

HYDRO ALUMINIUM LIMITED



PROFILES CATALOGUE

BUILDING THE FUTURE, RESTORING THE PAST

Vol.17.1

August.2024



HYDRO ALUMINIUM
LIMITED

COMPANY --- PROFILE

Mission

Our goal is to be a reliable brand in the market that will run for generations producing high-quality products that meet international standards. Bridging the gap of quality, consistency, and timeliness in the industry, is at the core of our company. With that in mind, we have made it our sole purpose to become a solution to the market.

Vision

To provide a framework with which modern Africa is built.

Core Values

Honesty and Integrity. Strong ethics build strong foundations. Conducting ourselves in transparency and a trustworthy manner is at the core of Hydro Aluminium Limited.



HYDRO ALUMINIUM LIMITED



About Us

Hydro Aluminium Limited was incorporated in 2016, where it began as a small-scale fabrication facility with only four members. In 2017, we commissioned machinery, and by mid-2018, we commenced mass extrusion. From the onset, we set out in our hearts that for whatever we undertake high quality and value to our customers will be at our core. That is why, currently, we are among the leading manufacturers of high-quality aluminium sections in East and Central Africa. We know and understand that meeting deadlines is very crucial in the industries we serve; therefore, we have mandated ourselves to deliver in a timely manner.

What we do

We are an aluminium extrusion manufacturer based in Kenya. We supply aluminium sections to several industries both locally and internationally. The major sectors we serve include: the building & construction industry, the automotive industry and the renewable energy sector.

Why us

We have an in-house foundry through which we ensure that every single extruded aluminium profile meets international standards. We also understand that time is a valuable commodity to our customers; therefore, timely delivery is our top priority.

Our Products

- Architectural
- Automotive
- Solar Panels
- Electrical Hardware
- Any customized Aluminium Extrusion



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This is the current catalogue as of August 2024

This supercedes all other previous publications

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ORIGINAL FORM STA/2 (K-4)

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THE STANDARDS ACT (CAP. 496 OF THE LAWS OF KENYA)

PERMIT IS GRANTED TO:

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00600 EXPIRES ON: **2022-10-10**

PHYSICAL ADDRESS: **SILVER COIN BUSINESS PARK, JUJA** DATE OF ISSUE: **2022-10-19**

TELEPHONE NO.: **0789-673634**

FAX NO.:

E-MAIL ADDRESS: **info@hydroaluminium.co.ke**

to use the standardization mark specified in the first row hereunder upon and in respect of the commodity and brand specified in the second and third rows there of, which commodity, conform to the standard specification in the fourth row.

1 STANDARDIZATION MARK 

2 DESCRIPTION OF THE COMMODITY UPON WHICH THE STANDARDIZATION MARK IS TO BE USED **ALUMINIUM SECTIONS**

3 BRAND NAME **HYDRO (HAL)**

4 STANDARD SPECIFICATION (Number and Title) **BS EN 755:2 Aluminium and aluminium alloys-Extruded rod/bar, and profiles(Mechanical properties)**

NOTE 1. EVERY PERMIT HOLDER SHALL PAY AN ANNUAL FEE IN RESPECT OF EACH PERMIT GRANTED OR RENEWED

NOTE 2. THIS PERMIT IS ISSUED SUBJECT TO THE CONDITIONS SET OUT OVER LEAF

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Kenya Bureau of Standards

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MATERIAL SPECIFICATIONS

MECHANICAL PROPERTIES AND CHEMICAL COMPOSITION

OF ALUMINIUM ALLOY AA6063, IN TEMPER T5 & T6

CHEMICAL COMPOSITION	
Content	ALLOY AA6063
% Mg	0.45 - 0.90
% Si	0.20 - 0.60
% Cr	0.10
% Zn	0.10
% Fe	0.35
% Cu	0.10
% Mn	0.10
% Ti	0.10
Other impurities	0.05
Aluminium	Remainder

MECHANICAL PROPERTIES		Al 6063	
Properties	Unit	T5	T6
Ultimate Tensile Strength	N/mm ²	150	250
0.2 % Proof Stress	N/mm ²	110	160
Hardness (Brinell)	BHN	55	65
Ult. Shear Strength	N/mm ²	155	
Elongation on 50 mm	%	8	
Density	g/cm ³	2.7	
Melting Range	g/cm ³	600-500	
Coefficient on Linear Expansion	X10 ⁻² Deg °C	23	
Modulus Of Elasticity	N/mm ²	67000	
Fatigue Strength (50*10 ⁶) Cycle	N/mm ²	75	

TEMPER

T4 : Solution heat treatment and naturally aged to substantially stable condition.

T5 : Cooled from an elevated temperature shaping process and then artificially age hardened.

T6 : Solution heat treatment and age hardened.

FIRE RATING

Aluminium alloys are non-combustible and rated AA (the highest possible under this classification system-BS 476: Part 6-755-2).

POWDER COATING FINISH

- GLOSS LEVEL
 - High Gloss (85 +/-5)
 - Gloss (75 +/-5)
 - Semi-Gloss (Range 45-65)
 - Matte (30 +/-5)
 - Dead Matte (5 +/-3)

- Fine Texture
- Texture
- Sandblasted
- Grit
- Hammered

Note: The finishes mentioned above are readily available. Any alternative options will necessitate samples for necessary adjustments with our suppliers on a project-by-project basis. It is always advisable to submit a sample and/or request one.



MATERIAL SPECIFICATIONS

EXTRUSION PRESS SIZE

1. 1100 MT Press
2. BILLET DIAMETER 127 mm (5 Inches)

MAXIMUM SIZE POSSIBLE

Solid : 115 mm CCD

Hollow: 95 mm CCD

ALLOY CHARACTERISTIC

AA 6063 : This is the most popular extrusion alloy, it has a good surface finish, is corrosion resistant and can be heat treated for strength.

AA 6061: Its the most versatile alloy of heat treatable group. It is an improved magnesium silicide alloy with the ability to develop strengths somewhat higher than 6063 alloy; good corrosion resistance and is used in transportation and structural applications.

AA 6082: Similarly this alloy has good tensile strength having good extrudability ; Widely chosen for Automobile profiles Structures with complex sections, Structural engineering, Pylons, Platforms, Pipelines, Masts for sailing boats etc...



TOLERANCE

WHAT IS TOLERANCE?

Taking into account that in design and production of extruded products, manufacturing processes have limits of accuracy that happens due to technology and economics.

Due to this; Products sometimes have variables in dimensions that are within acceptable limits.

Those limits are called **Tolerances**.

WHERE TOLERANCE ARE APPLICABLE

In accordance with the extruded product that comes in specified dimensions of its cross-section and specifying the length, the allowed tolerances are usually expressed in plus-or-minus fractions or percentages of a dimension.

Other than a special specification of a die, which may be consulted with the Extruder, Standard Industry Tolerances are always applied.

Standard tolerances for extruded rod, bar and shapes are applied to cross section/wall thickness, length, straightness, twist, flatness, surface roughness, end cut squareness

(vertical and transverse), contour (curved surfaces), corner and fillet radii and angularity.

Extruded tube has standard tolerances for diameter, wall thickness, width and depth for square or rectangular tubes.

STANDARD TOLERANCES

Standard tolerances are not simple, uniform fractional formulas. There are many different specific numbers of formulas published in tables.

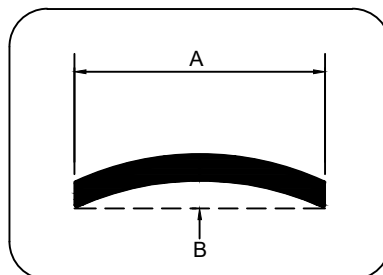
The various tolerances are established to match the various degrees of controlling different toleranced dimensions.

As a result, tolerances vary with cross-sectional size (as measured by the profile's fit within a circumscribing circle), and even with the location of each dimension on a complex shape.

Alloy composition and temper also influence certain tolerances, and are reflected in the standard tolerance tables. But their significance is simple and important: under standard tolerances,

aluminium extrusions are produced with dimensions accurate within tenths or hundredth of a millimeter.

For most purposes, that is a more than ample degree of precision.





TOLERANCE

EFFECTS OF TOLERANCES ON PRODUCTS

1. Concavity & Convexity

Width (mm)	Tolerance
	Maximum (mm)
25 mm	0.125
50 mm	0.250
75 mm	0.375
100 mm	0.500

Dimensional tolerances are rounded down to the nearest 0.05mm, because all callipers used to measure metal dimensions are almost universally graduated at intervals of 0.05mm.

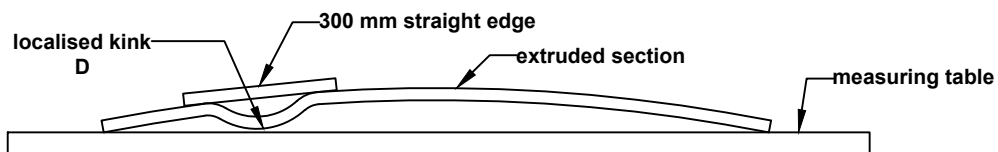
2. Bow

The function of any particular shape is paramount, and under this provision, negotiation and agreement between the customer and the extruder is encouraged, particularly at the design stage.

Width (mm)	Tolerance
	Maximum (mm)
25 mm	0.125
50 mm	0.250
75 mm	0.375
100 mm	0.500

Dimensional tolerances are rounded down to the nearest 0.05mm, because all callipers used to measure metal dimensions are almost universally graduated at intervals of 0.05mm.

Straightness Tolerance for Extruded Products:





TOLERANCE

Alloy and Temper	Allowable deviation from straightness, D, mm	
	In any length 300mm	Maximum (mm)
6101-T5	0.2	0.7 L
6063 -T5 & T52	0.2	0.7 L
6060 -T5 & T52	0.2	0.7 L
All other alloys and tempers	0.6	2 L

3.Bars & Regular Section

(i). Width and Diameter

Diameter, width or across flats		Tolerance + (mm) - (mm)
Over (mm)	Up to and including (mm)	
	3	0.16
3	10	0.20
10	18	0.26
18	30	0.32
30	40	0.40
40	60	0.45
60	80	0.50
80	100	0.65

(ii). Thickness

Diameter, width or across flats		Thickness (mm)									
Up to and including (mm)		over	1.6	3.0	6	10	18	30	40	60	80
		Up to & incl.	1.6	3.0	6	10	18	30	40	60	80
-	10		0.16	0.18	0.20	0.22					
10	18		0.18	0.20	0.22	0.24	0.26				
18	30		0.22	0.24	0.26	0.28	0.30	0.32			
30	60		0.24	0.26	0.28	0.30	0.33	0.36	0.40		
60	80		0.28	0.30	0.32	0.34	0.37	0.40	0.43	0.45	0.50
80	100		0.32	0.34	0.36	0.39	0.42	0.45	0.48	0.52	0.65



TOLERANCE

(iii). Width, (width across flats & thickness)

Diameter, width or across flats		Tolerance + (mm) - (mm)	Thickness (mm)						
Over (mm)	Up to and including (mm)		over		1.6	3.0	6	10	18
			Up to & incl.	1.6	3.0	6	10	18	30
	3	0.16							
3	10	0.20							
10	18	0.26		0.20	0.22				
18	30	0.32		0.26	0.28	0.32			
30	40	0.40		0.32	0.36	0.41	0.48		
40	60	0.45		0.32	0.36	0.41	0.48		
60	80	0.50		0.36	0.41	0.48	0.58	0.68	
80	100	0.65			0.48	0.58	0.68	0.82	1.0

(iv). Diameter of tubing

Nominal outside diameter		Tolerance on actual diameter + (mm) - (mm)	Tolerance on mean diameter + (mm) - (mm)
Over (mm)	Up to and including (mm)		
12	18	0.25	0.19
18	30	0.30	0.23
30	40	0.36	0.27
40	50	0.4500	0.34
50	60	0.54	0.40
60	80	0.6	0.45
80	100	1% of diameter	3/4% of diameter

1. Measured at the corners.
2. The tolerances apply to; non-heat treated sections and tubing of wall thickness not less than 1.6mm or 1/32 of the overall width or outside diameter (whichever is greater), and to heat treated sections and tubing of wall thickness not less than 1.6mm or 1/24 of the overall width, or outside diameter (whichever is the greater).
The maximum tolerance on concavity and convexity is 0.05mm per 10.0mm of width.
3. In the case of tubing in straight lengths, the tolerance limits are inclusive of ovality.



TOLERANCE

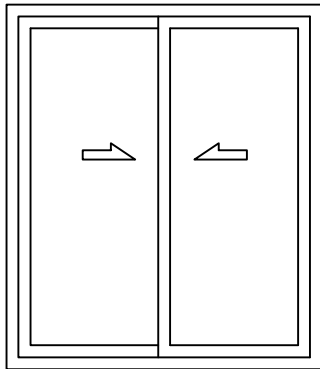
(v). Diameter of tubing

Nominal thickness	Tolerance on actual diameter + (mm) - (mm)	Thickness at any point	
		Max (mm)	Min (mm)
1.6	0.18	1.84	1.36
2.0	0.20	2.27	1.76
2.5	0.22	2.80	2.20
3.0	0.27	3.36	2.64
4.0	0.31	4.42	3.58
5.0	0.37	5.49	4.51
6.0	0.43	6.58	5.42
7.0	0.51	7.67	6.33
8.0	0.56	8.76	7.34
10.0	0.65	10.85	9.15
12.0	0.77	13.03	10.97
12.0	0.88	15.24	12.76

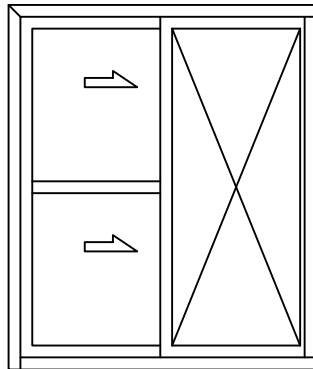
These tolerances on wall thickness do not apply where tolerances on both outside and inside diameter are required. Mean thickness is the average of the wall thickness measured at four equidistant points around the circumference.



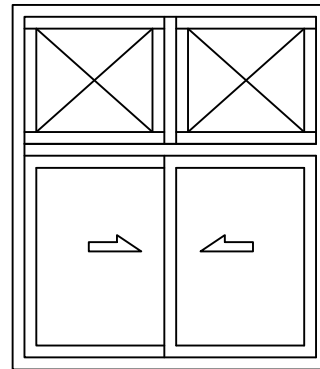
APPLICATIONS



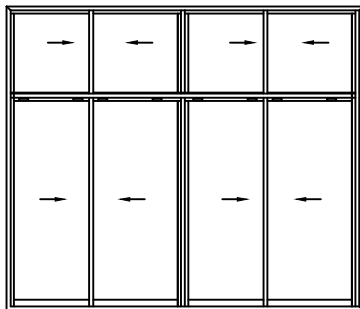
DOUBLE SLIDING



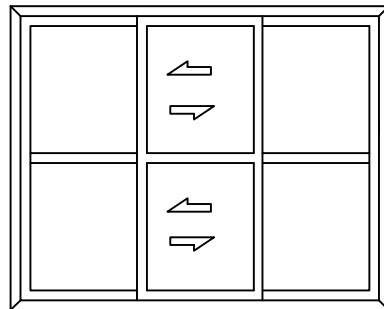
SINGLE SLIDING



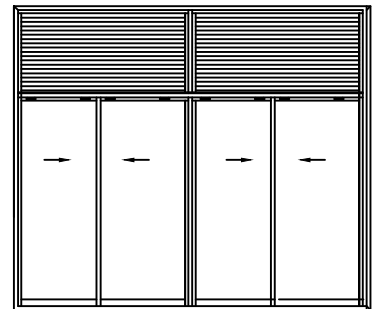
SLIDING WITH FIXED TOP



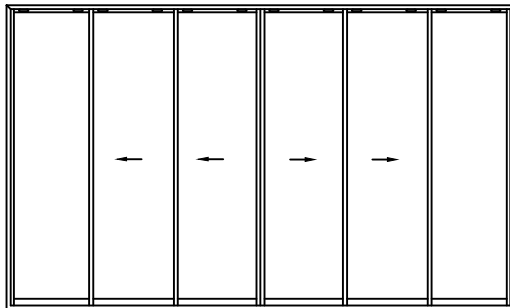
DOUBLE SLIDING TOP AND BOTTOM



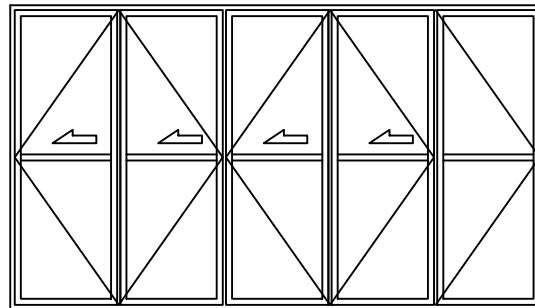
SLIDING AND FIXED



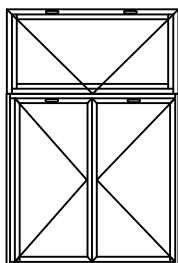
SLIDING LOUVERED TOP



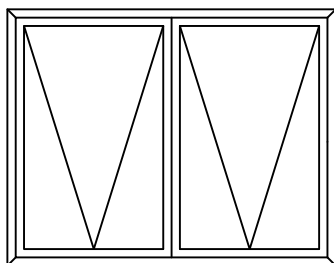
THREE TRACK SLIDING



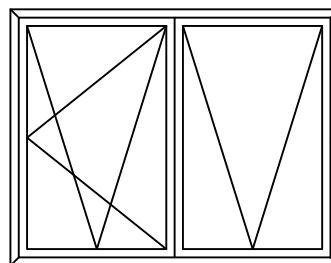
SLIDING BY FOLDING



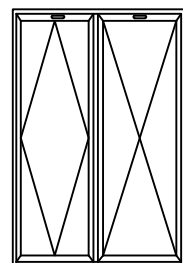
CASEMENT WITH TOP HUNG



PROJECTING /TOP HUNG



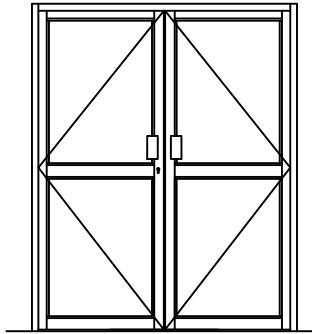
TILT AND TURN



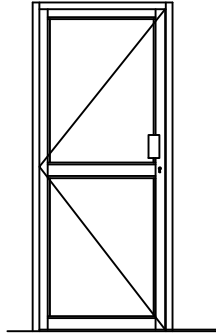
FIXED WITH PIVOT



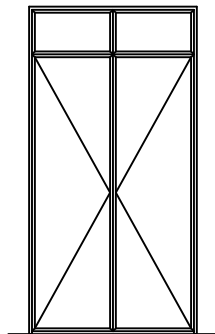
APPLICATIONS



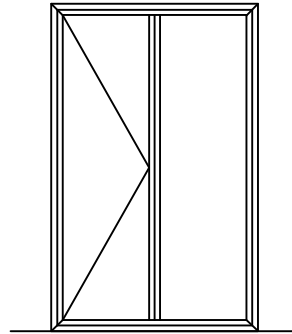
DOUBLE HUNG



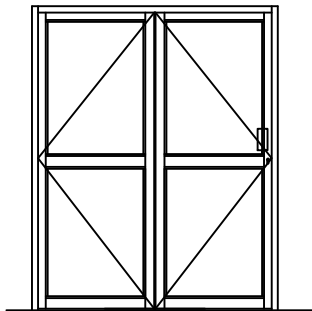
SINGLE HUNG



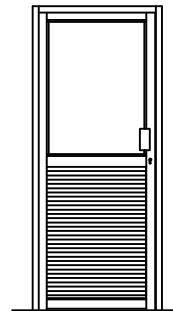
DOUBLE HUNG WITH FIXED TOP



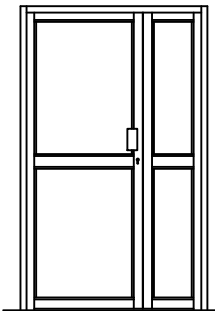
SINGLE HUNG WITH FIXED SIDE



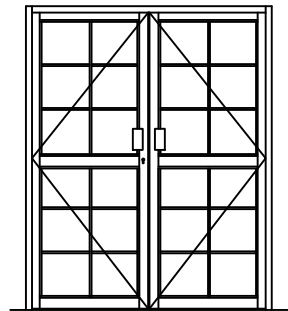
DOUBLE HUNG LAPPED



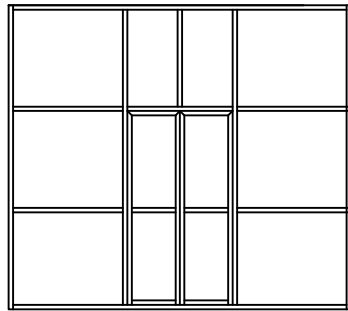
SINGLE HUNG WITH LOUVRE



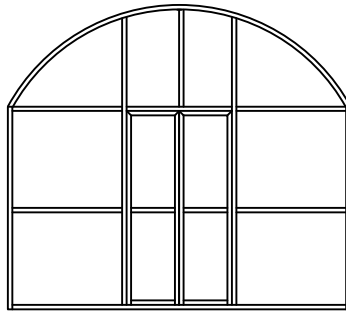
SINGLE HUNG WITH EXTENSION



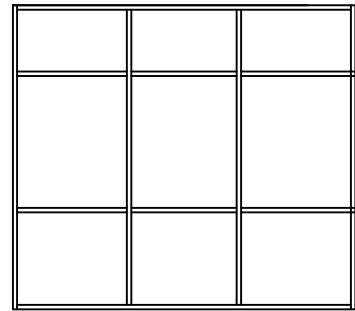
DIVIDED DOOR



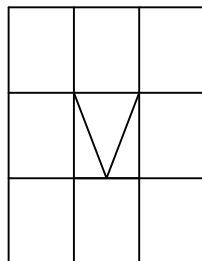
SHOP FRONT



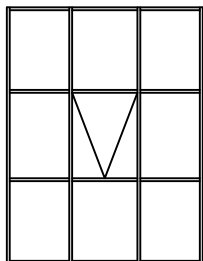
SHOP FRONT



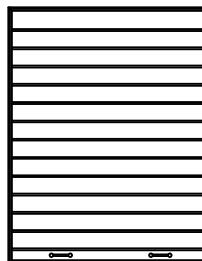
PARTITIONING



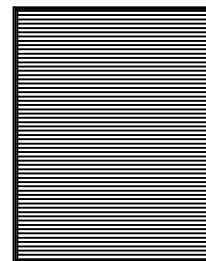
STRUCTURAL GLAZING



CURTAIN WALLING



ROLLER SHUTTERS



LOUVERS /SUN BREAKERS

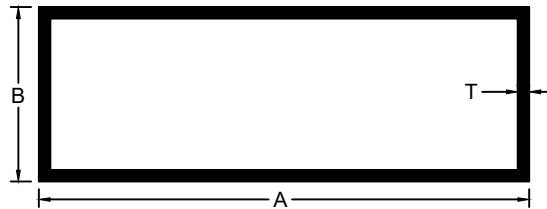


REGULAR PROFILES



REGULAR PROFILES

RECTANGULAR TUBES



NEW!

RECTANGULAR TUBES					
No.	NEW CODE	A	B	T	Kg/M
1	109-0924	45.00	25.00	1.20	0.46
2	109-0903	45.00	25.00	1.50	0.58
3	109-0913	50.00	25.00	1.20	0.50
4	109-0925	50.00	25.00	2.00	0.81
5	221-0114	50.00	40.00	2.00	0.98
6	109-0914	60.00	40.00	1.50	0.83
7	109-0904	70.00	25.00	1.20	0.63
8	109-0905	70.00	45.00	1.20	0.77
9	109-0906	70.00	45.00	1.50	0.96
10	109-0915	72.00	24.00	2.80	1.44
11	109-0911	76.00	44.00	1.20	0.81
12	109-0912	80.00	40.00	1.20	0.81
13	221-0113	80.00	40.00	2.00	1.32
14	109-0902	100.00	25.00	1.50	1.04
15	109-0907	100.00	45.00	1.20	0.98
16	109-0908	100.00	45.00	1.50	1.21
17	109-0909	100.00	45.00	2.00	1.60
18	109-0916	100.00	45.00	3.00	2.37
19	109-0926	100.00	50.00	2.00	1.66
20	109-0910	100.00	65.00	2.00	1.83
21	109-0922	120.00	50.00	1.80	1.70

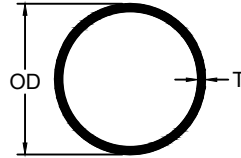
NEW!

1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



REGULAR PROFILES

CIRCULAR TUBE



CIRCULAR TUBE

No.	NEW CODE	OD	ID	T	Kg/M
1	105-0513	8.00	5.00	1.50	0.09
2	105-0514	10.00	7.00	1.50	0.12
3	105-0515	12.00	9.00	1.50	0.15
4	105-0502	16.00	13.00	1.50	0.20
5	105-0501	16.00	12.00	2.00	0.25
6	105-0512	18.00	15.00	1.50	0.23
7	105-0517	19.00	16.00	1.50	0.24
8	105-0503	25.00	22.00	1.50	0.32
9	105-0504	25.00	21.00	2.00	0.41
10	225-1060	25.40	21.40	2.00	0.42
11	105-0518	39.70	37.70	1.00	0.35
12	105-0511	40.00	34.00	3.00	0.99
13	218-0535	40.10	36.10	2.00	0.68
14	105-0505	45.00	41.00	2.00	0.77
15	105-0506	45.00	39.00	3.00	1.13
16	105-0507	50.00	46.00	2.00	0.86
17	105-0508	100.00	96.00	2.00	1.75
18	105-0509	100.00	94.00	3.00	2.60
19	105-0519	75.00	69.00	3.00	1.93

NEW!

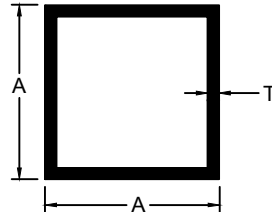
NEW!

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 3. When powder coated there will be a slight variance in weight.
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REGULAR PROFILES

SQUARE TUBES



SQUARE TUBES				
No.	NEW CODE	A	T	Kg/M
1	108-0801	16.00	1.20	0.21
2	108-0802	16.00	1.50	0.25
3	108-0803	18.00	1.50	0.29
4	108-0804	18.00	2.00	0.37
5	108-0806	25.00	1.20	0.33
6	108-0805	25.00	2.00	0.53
7	108-0812	38.00	2.00	0.82
8	108-0818	38.00	3.00	1.20
9	108-0809	45.00	1.20	0.60
10	108-0810	45.00	1.50	0.75
11	108-0817	50.00	1.10	0.62
12	108-0807	50.00	1.50	0.83
13	108-0808	50.00	2.00	1.09
14	108-0811	50.00	3.00	1.60
15	108-0819	75.00	1.80	1.50

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 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



REGULAR PROFILES

FLAT BARS



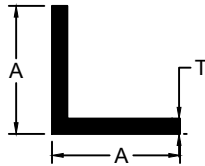
<u>FLAT BARS</u>					
No.	NEW CODE	A	T	Kg/M	
1	103-0312	14.00	3.00	0.12	
2	103-0306	18.00	1.50	0.08	
3	103-0305	18.00	3.00	0.16	
4	103-0303	25.00	1.50	0.11	
5	103-0304	25.00	2.00	0.15	
6	103-0309	25.00	3.00	0.22	
7	103-0301	30.00	1.50	0.13	
8	103-0302	30.00	2.00	0.18	
NEW!	9	338-0821	30.00	3.00	0.26
10	103-0307	45.00	2.00	0.26	
11	103-0308	45.00	3.00	0.39	
12	103-0311	60.00	3.00	0.52	

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 - 3. When powder coated there will be a slight variance in weight.
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REGULAR PROFILES

EQUAL ANGLE LINE



EQUAL ANGLES

NO.	NEW CODE	A	T	Kg/M
1	107-0716	16.00	1.20	0.11
2	107-0702	16.00	1.50	0.14
3	107-0701	16.00	2.00	0.18
4	107-0717	18.00	1.50	0.15
5	107-0704	18.00	2.00	0.20
6	107-0721	18.00	2.50	0.24
7	107-0703	18.00	3.00	0.29
8	107-0723	19.00	0.90	0.10
9	107-0718	25.00	1.20	0.17
10	107-0706	25.00	1.50	0.21
11	107-0715	25.00	2.00	0.28
12	107-0705	25.00	3.00	0.41
13	107-0720	38.00	2.50	0.53
14	107-0711	38.00	3.00	0.63
15	107-0712	38.00	4.00	0.82
16	107-0719	45.00	1.50	0.38
17	107-0708	45.00	2.00	0.50
18	107-0707	45.00	3.00	0.75
19	107-0714	45.00	4.00	0.98
20	107-0709	50.00	1.20	0.34
21	107-0710	50.00	2.00	0.56
22	107-0713	50.00	3.00	0.83

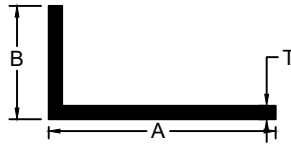
NEW!

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REGULAR PROFILES

UNEQUAL ANGLE LINE



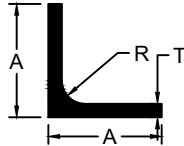
UNEQUAL ANGLES					
NO.	NEW CODE	A	B	T	Kg/M
1	106-0609	16.00	12.00	1.00	0.08
2	106-0601	16.00	12.00	1.20	0.10
3	106-0602	25.00	16.00	1.50	0.17
4	106-0603	30.00	20.00	2.00	0.28
5	106-0604	38.00	25.00	1.50	0.27
6	106-0605	38.00	25.00	2.00	0.35
7	106-0606	45.00	38.00	1.50	0.35
8	106-0610	50.00	25.00	3.00	0.62
9	106-0607	50.00	38.00	2.00	0.49
10	106-0608	50.00	40.00	3.00	0.75

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REGULAR PROFILES

EQUAL ANGLE LINE WITH RADIUS



EQUAL ANGLES ROUND FILLET				
No.	NEW CODE	A	T	Kg/M
1	102-0201	16.00	1.20	0.12
2	102-0202	16.00	1.50	0.14
3	102-0203	18.00	1.50	0.16
4	102-0204	18.00	2.00	0.20
5	102-0205	25.00	1.20	0.18
6	102-0206	27.00	1.50	0.23
7	102-0207	45.00	1.50	0.39
8	102-0208	45.00	2.00	0.51
9	102-0209	50.00	1.20	0.35
10	102-0210	50.00	2.00	0.57

UNEQUAL ANGLE LINE WITH RADIUS



UNEQUAL ANGLES					
NO.	NEW CODE	A	B	T	Kg/M
1	101-1101	60.00	40.00	2.00	0.57
2	101-1102	75.00	45.00	2.00	0.68
3	101-1103	75.00	45.00	3.00	1.01

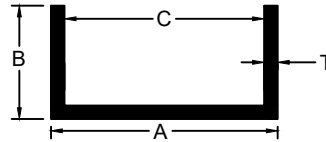
1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
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REGULAR PROFILES

C- CHANNELS

UPDATED!



C/U CHANNELS

No.	NEW CODE	A	B	C	T	Kg/M
1	104-0418	14.40	25.00	12.00	1.20	0.22
2	104-0402	16.00	16.00	13.60	1.20	0.16
3	104-0401	16.00	16.00	12.60	1.70	0.22
4	104-0410	16.00	25.00	12.00	2.00	0.36
5	104-0413	16.00	40.00	12.00	2.00	0.53
6	104-0412	16.00	100.00	12.00	2.00	1.21
7	104-0403	18.00	18.00	15.60	1.20	0.18
8	104-0409	21.00	18.00	18.60	1.20	0.19
9	104-0417	19.00	8.00	16.00	1.50	0.14
10	104-0416	20.00	100.00	16.00	2.00	1.23
11	104-0411	23.00	30.00	19.00	2.00	0.45
12	104-0404	25.00	25.00	22.60	1.20	0.25
13	104-0405	25.00	25.00	21.00	2.00	0.41
14	104-0407	28.00	25.00	25.60	1.20	0.26
15	104-0406	38.00	38.00	34.00	2.00	0.63
16	104-0408	43.00	25.00	40.60	1.20	0.31
17	104-0414	79.00	42.00	75.00	2.00	0.91
18	104-0415	104.00	42.00	100.00	2.00	1.05

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REGULAR PROFILES

ROUND BARS



SOLID SECTIONS

NO.	NEW CODE	DIAMETER	Kg/M
1	113-2010	4.00	0.04
2	113-2011	6.00	0.08
3	113-2012	8.00	0.15
4	113-2013	10.00	0.23
5	113-2014	12.00	0.33
6	113-2016	15.50	0.54
7	113-2015	16.00	0.58
8	113-2017	19.00	0.81
9	113-2018	25.00	1.40

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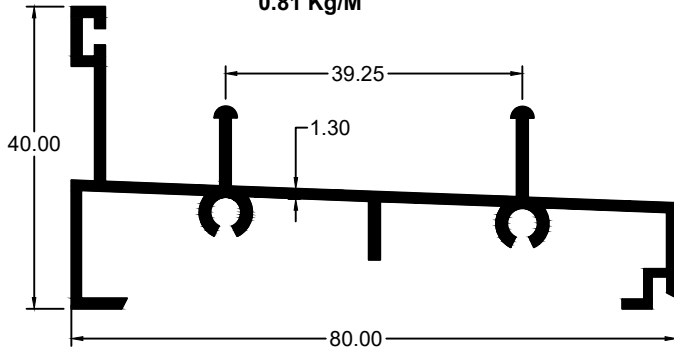


SLIDING WINDOWS AND DOORS

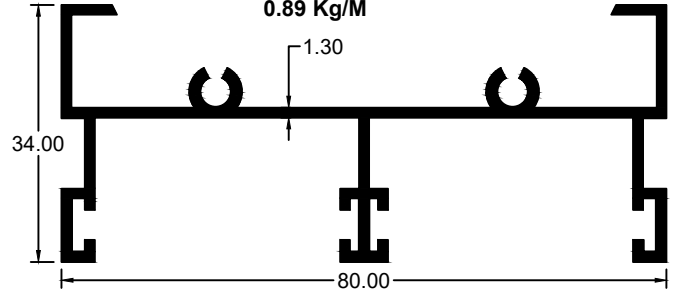


SLIDING 80 SERIES

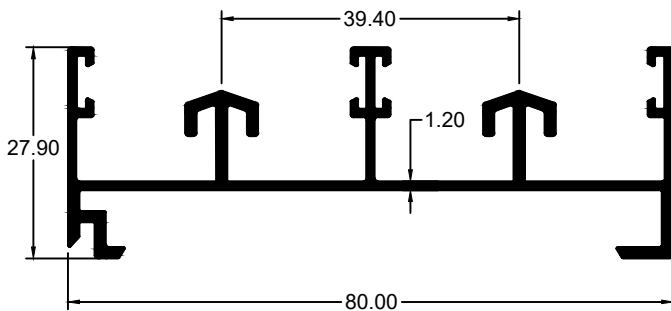
BOTTOM TRACK
215-1801
0.81 Kg/M



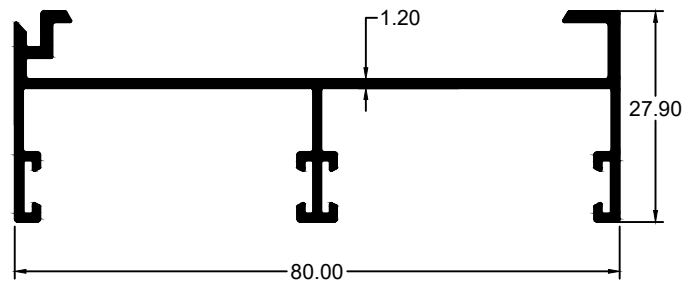
HEADER/ SIDE TRACK
215-1802
0.89 Kg/M



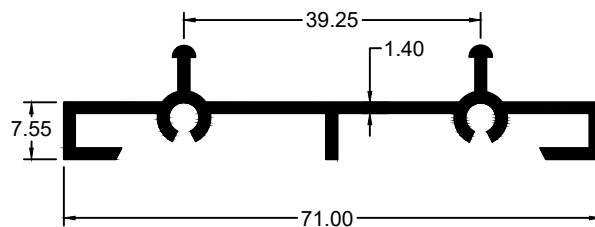
BOTTOM TRACK
215-0813
0.89 Kg/M



HEADER/ SIDE TRACK
215-0814
0.67 Kg/M



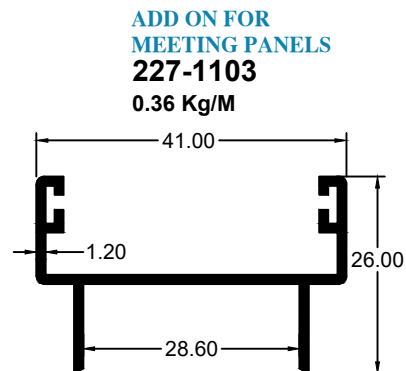
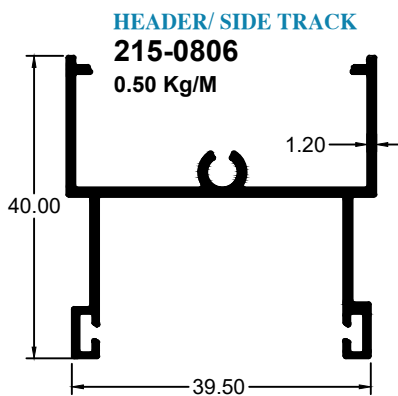
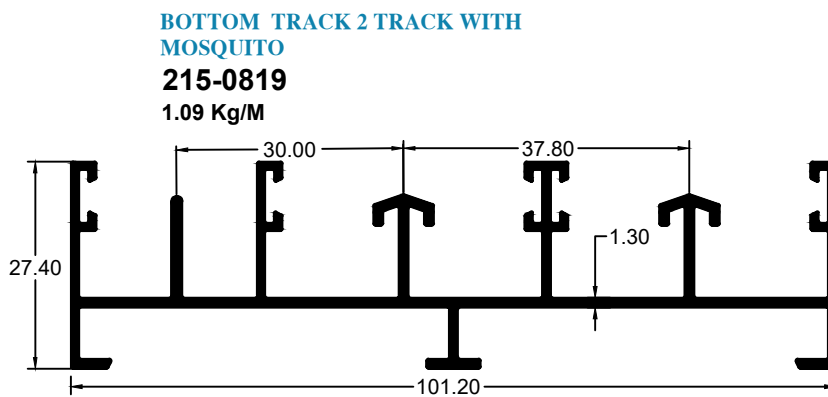
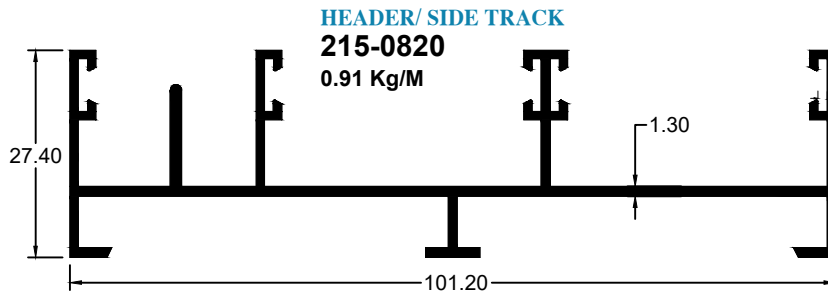
BOTTOM TRACK
215-0809
0.56 Kg/M



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SLIDING 80 SERIES



1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
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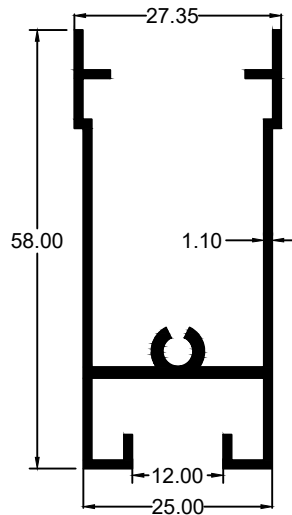


SLIDING 80 SERIES

TOP SHUTTER

215-0804

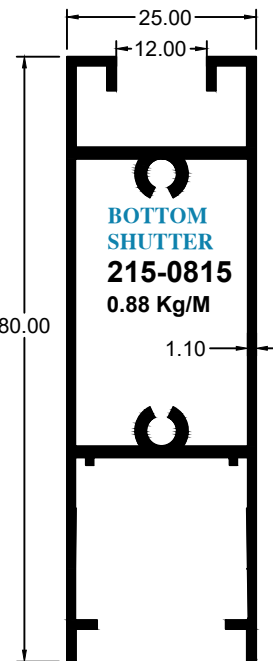
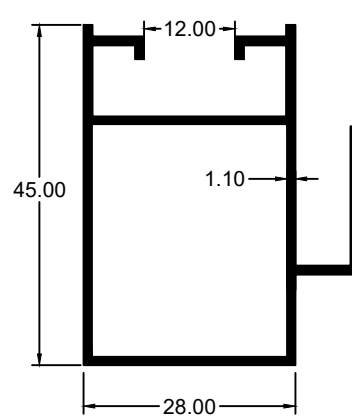
0.59 Kg/M



INTERLOCK

215-1804

0.60 Kg/M



BOTTOM SHUTTER

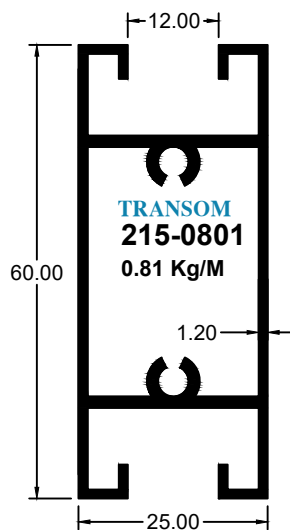
215-0815

0.88 Kg/M

TRANSOM

215-0801

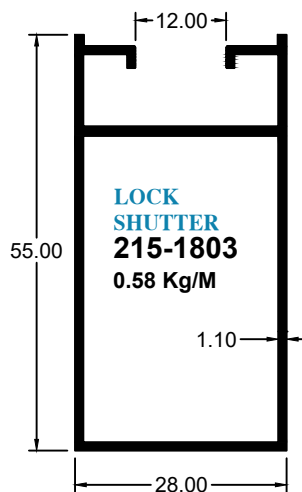
0.81 Kg/M



LOCK SHUTTER

215-1803

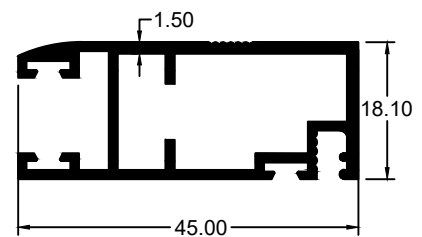
0.58 Kg/M



MOSQUITO SHUTTER

215-0817

0.58 Kg/M

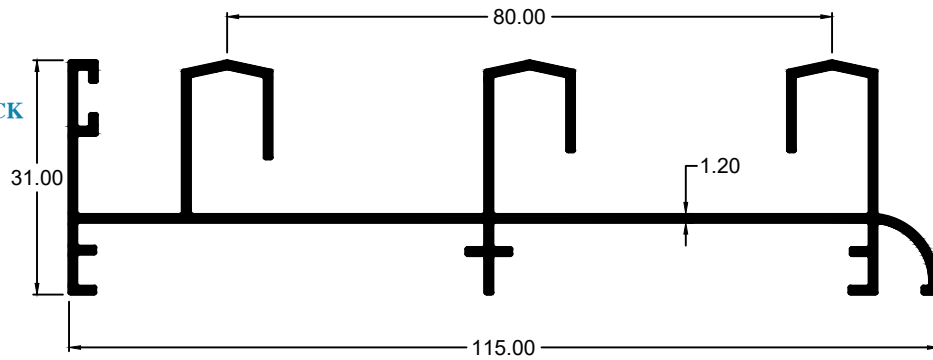


1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.

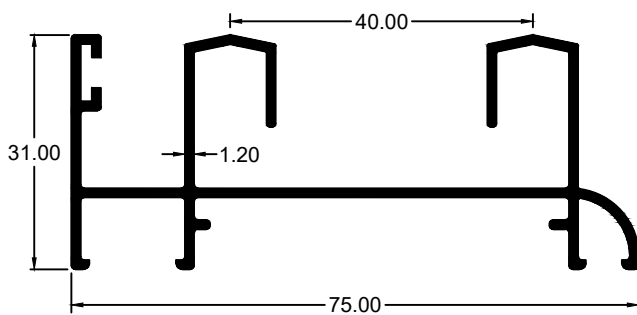


SLIDING EURO SERIES **UPDATED!**

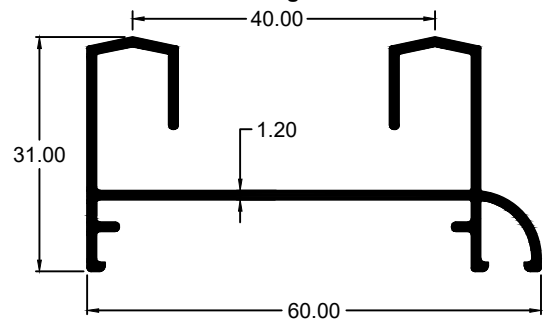
**ALL ROUND OUTER
FRAME THREE TRACK**
258-6002
1.08 Kg/M



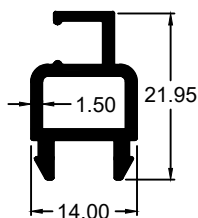
**ALL ROUND OUTER FRAME
TWO TRACK WITH WOOL PILE**
258-6011
0.78 Kg/M



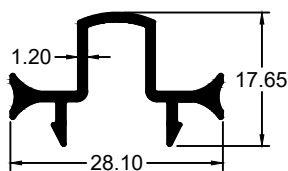
**ALL ROUND OUTER FRAME
TWO TRACK PLAIN**
258-6012
0.60 Kg/M



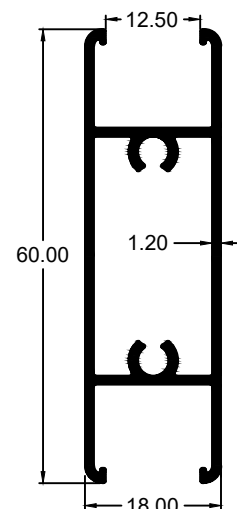
**MOSQUITO NET
CLIP ON**
258-6008
0.29 Kg/M



**ADD ON FOR
MEETING PANELS**
258-6010
0.25 Kg/M



TRANSOM
258-6007
0.61 Kg/M



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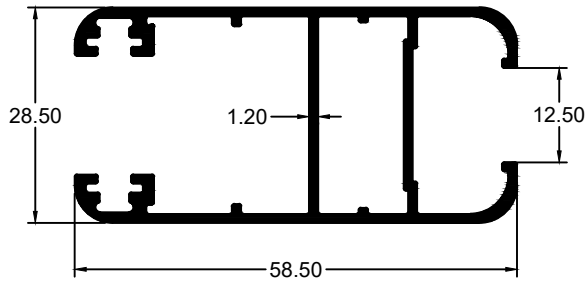


SLIDING EURO SERIES

SMALL SHUTTER

258-6005

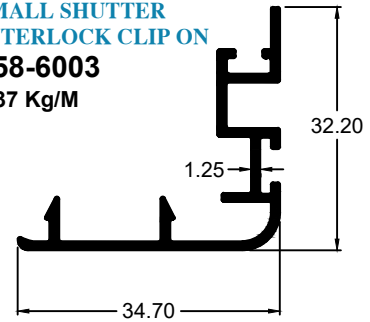
0.78 Kg/M



SMALL SHUTTER INTERLOCK CLIP ON

258-6003

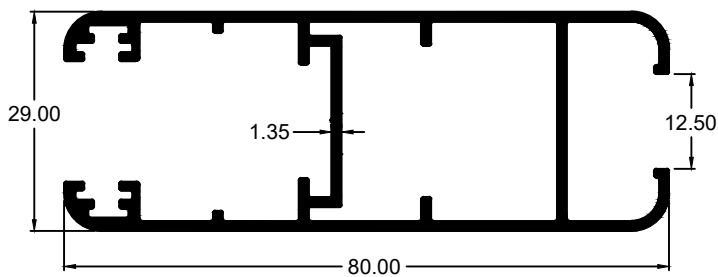
0.37 Kg/M



BIG SHUTTER

258-6015

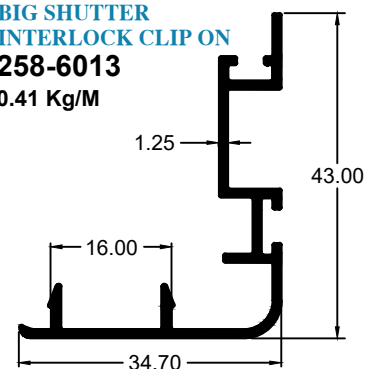
1.07 Kg/M



BIG SHUTTER INTERLOCK CLIP ON

258-6013

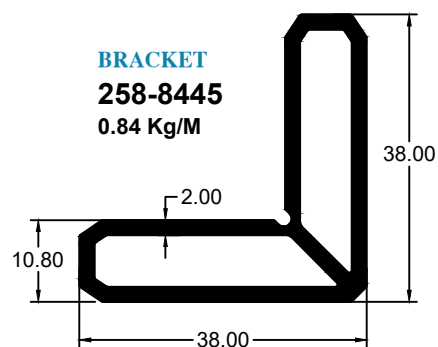
0.41 Kg/M



BRACKET

258-8445

0.84 Kg/M

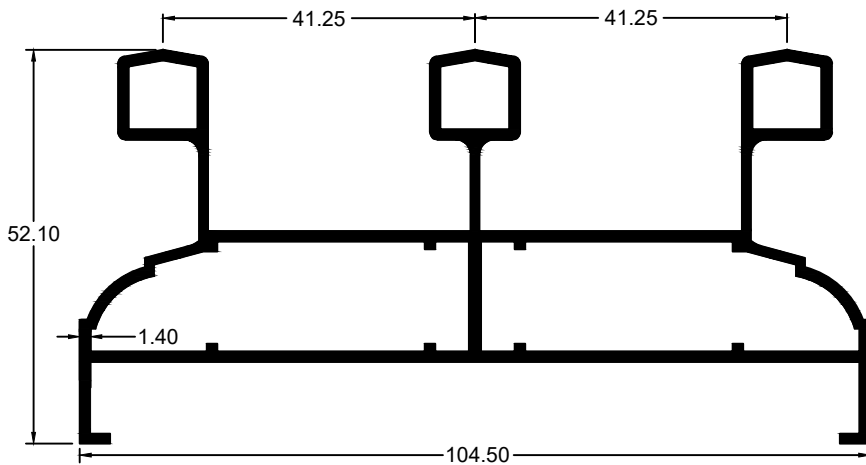


1. All dimensions are in mm
2. The weight shared is for Mill finish
3. When powder coated there will be a slight variance in weight.
Disclaimer; The right to make alterations is reserved to HAL.

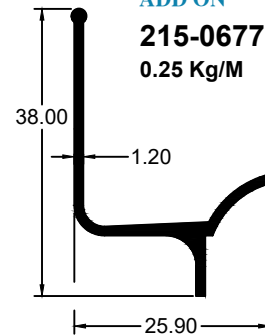


SLIDING 65 SERIES

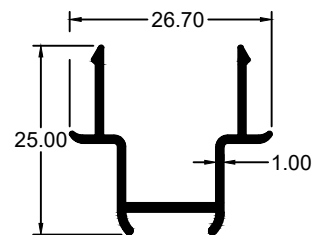
ALL ROUND OUTER
FRAME THREE TRACK
215-0656
1.71 Kg/M



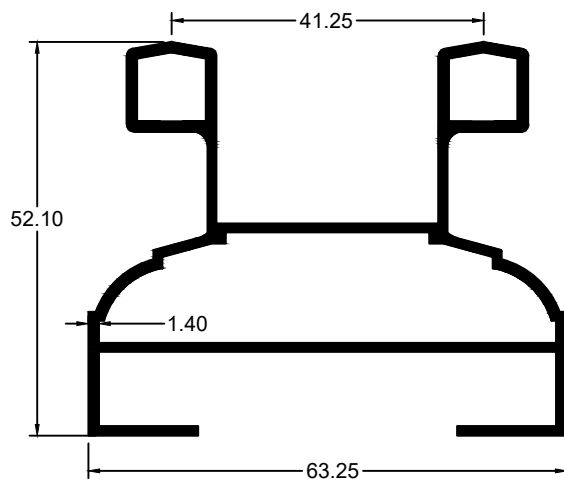
MOSQUITO TRACK
ADD ON
215-0677
0.25 Kg/M



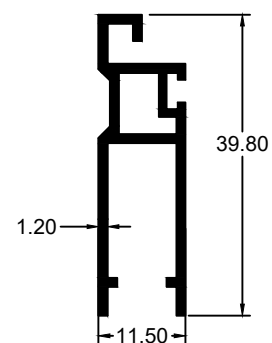
ADD ON FOR MEETING
PANELS
215-0678
0.22 Kg/M



ALL ROUND OUTER
FRAME TWO TRACK
215-0621
1.11 Kg/M



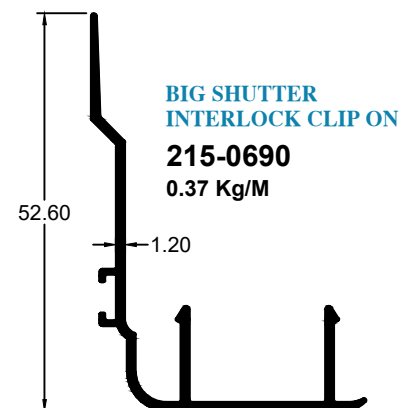
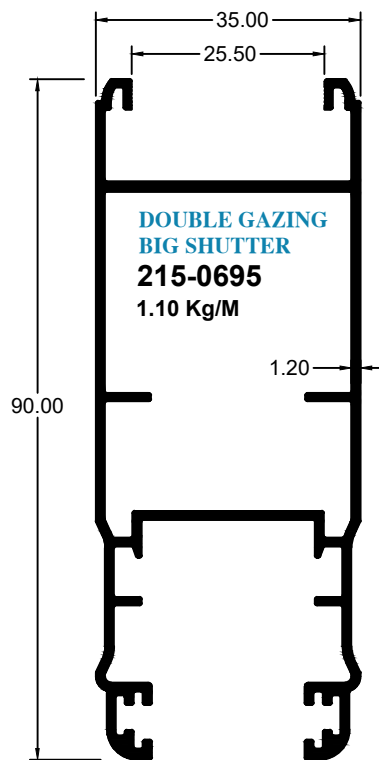
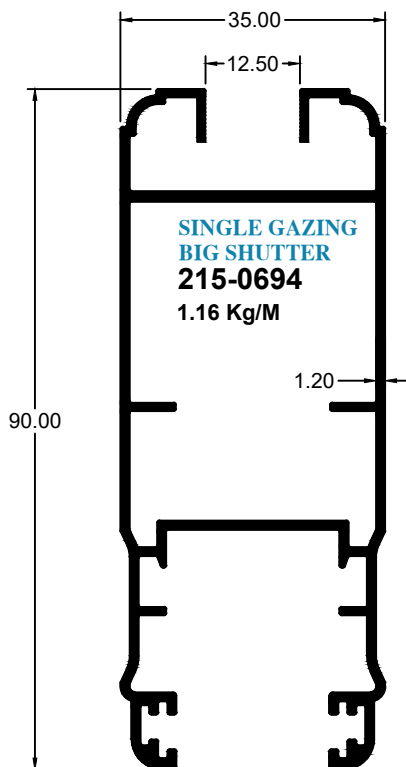
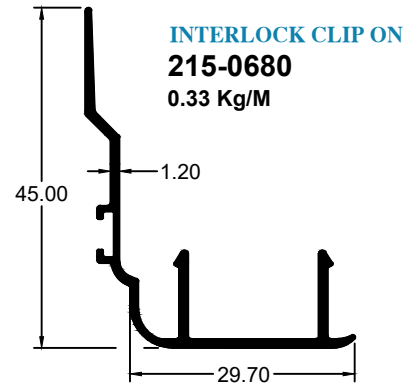
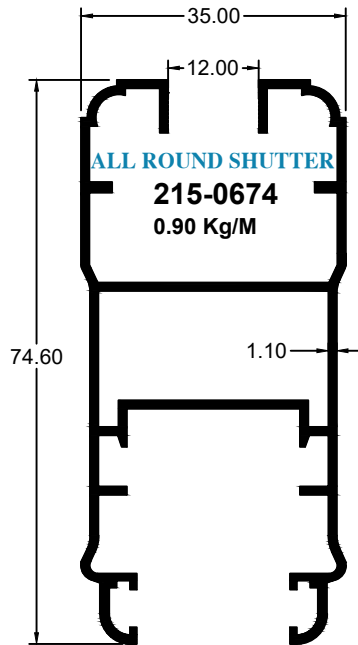
MOSQUITO SHUTTER
215-0679
0.36 Kg/M



1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



SLIDING 65 SERIES

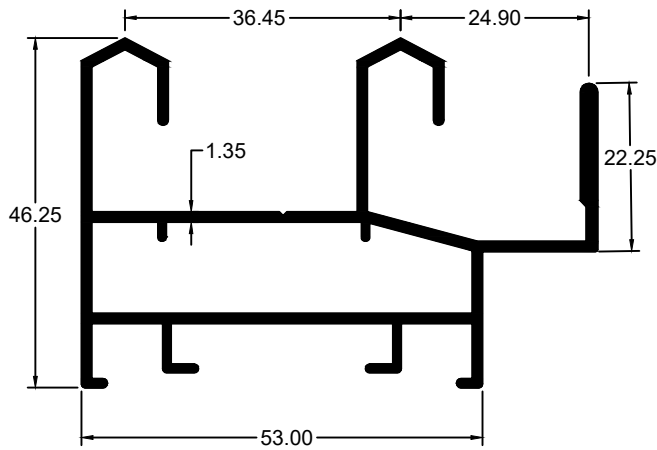


1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
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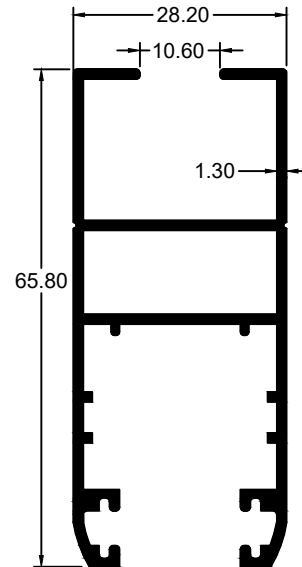


SLIDING 84 SERIES

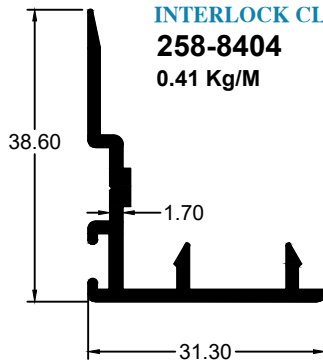
**ALL ROUND OUTER
FRAME TWO TRACK**
258-8401
1.12 Kg/M



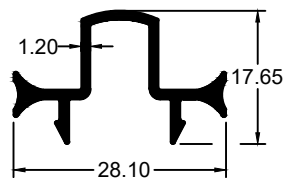
ALL ROUND SHUTTER
258-8412
0.86 Kg/M



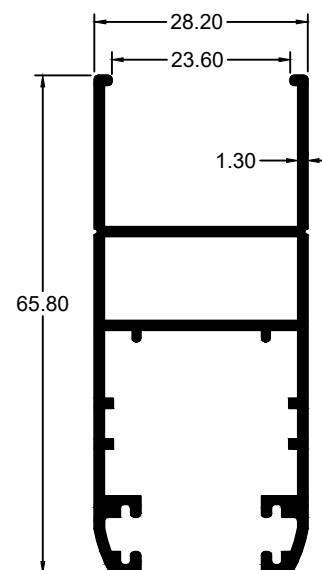
INTERLOCK CLIP ON
258-8404
0.41 Kg/M



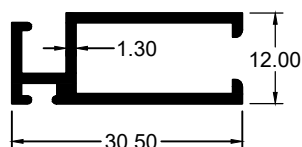
**ADD ON FOR MEETING
PANELS**
258-6010
0.25 Kg/M



**ALL ROUND SHUTTER
DOUBLE GLAZING**
258-8402
0.81 Kg/M



MOSQUITO SHUTTER
258-8403
0.30 Kg/M

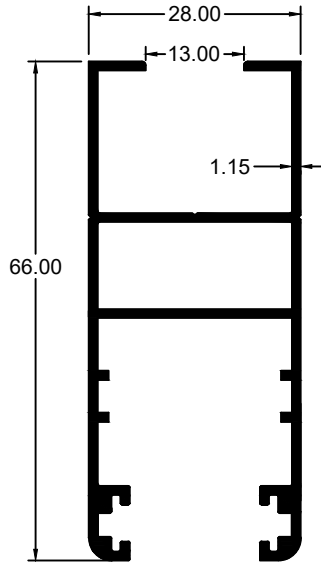


1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.

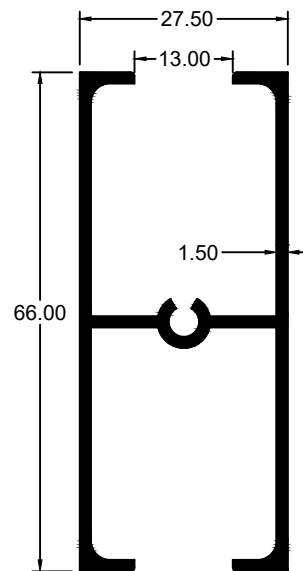


SLIDING 84 SERIES

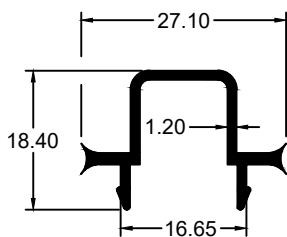
ALL ROUND SHUTTER
345-0115
0.77 Kg/M



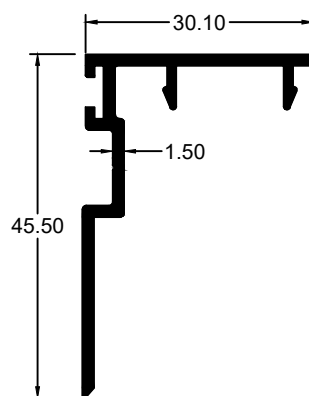
TRANSOM
345-0125
0.81 Kg/M



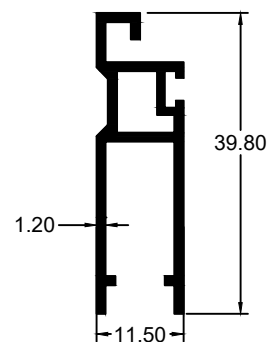
ADD ON FOR MEETING PANELS
345-0130
0.22 Kg/M



INTERLOCK CLIP ON
345-0120
0.40 Kg/M



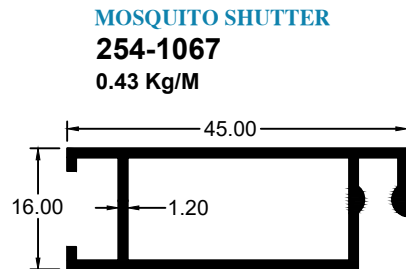
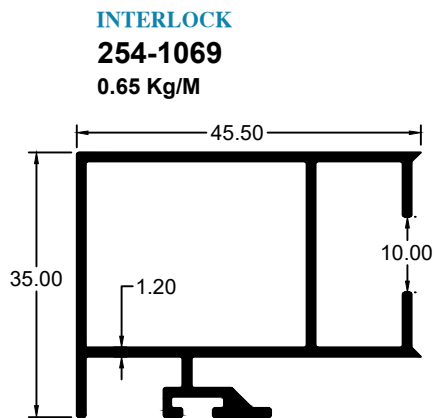
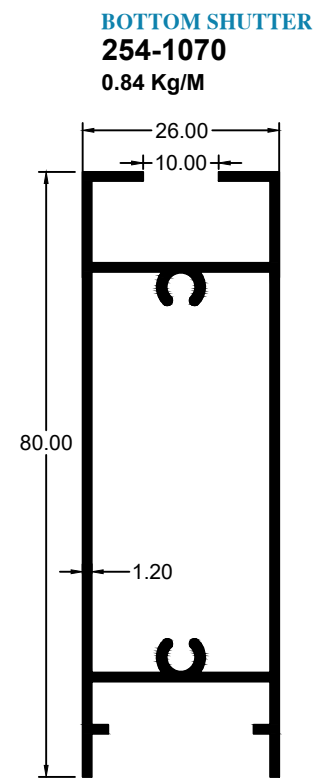
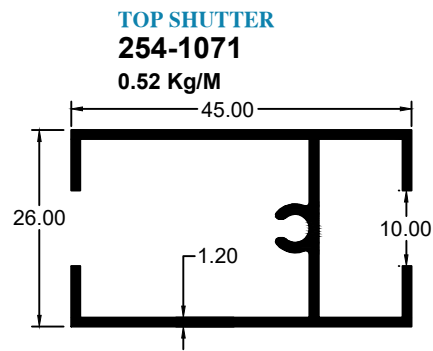
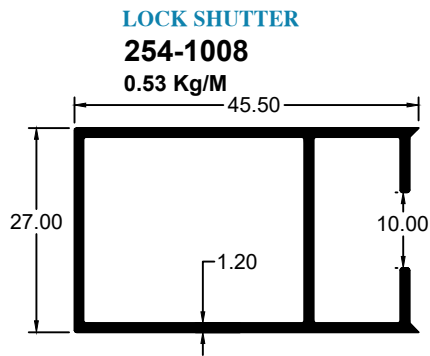
MOSQUITO SHUTTER
215-0679
0.36 Kg/M



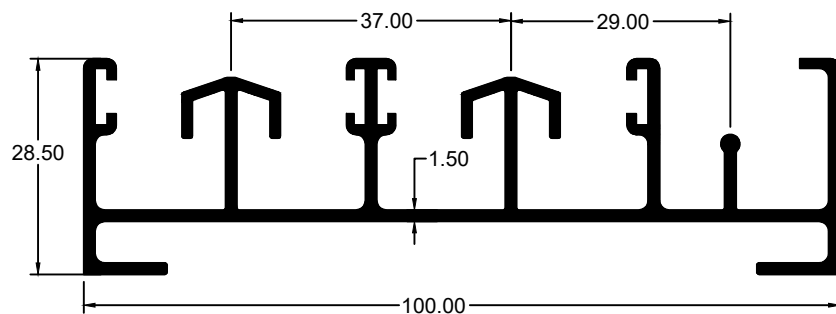
1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
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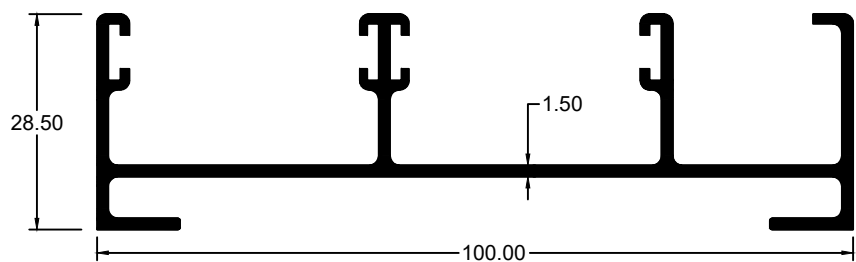
SLIDING 100 SERIES



BOTTOM TWO TRACK WITH MOSQUITO TRACK
254-1103
1.40 Kg/M



HEADER/ SIDE TRACK
254-1104
1.04 Kg/M

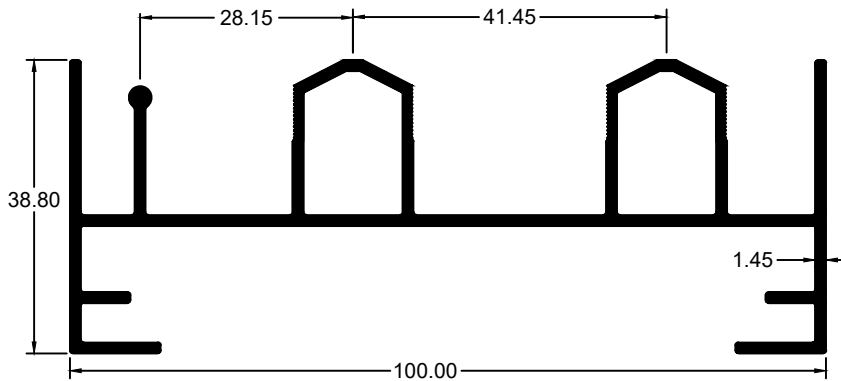


1. All dimensions are in mm
 2. The weight shared is for Mill finish
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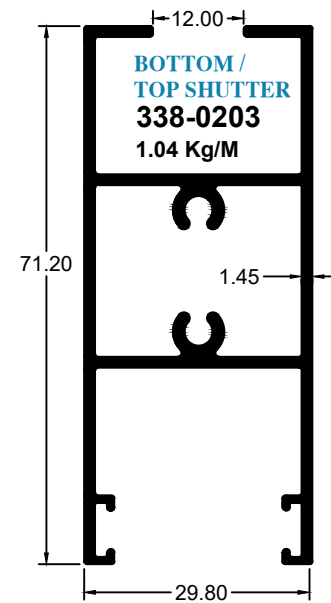
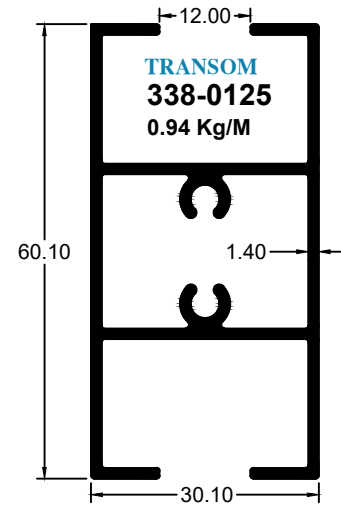
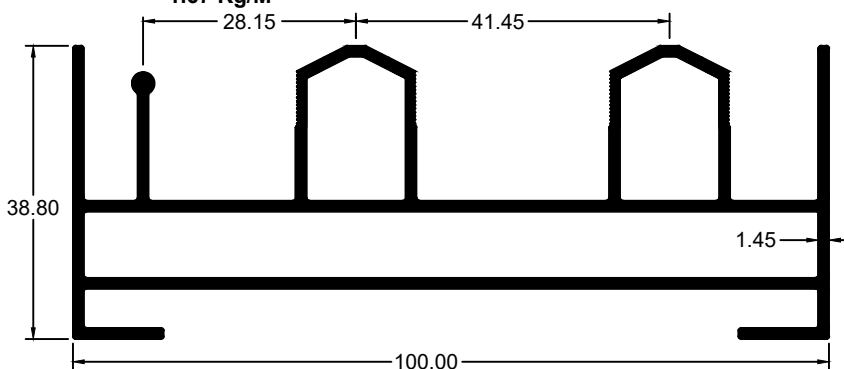


SLIDING RWD 100 SERIES

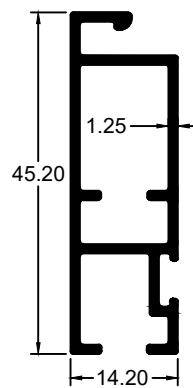
OUTER FRAME (100mm)
338-0611
1.33 Kg/M



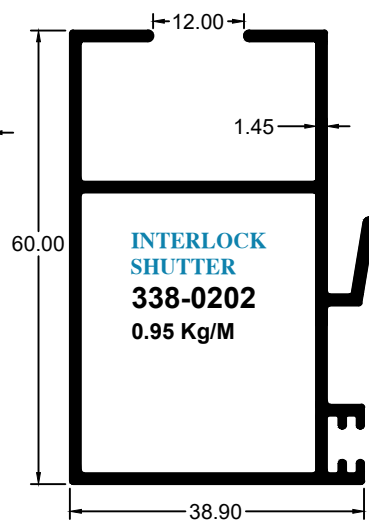
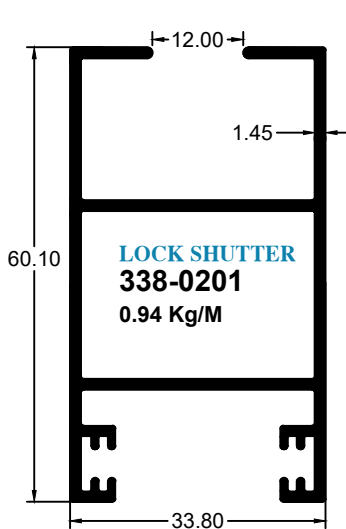
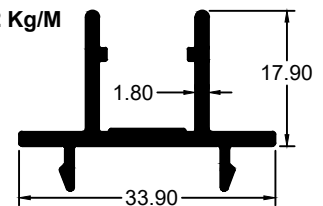
OUTER FRAME (100mm)
338-0613
1.67 Kg/M



MOSQUITO SHUTTER
338-0288
0.47 Kg/M



ADD ON FOR MEETING PANELS
338-0172
0.42 Kg/M

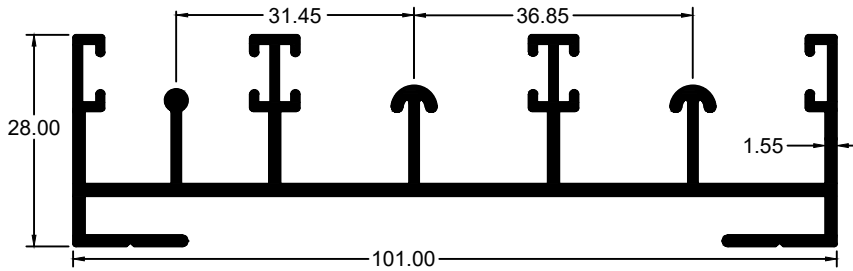


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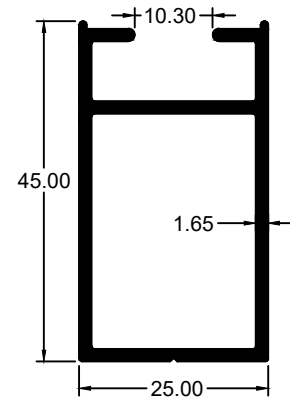


SLIDING RWD 100 SERIES

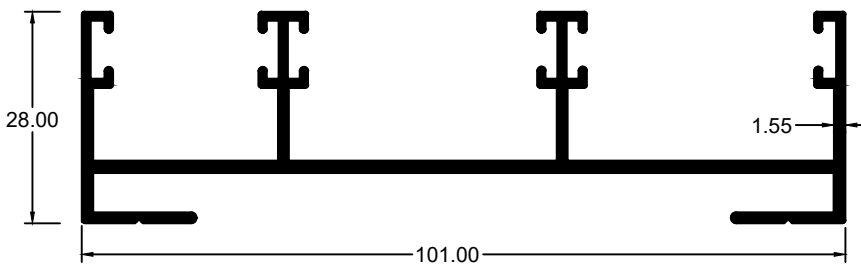
BOTTOM TRACK TWO TRACK WITH MOSQUITO
338-0426
1.33 Kg/M



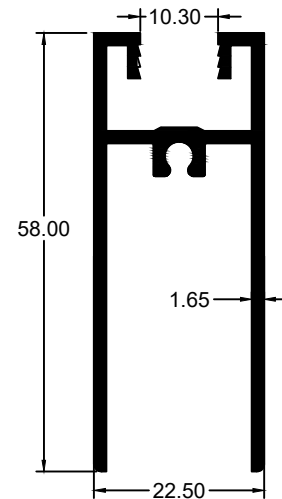
LOCK SHUTTER
338-0423
0.68 Kg/M



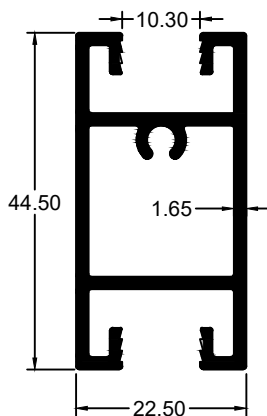
SIDE/TOP TRACK WITH MOSQUITO TRACK
338-0430
1.12 Kg/M



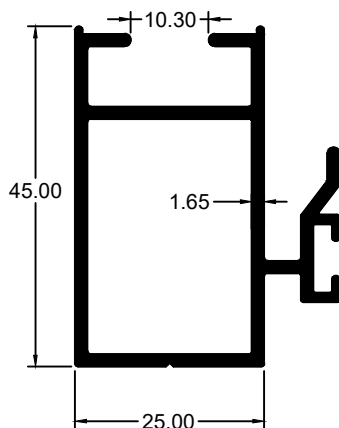
BOTTOM / TOP SHUTTER
338-0441
0.77 Kg/M



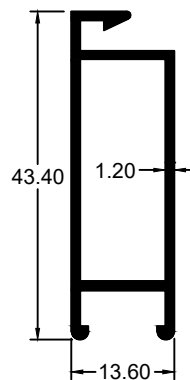
TRANSOM
338-0424
0.78 Kg/M



INTERLOCK SHUTTER
338-0428
0.84 Kg/M



MOSQUITO SHUTTER
338-0429
0.39 Kg/M



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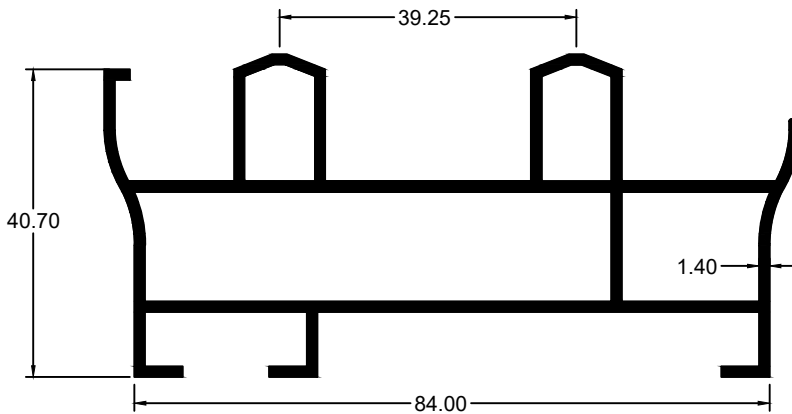


SLIDING DELUXE SERIES

ALL ROUND OUTER FRAME

215-1005

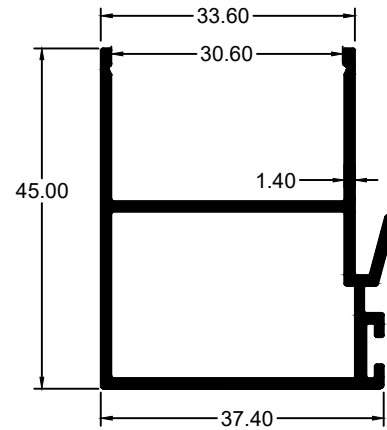
1.44 Kg/M



INTERLOCK SHUTTER

215-1015

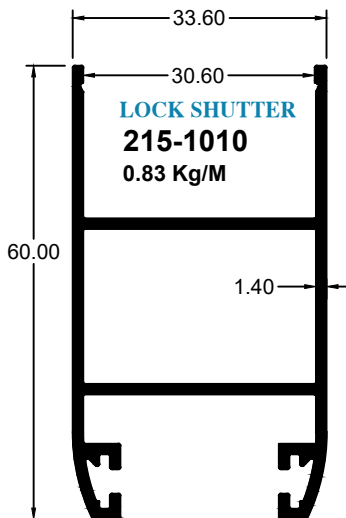
0.69 Kg/M



LOCK SHUTTER

215-1010

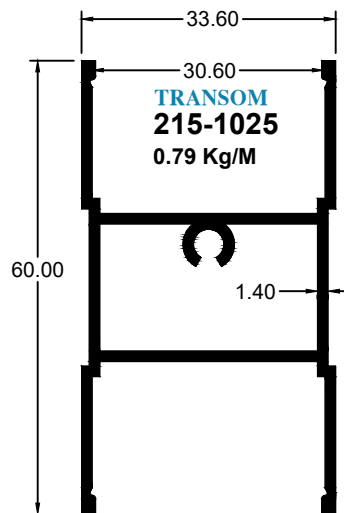
0.83 Kg/M



TRANSOM

215-1025

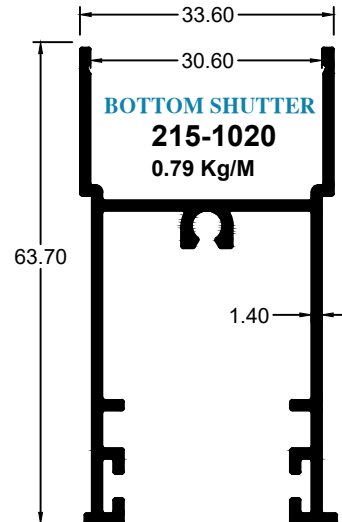
0.79 Kg/M



BOTTOM SHUTTER

215-1020

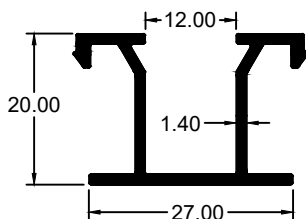
0.79 Kg/M



GLASS ADAPTOR

215-1030

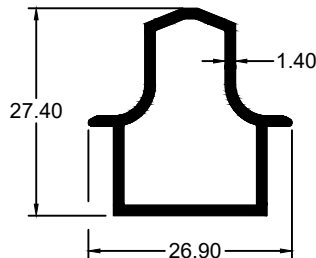
0.36 Kg/M



ADD ON FOR MEETING PANELS

215-1035

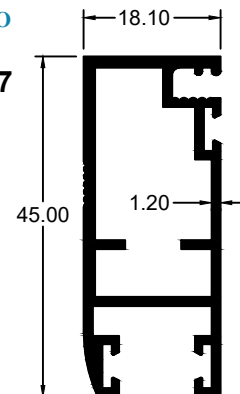
0.36 Kg/M



MOSQUITO SHUTTER

215-0817

0.58 Kg/M

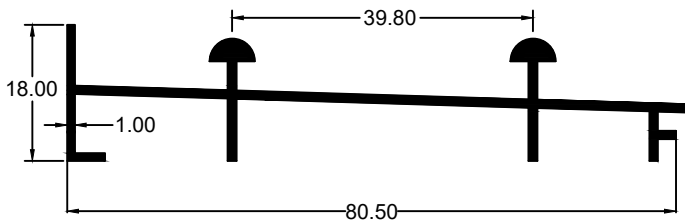


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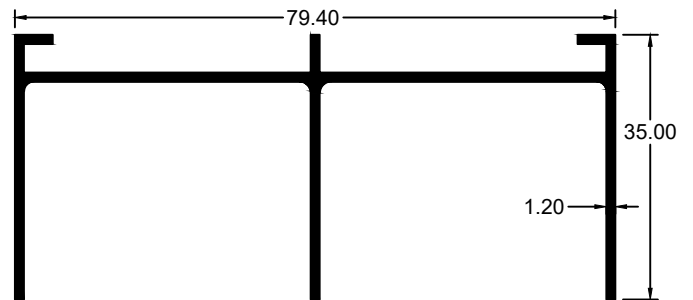


SLIDING 75 ECONOMY SERIES

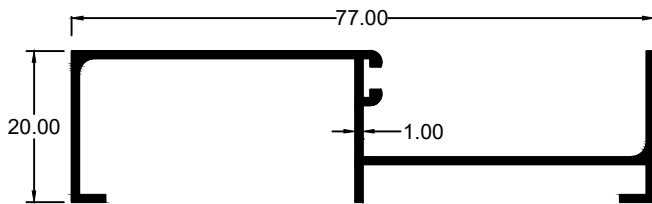
BOTTOM TRACK
215-8010
0.51 Kg/M



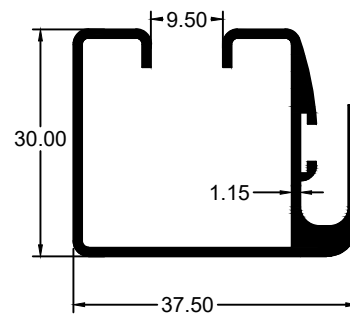
HEADER
215-8015
0.65 Kg/M



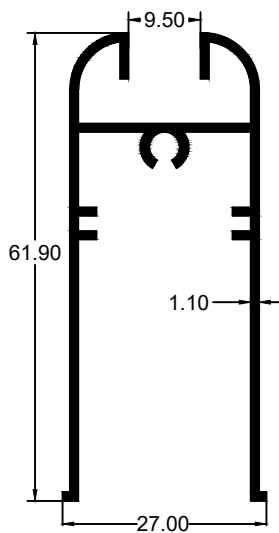
SIDE FRAME/JAMB
215-8020
0.43 Kg/M



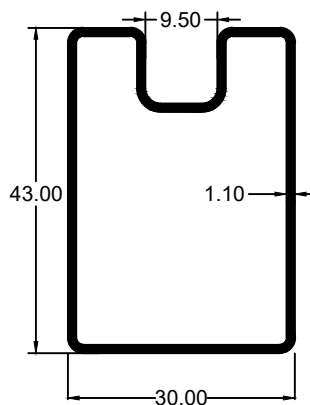
INTERLOCK
215-8030
0.54 Kg/M



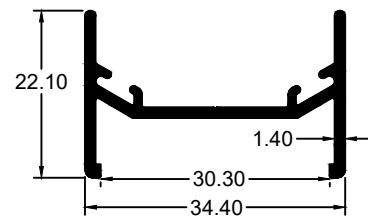
BOTTOM/ TOP SHUTTER
215-8035
0.59 Kg/M



LOCK SHUTTER
215-8025
0.49 Kg/M



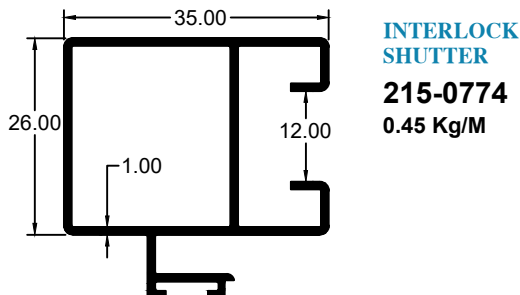
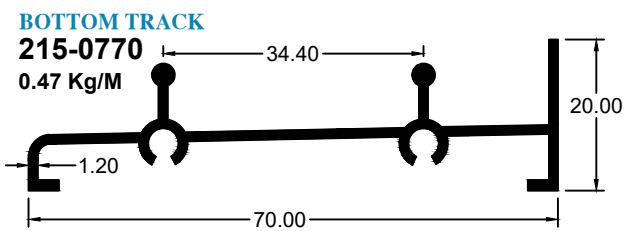
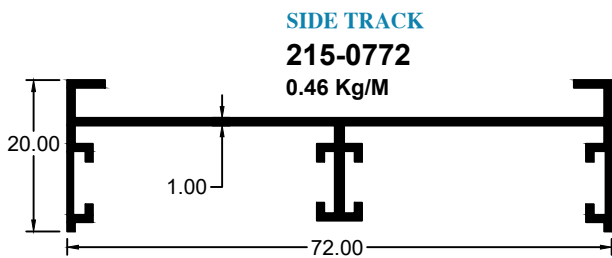
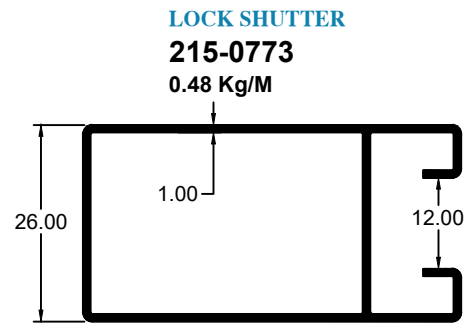
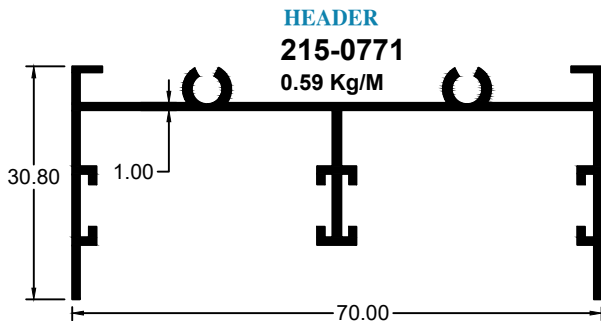
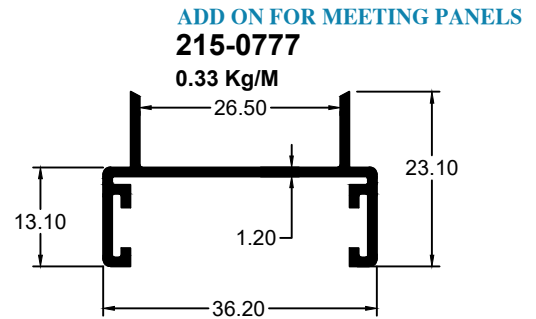
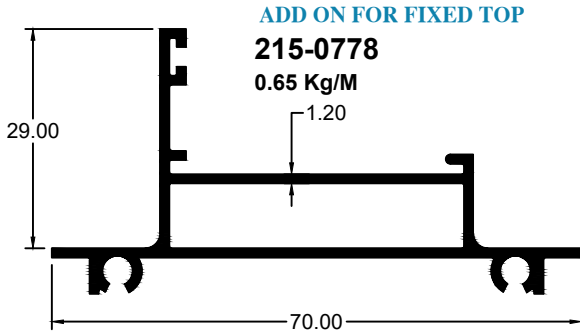
ADD ON FOR MEETING PANELS
215-8050
0.35 Kg/M



1. All dimensions are in mm
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SLIDING 70 SERIES



1. All dimensions are in mm
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 3. When powder coated there will be a slight variance in weight.
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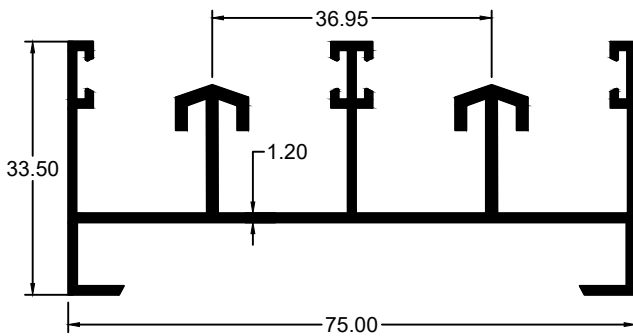


SLIDING NYL 75 SERIES

BOTTOM TRACK

343-0396

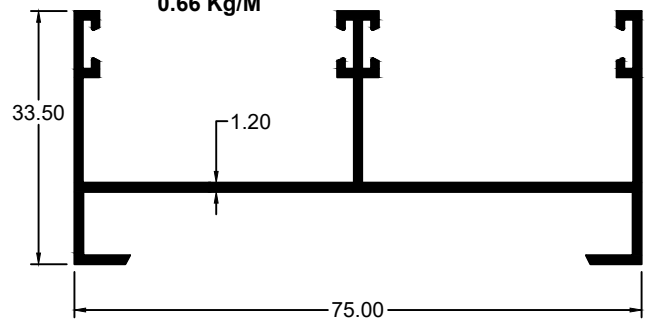
0.93 Kg/M



HEADER/ SIDE TRACK

343-0397

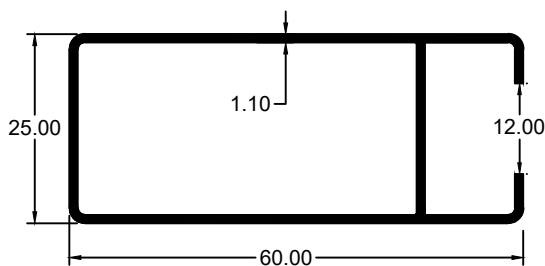
0.66 Kg/M



LOCK SHUTTER

343-0350

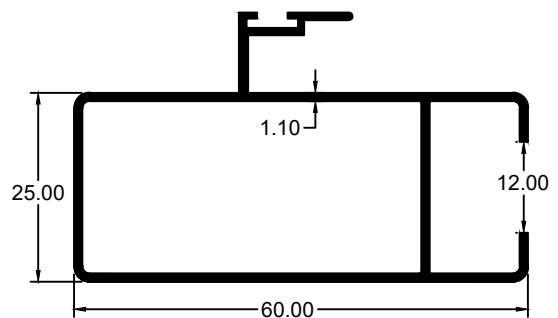
0.55 Kg/M



INTERLOCK

343-0355

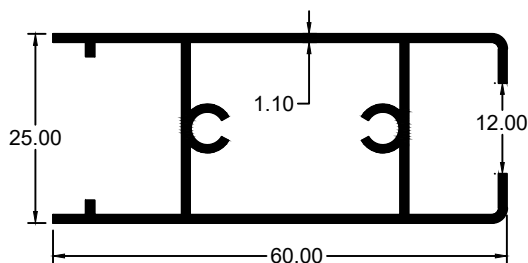
0.63 Kg/M



BOTTOM SHUTTER

343-0360

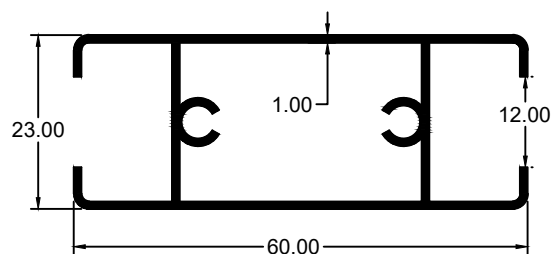
0.63 Kg/M



TRANSOM

343-0411

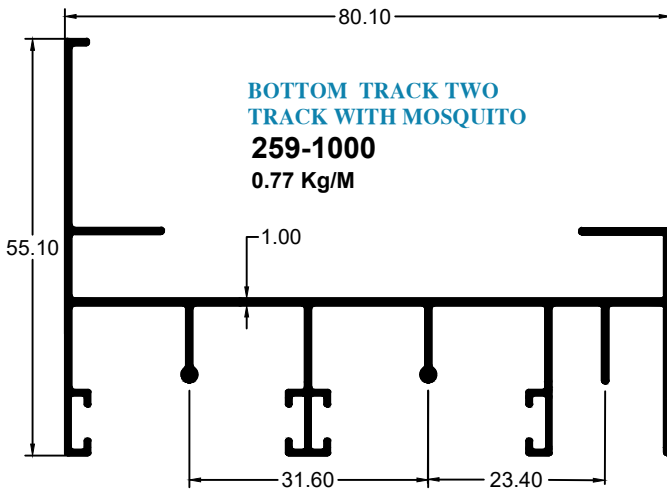
0.58 Kg/M



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3. When powder coated there will be a slight variance in weight.
Disclaimer; The right to make alterations is reserved to HAL.

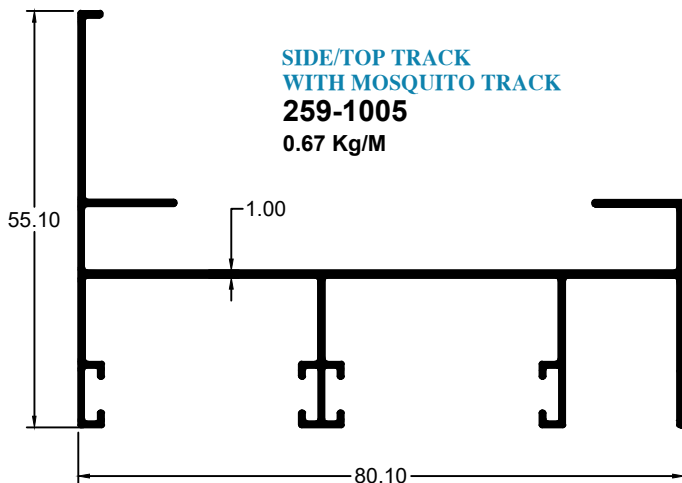
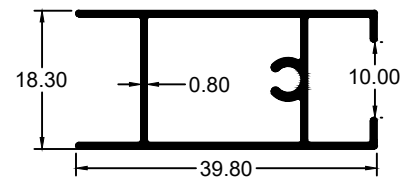


SLIDING HYD SERIES



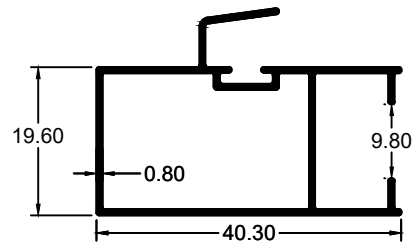
BOTTOM TRACK TWO TRACK WITH MOSQUITO
259-1000
0.77 Kg/M

BOTTOM/ TOP SHUTTER
259-1020
0.31 Kg/M

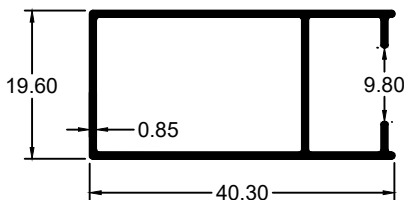


SIDE/ TOP TRACK WITH MOSQUITO TRACK
259-1005
0.67 Kg/M

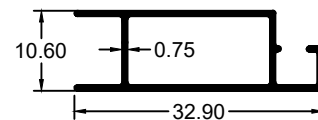
INTERLOCK SHUTTER
259-1015
0.34 Kg/M



LOCK SHUTTER
259-1010
0.31 Kg/M



MOSQUITO SHUTTER
259-1025
0.19 Kg/M



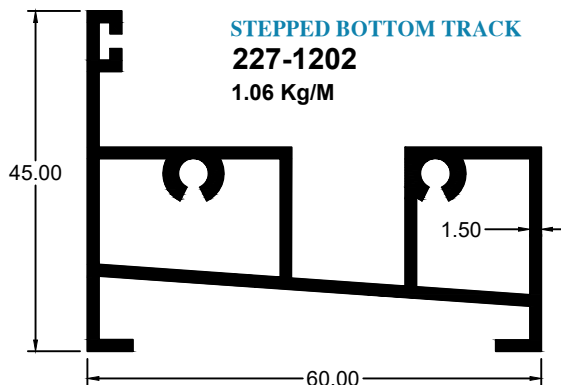
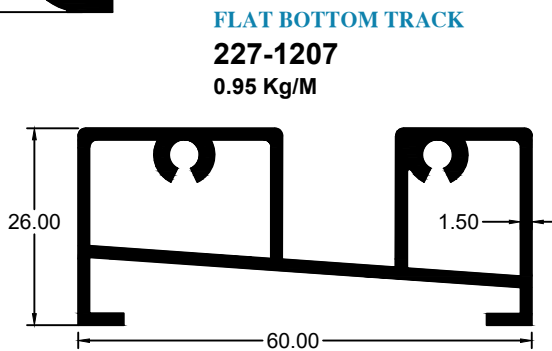
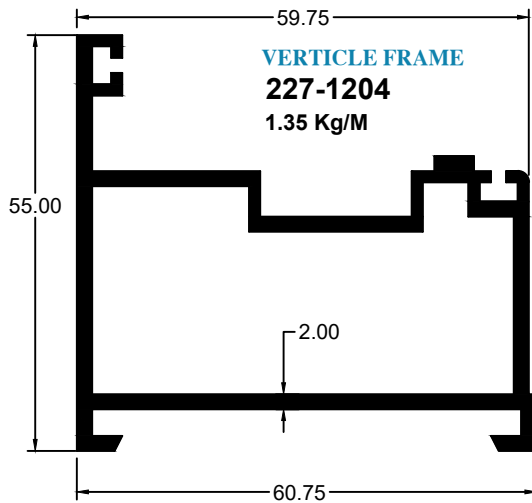
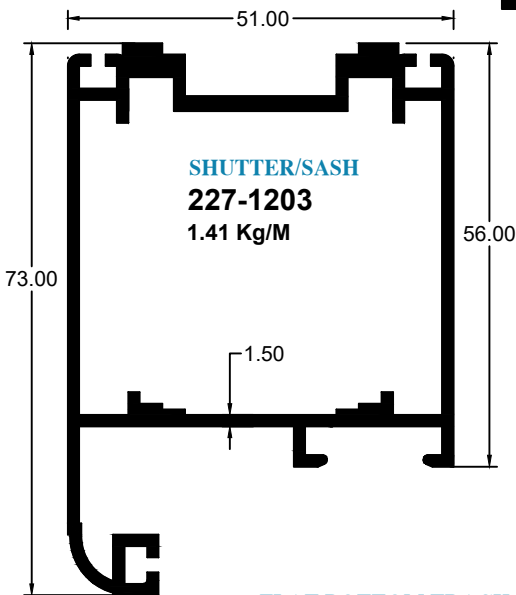
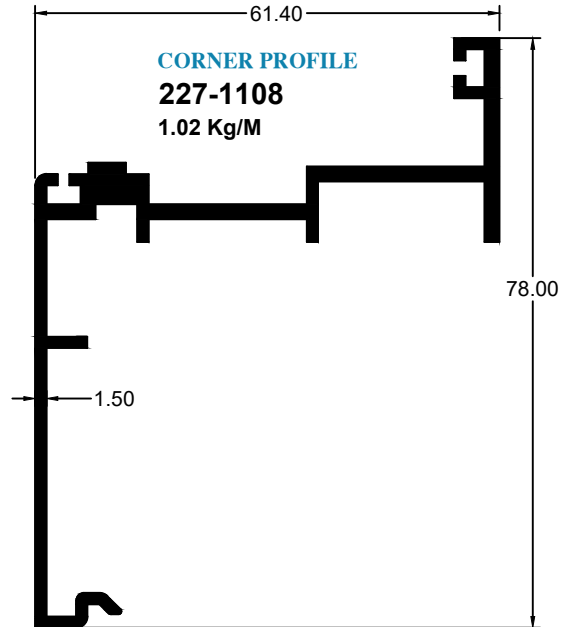
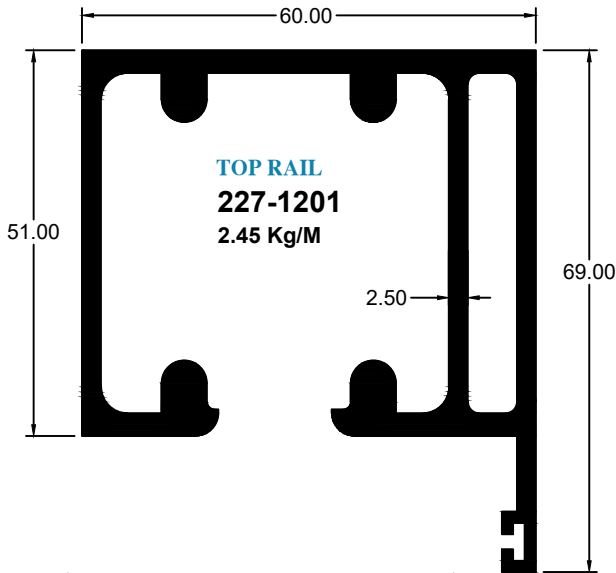
1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



BY-FOLDING LAPPED DOORS



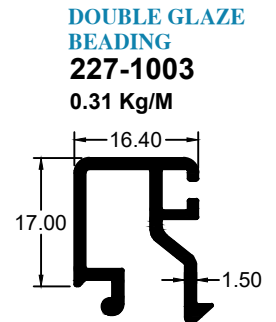
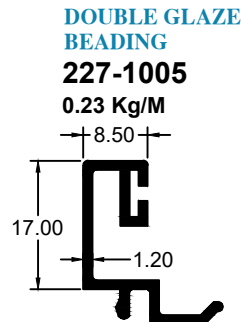
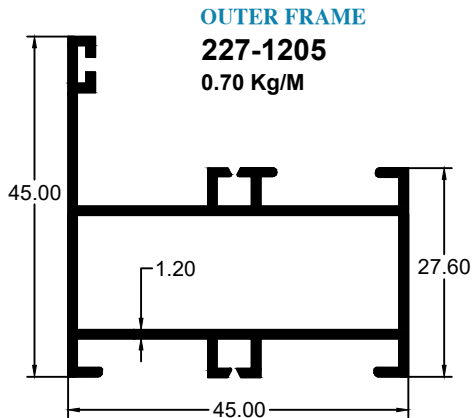
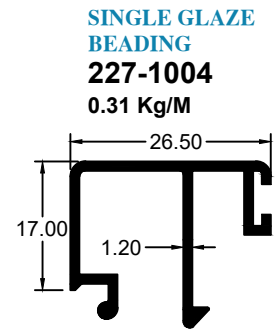
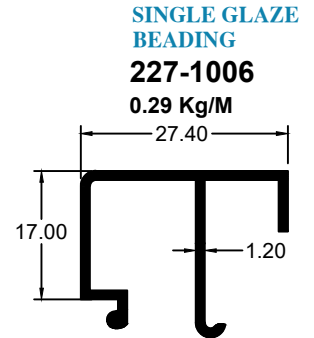
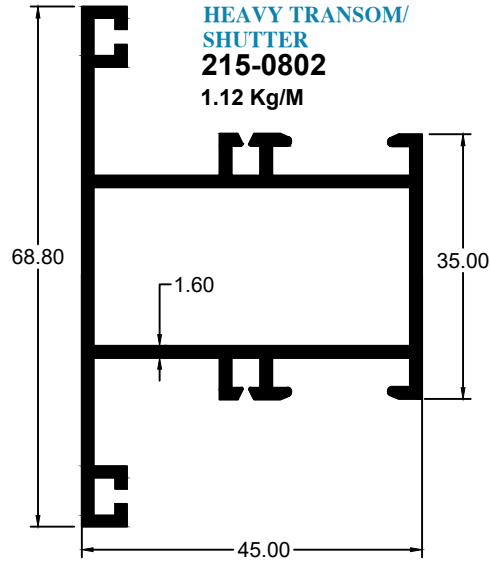
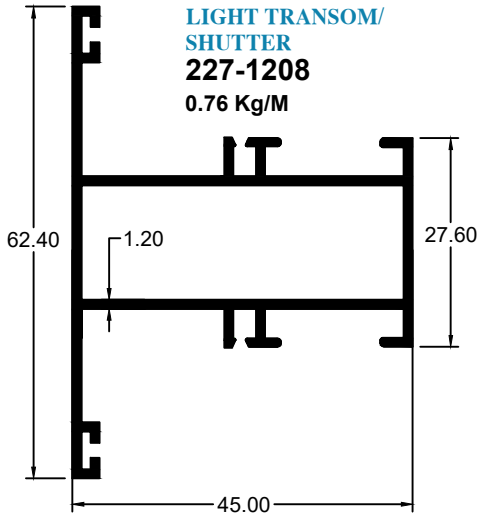
SLIDING FOLDING AND LAPPED
DOOR SERIES



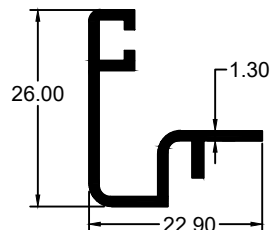
1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



SLIDING FOLDING AND LAPPED
DOOR SERIES



SASH ADD ON
227-1107
0.27 Kg/M



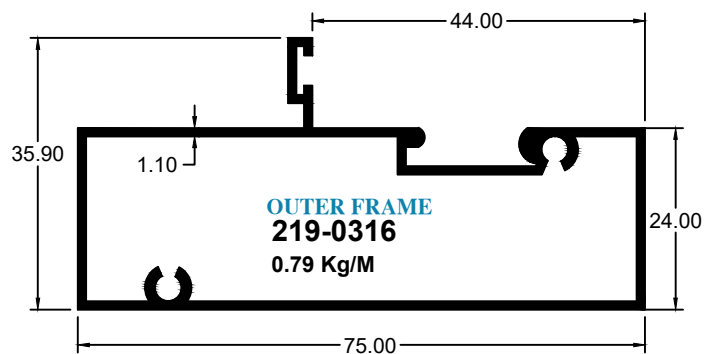
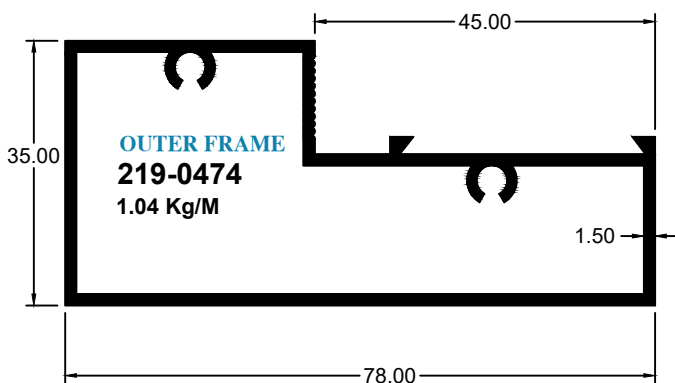
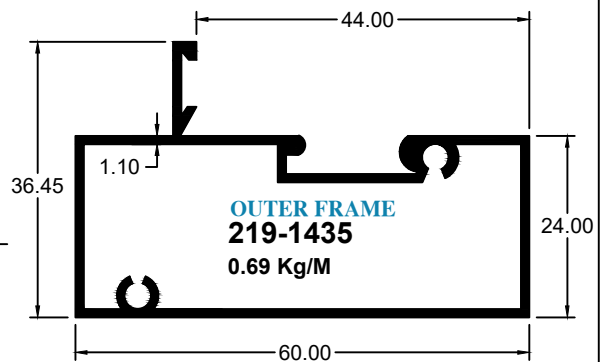
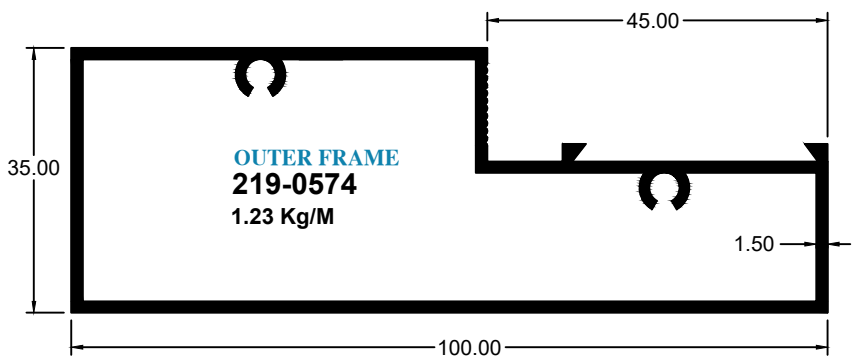
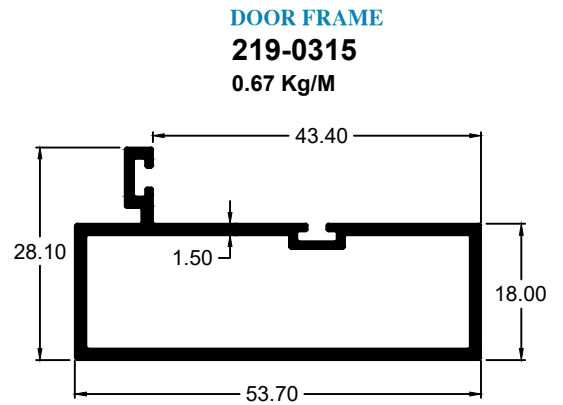
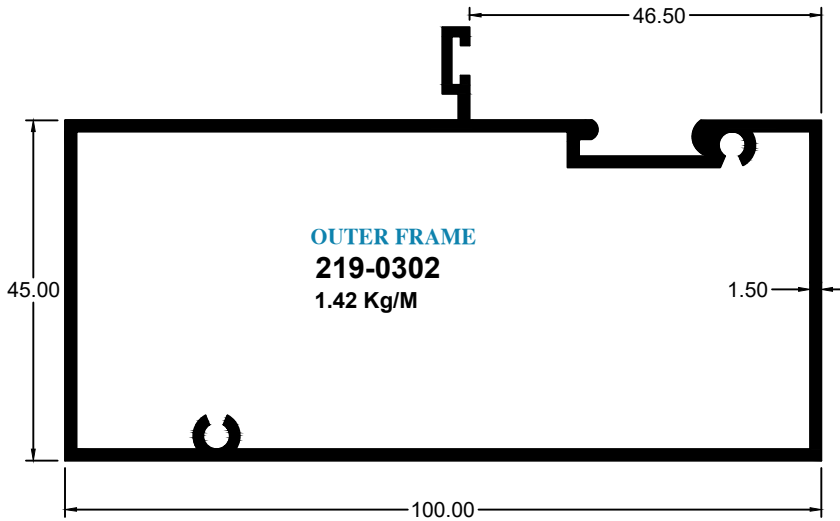
1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



HUNG DOORS



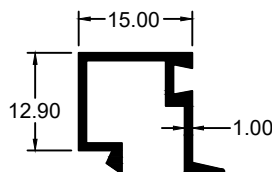
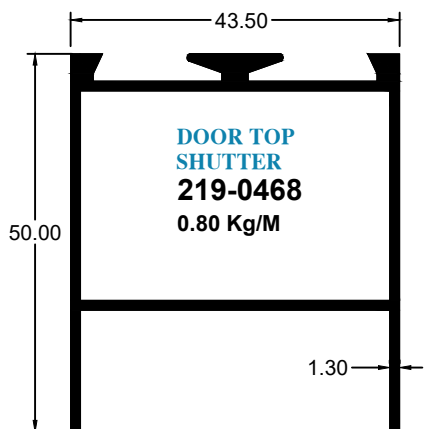
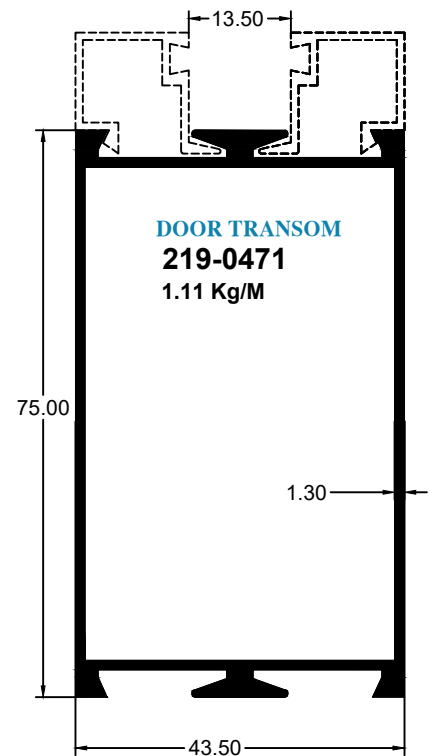
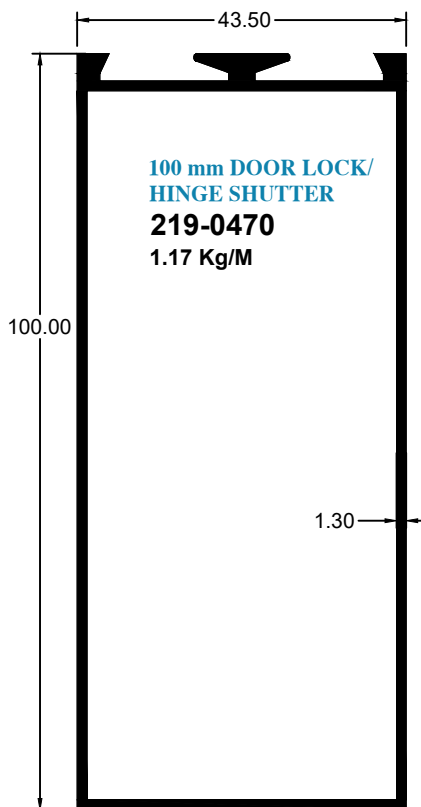
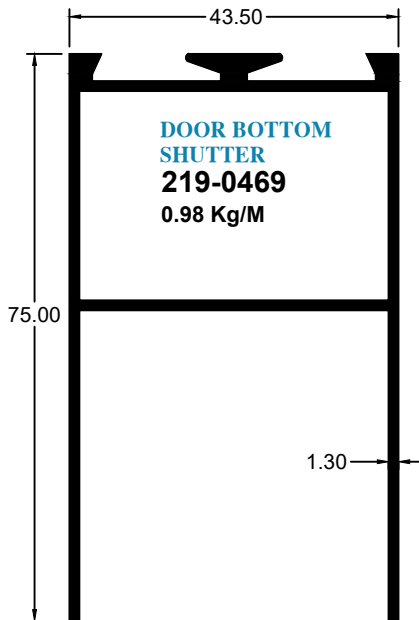
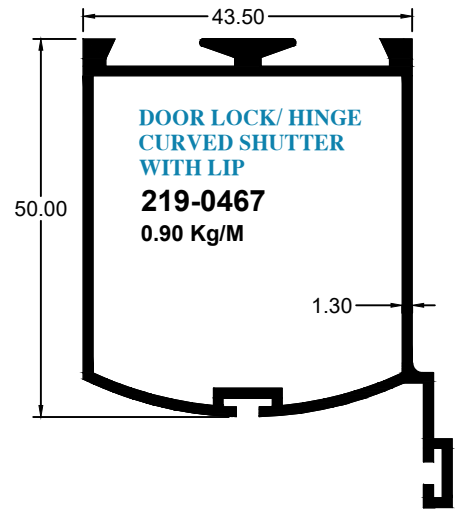
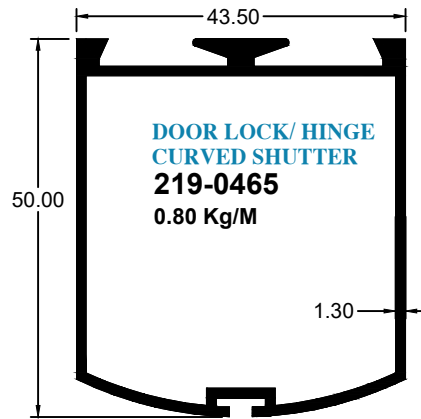
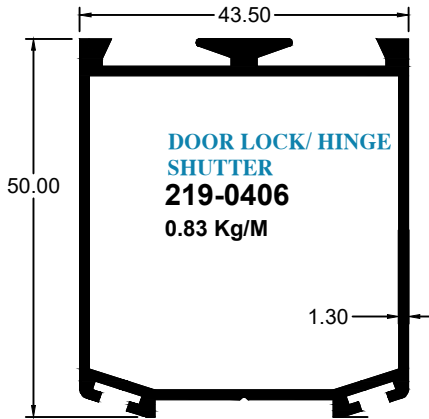
DOOR FRAMES



1. All dimensions are in mm
2. The weight shared is for Mill finish
3. When powder coated there will be a slight variance in weight.
Disclaimer; The right to make alterations is reserved to HAL.



HAD 45 DOOR SERIES



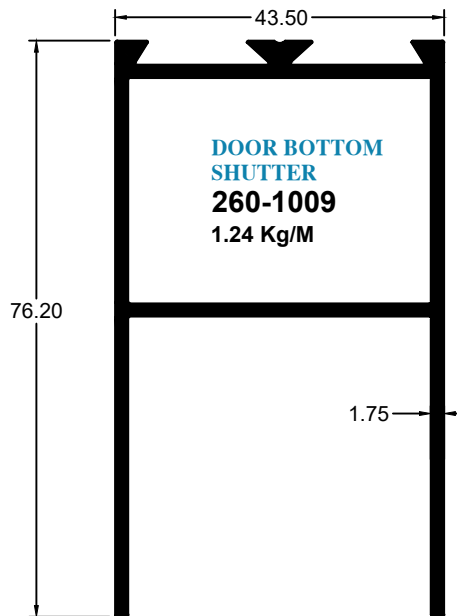
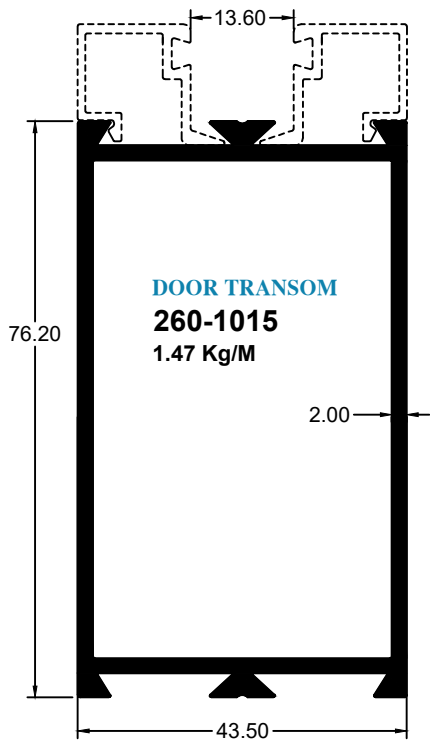
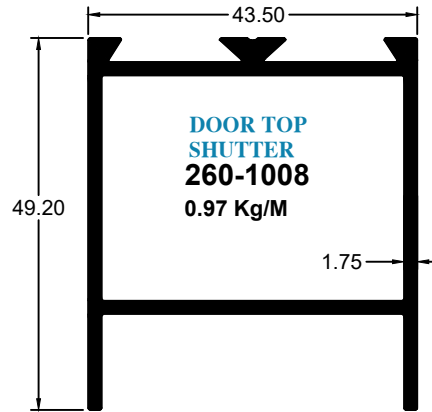
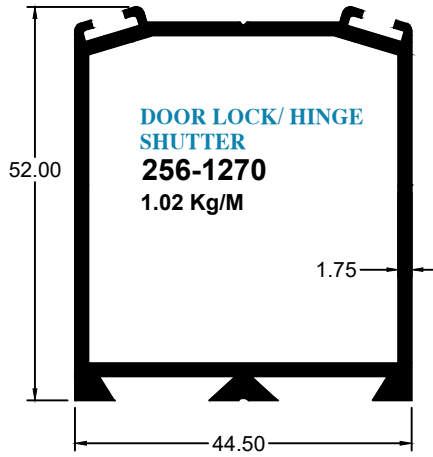
SINGLE GLAZE BEADING
215-8045
0.18 Kg/M
For glass size (6-10) mm

1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.

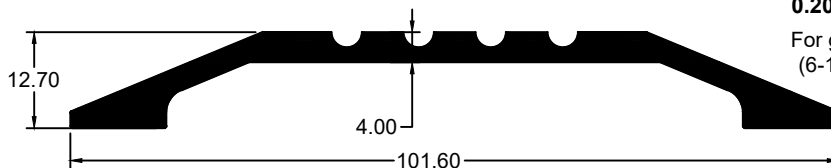
(Gasket sizes vary depending on the preferred glass size)



HAL 45 DOOR SERIES

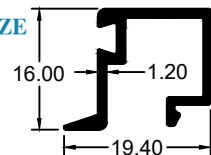


THRESH HOLD
260-1014
1.10 Kg/M



SINGLE GLAZE BEADING
260-1021
0.20 Kg/M

For glass size (6-10) mm

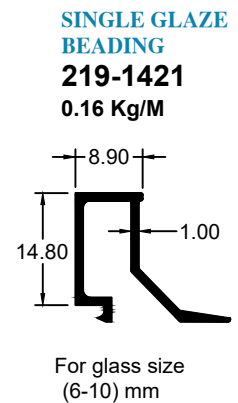
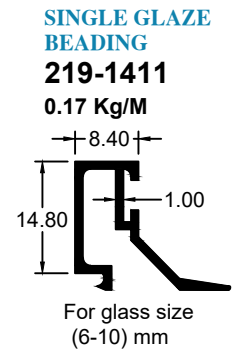
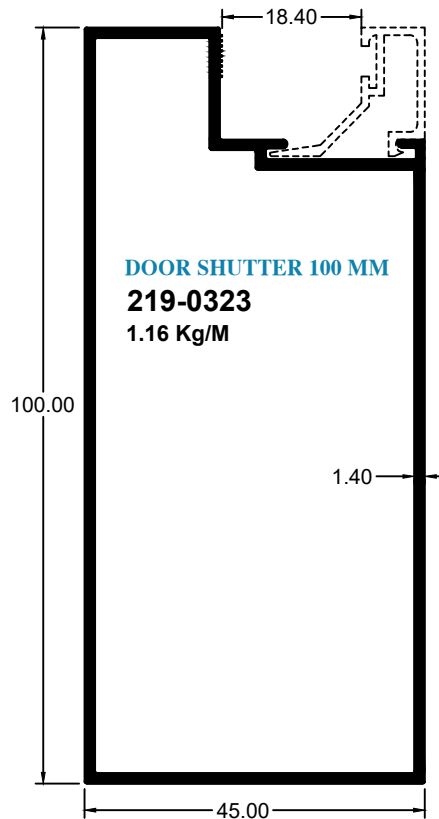
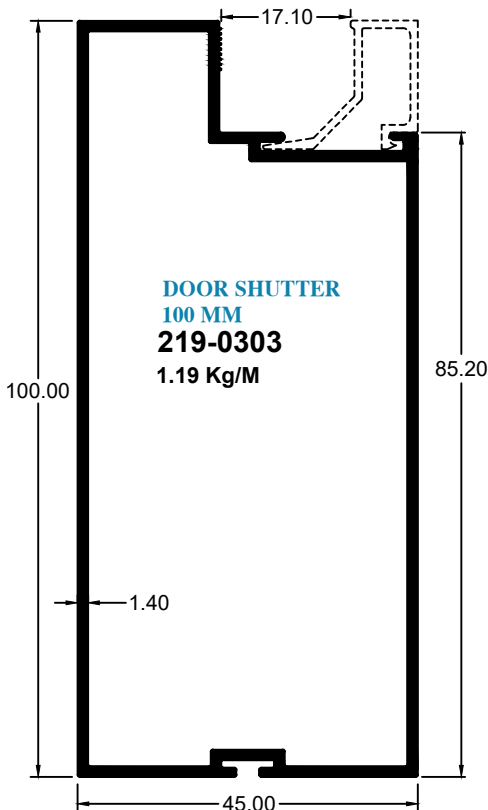
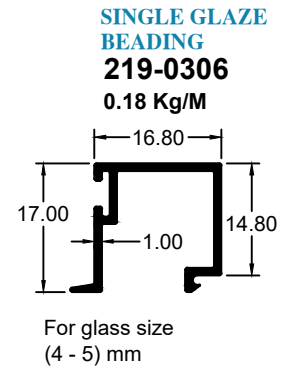
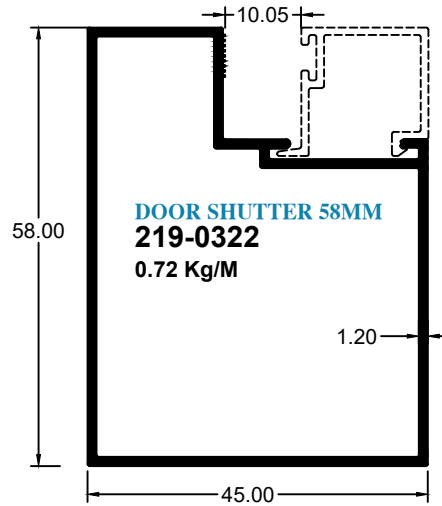
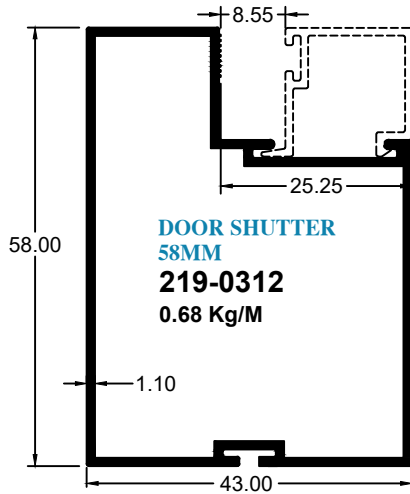


1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.

(Gasket sizes vary depending on the preferred glass size)



HAD 300 DOOR SERIES

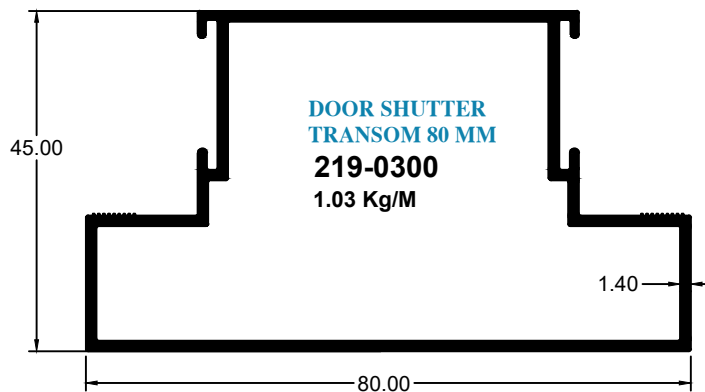
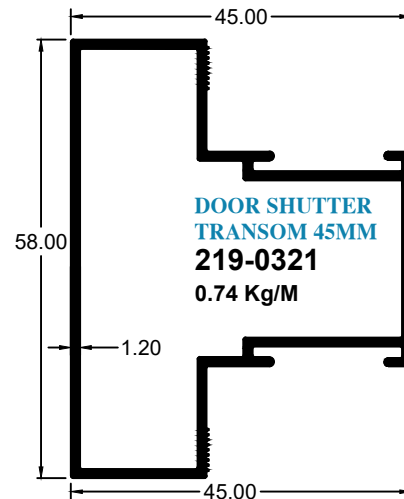
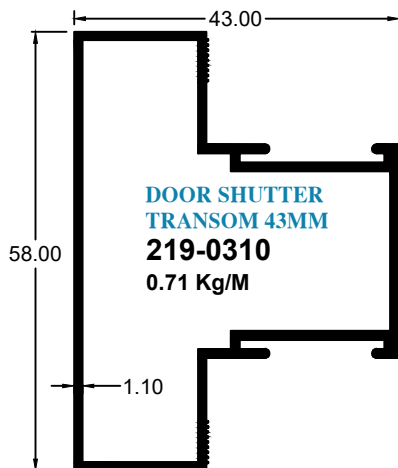
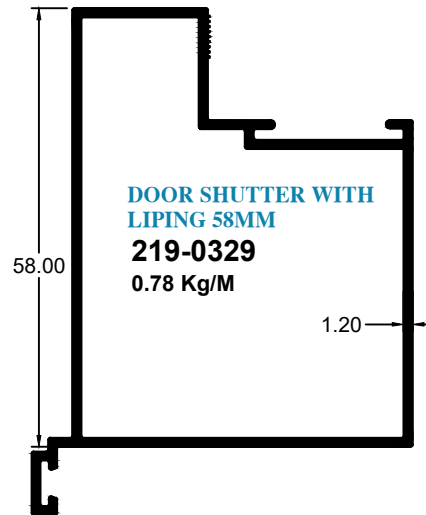
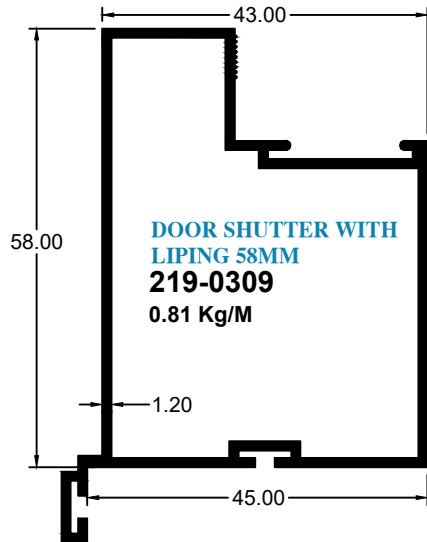


1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.

(Gasket sizes vary depending on the preferred glass size)



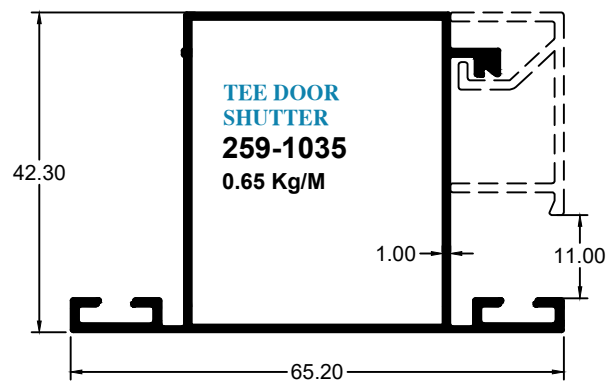
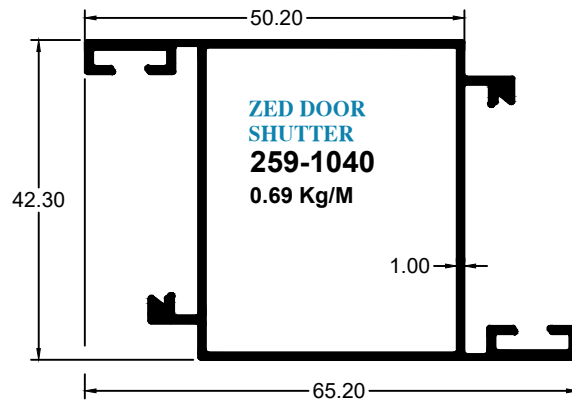
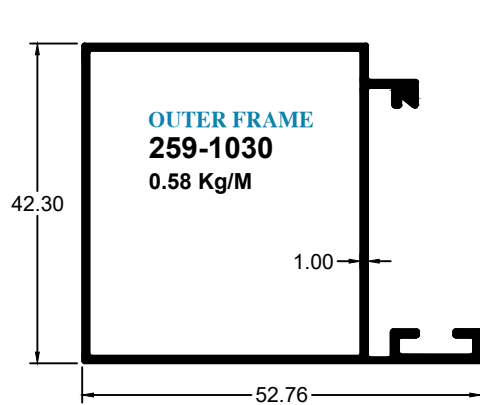
HAD 300 DOOR SERIES



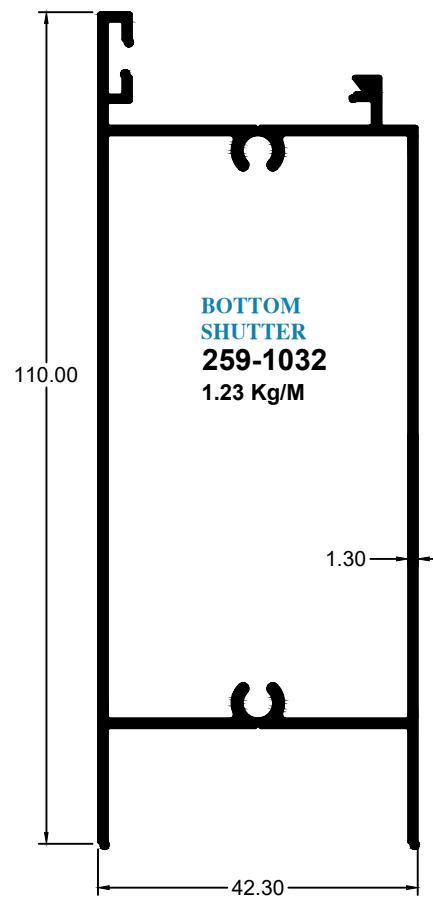
1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



HYD DOOR SERIES



For glass size (4 - 8) mm
(Gasket sizes vary depending
on the preferred glass size)



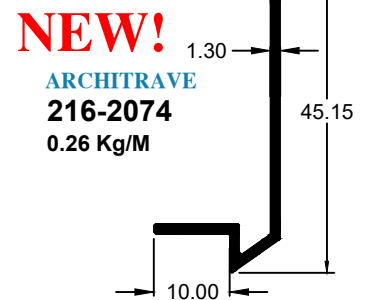
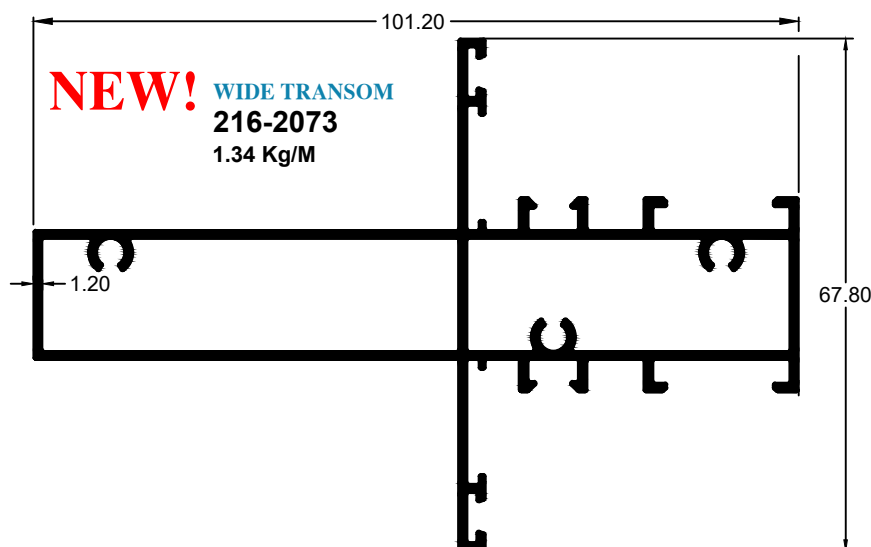
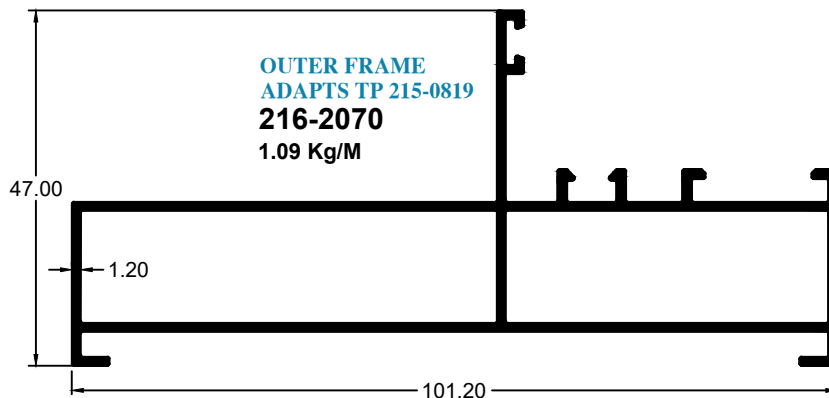
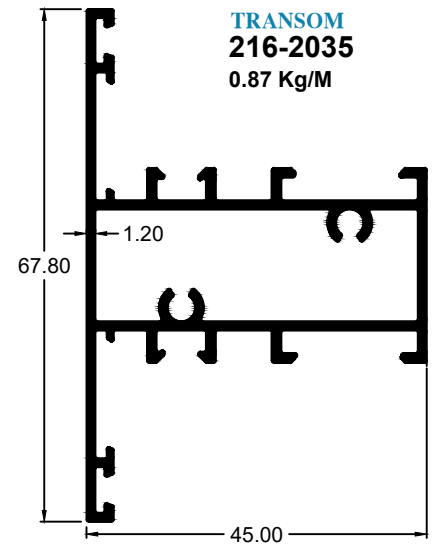
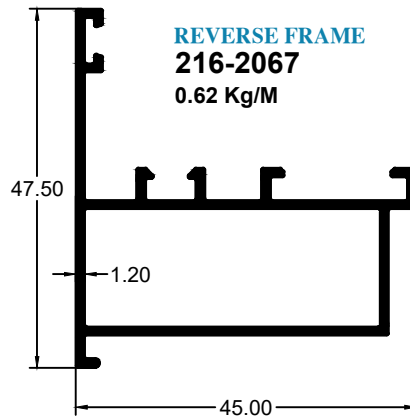
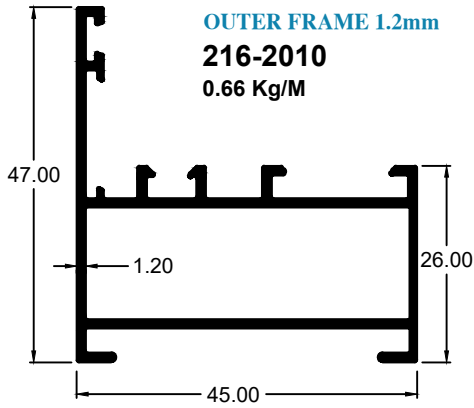
1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



CASEMENTS



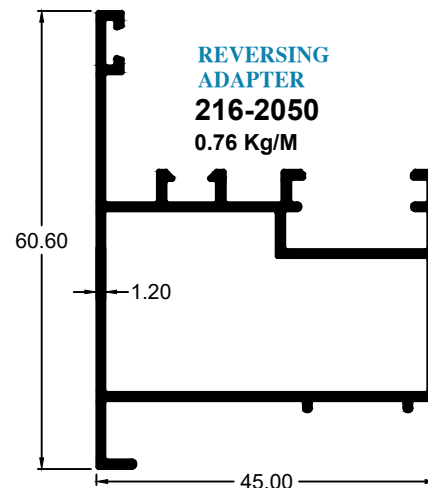
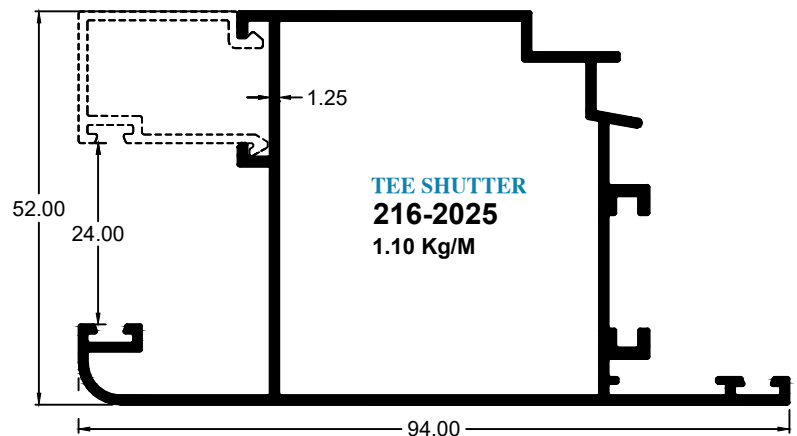
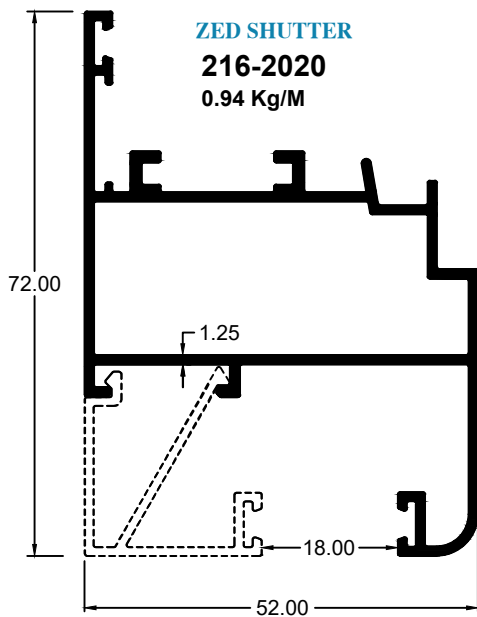
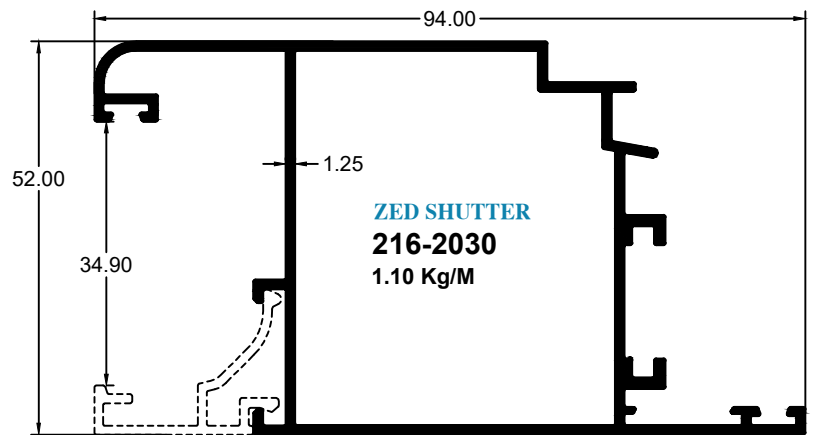
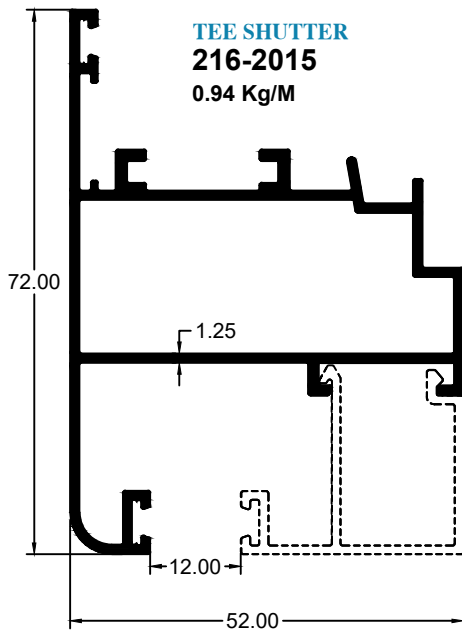
DELUXE 45 SERIES



1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



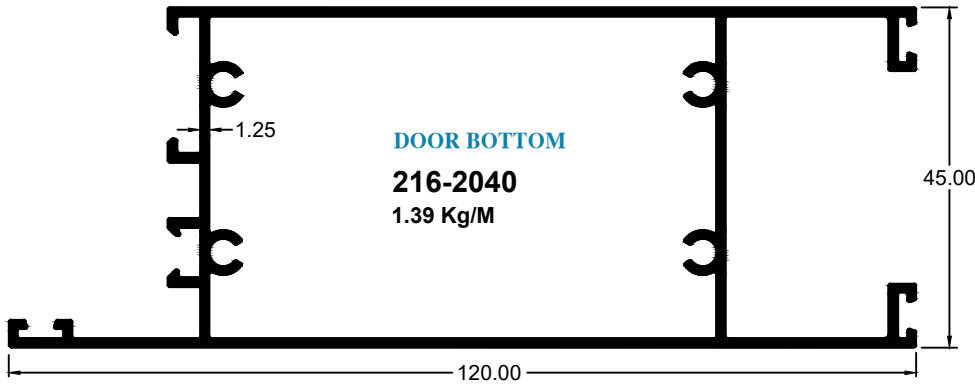
DELUXE 45 SERIES



1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.

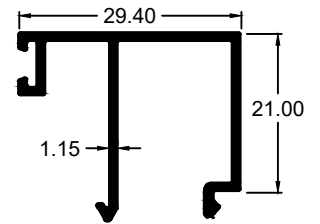


DELUXE 45 SERIES

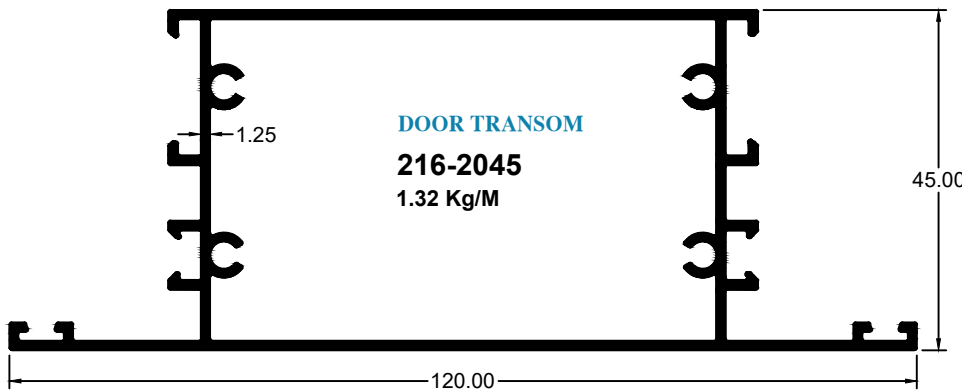


SINGLE GLAZE BEADING

216-2055
 0.31 Kg/M

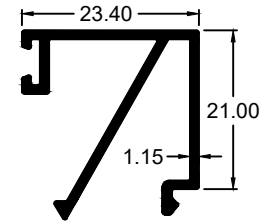


For glass size
 (4 - 6) mm



SINGLE GLAZE BEADING

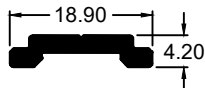
216-2056
 0.30 Kg/M



For glass size
 (6 - 12) mm

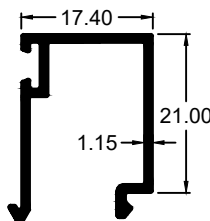
TRANSMISSION STRIP

216-2080
 0.15 Kg/M



DOUBLE GLAZE BEADING

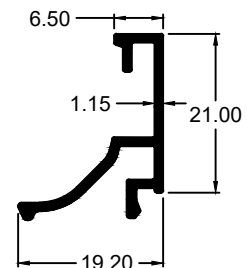
216-2057
 0.25 Kg/M



For glass size
 (16-20) mm

DOUBLE GLAZE BEADING

216-2058
 0.21 Kg/M



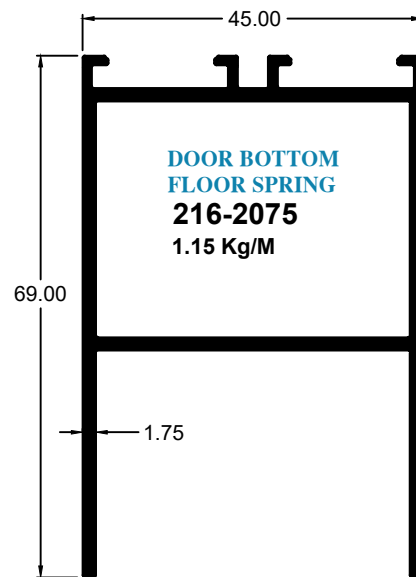
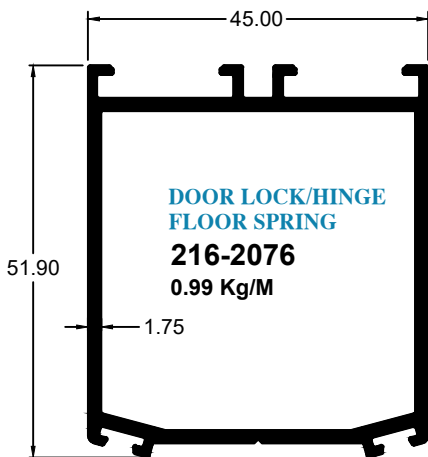
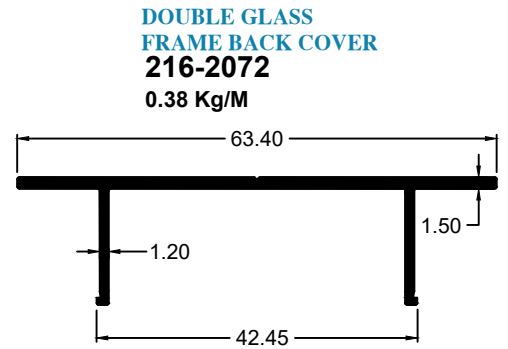
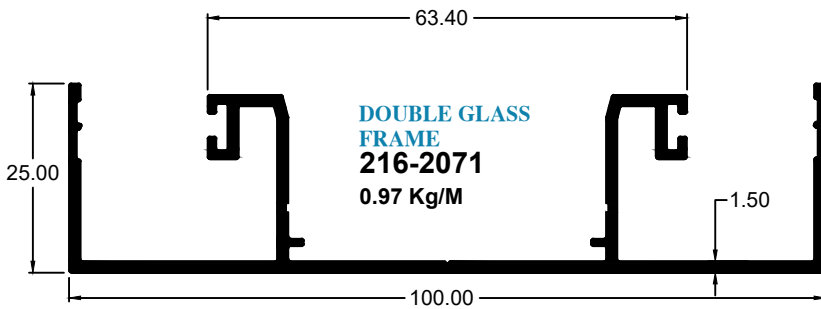
For glass size
 (25 - 30) mm

(Gasket sizes vary depending on the preferred glass size)

1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



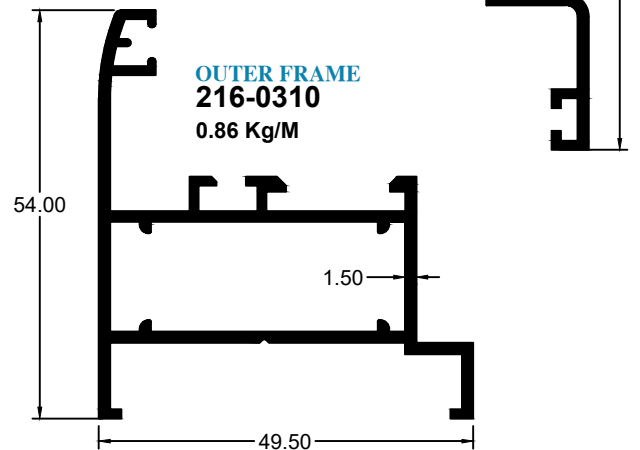
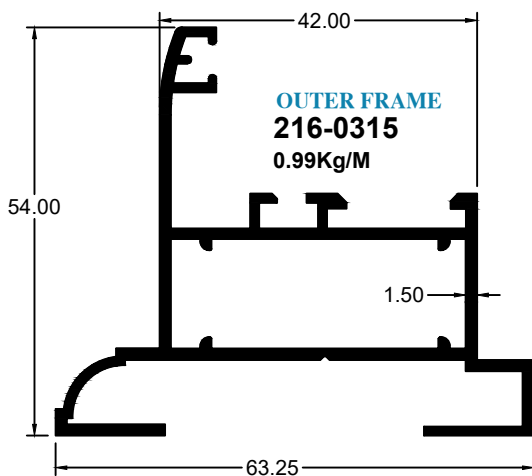
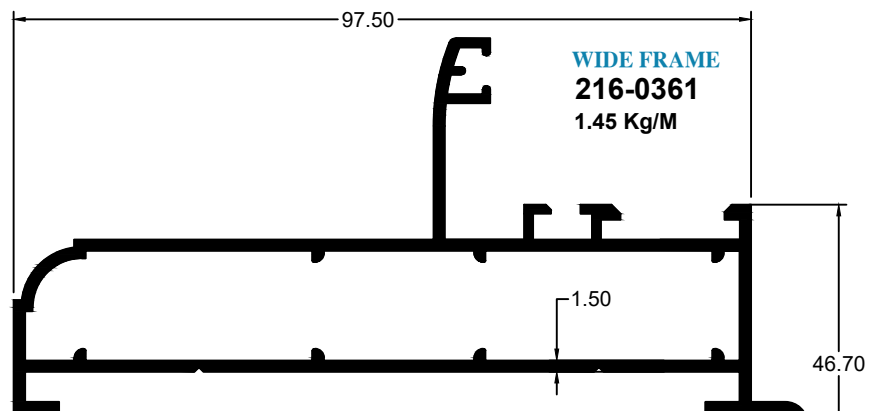
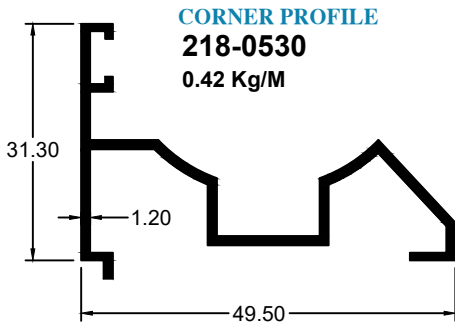
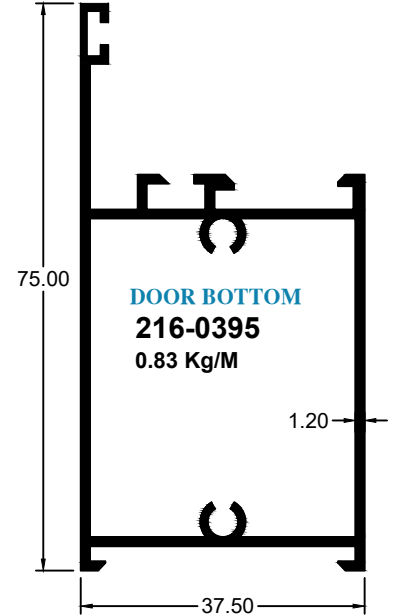
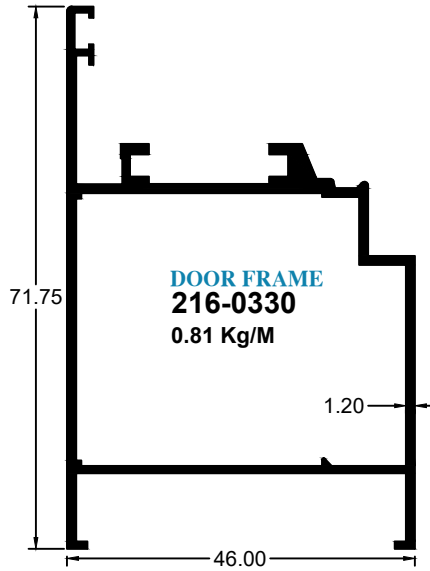
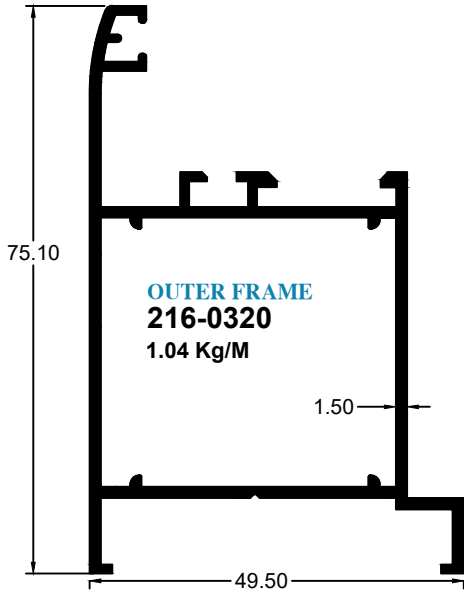
DELUXE 45 DOOR SERIES



1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



65 SERIES FRAMES

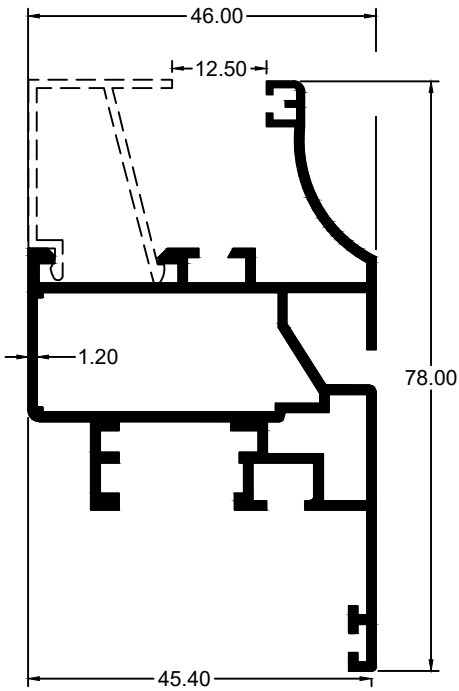


1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.

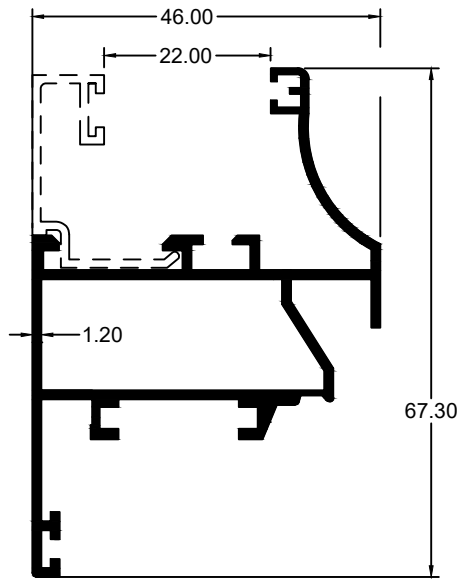


CASEMENT 65 SERIES

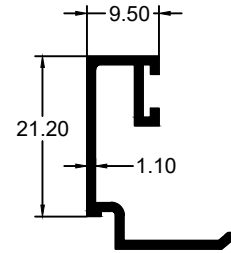
TEE SHUTTER
216-0350
1.04 Kg/M



ZED SHUTTER
216-0340
0.82 Kg/M

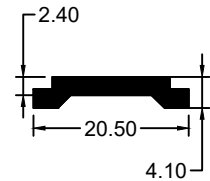


DOUBLE GLAZE BEADING
218-0545
0.21 Kg/M

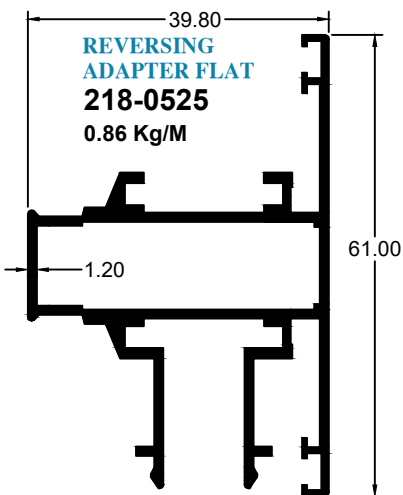


For glass size
(12 - 18) mm

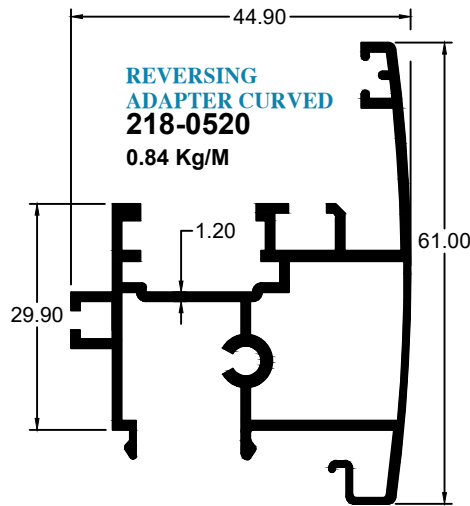
TRANSMISSION STRIP
218-0541
0.16 Kg/M



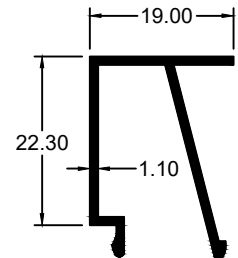
REVERSING ADAPTER FLAT
218-0525
0.86 Kg/M



REVERSING ADAPTER CURVED
218-0520
0.84 Kg/M



SINGLE GLAZE BEADING
218-0546
0.24 Kg/M



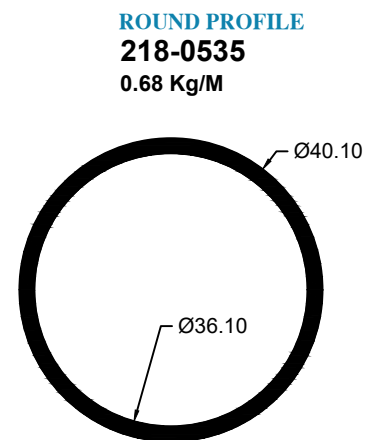
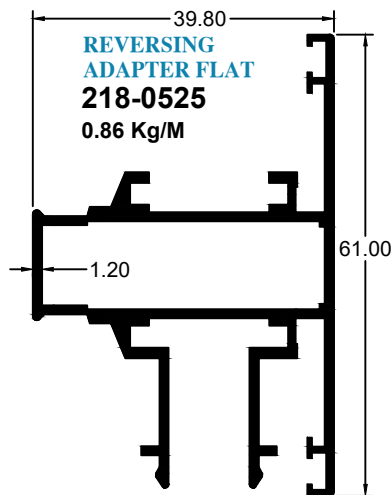
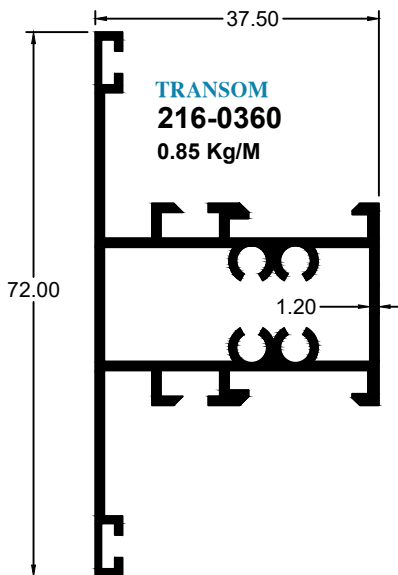
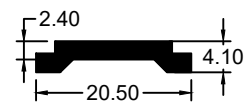
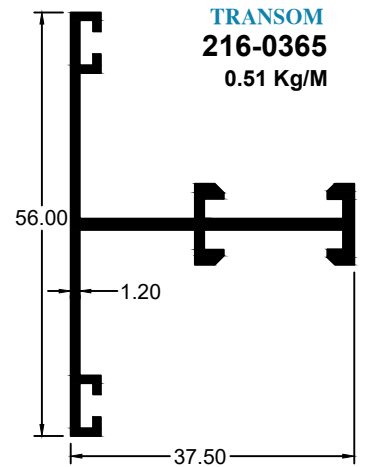
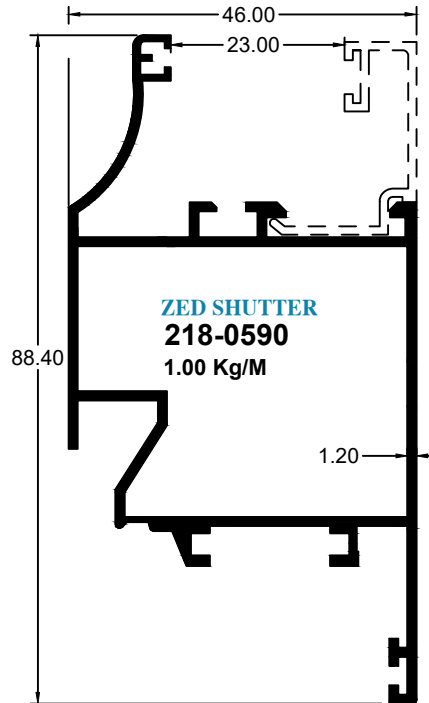
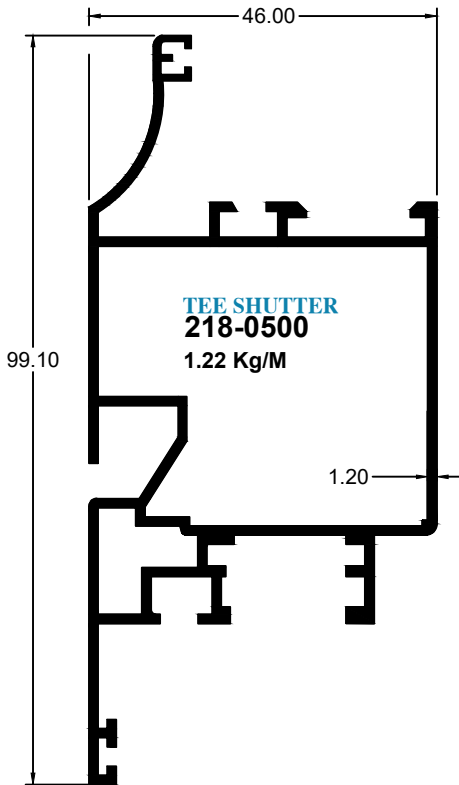
For glass size
(4 - 8) mm

1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.

(Gasket sizes vary depending on the preferred glass size)



65 DOOR SERIES

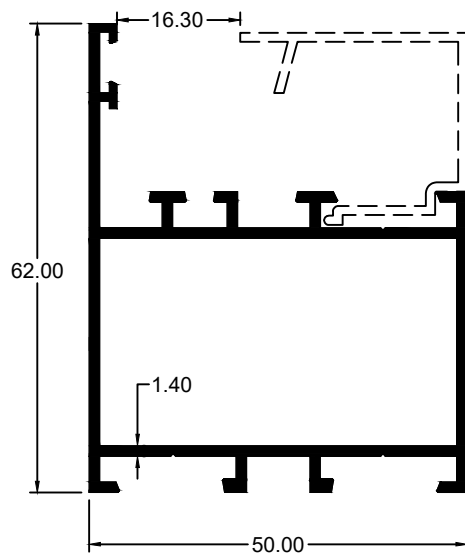


1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.

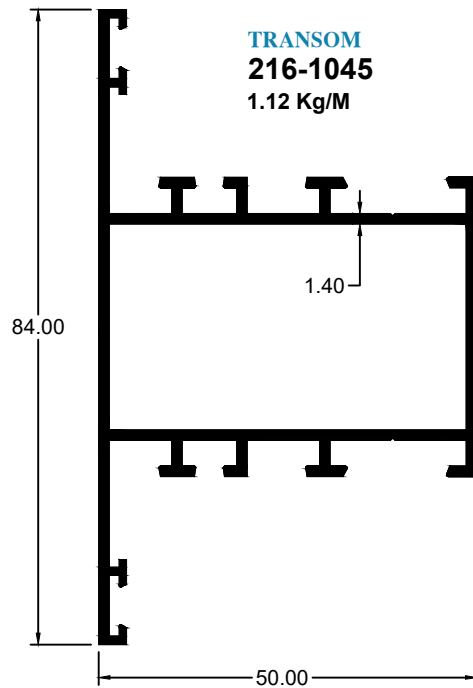


CASEMENT CB SERIES

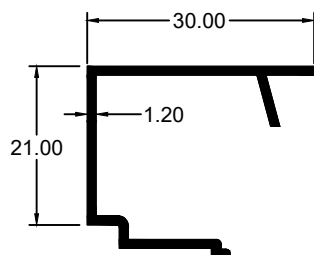
OUTER FRAME
216-1040
0.98 Kg/M



TRANSOM
216-1045
1.12 Kg/M



SINGLE GLAZE
BEADING
216-1050
0.27 Kg/M

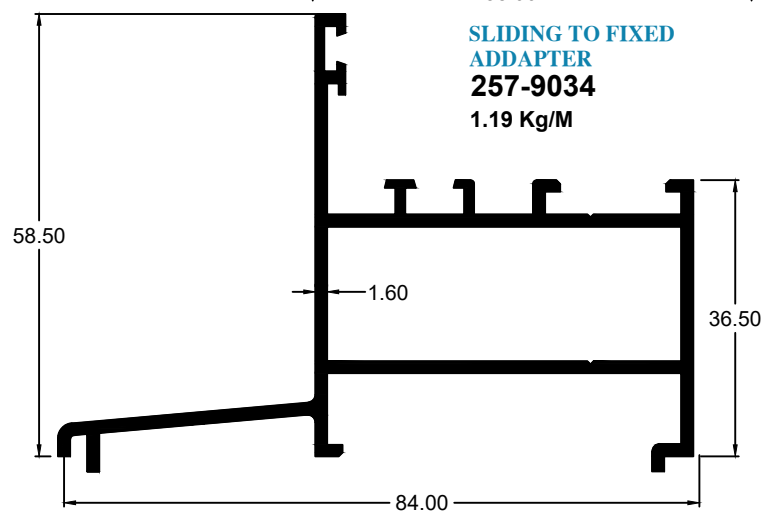
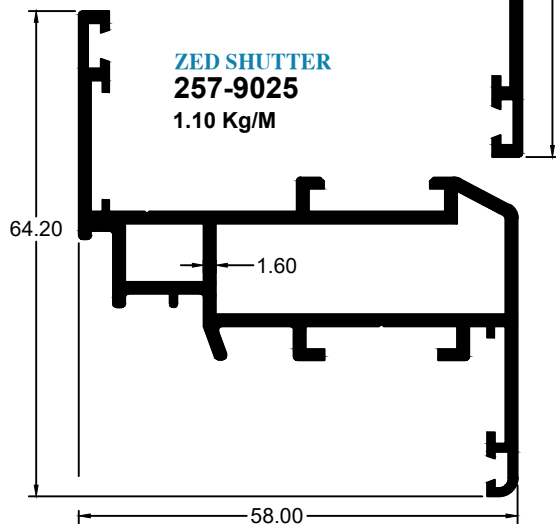
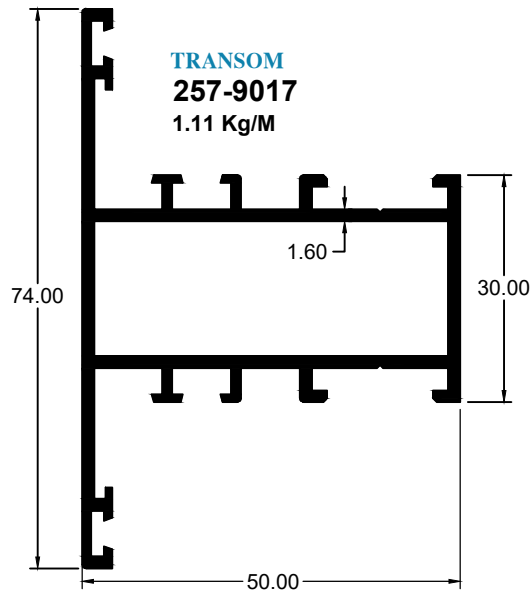
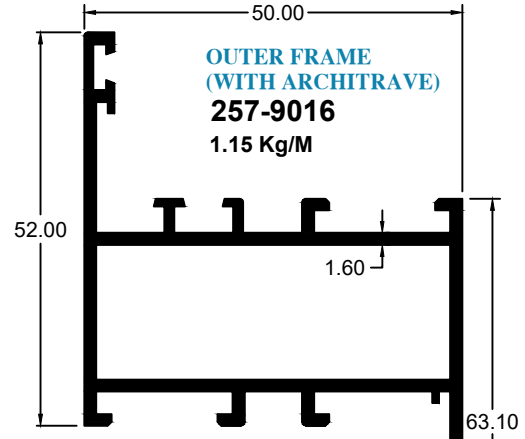
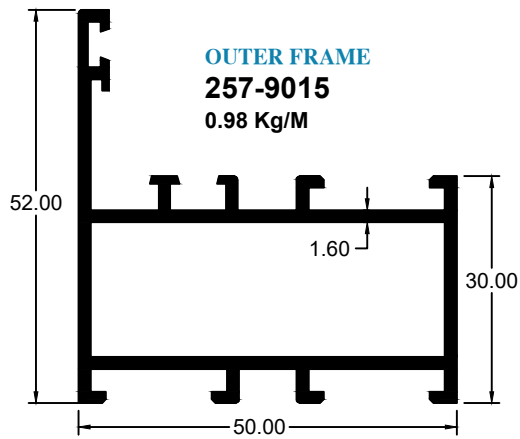


For glass size (8 - 12) mm
(Gasket sizes vary depending
on the preferred glass size)

1. All dimensions are in mm
2. The weight shared is for Mill finish
3. When powder coated there will be a slight variance in weight.
Disclaimer; The right to make alterations is reserved to HAL.



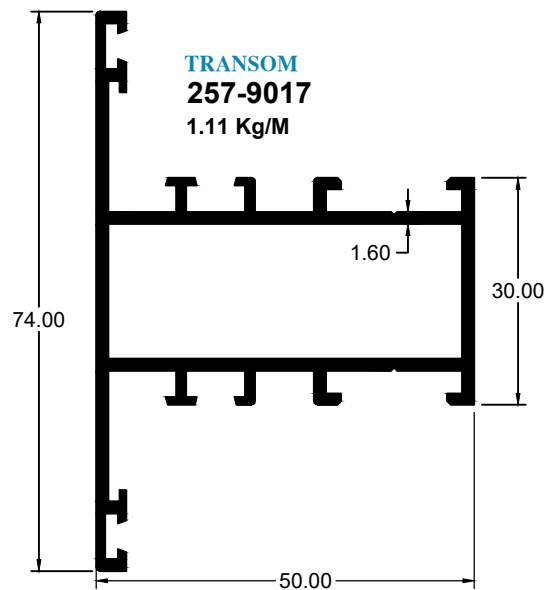
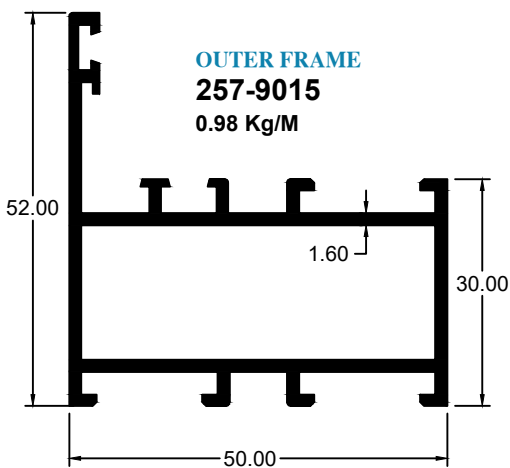
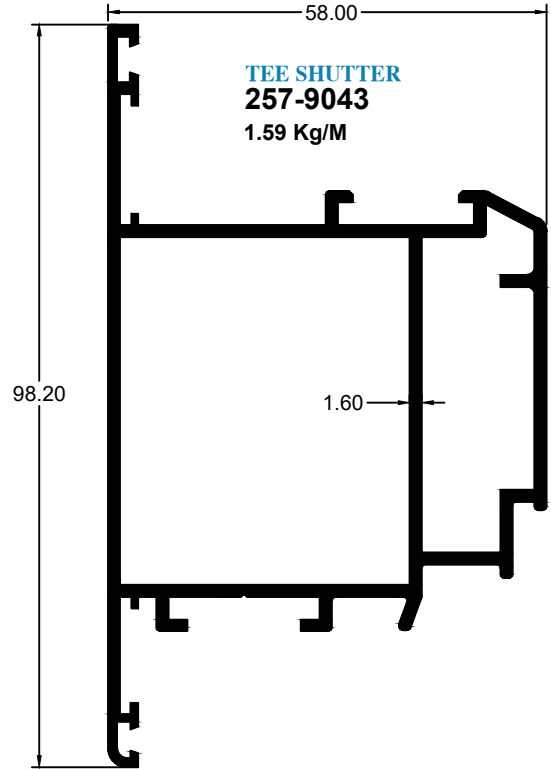
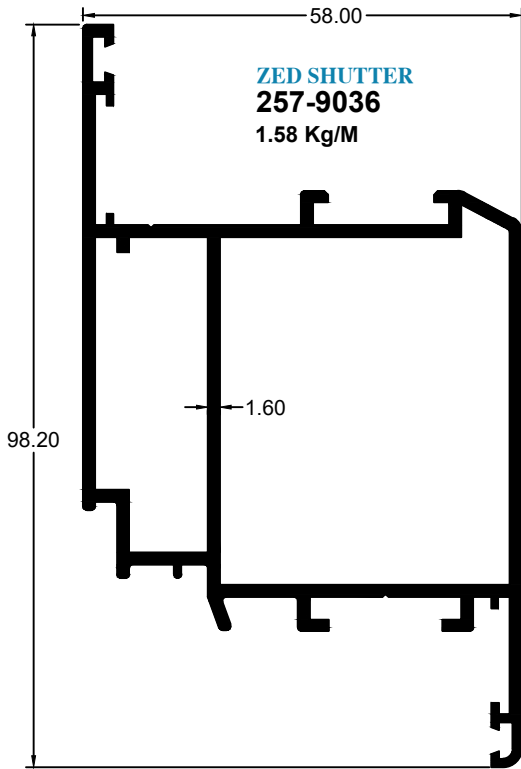
CASEMENT 50 SERIES



1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



DOOR 50 SERIES

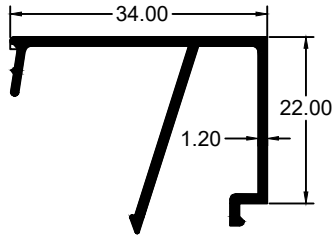


1. All dimensions are in mm
2. The weight shared is for Mill finish
3. When powder coated there will be a slight variance in weight.
Disclaimer; The right to make alterations is reserved to HAL.



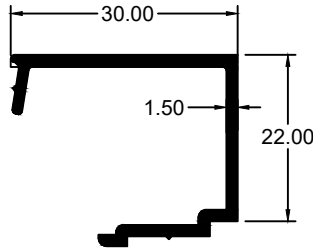
CASEMENT 50 SERIES

**SINGLE GLAZE
BEADING
256-1290
0.32 Kg/M**



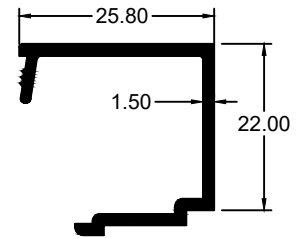
For glass size (4-6) mm

**SINGLE GLAZE
BEADING
257-9032
0.34 Kg/M**



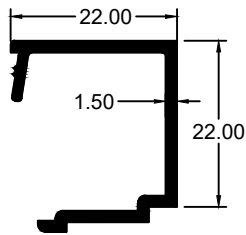
For glass size (8-11) mm

**SINGLE GLAZE
BEADING
257-9031
0.32 Kg/M**



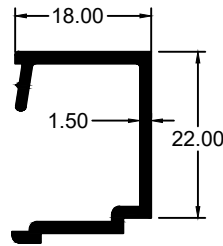
For glass size (12-15) mm

**DOUBLE GLAZE
BEADING
257-9029
0.30 Kg/M**



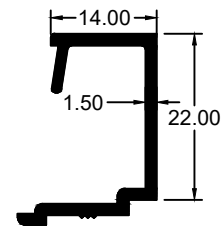
For glass size (16-19) mm

**DOUBLE GLAZE
BEADING
257-9028
0.28 Kg/M**



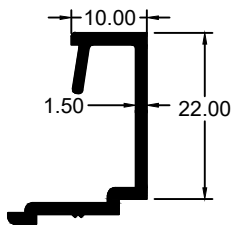
For glass size (20-23) mm

**DOUBLE GLAZE
BEADING
257-9018
0.26 Kg/M**



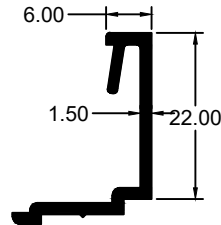
For glass size (24-27) mm

**DOUBLE GLAZE
BEADING
257-9030
0.25 Kg/M**



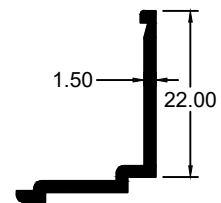
For glass size (28-31) mm

**DOUBLE GLAZE
BEADING
257-9027
0.23 Kg/M**



For glass size 32-35 mm

**DOUBLE GLAZE
BEADING
257-9026
0.18 Kg/M**



For glass size 36-39 mm

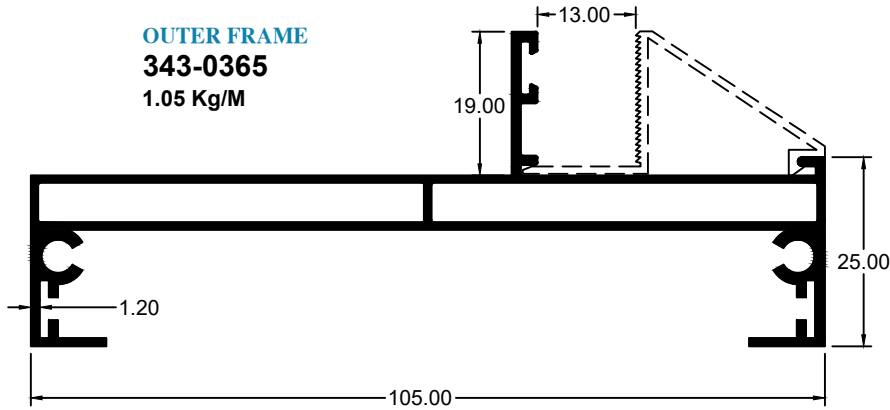
(Gasket sizes vary depending on the preferred glass size)

1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.

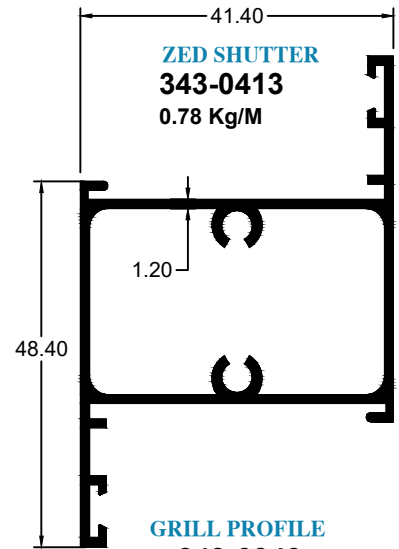


NYL CASEMENT SERIES

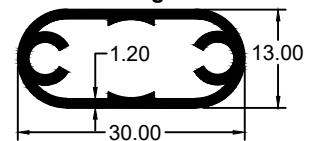
OUTER FRAME
343-0365
1.05 Kg/M



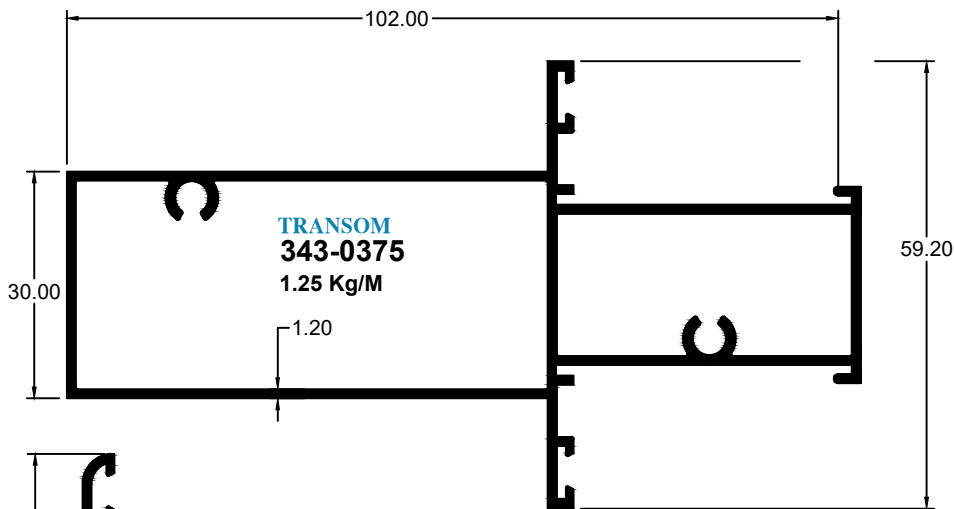
ZED SHUTTER
343-0413
0.78 Kg/M



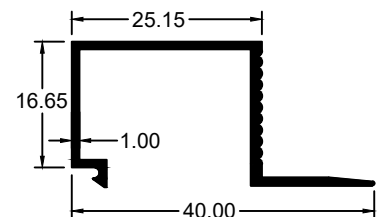
GRILL PROFILE
343-0340
0.34 Kg/M



TRANSOM
343-0375
1.25 Kg/M

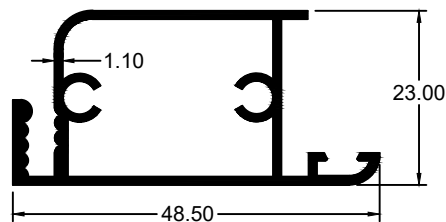


SINGLE GLAZE BEADING
216-0344
0.25 Kg/M

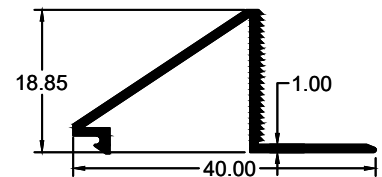


For glass size (4 - 8) mm

MOSQUITO SHUTTER
343-0345
0.54 Kg/M



SINGLE GLAZE BEADING
343-0390
0.22 Kg/M



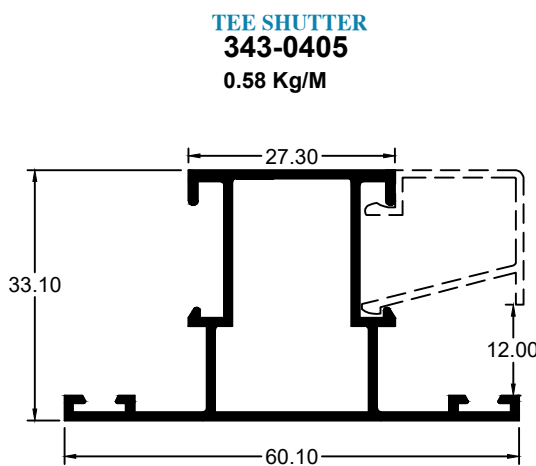
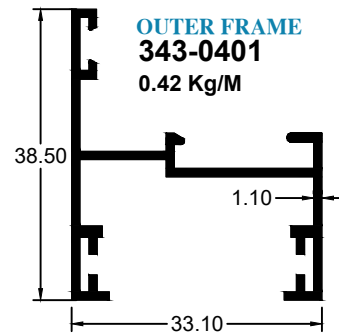
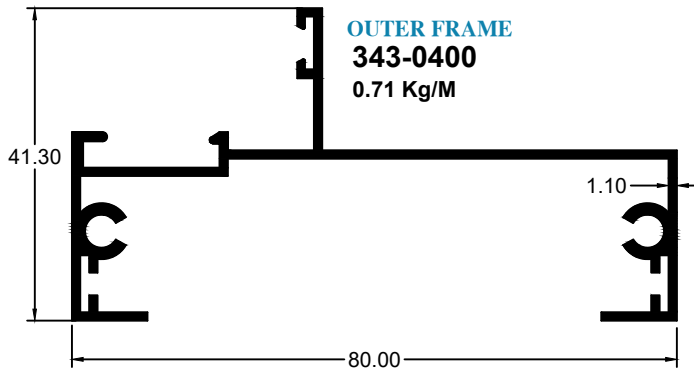
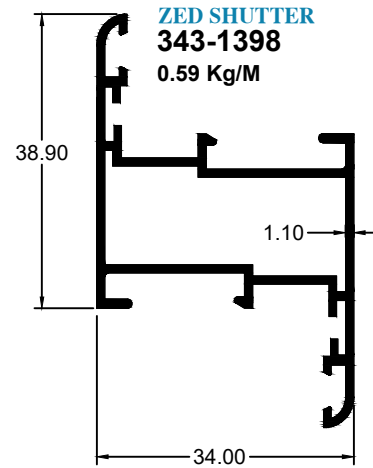
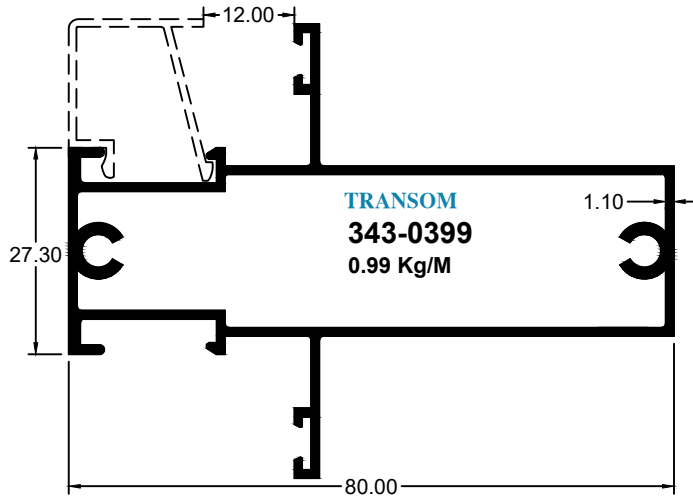
For glass size (4 - 8) mm

(Gasket sizes vary depending on the preferred glass size)

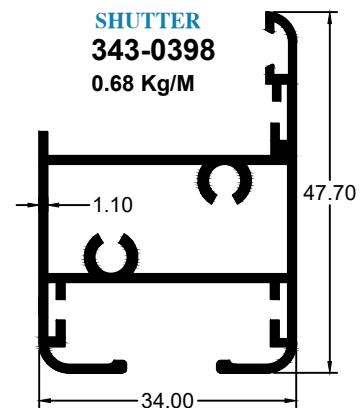
1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



NYL CASEMENT SERIES



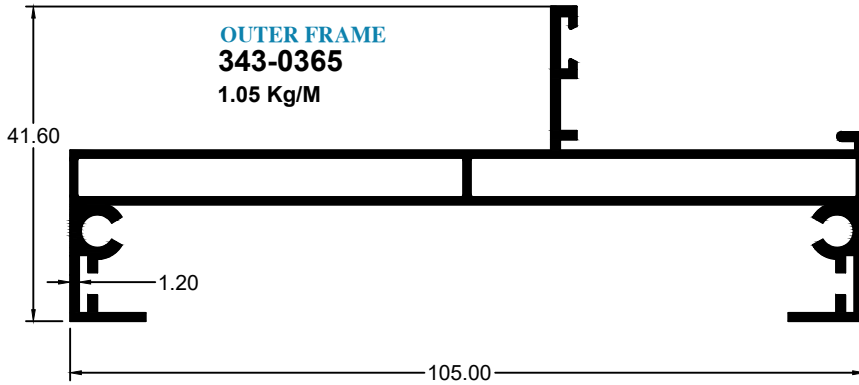
For glass size (4 - 8) mm
(Gasket sizes vary depending on the preferred glass size)



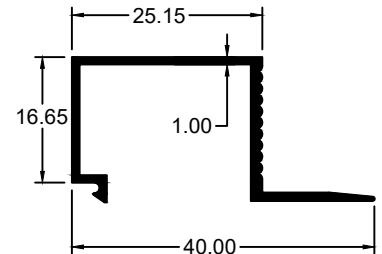
1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



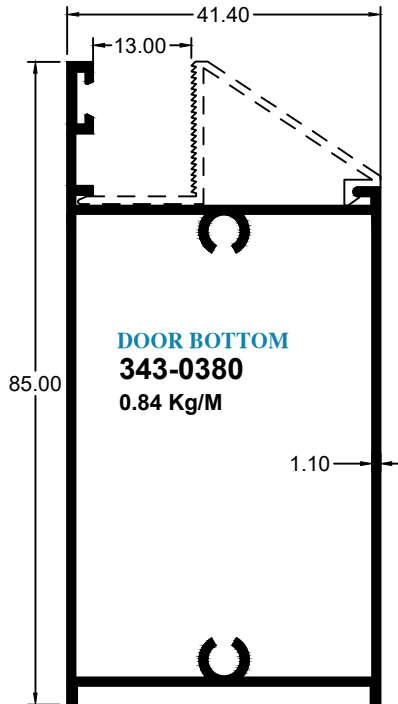
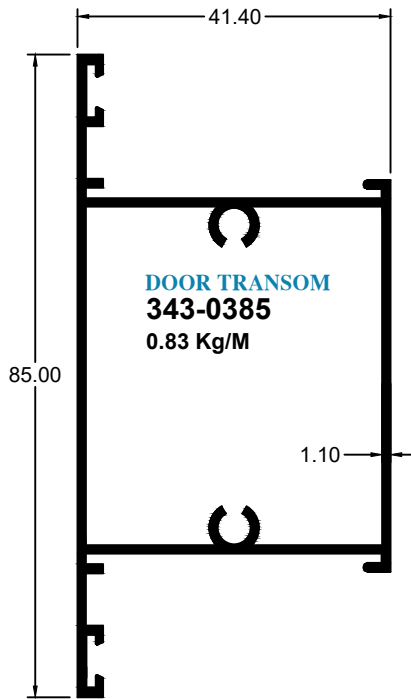
NYL DOOR SERIES



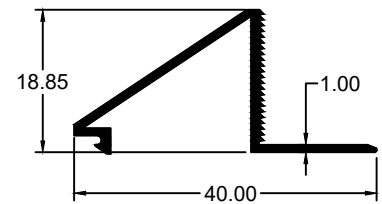
SINGLE GLAZE BEADING
216-0344
 0.25 Kg/M



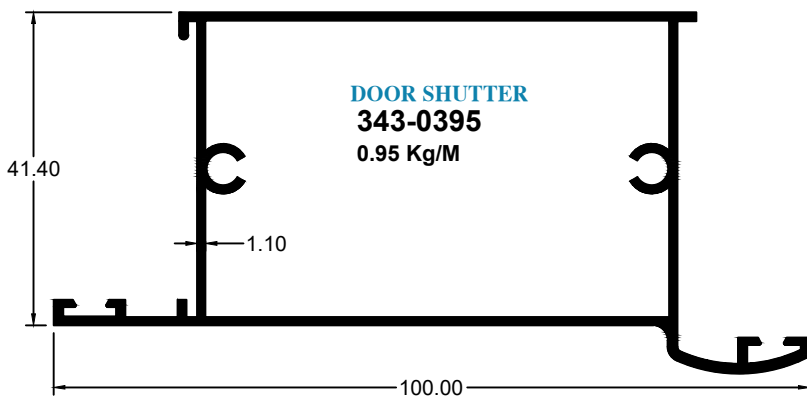
For glass size (4 - 8) mm
 (Gasket sizes vary depending on the preferred glass size)



SINGLE GLAZE BEADING
343-0390
 0.22 Kg/M



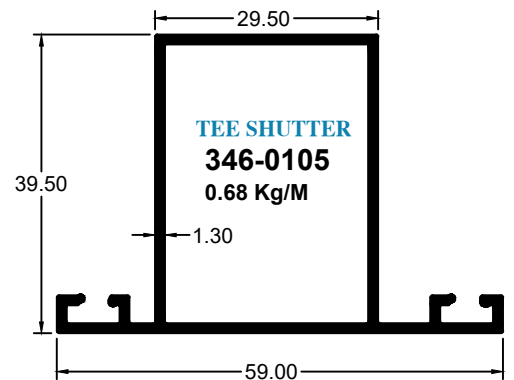
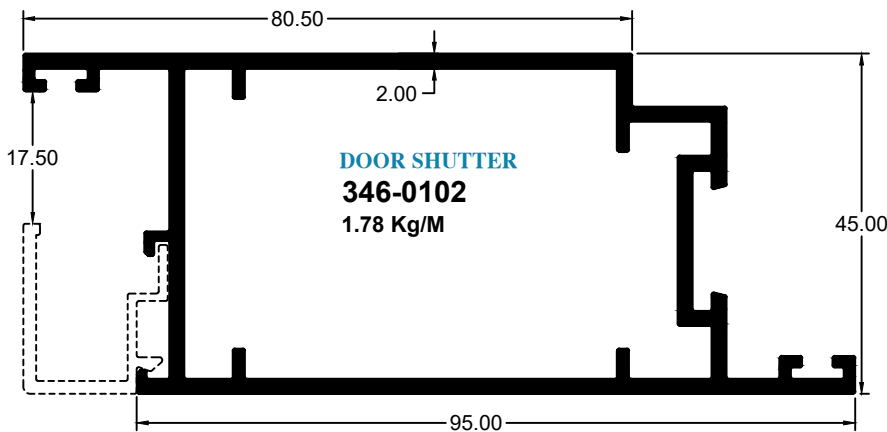
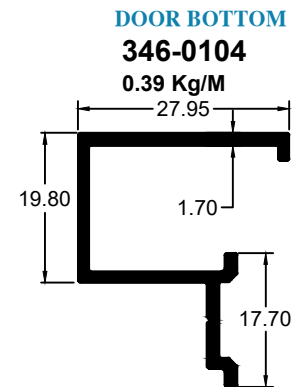
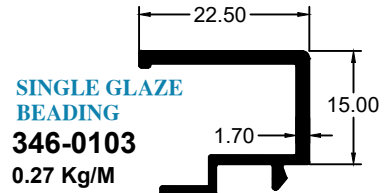
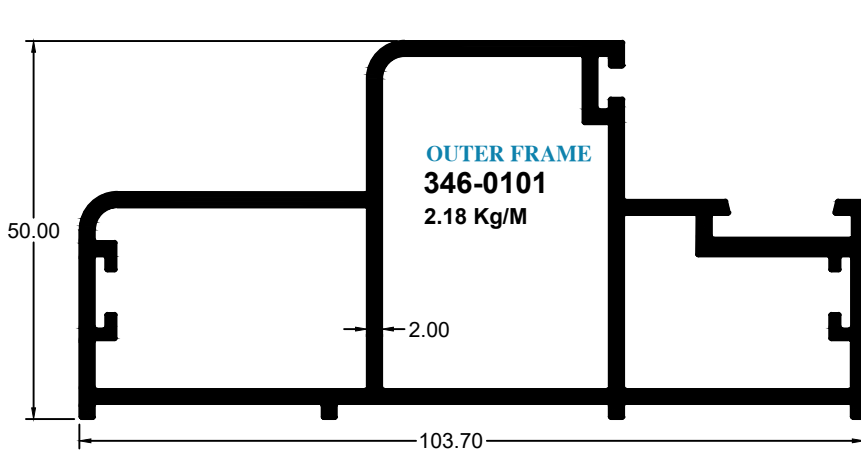
For glass size (4 - 8) mm
 (Gasket sizes vary depending on the preferred glass size)



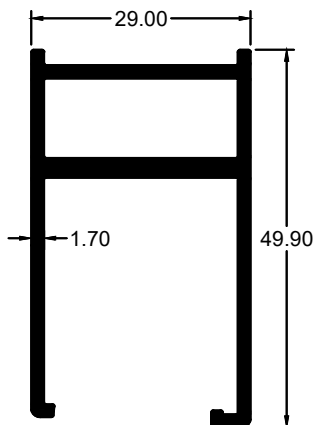
1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



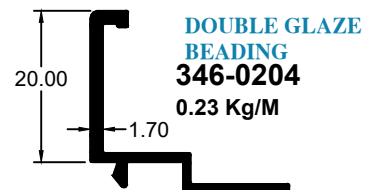
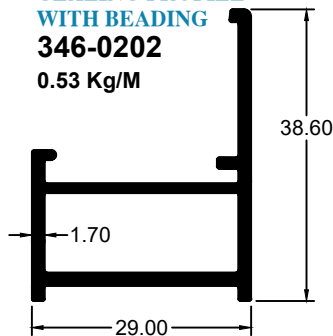
SINGLE/DOUBLE PARTITION



GLAZING PROFILE WITHOUT BEADING
346-0201
 0.82 Kg/M



GLAZING PROFILE WITH BEADING
346-0202
 0.53 Kg/M



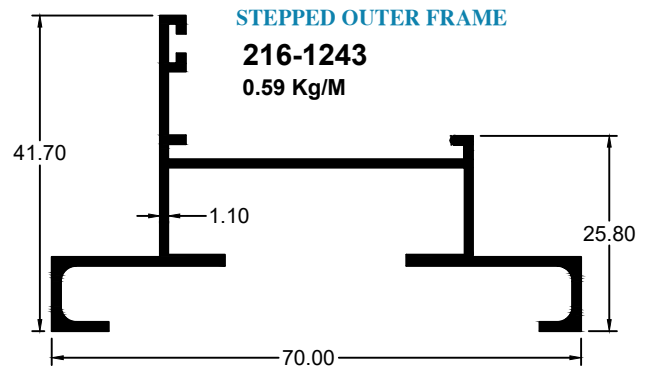
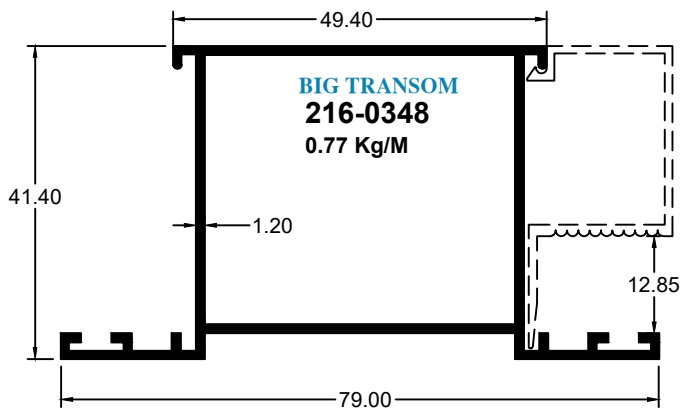
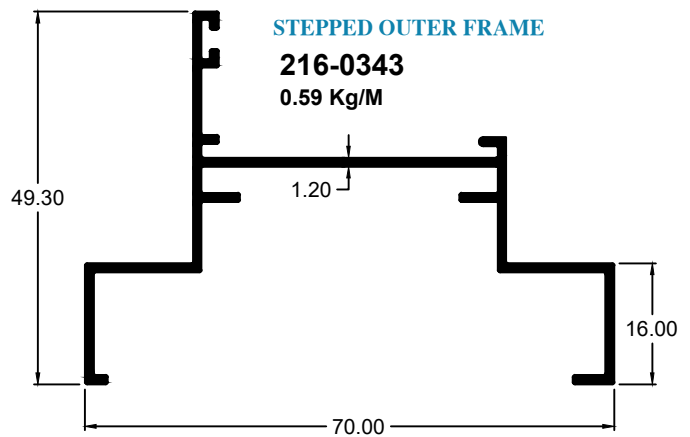
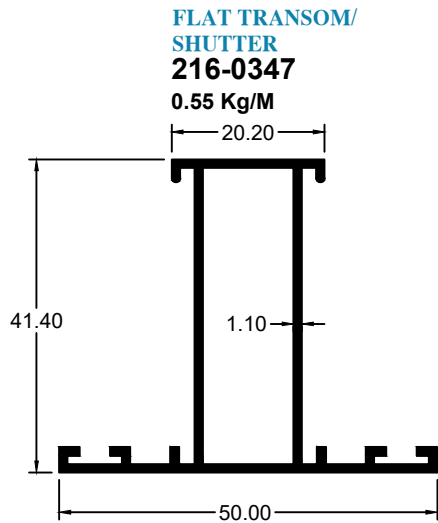
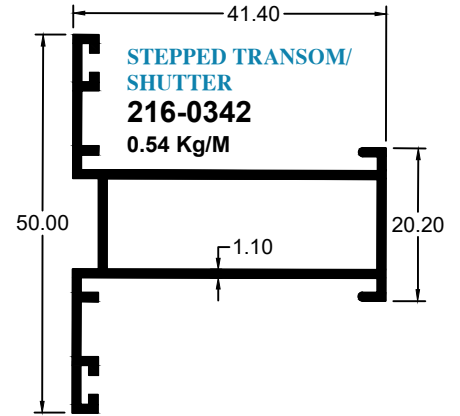
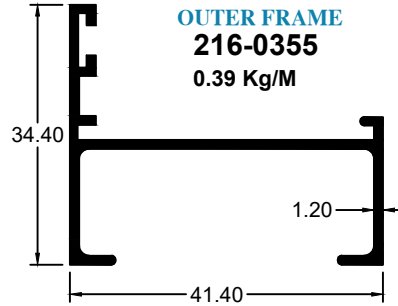
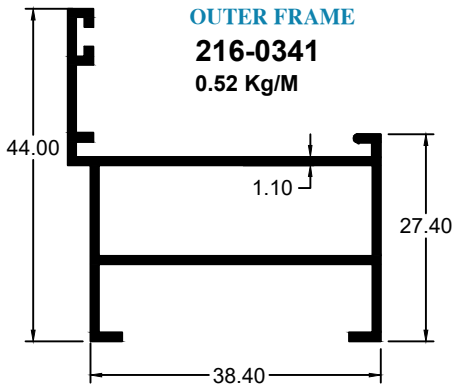
1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



PROJECTING WINDOWS



GENERAL CASEMENT

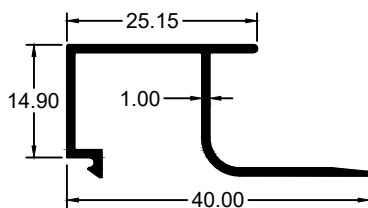


1. All dimensions are in mm
2. The weight shared is for Mill finish
3. When powder coated there will be a slight variance in weight.
Disclaimer; The right to make alterations is reserved to HAL.



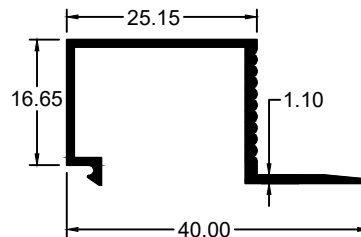
GENERAL CASEMENT

**SINGLE GLAZE
BEADING
216-0354**
0.23 Kg/M



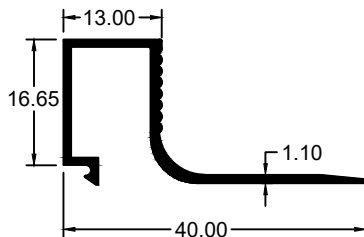
For glass size (4 - 8) mm

**SINGLE GLAZE
BEADING
216-0344**
0.25 Kg/M



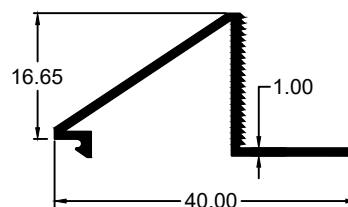
For glass size (4 - 8) mm

**DOUBLE GLAZE
BEADING
216-0349**
0.25 Kg/M



For glass size (12 - 18) mm

**SINGLE GLAZE
BEADING
343-0390**
0.22 Kg/M



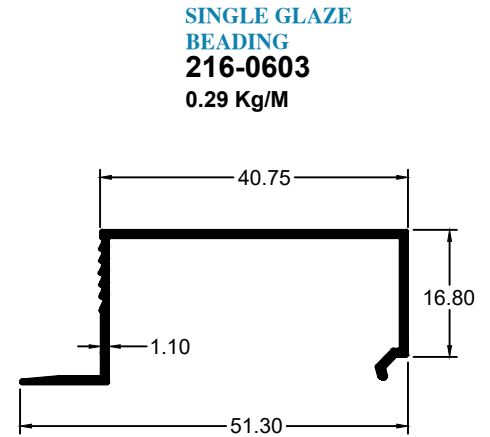
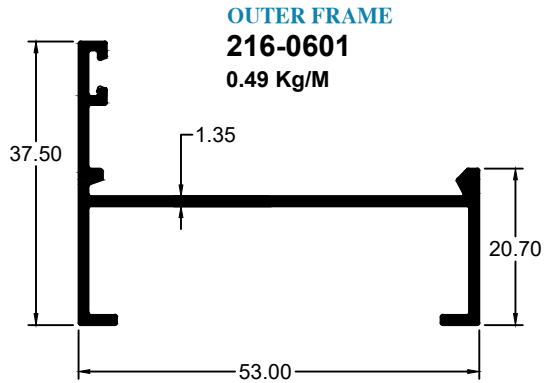
For glass size (4 - 8) mm

1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.

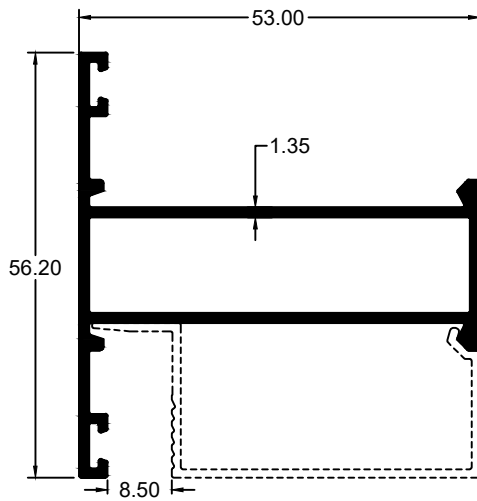
For glass size (4 - 8) mm
(Gasket sizes vary depending
on the preferred glass size)



HEAVY CASEMENT



For glass size (4 - 6) mm
(Gasket sizes vary depending
on the preferred glass size)



1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.

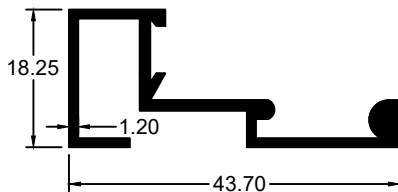


PARTITIONS SHOP-FRONTS

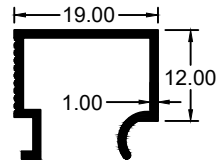


BUTTERFLY PROFILES

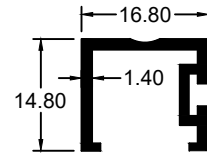
BUTTERFLY
219-0305
0.39 Kg/M



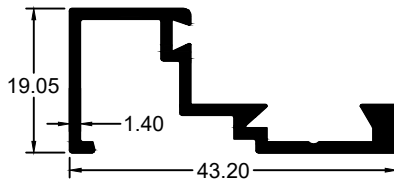
SINGLE GLAZE
BEADING
219-0340
0.17 Kg/M



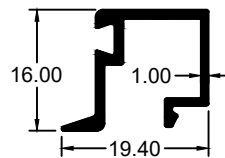
SINGLE GLAZE
BEADING
219-0308
0.21 Kg/M



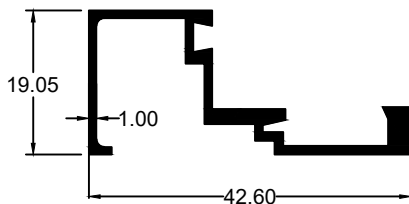
BUTTERFLY
260-1012
0.40 Kg/M



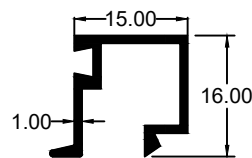
SINGLE GLAZE
BEADING
260-1021
0.20 Kg/M



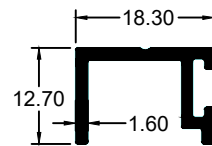
BUTTERFLY
215-8040
0.34 Kg/M



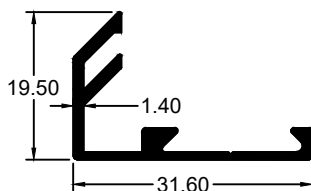
SINGLE GLAZE
BEADING
215-8045
0.18 Kg/M



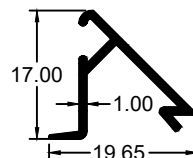
DOOR STOPPER
260-1013
0.20 Kg/M



BUTTERFLY
258-3004
0.26 Kg/M



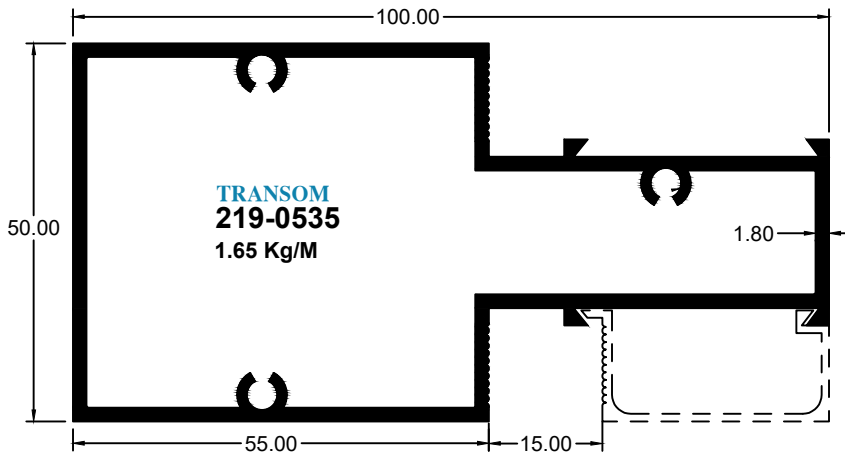
SINGLE GLAZE
BEADING
256-8003
0.13 Kg/M



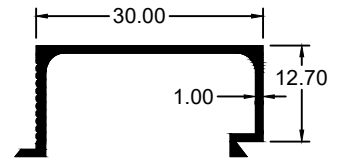
1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



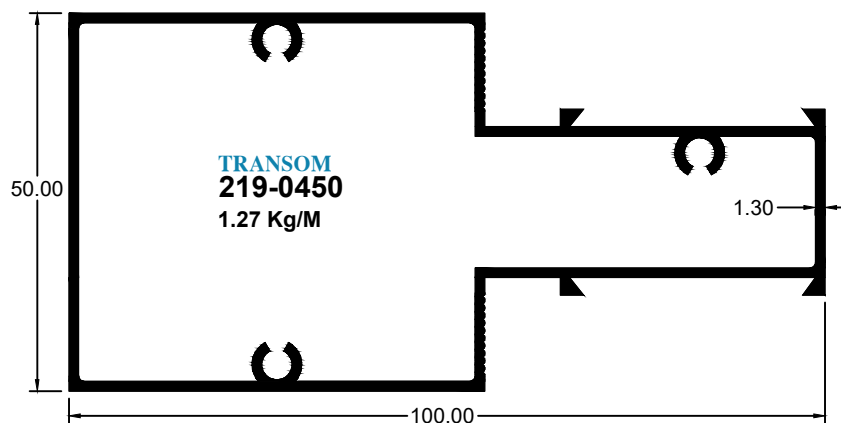
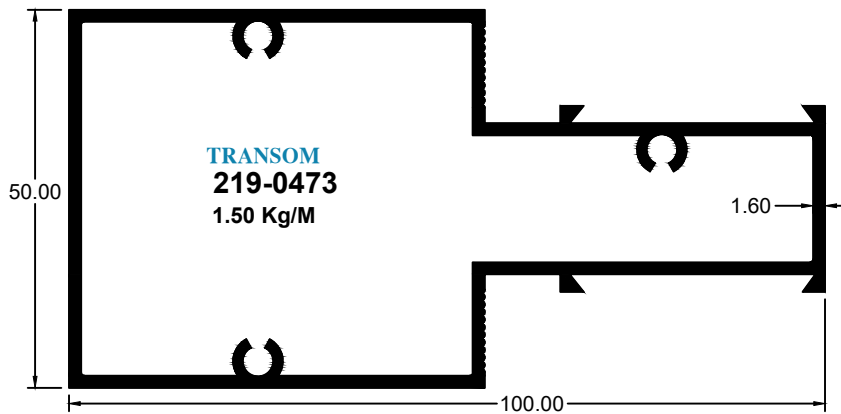
HAD 100 PARTITION SERIES



**SINGLE GLAZE
BEADING
219-0460
0.20 Kg/M**



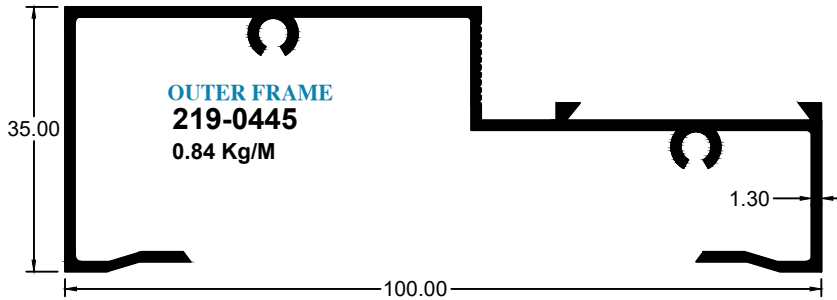
For glass size (6 - 10) mm
(Gasket sizes vary depending
on the preferred glass size)



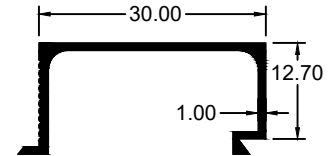
1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



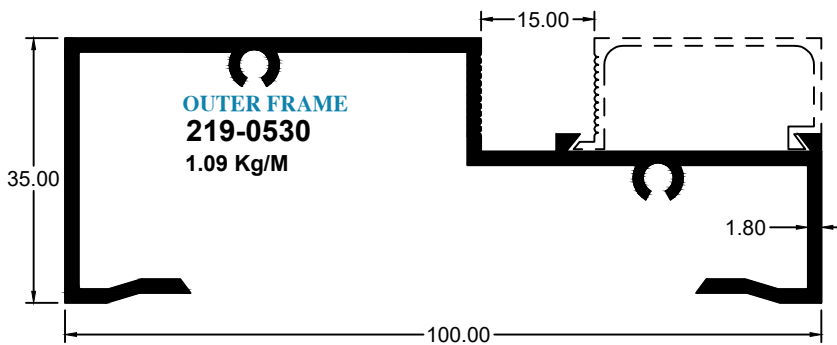
HAD 100 PARTITION SERIES



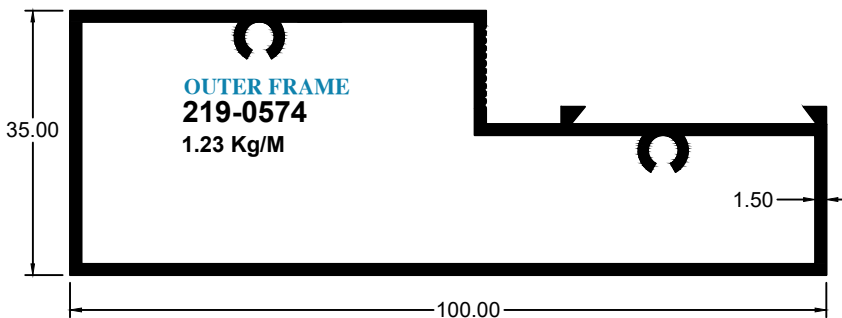
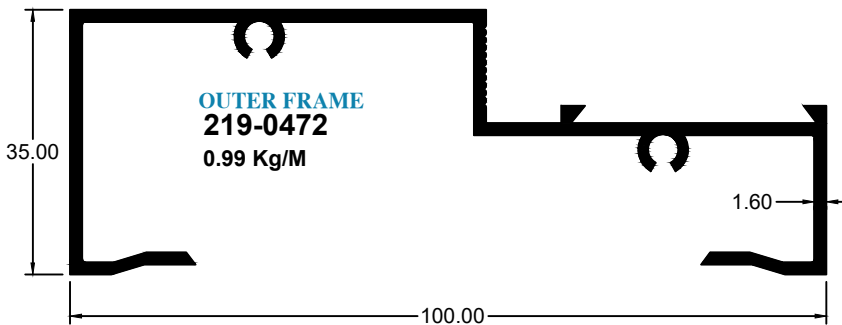
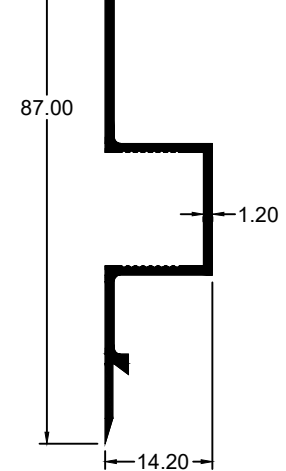
SINGLE GLAZE
BEADING
219-0460
0.20 Kg/M



For glass size (6 - 10) mm
(Gasket sizes vary depending
on the preferred glass size)



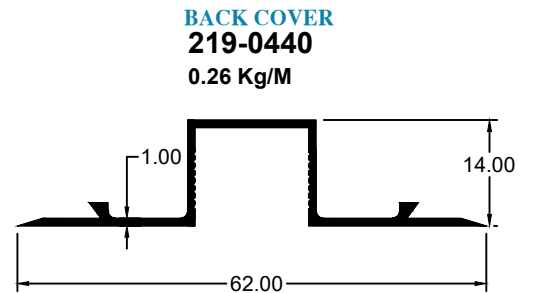
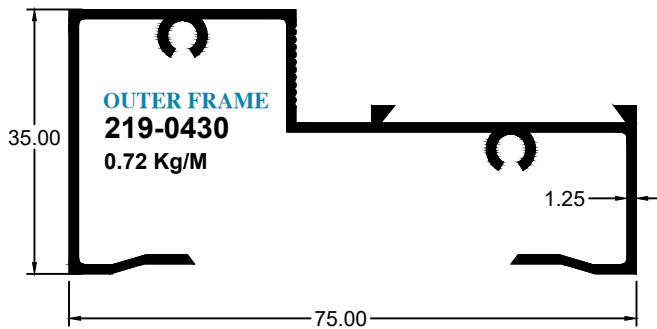
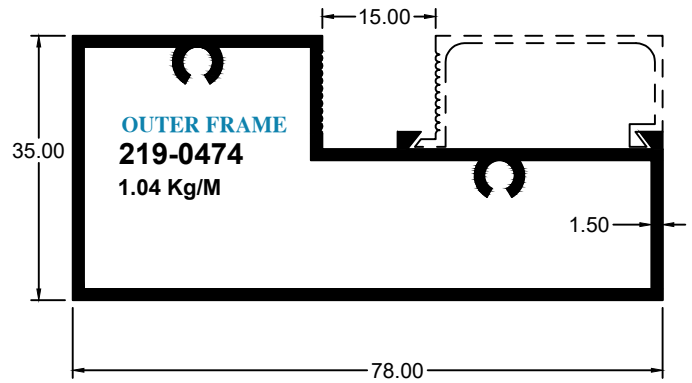
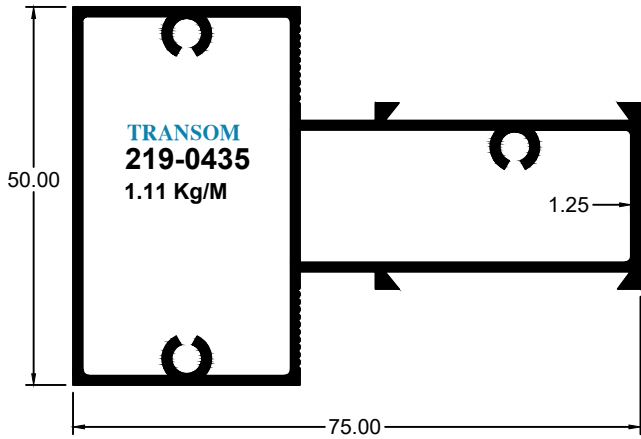
BACK COVER
219-0455
0.39 Kg/M



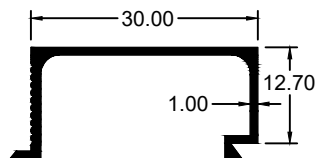
1. All dimensions are in mm
2. The weight shared is for Mill finish
3. When powder coated there will be a slight variance in weight.
Disclaimer; The right to make alterations is reserved to HAL.



HAD 75 PARTITION SERIES



**SINGLE GLAZE
BEADING
219-0460
0.20 Kg/M**

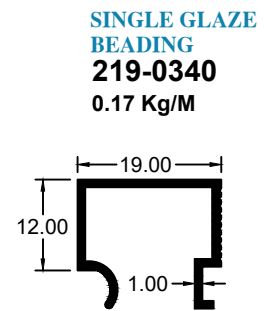
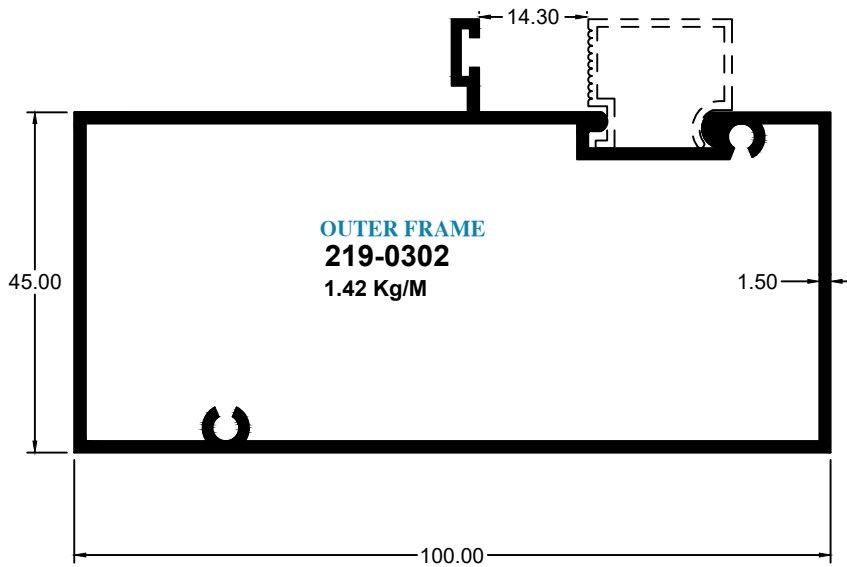


For glass size (6 - 10) mm
(Gasket sizes vary depending
on the preferred glass size)

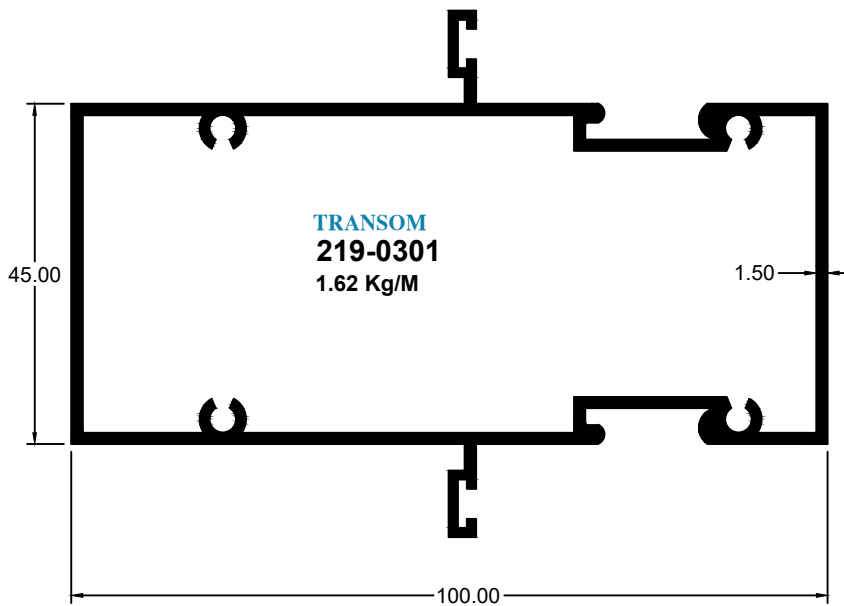
1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



HAD PARTITION SERIES



For glass size (6 - 10) mm
(Gasket sizes vary depending on the preferred glass size)

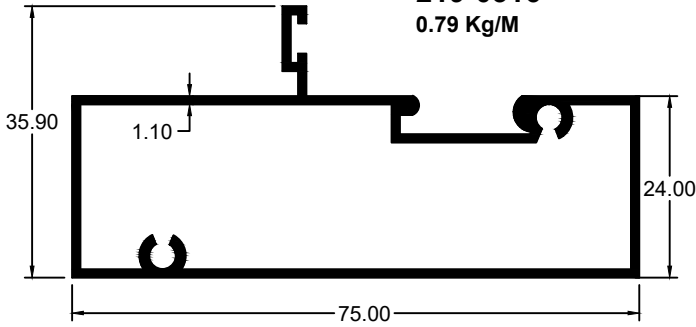


1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.

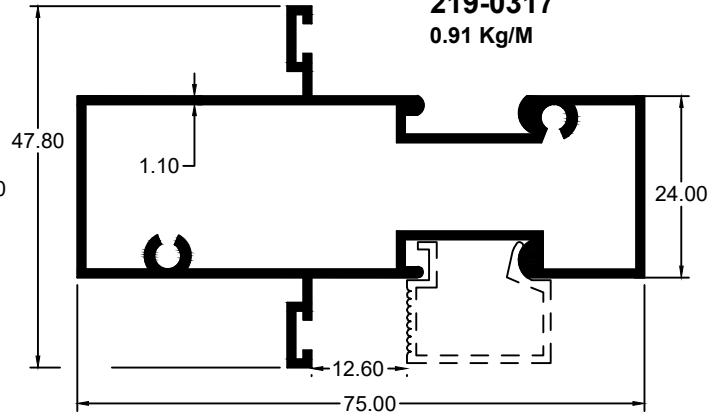


HAD PARTITION SERIES

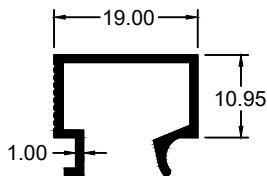
OUTER FRAME
219-0316
0.79 Kg/M



TRANSOM
219-0317
0.91 Kg/M

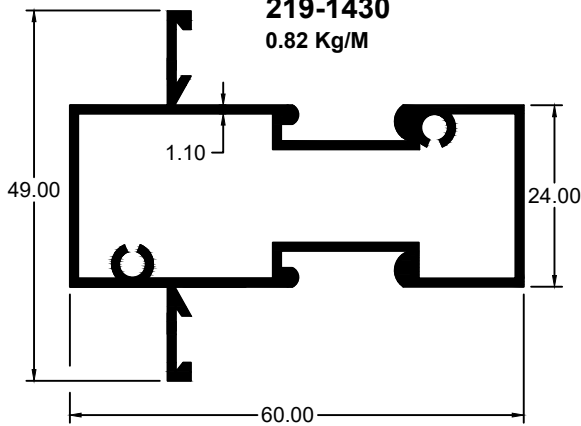


SINGLE GLAZE
BEADING
219-0318
0.17 Kg/M

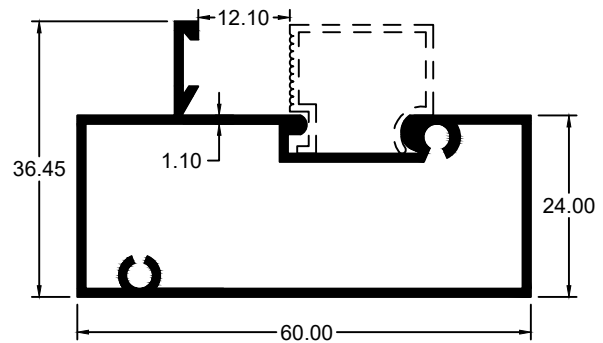


For glass size (4 - 8) mm
(Gasket sizes vary depending on the preferred glass size)

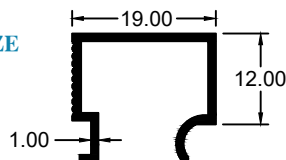
TRANSOM
219-1430
0.82 Kg/M



OUTER FRAME
219-1435
0.69 Kg/M



SINGLE GLAZE
BEADING
219-0340
0.17 Kg/M



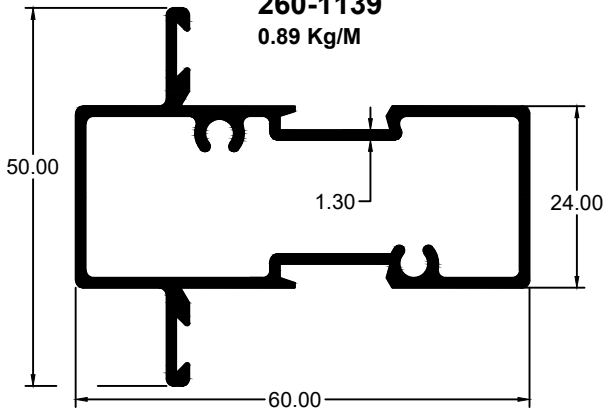
For glass size (4 - 8) mm
(Gasket sizes vary depending on the preferred glass size)

1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.

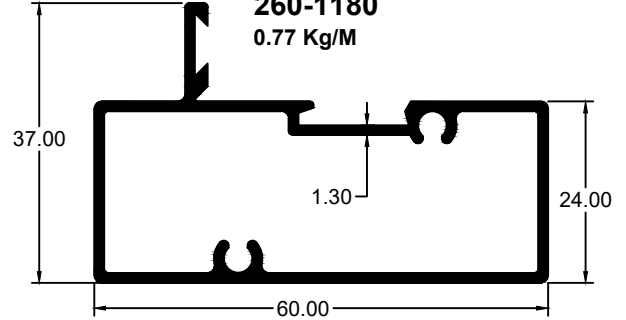


FIXED PARTITION SERIES

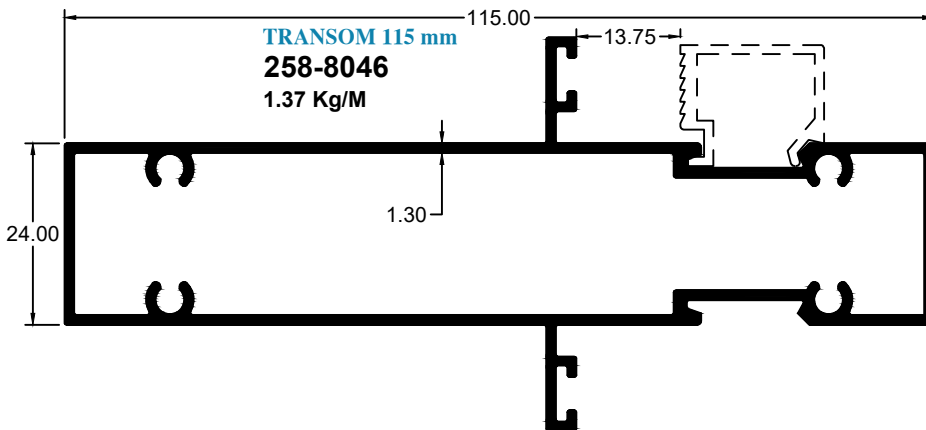
TRANSOM 60 mm
260-1139
0.89 Kg/M



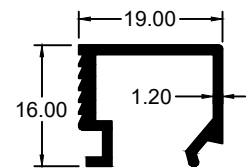
OUTER FRAME 60 mm
260-1180
0.77 Kg/M



TRANSOM 115 mm
258-8046
1.37 Kg/M

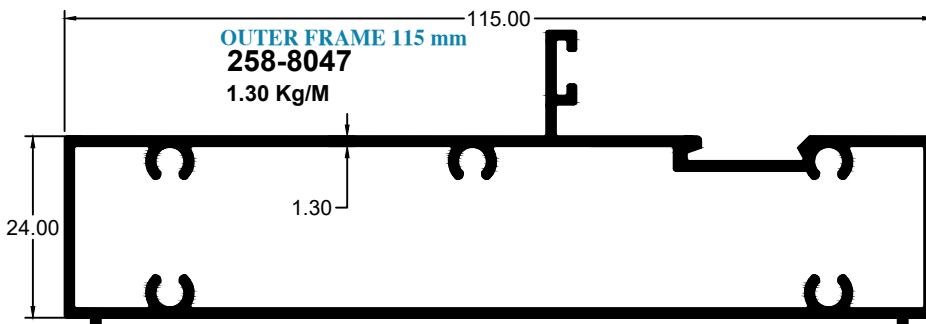


SINGLE GLAZE BEADING
260-1142
0.22 Kg/M



For glass size (6 - 10) mm
(Gasket sizes vary depending on the preferred glass size)

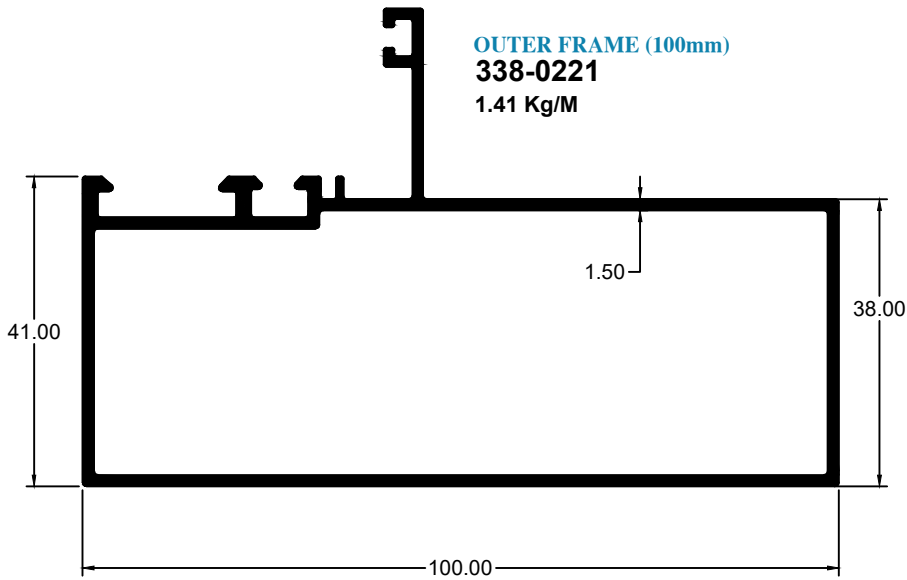
OUTER FRAME 115 mm
258-8047
1.30 Kg/M



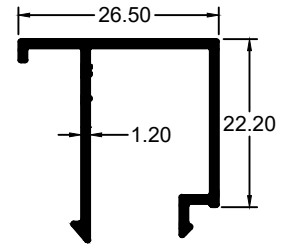
1. All dimensions are in mm
2. The weight shared is for Mill finish
3. When powder coated there will be a slight variance in weight.
Disclaimer; The right to make alterations is reserved to HAL.



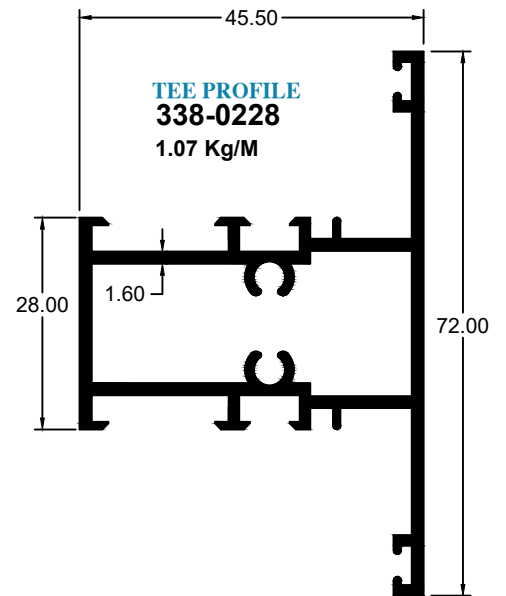
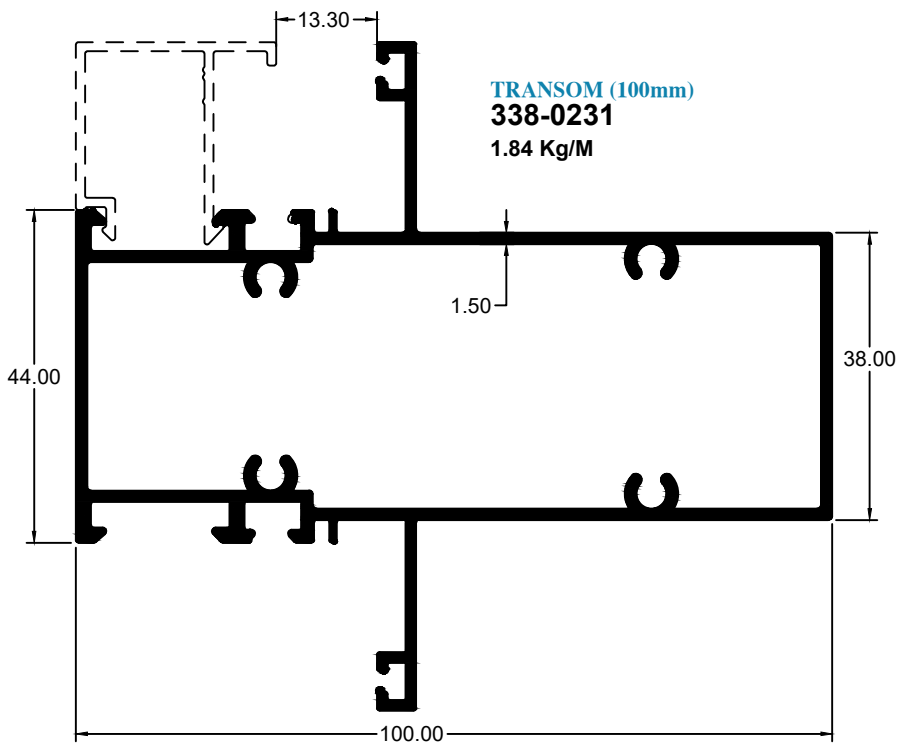
FIXED 100 PARTITION SERIES



**SINGLE GLAZE
BEADING**
338-0110
0.29 Kg/M



For glass size (4 - 8) mm
(Gasket sizes vary depending
on the preferred glass size)

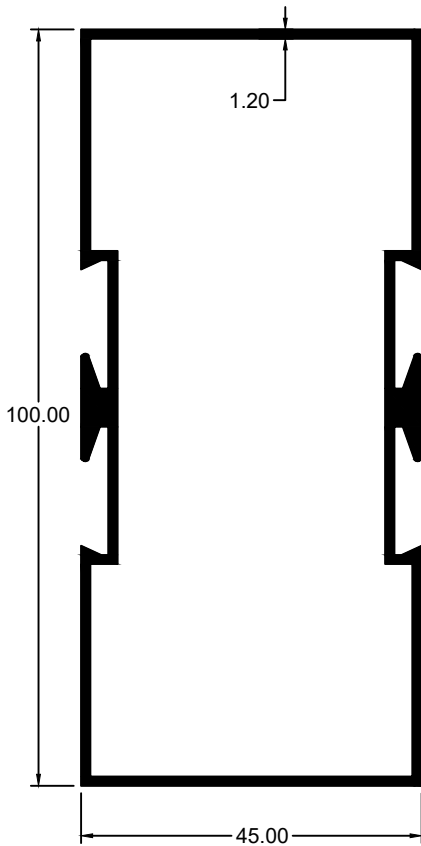


1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.

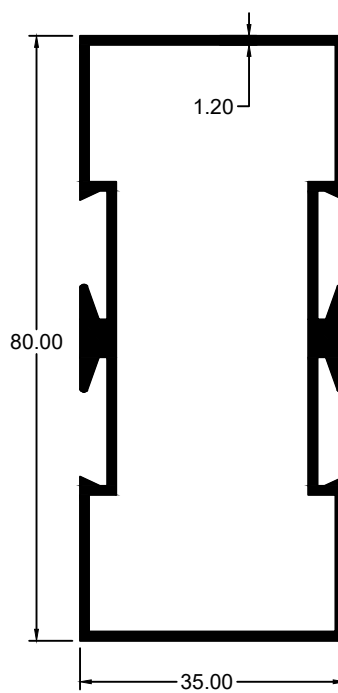


HAD DOUBLE BEADING PARTITION SERIES

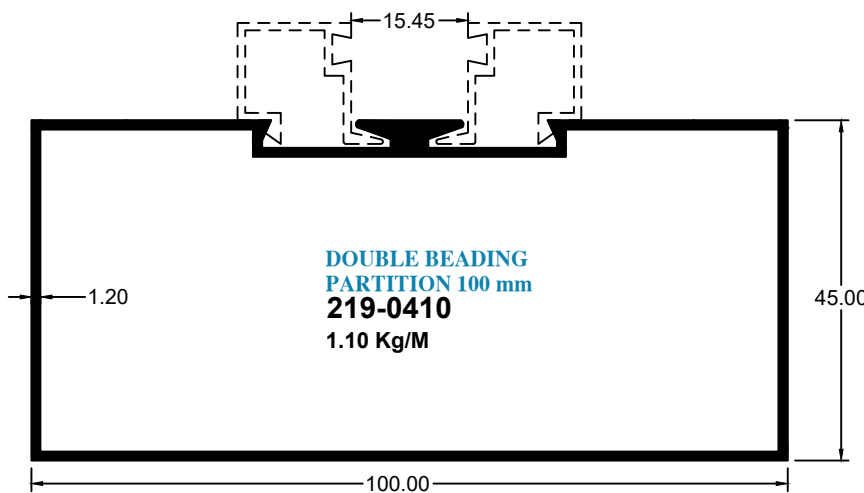
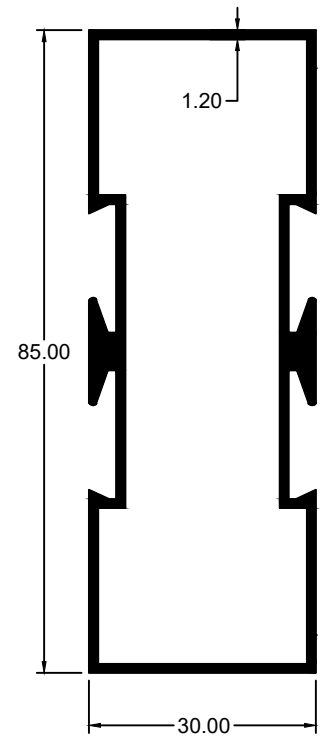
**DOUBLE BEADING
PARTITION 100 mm
219-0415
1.23 Kg/M**



**DOUBLE BEADING
PARTITION 80 mm
219-0420
1.03 Kg/M**

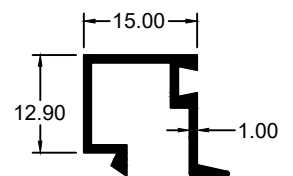


**DOUBLE BEADING
PARTITION 85 mm
219-0425
1.03 Kg/M**



**DOUBLE BEADING
PARTITION 100 mm
219-0410
1.10 Kg/M**

**SINGLE GLAZE
BEADING
215-8045
0.18 Kg/M**



For glass size (4 - 10) mm
(Gasket sizes vary depending
on the preferred glass size)

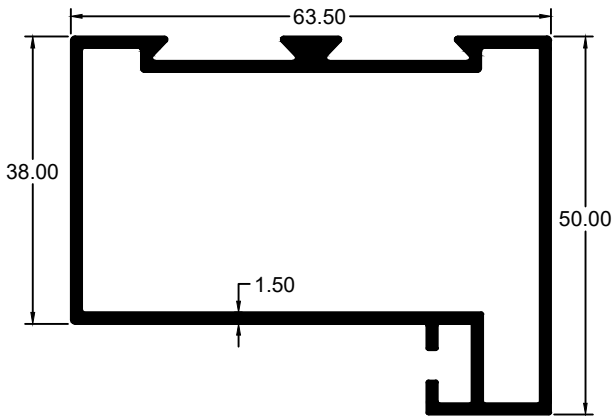
1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



63 DOUBLE BEADING PARTITION

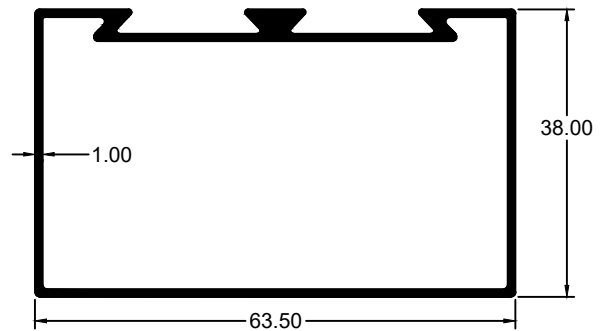
DOUBLE BEADING WITH
DOOR PARTITION 63.5 mm

256-8007
1.10 Kg/M



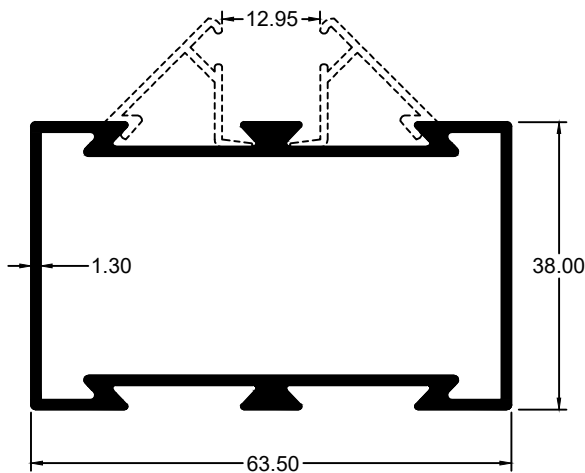
DOUBLE BEADING OUTER
PARTITION 63.5 mm

256-8008
0.68 Kg/M



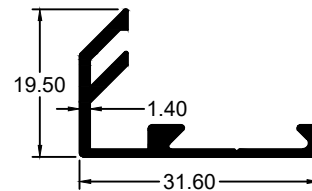
DOUBLE BEADING TRANSOM
PARTITION 63.5 mm

256-8001
0.99 Kg/M



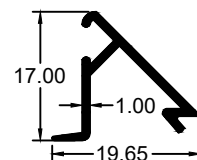
BUTTERFLY

258-3004
0.26 Kg/M



SINGLE GLAZE
BEADING

256-8003
0.13 Kg/M

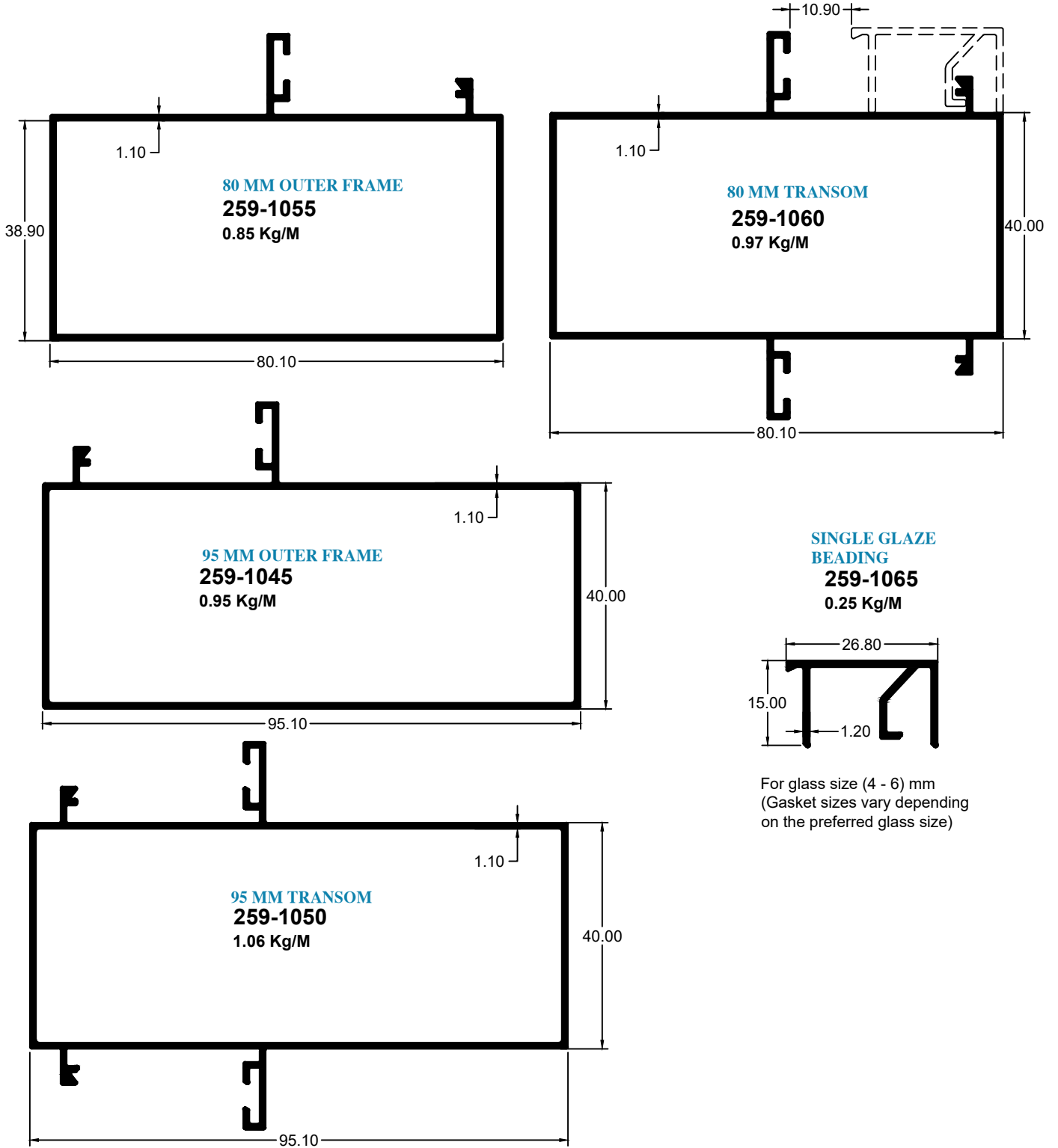


For glass size (4 - 8) mm
(Gasket sizes vary depending
on the preferred glass size)

1. All dimensions are in mm
2. The weight shared is for Mill finish
3. When powder coated there will be a slight variance in weight.
Disclaimer; The right to make alterations is reserved to HAL.



HYD PARTITION SERIES



- 1. All dimensions are in mm
 - 2. The weight shared is for Mill finish
 - 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.

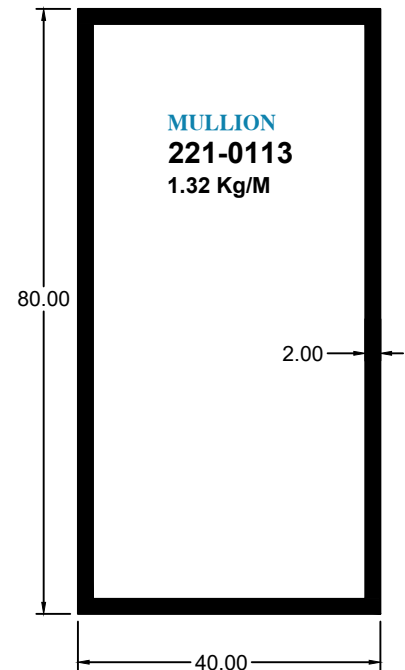
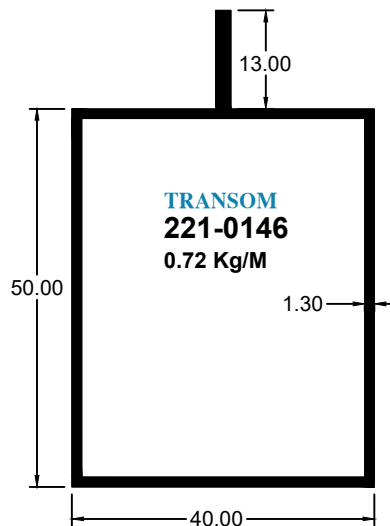
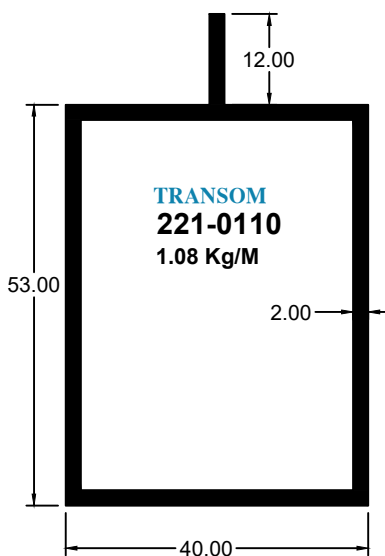
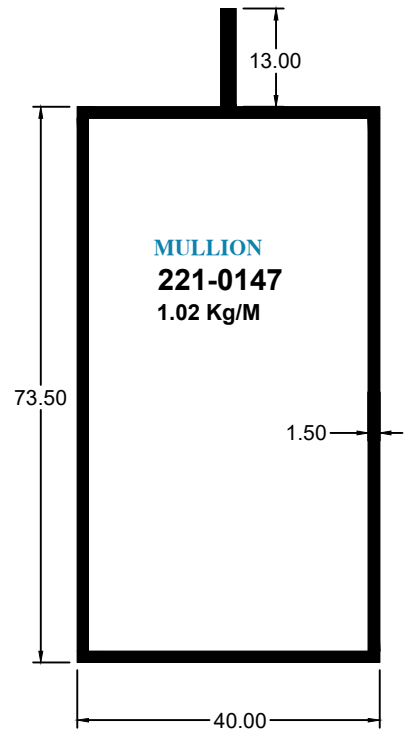
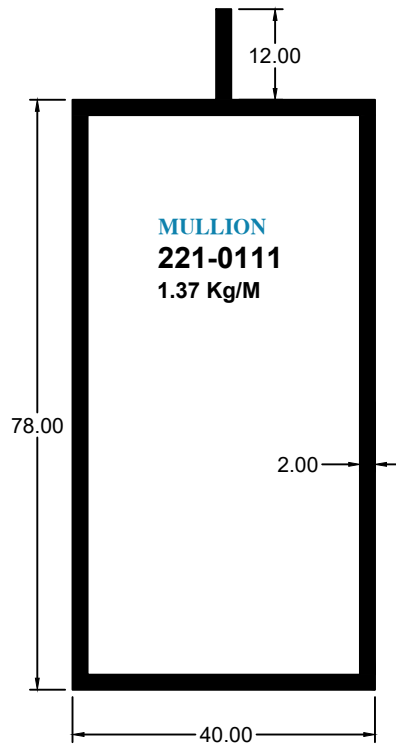
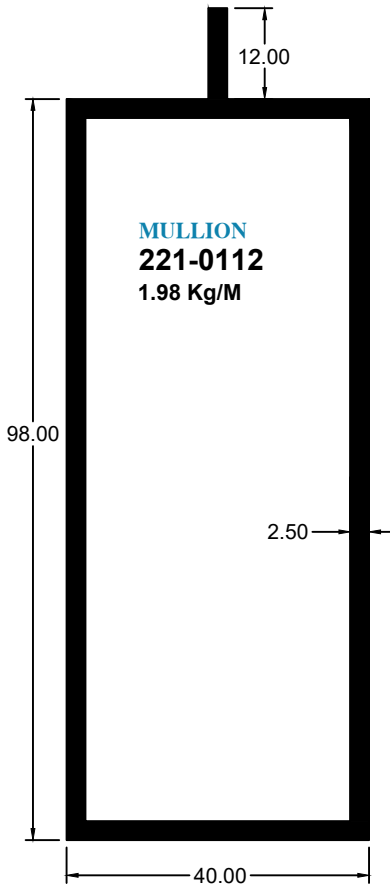


FACADES

**CURTAIN
WALLING**



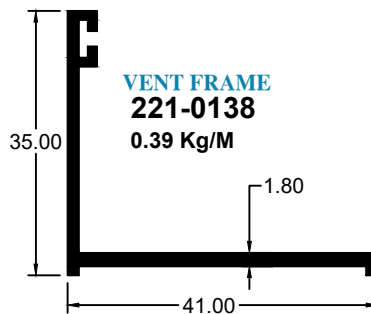
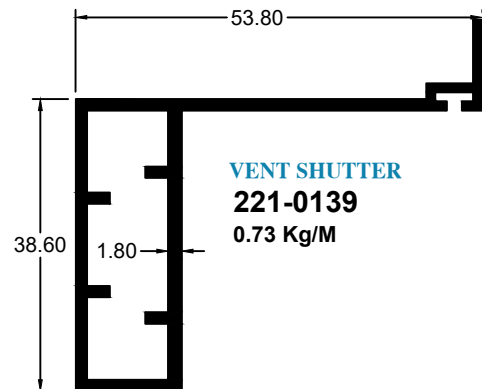
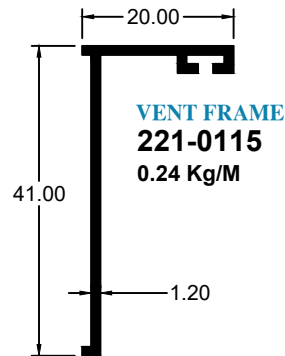
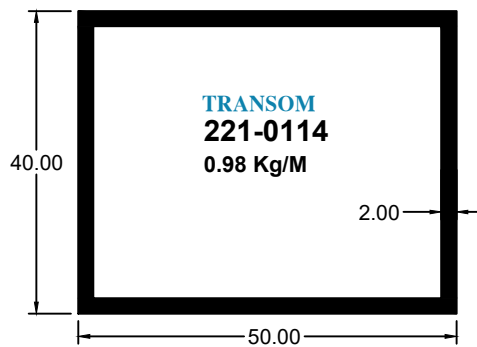
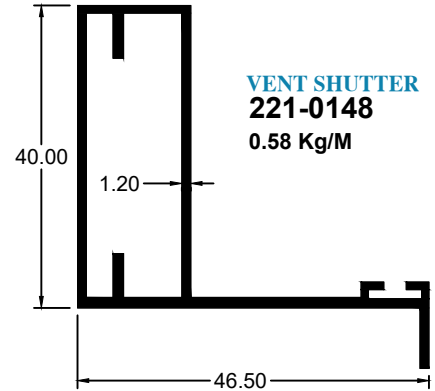
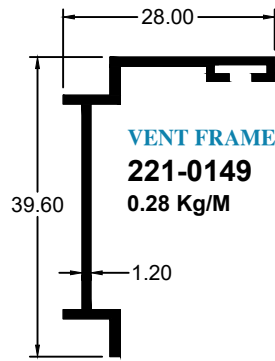
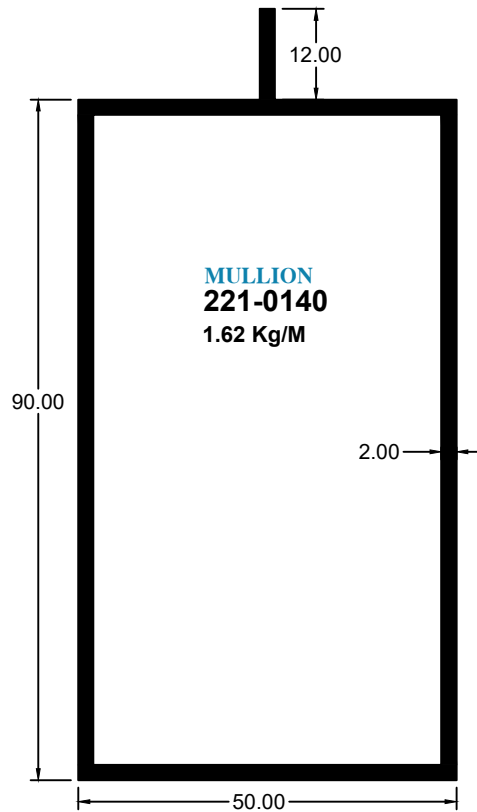
FACADE 40 SERIES



1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



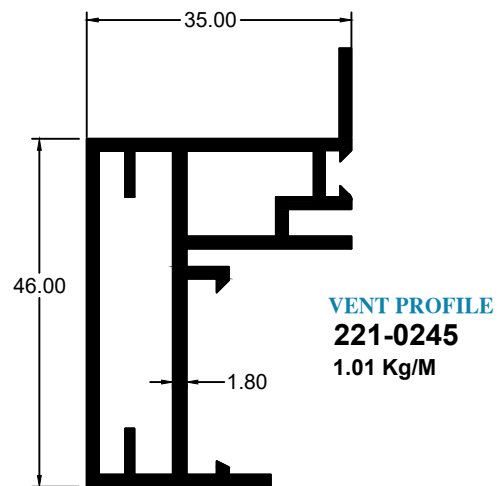
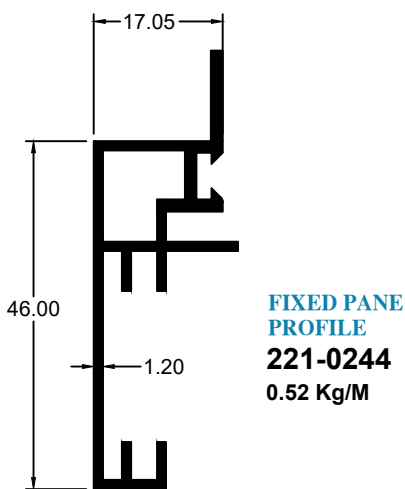
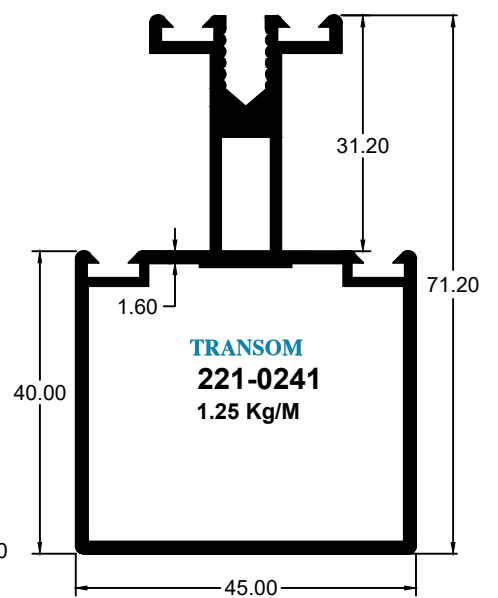
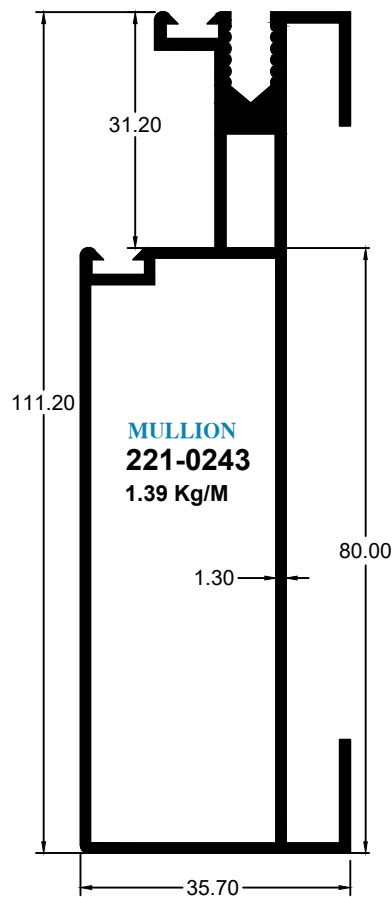
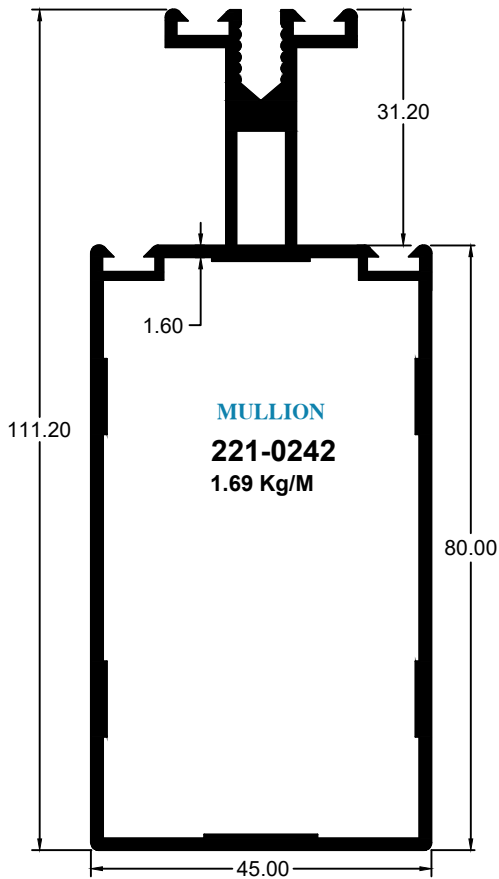
FACADE 40 SERIES



1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



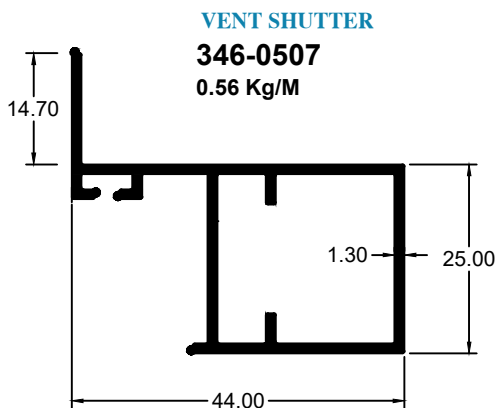
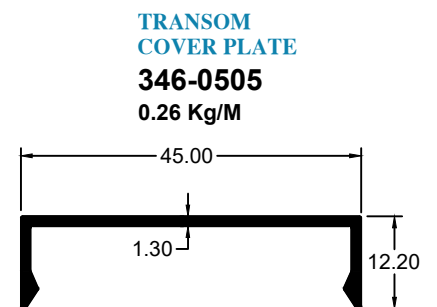
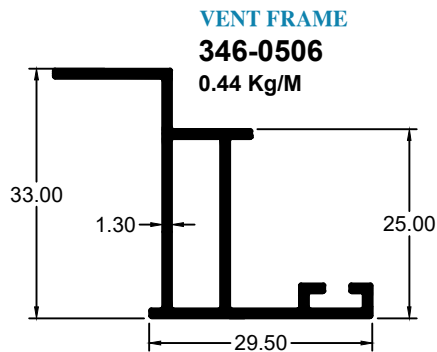
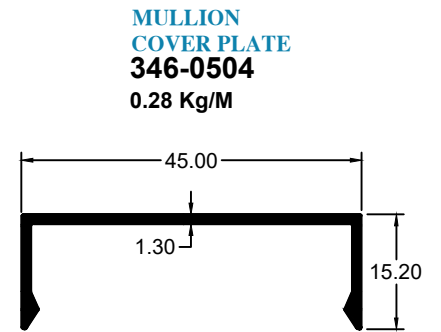
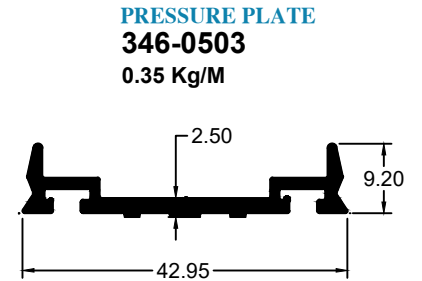
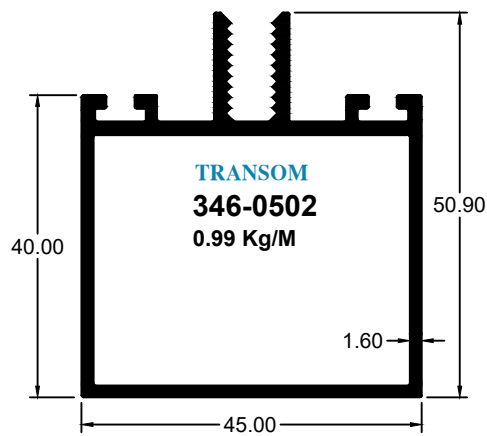
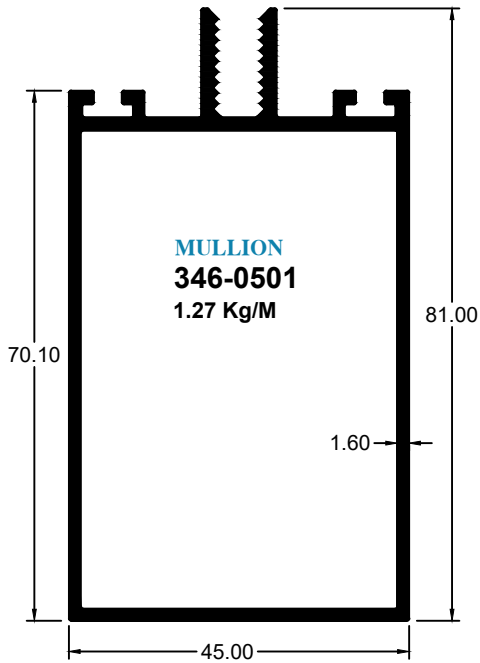
FLASH-GLAZING 45 SERIES



1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



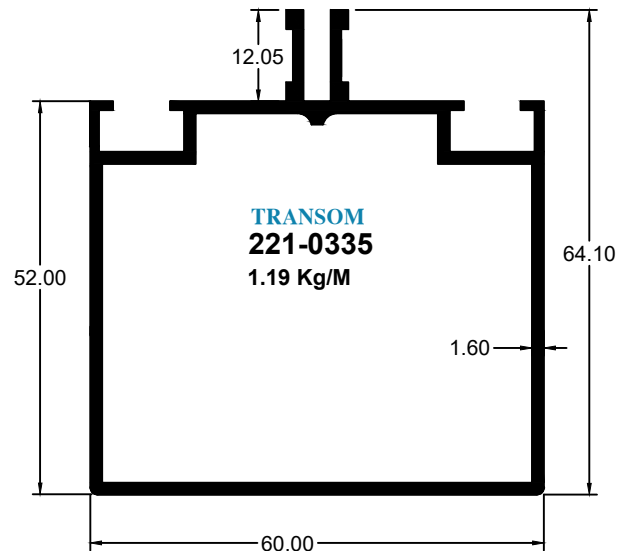
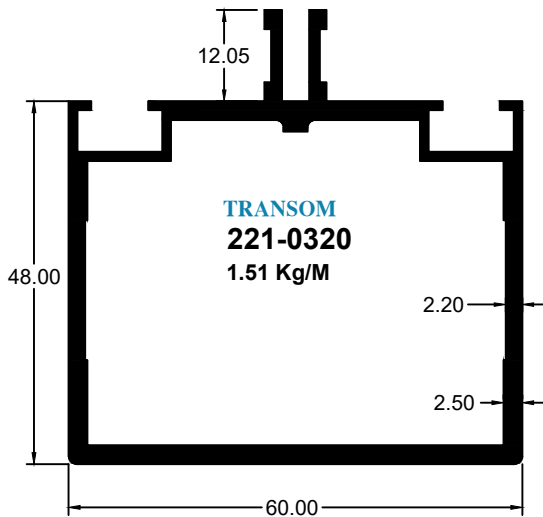
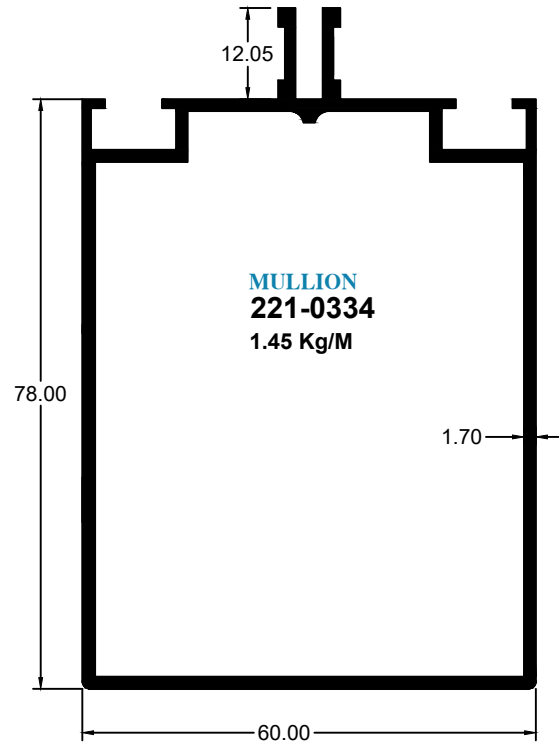
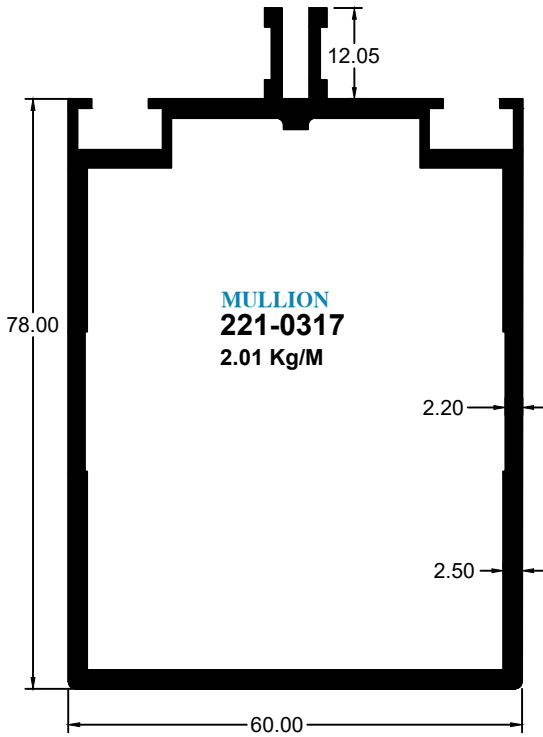
FACADE 45 SERIES



1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



FACADE 60 SERIES

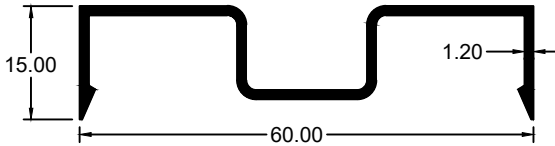


1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.

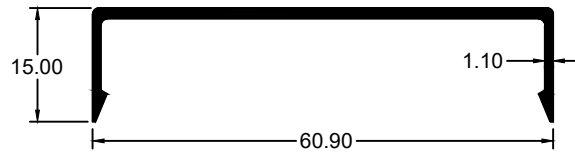


FACADE 60 SERIES

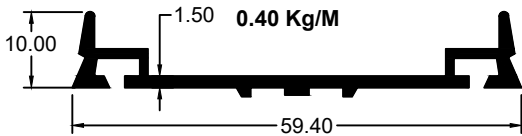
COVER PLATE
221-0325
0.37 Kg/M



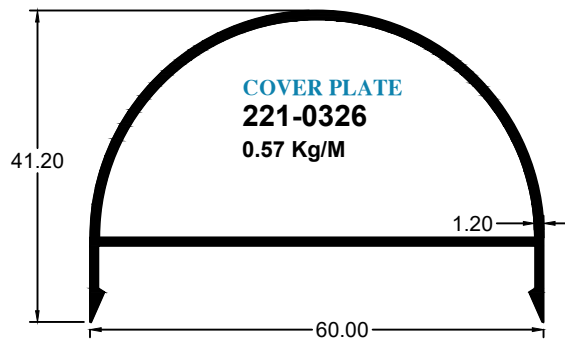
COVER PLATE
221-0329
0.33 Kg/M



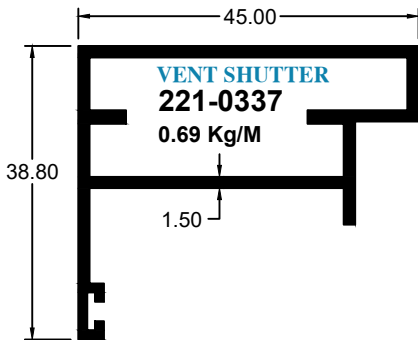
PRESSURE PLATE
221-0328
0.40 Kg/M



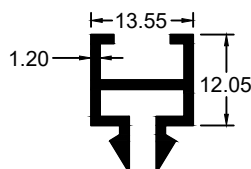
COVER PLATE
221-0326
0.57 Kg/M



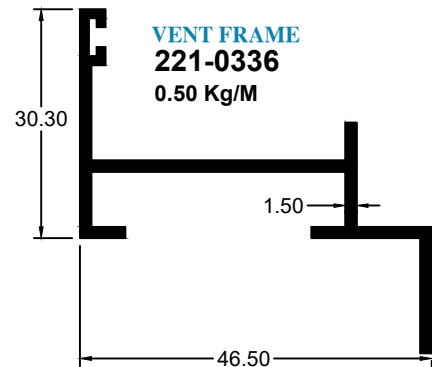
VENT SHUTTER
221-0337
0.69 Kg/M



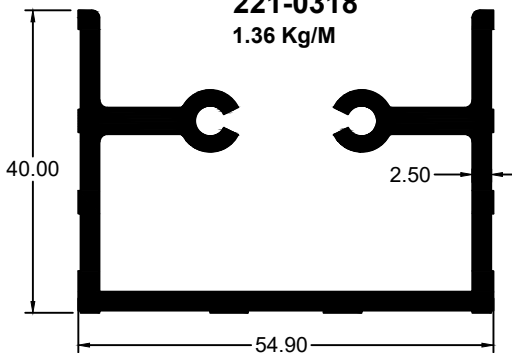
SPACER
221-0331
0.21 Kg/M



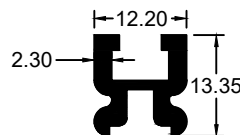
VENT FRAME
221-0336
0.50 Kg/M



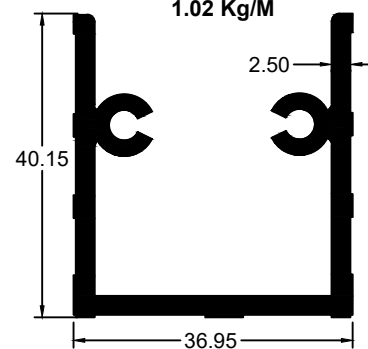
JOINING BRACKET
221-0318
1.36 Kg/M



SPACER
221-0330
0.23 Kg/M



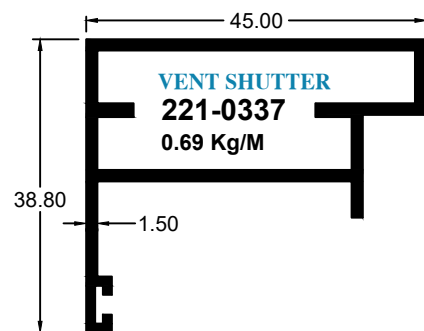
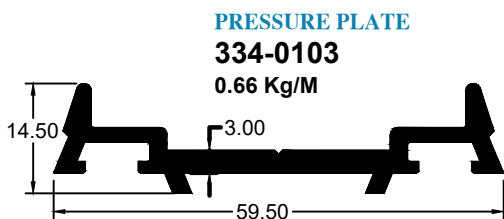
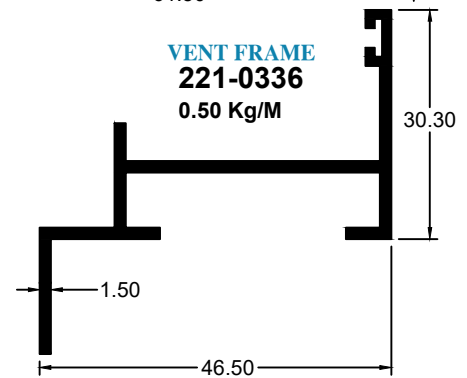
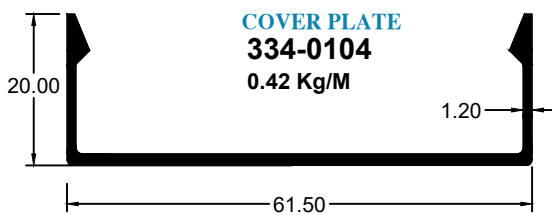
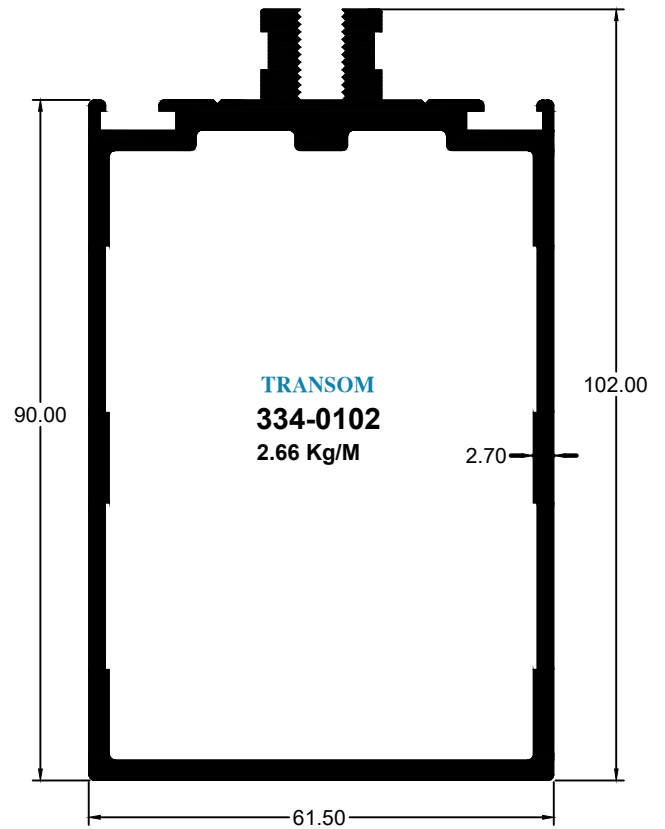
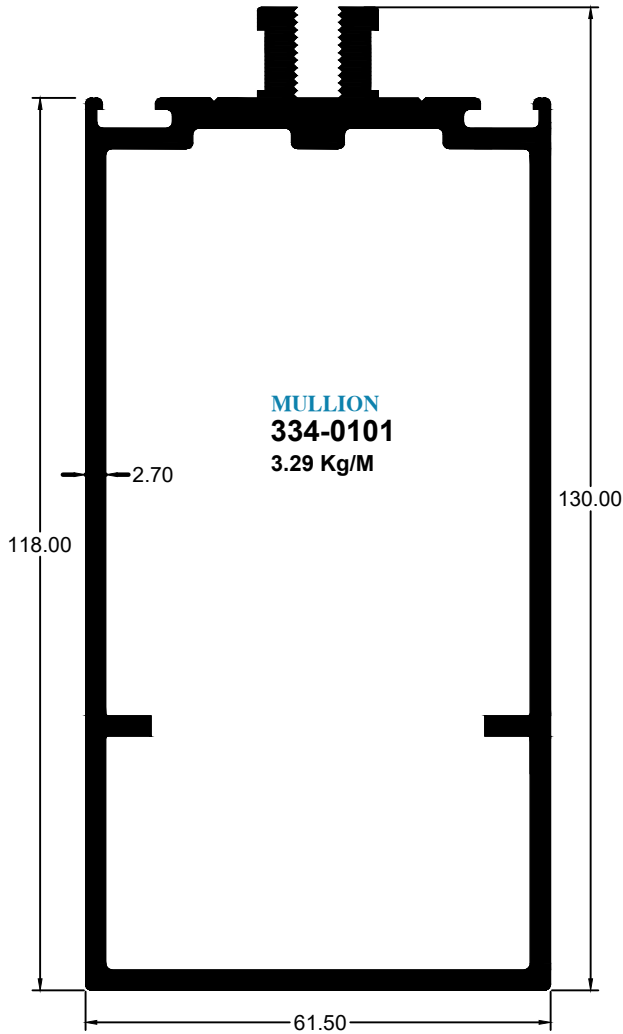
JOINING BRACKET
221-0319
1.02 Kg/M



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FACADE 60 DELUXE SERIES



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 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



JOINING CLEATS

LADDERS

AUTOMOTIVE

LOUVRES

SUN BREAKERS

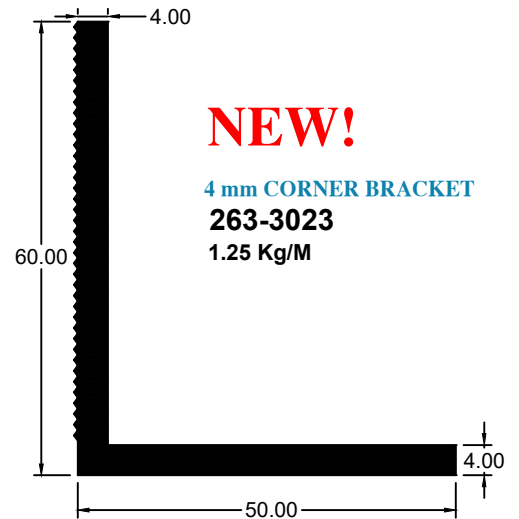
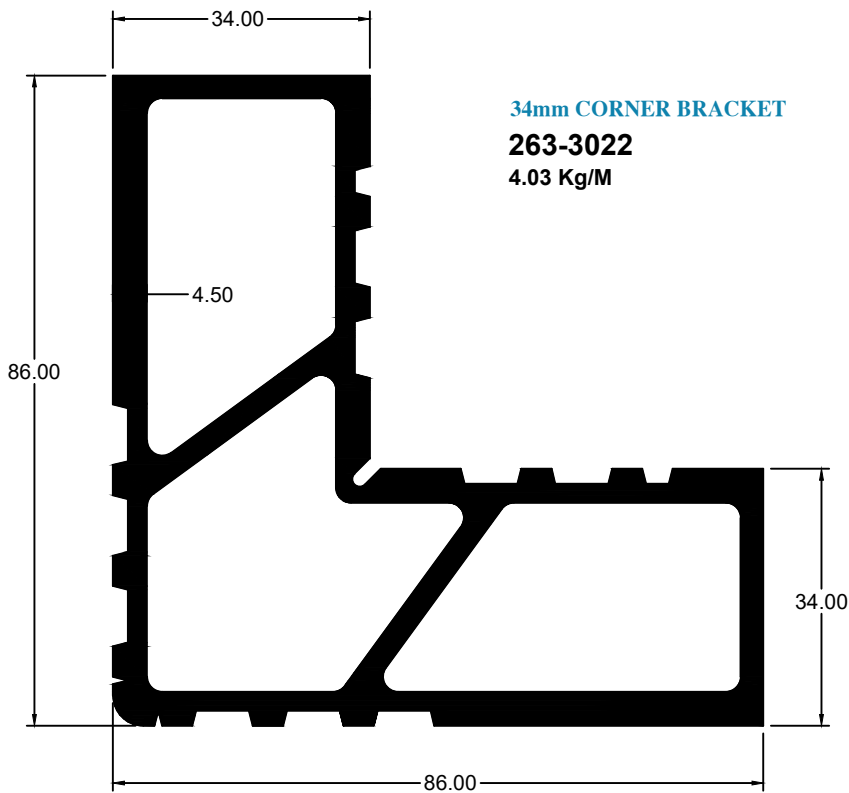
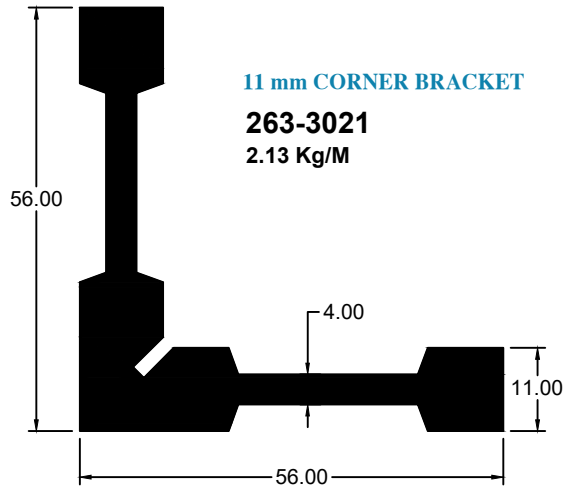
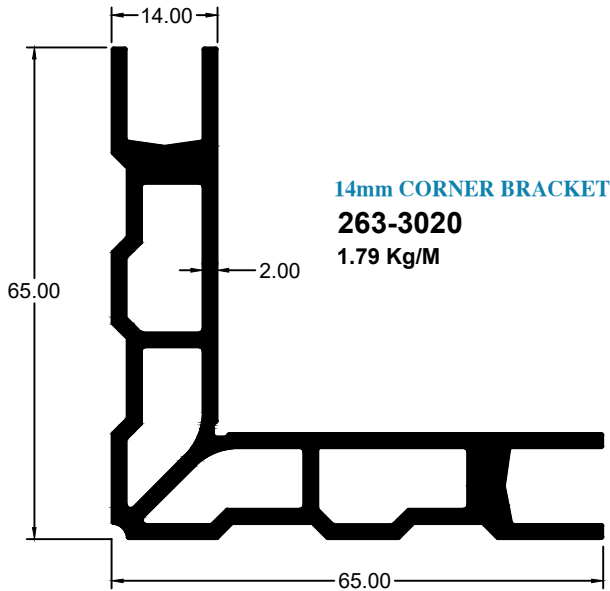
ROLLING SHUTTERS

SOLAR

GENERAL PROFILES



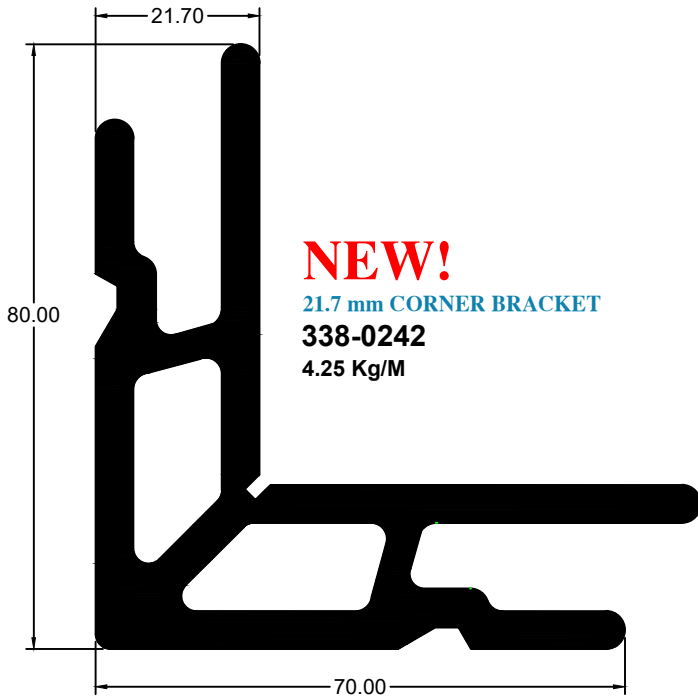
JOINING CLEATS



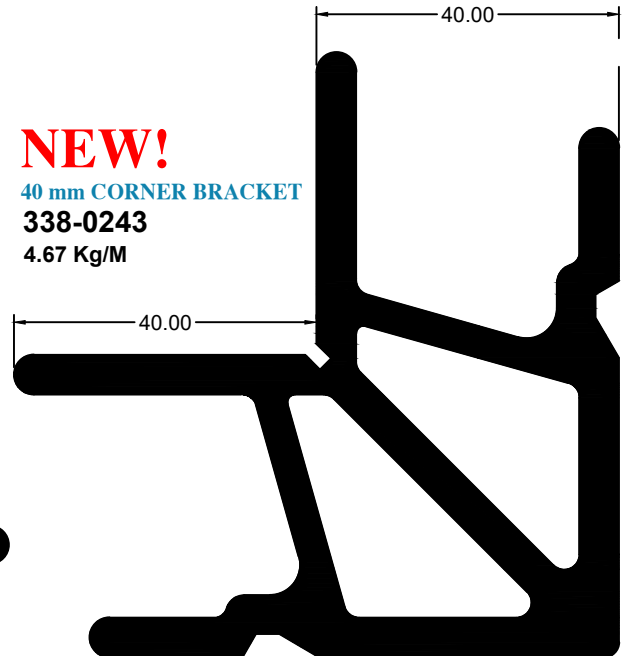
1. All dimensions are in mm
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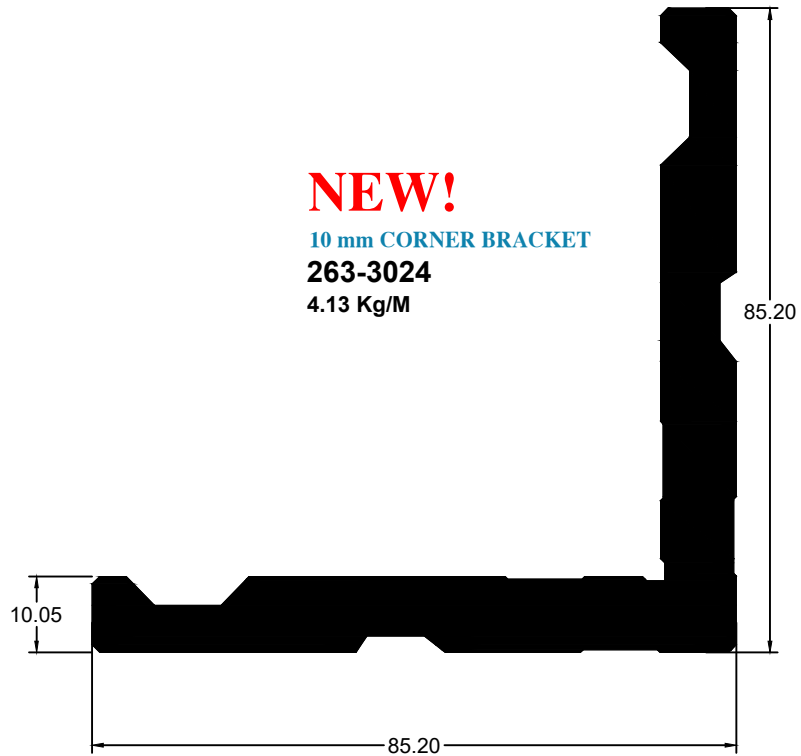
JOINING CLEATS



NEW!
21.7 mm CORNER BRACKET
338-0242
4.25 Kg/M



NEW!
40 mm CORNER BRACKET
338-0243
4.67 Kg/M

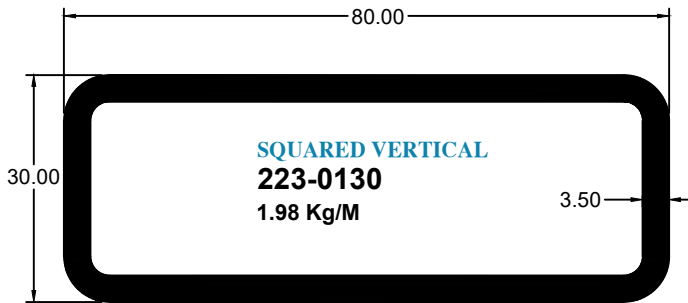


NEW!
10 mm CORNER BRACKET
263-3024
4.13 Kg/M

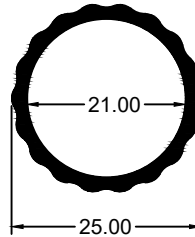
1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
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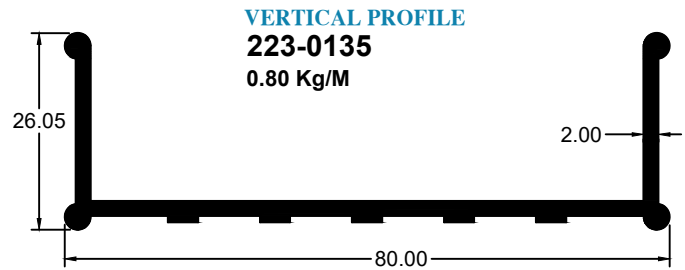
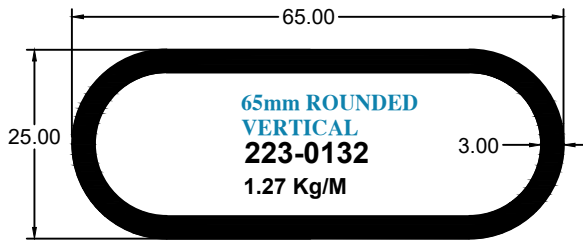
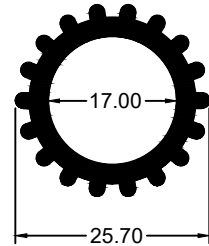
LADDER PROFILES



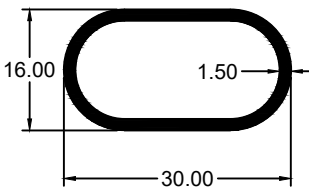
STEPPING ROD
223-0131
0.36 Kg/M



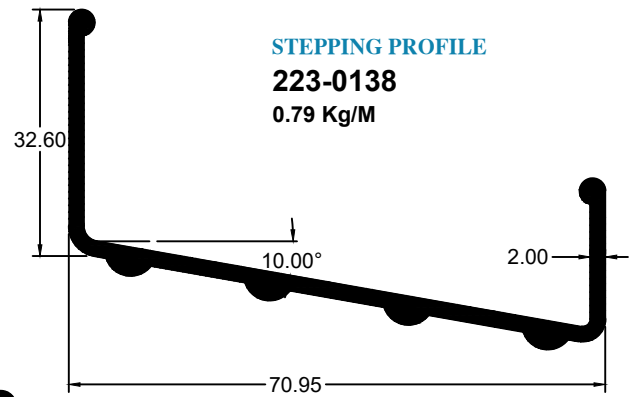
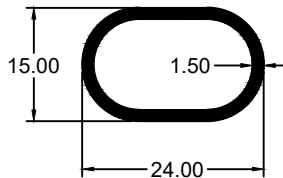
STEPPING ROD
223-0133
0.61 Kg/M



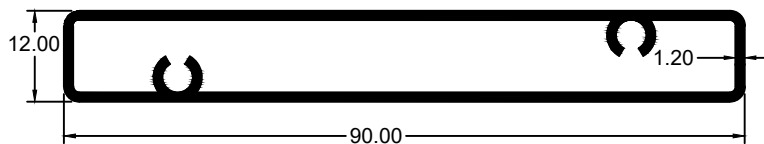
30mm ROUNDED VERTICAL
223-0134
0.32 Kg/M



24mm ROUNDED VERTICAL
223-0136
0.26 Kg/M



90mm RECTANGULAR PROFILE
223-0137
0.74 Kg/M

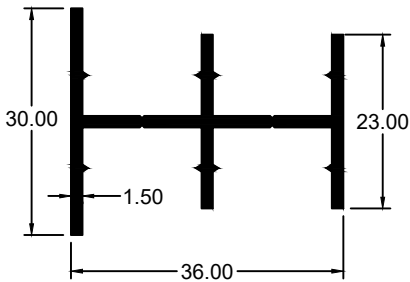


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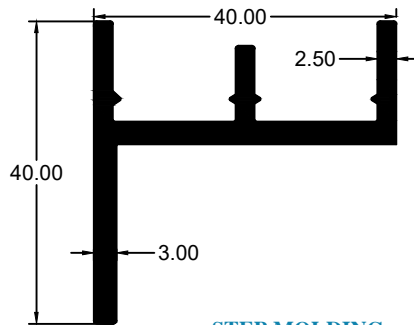


AUTOMOTIVE WINDOW

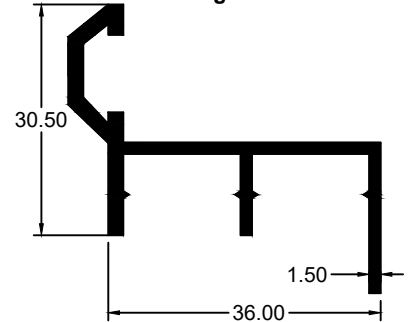
WINDOW PARTITION
225-1050
0.47 Kg/M



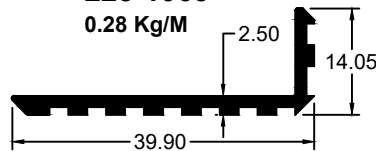
WINDOW FRAME
225-1052
0.81 Kg/M



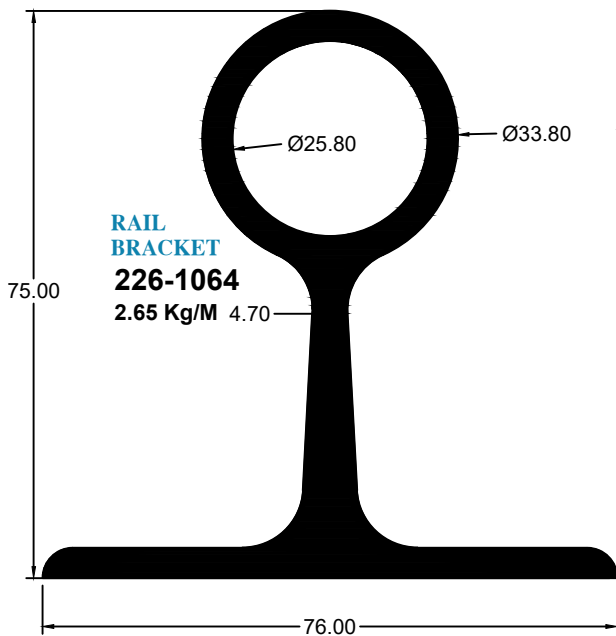
WINDOW FRAME
226-1082
0.50 Kg/M



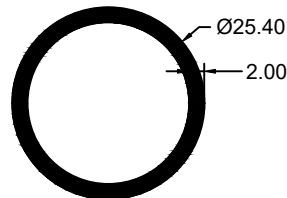
STEP MOLDING
225-1063
0.28 Kg/M



RAIL BRACKET
226-1064
2.65 Kg/M 4.70



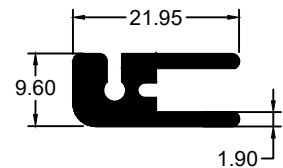
ROUND PROFILE
225-1060
0.42 Kg/M



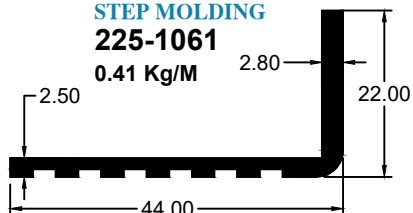
DECORATIVE MOLDING
226-1073
0.10 Kg/M



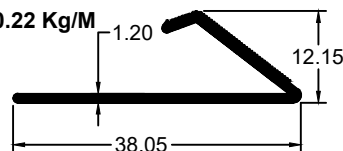
GLASS HOLDER
225-1056
0.36 Kg/M



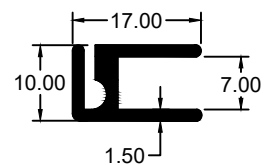
STEP MOLDING
225-1061
0.41 Kg/M



CARPET END
226-1079
0.22 Kg/M



GLASS HOLDER
226-1078
0.22 Kg/M

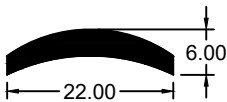


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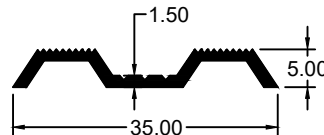


AUTOMOTIVE BODY

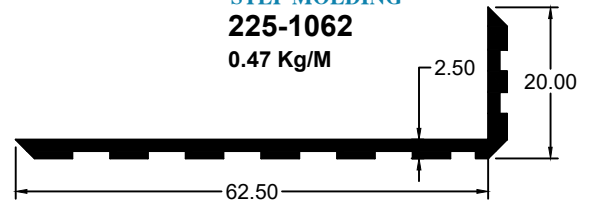
CRESCENT MOLDING
226-1072
0.20 Kg/M



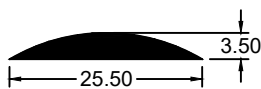
M-MOLDING
226-1075
0.17 Kg/M



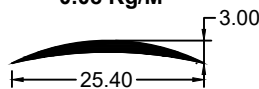
STEP MOLDING
225-1062
0.47 Kg/M



CRESCENT MOLDING
226-1070
0.18 Kg/M

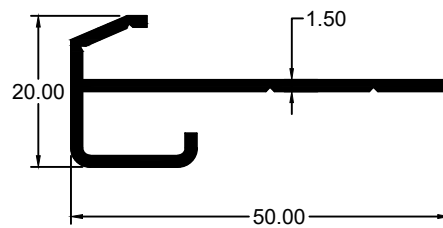


CRESCENT MOLDING
226-1069
0.08 Kg/M



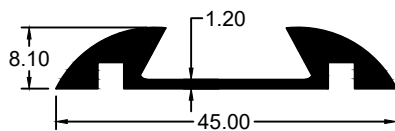
CLADDING PROFILE

226-1071
0.39 Kg/M



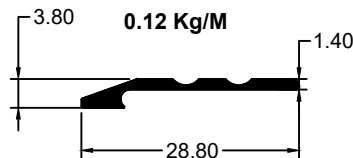
SIDE MOLDING

226-1083
0.41 Kg/M



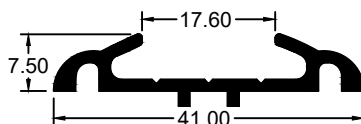
END MOLDING

226-1084
0.12 Kg/M



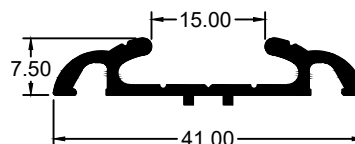
SIDE MOLDING

226-1076
0.30 Kg/M



SIDE MOLDING

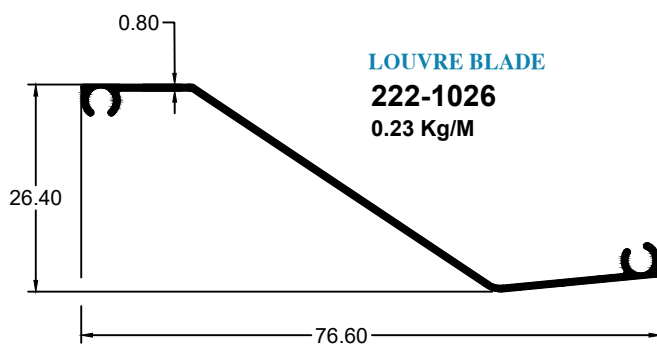
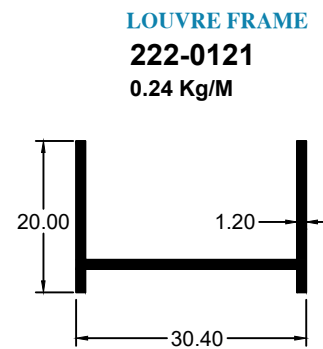
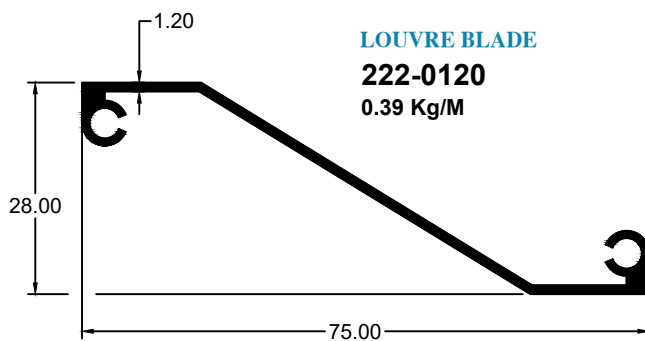
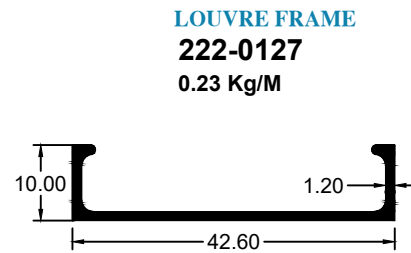
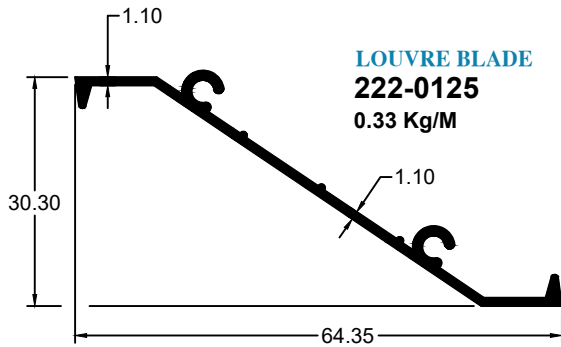
226-1086
0.30 Kg/M



1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.



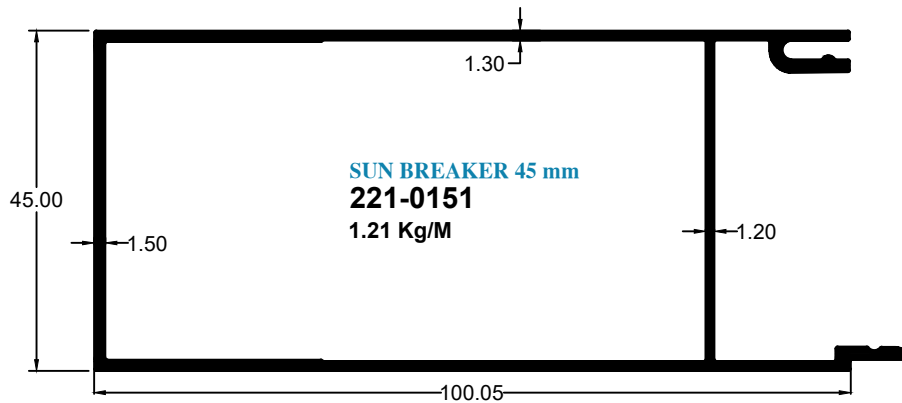
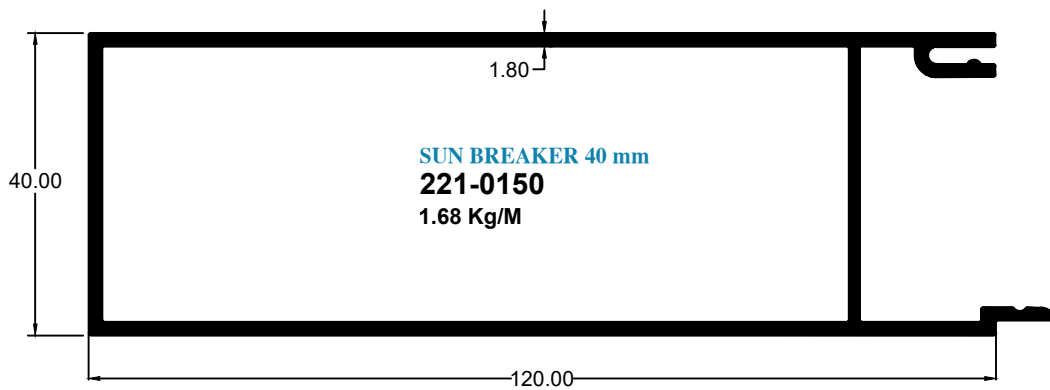
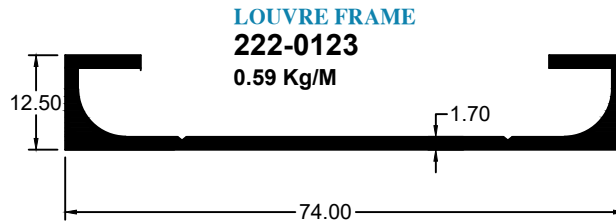
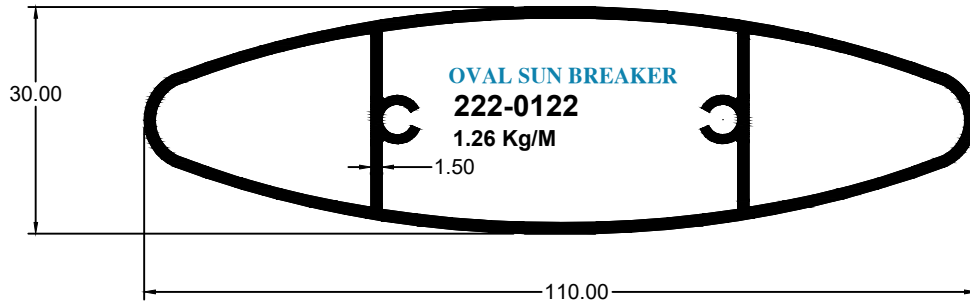
LOUVRE PROFILES



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 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
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SUN BREAKER PROFILES

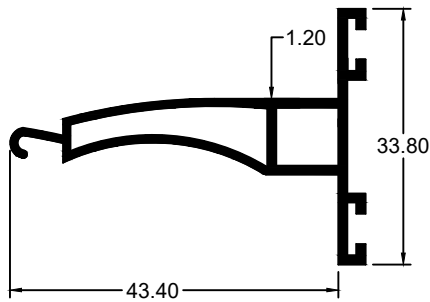


1. All dimensions are in mm
 2. The weight shared is for Mill finish
 3. When powder coated there will be a slight variance in weight.
- Disclaimer; The right to make alterations is reserved to HAL.

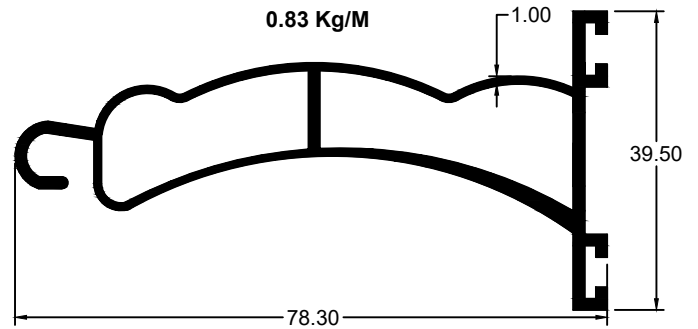


ROLLER SHUTTER PROFILES

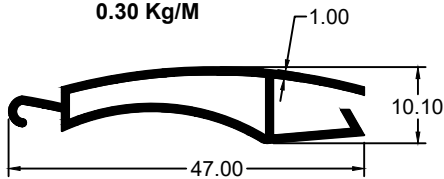
SMALL END SLAT
224-0120
0.46 Kg/M



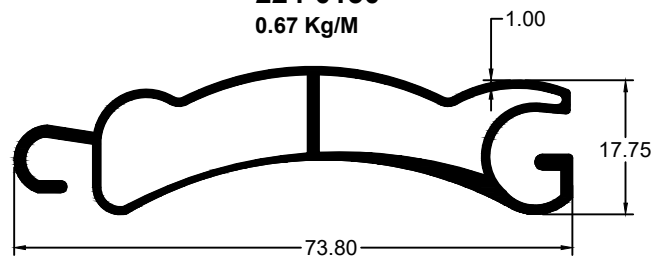
BIG END SLAT
224-0140
0.83 Kg/M



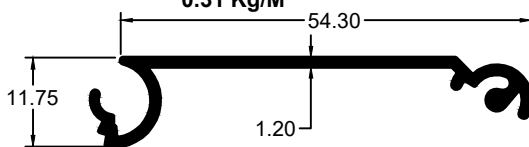
SMALL SLAT
224-0110
0.30 Kg/M



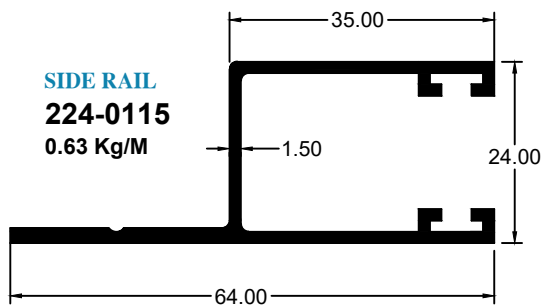
BIG SLAT
224-0130
0.67 Kg/M



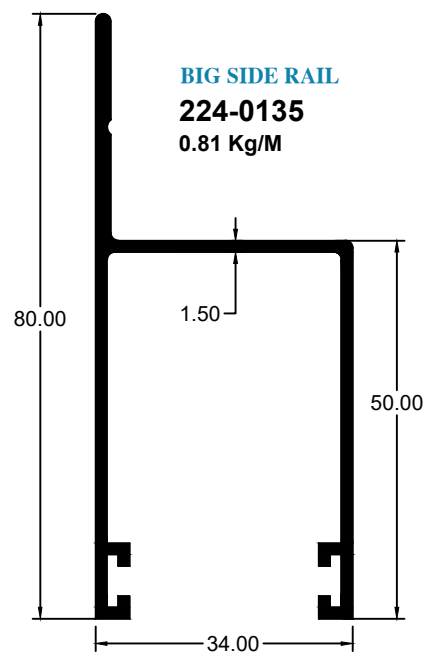
ROLLER SHUTTER SLAT
224-0150
0.31 Kg/M



SIDE RAIL
224-0115
0.63 Kg/M



BIG SIDE RAIL
224-0135
0.81 Kg/M

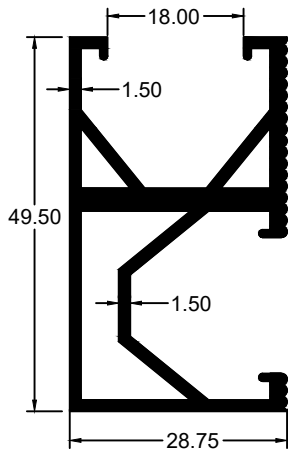


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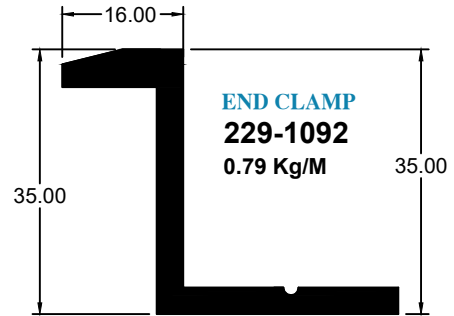
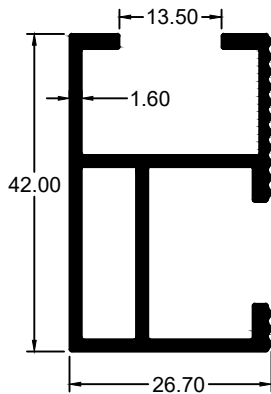


SOLAR PROFILES

FRAME RAIL
229-1090
1.01 Kg/M



FRAME RAIL
229-0101
0.70 Kg/M

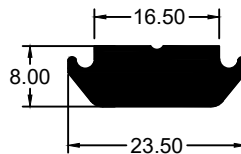


END CLAMP
229-1092
0.79 Kg/M

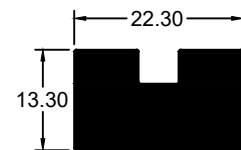
MIDDLE CLAMP
229-1093
1.07 Kg/M



CLAMPING NUT
229-1094
0.44 Kg/M



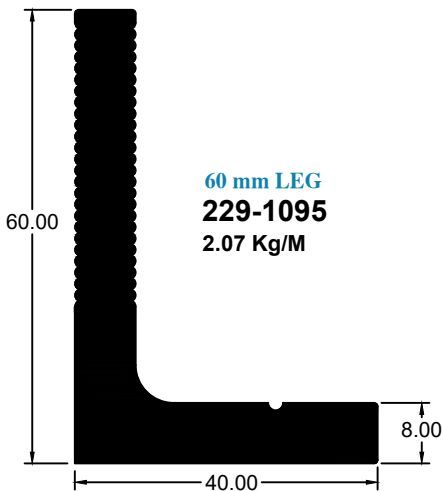
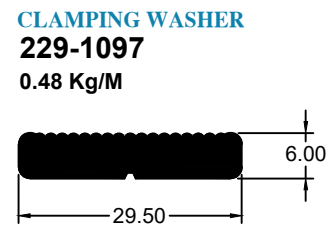
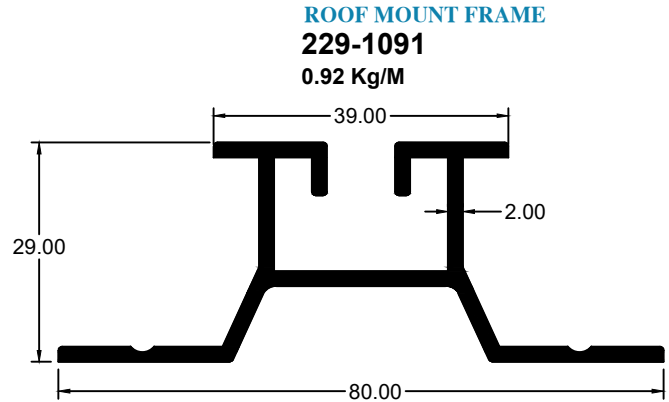
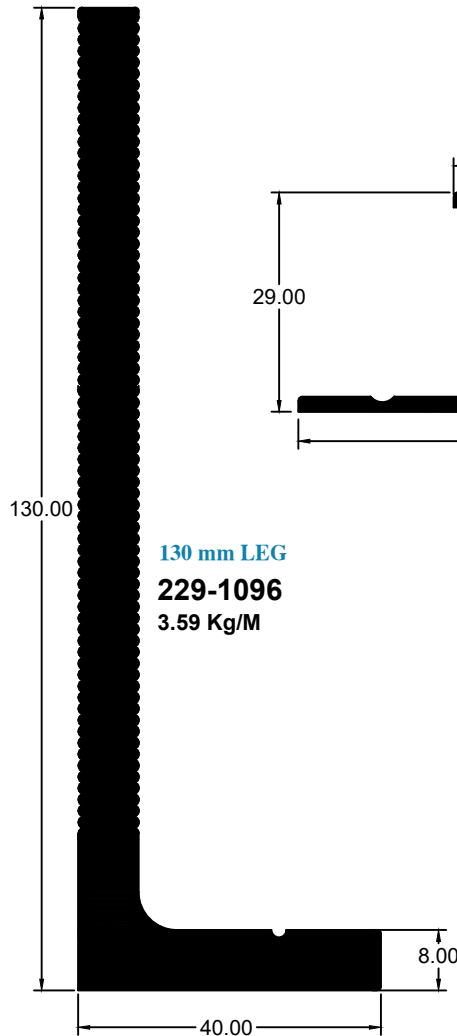
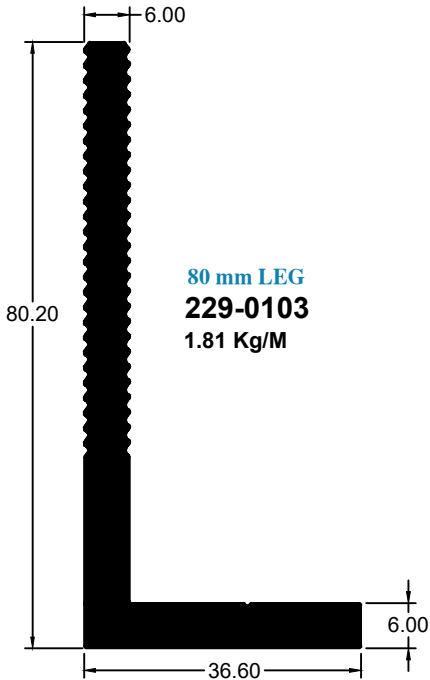
JOINER
229-0102
0.78 Kg/M



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SOLAR PROFILES

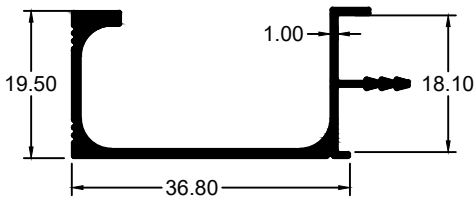


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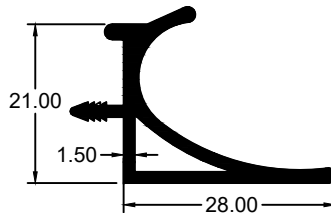


GENERAL PROFILES

SQUARE DRAWER HANDLE
350-0144
 0.35 Kg/M

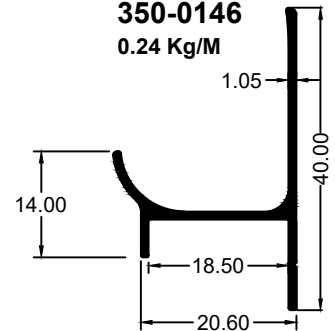


CURVED DRAWER HANDLE
350-0141
 0.41 Kg/M

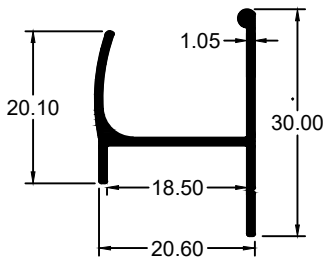


NEW!

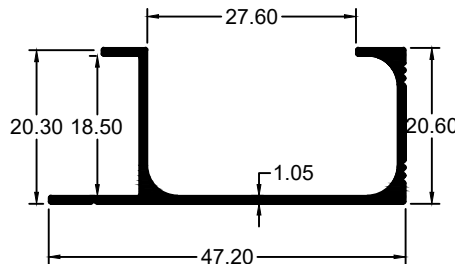
DRAWER HANDLE
350-0146
 0.24 Kg/M



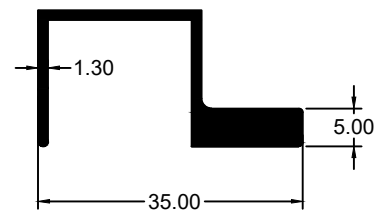
NEW! **DRAWER HANDLE**
350-0147
 0.23 Kg/M



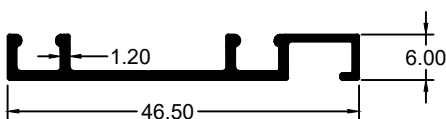
NEW! **DRAWER HANDLE**
350-0148
 0.32 Kg/M



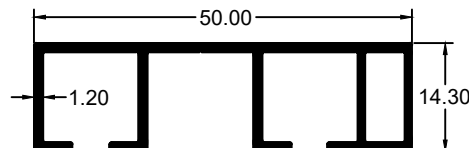
WARDROBE HANDLE
350-0140
 0.40 Kg/M



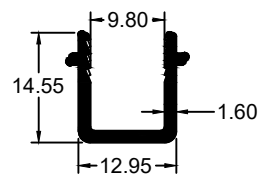
FLAT BOTTOM TRACK
250-0101
 0.25 Kg/M



TOP TRACK
250-0102
 0.45 Kg/M



BOARD BINDING PROFILE
260-1050
 0.18 Kg/M



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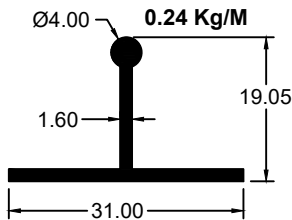


GENERAL PROFILES

TEE PROFILE

260-1003

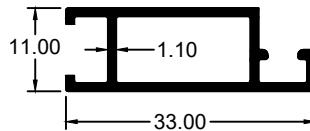
0.24 Kg/M



NET PROFILE

254-1095

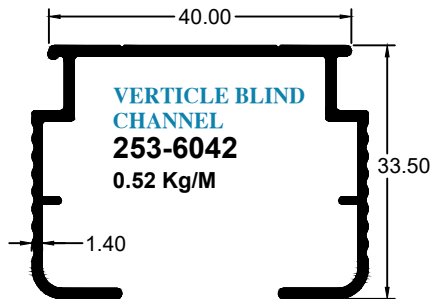
0.27 Kg/M



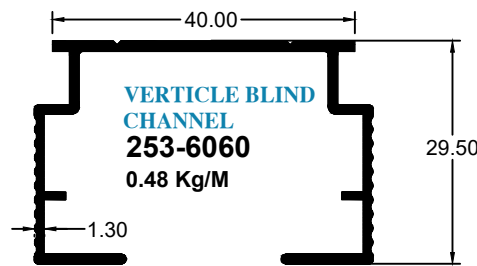
TILT ROD 6mm

253-6002

0.07 Kg/M



VERTICLE BLIND CHANNEL
253-6042
0.52 Kg/M

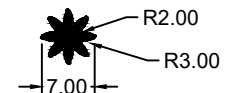


VERTICLE BLIND CHANNEL
253-6060
0.48 Kg/M

TILT ROD 7mm

253-6041

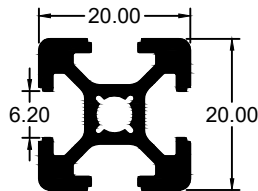
0.08 Kg/M



20 X 20 PROFILE

264-0101

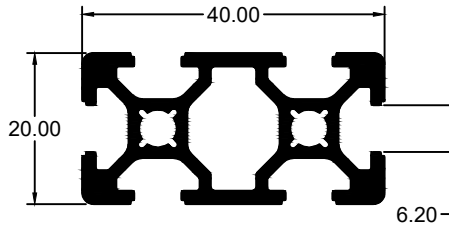
0.48 Kg/M



20 X 40 PROFILE

264-0102

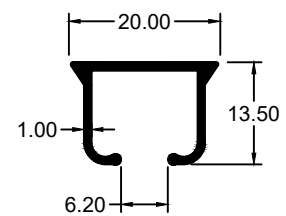
0.82 Kg/M



RAIL PROFILE

349-0105

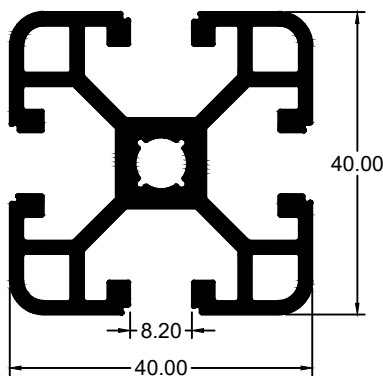
0.17 Kg/M



40 X 40 PROFILE

264-0201

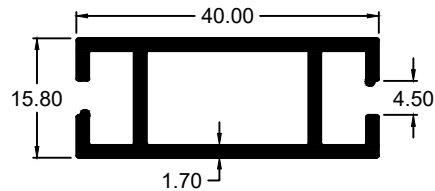
1.49 Kg/M



RAIL PROFILE

264-0301

0.59 Kg/M



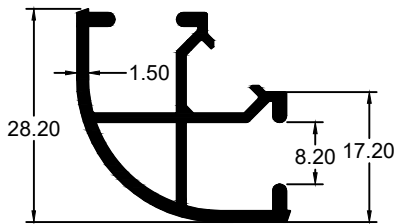
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GENERAL PROFILES

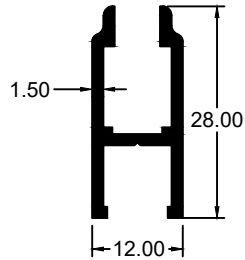
SHOP DISPLAY
CORNER PROFILE

254-1038
0.45 Kg/M



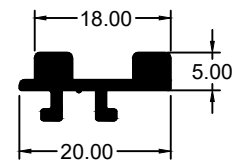
SHOP DISPLAY GLASS
BOTTOM PROFILE

254-1035
0.30 Kg/M



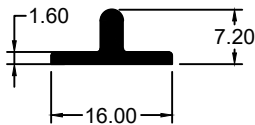
SHOP DISPLAY
BOTTOM ROLLER

260-1339
0.23 Kg/M



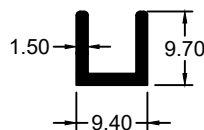
TEE

350-0142
0.12 Kg/M



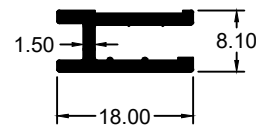
U CHANNEL

350-0143
0.11 Kg/M



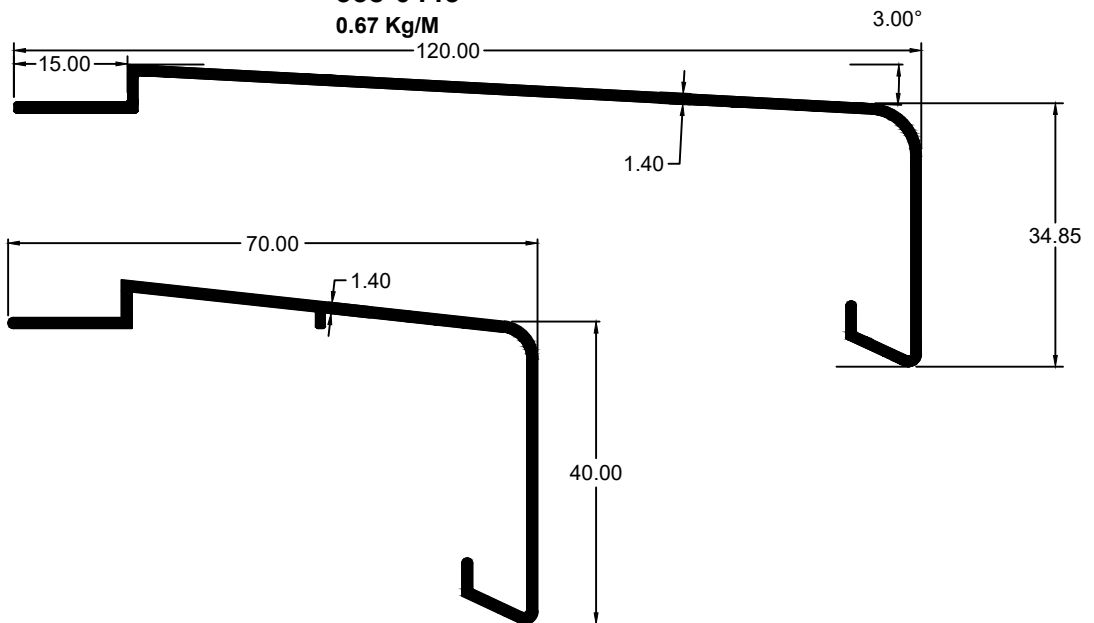
DISPLAY SHUTTER

350-0145
0.19 Kg/M



WINDOW CILL

338-0443
0.67 Kg/M



NEW!
WINDOW CILL
338-0442
0.51 Kg/M

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