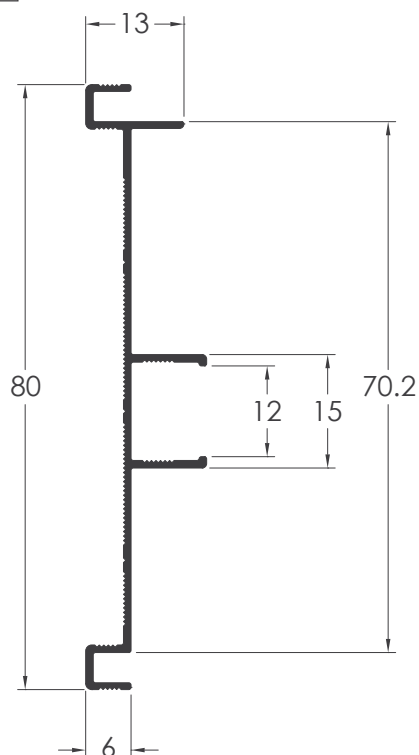
72198	0.290 Kg/m
-	



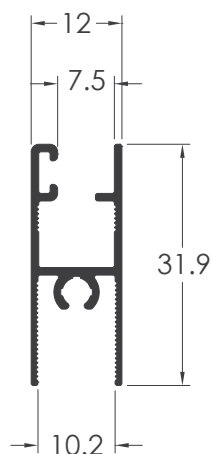
72197	0.322 Kg/m
-	



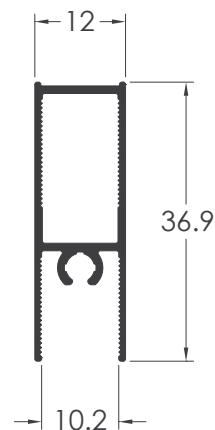
72196	0.311 Kg/m
-	



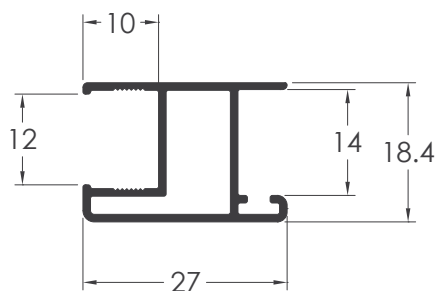
72212	0.234 Kg/m
-	



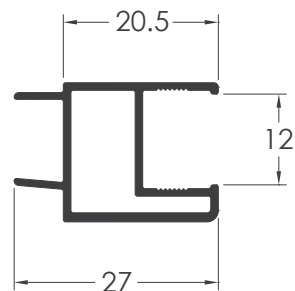
72213	0.254 Kg/m
-	



72209	0.270 Kg/m
-	

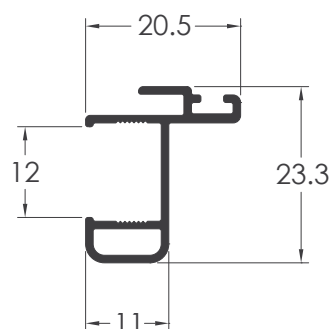
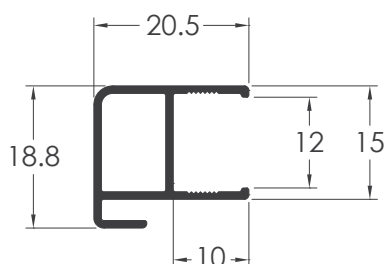


72211	0.267 Kg/m
-	



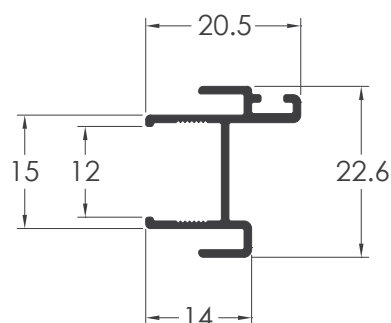
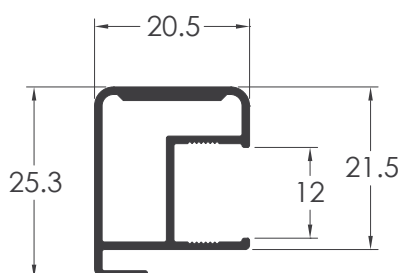
72205	0.204 Kg/m
-	

72207	0.206 Kg/m
-	

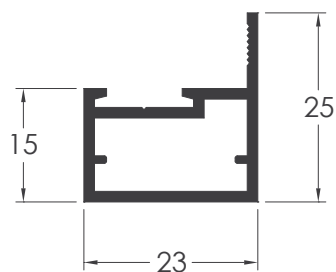


72206	0.294 Kg/m
-	

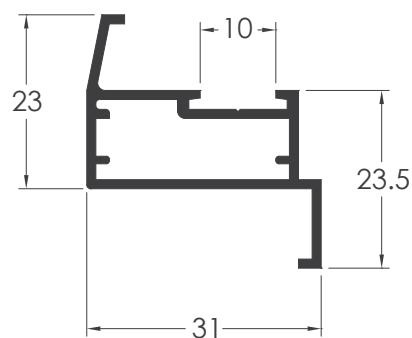
72208	0.195Kg/m
-	



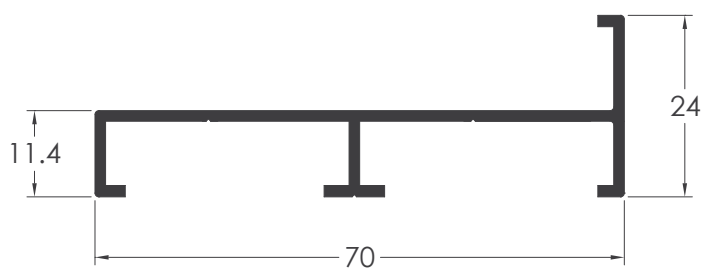
73880	0.333 Kg/m
-	



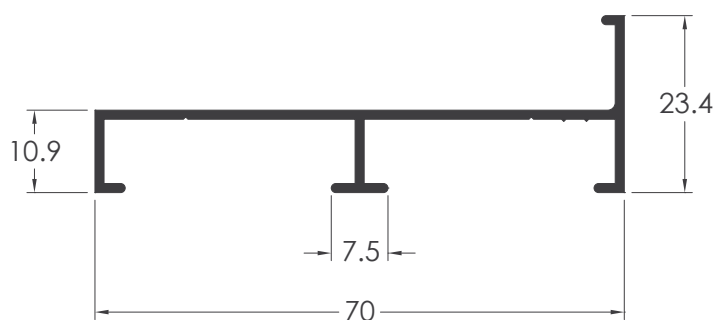
73870	0.374 Kg/m
P-518	



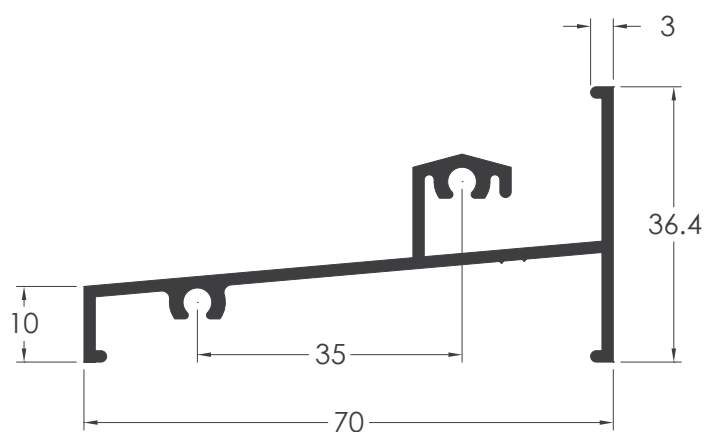
73910	0.482 Kg/m
E-227	



75880	0.405 Kg/m
-	



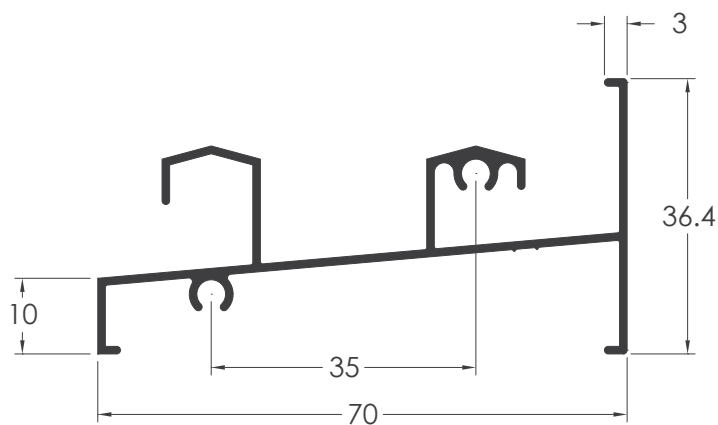
75890	0.673 Kg/m
Z-174	



75900

0553 Kg/m

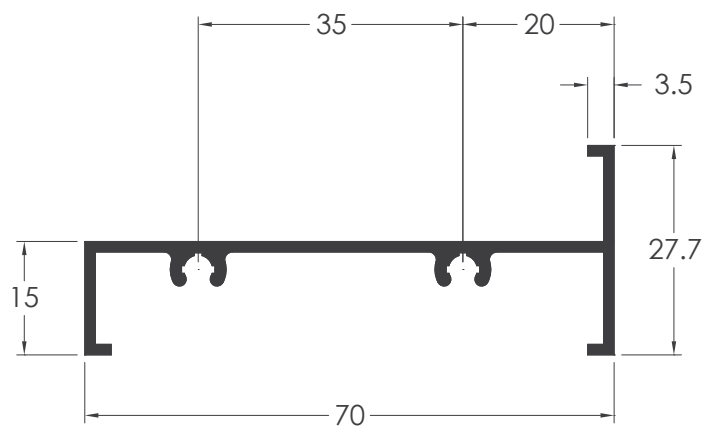
Z-176



75910

0.531 Kg/m

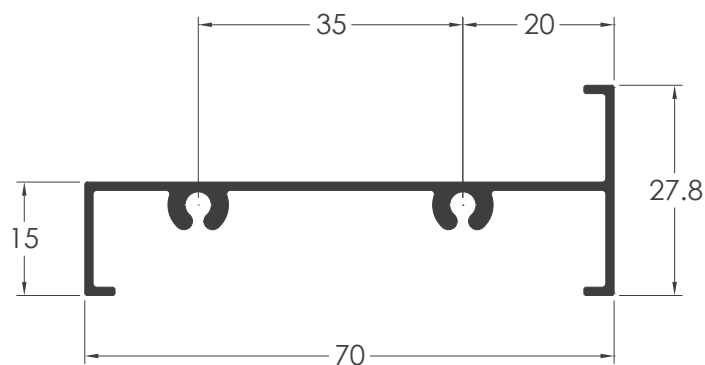
Z-175



76530

0.493 Kg/m

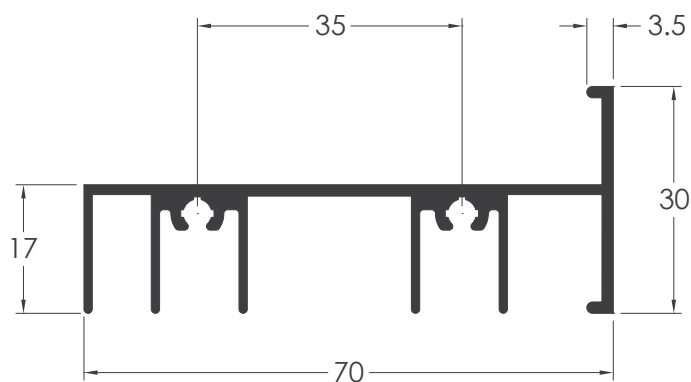
Z-175



75920

0.760 Kg/m

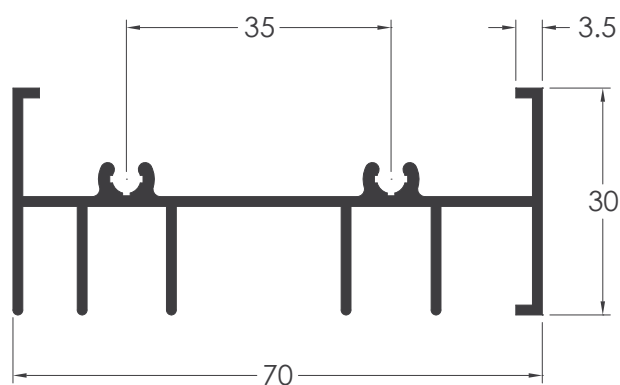
E-221



75930

0.773 Kg/m

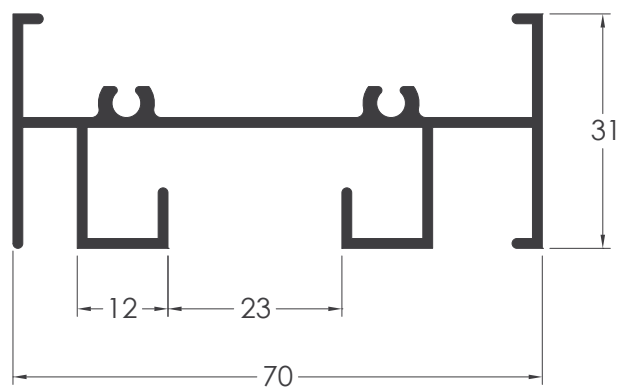
N-1581



71024

0.808 Kg/m

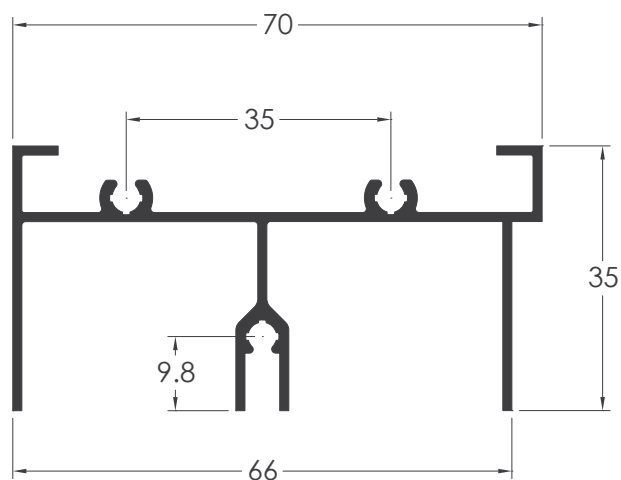
25-803



71026

0.706 Kg/m

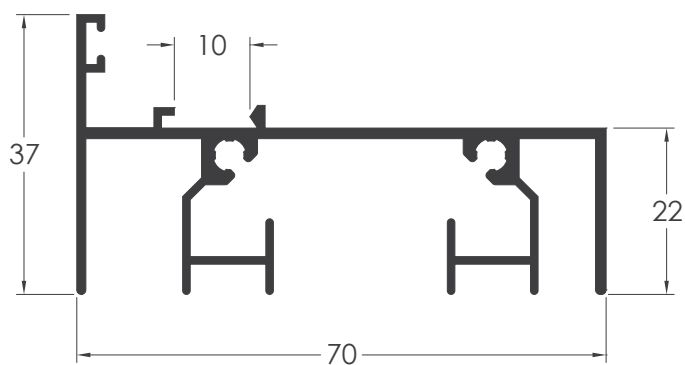
25-584



71012

0.813 Kg/m

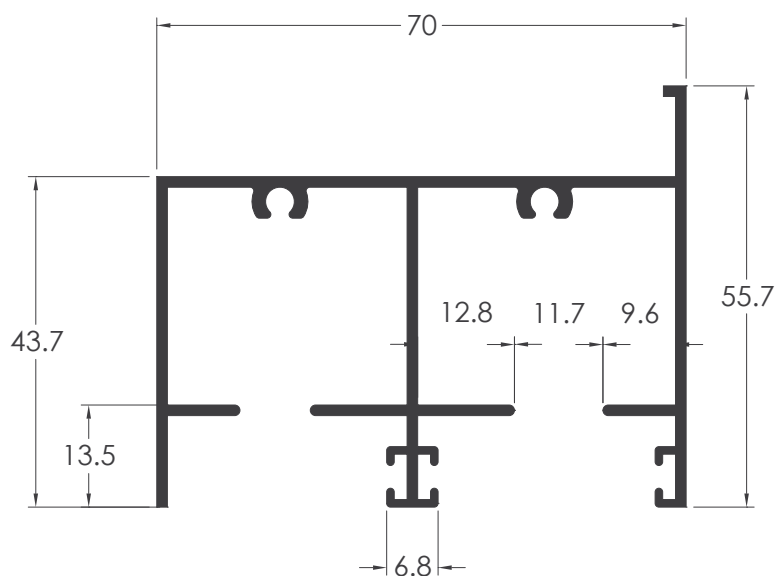
25-122



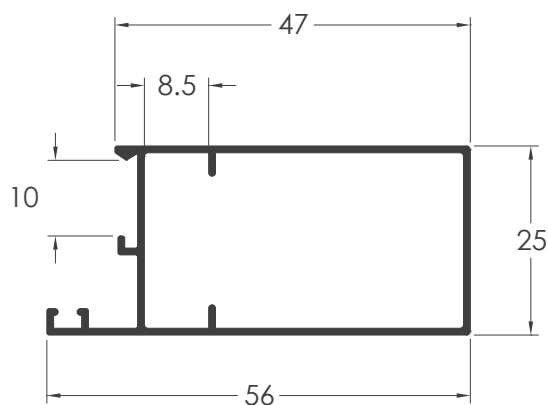
71027

1.120 Kg/m

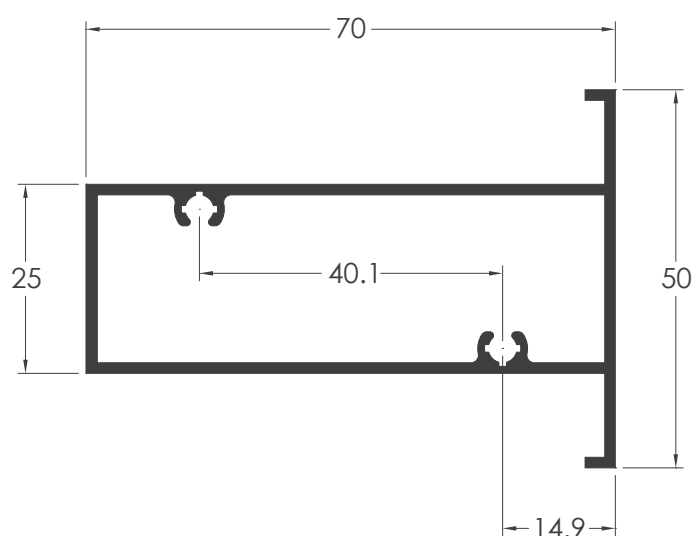
25-701



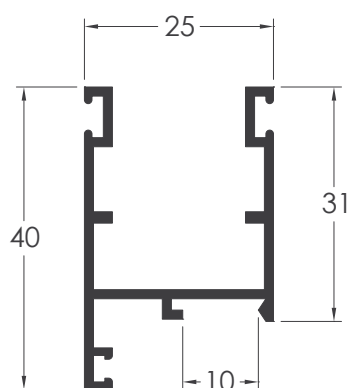
76540	0.409 Kg/m
P-318L	



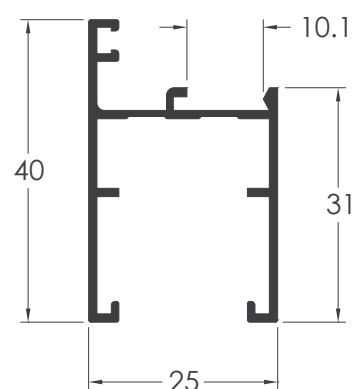
71019	0.885 Kg/m
FC070	



71001	0.399 Kg/m
Y-196	



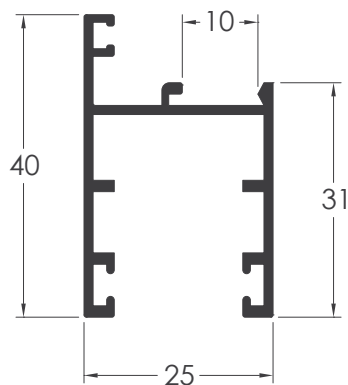
71003	0.349 Kg/m
Y-195L	



72630

0.420 Kg/m

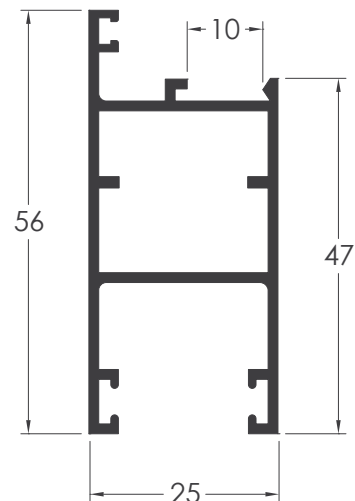
Y-195



71021

0.627 Kg/m

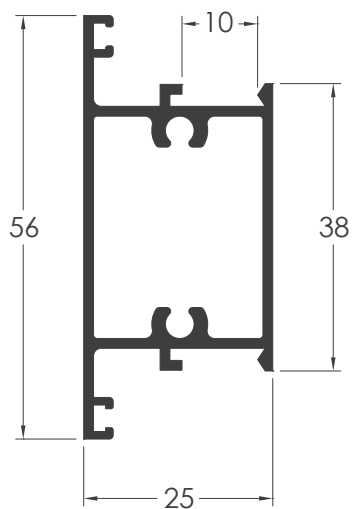
A-048



71005

0.649 Kg/m

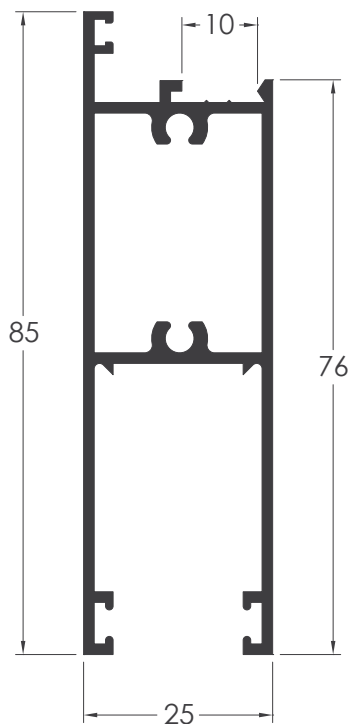
P-319



71018

0.960 Kg/m

A-139

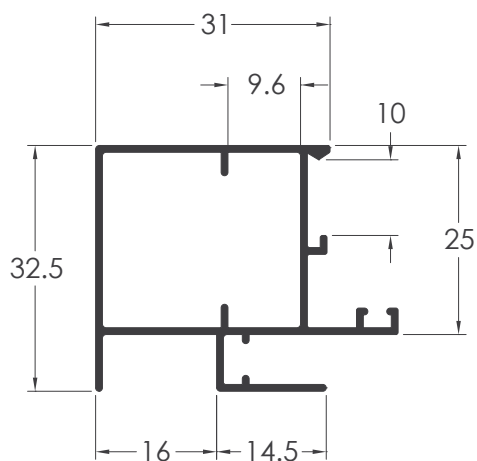


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73770

0.406 Kg/m

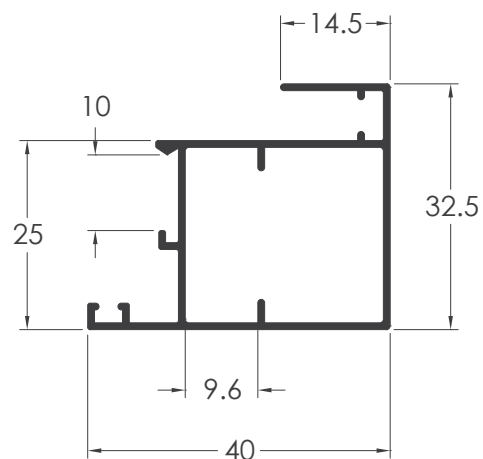
P-152



73780

0.387 Kg/m

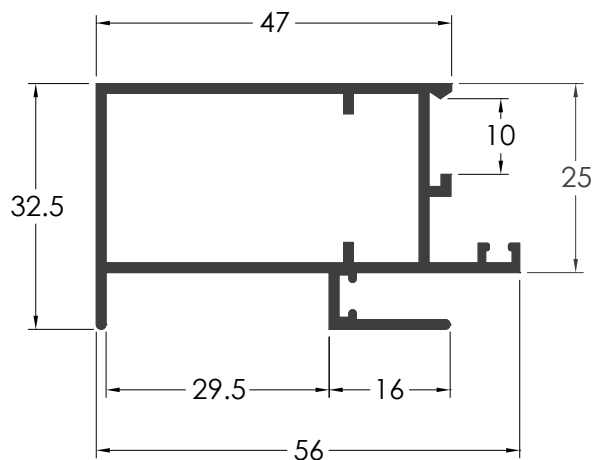
P-151



71022

0.686 Kg/m

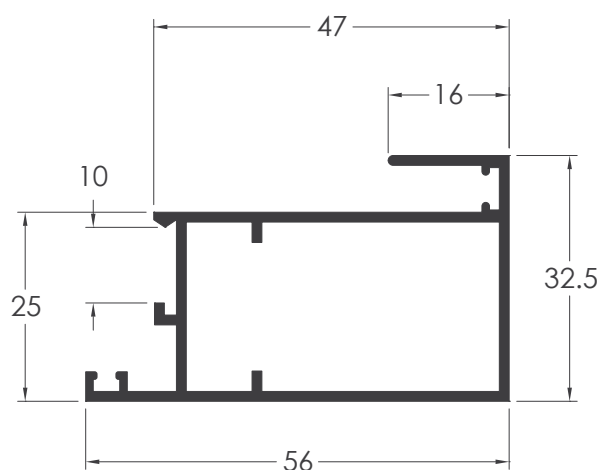
25-506



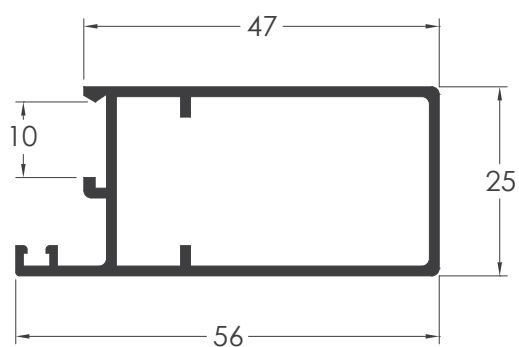
71023

0.660 Kg/m

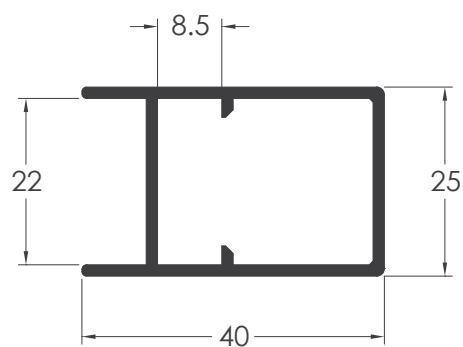
25-507



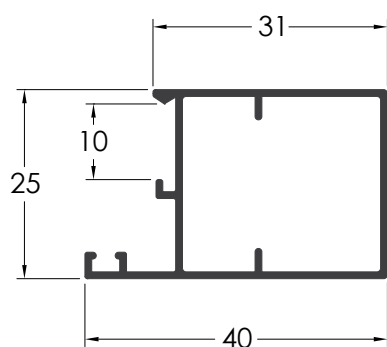
72950	0.575 Kg/m
P-318	



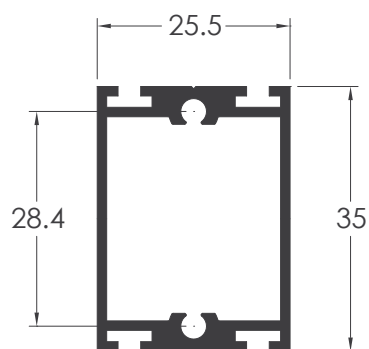
73790	0.463 Kg/m
A-055	



72640	0.331Kg/m
P-140	

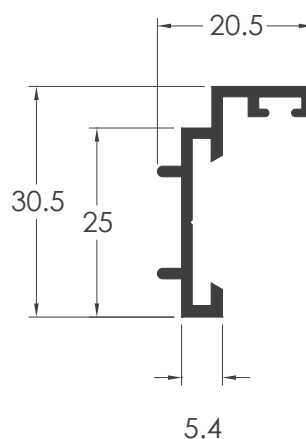
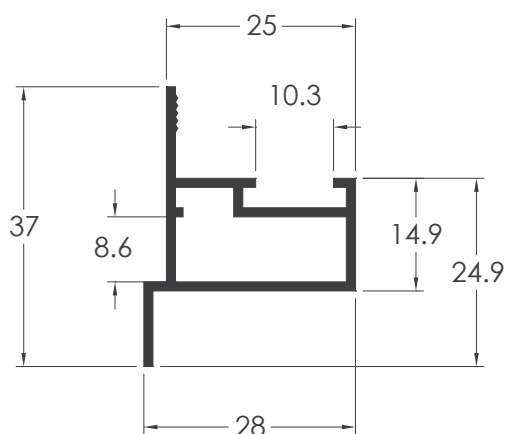


76200	0.580 Kg/m
-	



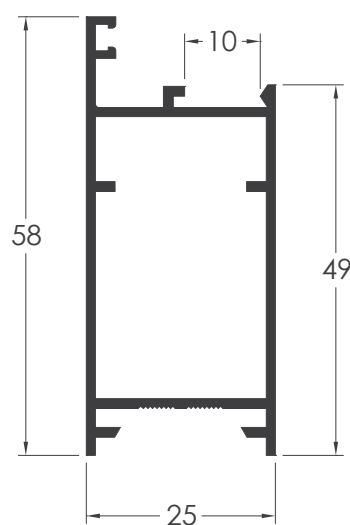
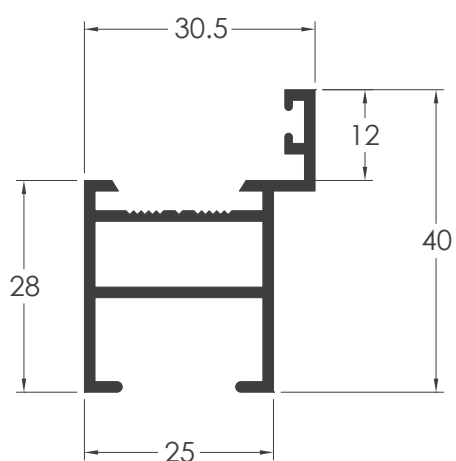
76220	0.352 Kg/m
-	

71002	0.263 Kg/m
-	



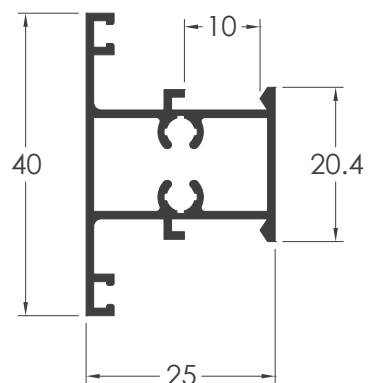
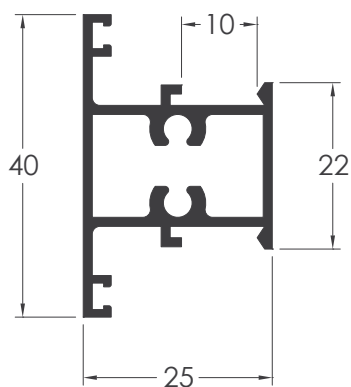
71015	0.512 Kg/m
P-412	

71016	0.580 Kg/m
-	



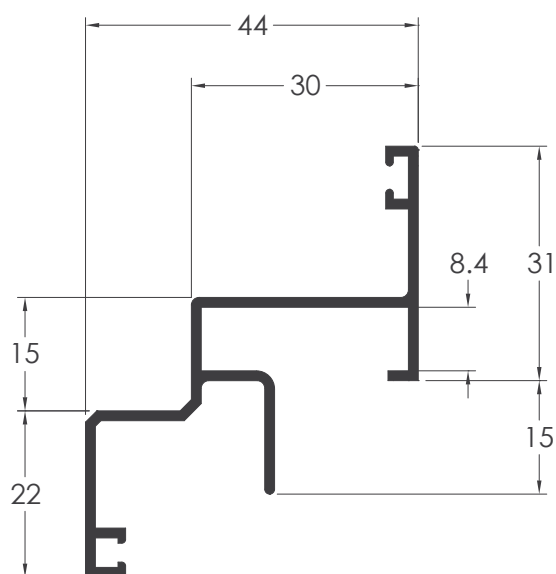
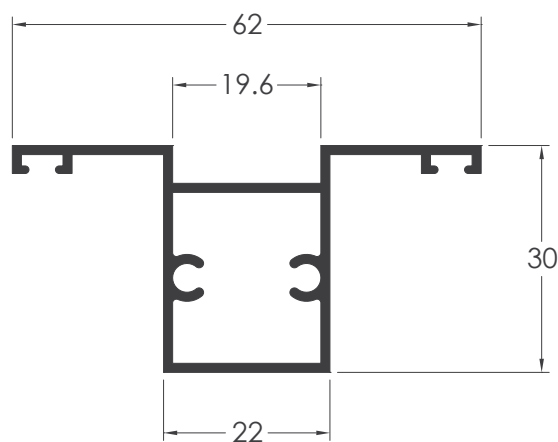
71007	0.506 Kg/m
-	

71008	0.406 Kg/m
-	



71025	0.554 Kg/m
F-574	

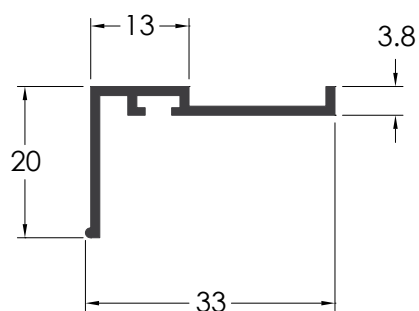
73800	0.532 Kg/m
Y-215	



71017

0.199 Kg/m

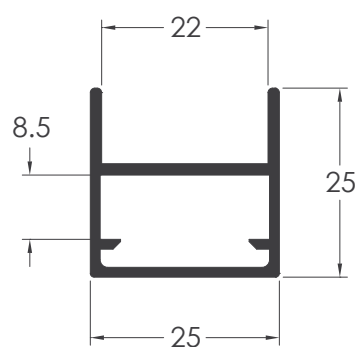
L-387



73610

0.361 Kg/m

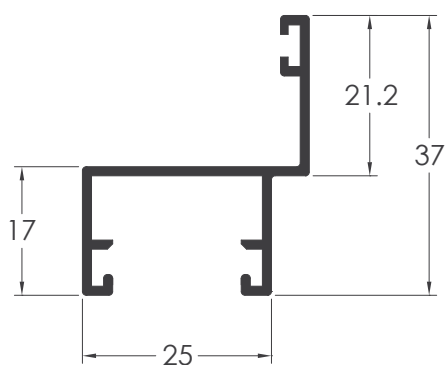
A-056



72610

0.333 Kg/m

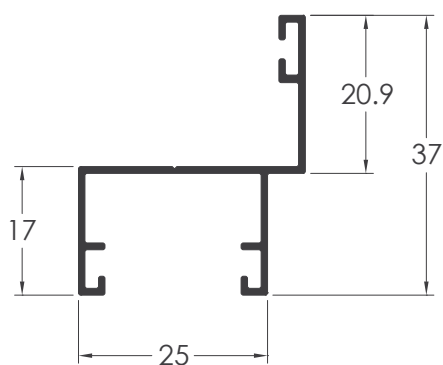
Y-126



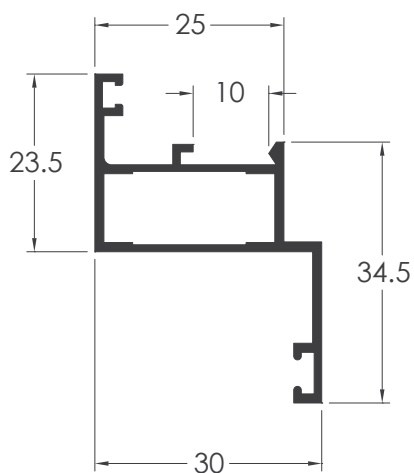
76520

0.252 Kg/m

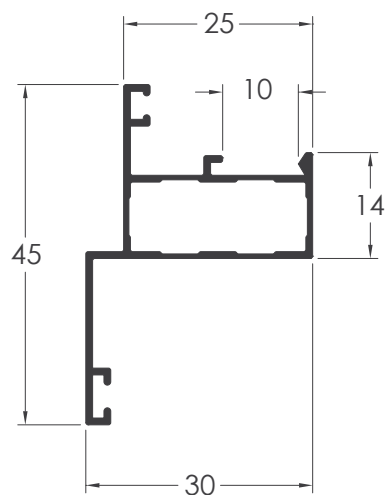
Y-126 L



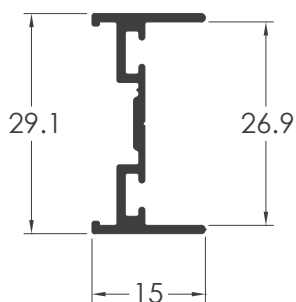
71006	0.376 Kg/m
-	



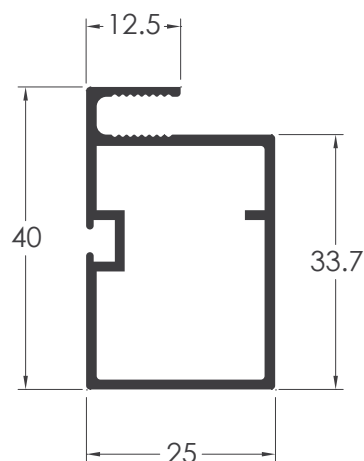
73700	0.292 Kg/m
P-146	



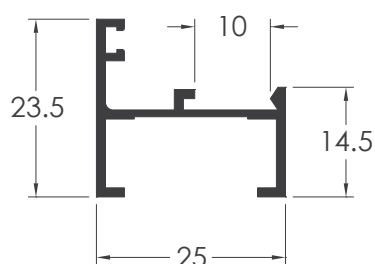
73950	0.218 Kg/m
I-105	



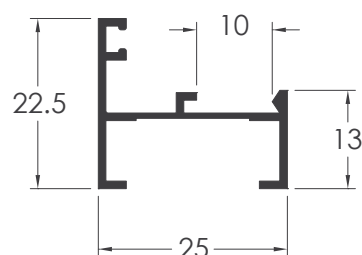
72930	0.509 Kg/m
P-227	



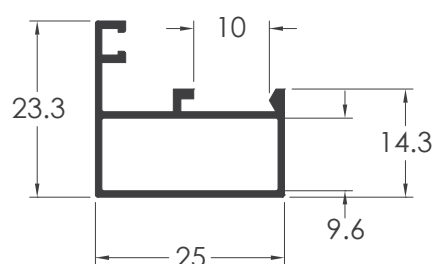
71009	0.233 Kg/m
Y-197	



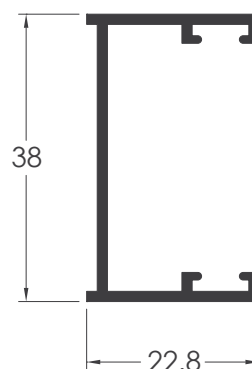
71011	0.194 Kg/m
-	



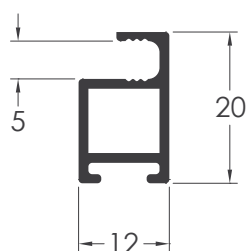
72620	0.233 Kg/m
P-147	



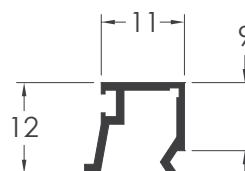
71004	0.345 Kg/m
-	



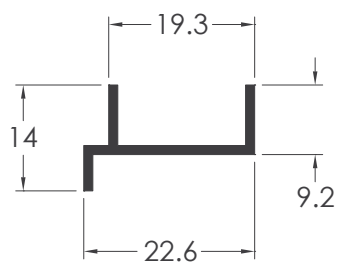
72940	0.203 Kg/m
A-058	



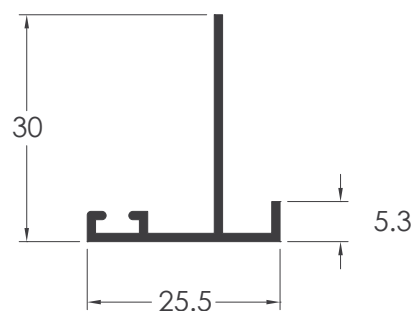
73820	0.103 Kg/m
U-522	



71013	0.141 Kg/m
-	



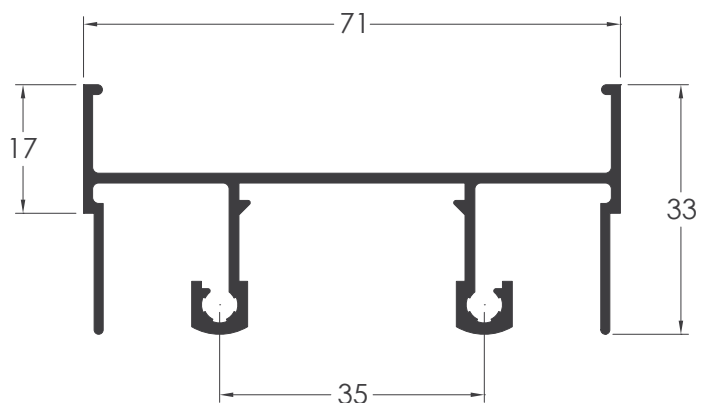
71014	0.199 Kg/m
T-214	



79000

0.738 Kg/m

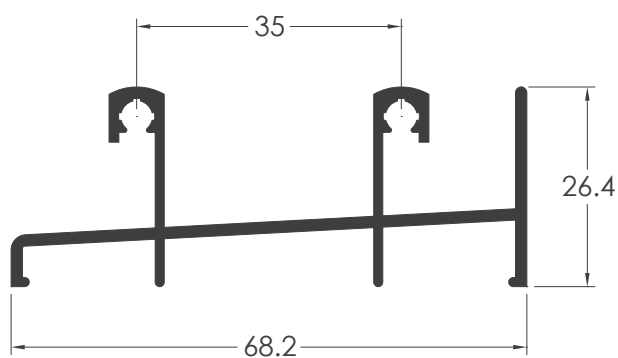
E-566 / SU-001



79060

0.676 Kg/m

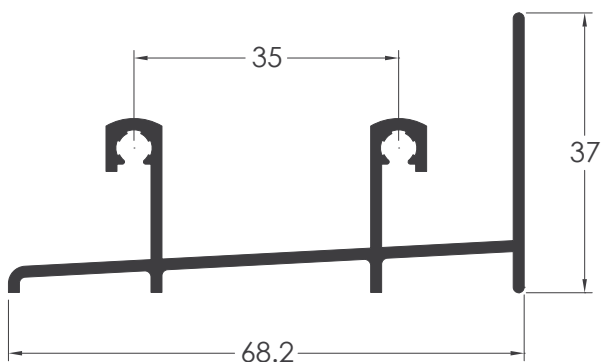
SU-021



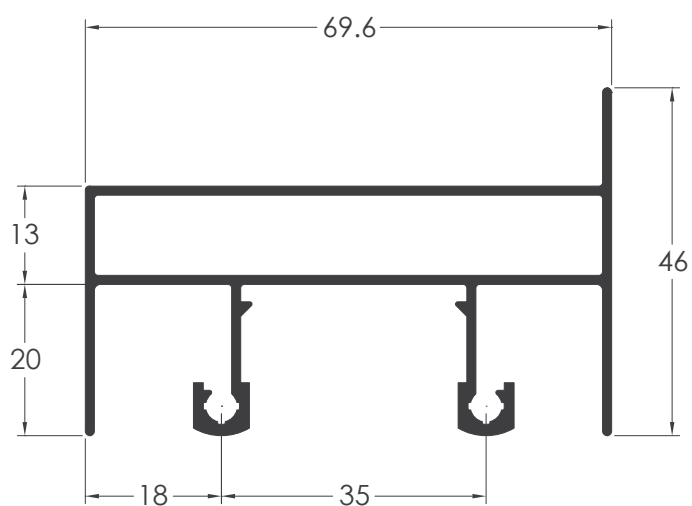
79290

0.684 Kg/m

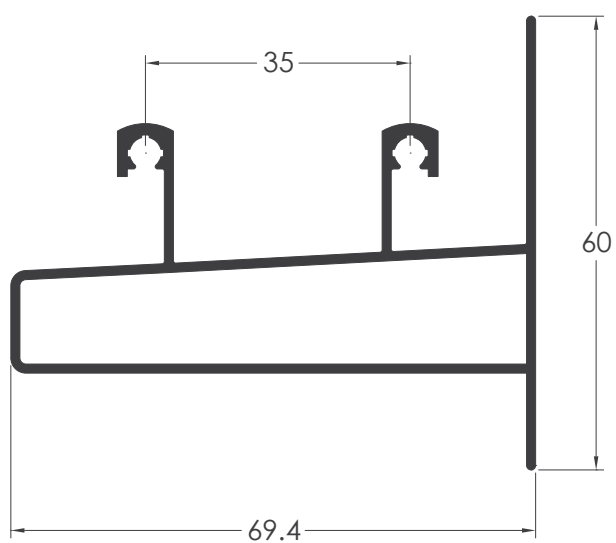
SU-228



77017	0.954 Kg/m
SU-005	



77218	0.900 Kg/m
SU-006	



79050

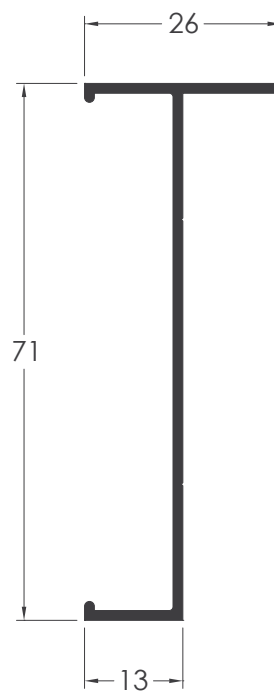
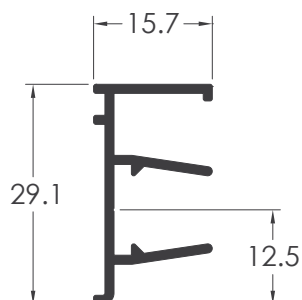
0.245 Kg/m

SU-008 / E-568

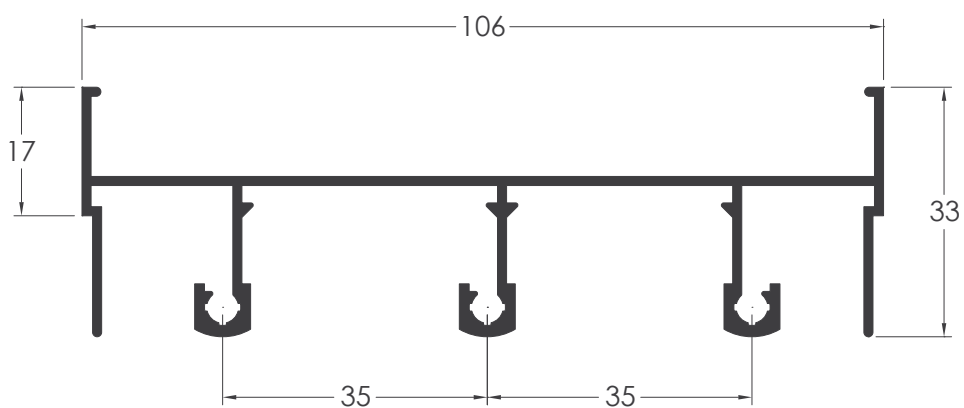
79040

0.385 Kg/m

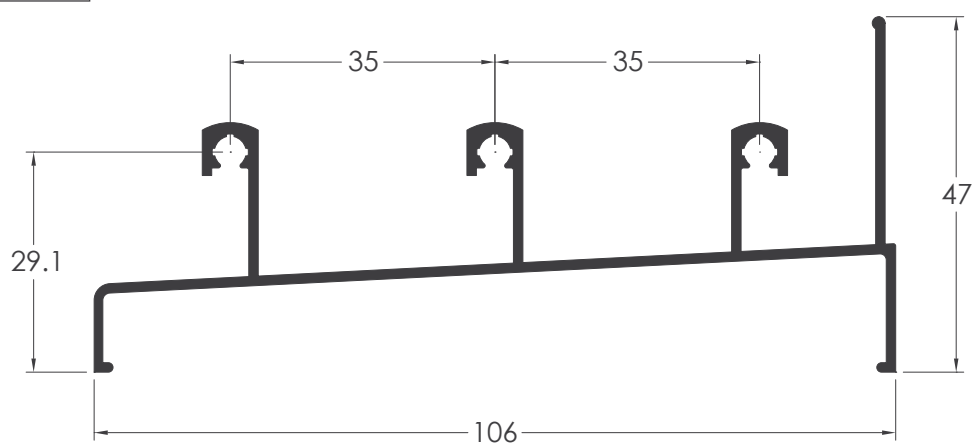
SU-007 / Y-776



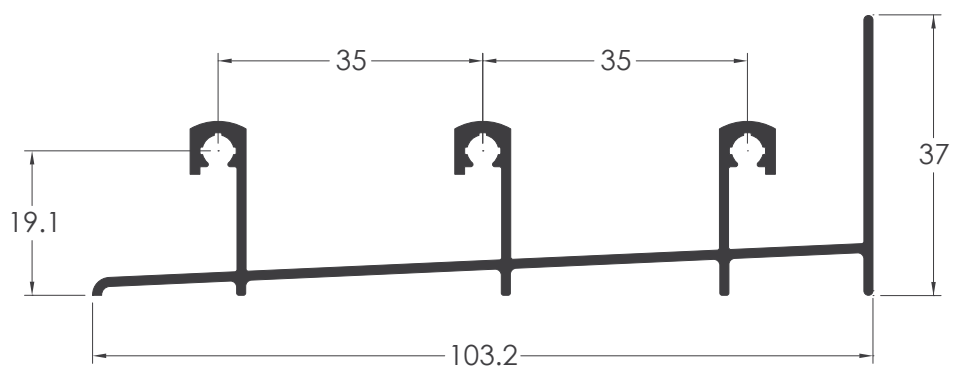
77213	0.961 Kg/m
SU-010	



77212	0.912 Kg/m
SU-011	



77207	0.838 Kg/m
SU-230	



77211

0.542 Kg/m

SU-012 / Y-778

77209

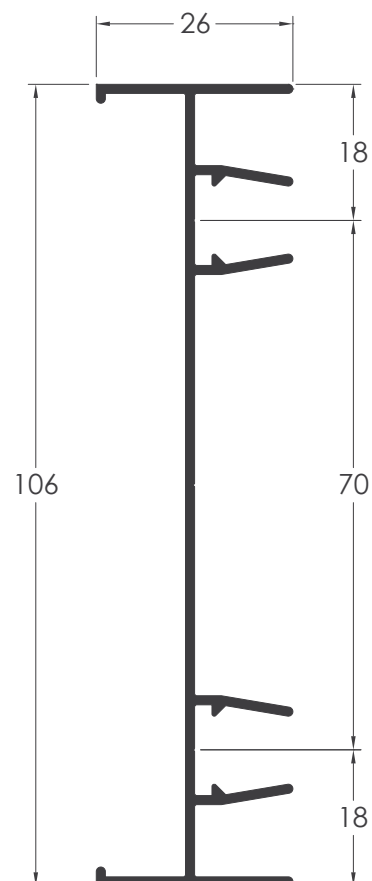
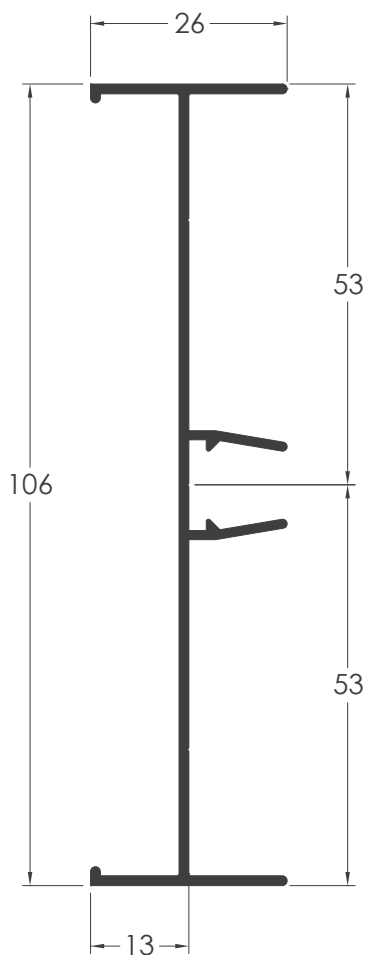
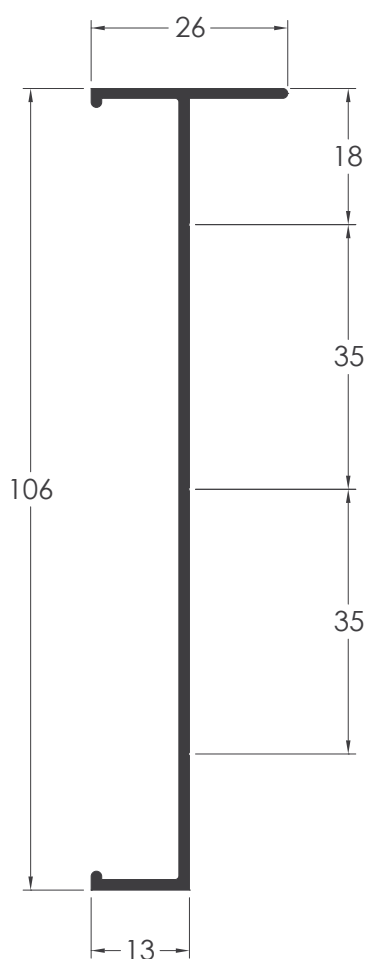
0.647 Kg/m

SU-014 / E-574

72319

0.742 Kg/m

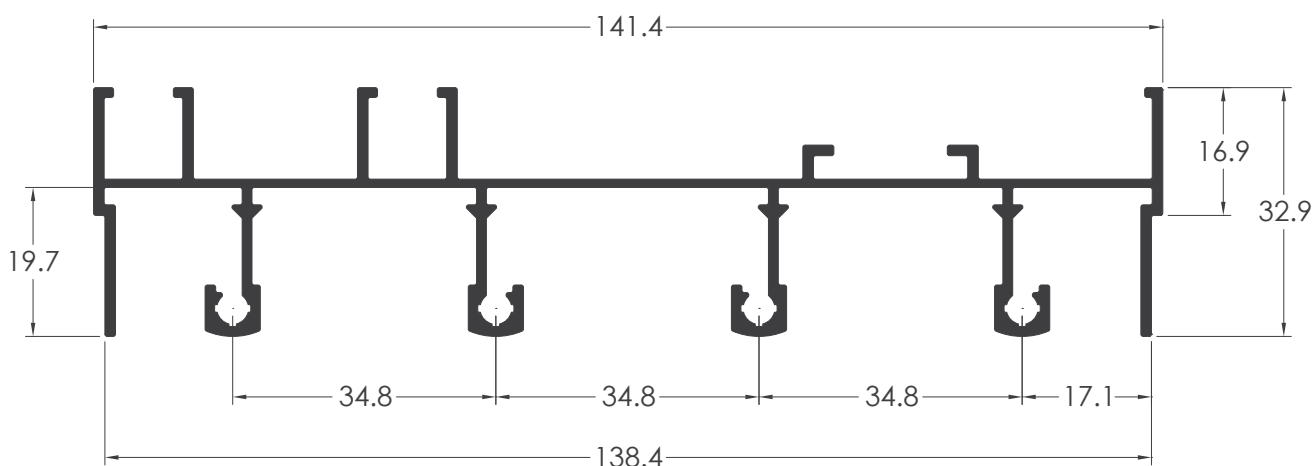
SU-013 / E-573



72311

1.416 Kg/m

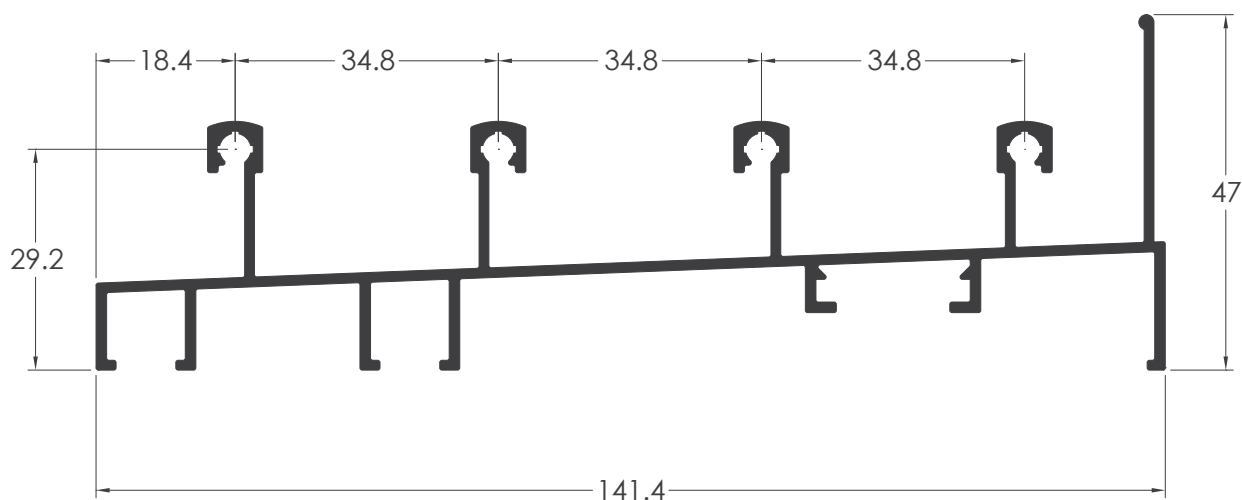
SU-121 / E-645



72312

1.416 Kg/m

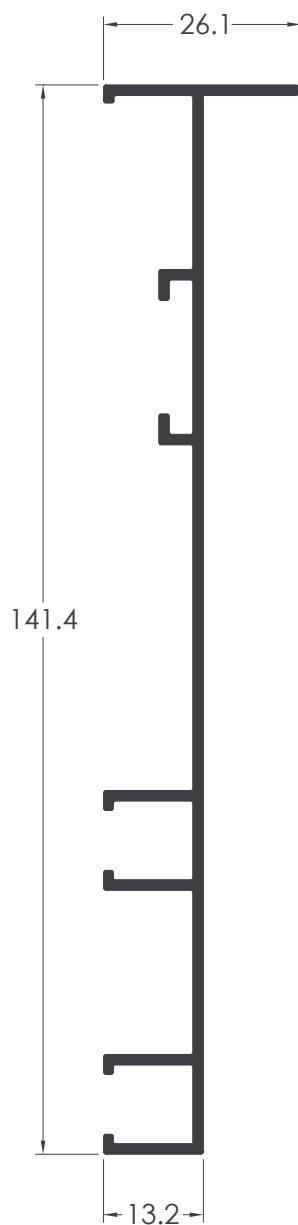
SU-122 / E-646



72313

0.885 Kg/m

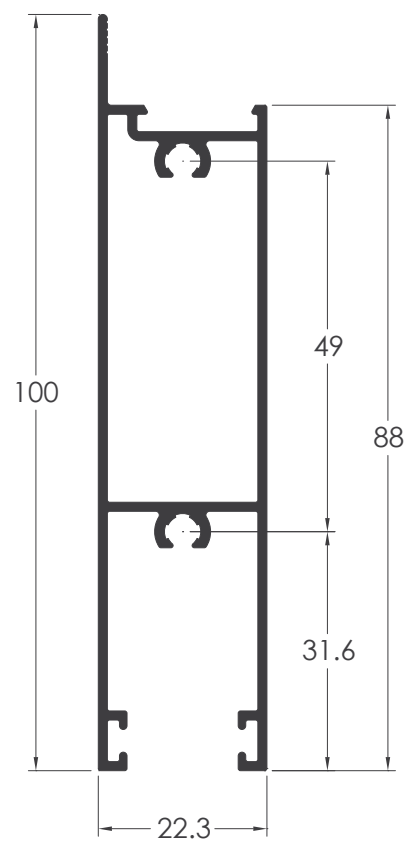
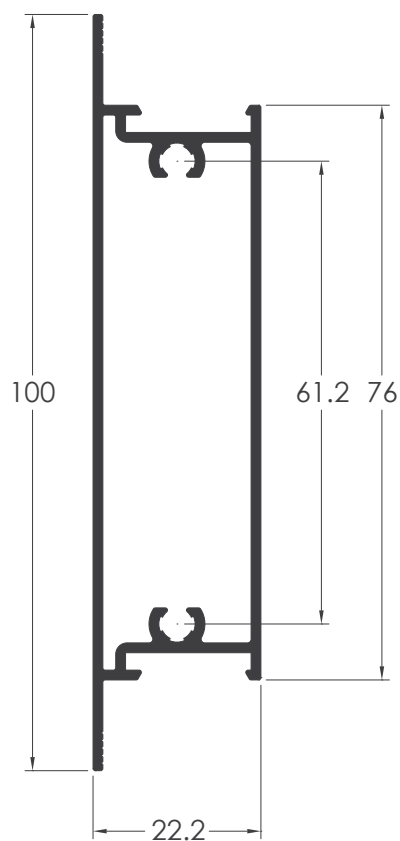
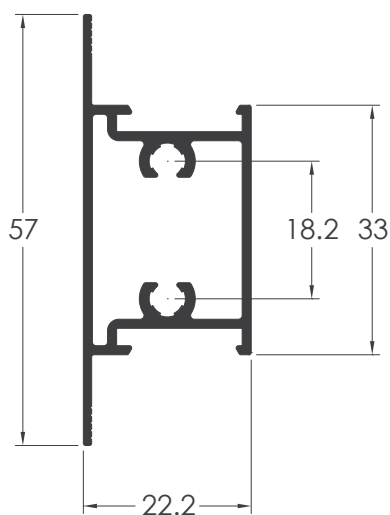
SU-123 / E-647



79280	0.544 Kg/m
SU-227	

79100	0.884 Kg/m
SU-050 / P-668	

77208	0.896 Kg/m
SU-225	



77198

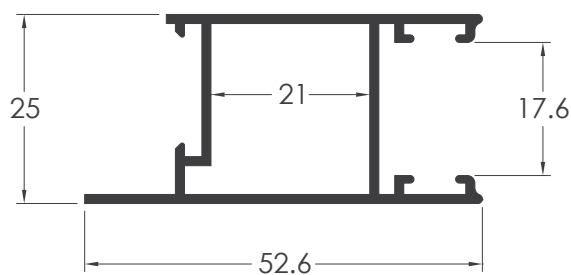
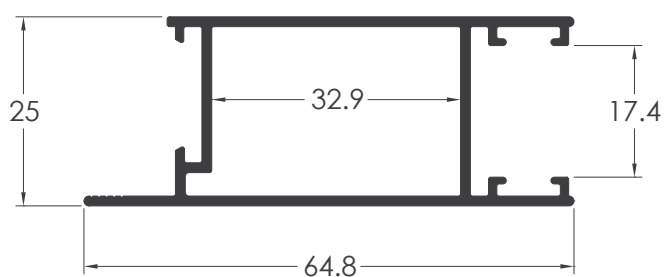
0.638 Kg/m

SU-245

79070

0.518 Kg/m

SU-039 / A-282



79270

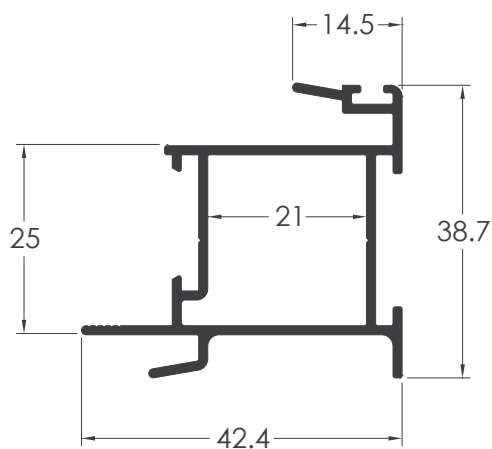
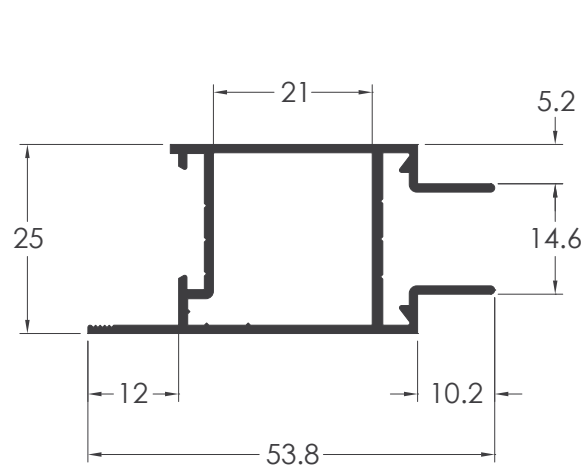
0.507 Kg/m

SU-192

77205

0.563 Kg/m

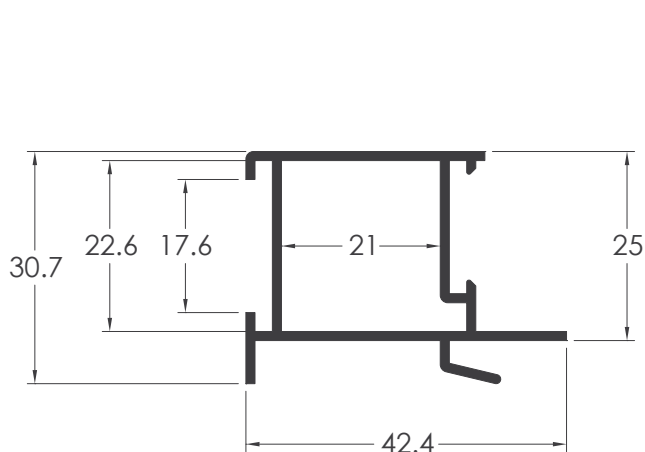
SU-042



79080

0.477 Kg/m

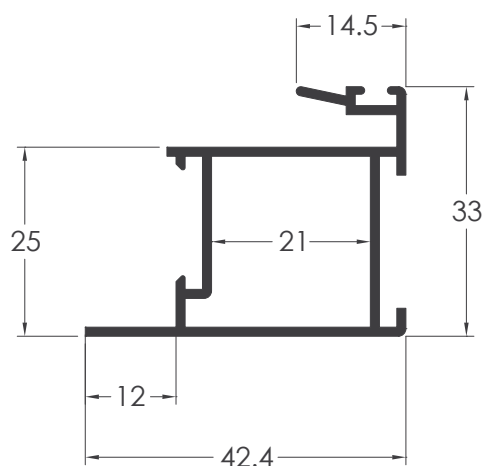
SU-040 / P-630



79090

0.507 Kg/m

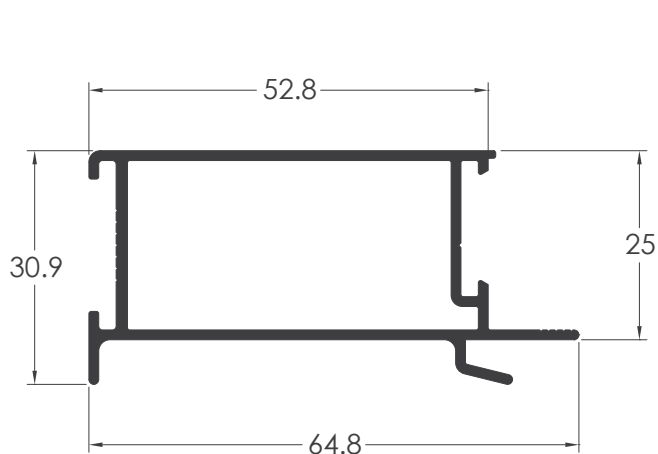
SU-041 / P-629



77197

0.418 Kg/m

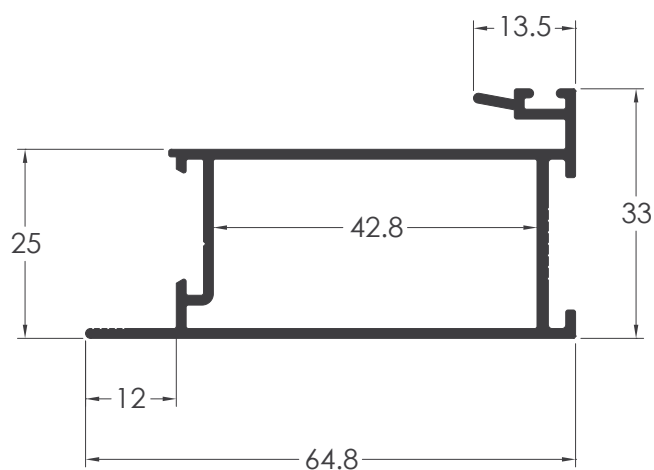
SU-243



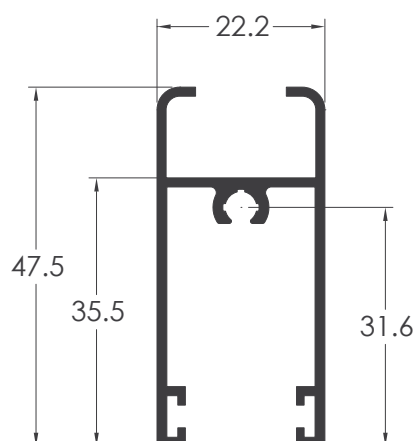
77199

0.714 Kg/m

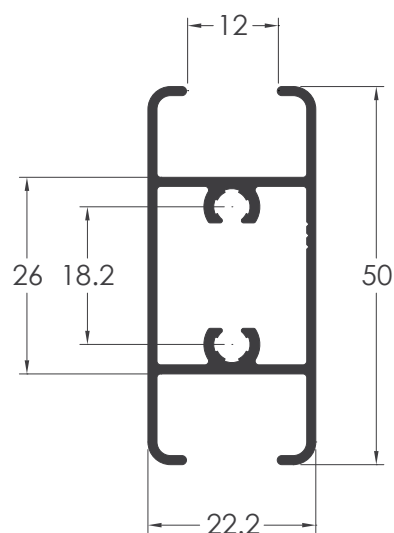
SU-242



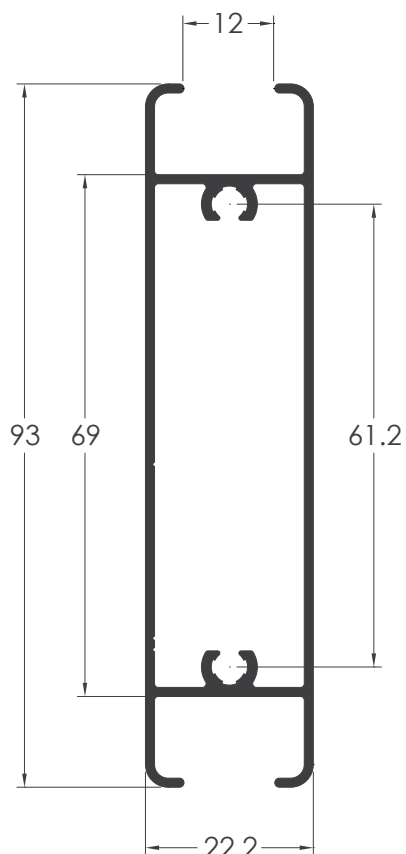
79240	0.507 Kg/m
SU-186	



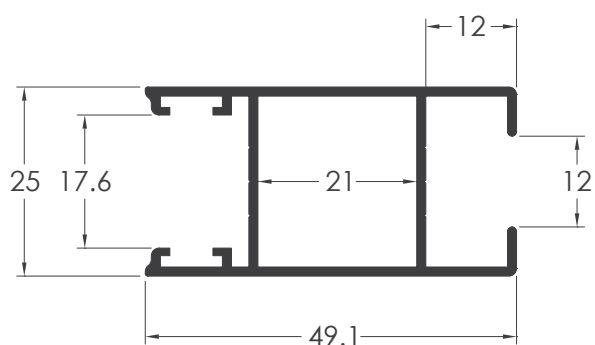
70107	0.583 Kg/m
SU-188	



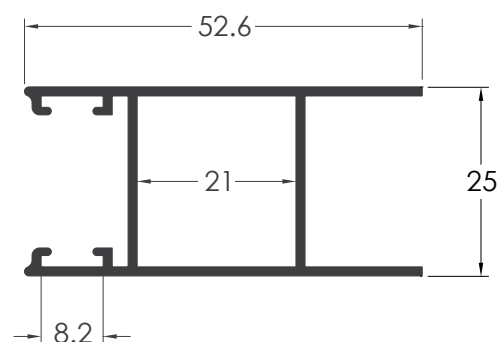
77222	0.863 Kg/m
SU-063	



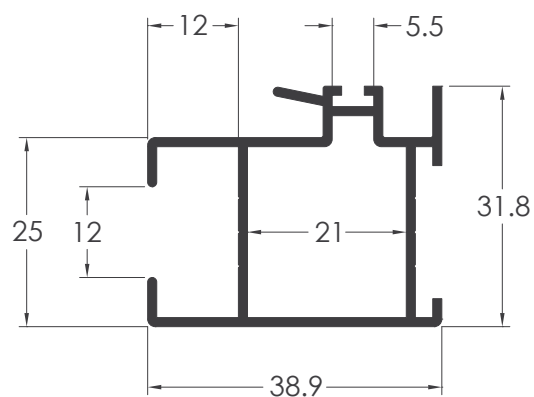
79120	0.543 Kg/m
SU-055 / A-285	



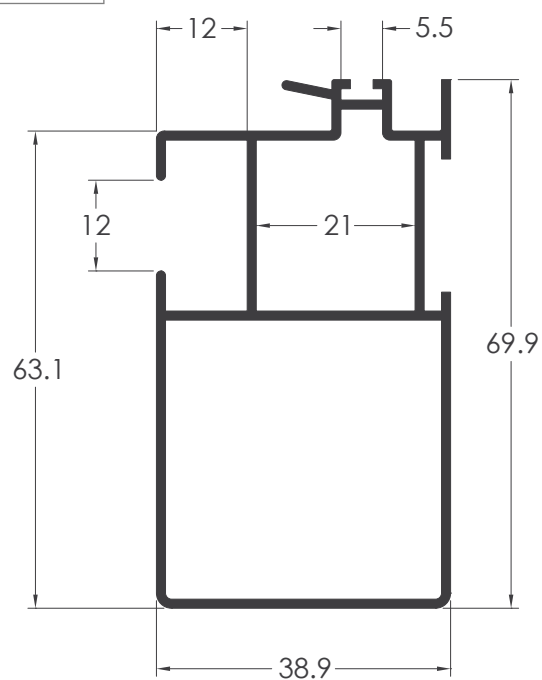
79140	0.533 Kg/m
SU-068 / A-284	



79130	0.542 Kg/m
SU-056 / A-273	



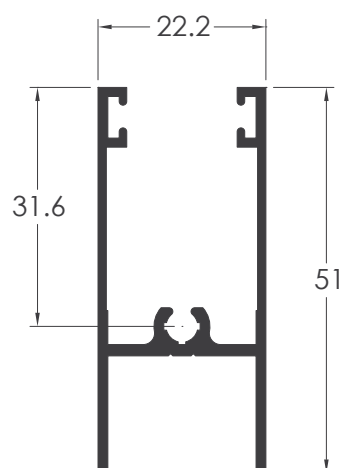
77221	0.907 Kg/m
SU-061	



79250

0.510 Kg/m

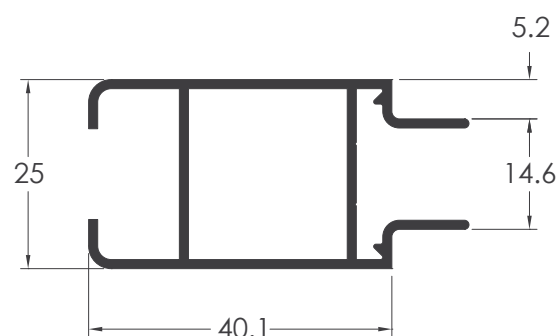
SU-187



79260

0.536 Kg/m

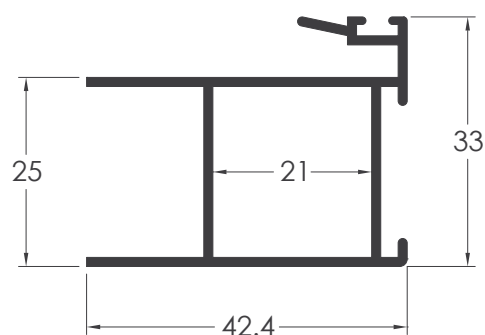
SU-190



79160

0.520 Kg/m

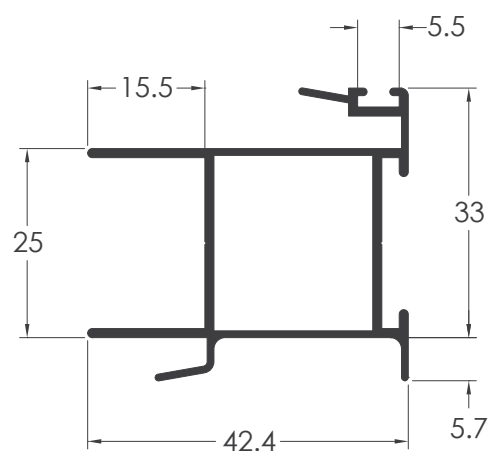
SU-070 / A-256



79150

0.520 Kg/m

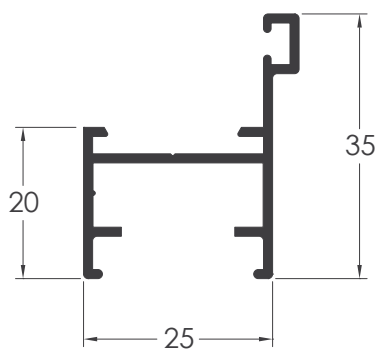
SU-069 / A-254



79170

0.332 Kg/m

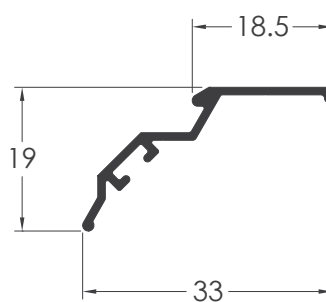
SU-079 / Y-779



77204

0.155 Kg/m

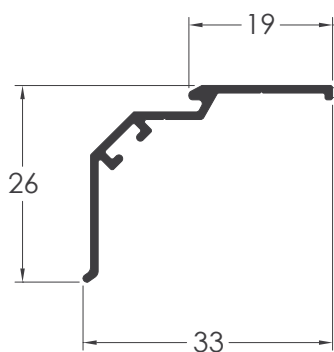
SU-083



77216

0.175 Kg/m

SU-276

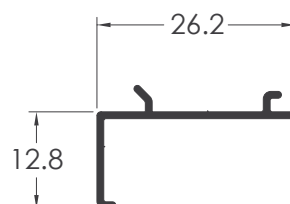
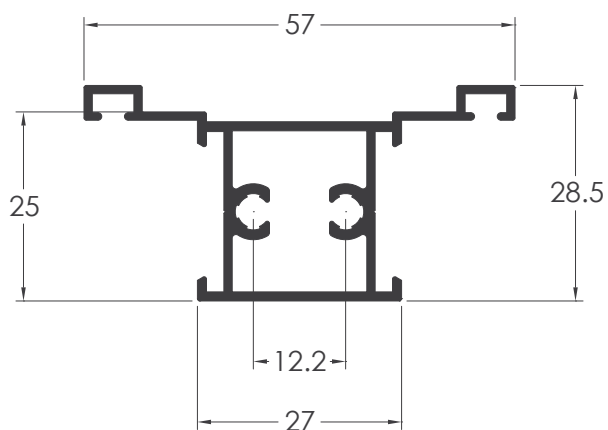


79210 0.576 Kg/m

SU-086 / P-640

77206 0.115 Kg/m

SU-084

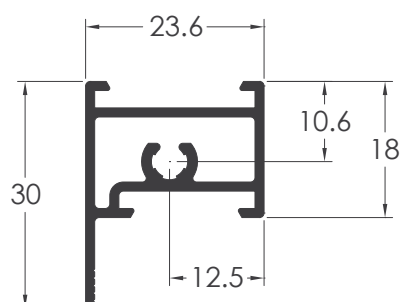
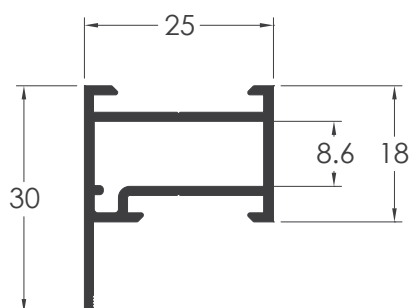


79180 0.350 Kg/m

SU-080 / P-639

79200 0.377 Kg/m

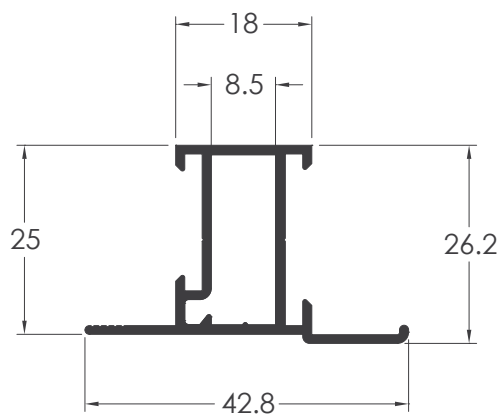
SU-082 / P-638



79190

0.395 Kg/m

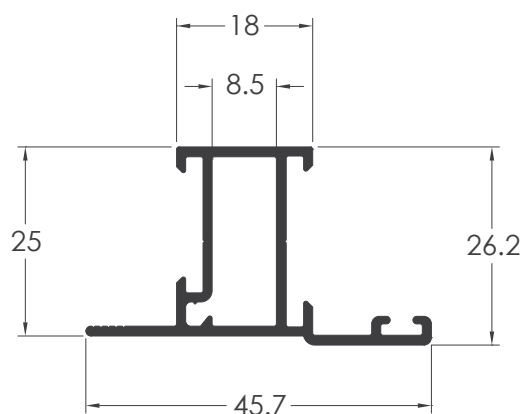
SU-081 / P-637



77201

0.449 Kg/m

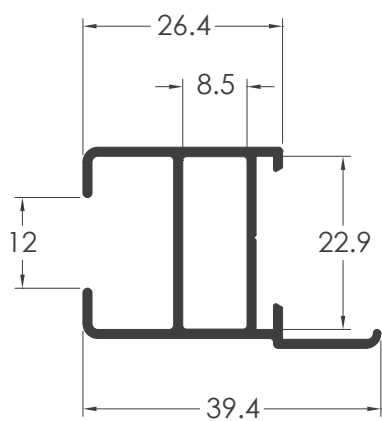
SU-200



77019

0.418 Kg/m

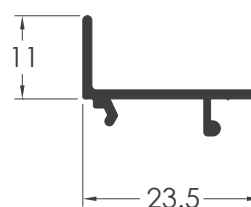
SU-090



77203

0.141 Kg/m

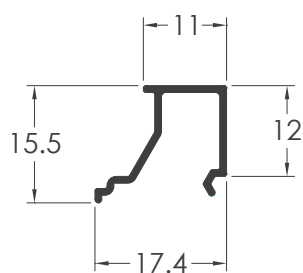
SU-108



79220

0.110 Kg/m

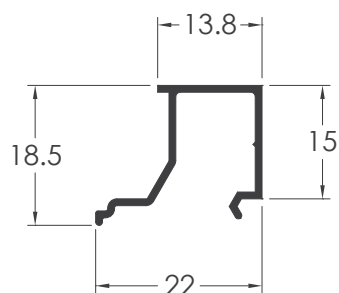
SU-102 / U-1230



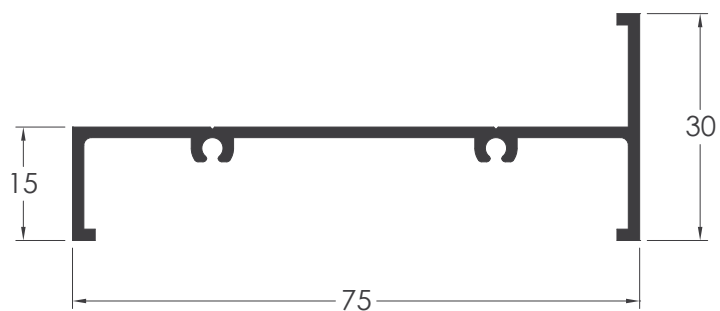
79230

0.141 Kg/m

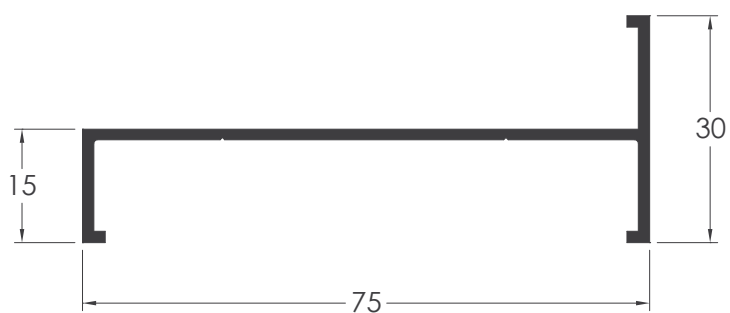
SU-103 / U-1231



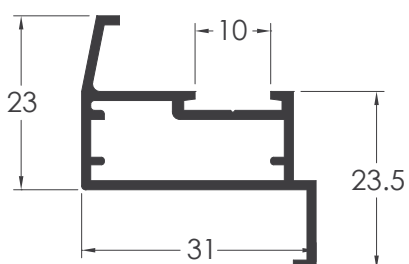
73850	0.596 Kg/m
Y-325	



73840	0.462 Kg/m
Y-301	



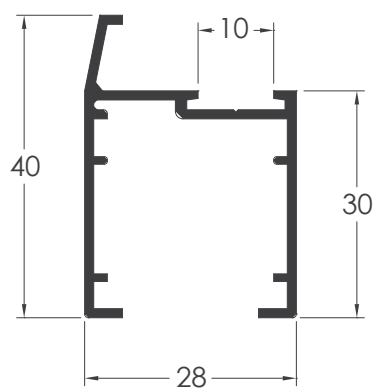
73870	0.374 Kg/m
P-518	



73750

0.398 Kg/m

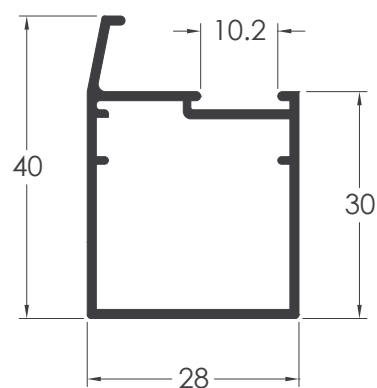
Y-625



73740

0.428 Kg/m

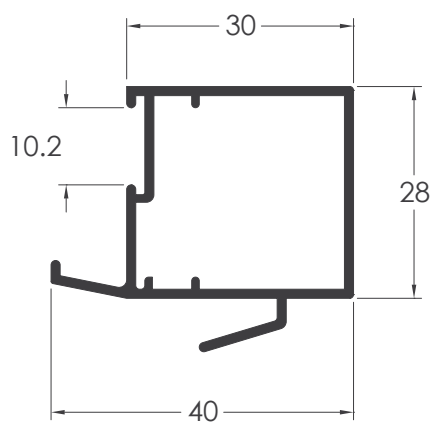
P-513



73930

0.476 Kg/m

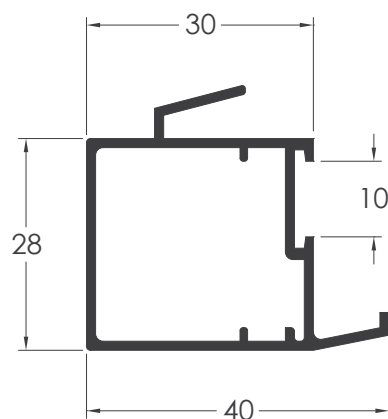
P-514



73760

0.485 Kg/m

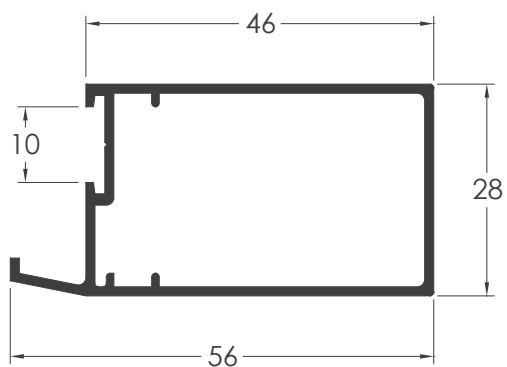
P-515



73860

0.540 Kg/m

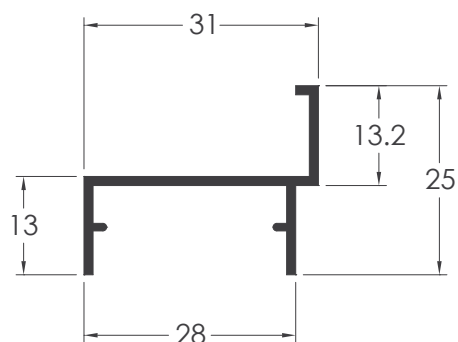
P-530



73830

0.230 Kg/m

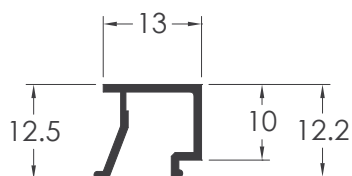
Y-328



73710

0.108 Kg/m

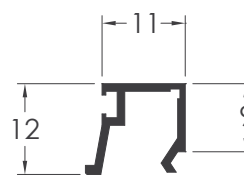
U-804



73820

0.103 Kg/m

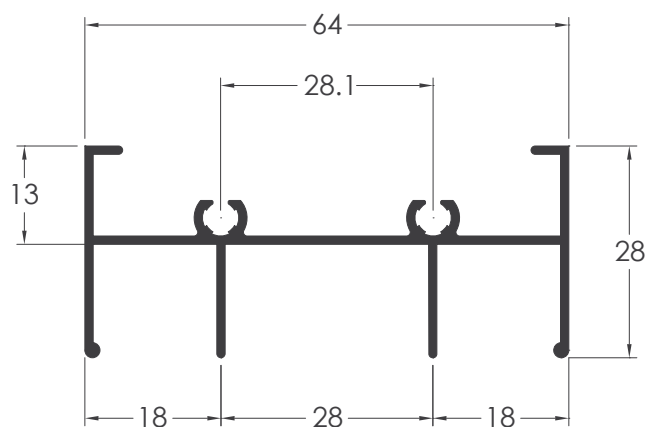
U-522



76570

0.544 Kg/m

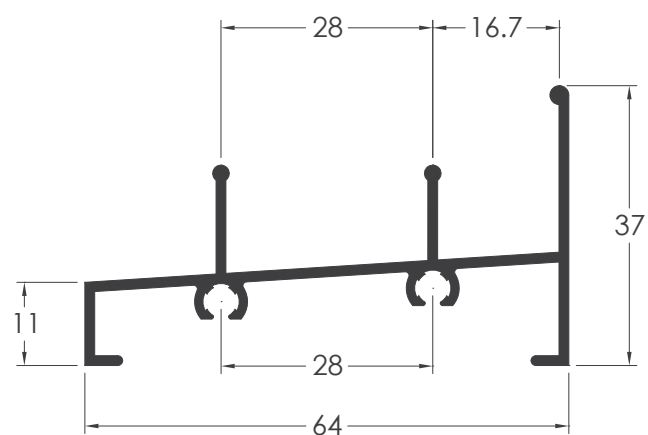
MP-357



76990

0.589 Kg/m

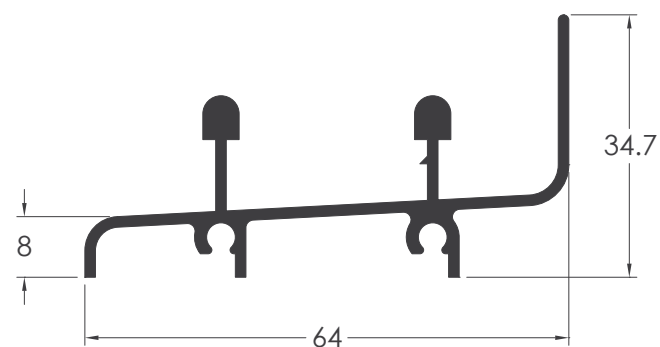
MP-358



70198

0.681 Kg/m

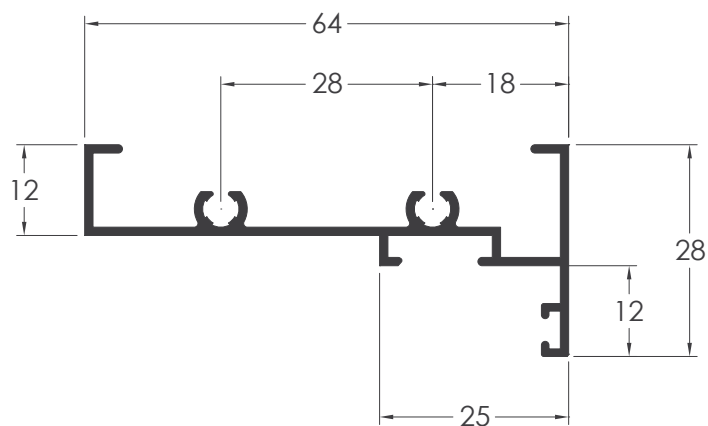
MP-409



74310

0.462 Kg/m

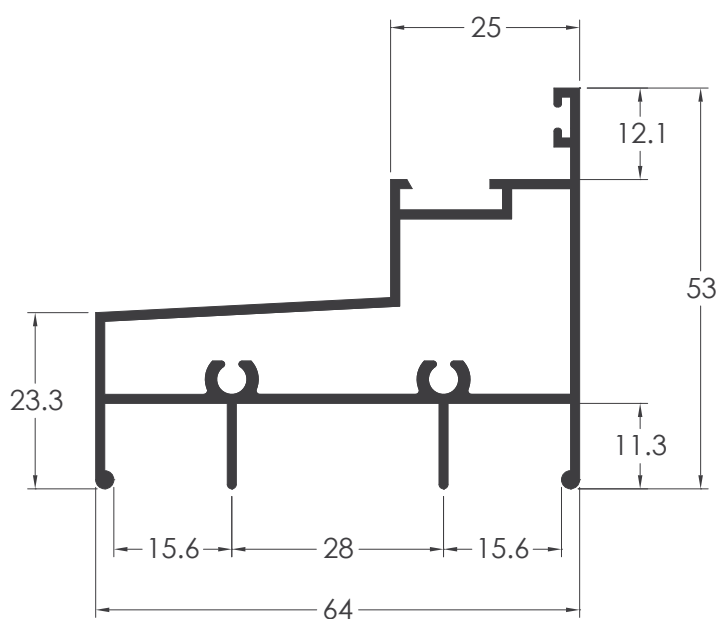
MP-363



76980

0.915 Kg/m

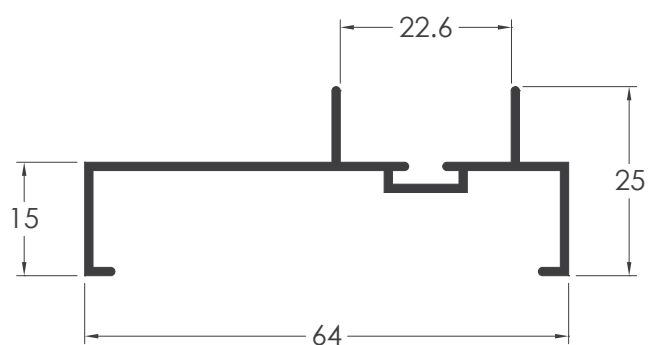
MP-361



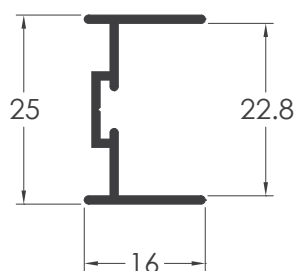
76580

0.376 Kg/m

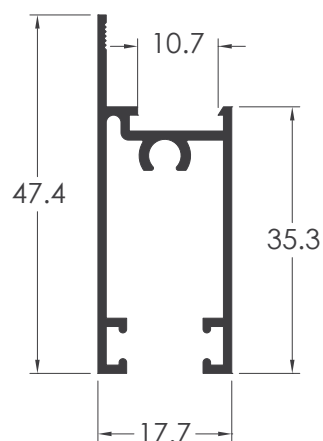
MP-360



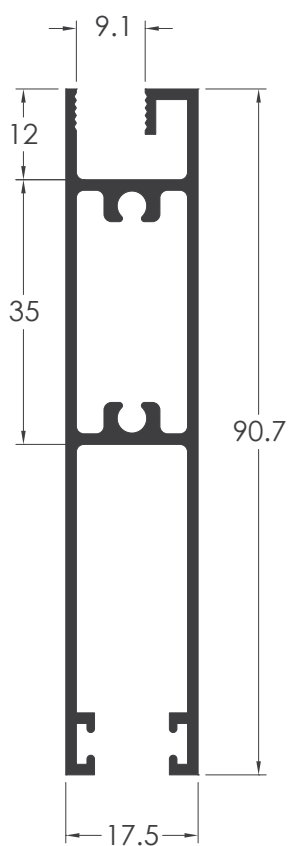
76560	0.186 Kg/m
MP-352	



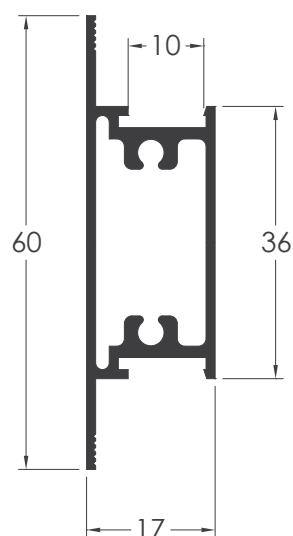
72001	0.379 Kg/m
MP-309	



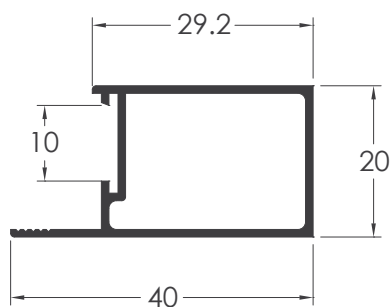
70199	0.984 Kg/m
MP-354	



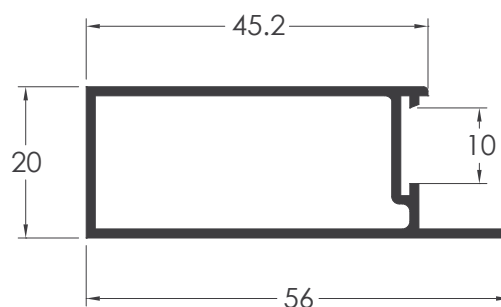
77000	0.549 Kg/m
MP-322	



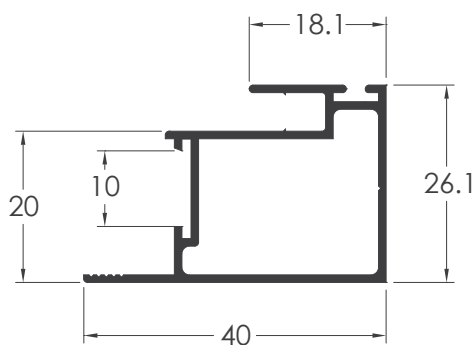
76590	0.305 Kg/m
MP-300	



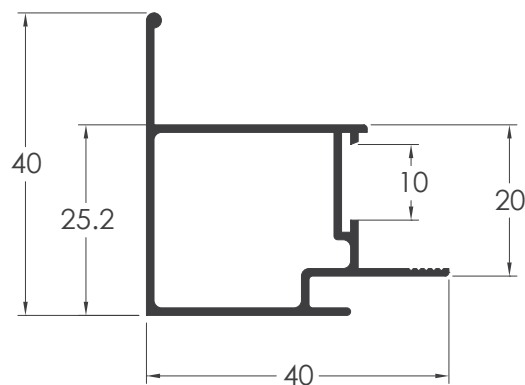
76620	0.460 Kg/m
MP-336	



76600	0.370 Kg/m
MP-302	

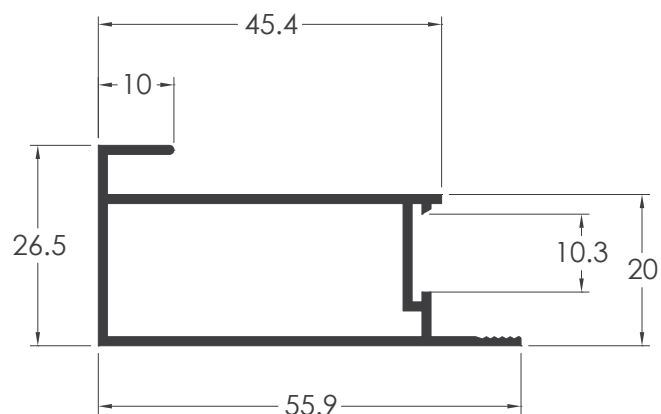


76610	0.389 Kg/m
MP-321	



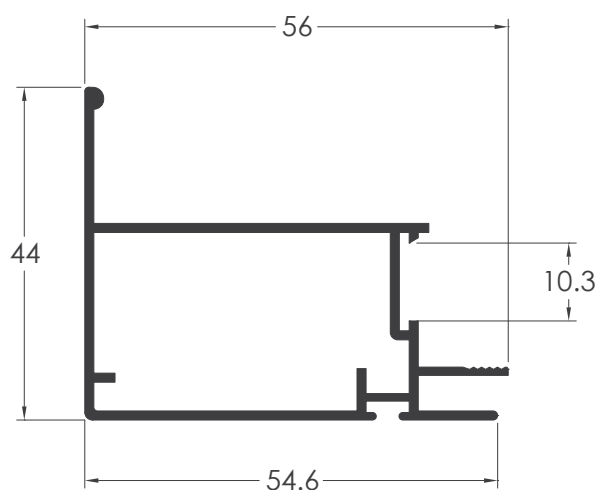
72002	0.506 Kg/m
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MP-070



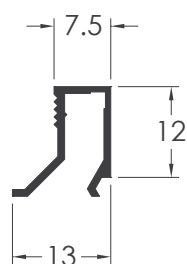
72005	0.623 Kg/m
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MP-069

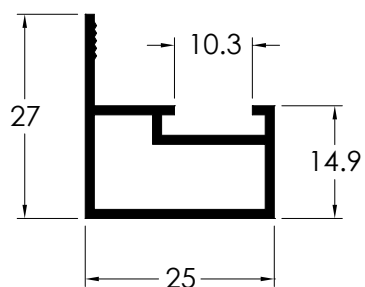


72004	0.098 Kg/m
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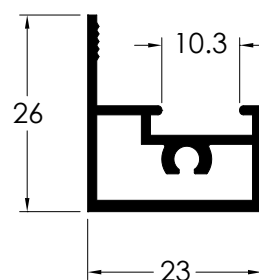
BG-202



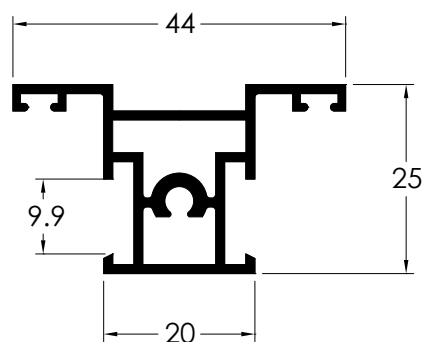
76290	0.309 Kg/m
25-314	



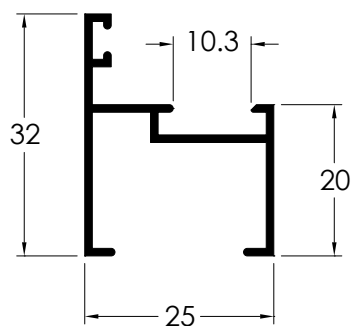
76300	0.344 Kg/m
25-301	



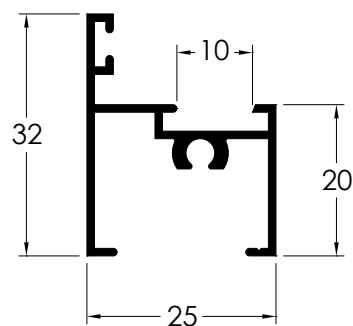
76650	0.459 Kg/m
MM-376	



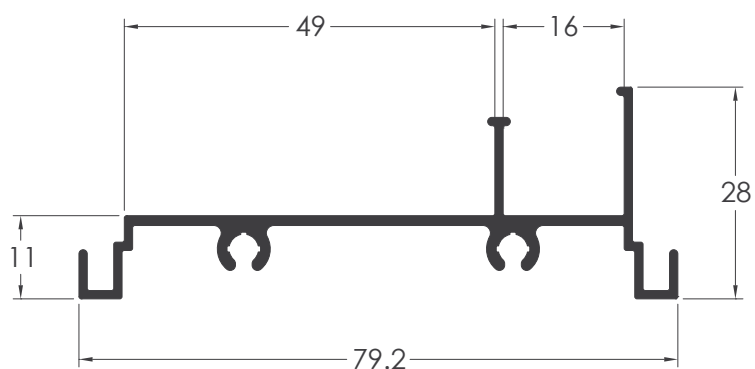
76550	0.258 Kg/m
25-311	



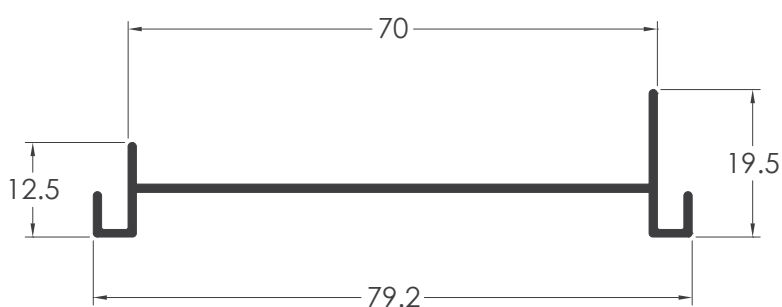
76640	0.318 Kg/m
25-312	



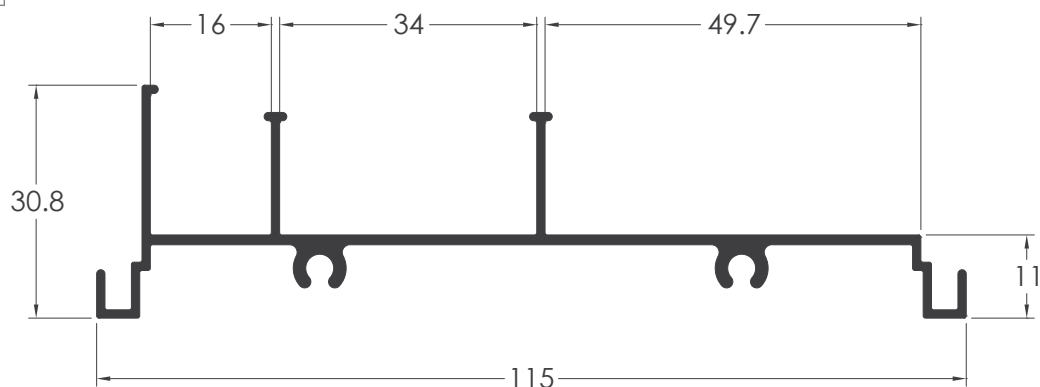
72377	0.581 Kg/m
-	



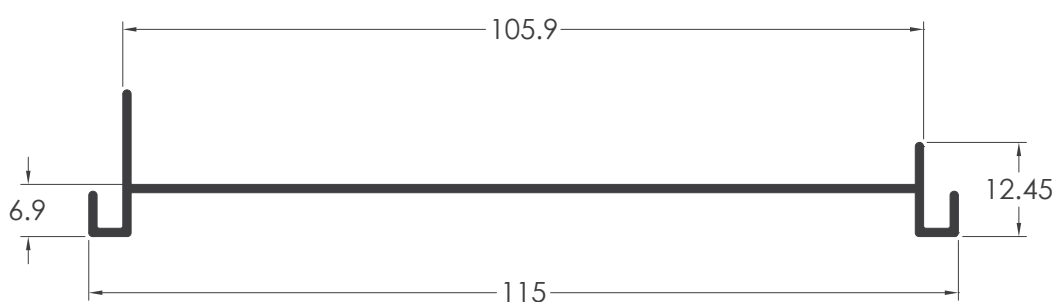
72375	0.349 Kg/m
-	



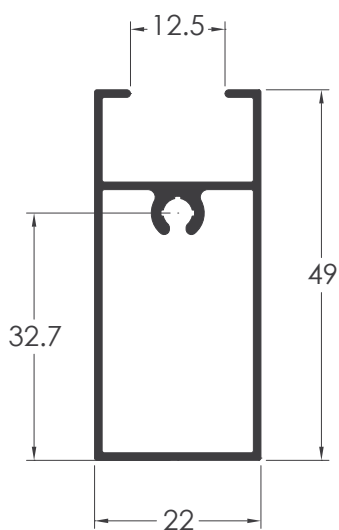
72376	0.782 Kg/m
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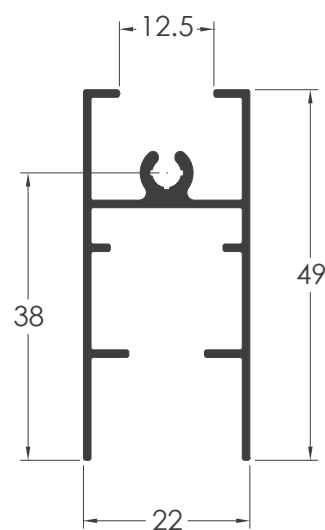
72378	0.458 Kg/m
-	



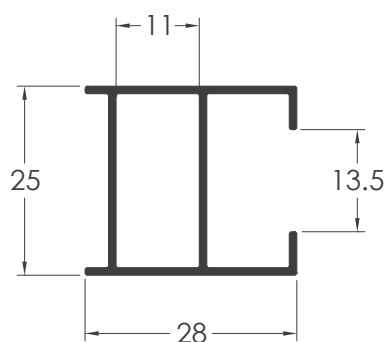
72372	0.455 Kg/m
-	



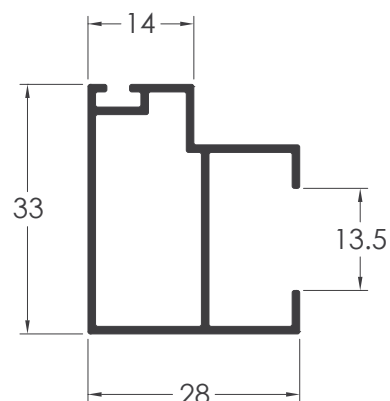
72374	0.447 Kg/m
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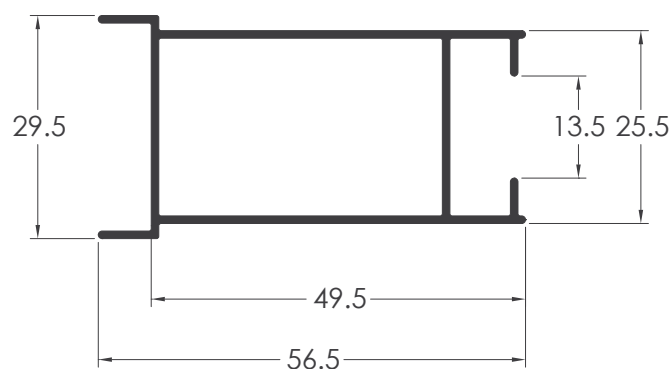
72371	0.302 Kg/m
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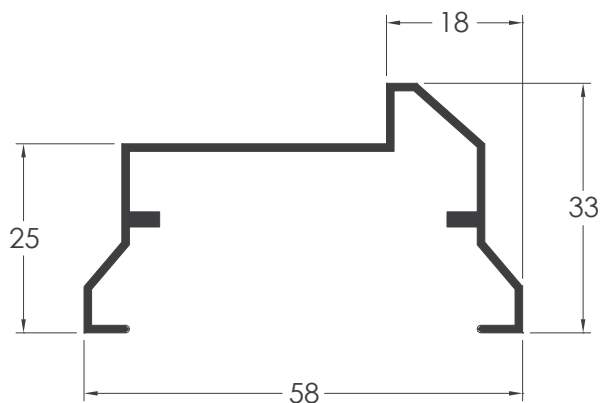
72373	0.362 Kg/m
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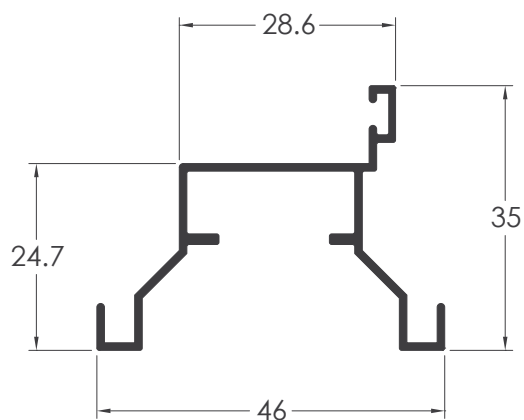
72379	0.470 Kg/m
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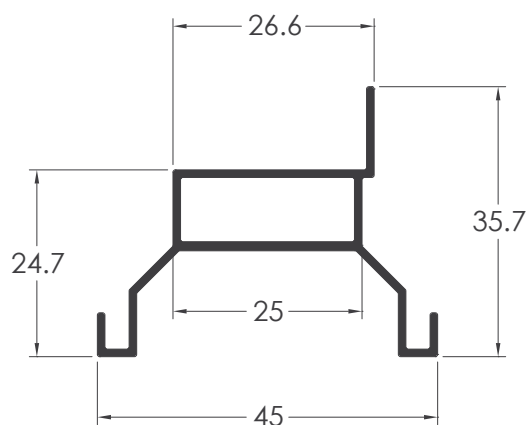
72111	0.370 Kg/m
-	



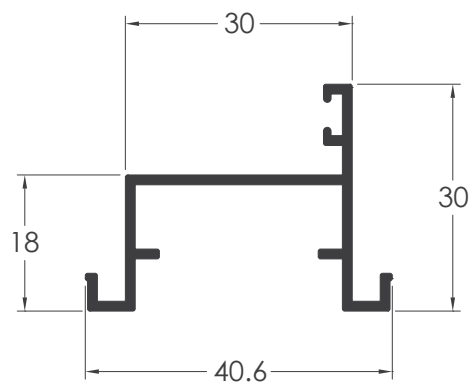
70165	0.342 Kg/m
-	



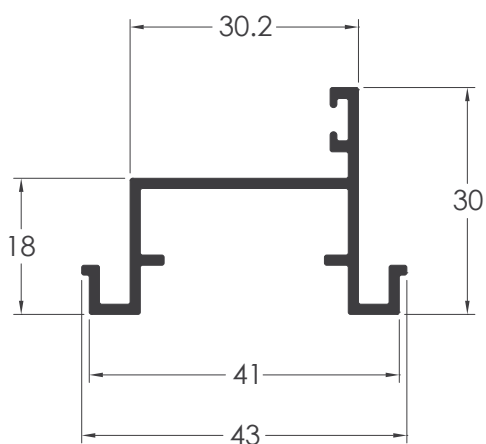
72194	0.367 Kg/m
-	



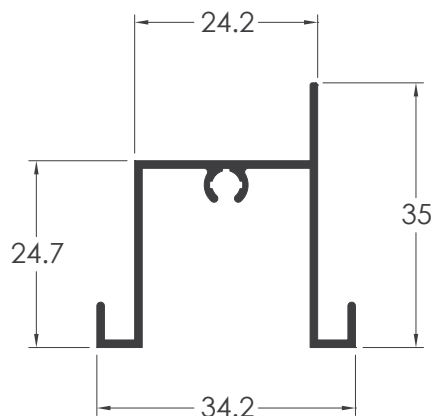
70042	0.372 Kg/m
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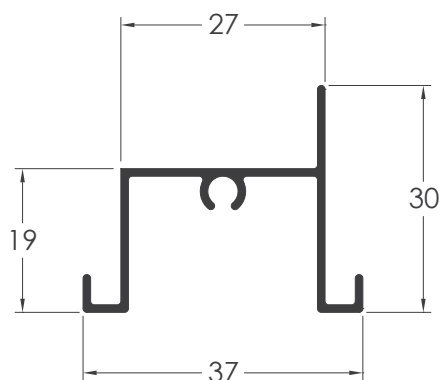
78860	0.407 Kg/m
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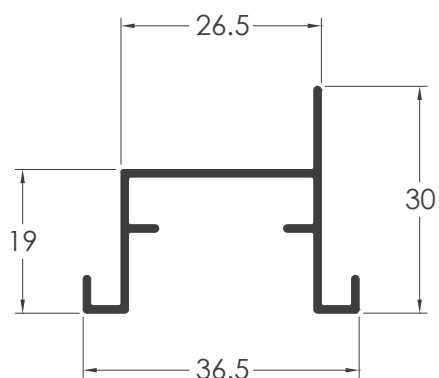
72264	0.302 Kg/m
-	



72336	0.277 Kg/m
-	

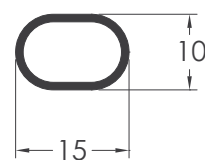
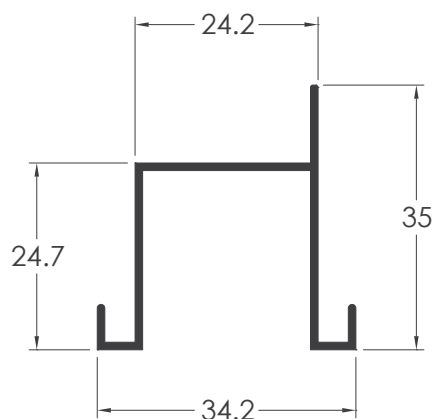


72234	0.268 Kg/m
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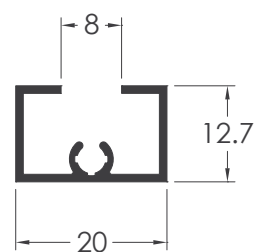
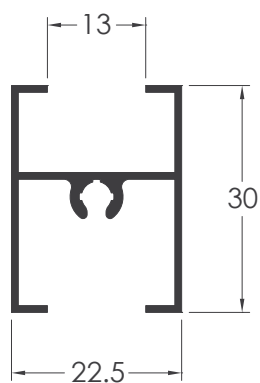
72263	0.275 Kg/m
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72237	0.104 Kg/m
-	

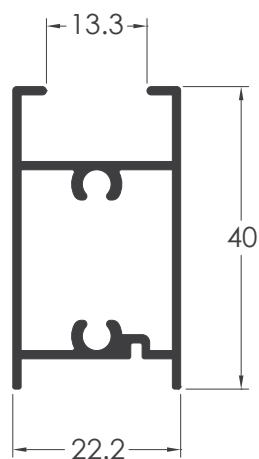


70153	0.281 Kg/m
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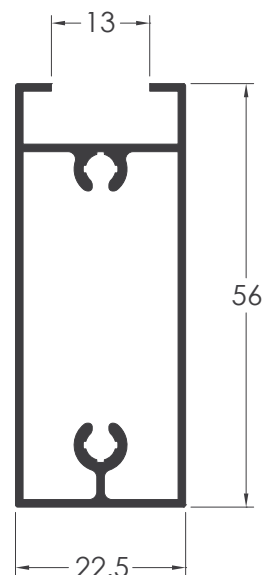
70055	0.168 Kg/m
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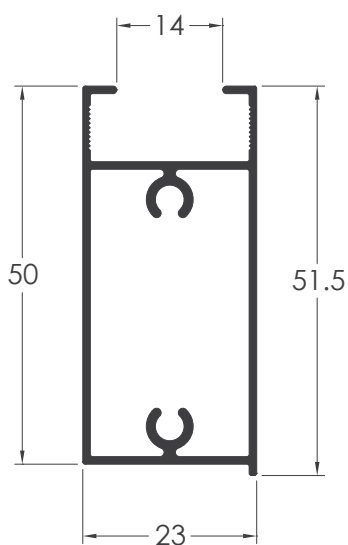
78850	0.456 Kg/m
-	



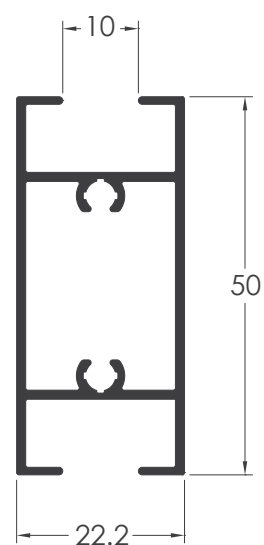
70152	0.551 Kg/m
-	



72189	0.495 Kg/m
-	

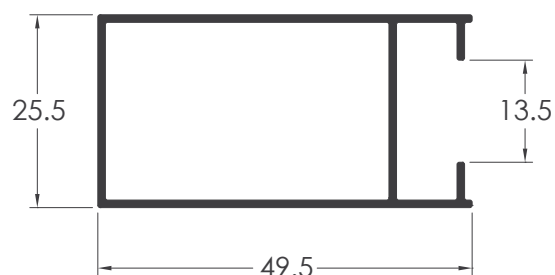
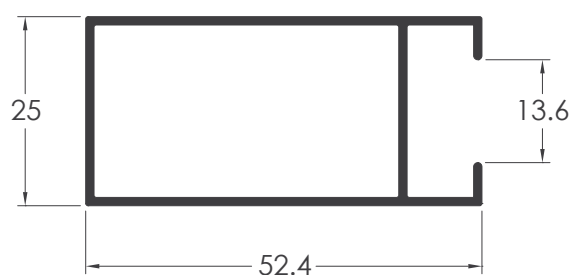


70043	0.559 Kg/m
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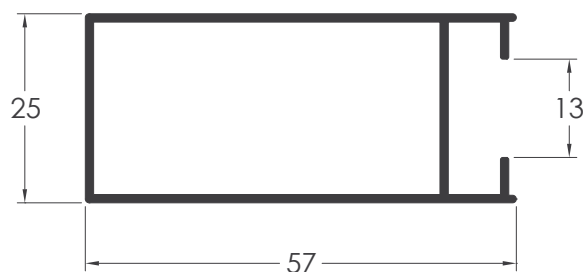


78840	0.475 Kg/m
-	

72188	0.423 Kg/m
-	



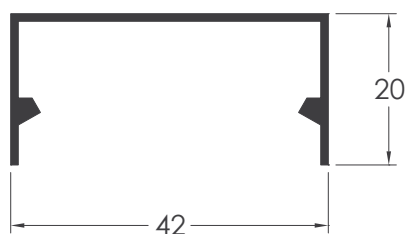
70151	0.503 Kg/m
-	



72316

0,254 Kg/m

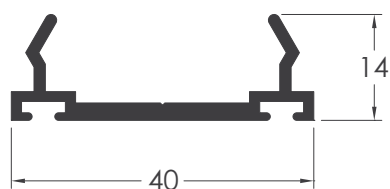
FC-013 / U-621



72317

0,343 Kg/m

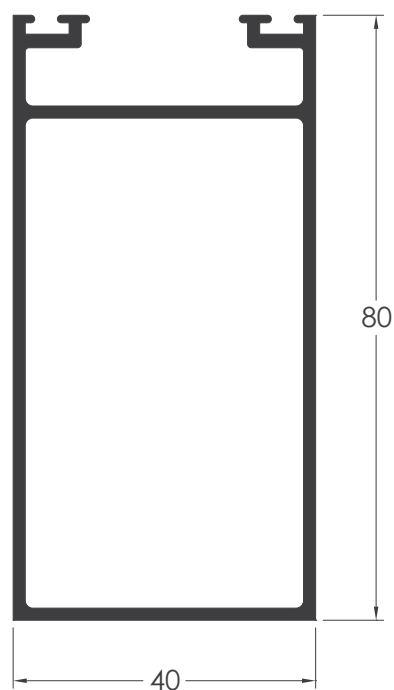
FC-014 / U-615



72315

1,127 Kg/m

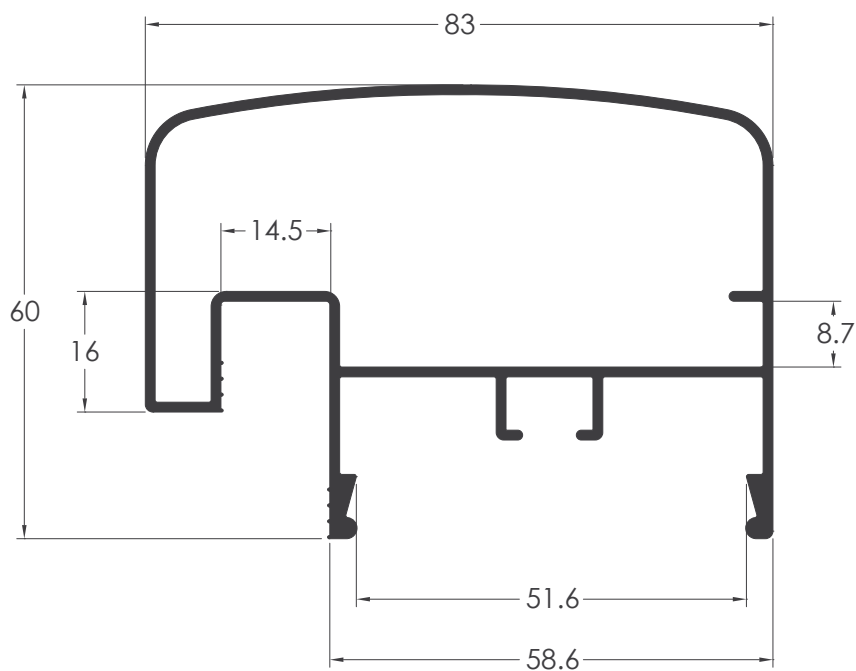
FC-012 / A-072



70027

1.213 Kg/m

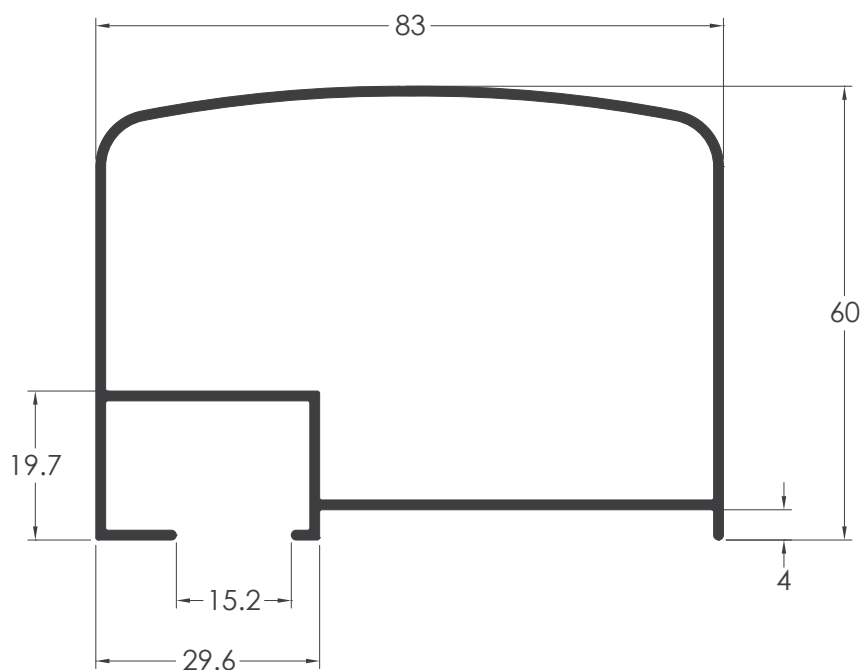
CG-083



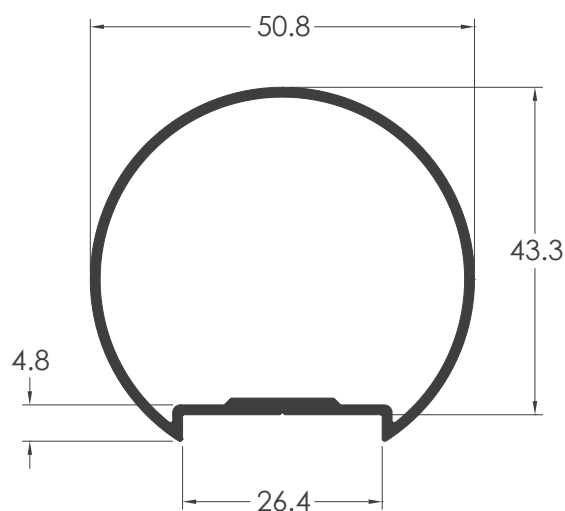
78630

1.053 Kg/m

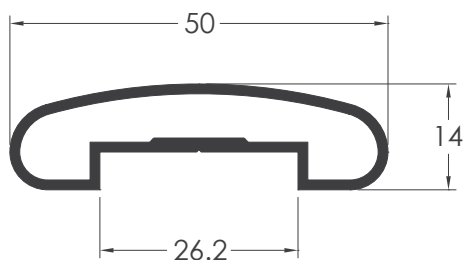
CG-072



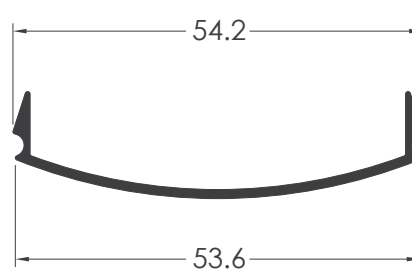
71700	0.598 Kg/m
CG-145	



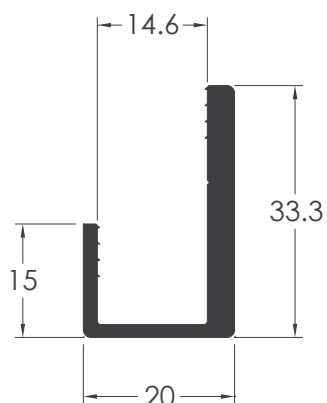
72510	0.438 Kg/m
D-095	



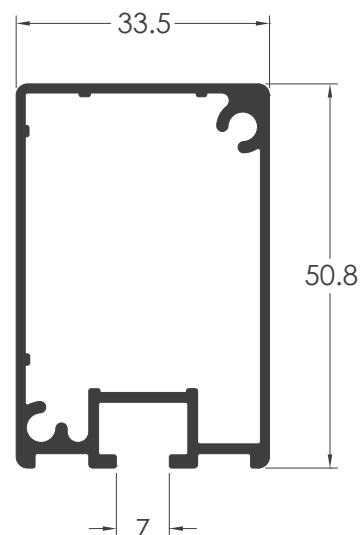
70028	0.235 Kg/m
CG-074	



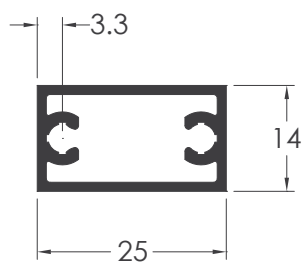
70032	0.466 Kg/m
CG-075	



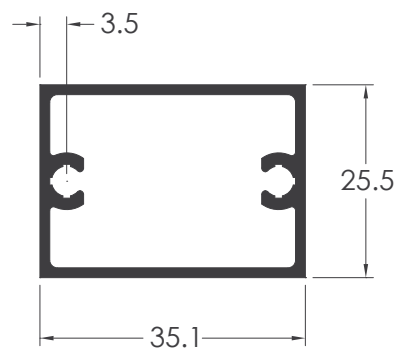
70033	0.739 Kg/m
CG-077	



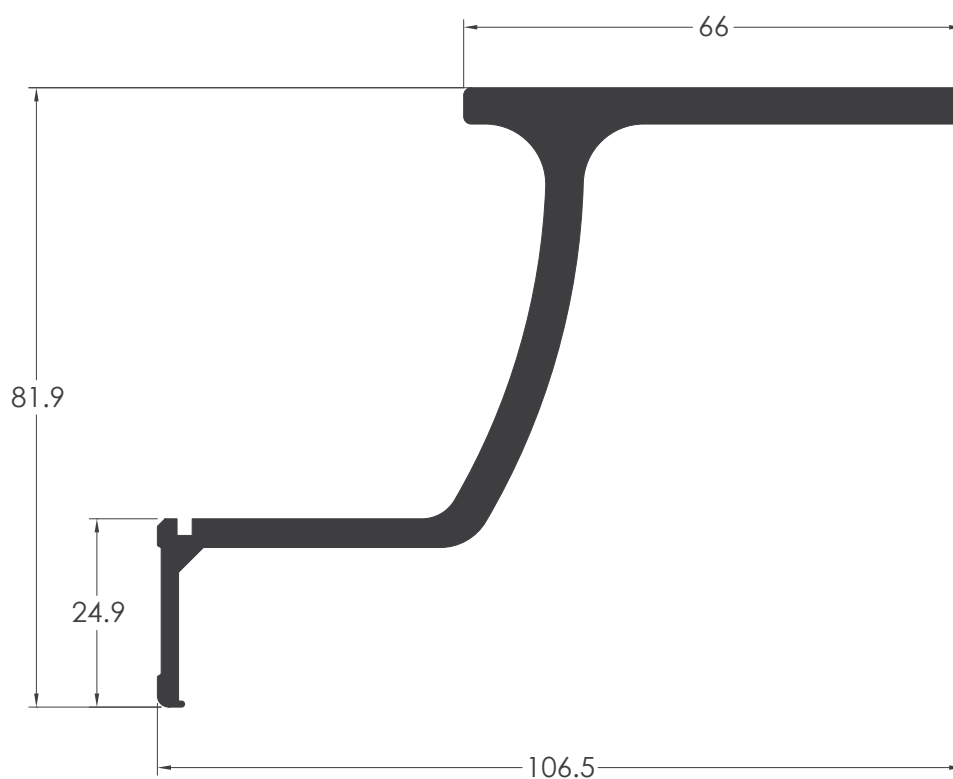
72910	0.322 Kg/m
D-082	



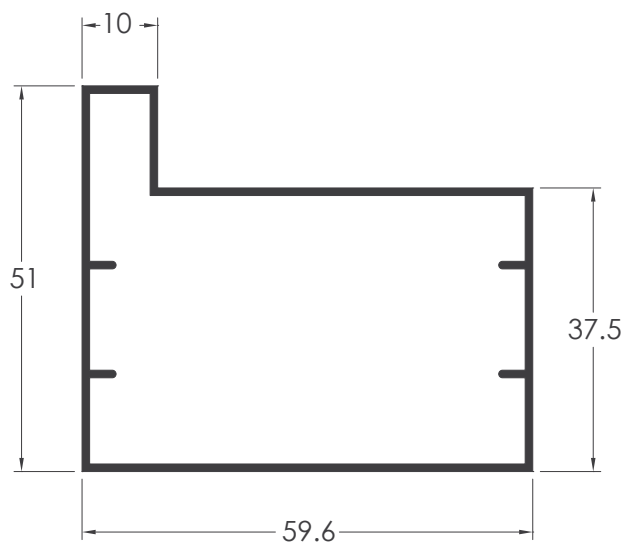
72920	0.507 Kg/m
D-055	



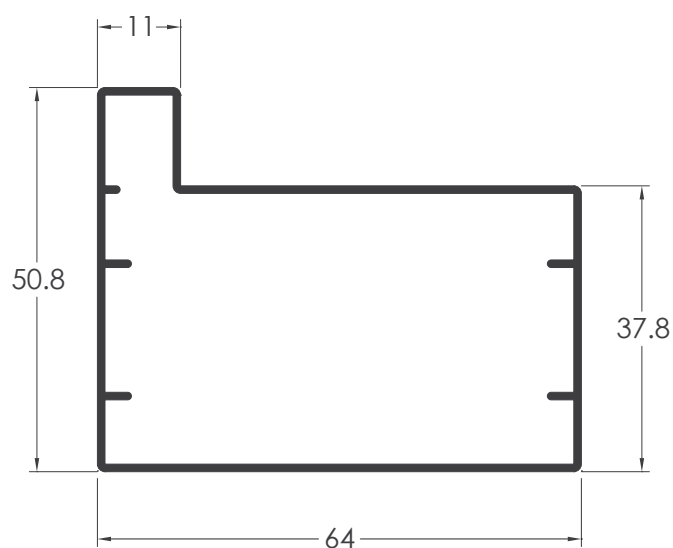
72295	2.241 Kg/m
-	



72321	0.625 Kg/m
-	



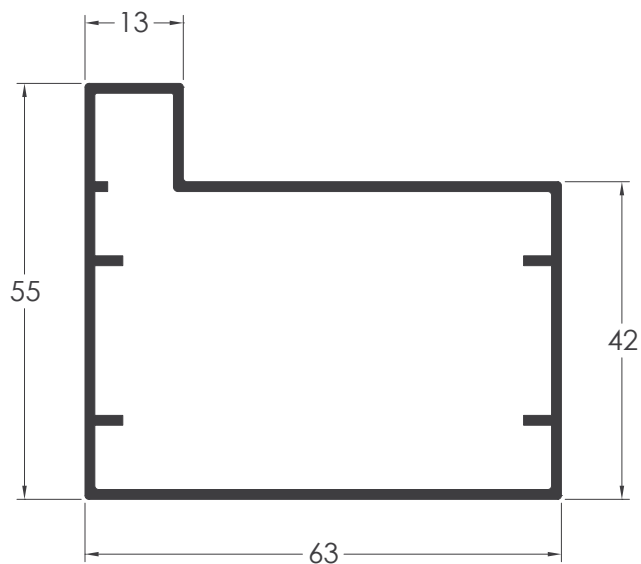
70143	0.649 Kg/m
-	



75480

0.871 Kg/m

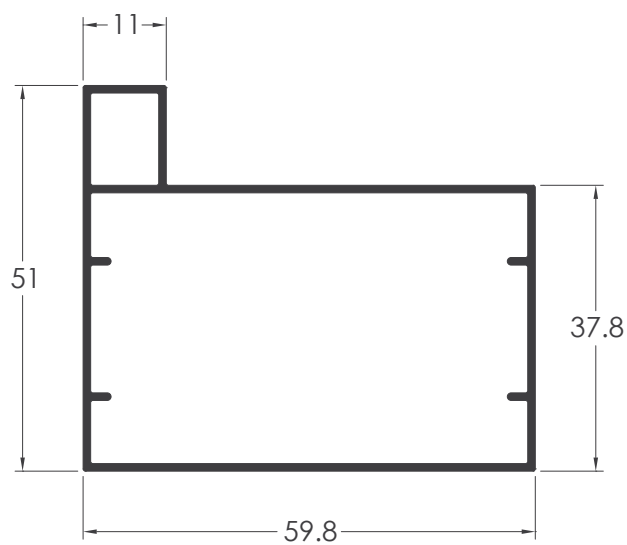
78-137



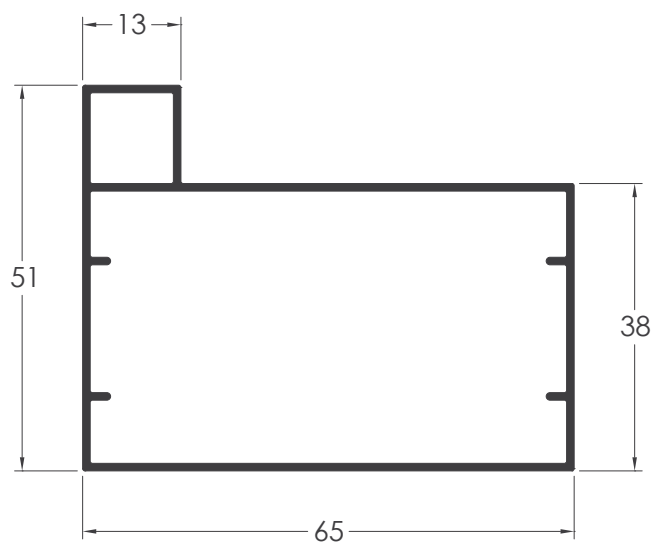
72426

0.642 Kg/m

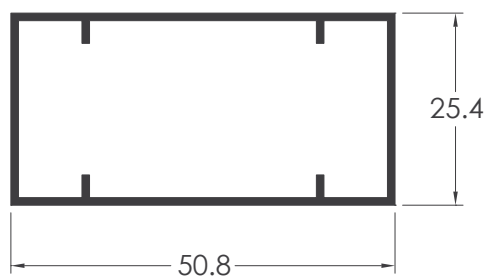
-



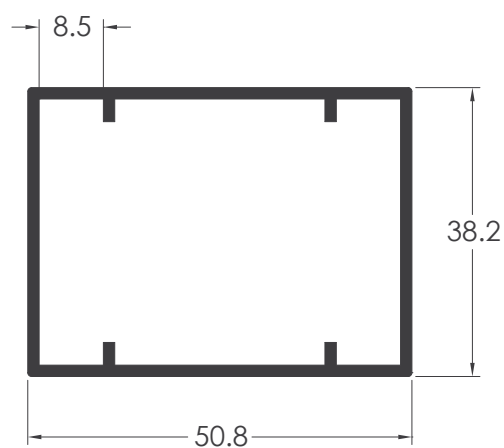
72427	0.676 Kg/m
-	



72660	0.434 Kg/m
D-079	



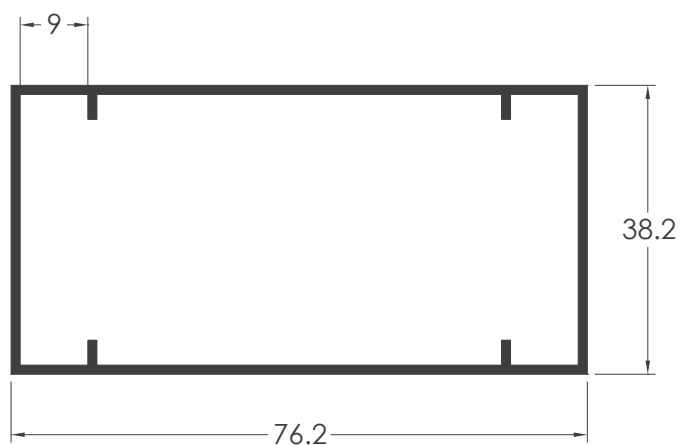
73640	0.748 Kg/m
D-078	



72459

0.771 Kg/m

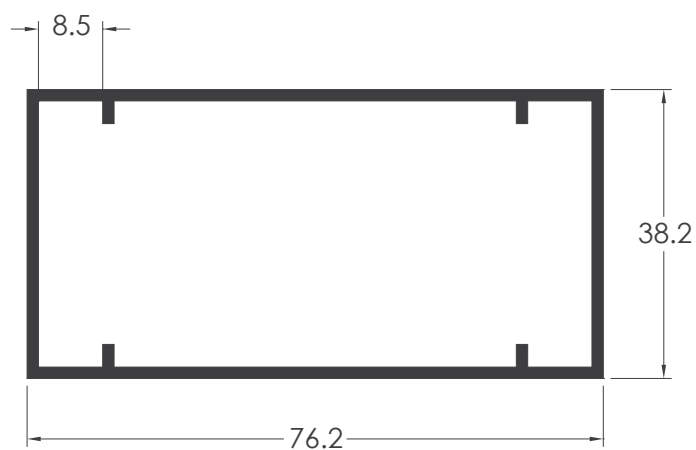
D-069 L



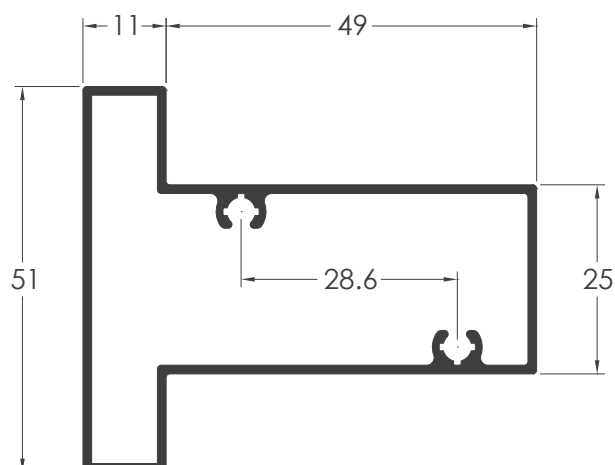
72650

0.957 Kg/m

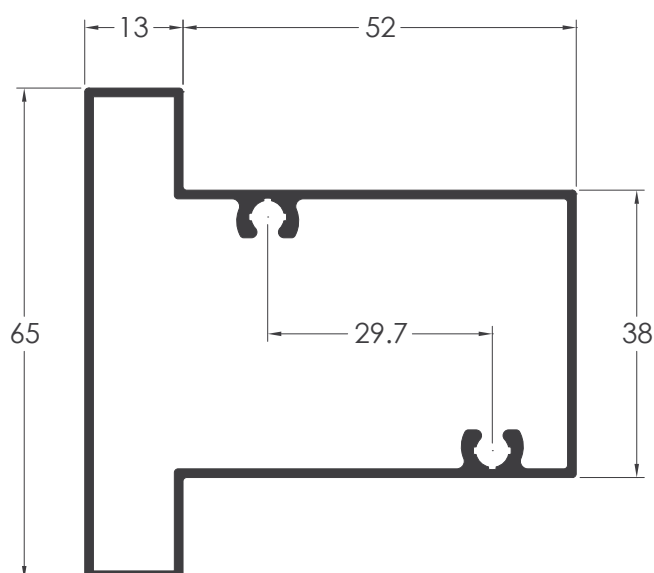
D-069



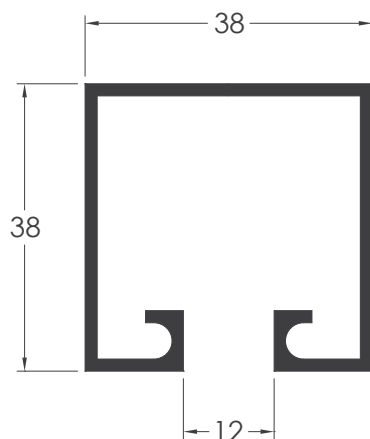
72479	0.885 Kg/m
-	



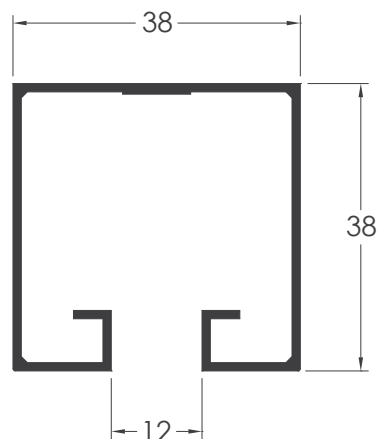
72481	0.914 Kg/m
-	



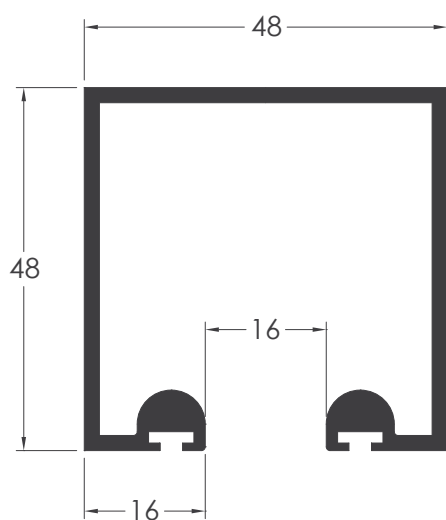
76680	0.680 Kg/m
U-990	



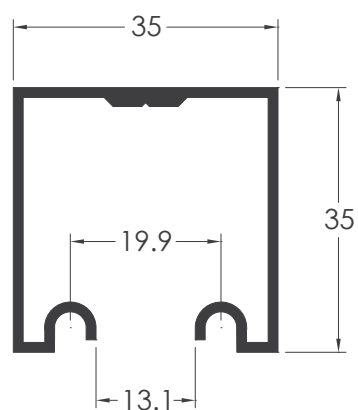
77060	0.480 Kg/m
U-990L	



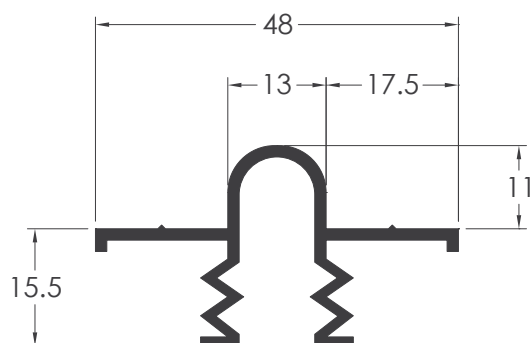
76780	1.099 Kg/m
-	



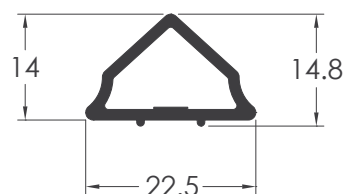
71600	0.507 Kg/m
U-1098	



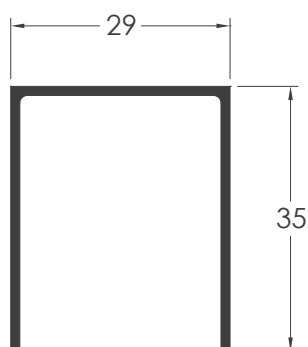
71890	0.425 Kg/m
E-364	



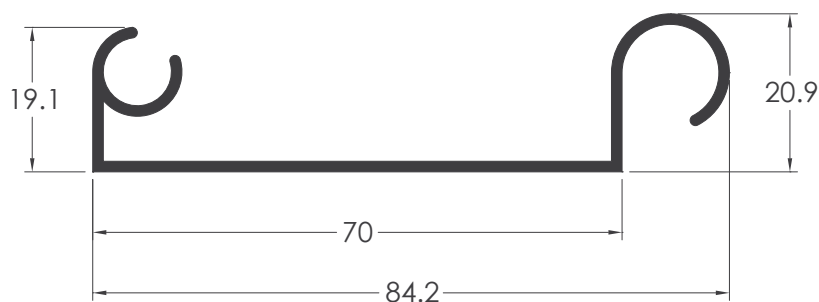
72478	0.215 Kg/m
A-101	



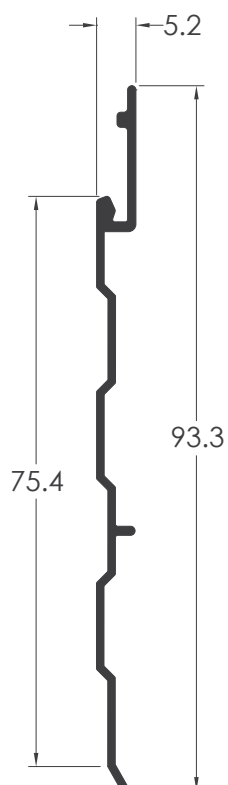
77030	0.315 Kg/m
-	



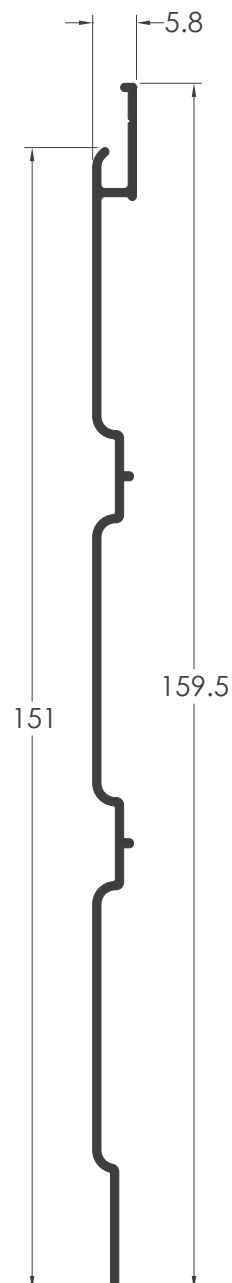
74340	0.562 Kg/m
-	



72290	0.314 Kg/m
-	



72463	0.542 Kg/m
-	



72464

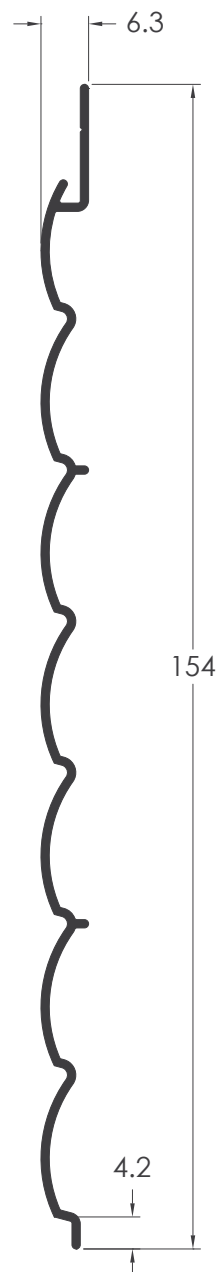
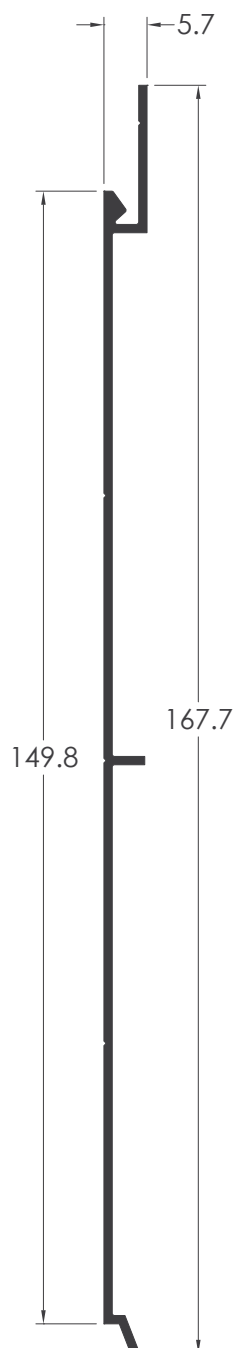
0.556 Kg/m

LB-036 / Y-335L

72404

0.531 Kg/m

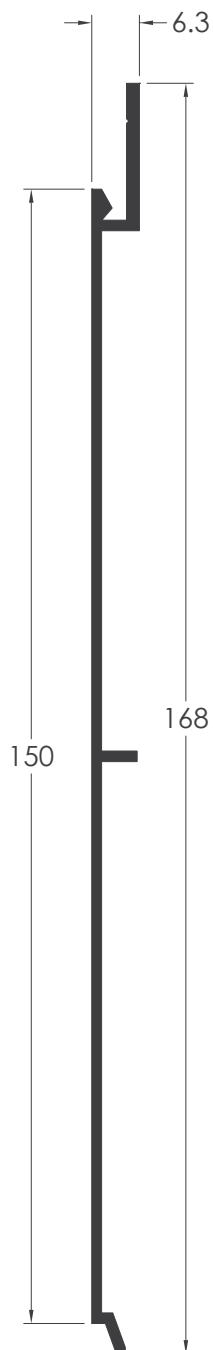
-



72309

0.678 Kg/m

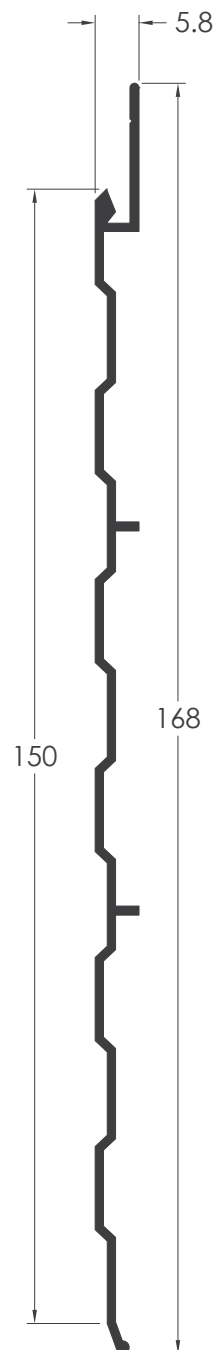
Y-335



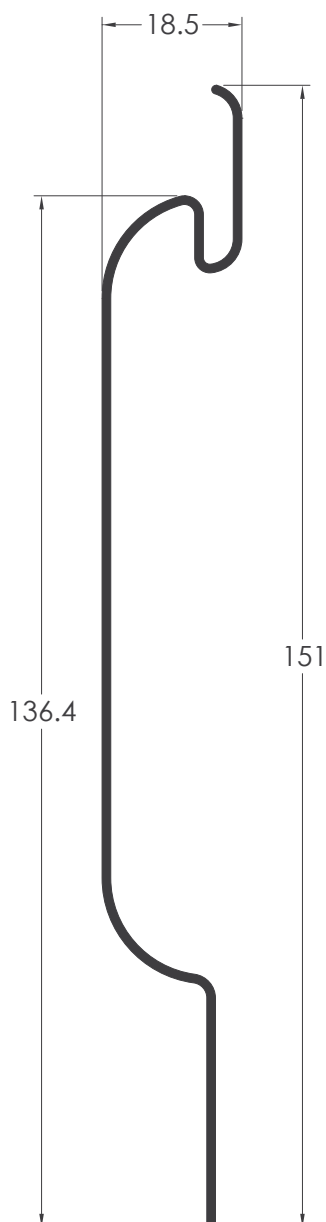
72314

0.587 Kg/m

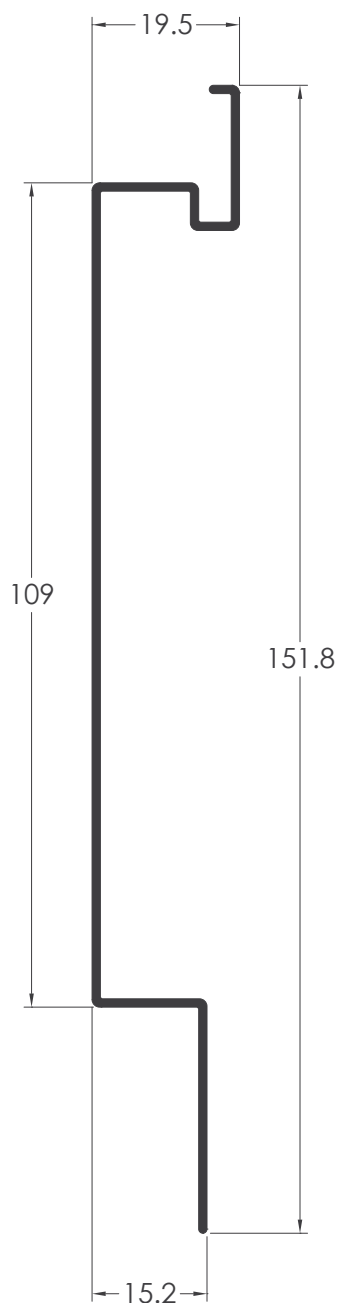
Y-429



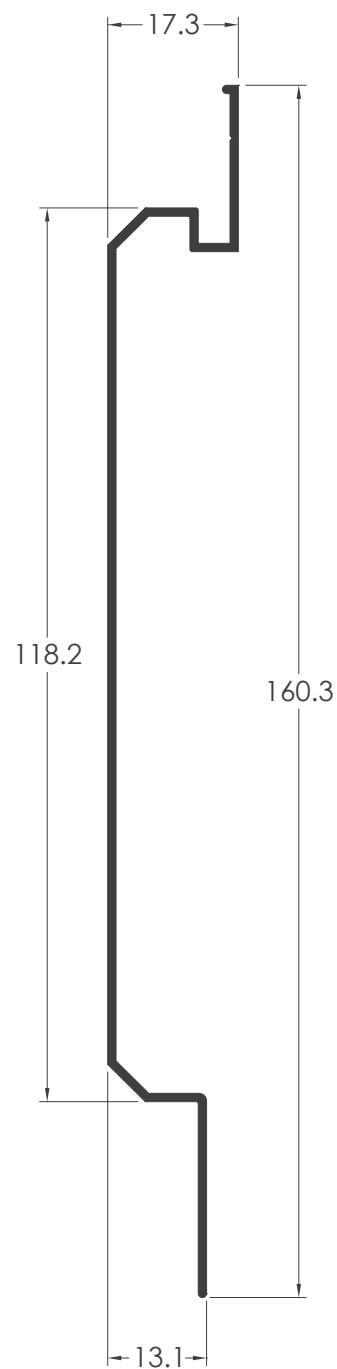
72425	0.580 Kg/m
-	



72359	0.584 Kg/m
-	



72345	0.575 Kg/m
-	



72293

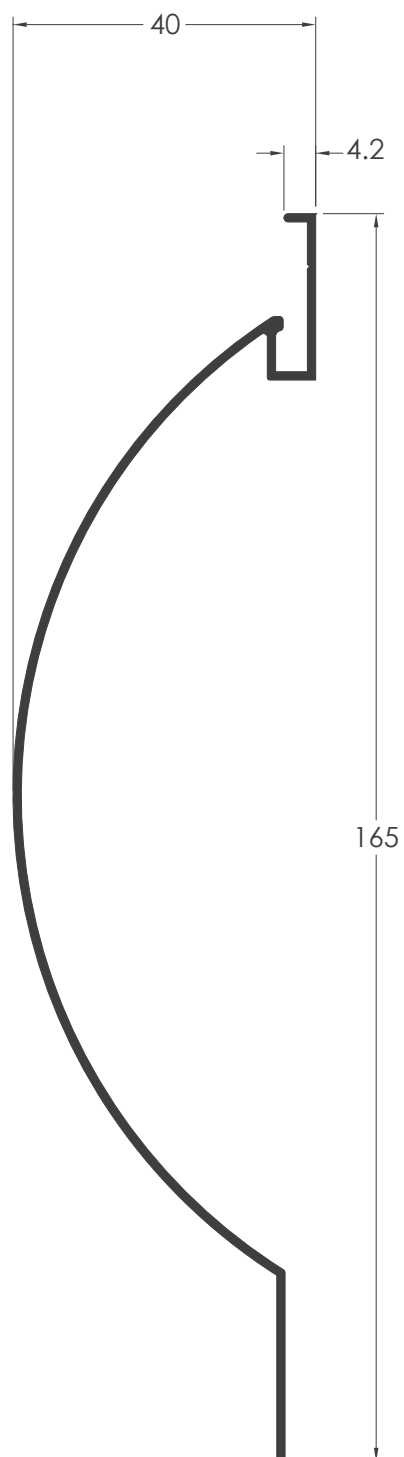
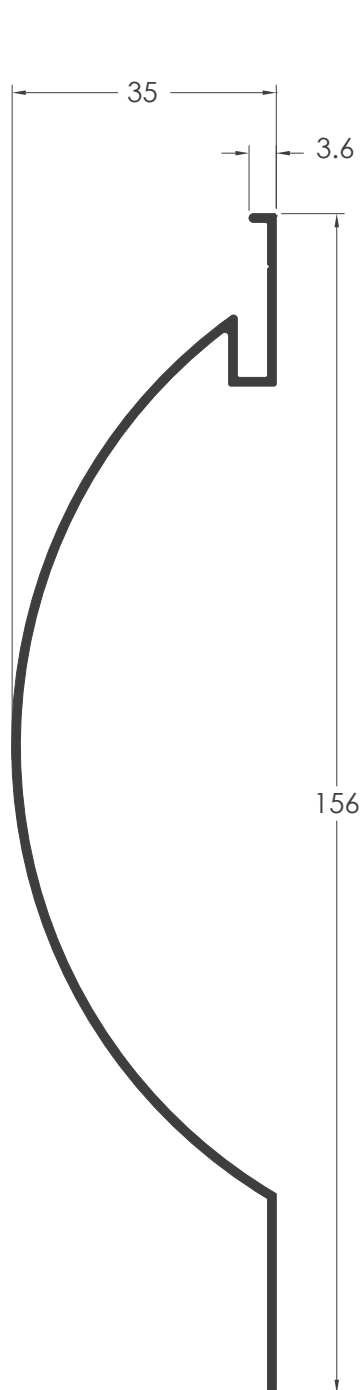
0.626 Kg/m

LB-069P

72322

0.634 Kg/m

LB-069



72308

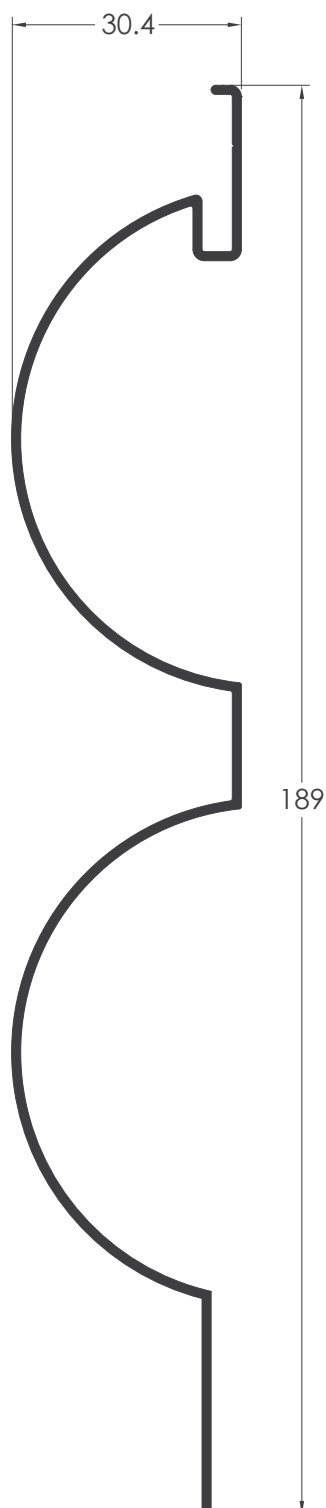
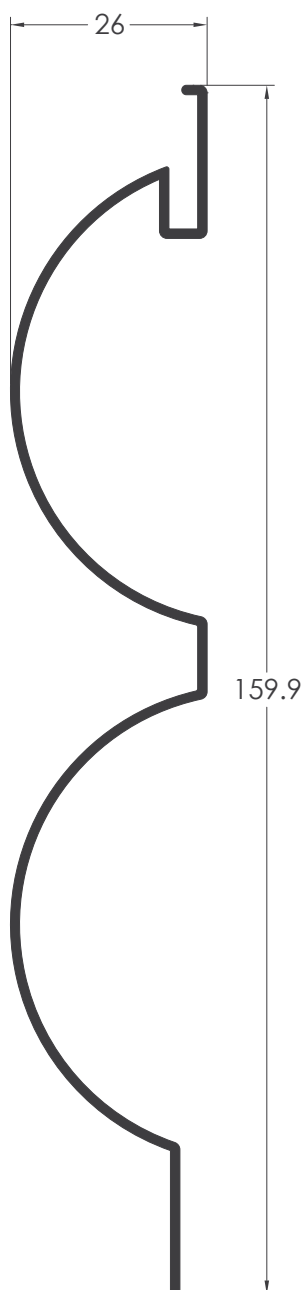
0.736 Kg/m

LB-070P

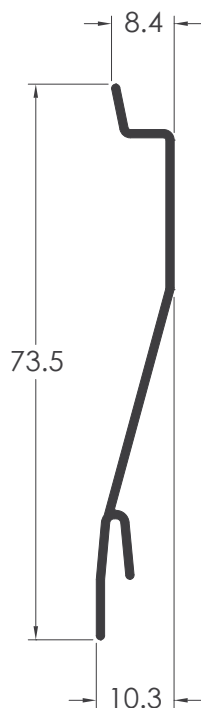
72307

0.857 Kg/m

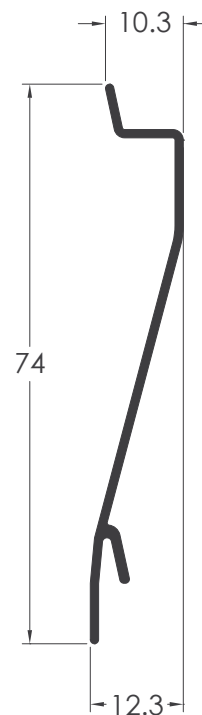
LB-070



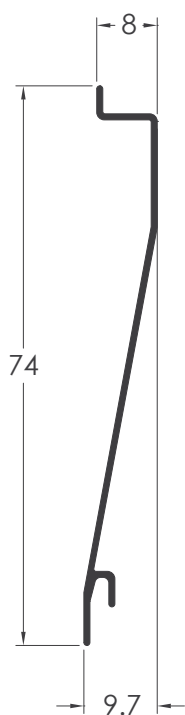
71910	0.265 Kg/m
Z-201	



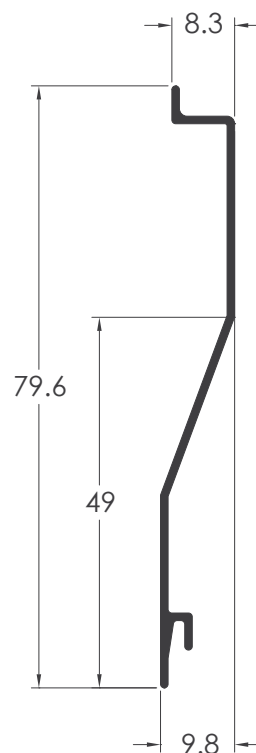
77214	0.275 Kg/m
VZ-051	



72008	0.188 Kg/m
-	

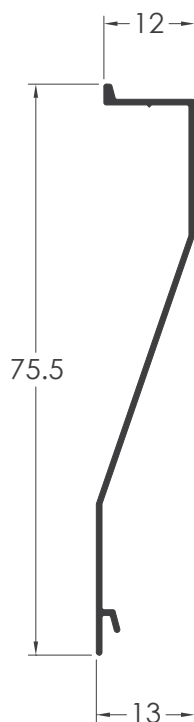


72411	0.263 Kg/m
-	

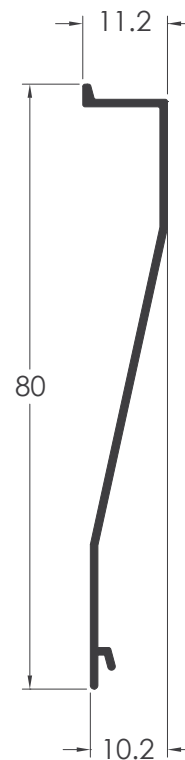


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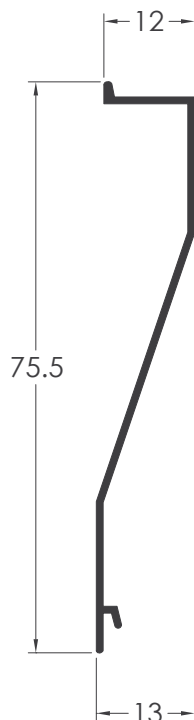
70166	0.189 Kg/m
-	



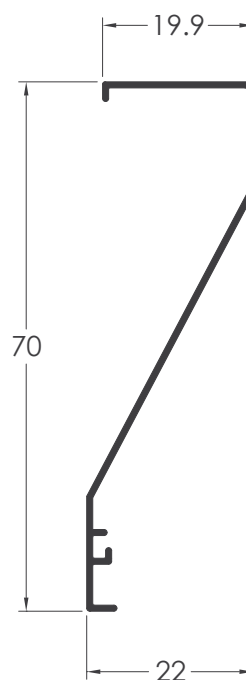
70041	0.258 Kg/m
-	



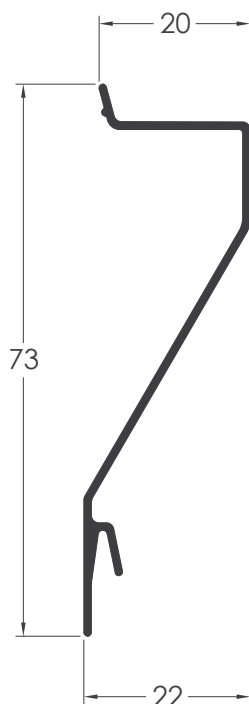
78200	0.226 Kg/m
Z-169	



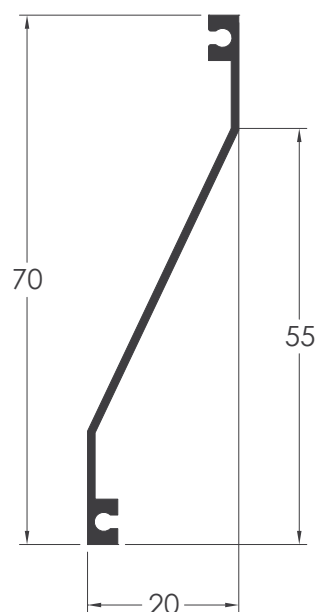
73810	0.282 Kg/m
Z-148	



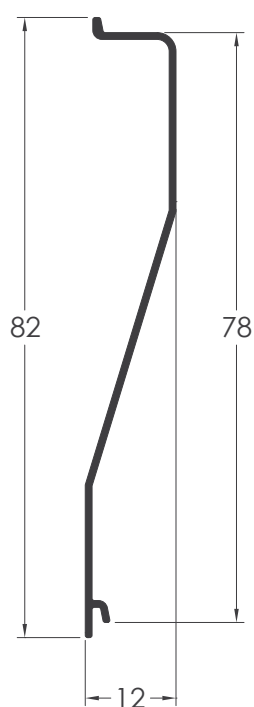
73920	0.293 Kg/m
Z-203	



76690	0.264 Kg/m
Z-145	



72214	0.236 Kg/m
-	

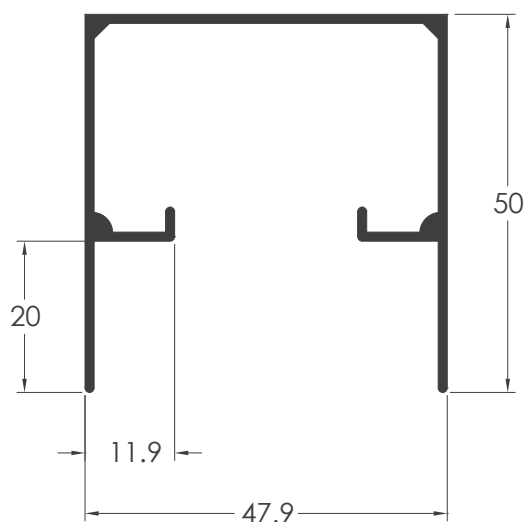


72215	0.220 Kg/m
-	

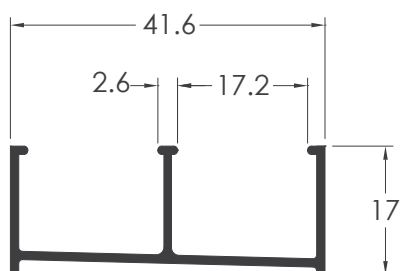


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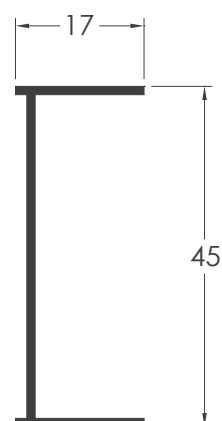
72870	0.599 Kg/m
U-397	



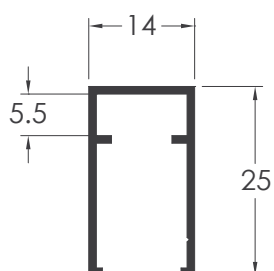
72880	0.268 Kg/m
E-117	



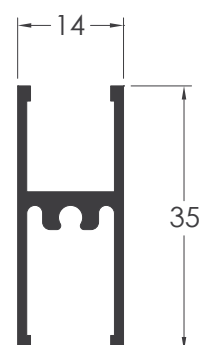
72890	0.228 Kg/m
U-399	



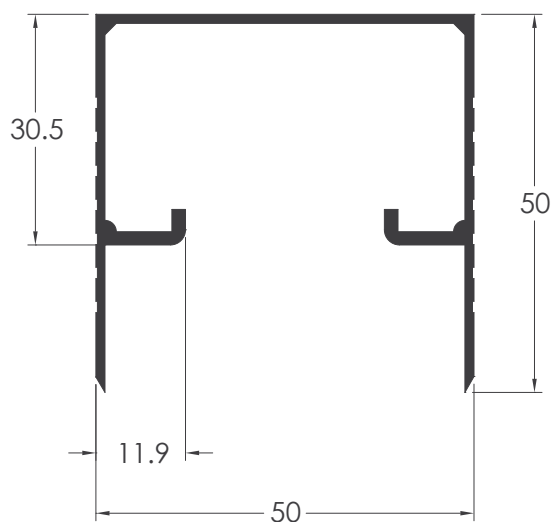
72840	0.182 Kg/m
U-1056	



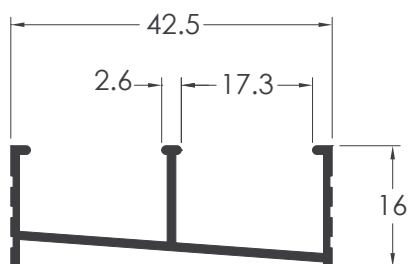
72900	0.339 Kg/m
I-083	



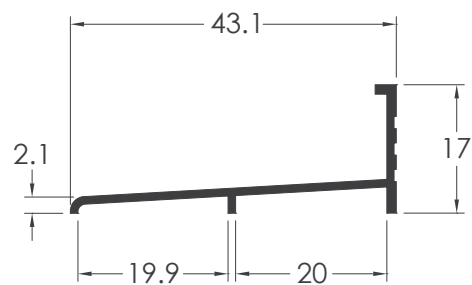
71390	0.605 Kg/m
U-655	



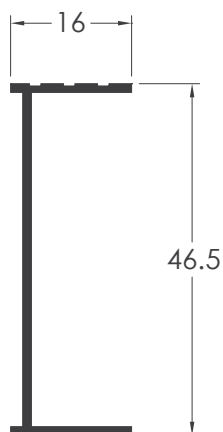
71380	0.264 Kg/m
E-256	



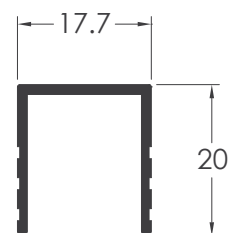
71540	0.205 Kg/m
BX-153	



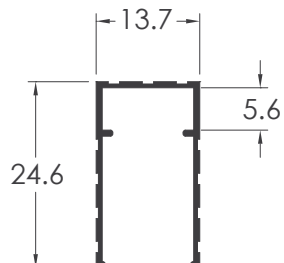
71400	0.224 Kg/m
U-653	



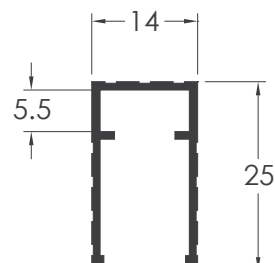
70830	0.185 Kg/m
U-654	



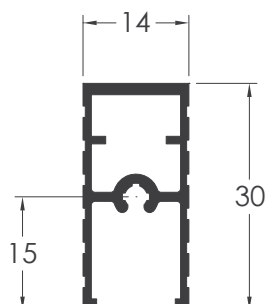
76740	0.126 Kg/m
U-1002	



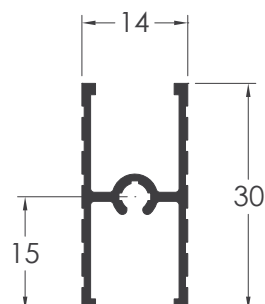
71370	0.191 Kg/m
U-562	



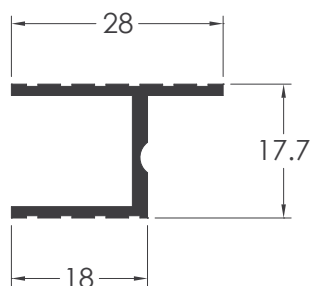
72400	0.287 Kg/m
A-087	



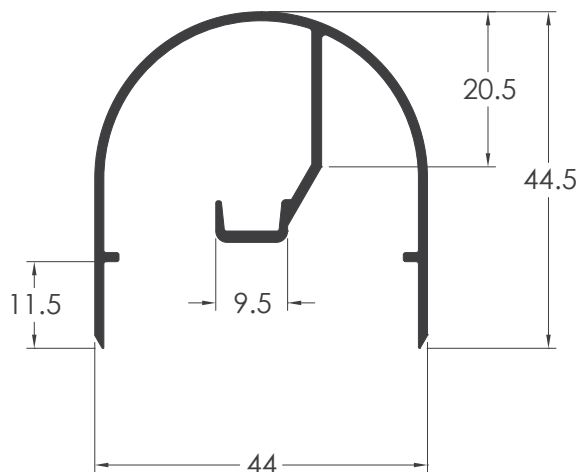
71440	0.245Kg/m
I-154	



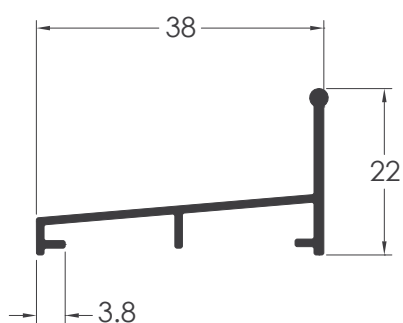
72320	0.250 Kg/m
Y-311	



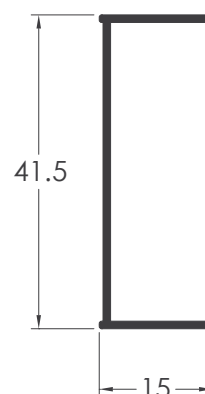
78250	0.521 Kg/m
Chapéu RX Liso	



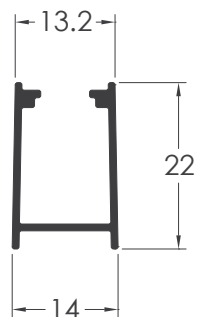
78220	0.219 Kg/m
BX-089 Liso	



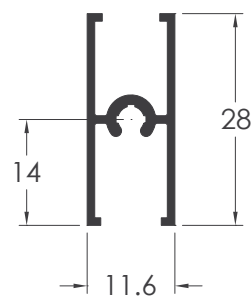
78240	0.187 Kg/m
BX-085 Liso	



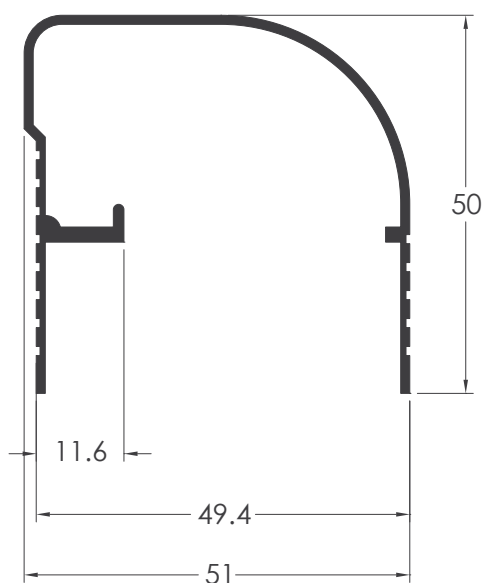
78210	0.162 Kg/m
BX-087 Liso	



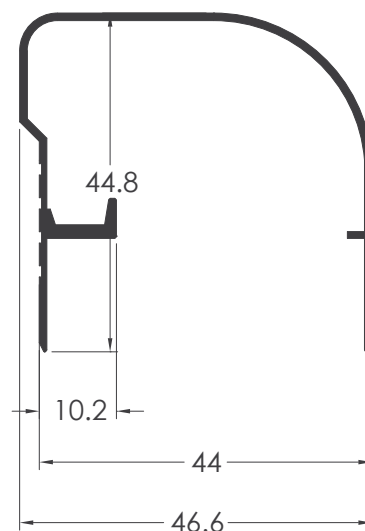
78230	0.218 Kg/m
BX-090 Liso	



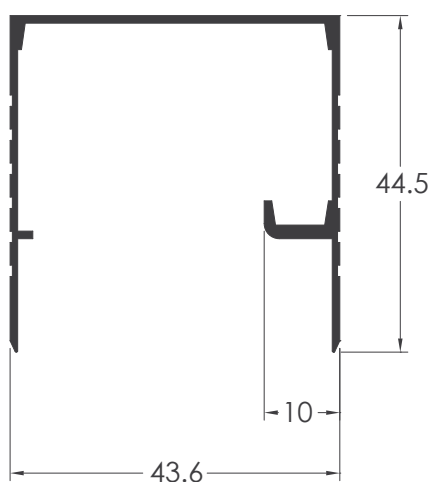
71530	0.508 Kg/m
-	



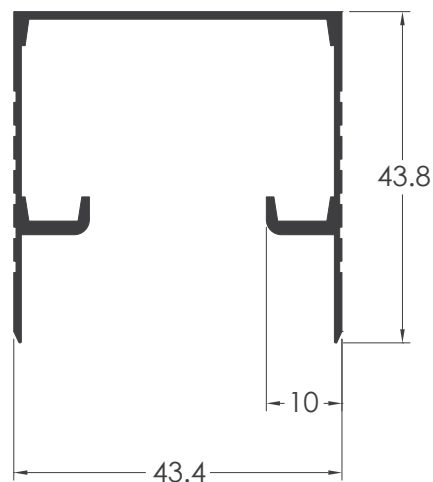
76430	0.421 Kg/m
BX-086R	



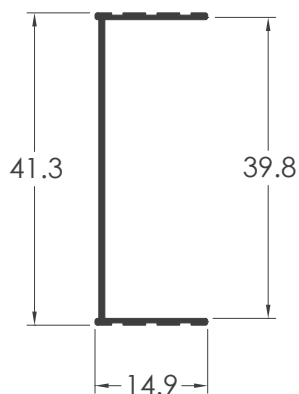
77040	0.414 Kg/m
BX-0860	



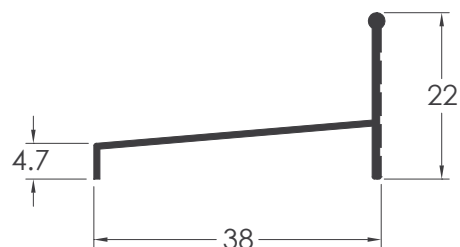
72507	0.464 Kg/m
-	



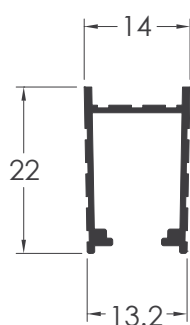
76410	0.157 Kg/m
BX-085	



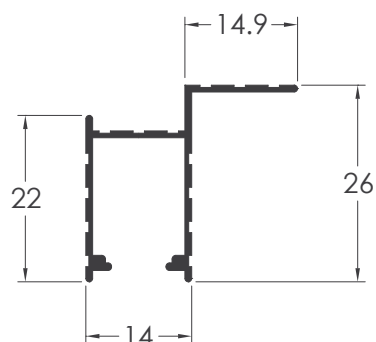
76420	0.166 Kg/m
BX-089	



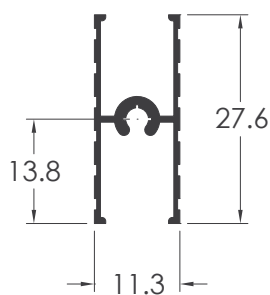
76380	0.143 Kg/m
BX-087	



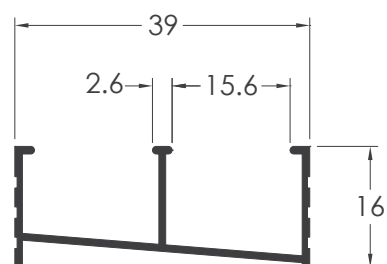
76390	0.189 Kg/m
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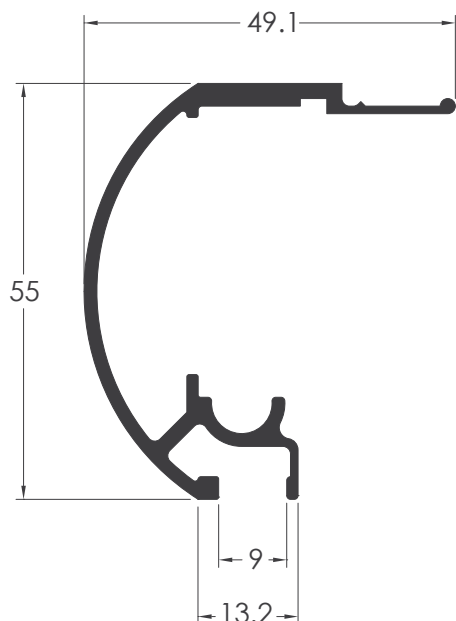
76400	0.171 Kg/m
BX-090	



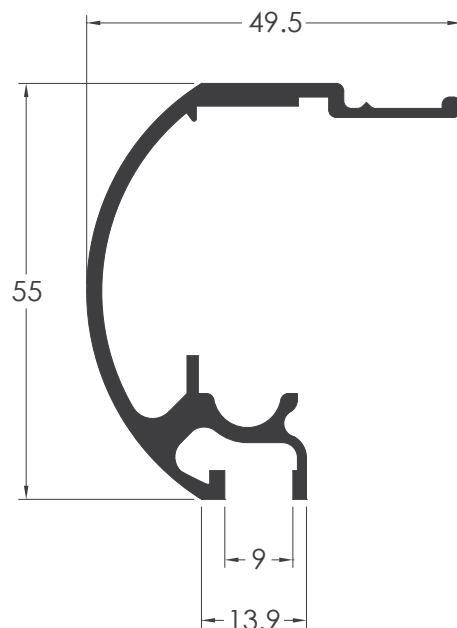
72508	0.213 Kg/m
-	



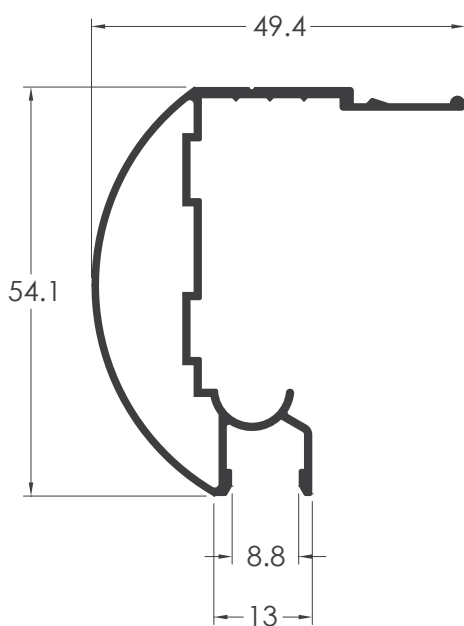
76880	0.700 Kg/m
-	-



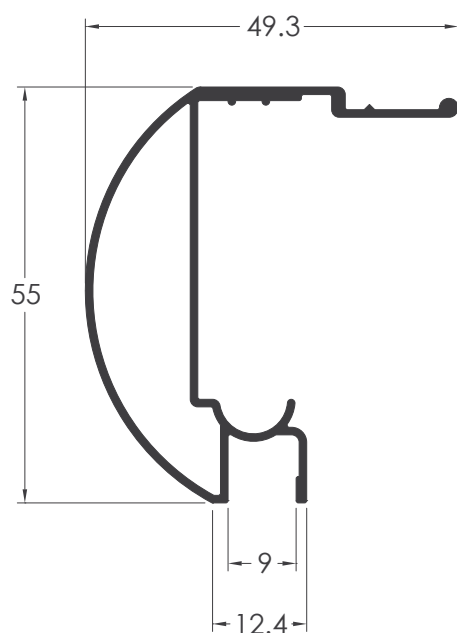
73010	0.824 Kg/m
-	-



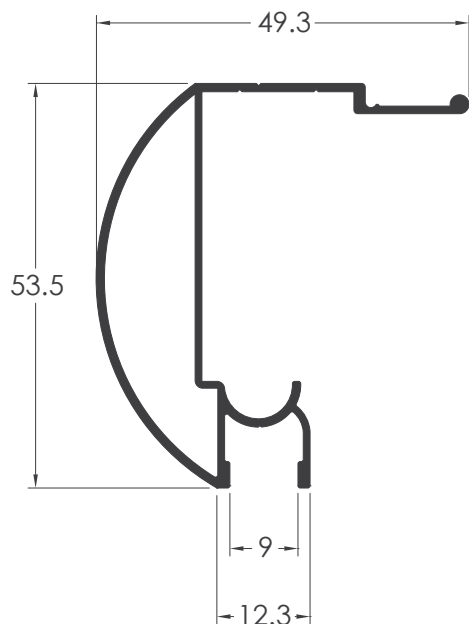
79790	0.579 Kg/m
-	-



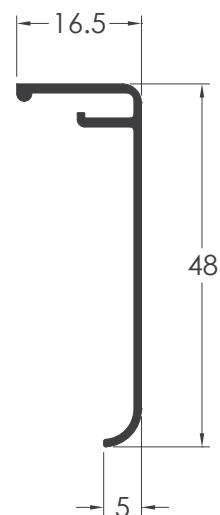
78360	0.520 Kg/m
-	-



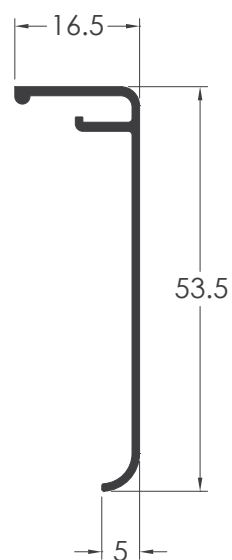
76850	0.520 Kg/m
-	



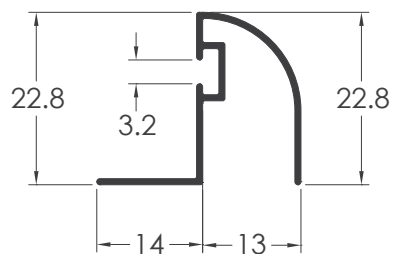
73060	0.215 Kg/m
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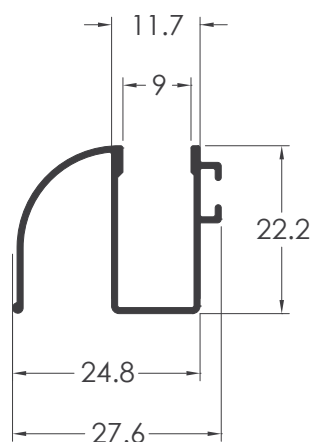
72344	0.229 Kg/m
-	



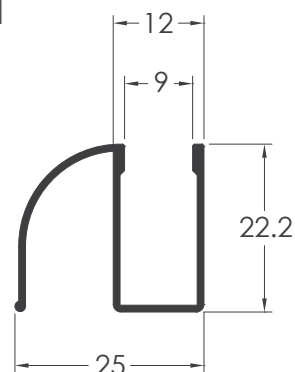
72085	0.161 Kg/m
-	



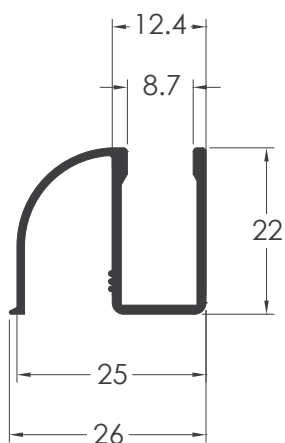
72277	0.209 Kg/m
-	



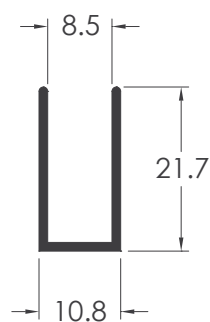
76870	0.210 Kg/m
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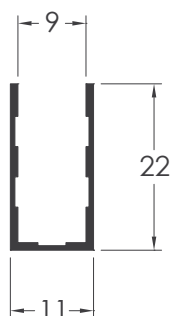
73000	0.267 Kg/m
-	



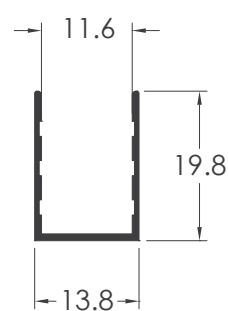
76770	0.156 Kg/m
-	



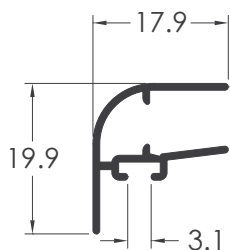
70025	0.122 Kg/m
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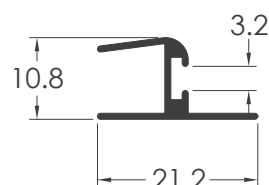
70026	0.138 Kg/m
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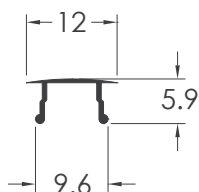
79770	0.146 Kg/m
-	



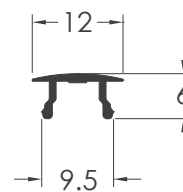
79780	0.113 Kg/m
-	



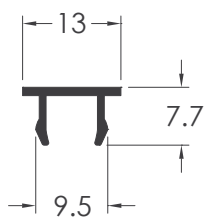
76860	0.042 Kg/m
-	



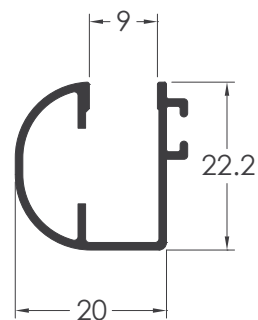
73110	0.053 Kg/m
-	



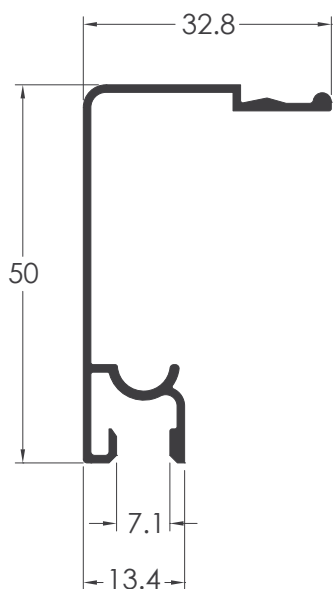
76470	0.075 Kg/m
-	



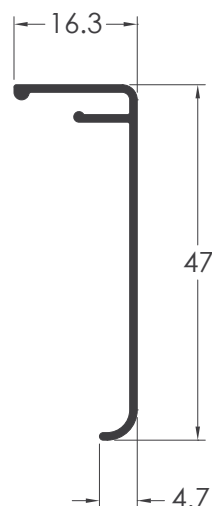
72484	0.226 Kg/m
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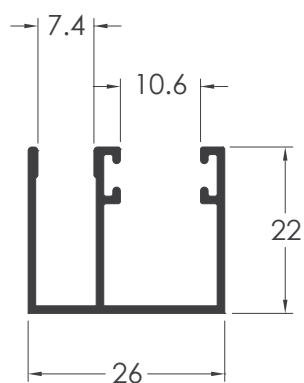
72474	0.342 Kg/m
-	



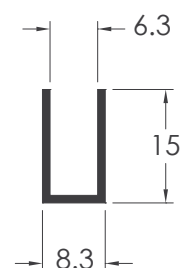
72475	0.199 Kg/m
-	



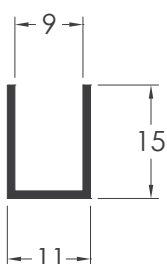
72472	0.284 Kg/m
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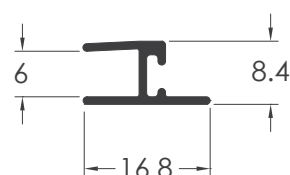
72469	0.098 Kg/m
-	



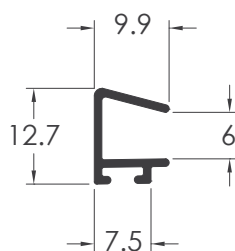
72471	0.106 Kg/m
-	



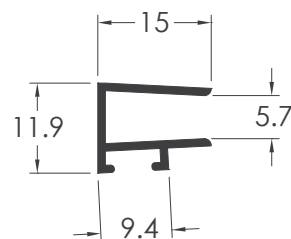
72473	0.103 Kg/m
-	



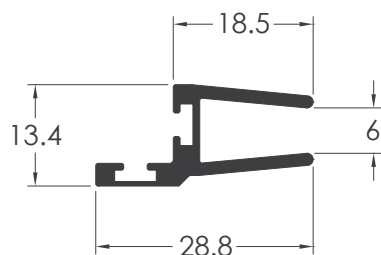
72477	0.094 Kg/m
-	



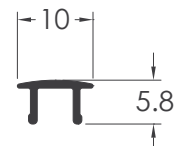
78950	0.120 Kg/m
-	



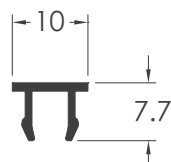
78930	0.269 Kg/m
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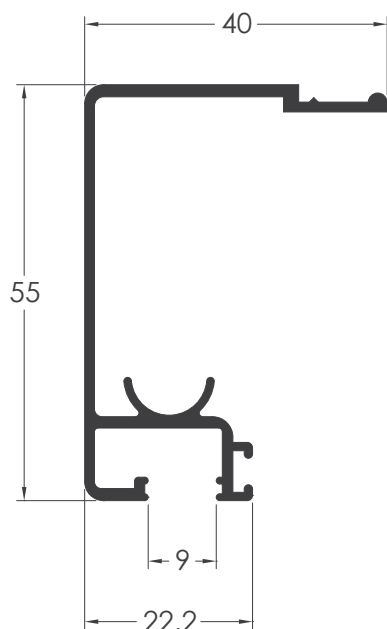
72476	0.048 Kg/m
-	



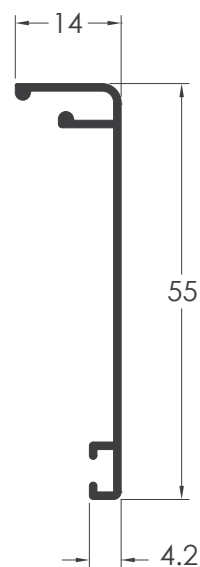
78940	0.065 Kg/m
-	



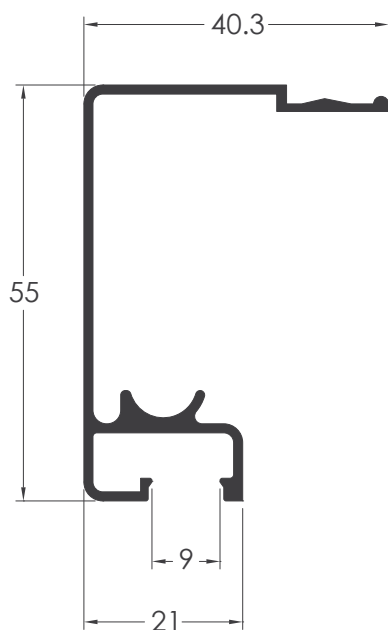
77870	0.569 Kg/m
-	



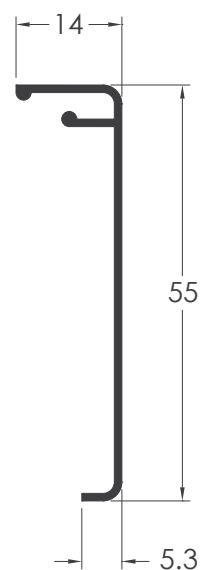
77880	0.233 Kg/m
-	



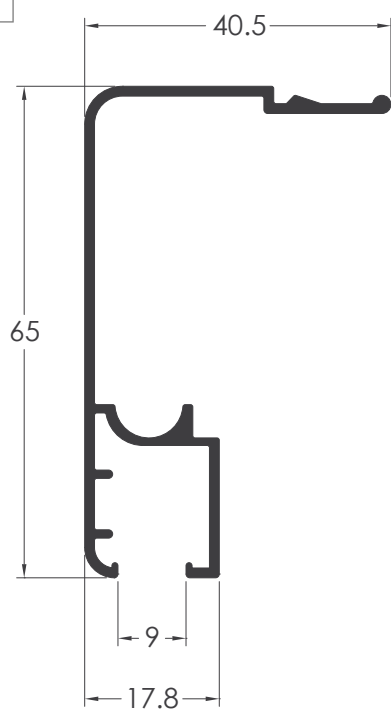
76440	0.508 Kg/m
-	



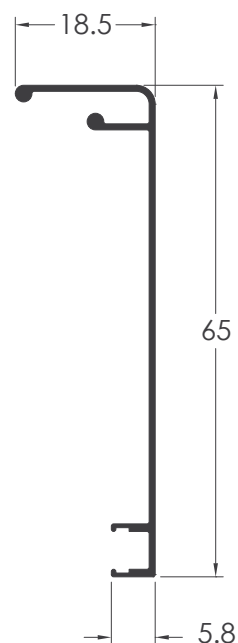
76450	0.217 Kg/m
-	



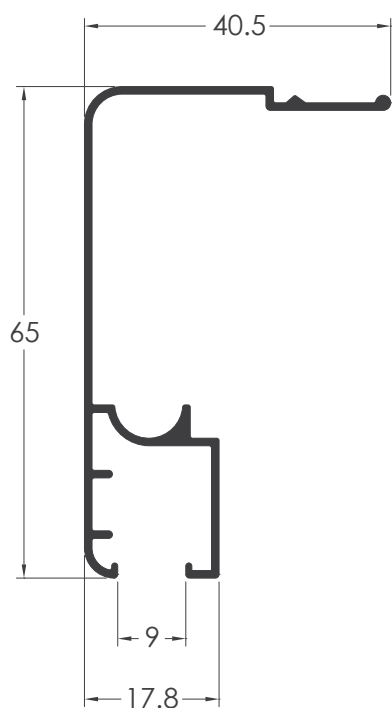
72780	0.559 Kg/m
-	



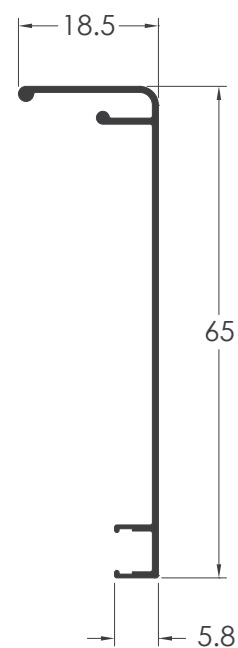
72790	0.229 Kg/m
-	



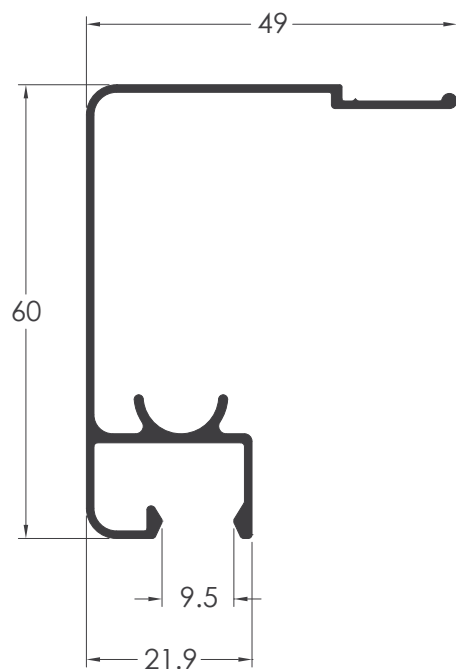
72096	0.445 Kg/m
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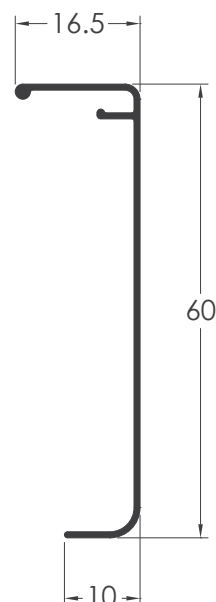
72097	0.220 Kg/m
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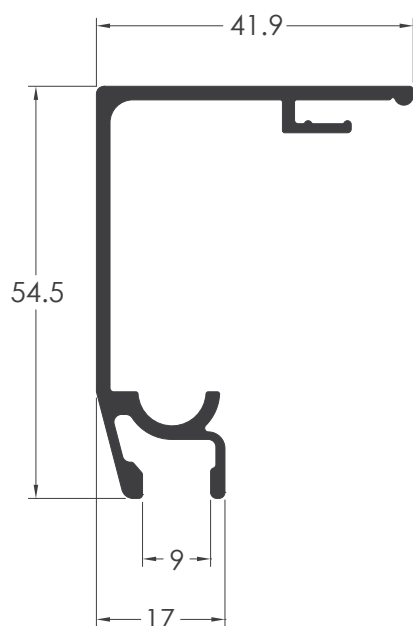
72143	0.495 Kg/m
-	



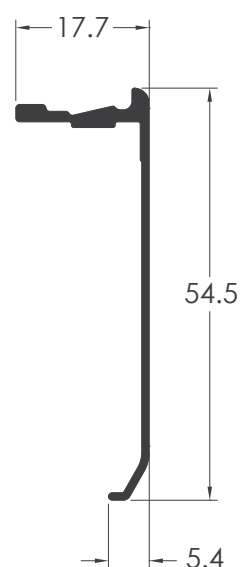
72142	0.195 Kg/m
-	



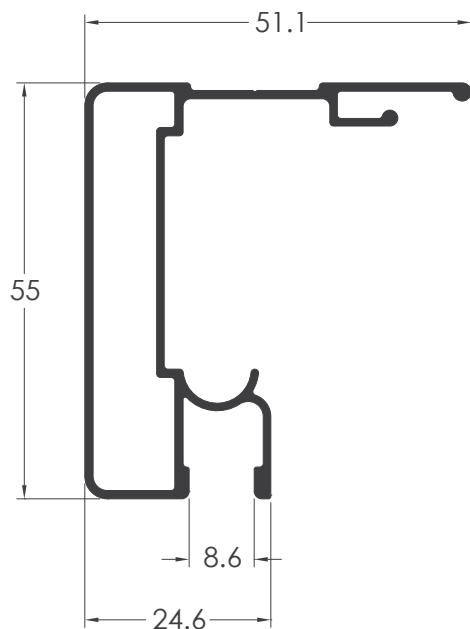
72342	0.659 Kg/m
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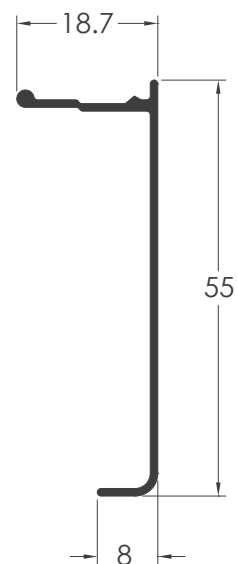
72343	0.253 Kg/m
-	



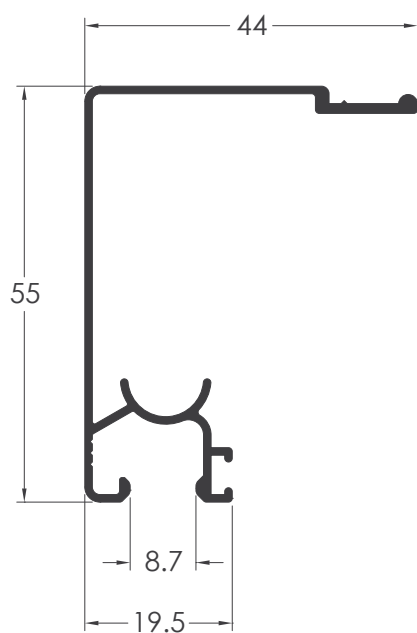
72465	0.657 Kg/m
-	



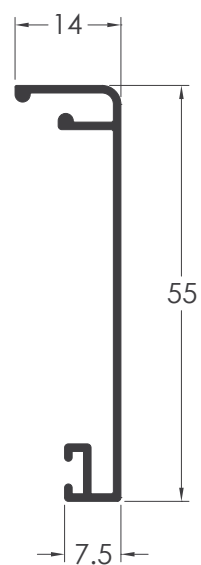
72466	0.223 Kg/m
-	



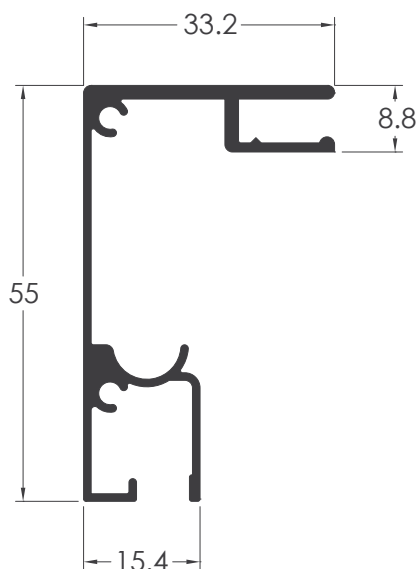
70117	0.431 Kg/m
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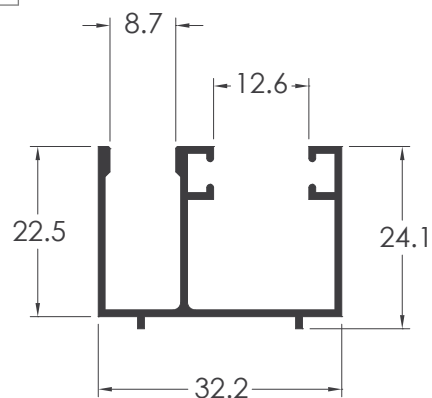
72361	0.260 Kg/m
-	



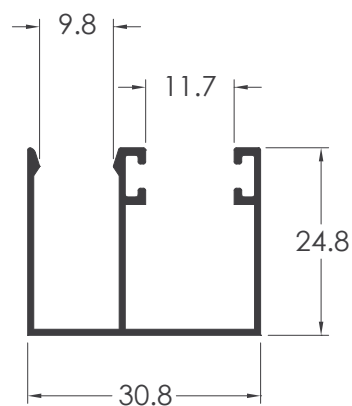
78900	0.590 Kg/m
-	



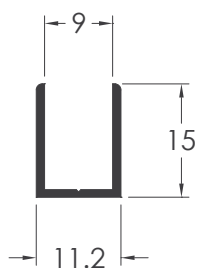
76460	0.315 Kg/m
-	



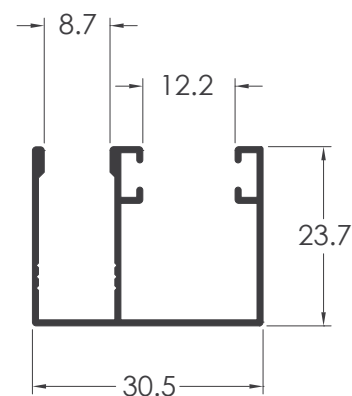
72144	0.272 Kg/m
-	



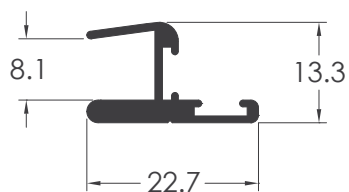
76490	0.112 Kg/m
-	



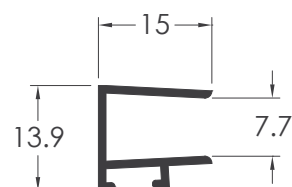
70118	0.262 Kg/m
-	



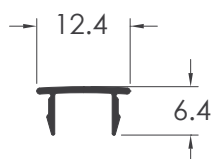
76480	0.219 Kg/m
-	



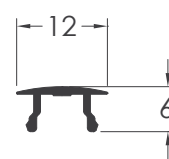
76500	0.126 Kg/m
-	



72145	0.048 Kg/m
-	

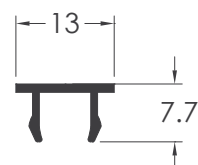
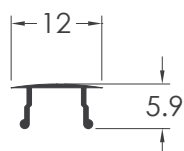


73110	0.053 Kg/m
-	

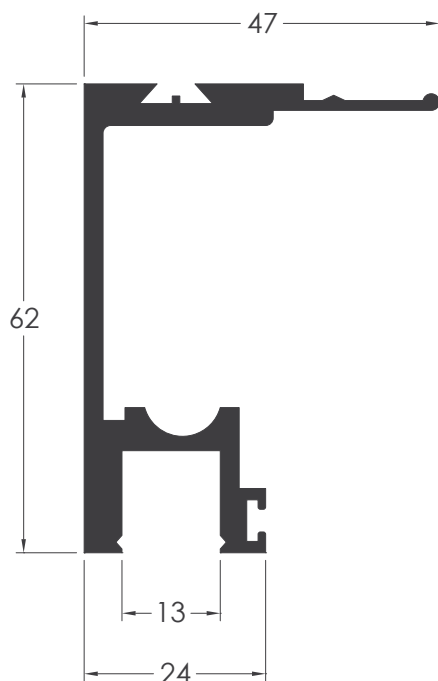


76860	0.042 Kg/m
-	

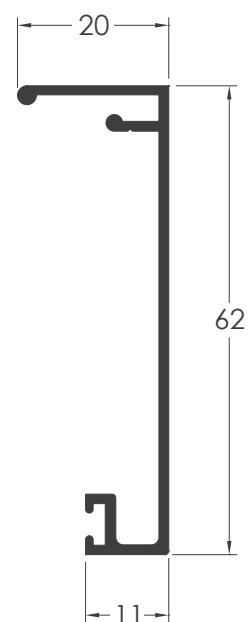
76470	0.075 Kg/m
-	



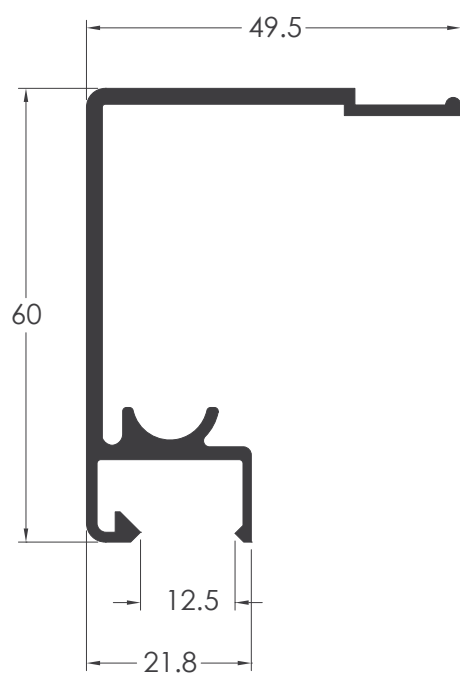
72670	1.266 Kg/m
L-713	



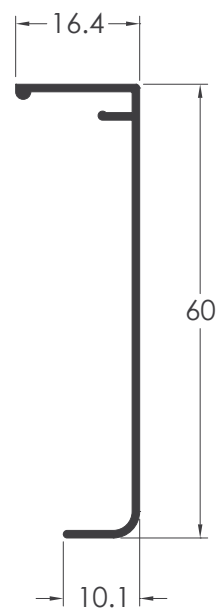
72680	0.385 Kg/m
E-512	



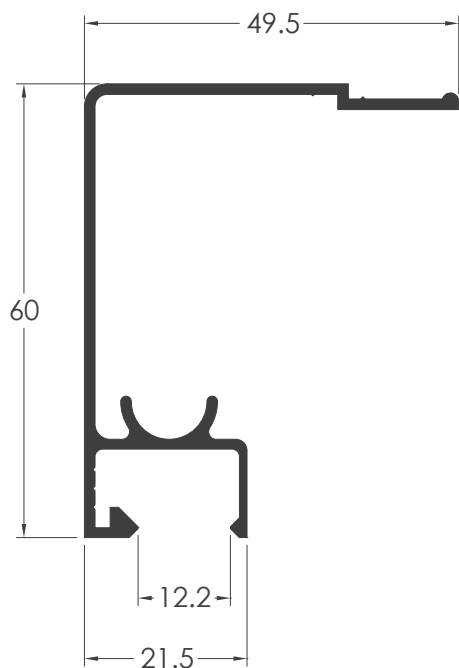
76700	0.809 Kg/m
-	



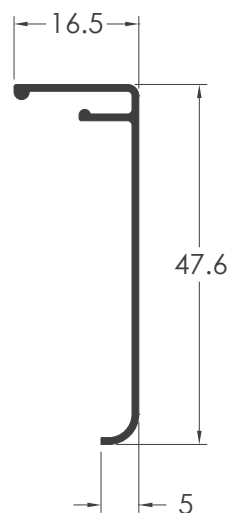
76900	0.241 Kg/m
-	



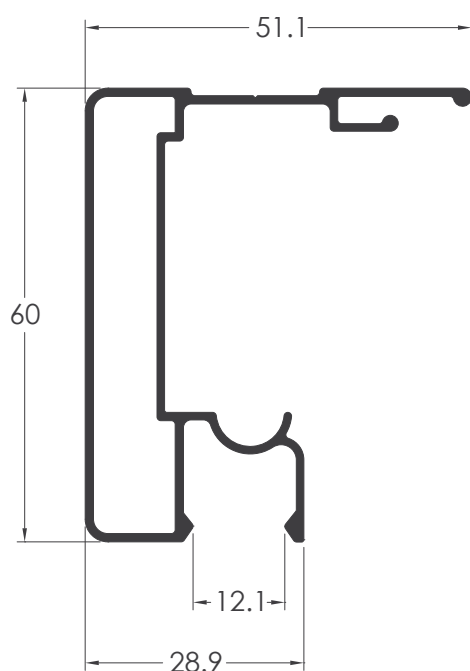
76840	0.619 Kg/m
-	-



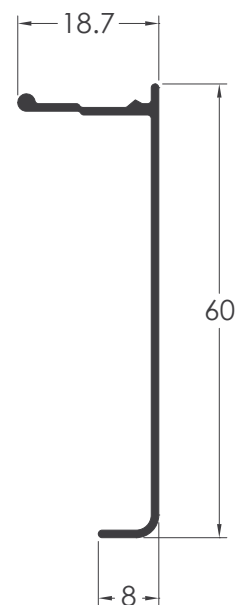
76830	0.201 Kg/m
-	-



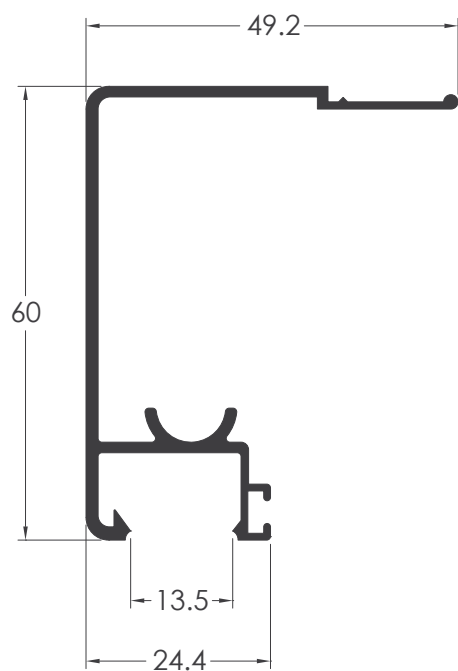
72467	0.696 Kg/m
-	-



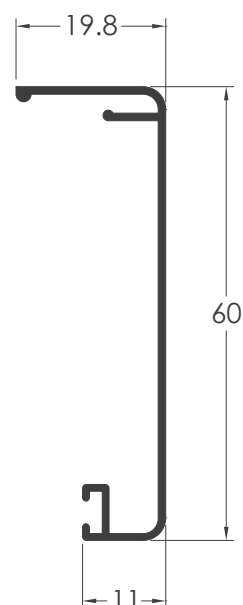
72468	0.237 Kg/m
-	-



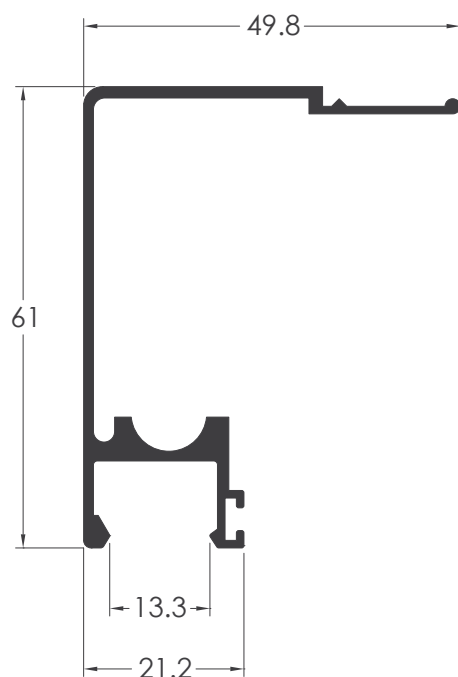
77850	0.621 Kg/m
-	



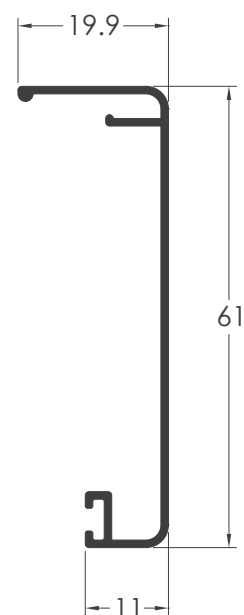
77860	0.284 Kg/m
-	



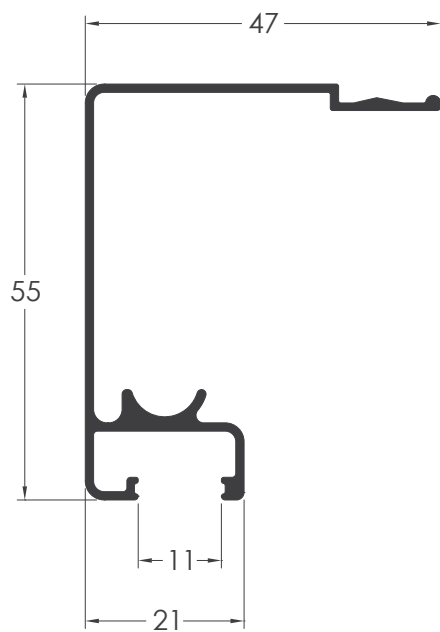
79820	0.644 Kg/m
-	



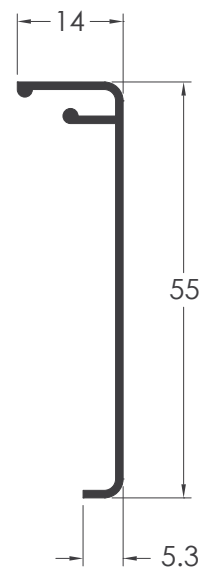
79810	0.293 Kg/m
-	



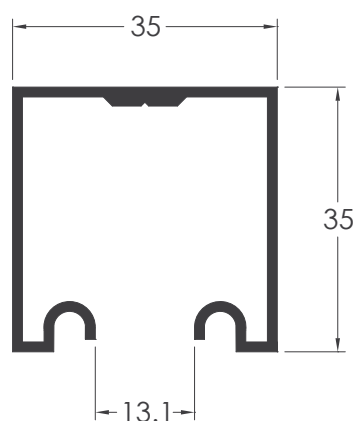
72279	0.493 Kg/m
-	



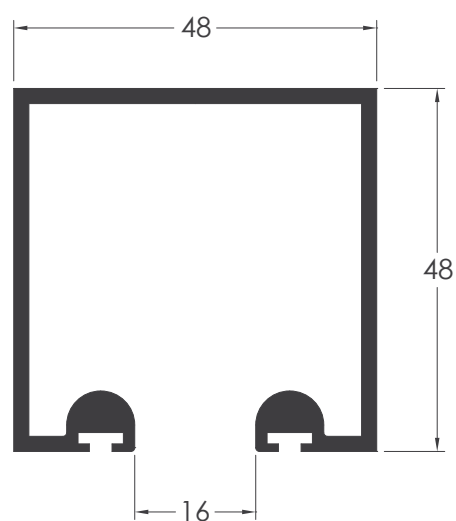
76450	0.217 Kg/m
-	



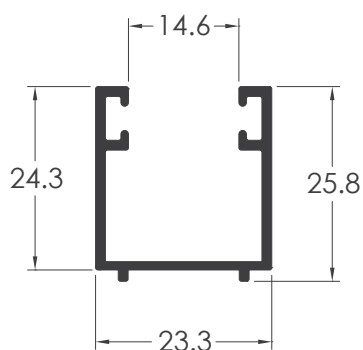
71600	0.507 Kg/m
-	



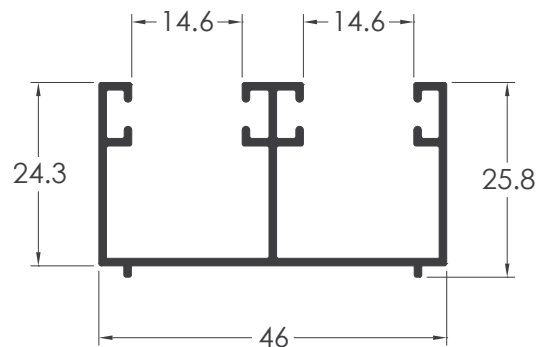
76780	1.099 Kg/m
-	



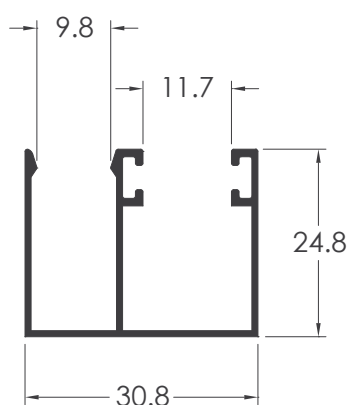
70142	0.298 Kg/m
-	



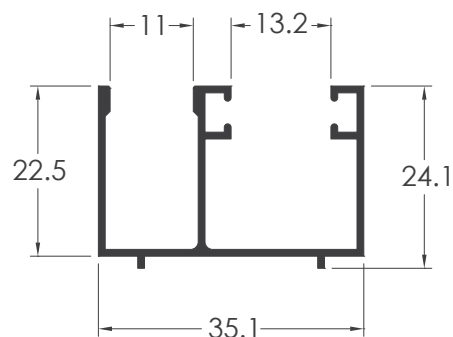
71028	0.430 Kg/m
-	



72144	0.272 Kg/m
-	

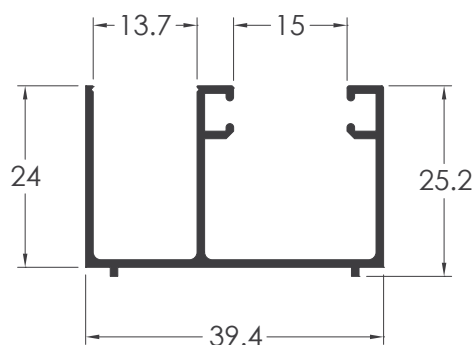
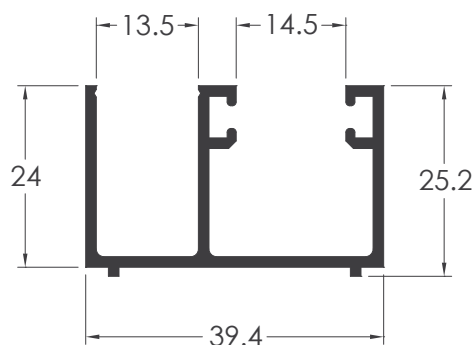


72282	0.308 Kg/m
-	

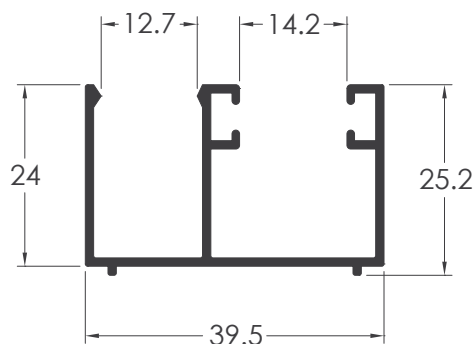


72690	0.482 Kg/m
-	

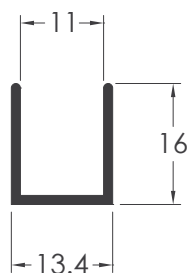
76890	0.354 Kg/m
E-306L	



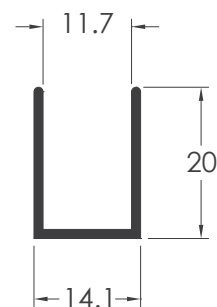
79840	0.395 Kg/m
-	



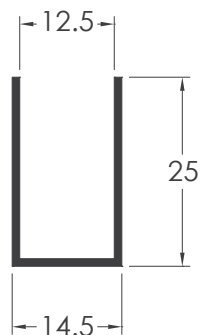
76790	0.138 Kg/m
-	



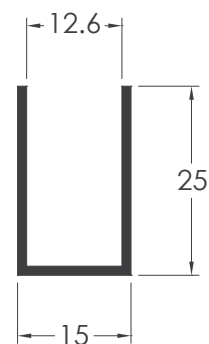
76800	0.167 Kg/m
U-1109	



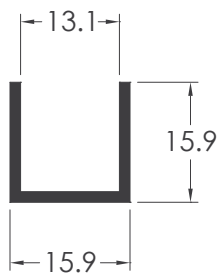
72094	0.169 Kg/m
-	



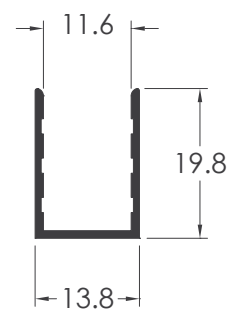
76810	0.205 Kg/m
U-555	



76820	0.170 Kg/m
-	

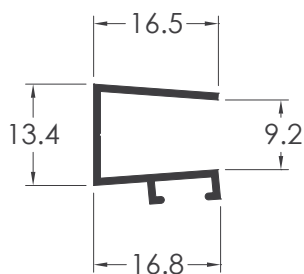


70026	0.138 Kg/m
-	



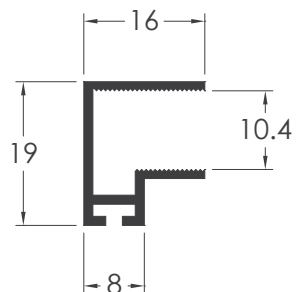
76510 0.128 Kg/m

-



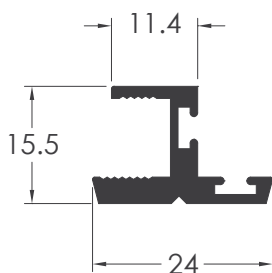
77210 0.189 Kg/m

-



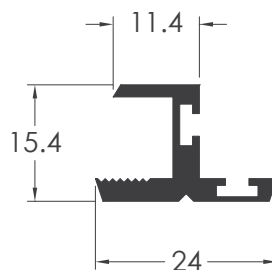
71920 0.302 Kg/m

Y-343



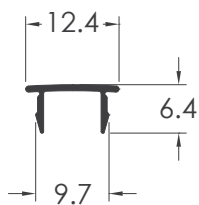
76760 0.251 Kg/m

-



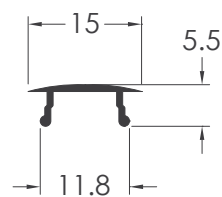
72145 0.048 Kg/m

-



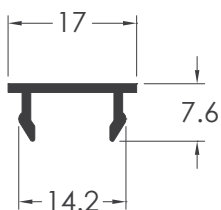
72281 0.049 Kg/m

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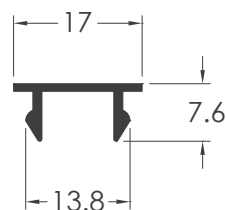
79830 0.096 Kg/m

-

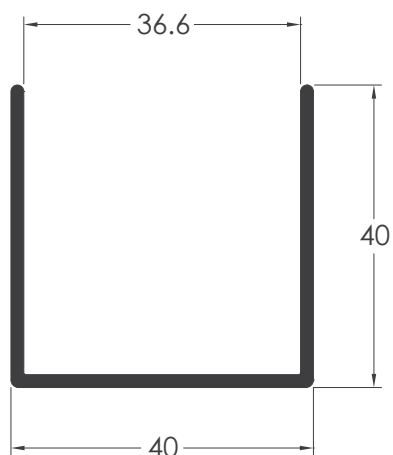


76910 0.095 Kg/m

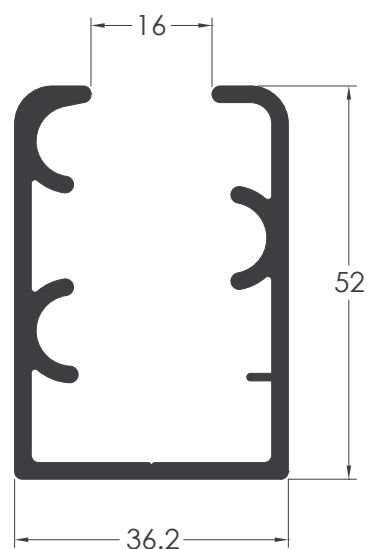
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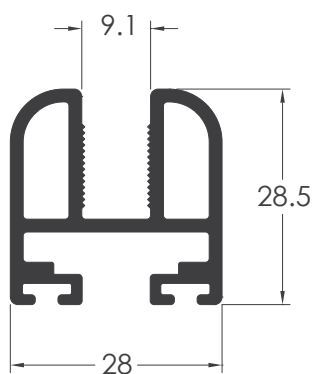
70134	0.534 Kg/m
-	



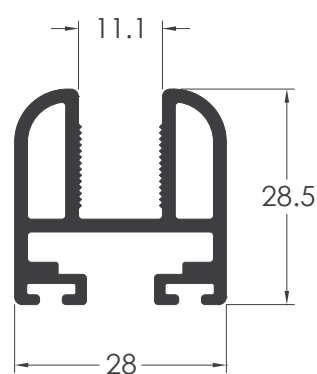
70135	1.126 Kg/m
-	



70136	0.705 Kg/m
-	

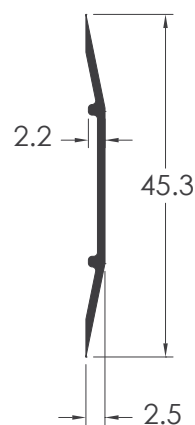
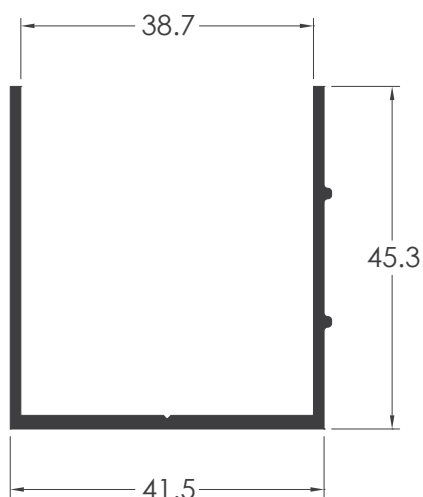


70137	0.696 Kg/m
-	



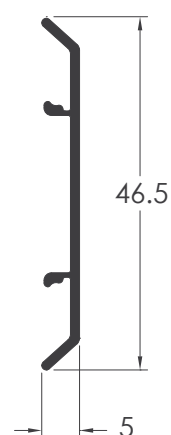
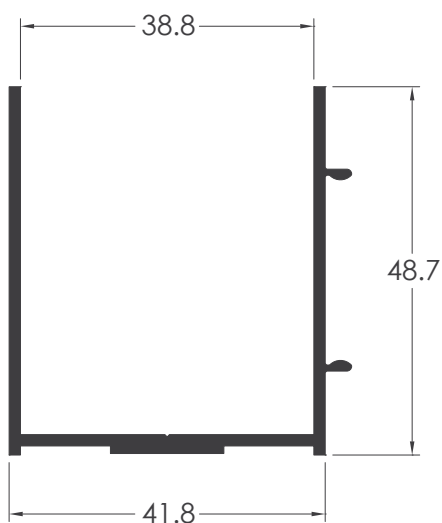
72011	0.539 Kg/m
-	

72012	0.129 Kg/m
-	

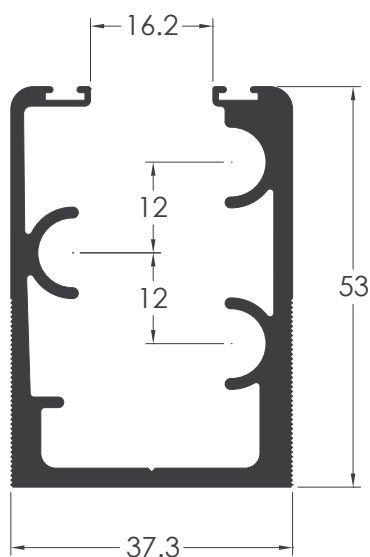


77660	0.617 Kg/m
-	

77670	0.188 Kg/m
-	

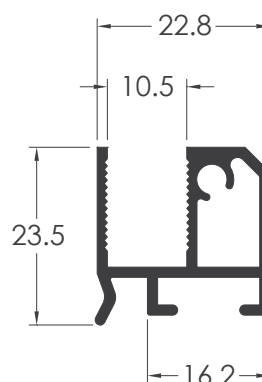
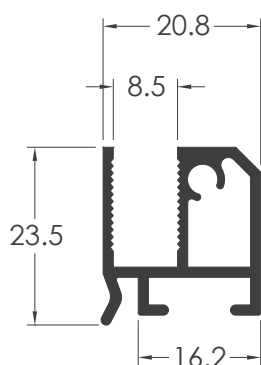


72009	1.292 Kg/m
-	

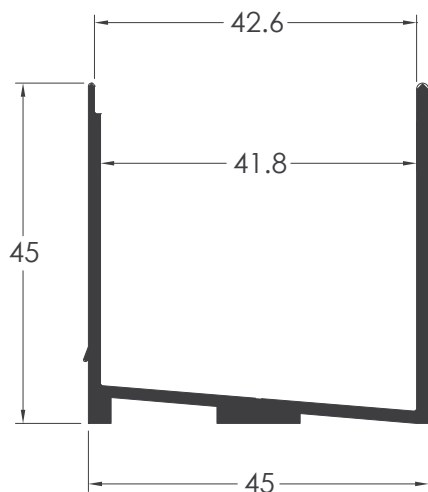


72036	0.657 Kg/m
-	

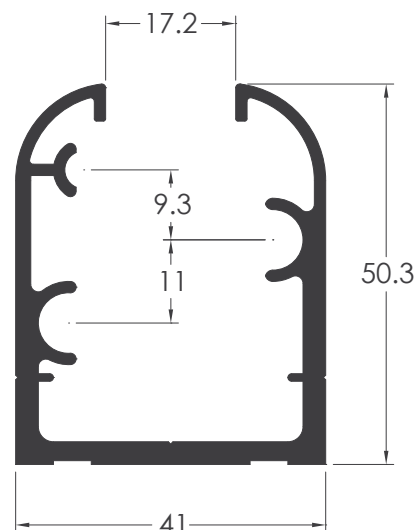
72013	0.375 Kg/m
-	



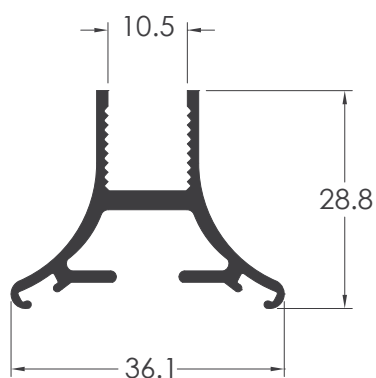
76030	0.634 Kg/m
-	



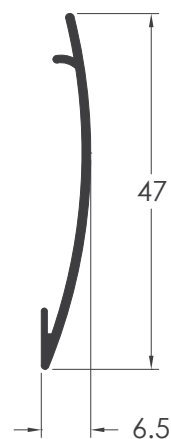
76040	1.214 Kg/m
-	



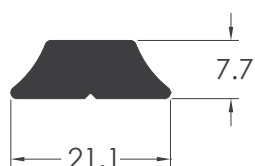
76050	0.460 Kg/m
-	



76020	0.142 Kg/m
-	

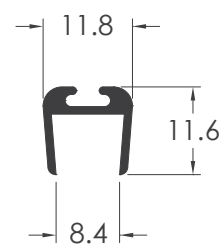
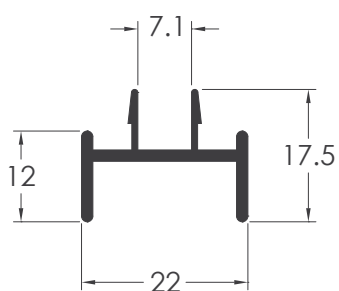


76060	0.336 Kg/m
-	



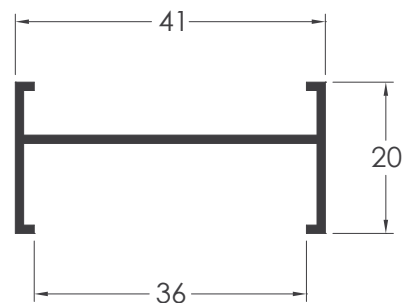
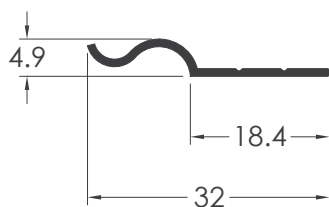
74890	0.215 Kg/m
-	

74780	0.118 Kg/m
-	

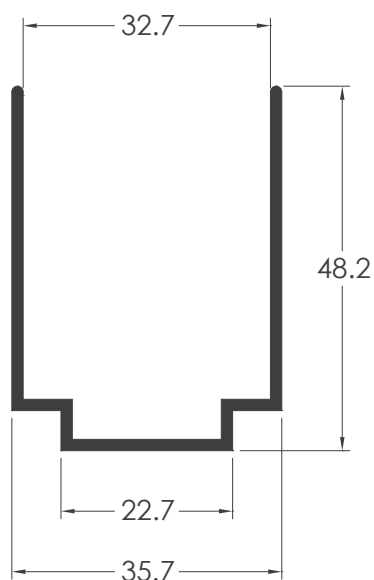


75870	0.096 Kg/m
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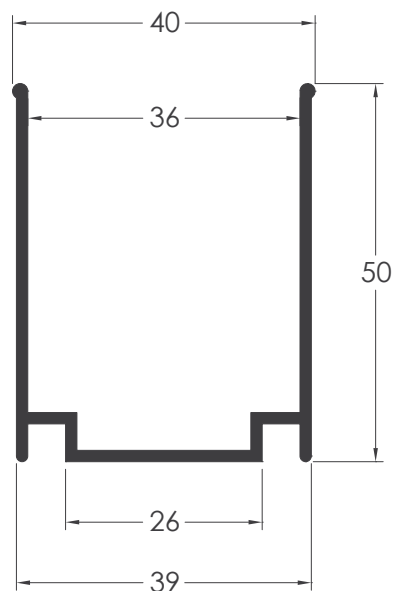
71820	0.252 Kg/m
DV-132	



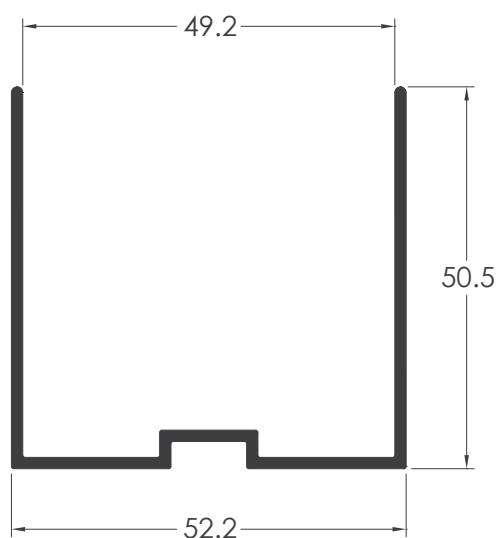
75560	0.523 Kg/m
-	



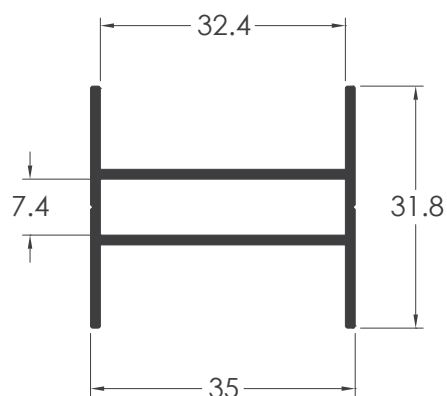
75540	0.645 Kg/m
-	



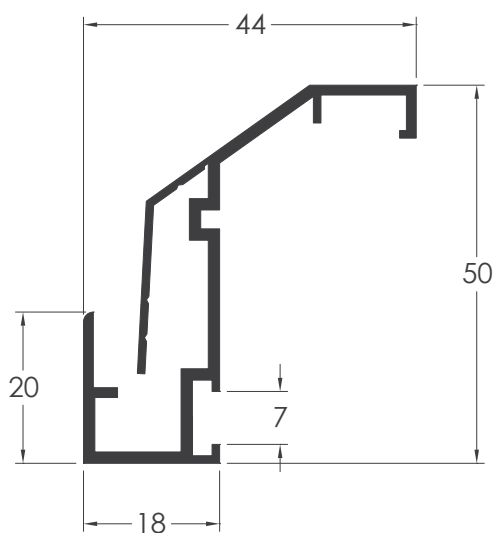
74460	0.638 Kg/m
-	



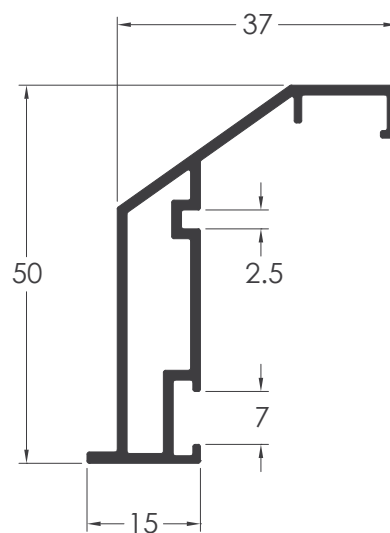
75860	0.450 Kg/m
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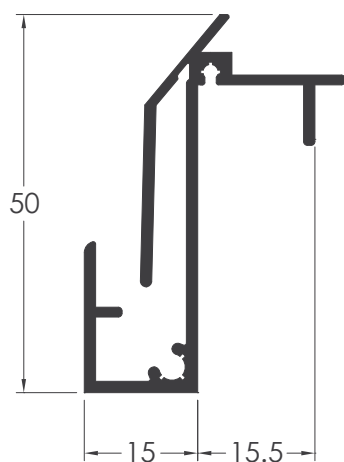
74500	0.578 Kg/m
-	



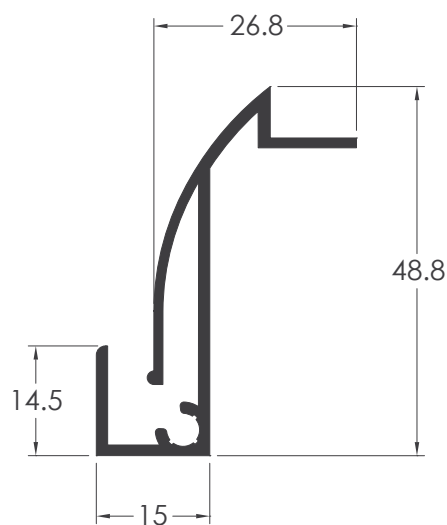
74640	0.474 Kg/m
-	



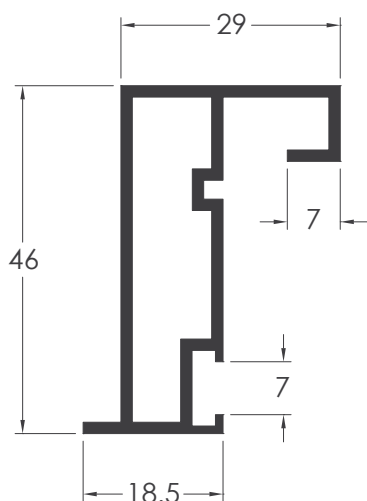
75730	0.620 Kg/m
-	



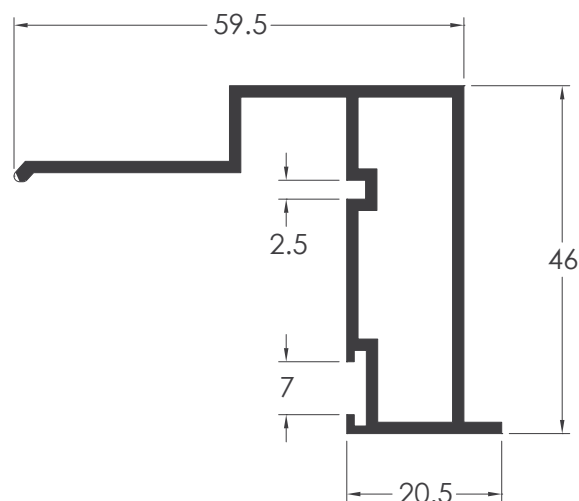
75850	0.470 Kg/m
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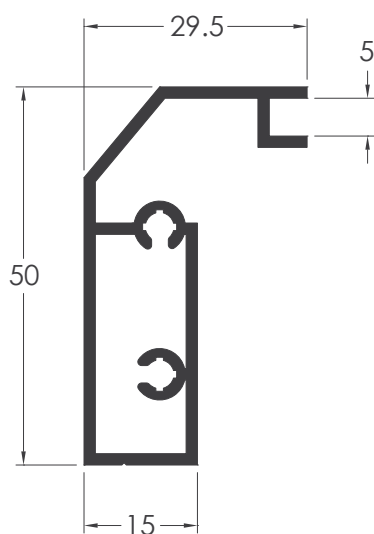
74830	0.640 Kg/m
-	



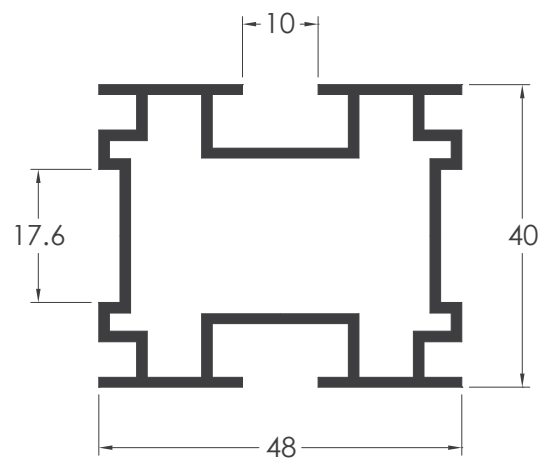
74840	0.753 Kg/m
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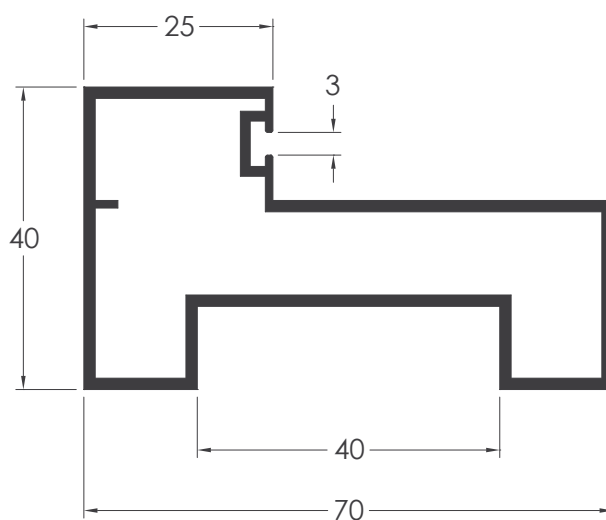
75750	0.654 Kg/m
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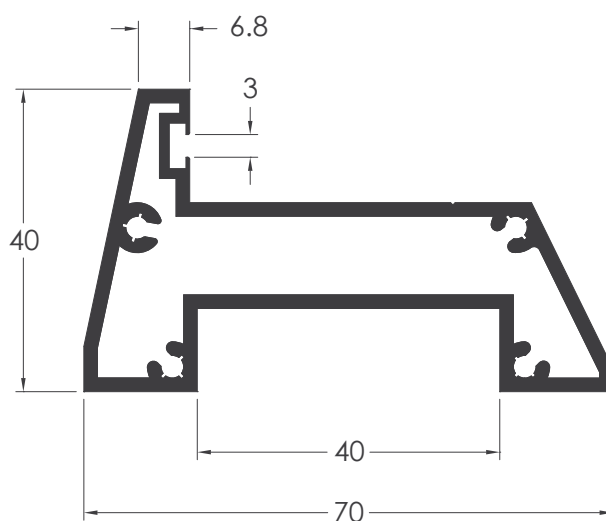
74480	0.922 Kg/m
-	



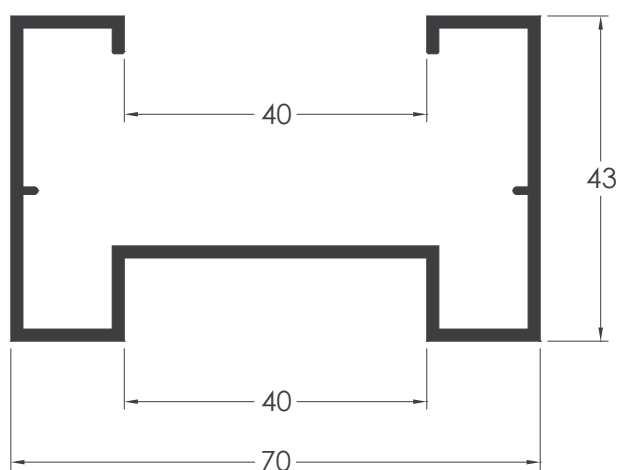
75700	0.992 Kg/m
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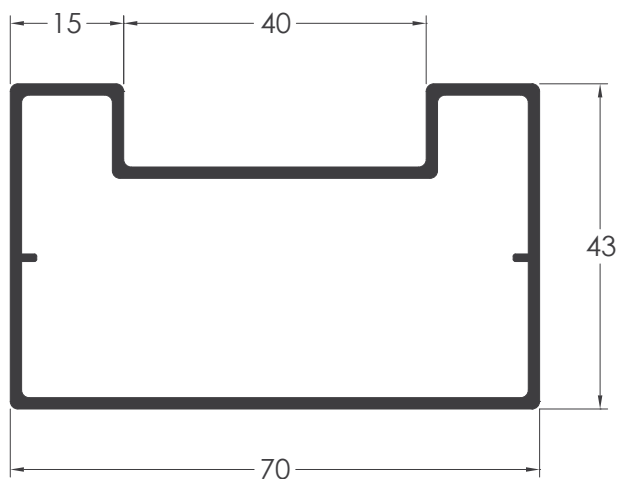
76270	1.221 Kg/m
-	



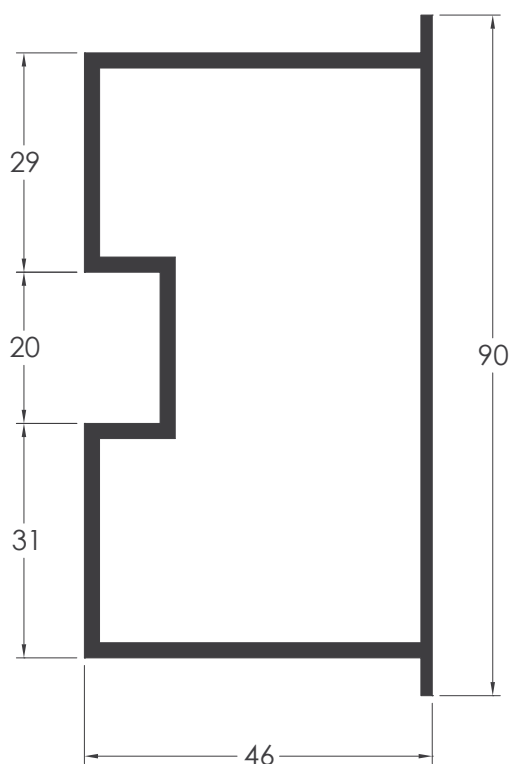
75710	0.967 Kg/m
-	



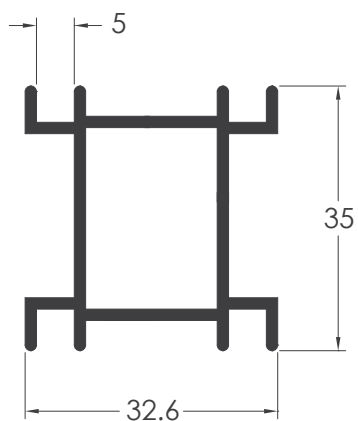
75720	0.995 Kg/m
-	



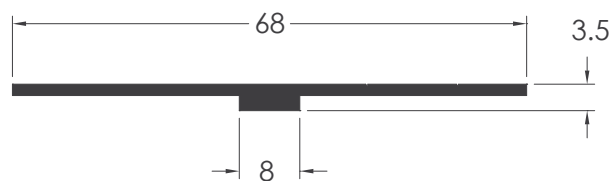
74850	1.350 Kg/m
-	



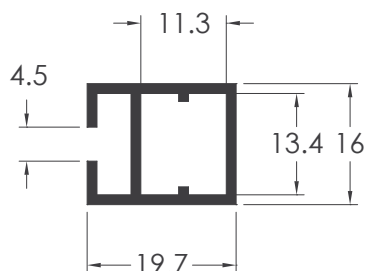
75570	0.572 Kg/m
-	



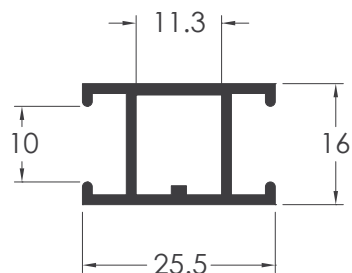
74470	0.317 Kg/m
-	



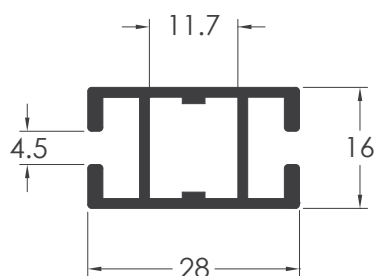
74110	0.271 Kg/m
-	



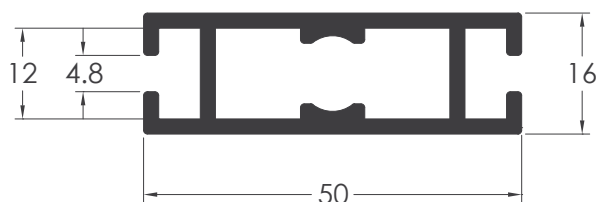
74530	0.309 Kg/m
-	



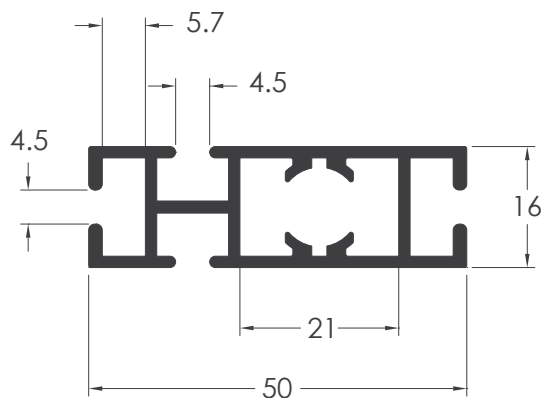
74930	0.392 Kg/m
-	



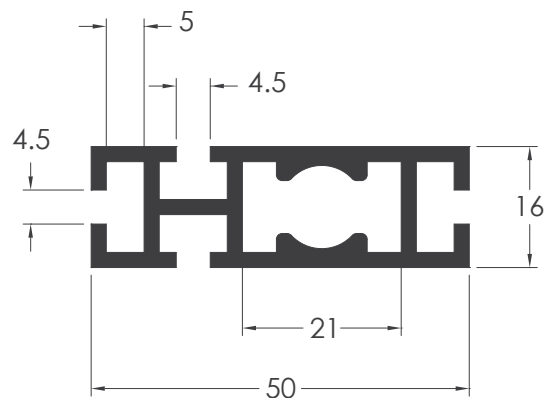
71240	0.819 Kg/m
-	



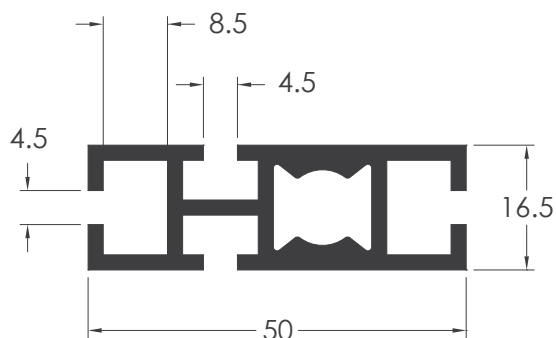
77140	0.757 Kg/m
-	



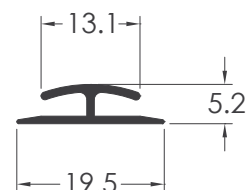
71420	0.919 Kg/m
-	



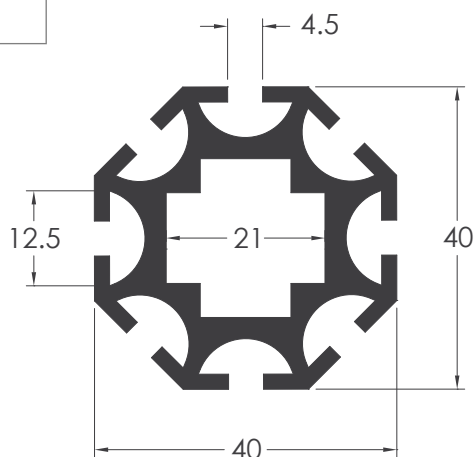
71590	0.937 Kg/m
-	



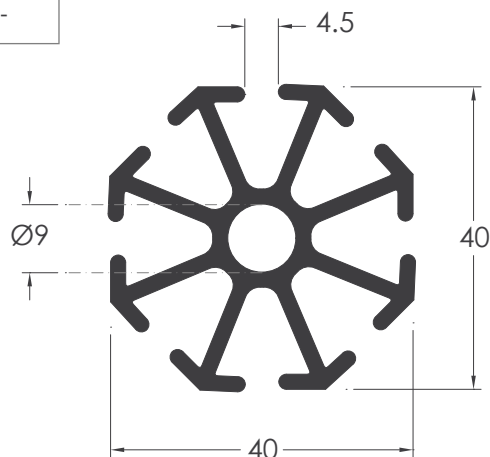
73560	0.103 Kg/m
-	



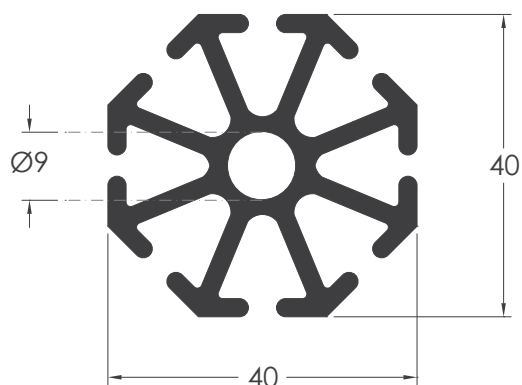
72470	1.287 Kg/m
-	



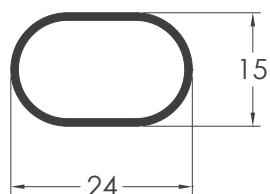
72410	1.236 Kg/m
-	



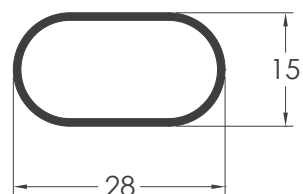
71410	1.479 Kg/m
-	



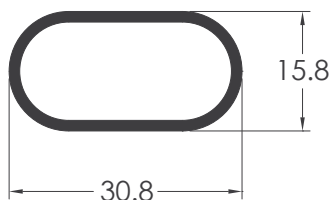
74260	0.146 Kg/m
-	



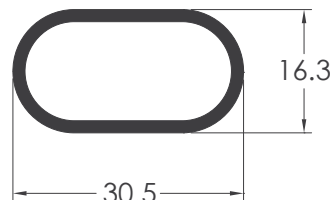
71200	0.189 Kg/m
-	



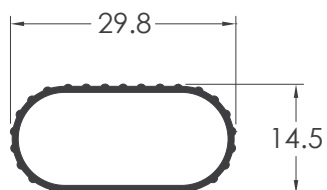
74490	0.285 Kg/m
-	



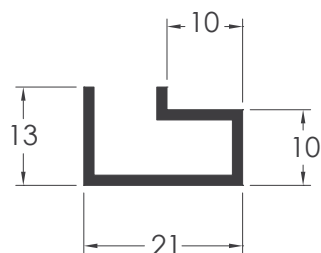
76080	0.323 Kg/m
-	



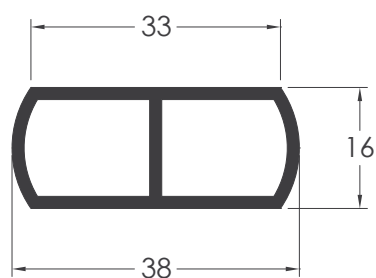
75020	0.174 Kg/m
-	



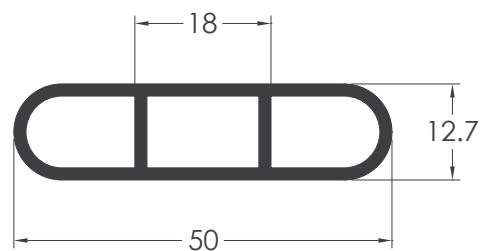
70150	0.198 Kg/m
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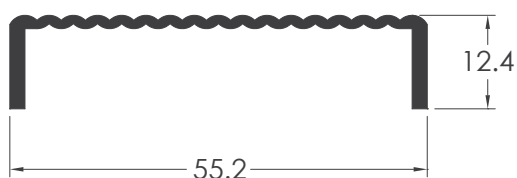
78270	0.466 Kg/m
-	



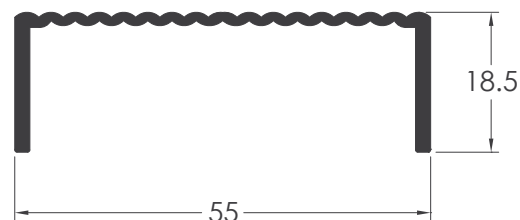
72960	0.557 Kg/m
-	



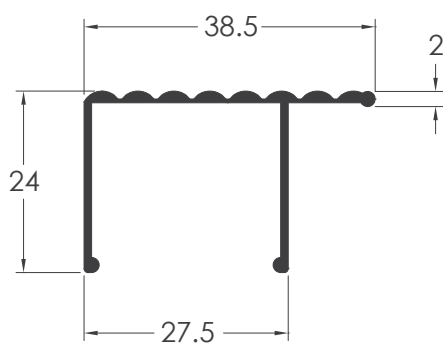
74230	0.389 Kg/m
-	



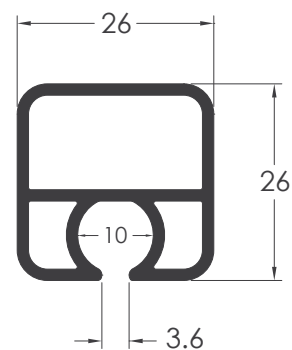
70690	0.389 Kg/m
-	



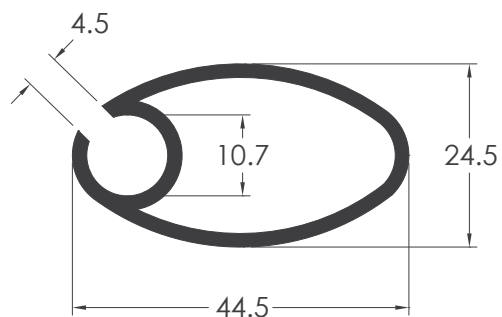
70050	0.241 Kg/m
-	



78280	0.541 Kg/m
-	

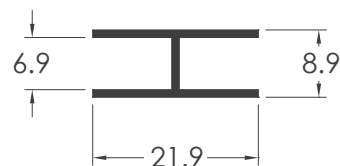
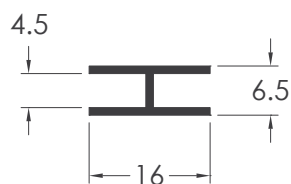


75150	0.650 Kg/m
-	

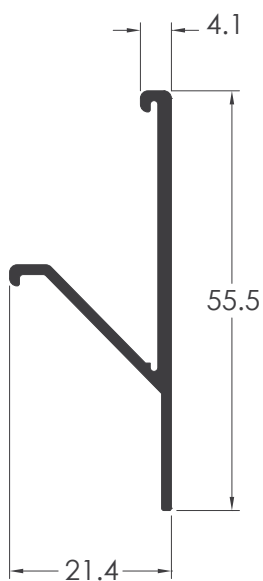


70171	0.099 Kg/m
-	

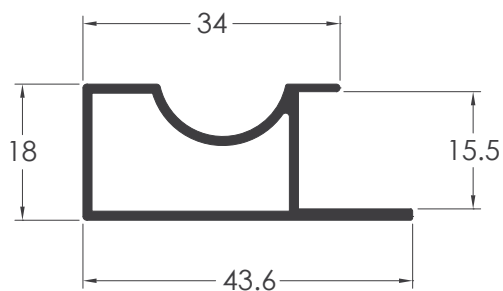
77890	0.137 Kg/m
-	



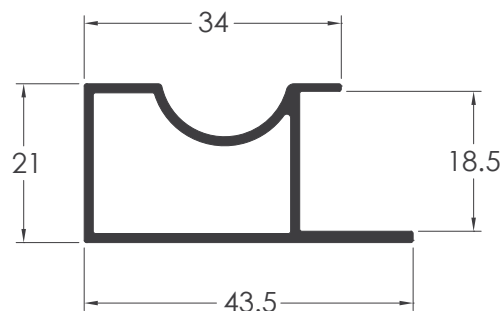
72278	0.358 Kg/m
-	



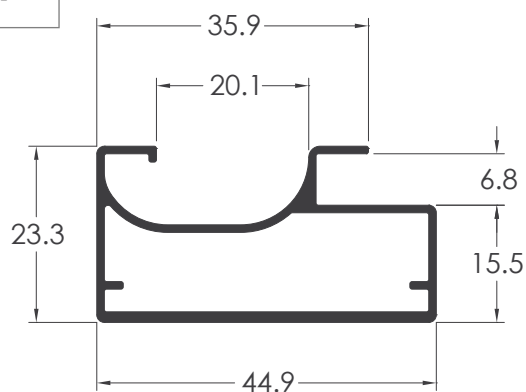
72072	0.384 Kg/m
-	-



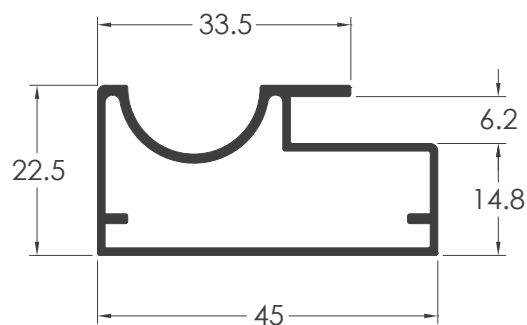
72083	0.403 Kg/m
-	-



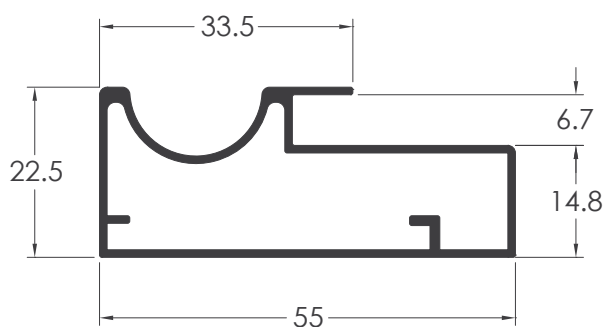
70016	0.478 Kg/m
-	-



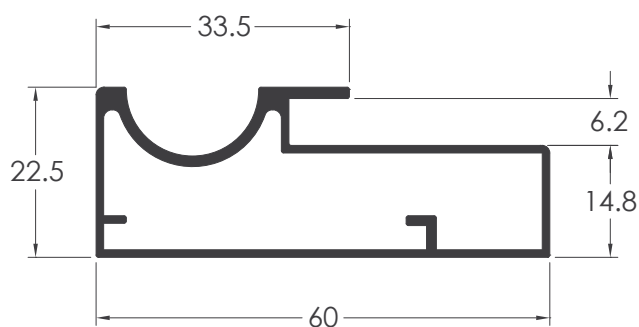
79860	0.455 Kg/m
-	-



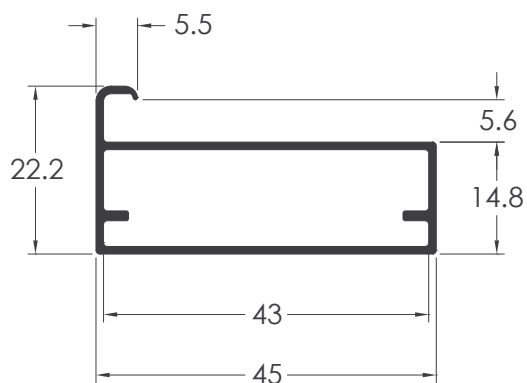
72271	0.503 Kg/m
-	-



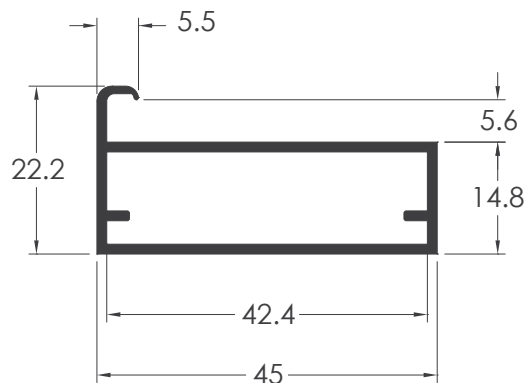
77420	0.565 Kg/m
-	-



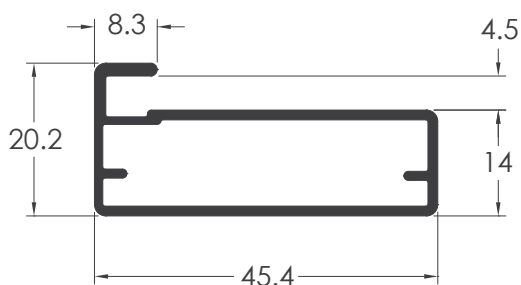
72274	0.368 Kg/m
-	



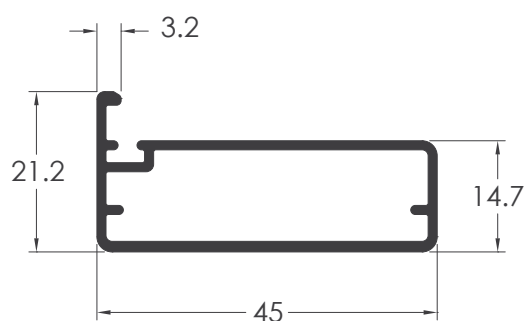
79890	0.460 Kg/m
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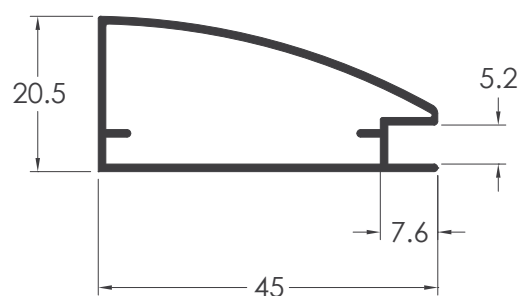
77960	0.460 Kg/m
-	



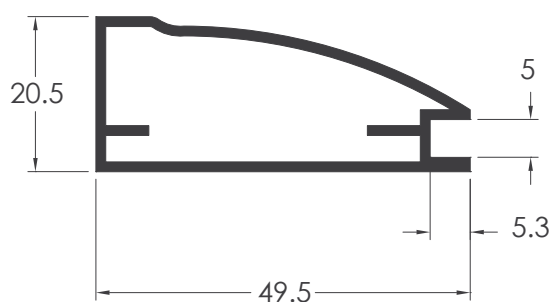
72341	0.450 Kg/m
-	



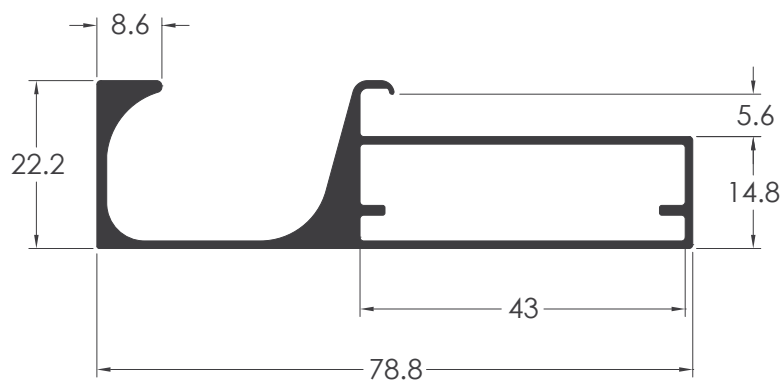
77950	0.353 Kg/m
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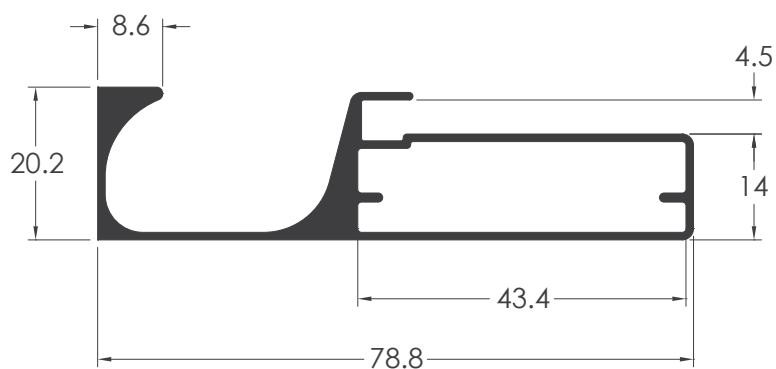
74920	0.490 Kg/m
-	



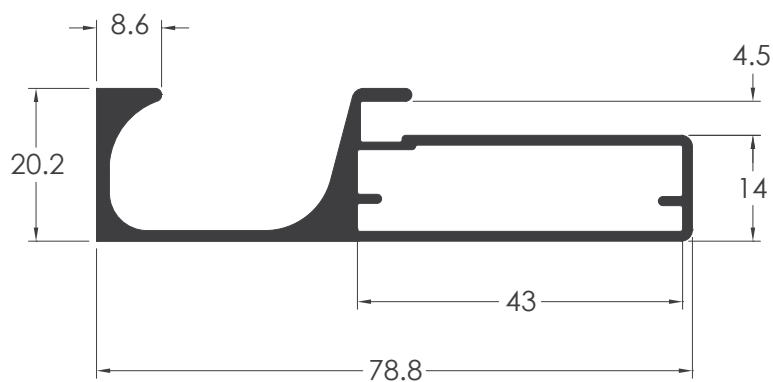
72275	0.787 Kg/m
-	



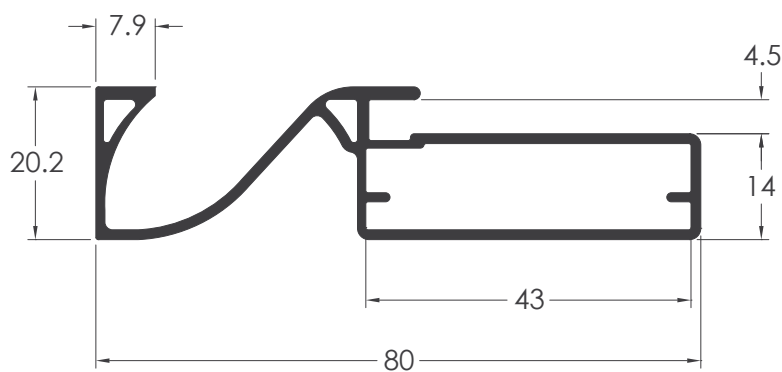
72273	0.749 Kg/m
-	



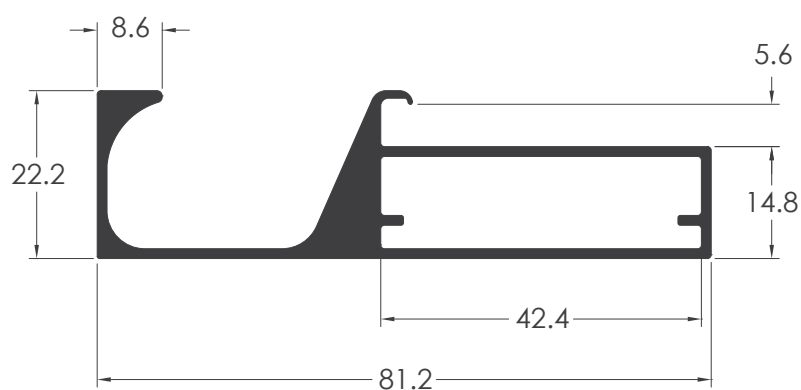
79880	0.880 Kg/m
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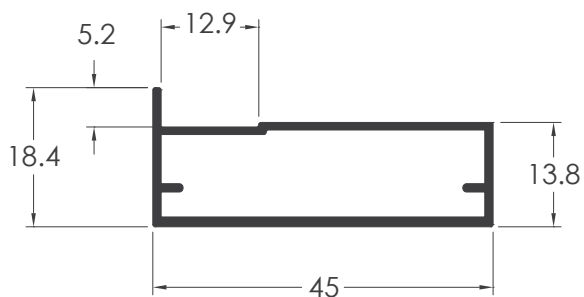
71041	0.760 Kg/m
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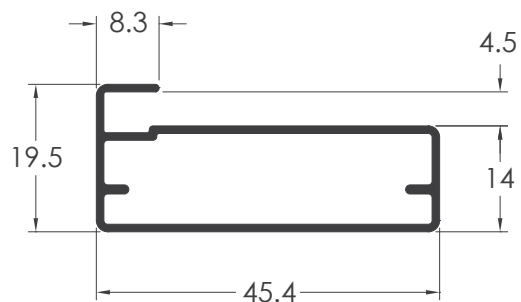
72107	0.978 Kg/m
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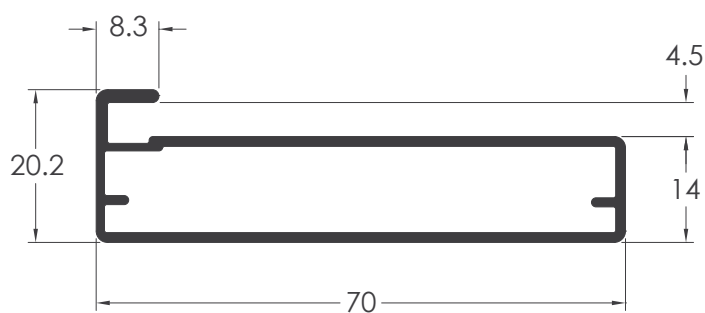
79870	0.380 Kg/m
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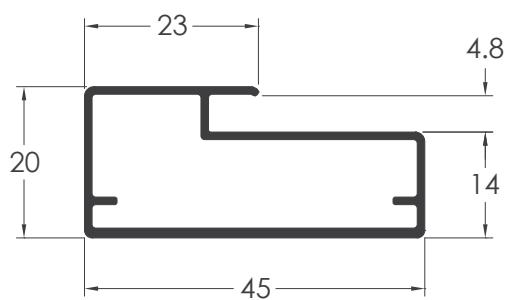
72272	0.365 Kg/m
-	



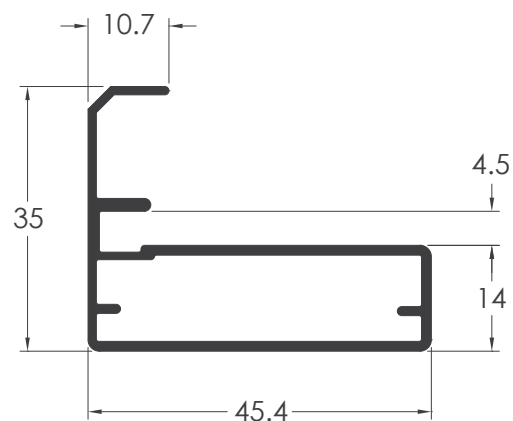
72266	0.637 Kg/m
-	



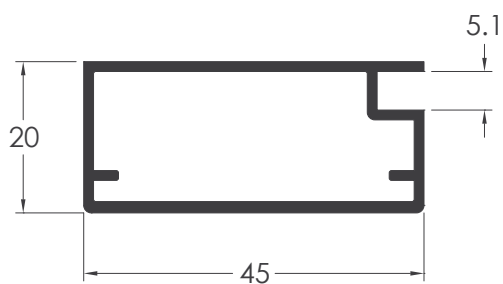
77400	0.410 Kg/m
-	



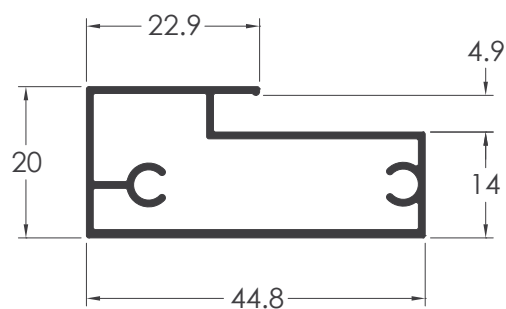
70129	0.533 Kg/m
-	



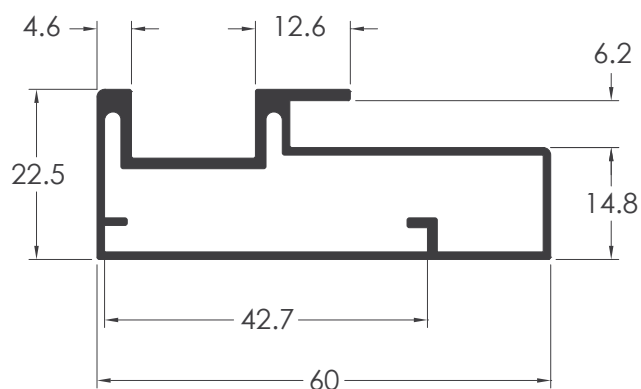
70102	0.505 Kg/m
-	



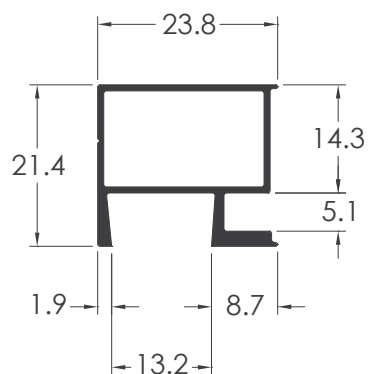
72104	0.410 Kg/m
-	



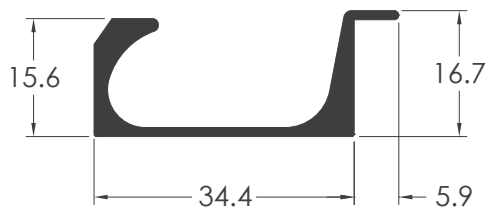
72130	0.616 Kg/m
-	



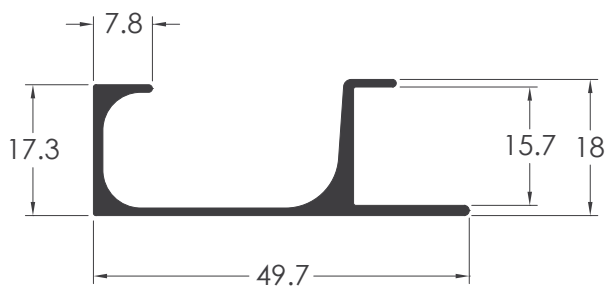
72105	0.246 Kg/m
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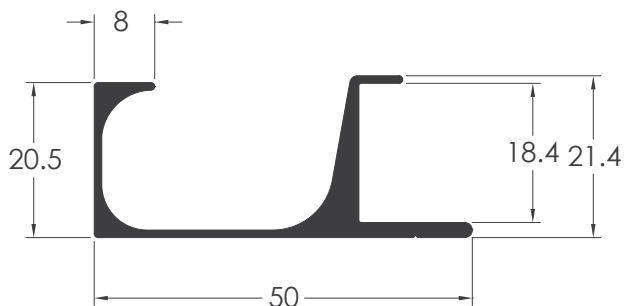
70065	0.397 Kg/m
-	-



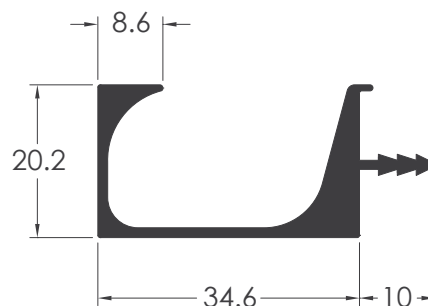
70018	0.373 Kg/m
-	-



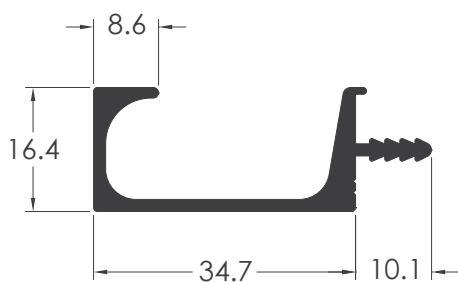
70017	0.490 Kg/m
-	-



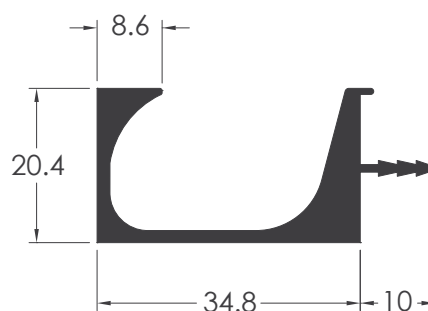
70124	0.529 Kg/m
-	-



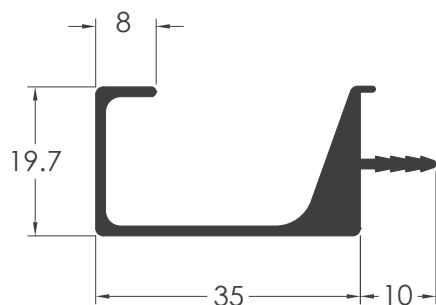
72053	0.450 Kg/m
-	-



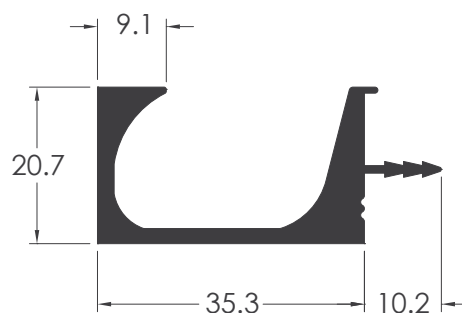
77900	0.596 Kg/m
-	-



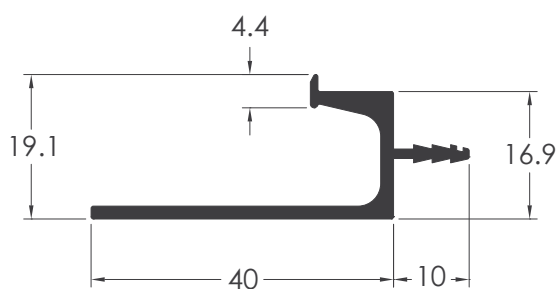
70123	0.485 Kg/m
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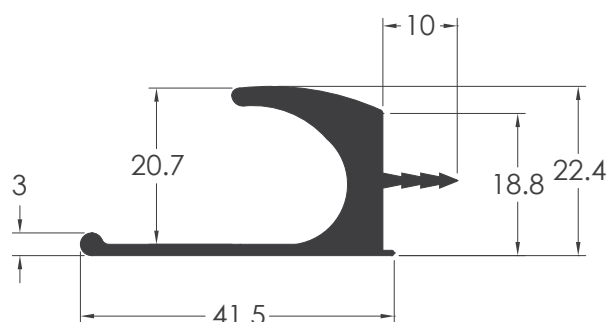
77940	0.669 Kg/m
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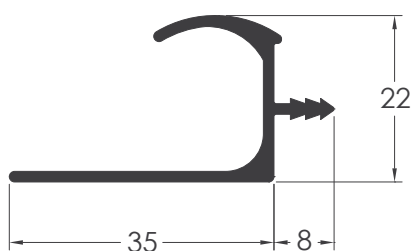
72304	0.375 Kg/m
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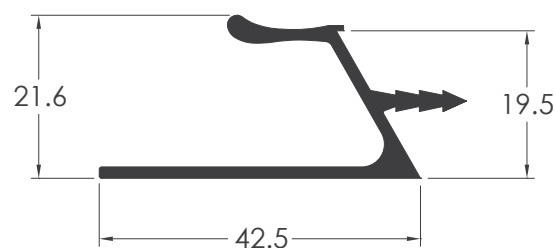
77910	0.653 Kg/m
-	



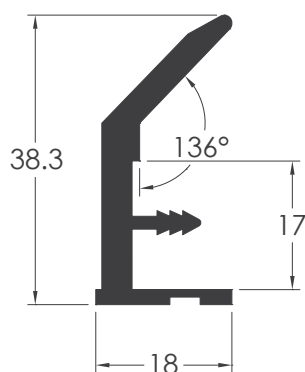
78640	0.334 Kg/m
-	



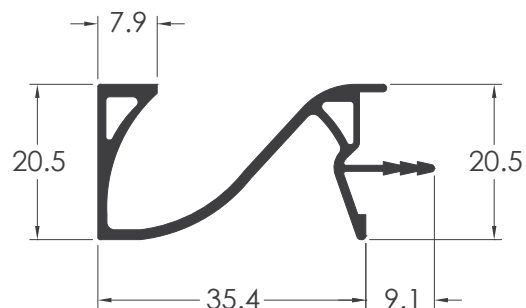
78260	0.410 Kg/m
-	



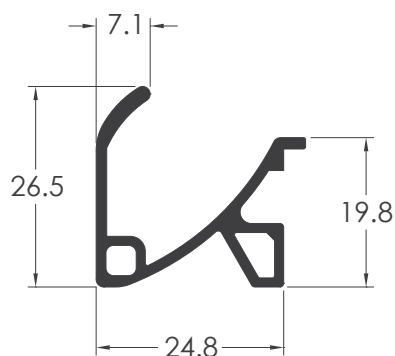
72150	0.568 Kg/m
-	-



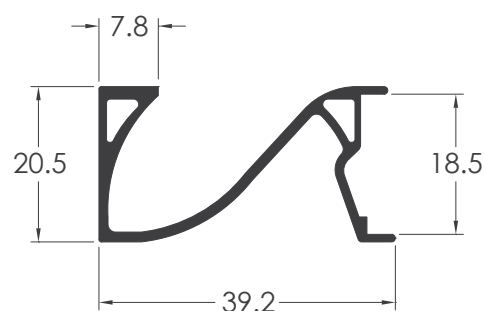
71039	0.391 Kg/m
-	-



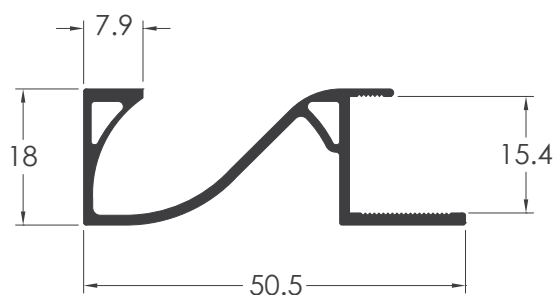
72241	0.371 Kg/m
-	-



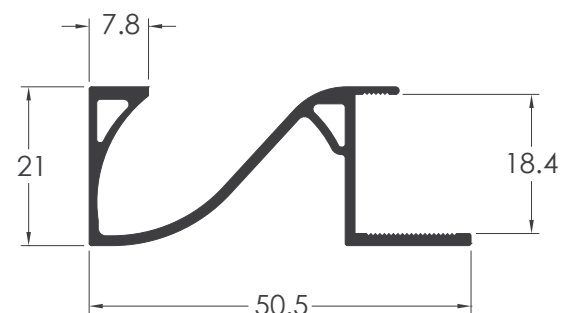
71038	0.370 Kg/m
-	-



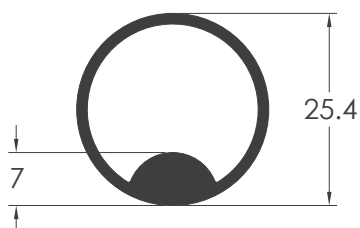
71042	0.401 Kg/m
-	-



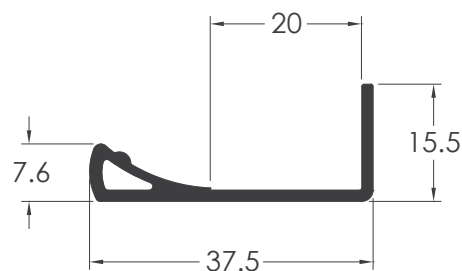
71043	0.438 Kg/m
-	-



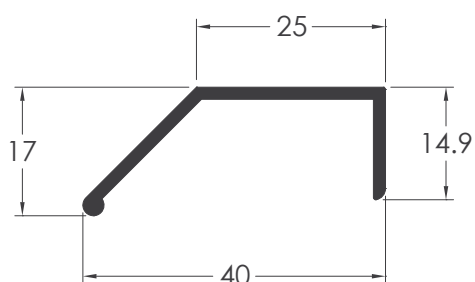
78350	0.409 Kg/m
-	



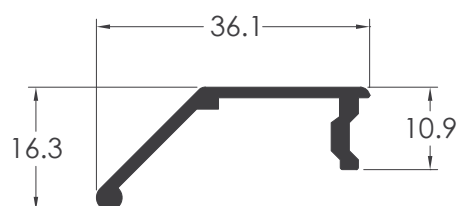
72141	0.278 Kg/m
-	



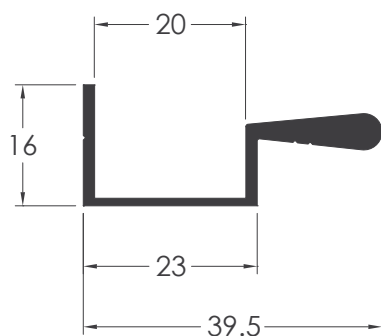
70021	0.263 Kg/m
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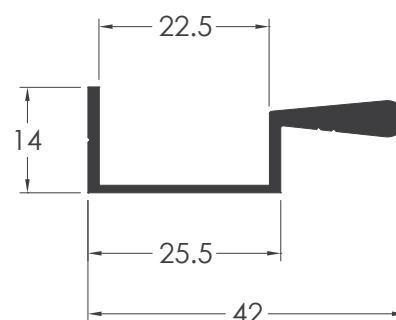
70064	0.252 Kg/m
-	



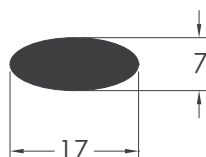
72056	0.318 Kg/m
-	



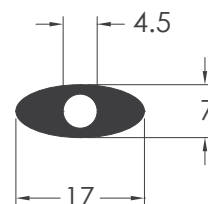
72057	0.316 Kg/m
-	



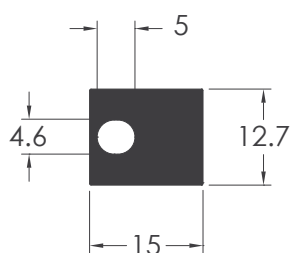
78010	0.253 Kg/m
-	



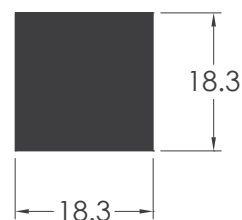
78020	0.210 Kg/m
-	



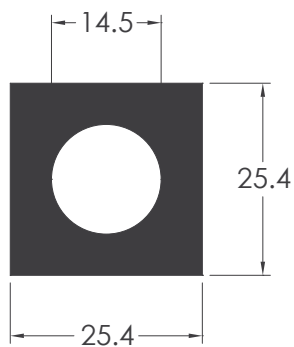
78030	0.467 Kg/m
-	



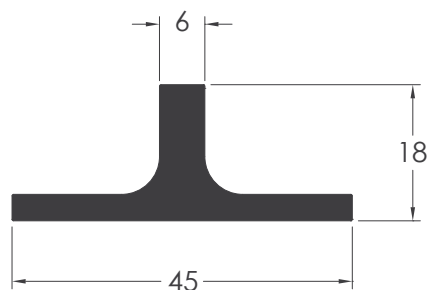
80090	0.902 Kg/m
-	



75620	1.300 Kg/m
-	

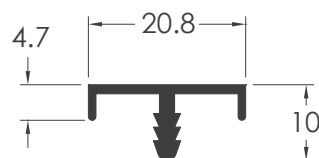
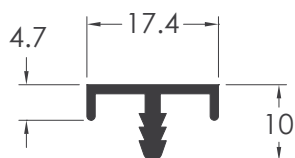


78000	0.691 Kg/m
-	

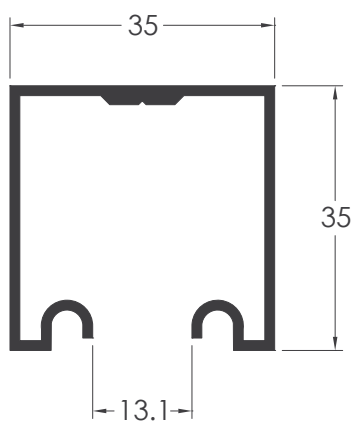


70193	0.136 Kg/m
-	

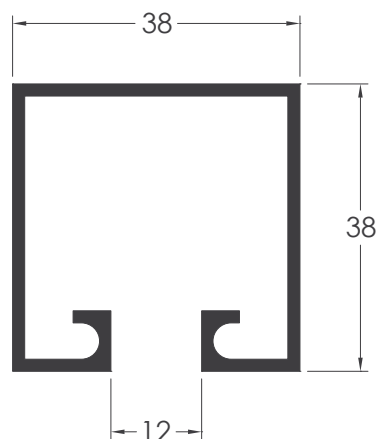
70192	0.145 Kg/m
-	



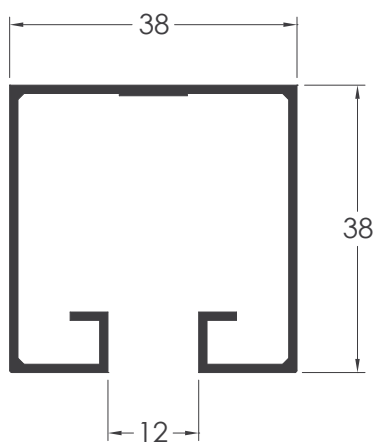
71600	0.507 Kg/m
-	



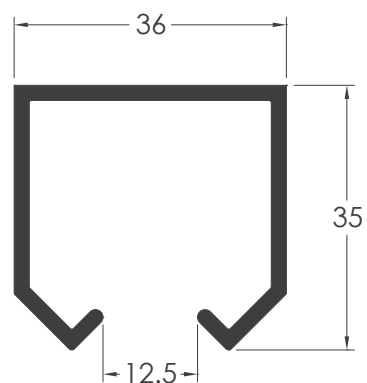
76680	0.680 Kg/m
-	



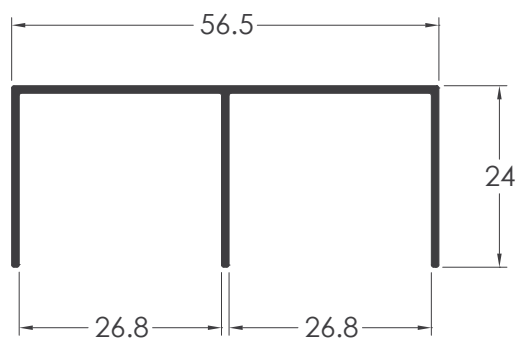
77060	0.480 Kg/m
-	



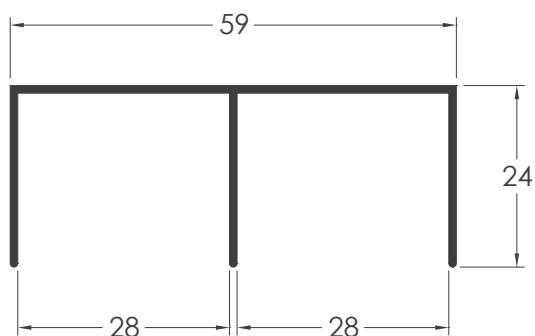
70186	0.626 Kg/m
-	



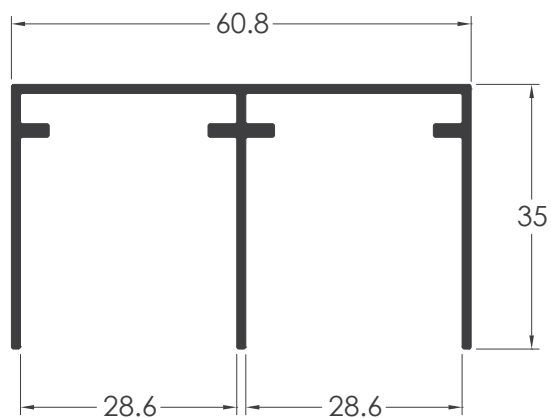
77930	0.339 Kg/m
-	



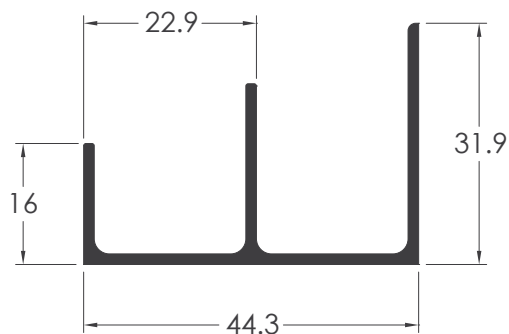
72148	0.346 Kg/m
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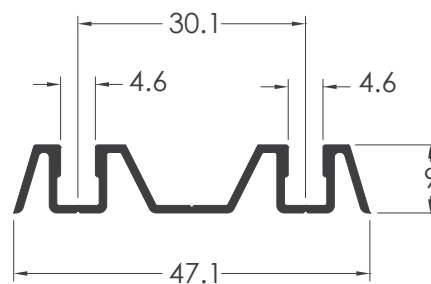
72454	0.601 Kg/m
-	



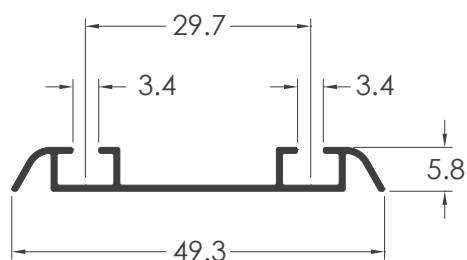
72023	0.433 Kg/m
-	-



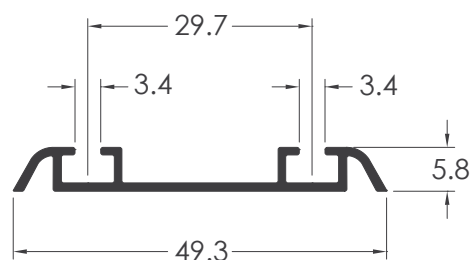
72024	0.291 Kg/m
-	-



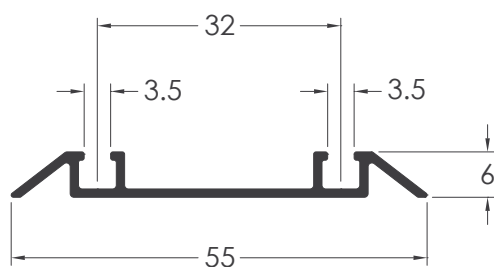
70122	0.178 Kg/m
-	-



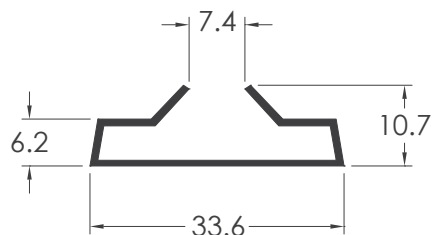
77920	0.234 Kg/m
-	-



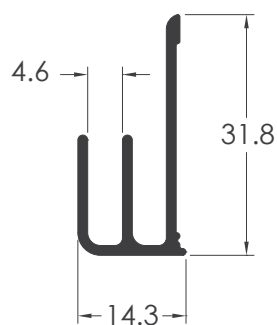
72455	0.240 Kg/m
-	-



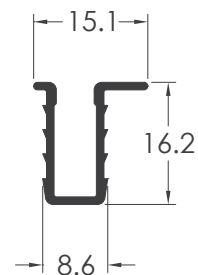
72084	0.159 Kg/m
-	-



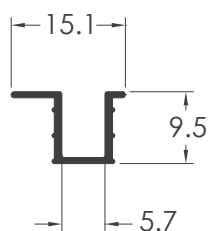
72027	0.263 Kg/m
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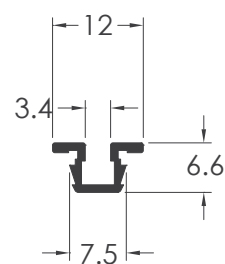
72026	0.135 Kg/m
-	



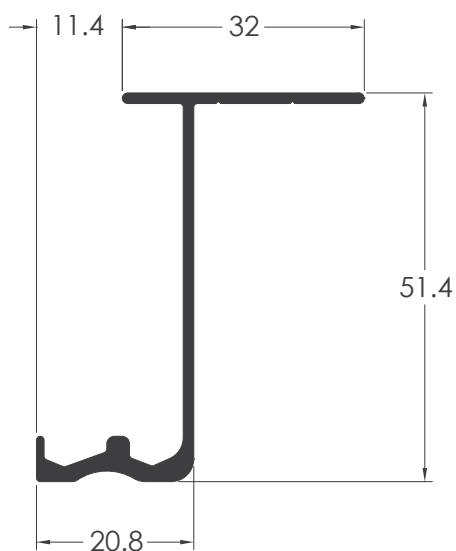
77196	0.082 Kg/m
-	



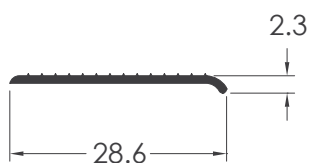
77195	0.070 Kg/m
-	



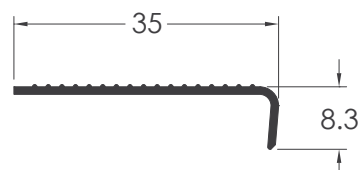
72025	0.465 Kg/m
-	



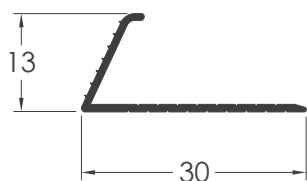
71320	0.080 Kg/m
-	



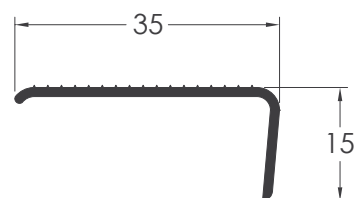
71740	0.112 Kg/m
-	



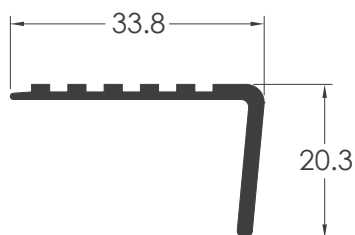
71330	0.113 Kg/m
-	



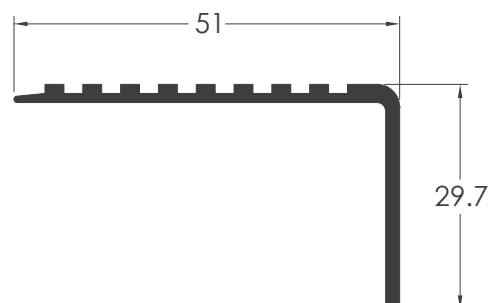
71310	0.154 Kg/m
-	



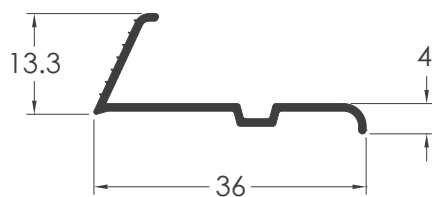
72740	0.238 Kg/m
-	



72440	0.382 Kg/m
-	



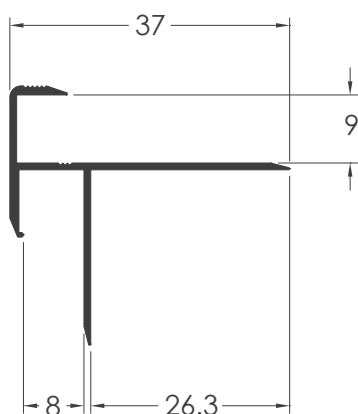
71340	0.151 Kg/m
-	



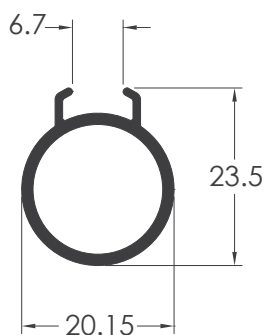
72000	0.272 Kg/m
-	



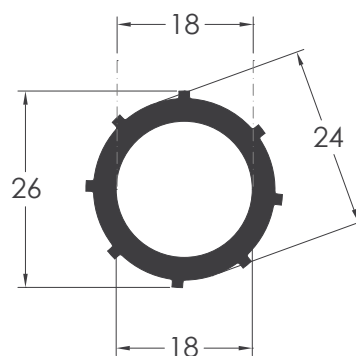
72020	0.206 Kg/m
-	



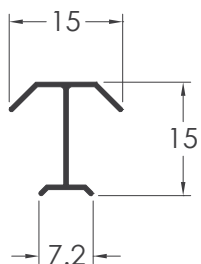
78710	0.267 Kg/m
-	



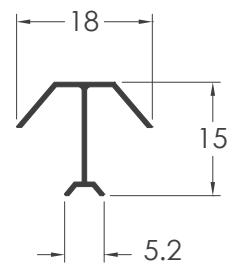
78720	0.566 Kg/m
-	



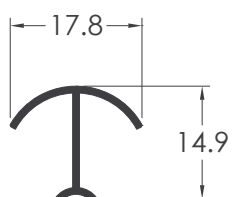
72800	0.061 Kg/m
-	



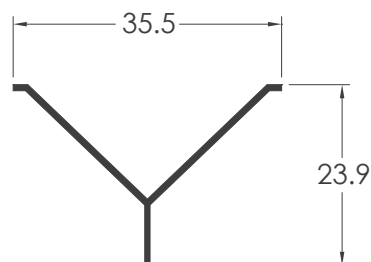
72850	0.067 Kg/m
-	



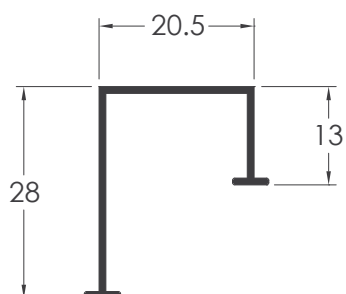
72860	0.094 Kg/m
-	



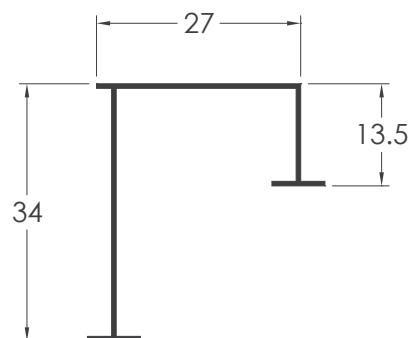
74420	0.990 Kg/m
-	



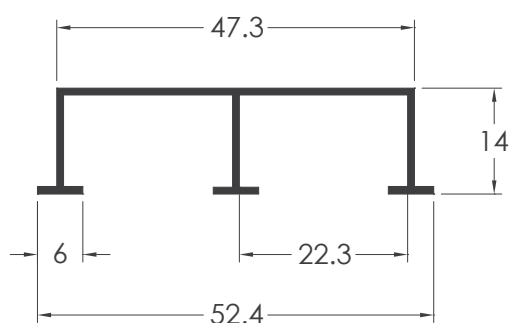
71250	0.163 Kg/m
-	



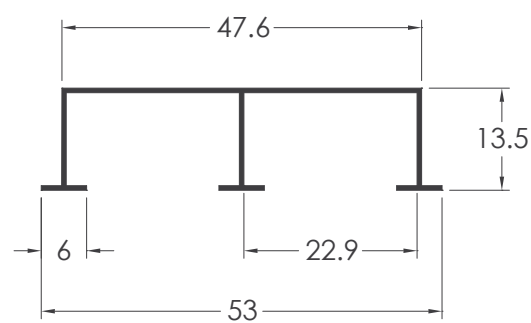
72720	0.140 Kg/m
-	



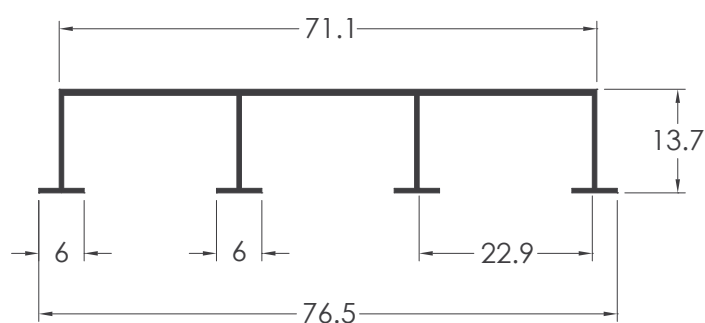
70390	0.248 Kg/m
-	



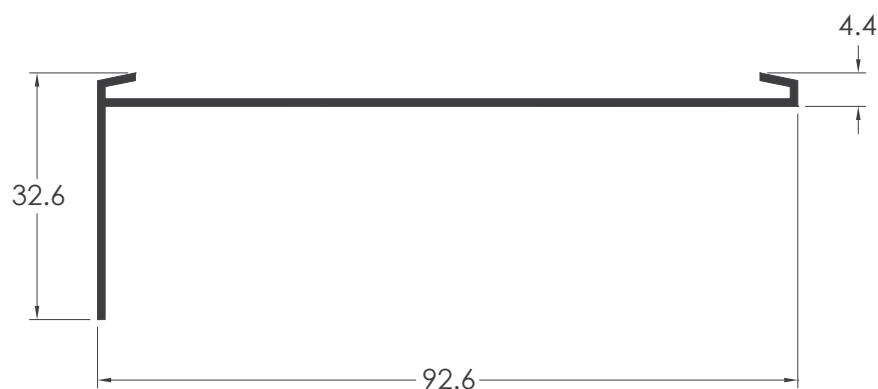
72730	0.166 Kg/m
-	



72750	0.273 Kg/m
-	

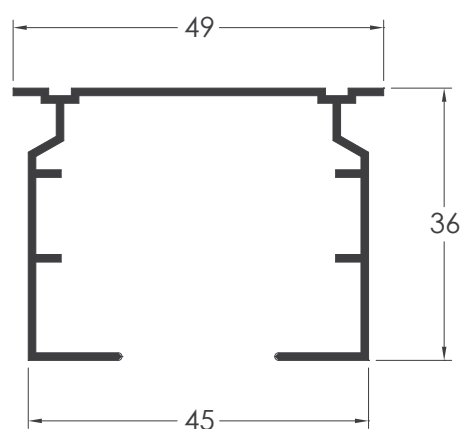
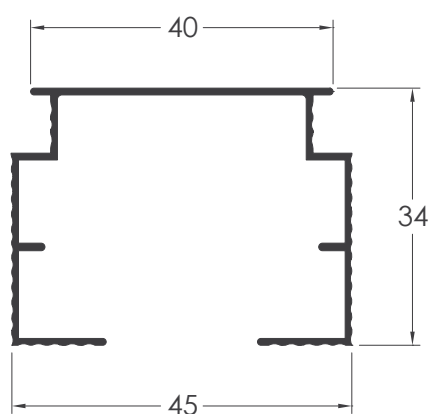


71110	0.345 Kg/m
-	

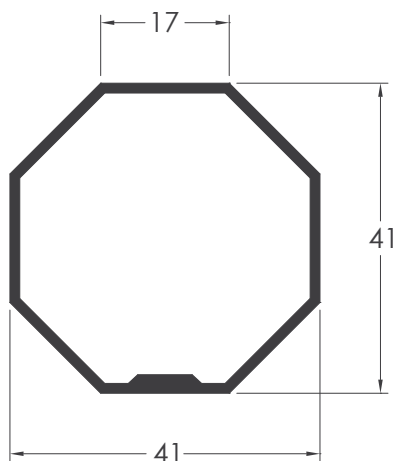


72970	0.335 Kg/m
-	

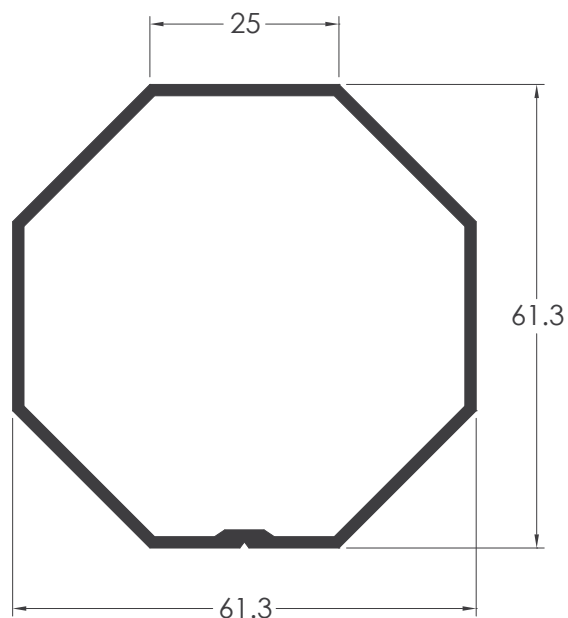
71120	0.437 Kg/m
-	



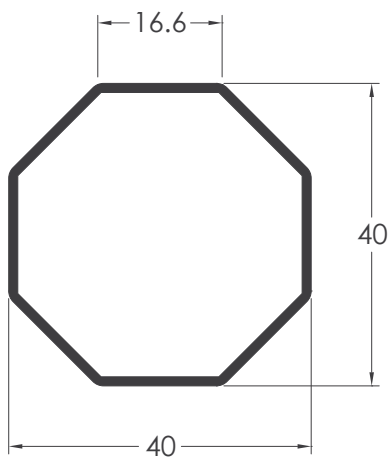
72420	0.489 Kg/m
-	



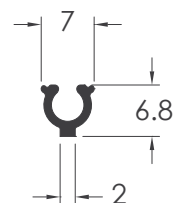
72430	0.821 Kg/m
-	



73600	0.414 Kg/m
-	

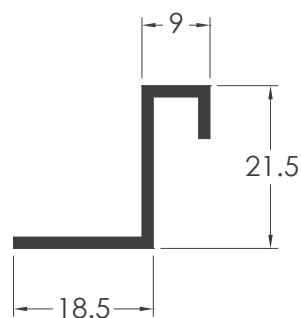
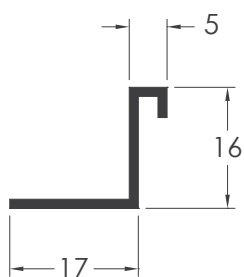


70001	0.049 Kg/m
-	

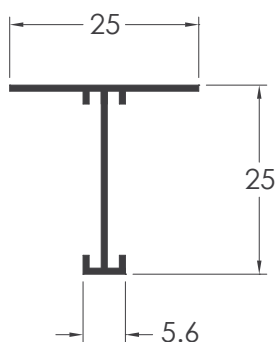


71460	0.128 Kg/m
-	

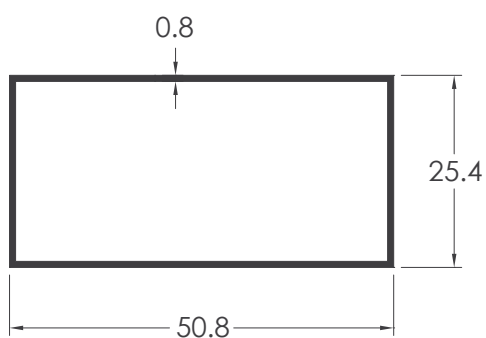
71660	0.209 Kg/m
-	



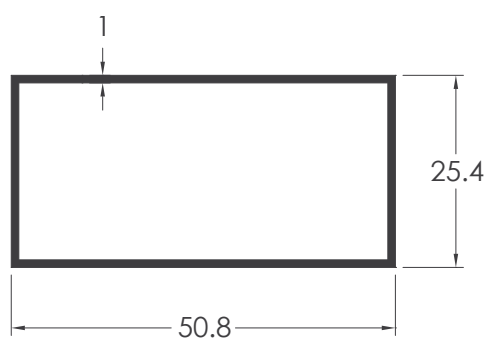
70490	0.131 Kg/m
-	



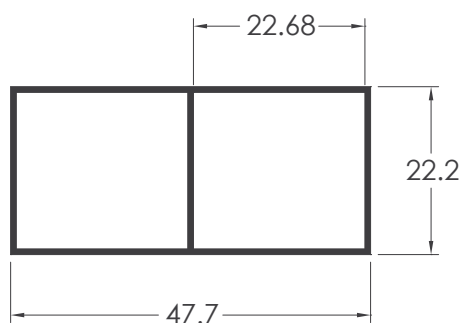
4007 L	0.323 Kg/m
-	



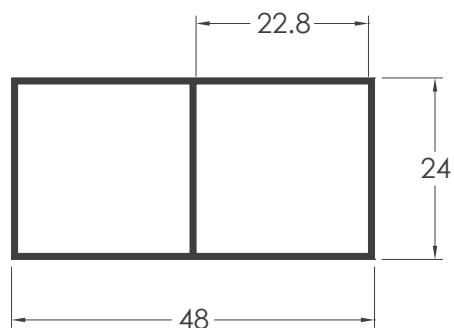
40070	0.402 Kg/m
-	



75810	0.319 Kg/m
-	



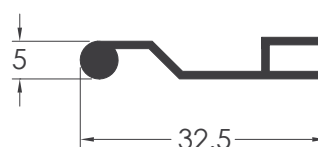
72335	0.353 Kg/m
-	



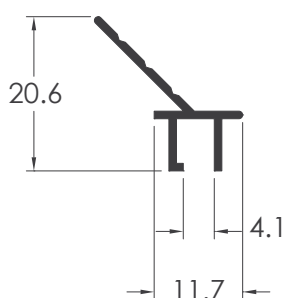
70210	0.072 Kg/m
-	



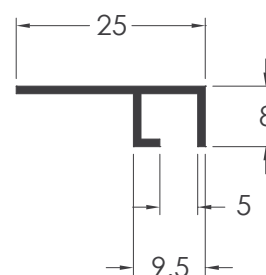
70220	0.165 Kg/m
-	



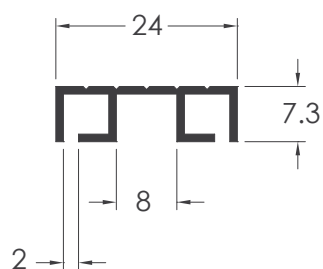
74740	0.116 Kg/m
-	



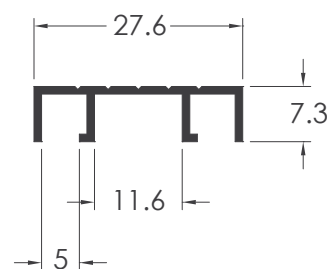
74900	0.112 Kg/m
-	



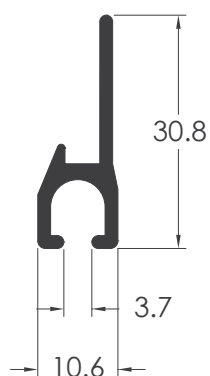
74910	0.144 Kg/m
-	



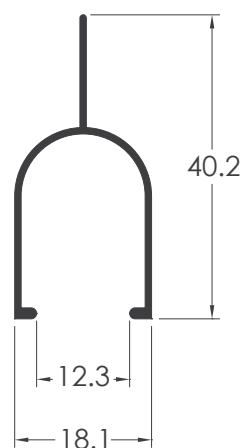
74750	0.134 Kg/m
-	



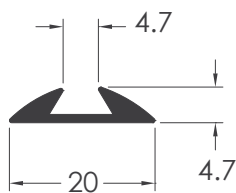
70700	0.259 Kg/m
-	



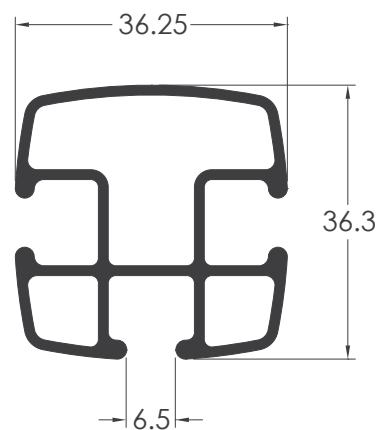
74760	0.179 Kg/m
-	



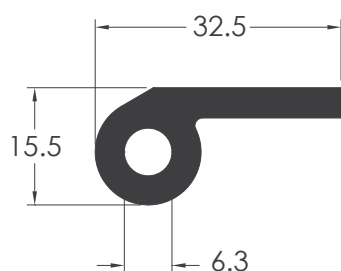
74140	0.125 Kg/m
-	



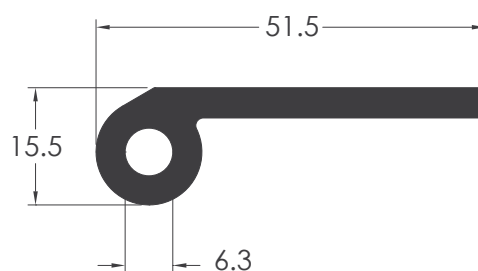
73400	1.049 Kg/m
-	



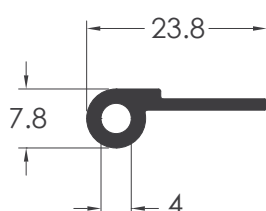
77700	0.575 Kg/m
-	



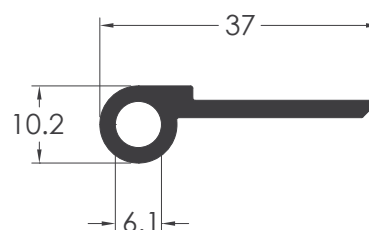
77710	0.783 Kg/m
-	



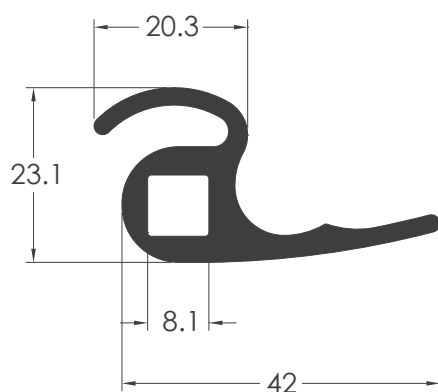
78160	0.175 Kg/m
-	



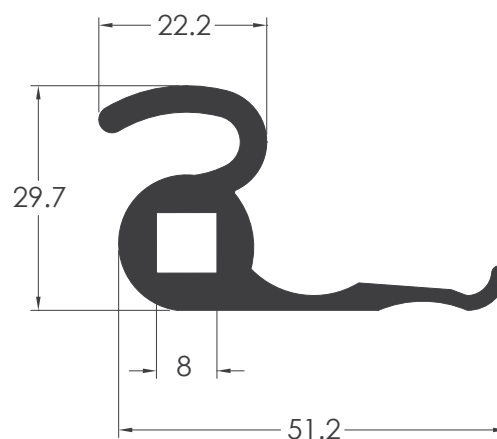
78150	0.327 Kg/m
-	



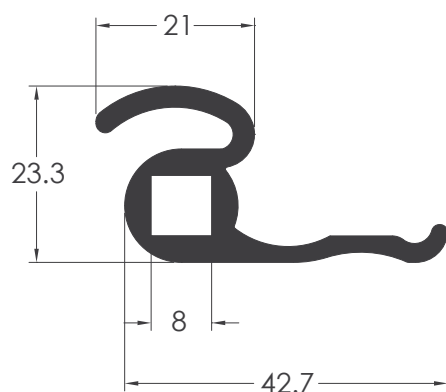
72331	0.770 Kg/m
-	



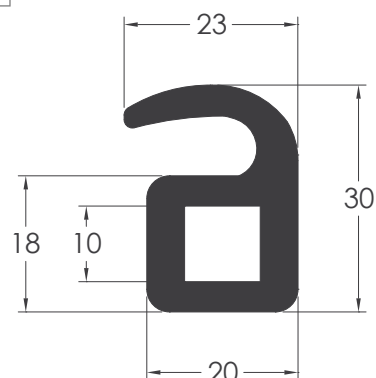
73420	1.082 Kg/m
-	



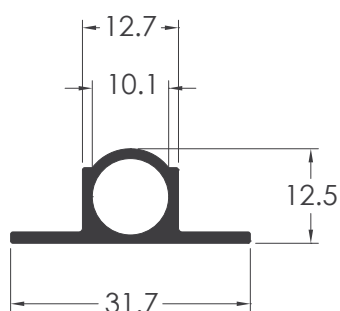
73430	0.776 Kg/m
-	



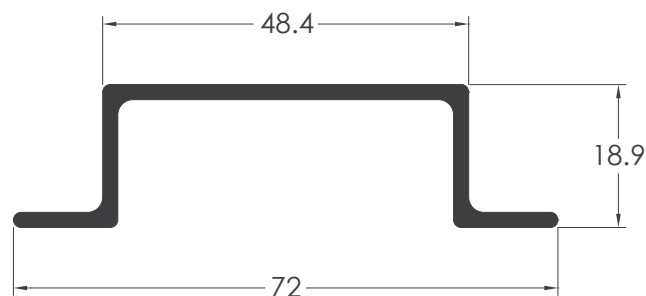
73440	0.998 Kg/m
-	



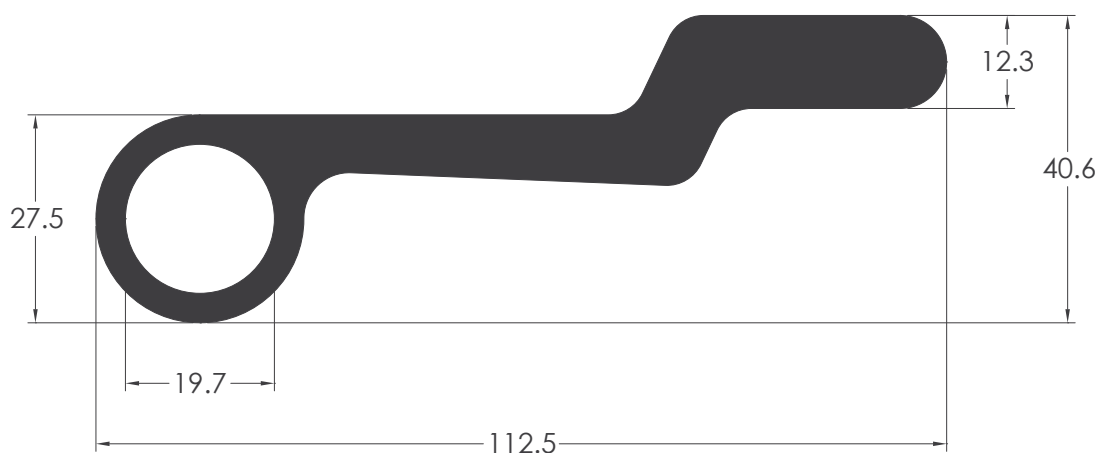
70034	0.252 Kg/m
-	



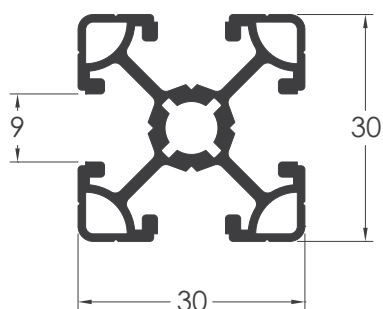
72328	0.578 Kg/m
-	



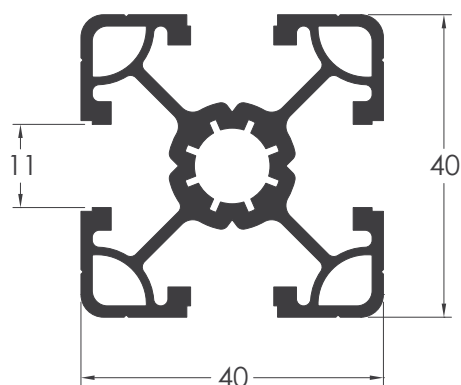
72329	3.400 Kg/m
-	



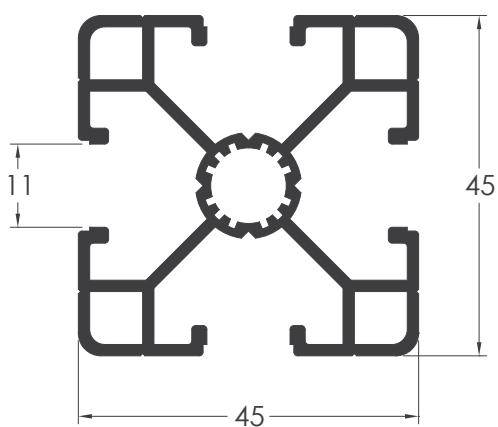
70029	0.687 Kg/m
-	



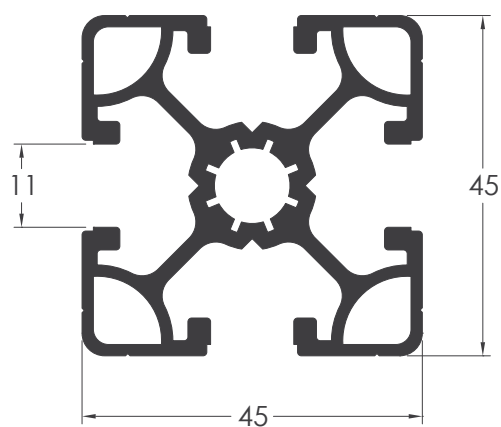
70031	1.236 Kg/m
-	



74300	1.200 Kg/m
-	



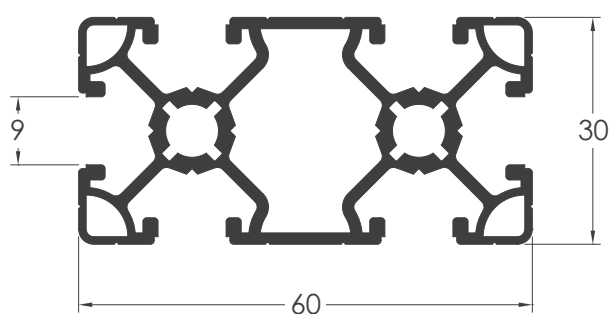
77270	1.417 Kg/m
-	



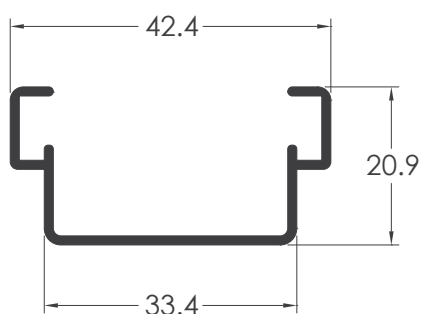
74290

1.230 Kg/m

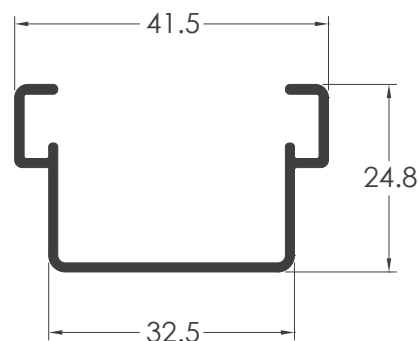
-



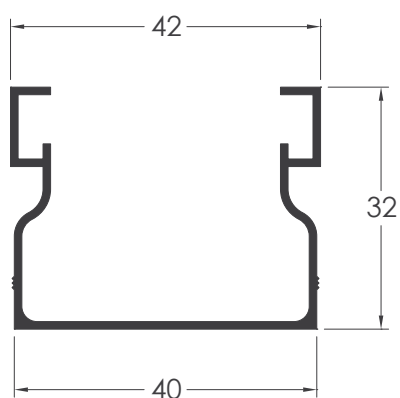
76970	0.292 Kg/m
-	



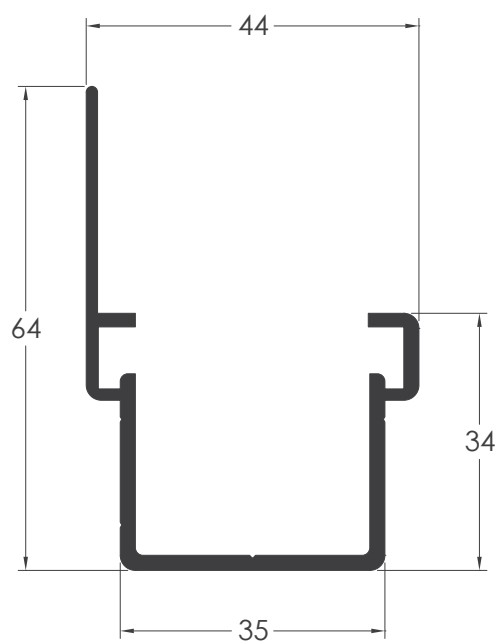
77540	0.333 Kg/m
-	



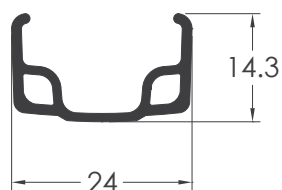
76340	0.347 Kg/m
-	



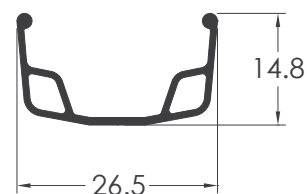
70128	0.745 Kg/m
-	



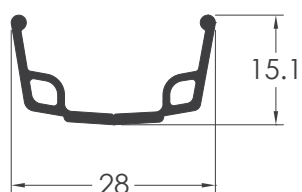
71430	0.254 Kg/m
-	



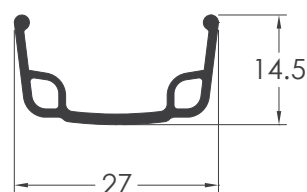
74810	0.164 Kg/m
-	



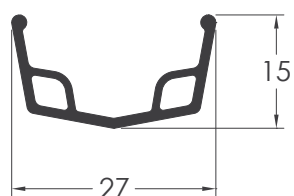
75030	0.189 Kg/m
-	



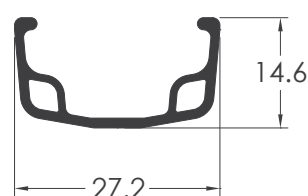
75780	0.199 Kg/m
-	



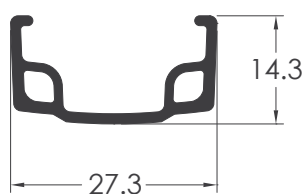
76720	0.201 Kg/m
-	



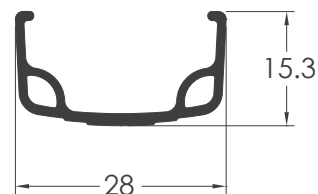
74320	0.213 Kg/m
-	



70870	0.242 Kg/m
-	



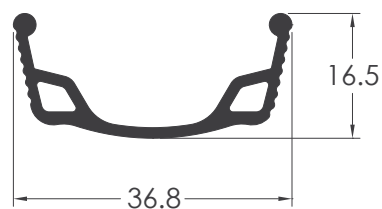
76280	0.219 Kg/m
-	



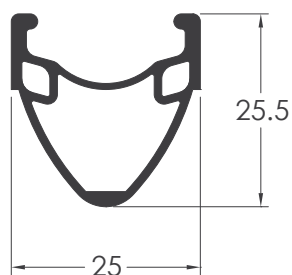
76090	0.278 Kg/m
-	



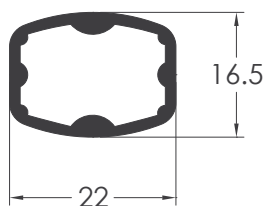
72180	0.318 Kg/m
-	



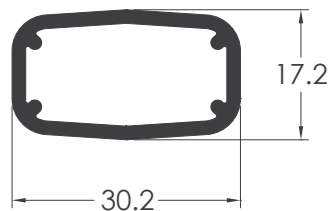
77190	0.318 Kg/m
-	



75670	0.283 Kg/m
-	



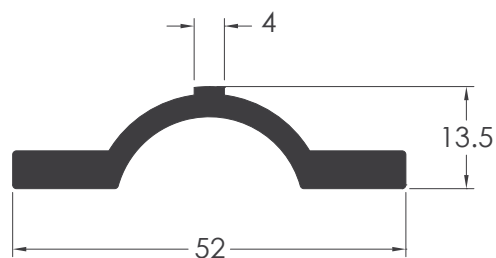
78170	0.408 Kg/m
-	



75630	0.772 Kg/m
-	



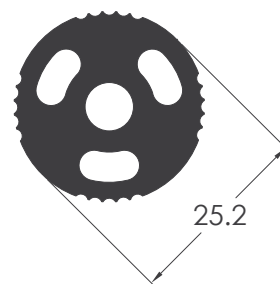
76140	0.685 Kg/m
-	



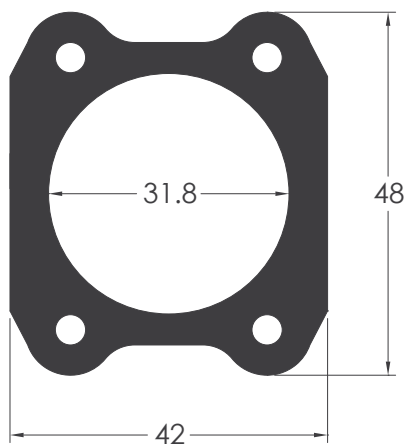
74330	0.414 Kg/m
-	



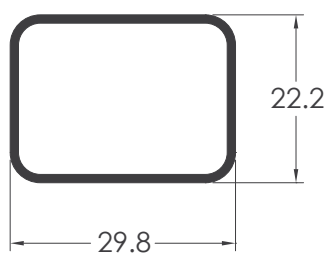
75990	1.007 Kg/m
-	



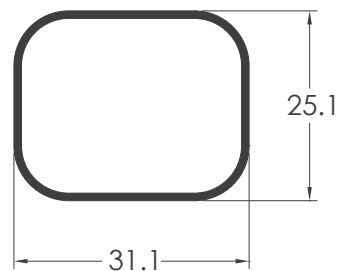
76160	2.581 Kg/m
-	



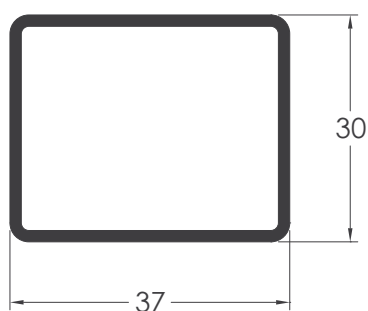
72990	0.279 Kg/m
-	



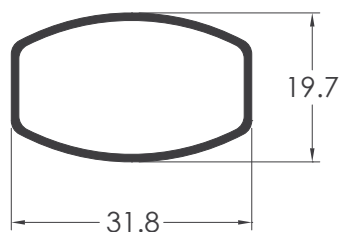
71280	0.258 Kg/m
-	



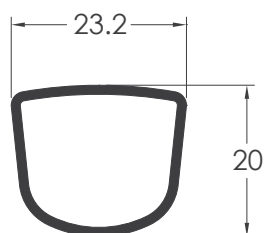
71940	0.508 Kg/m
-	



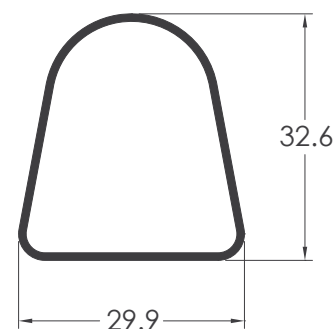
74240	0.260 Kg/m
-	



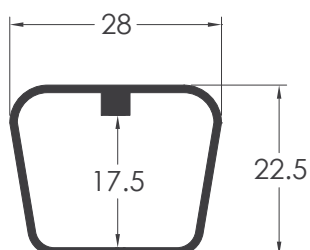
70290	0.228 Kg/m
-	



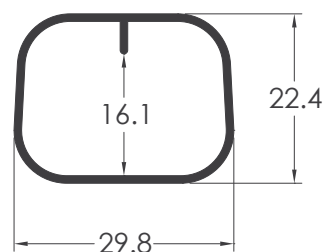
70980	0.285 Kg/m
-	



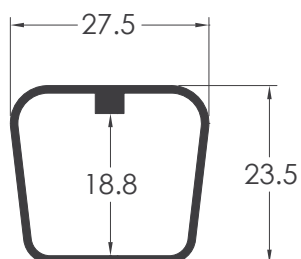
71950	0.285 Kg/m
-	



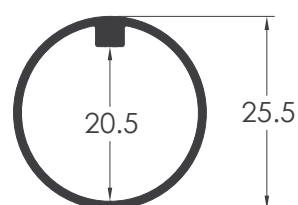
72500	0.246 Kg/m
-	



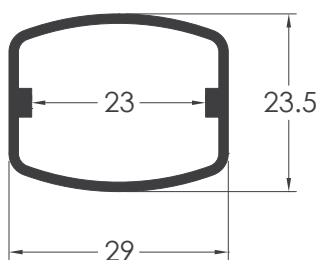
72600	0.267 Kg/m
-	



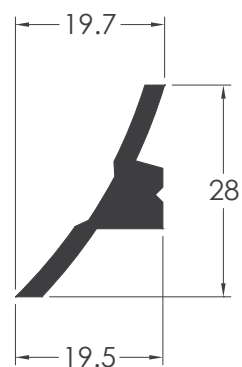
71960	0.248 Kg/m
-	



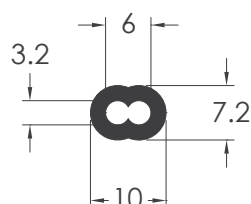
70970	0.330 Kg/m
-	



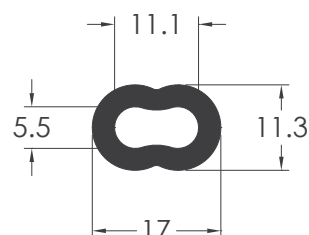
70990	0.344 Kg/m
-	



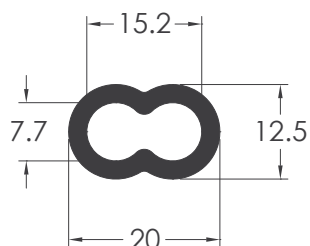
73590	0.121 Kg/m
-	



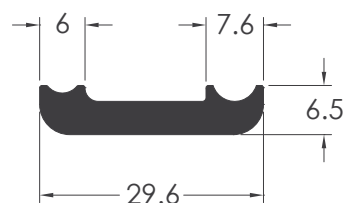
72980	0.297 Kg/m
-	



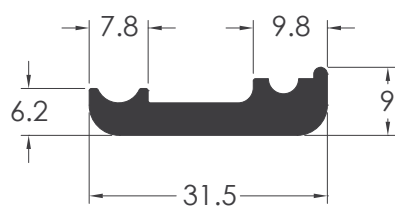
75180	0.314 Kg/m
-	



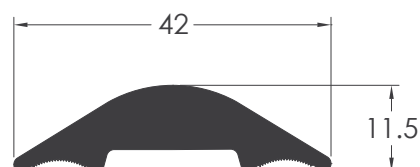
70930	0.381 Kg/m
-	



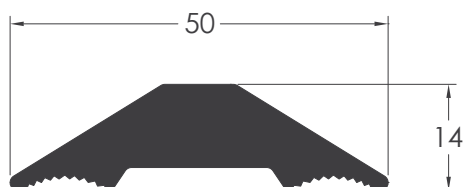
70940	0.441 Kg/m
-	



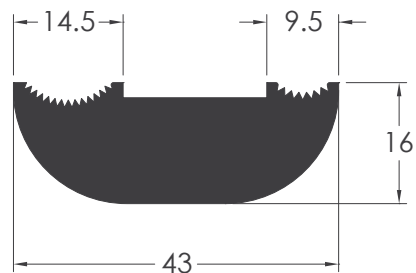
71720	0.667 Kg/m
-	



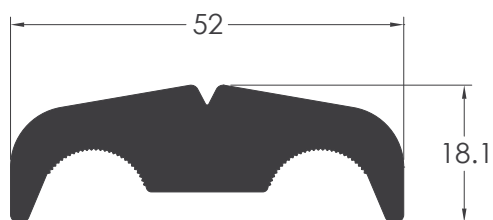
70850	0.972 Kg/m
-	



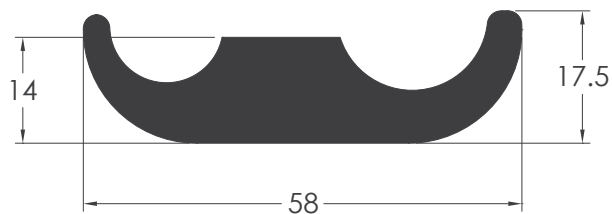
70900	1.440 Kg/m
-	



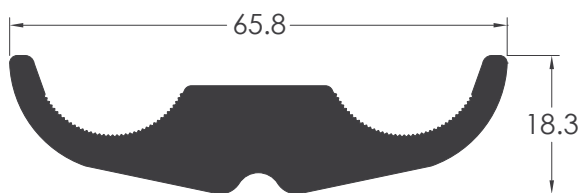
71710	1.434 Kg/m
-	



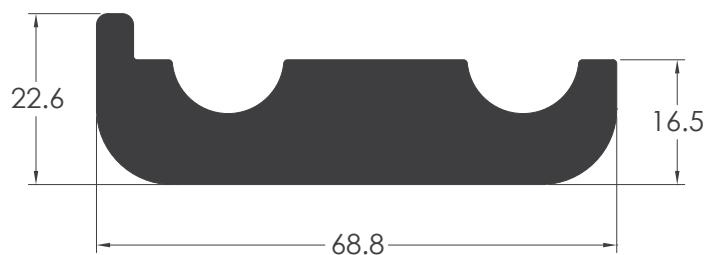
70910	1.475 Kg/m
-	



76920	1.495 Kg/m
-	

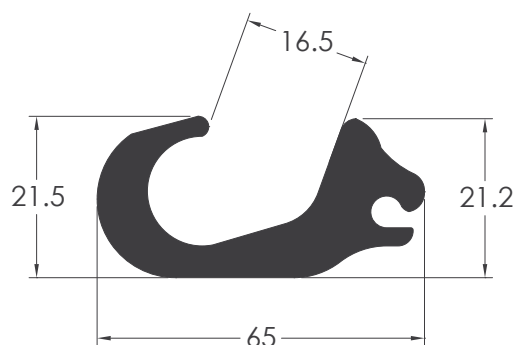
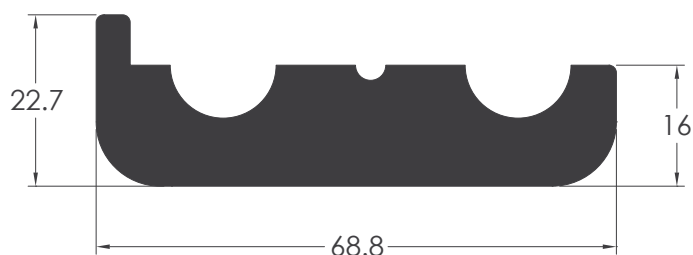


71750	2.585 Kg/m
-	



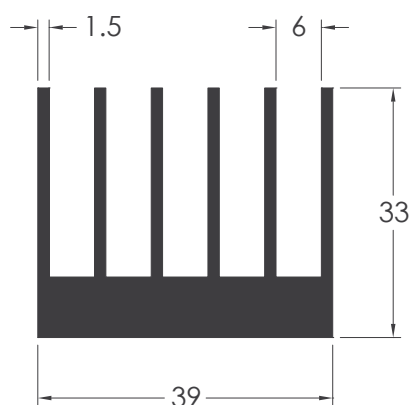
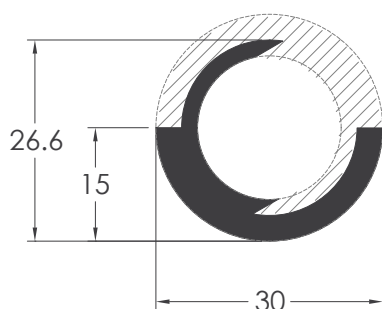
71800	2.540 Kg/m
-	

70880	1.250 Kg/m
-	

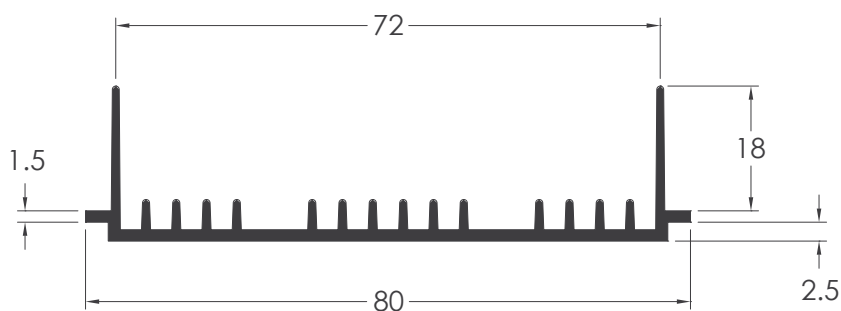


71810	0.526 Kg/m
-	

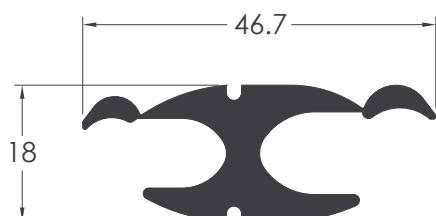
70230	1.455 Kg/m
-	



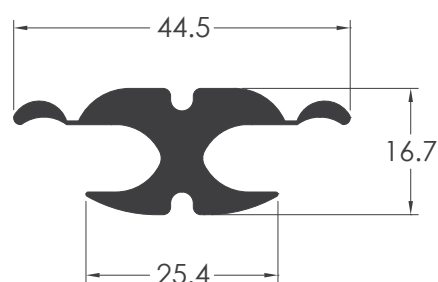
71840	0.600 Kg/m
-	



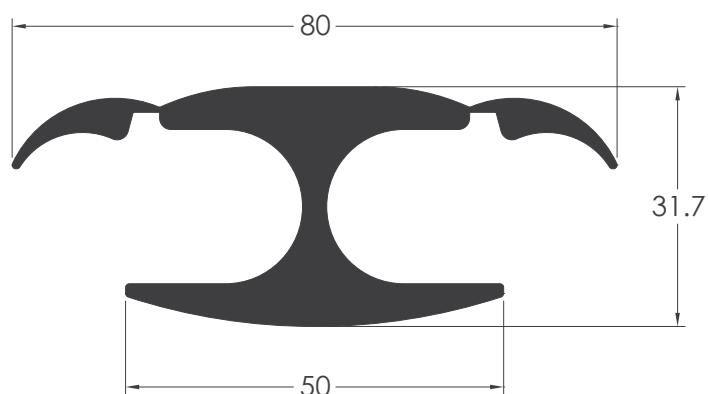
76070	0.793 Kg/m
-	



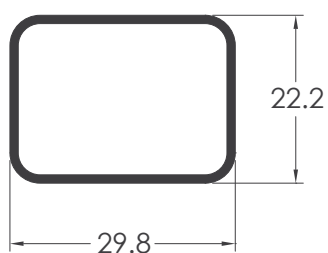
76230	0.715 Kg/m
-	



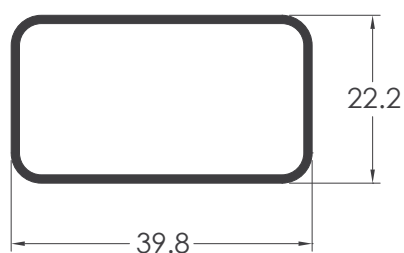
75960	1.900 Kg/m
-	



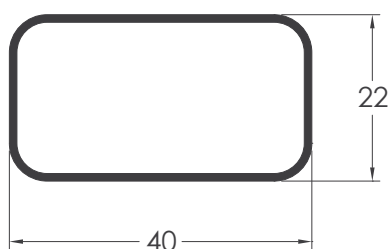
72990	0.279 Kg/m
-	



73190	0.339 Kg/m
-	



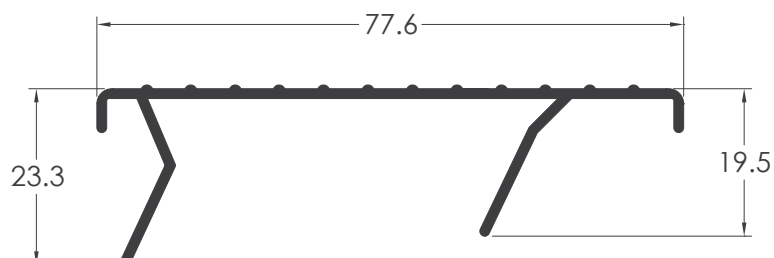
74710	0.303 Kg/m
-	



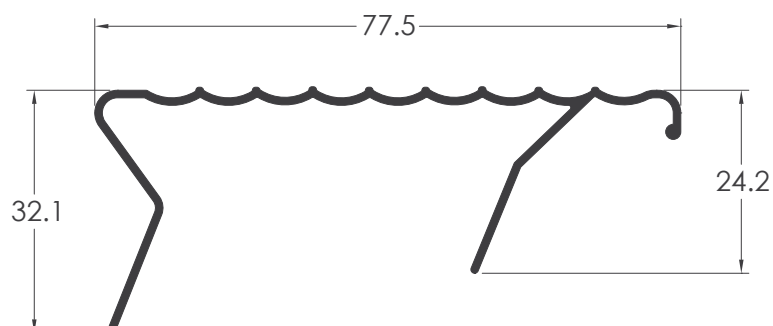
73660	0.388 Kg/m
-	



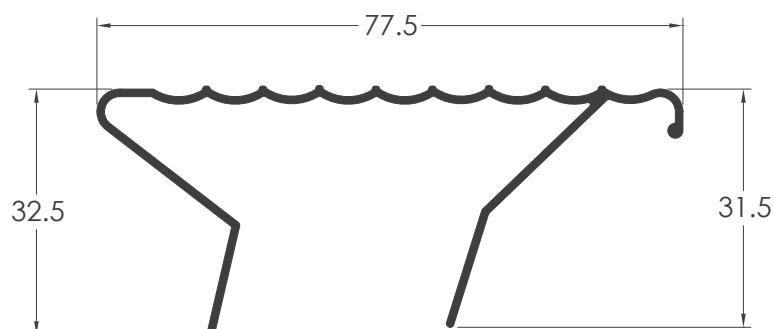
70022	0.476 Kg/m
-	



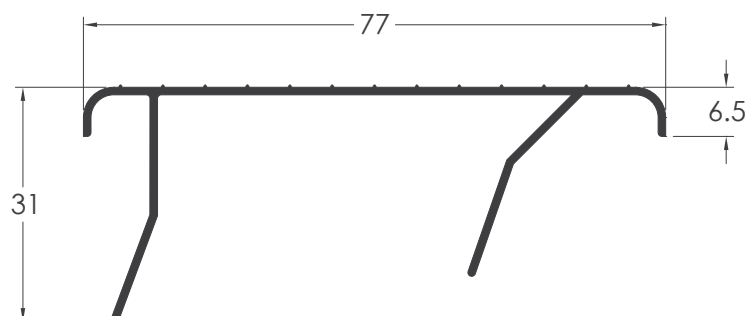
72167	0.407 Kg/m
-	



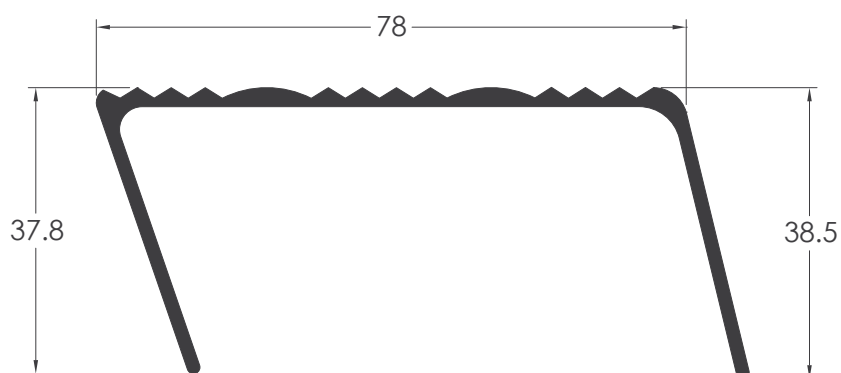
72168	0.452 Kg/m
-	



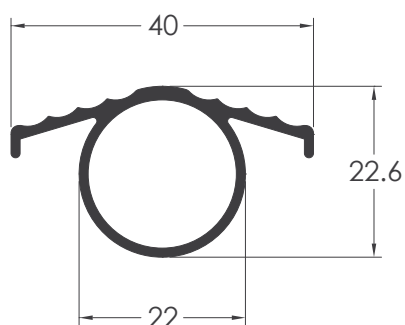
74150	0.395 Kg/m
-	



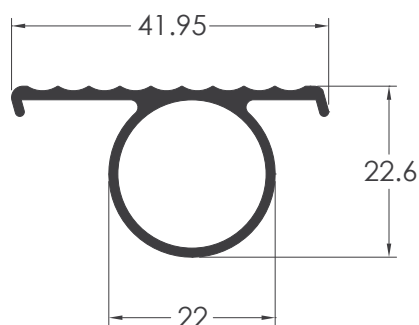
74210	0.764 Kg/m
-	



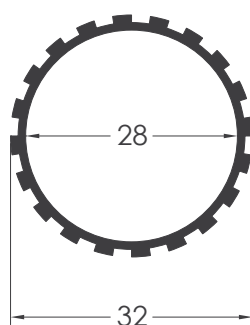
70105	0.355 Kg/m
-	



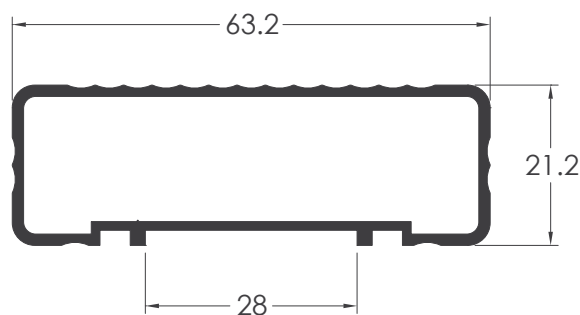
70106	0.374 Kg/m
-	



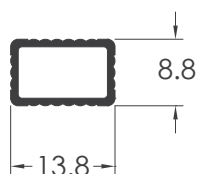
70710	0.376 Kg/m
-	



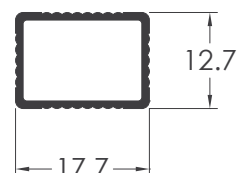
70104	0.591 Kg/m
-	



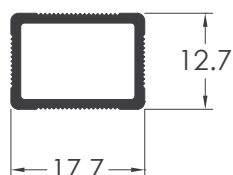
72560	0.103 Kg/m
-	



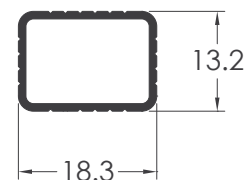
72360	0.143 Kg/m
-	



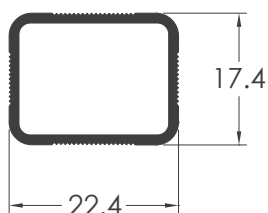
71470	0.178 Kg/m
-	



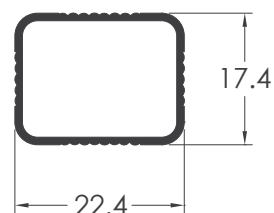
75790	0.147 Kg/m
-	



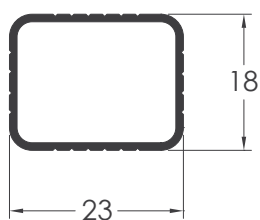
71480	0.232 Kg/m
-	



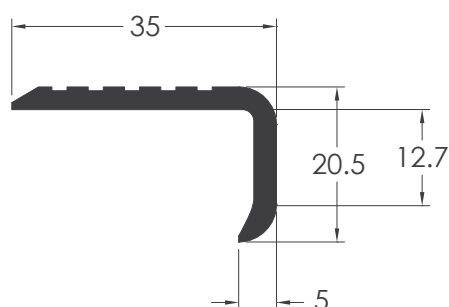
72350	0.185 Kg/m
-	



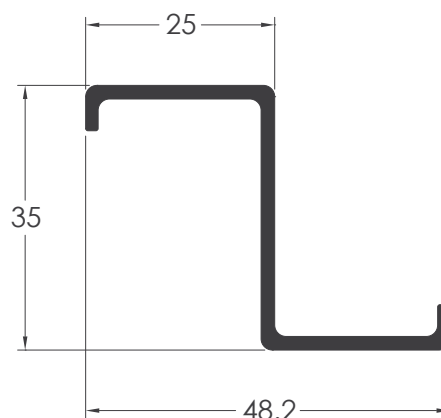
75800	0.195 Kg/m
-	



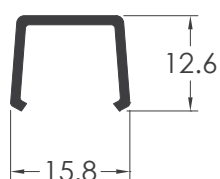
70540	0.386 Kg/m
-	



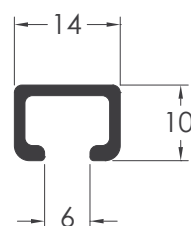
70170	0.441 Kg/m
-	



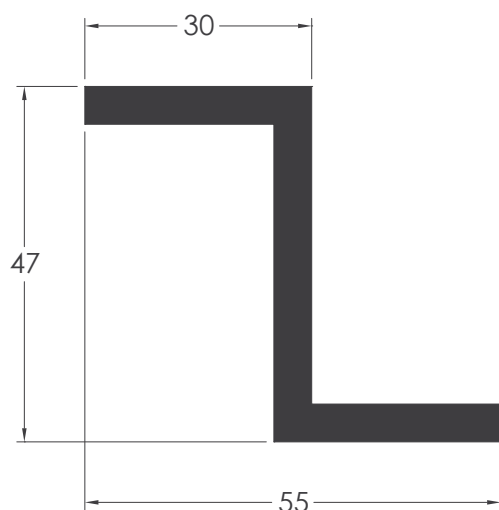
71830	0.122 Kg/m
-	



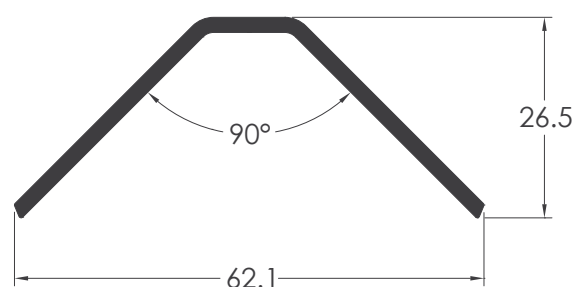
71730	0.132 Kg/m
-	



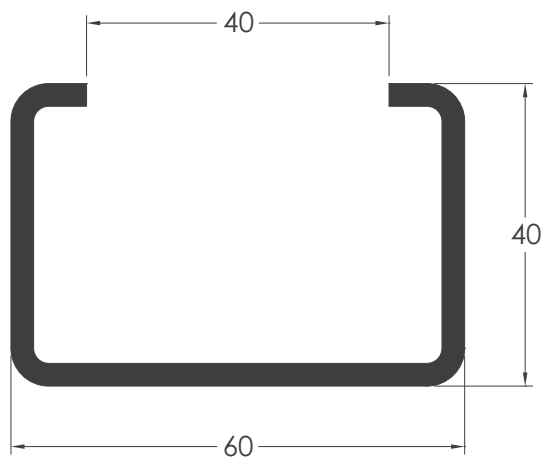
71040	1.314 Kg/m
-	



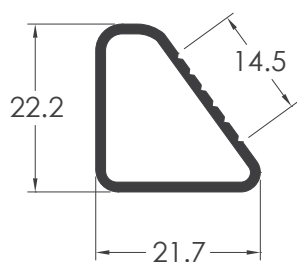
78130	0.442 Kg/m
-	



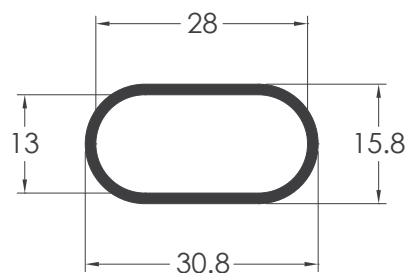
73670	1.184 Kg/m
-	



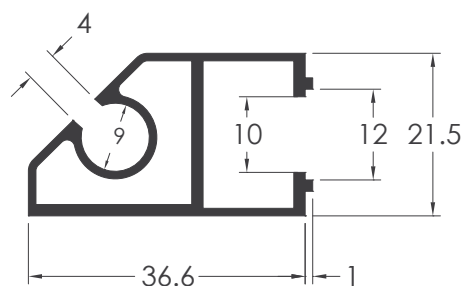
70160	0.243 Kg/m
-	



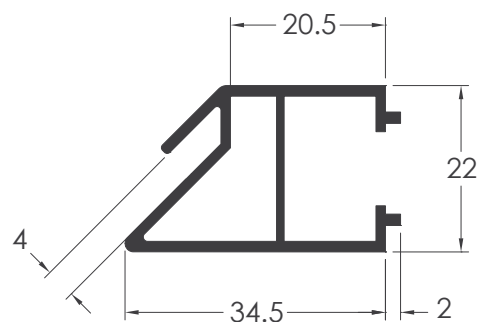
74490	0.285 Kg/m
-	



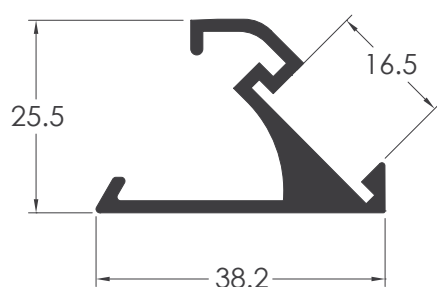
74510	0.445 Kg/m
-	



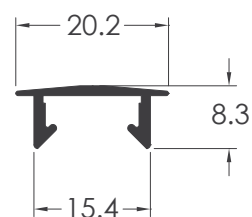
74450	0.435 Kg/m
-	



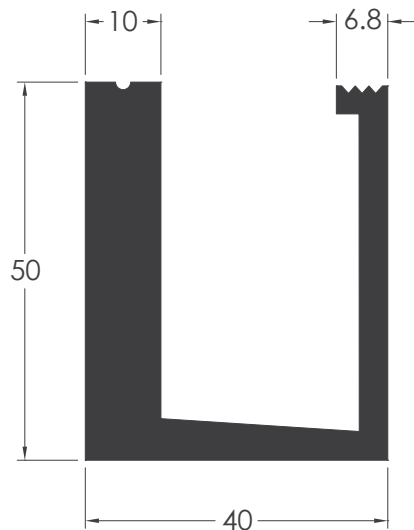
73220	0.520 Kg/m
-	



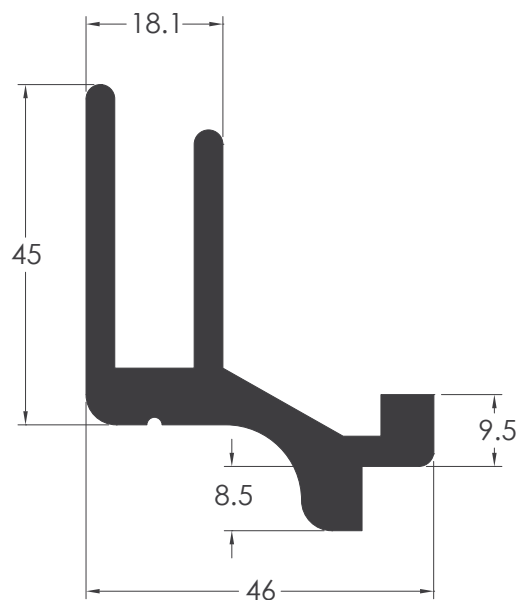
73230	0.199 Kg/m
-	



75550	2.211 Kg/m
-	

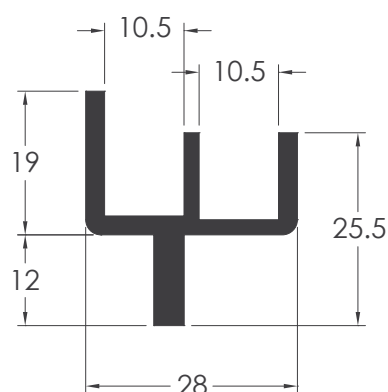
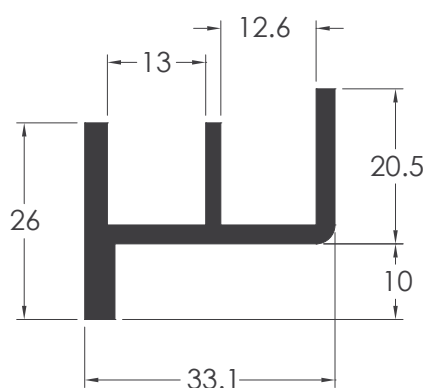


75580	1.735 Kg/m
-	



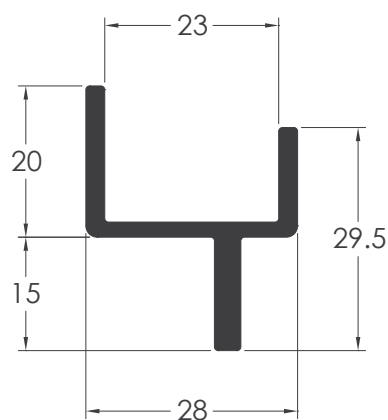
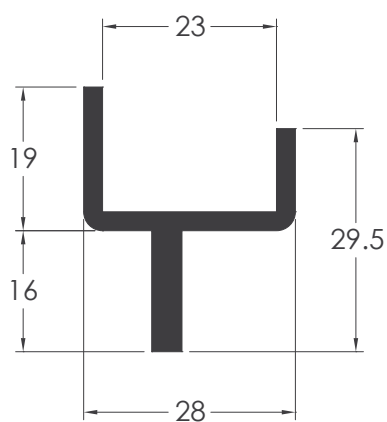
70110	0.635 Kg/m
-	

72170	0.567 Kg/m
-	

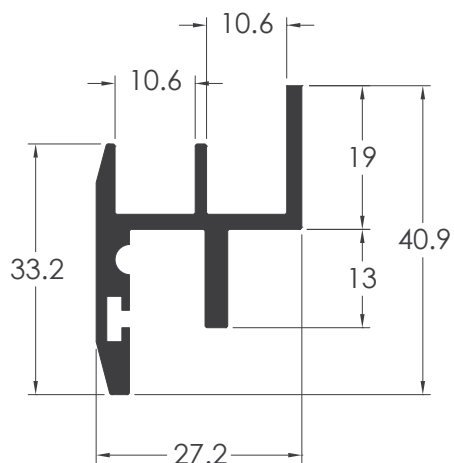


70140	0.530 Kg/m
-	

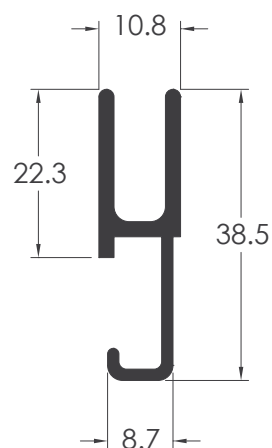
72810	0.497 Kg/m
-	



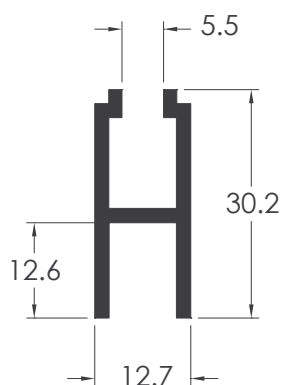
71490	0.594 Kg/m
-	



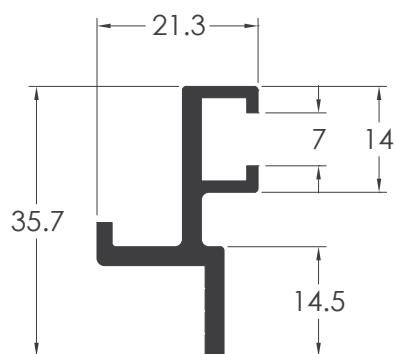
72310	0.296 Kg/m
-	



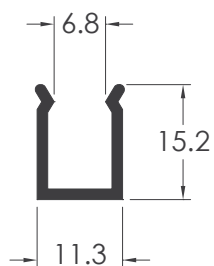
72070	0.361 Kg/m
-	



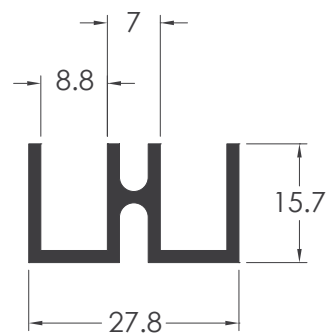
73550	0.433 Kg/m
-	



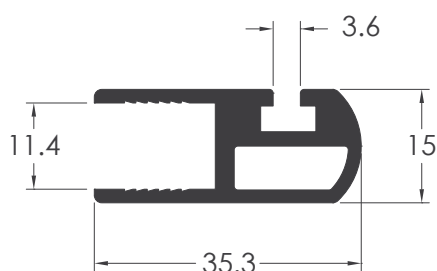
73580	0.148 Kg/m
-	



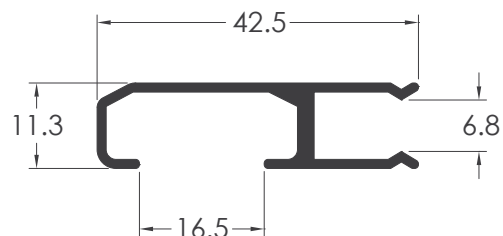
72060	0.373 Kg/m
-	



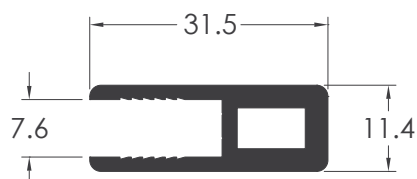
73520	0.583 Kg/m
-	



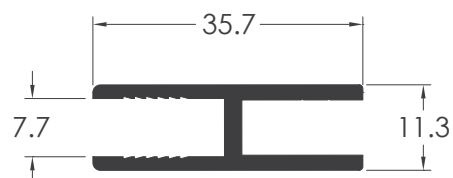
73540	0.310 Kg/m
-	



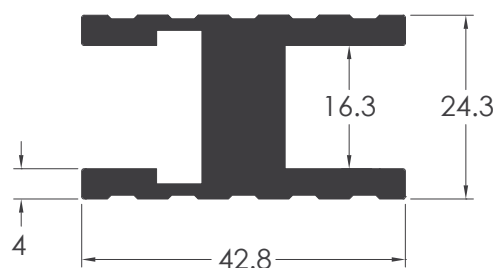
73510	0.471 Kg/m
-	



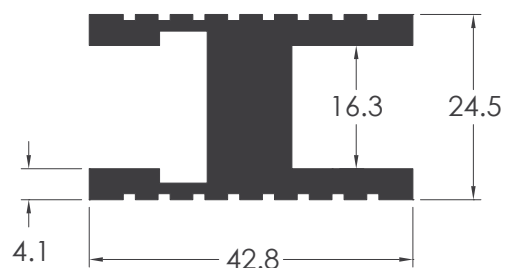
73490	0.406 Kg/m
-	



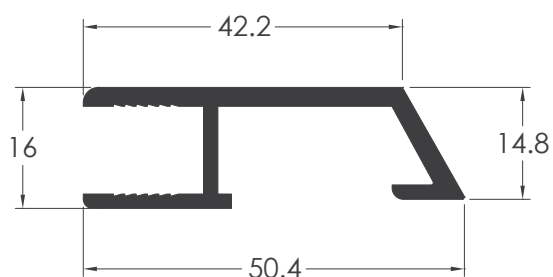
70640	1.279 Kg/m
-	



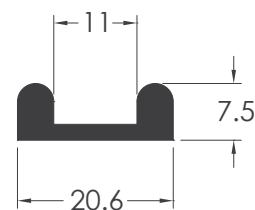
73480	1.325 Kg/m
-	



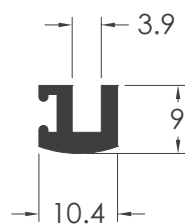
73500	0.573 Kg/m
-	



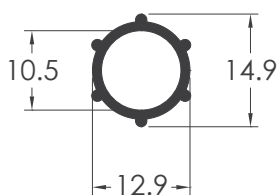
72080	0.244 Kg/m
-	



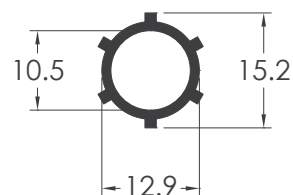
72820	0.141 Kg/m
-	



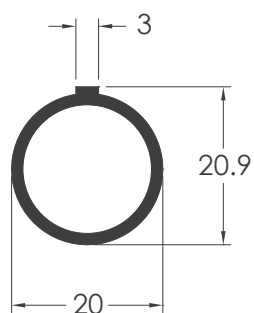
71880	0.141 Kg/m
-	



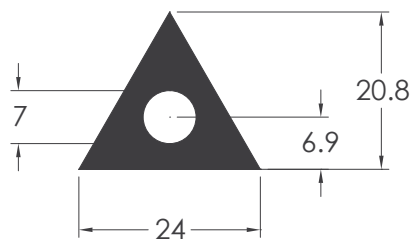
71170	0.149 Kg/m
-	



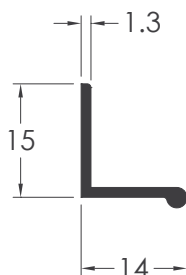
78320	0.243 Kg/m
-	



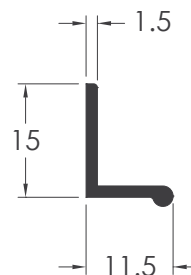
70920	0.571 Kg/m
-	



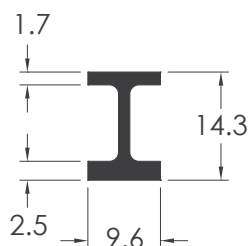
76710	0.104 Kg/m
-	



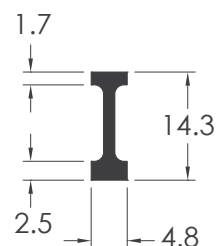
72260	0.107 Kg/m
-	



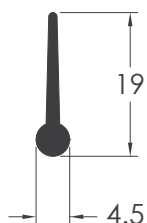
71510	0.153 Kg/m
-	



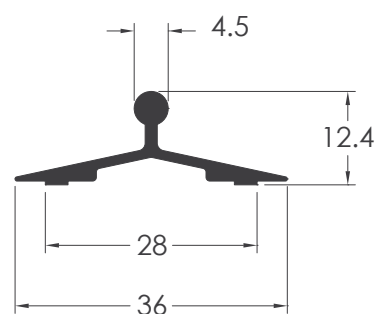
71520	0.099 Kg/m
-	



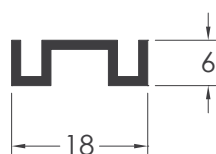
71640	0.099 Kg/m
-	



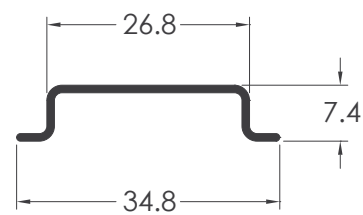
74410	0.210 Kg/m
-	



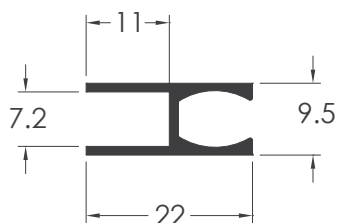
74650	0.136 Kg/m
-	



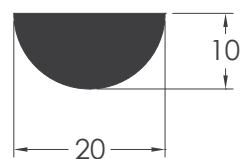
78070	0.121 Kg/m
-	



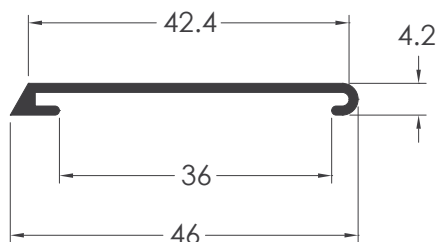
70470	0.151 Kg/m
-	



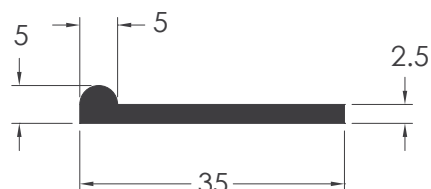
80400	0.424 Kg/m
-	



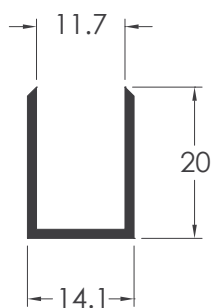
71450	0.185 Kg/m
-	



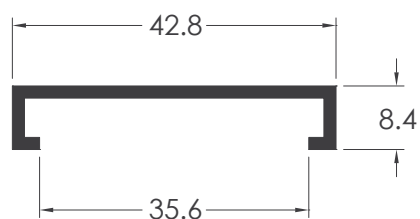
76120	0.297 Kg/m
-	



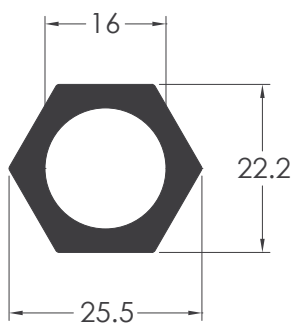
72300	0.164 Kg/m
-	



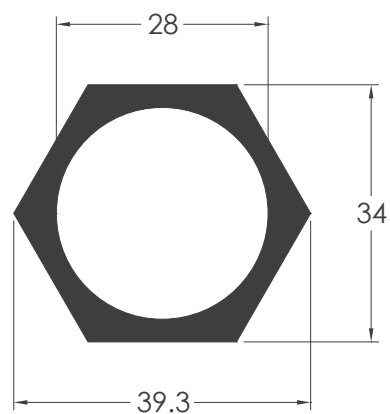
70460	0.261 Kg/m
-	



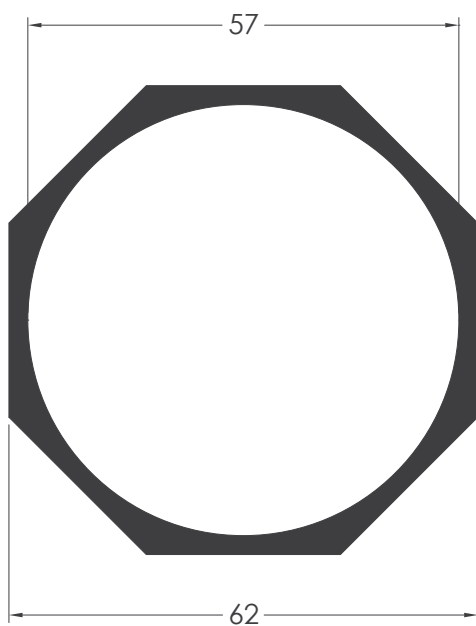
70440	0.613 Kg/m
-	



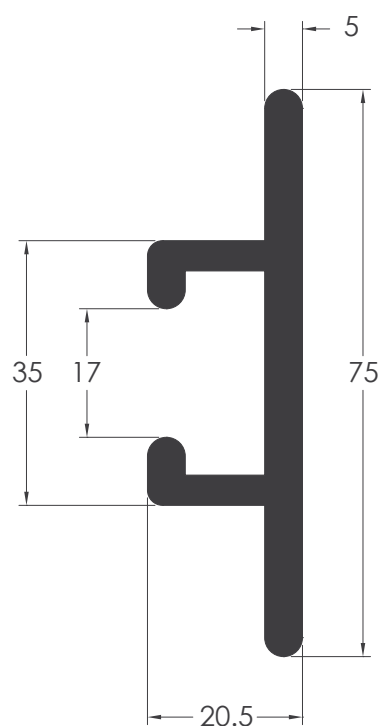
78300	1.044 Kg/m
-	



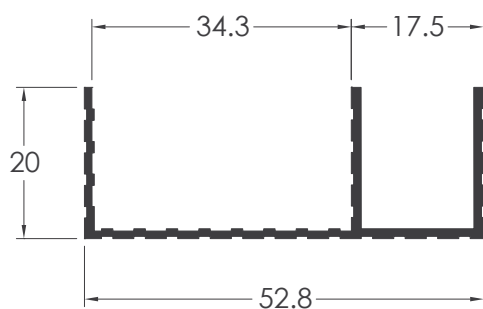
78310	1.714 Kg/m
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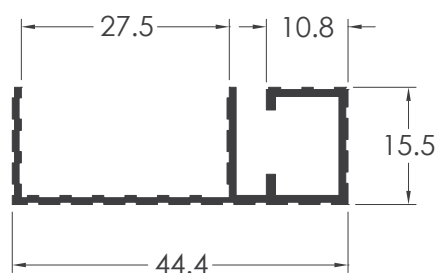
71000	1.458 Kg/m
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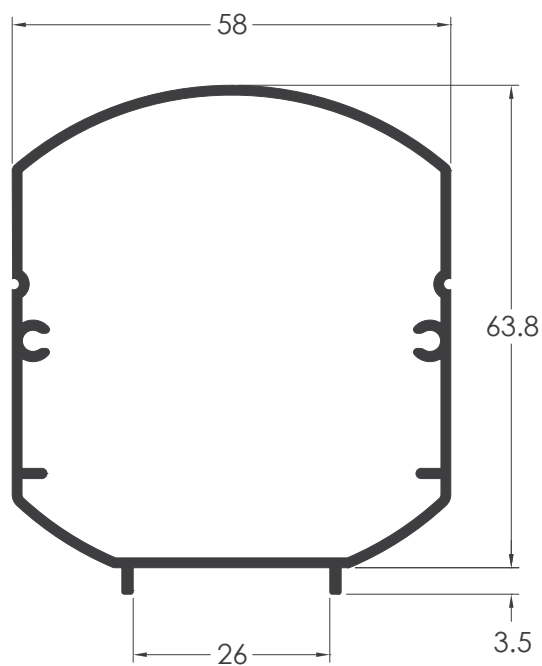
70780	0.325 Kg/m
-	



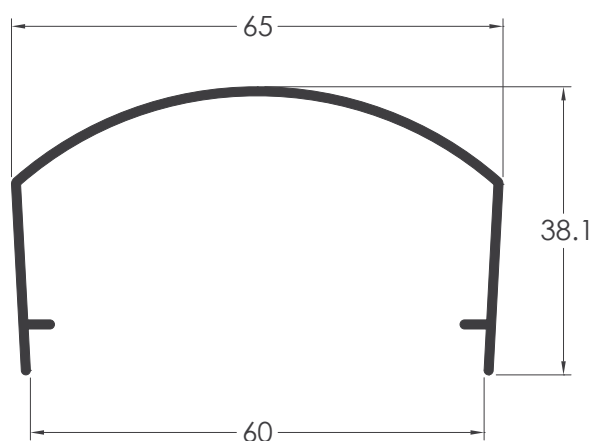
70790	0.282 Kg/m
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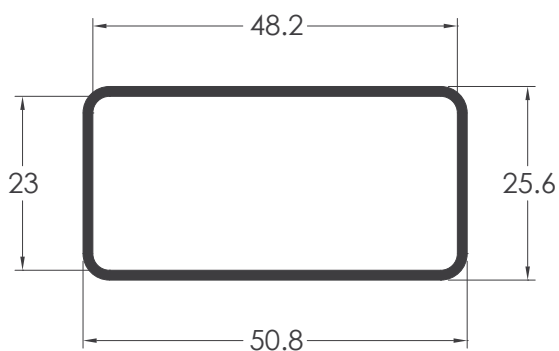
73200	0.853 Kg/m
-	



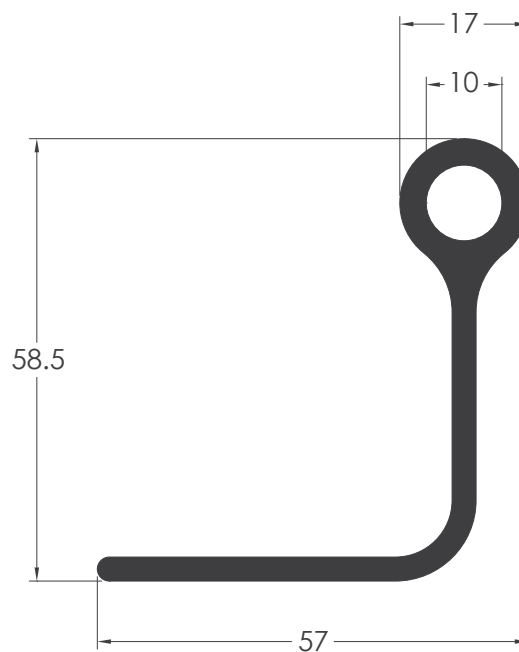
73210	0.413 Kg/m
-	



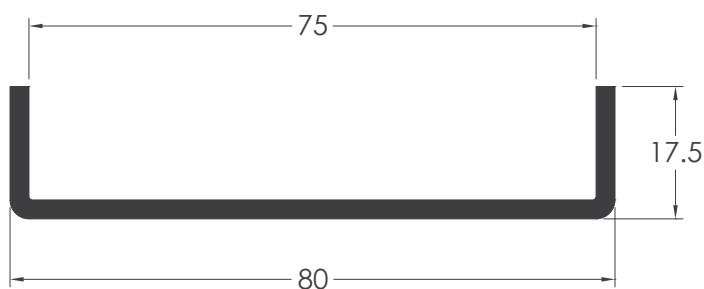
72133	0.503 Kg/m
-	



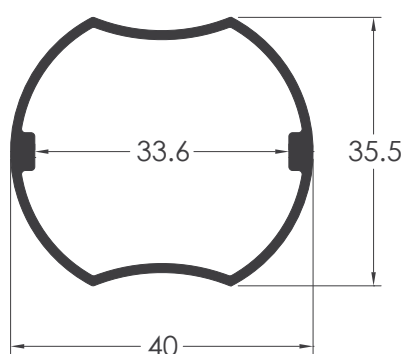
78180	1.153 Kg/m
-	



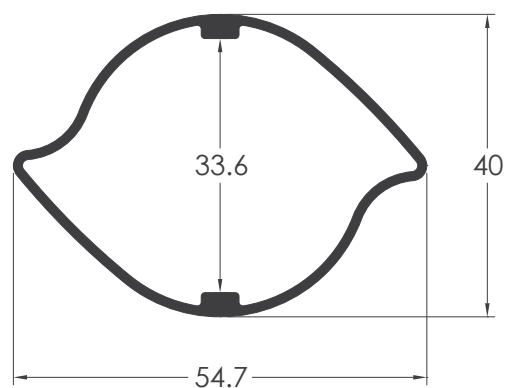
76350	0.745 Kg/m
-	



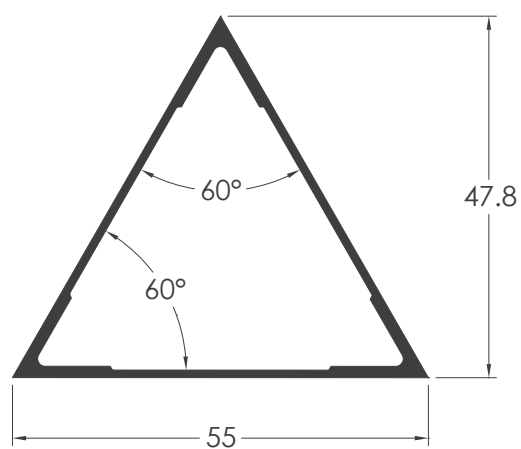
78410	0.447 Kg/m
-	



78420	0.505 Kg/m
-	



74590	0.528 Kg/m
-	







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