



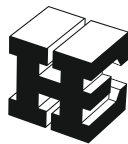
HINDALCO
EXTRUSIONS

EXPERTISE IS OUR STRENGTH



TRANSPORT - RENUKOOT

Printed Jan. 2018



HINDALCO
EXTRUSIONS

EXPERTISE IS OUR STRENGTH



VISION

To be a premium metals major, global in size and reach, excelling in everything we do, and creating value for our stakeholders.

MISSION

To relentlessly pursue the creation of superior shareholder value, by exceeding customer expectation profitably, unleashing employee potential, while being a responsible corporate citizen adhering to our values.

VALUES

Integrity: Honesty in every action

Commitment: Deliver on the promise

Passion: Energized action

Seamlessness: Boundaryless in letter and spirit

Speed: One step ahead always



Hindalco Transport Catalogue

Contents	Page No.
A. Hindalco - An Overview	06
B. Specifications	08
<hr/>	
1. Bus Windows	12
2. Bus Structuralals	19
3. Moulding	20
4. Moulding Fluted Strip	26
5. Water Channels	27
6. Step Edging	30
7. Bus Body Structuralals	31
8. Truck Body Structuralals	35
9. Truck Body Side Raves, Truck Spacer	37
10. Floor Planks	38
11. Truck Body Side Planks	40
12. Rail Coach Windows, Rail Coach	42
13. Auto Components	46
14. Auto AC Components	51
15. Bicycle Components	58
16. Miscellaneous	59
17. AC Connector, Car AC Component	60
18. Connector	60
19. Metro Rail Seat	61
20. Rail UPS Part	61
21. Index	62
22. Contacts	63

HINDALCO - An Overview

Hindalco Industries Limited, a USD 15 billion flagship company of the Aditya Birla Group, is a leading producer of aluminium and copper. Hindalco is present across the value chain of Aluminium & Copper. It has global footprint spanning across 13 countries in 5 continents

Aluminium

- Amongst top 5 aluminium majors worldwide.
- World's largest aluminium rolling company.
- Integrated operations - from mines to alumina to metal to value added products
 - ✦ Ingots & redraw rods (wire rods)
 - ✦ Flat Rolled products
 - ✦ Extrusions
 - ✦ Foils

Copper

- World's largest single-location copper smelting capacity.
- Copper mines in Australia.

Hindalco is a leader in Aluminium Extrusions industry in India with two manufacturing facilities. Both the plants are equipped with state of the art equipment, having well established manufacturing processes and quality systems honed over five decades.

- Manufacturing Facilities
 - ✦ Renukoot, U. P. (North India)
 - ✦ Alupuram, Kerala (South India)
- Capacity 60,000 MT per annum
- Expertise in customised alloys including hard alloys
- Catering to wide range of application segments such as Architectural, Electrical, Industrial, Transport, Defence and Consumer Durable.
- Extrusions manufactured from in-house virgin metal
- Quality Certification
 - ✦ ISO 9001-2008
 - ✦ ISO 14001-2004
 - ✦ OHSAS 18001-2007

This Catalogue covers the Transport sections from the range manufactured in the Renukoot plant of Hindalco



TABLE - 1

Wrought alloys: Near equivalent designations

INDIA		U.S.A. (A.A.)	BRITAIN (B.S.)	CANADA	GERMANY (DIN)	RUSSIA	I.S.O.	FRENCH ND
NEW I.S.	OLD I.S.							
19501	1E	1050(E.C)	1E	C 1S	E-Al 99.5	-	-	-
19500	1B	1050	1B	1S	A-99.5	-	Al-99.5	1050A
24345	H15	2014	H15	B26S	AL-CU-SI	AK	-	-
24534	H14	2017	H14	17S/16S	-	D1	Al-Cu-4Mg Si	-
-	-	2024	-	24S	Al-Cu.Mg2	-	Al-Cu-4Mg 1	2024
31000	N3	3003	N3	3S	Al-Mn	A-Mn	Al-Mn 1	3003
52000	N4	5052	N4	M57S	Al-Mg,2	A-Mg	Al-Mg-2.5	5051
53000	N5	5086	N5	54S	-	A-Mg-3	Al-Mg-4	-
54300	N8	5083	N8	D54S	Al-Mg-4.5 Mn	-	Al-Mg-4.5 Mn	5083
65032	H20	6061	H20	65S	Al-Mg-Si Cu	-	Al-Mg-1Si Cu	-
63400	H9	6063	H9	50S	Al-Mg-Si 0.5	-	Al-Mg Si	-
64430	H30	6351	H30	B51S	Al-Mg-Si 1	AV	Al-Si-1 Mg	6081
64423	H11	6066	H11	C62S	-	-	-	-
62400	-	6005	-	C51S	-	-	-	-
63401	91E	6101	91E	D50S	E,Al,Mg,Si 0.5	-	-	-
64401	-	6201	-	-	-	-	-	-
74530	-	7039	-	D74S	Al-Zn-Mg,1	-	-	3004
-	-	7075	DTD 5124	75S	Al-Zn-Mg Cu 1.5	-	Al-Zn 6 Mg Cu	7075



TABLE - 2

Wrought alloys: Guide to selection

Alloy	Temper	Resistance to Corrosion	Workability (Cold)	Machinability	Brazeability	Weldability	Commonly available forms	Indications of use
EC/1050, 1060 (1B) (19501) (19500) (19600)	F, O	A	A	D	A	A	Flats, Rods, Tubes & other section	Electrical conductors, cable sheathing, impact-extruded products, pressing utilities of anodizing quality, pen caps, piping etc.
1100 (1C) (19000)	F, O	A	A	D	A	A	Flats, Rods, Tubes & other section	Packaging lightly stresses and decorative assemblies in architecture and transport, equipment for chemical, food and brewing industries.
2014 (H 15) (24345)	T4 T6	C C	C D	B B	D D	C C	Rods & Bars Rods & Bars	Highly stressed component of all types in aircraft, ordnance and general engineering.
2017 (H 14) (24534)	T4	C	C	B	D	C	Rods & Bars	Highly stressed parts in aircraft and other structures, screw machine products.
2024	T4	C	C	B	D	C	Rods & Bars	Load Cell, Highly stressed component of all types in aircraft, ordnance and general engineering.
4043 (N 21) (43000)	F, O	A	A	D	A	A	Rods & other sections	Welding wire, architectural applications
5005 (52000A)	O, F	A	A	D	B	A	Flats, Rods, other sections	Structures exposed to marine attractive anodized finish, architectural, electrical conductors etc.
5052 (N 4)	O, F	A	A	D	C	A	Flats, Rods, Tubes & other sections	Structures exposed to marine atmosphere, aircraft parts, wire rope ferrules, rivet stock.
5086 (N 5) (53000)	O, F	A	A	D	D	A	Flats, Rods & other sections	Ship building and other marine applications, rivets, coinage etc.
5056 (N 6) (55000)	O, F	A	A	D	D	A	Rods	Zips, Welding Rods and Rivets.
6061 (H 20) (65032)	O, F T4 T6	A A A	A C D	D C C	A A A	A A A	Rods, Flats, Tubes & other sections	Heavy duty structures, building hardware, sections for bus body, truck and rail coach, furniture, rivets etc.
6063 (H9)	O, F T4 T6 T5	A A A A	A B C C	D C C C	A A A A	A A A A	Rods, Flats, Tubes & other sections	Building hardware, architectural section with good surface finish, medium strength furniture and anodized sections.



TABLE - 2

Wrought alloys: Guide to selection

Alloy	Temper	Resistance to Corrosion	Workability (Cold)	Machinability	Brazeability	Weldability	Commonly available forms	Indications of use
6066 (22450)	O, F T4 T6	B B B	B C C	D B B	A A A	A A A	Rods and other solid sections	For welded structures, textile parts, heavy duty machine parts.
6101 (91 E) (63401)	T4 T6	A A	B B	C C	A A	A A	Rods, Flats, Tubes & other sections	High strength electrical busbar sections.
6201 (64401)	T4	A	A	C	A	A	Redraw Rod	Overhead conductors, ACAR and AAAC
6351 (H 30) (6430)	O, F T4 T6	A A A	A C D	D C C	A A A	A A A	Rods, Flats, Tubes & other sections	Structural and general engineering items such as rail & road transport vehicles, bridges, cranes, roof trusses, rivets etc.
7039 (D74S) (74530)	O, F T4 T6	A A A	A C D	D C C	A A A	A A A	Flats, Tubes, Rods & other sections	Defence structures like mobile bridges etc. Tread and chequered plates, Excellent welding property with no loss of strength in welded zone.
7075 (DTD5124)	O, F T4 T6	A A A	A A D	A A A	A A A	A A A	Rods	Highly stressed structural applications

Notes:

1. Relative ratings for corrosion, workability and machinability in decreasing order of merit A, B, C and D.
2. Weldability & brazeability ratings A, B, C and D are relative ratings defined as follows:
 - A. Generally weldable by the commercial procedure & methods.
 - B. Weldable with special technique.
 - C. Limited weldability due to crack sensitivity or loss in corrosion resistance and mechanical properties.
 - D. Generally not weldable.
3. Availability of other forms subject to special enquiries and methods.



TABLE - 3

Wrought alloys: Chemical composition limits (per cent)

Alloy (ISS) Old	New	Equivalent alloy (AA) U.S.A.	Copper		Magnesium		Silicon		Iron Max.	Manganese		*Others (Total) Max.	Remarks
			Min.	Max.	Min.	Max.	Min.	Max.		Min.	Max.		
1C	19000	1100	-	0.10	-	-	-	0.5	0.6	-	0.1	0.1	Aluminium 99.0% Min
1 B	19500	1050	-	0.05	-	-	-	0.25	0.4	-	0.05	0.1	Aluminium 99.5% Min
1 E	19501	-	-	0.04	-	-	-	0.15	0.35	-	0.03	0.1	Aluminium 99.5% Min
-	19600	1060	-	0.05	-	-	-	0.25	0.35	-	0.03	0.1	Aluminium 99.6% Min
H 15	24345	2014	3.8	5.0	0.2	0.8	0.5	1.2	0.7	0.3	1.2	0.5	-
H 14	24534	2017	3.5	4.7	0.4	1.2	0.2	0.7	0.7	0.4	1.2	0.5	-
		2024	3.8	4.9	1.2	1.8	-	0.5	0.5	0.3	0.9	0.15	Zn 0.25
N 3	91000	3003	-	0.1	-	0.1	-	0.6	0.7	1.0	1.5	0.4	-
		4032	0.8	1.3	0.8	1.3	-	13.5	0.6	-	0.2	0.15	Ni 0.8 - 1.3
N 4	52000	5052	-	0.1	1.7	2.6	-	0.6	0.5	-	0.5	0.4	Cr + Mn = 0.5
M 5	53000	5086	-	0.1	2.8	4.0	-	0.6	0.5	-	0.5	0.4	Cr + Mn = 0.5
N 8	54300	5083	-	0.1	4.0	4.9	-	0.4	0.7	0.5	1.0	0.4	Chromium up to 0.25
H 20	65032	-	0.15	0.4	0.7	1.2	0.4	0.8	0.7	0.2	0.8	0.4	**Cr = 0.15 - 0.35
-	-	6061	0.15	0.4	0.8	1.2	0.4	0.8	0.7	-	0.15	0.4	Chromium 0.04 to 0.35
H 9	63400	6063	-	0.1	0.4	0.9	0.3	0.7	0.6	-	0.3	0.4	-
-	-	6066	0.7	1.2	0.8	1.4	0.9	1.8	0.7	0.6	1.1	0.4	-
-	64423	-	0.5	1.0	0.5	1.3	0.7	1.3	0.8	-	1.0	-	-
9 1E	63401	6101	-	0.05	0.4	0.9	0.3	0.7	0.5	-	0.03	0.1	-
H 30	64430	6351	-	0.1	0.4	1.2	0.6	1.3	0.6	0.4	1.0	0.3	-
		6082	-	0.1	0.6	1.2	0.7	1.3	0.5	0.4	1.0	0.3	Chromium up to 0.25
-	74530	7039	-	0.2	1.0	1.5	-	0.4	0.7	0.2	0.7	0.4	Zinc 4.0 - 5.0 %
-	-	7075	1.2	2.0	2.1	2.9	-	0.5	0.5	-	0.3	0.2	Zinc (5.1 - 6.1) % & Chromium(0.18-0.28) %

* Titanium and/or other grain refining elements

** Either Mn or Cr shall be present



TABLE - 4

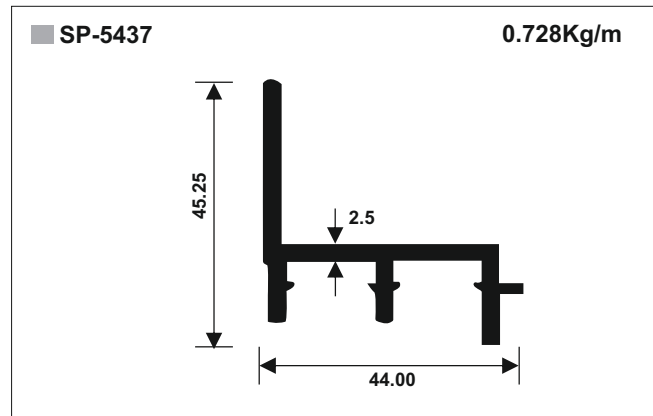
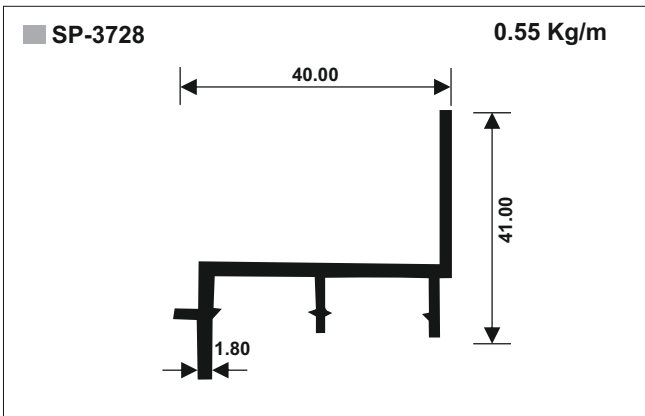
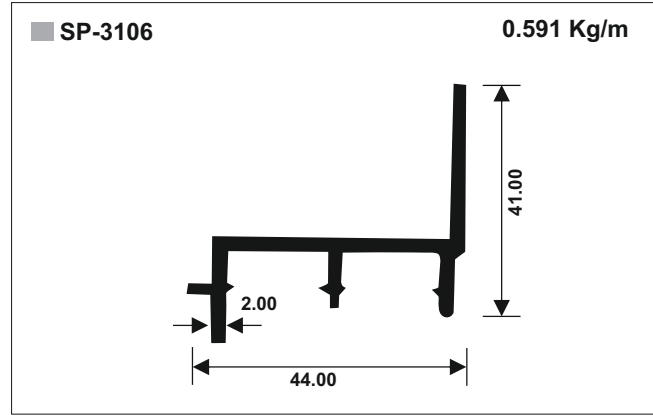
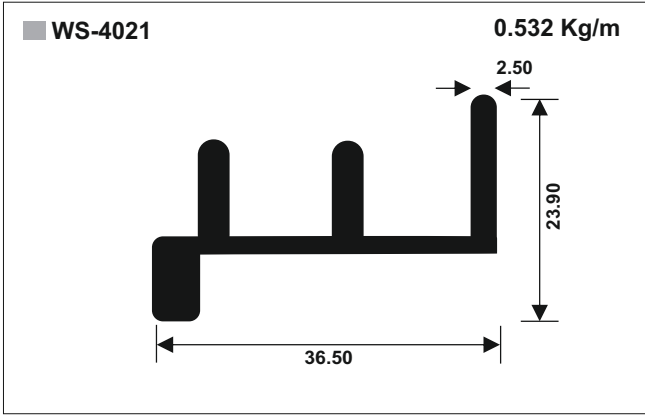
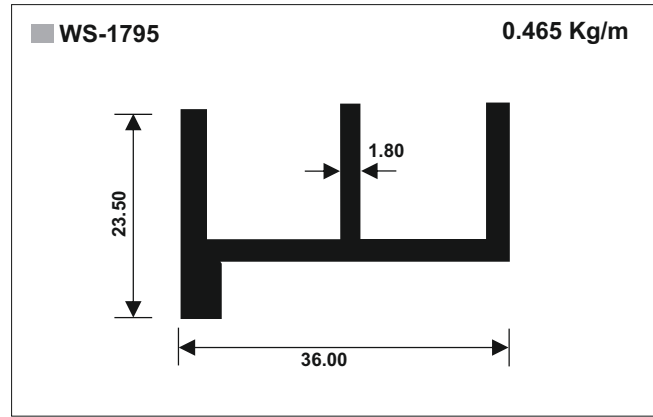
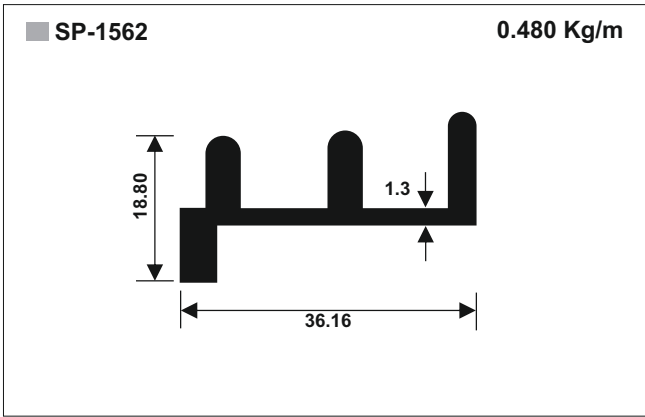
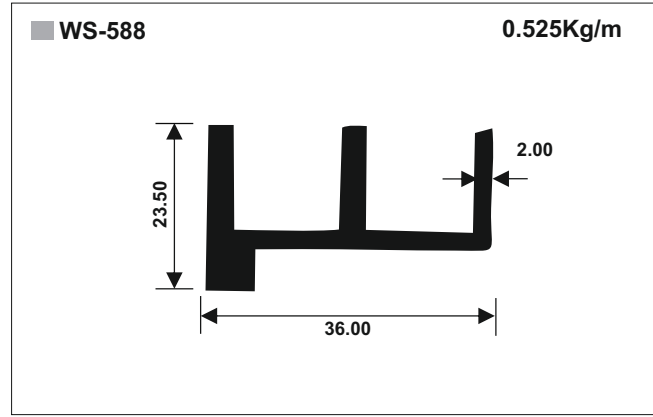
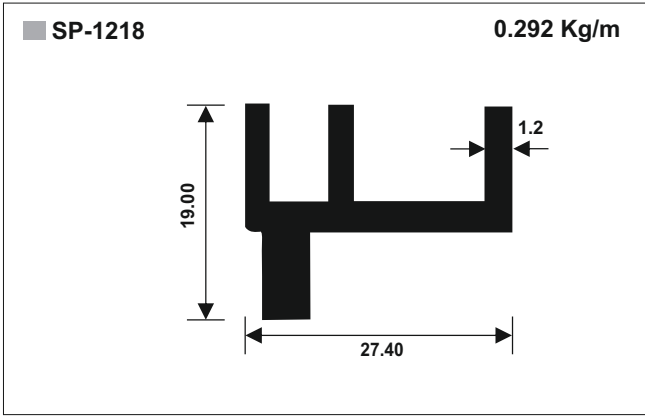
Wrought alloys: Mechanical properties

Heat Treatable Alloys					
Alloy A A Old (ISS) New (ISS)	Temper	Ultimate Tensile Strength Kg/mm ²		0.2% Proof Stress Kg/mm ²	Elongation On 50mm GL
		Min.	Max.		
2014 [H15] [24345]	T4[W]	39	-	24.0	10
	T6 [WP]	49	-	43.0	6
2017 [H14] [24534]	T4[W]	39	-	24.0	10
2024 [H9]	T4	40.5	-	26.5	12
6063 [H9] [63400]	T4[W]	14	-	8.0	14
	T6 [WP]	19	-	15.5	7
6061 [H20] 65032]	M	11.2	-	5.1	12
	T4[W]	19	-	11.5	14
	T6 [WP]	28.5	-	24.0	7
6351[H30] [64430]	M	11.2	-	8.2	12
	T4[W]	19	-	12.0	14
	T6 [WP]	31.5	-	27.5	7
6066	M	11.0	-	-	12
	T4[W]	28	-	17.5	14
	T6 [WP]	35	-	31.5	7
6101[91E] [63401]	T4[W]	14	-	8.0	12
	T6 [WP]	20.5	-	17.0	10
6201 [64401]	T4[W]	16	-	7.0	14
	T8 [WDP]	32	-	-	3
7039 [74530]	T4[W]	28	-	23.5	9
	T6 [WP]	31.5	-	26.5	7
7075	T6 [WP]	54	-	46.5	6

Properties indicated herein are typical properties and are given for information only. However properties of all the profiles in specific alloy shall be as per I. S. Specification.

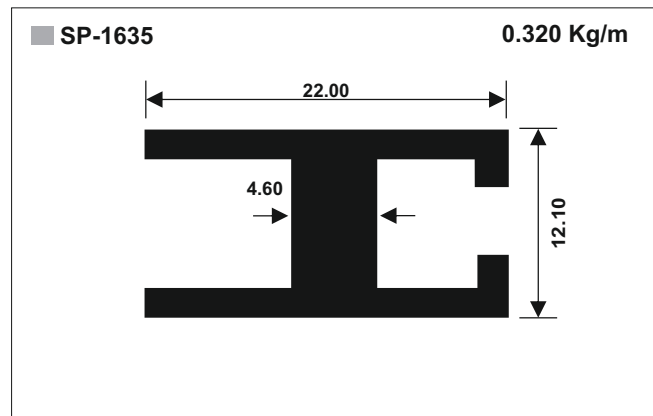
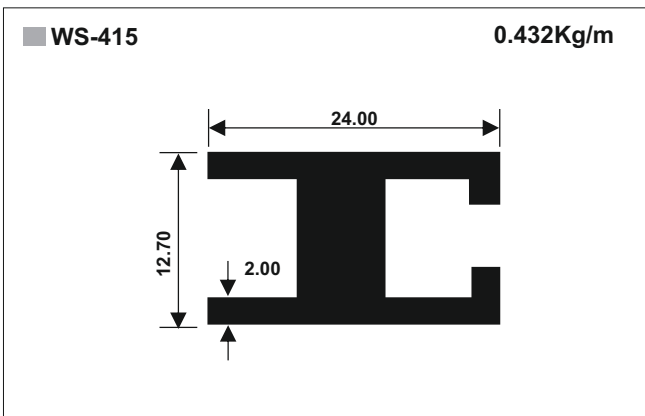
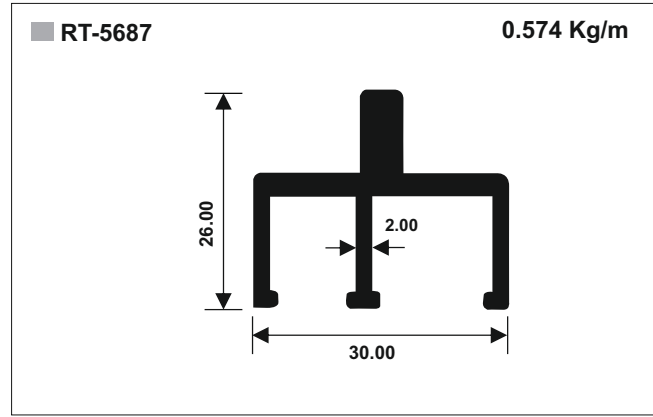
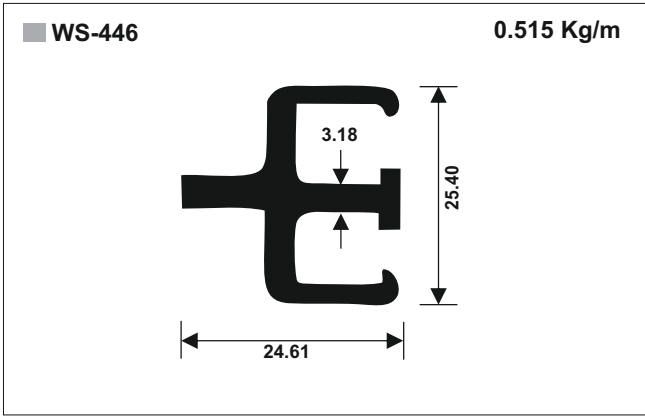
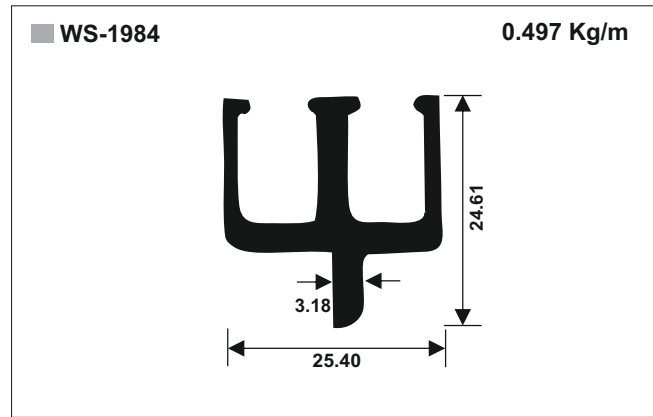
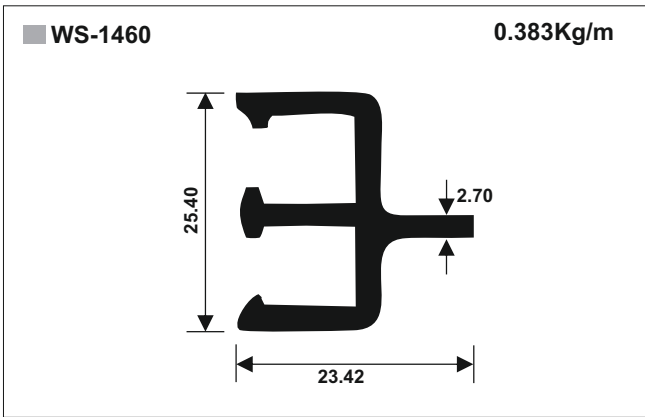
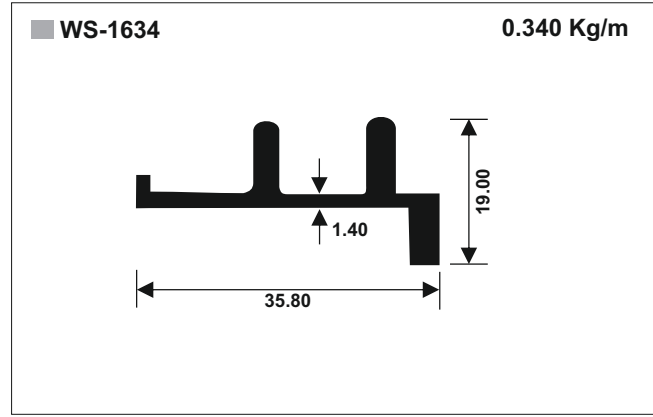
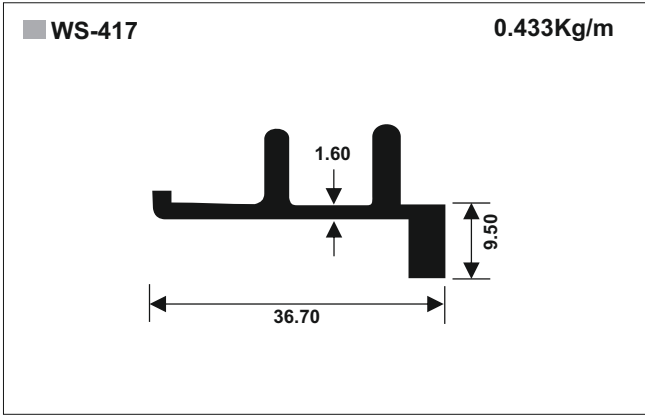


Bus Windows



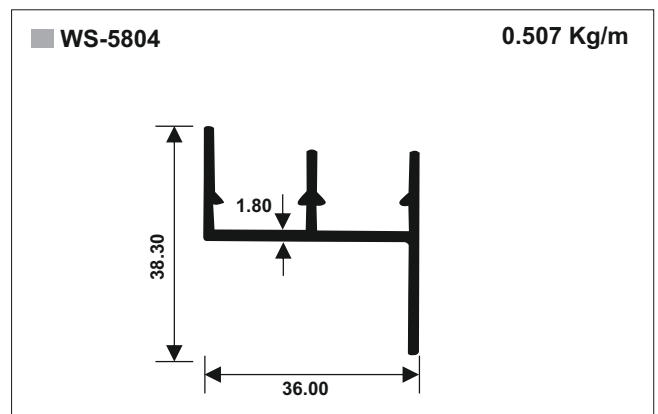
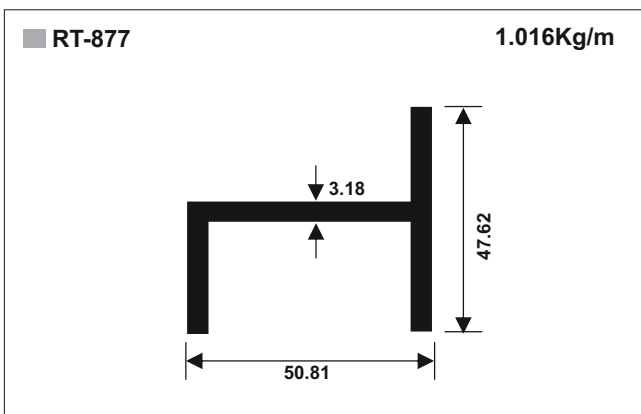
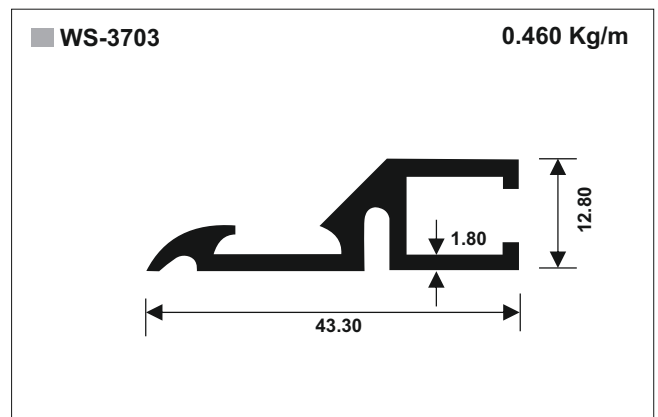
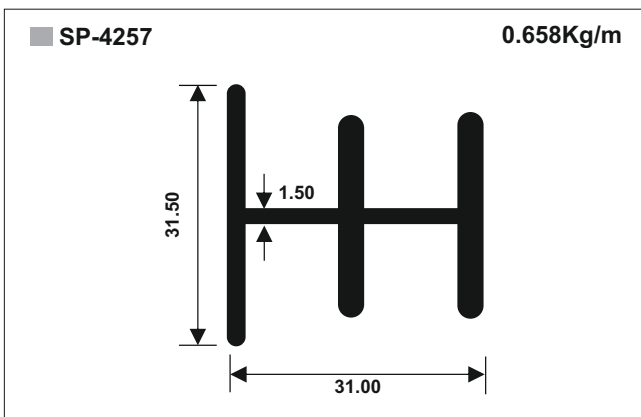
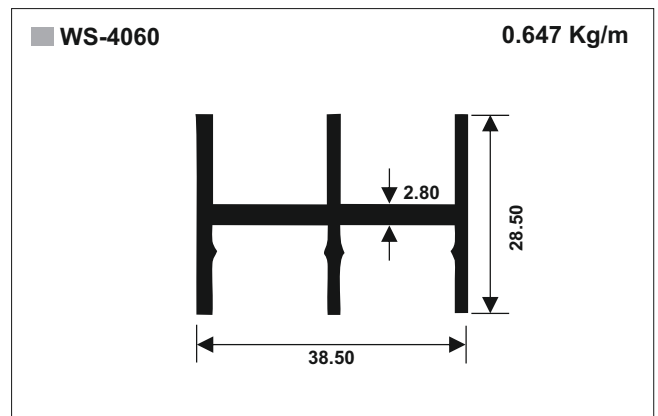
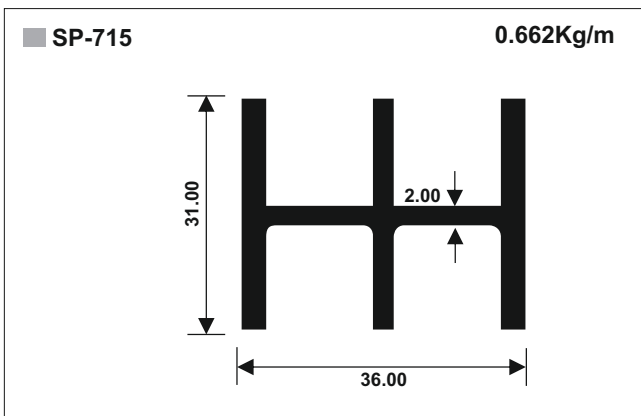
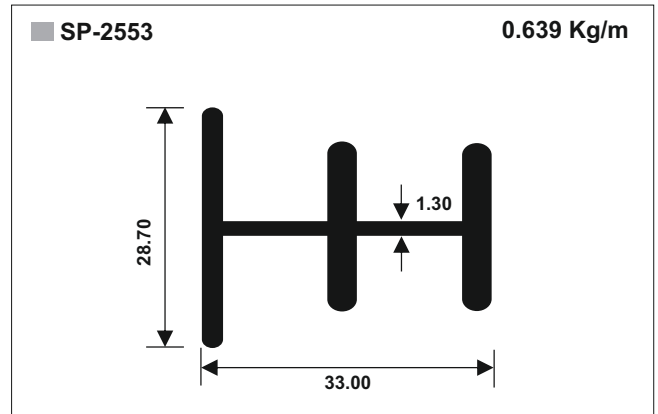
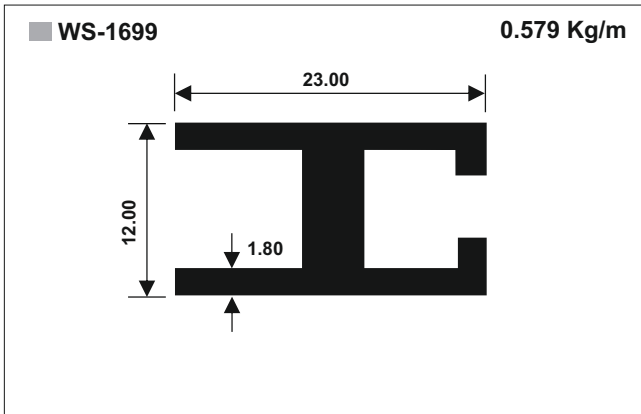


Bus Windows



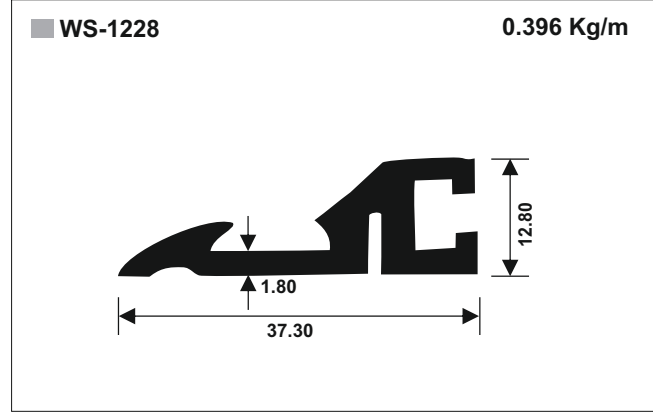
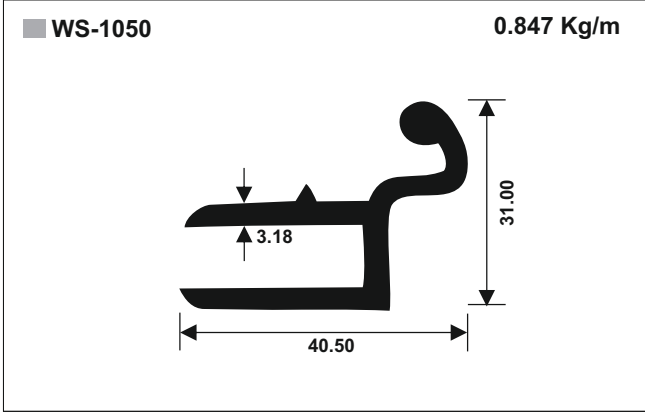
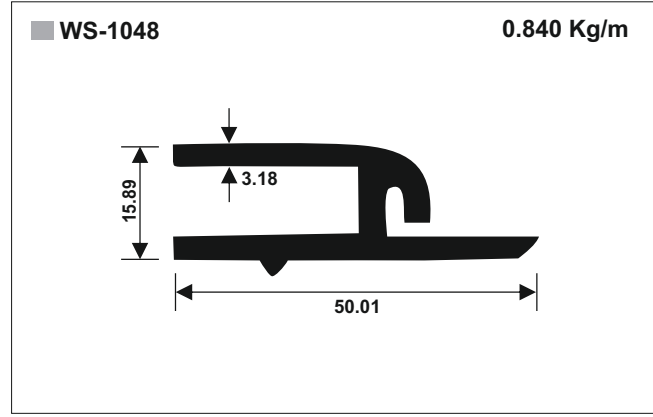
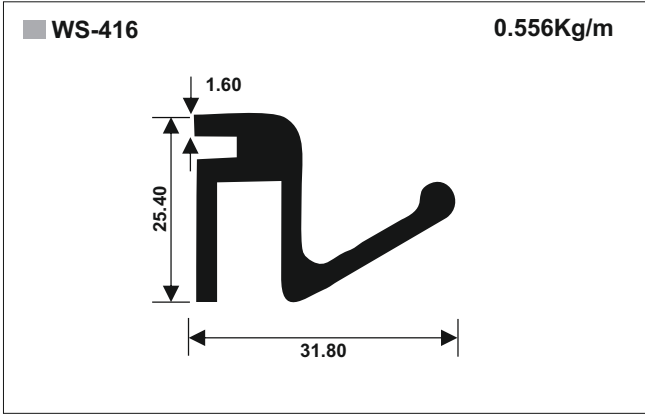
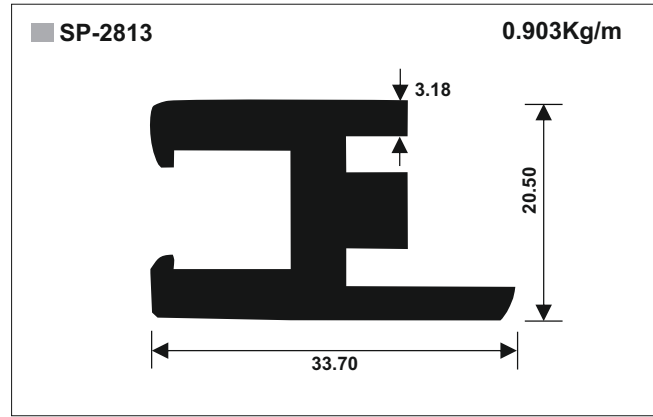
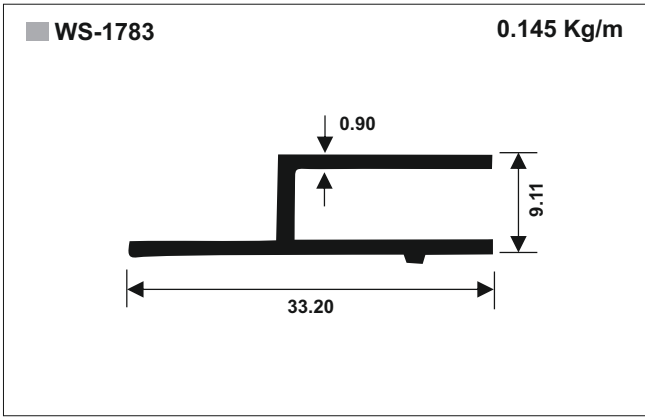
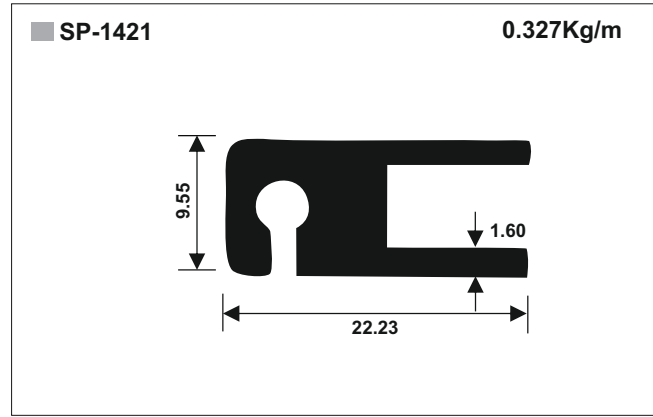
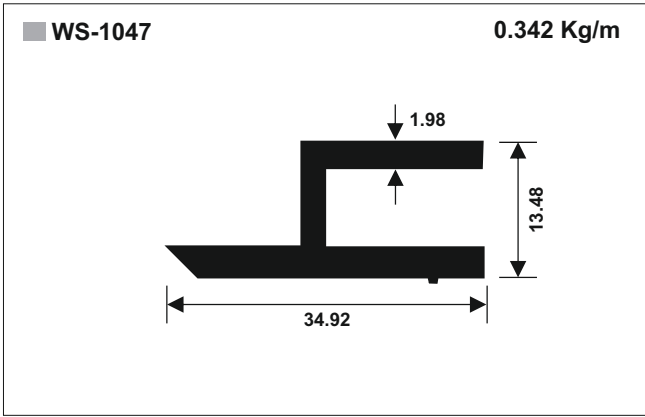


Bus Windows



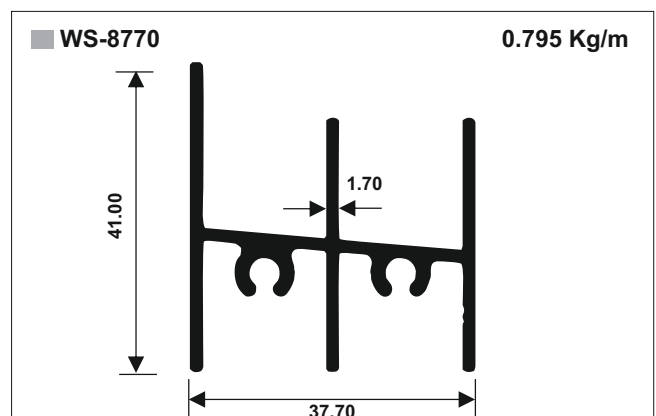
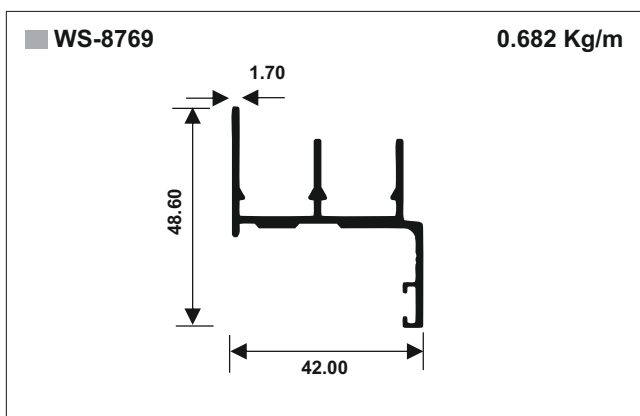
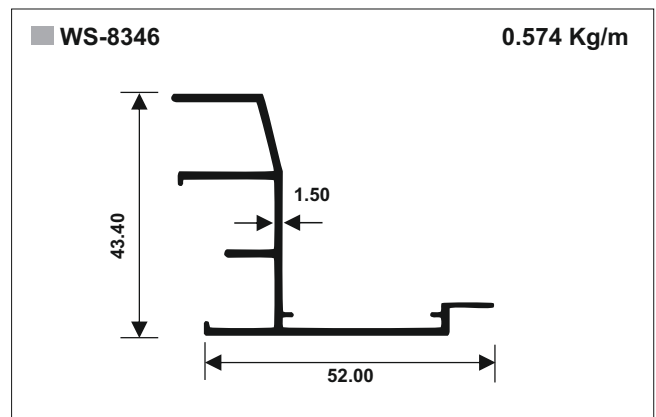
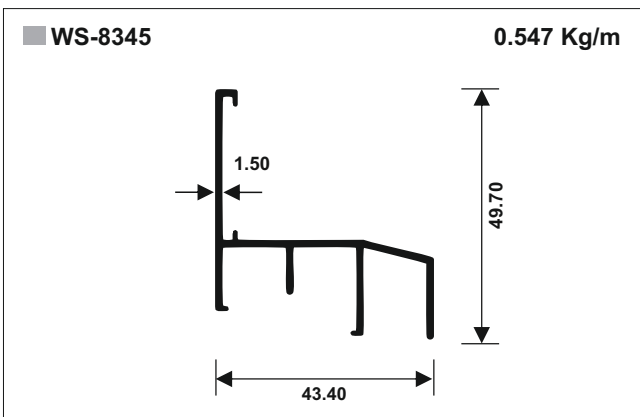
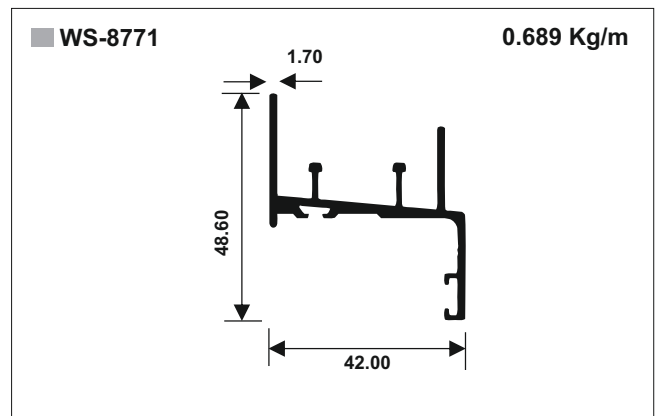
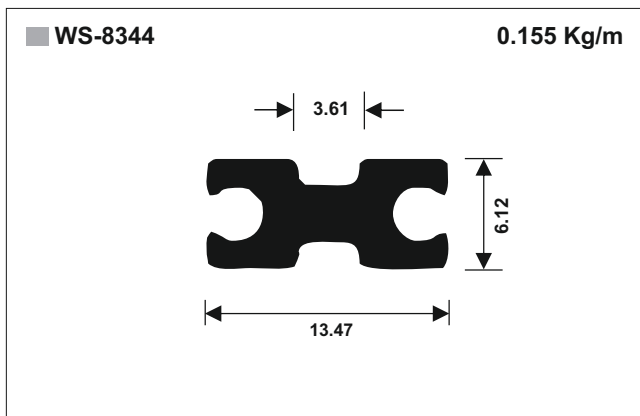
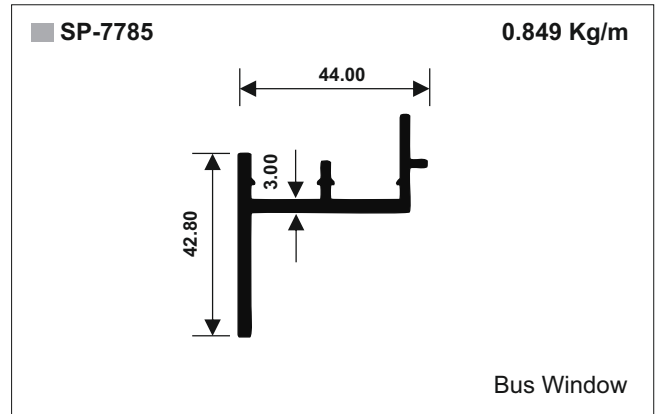
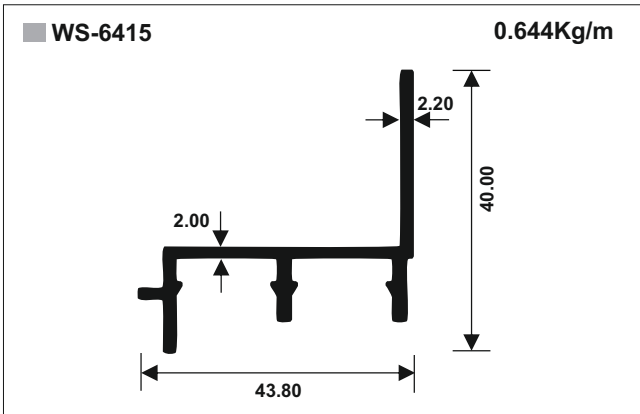


Bus Windows



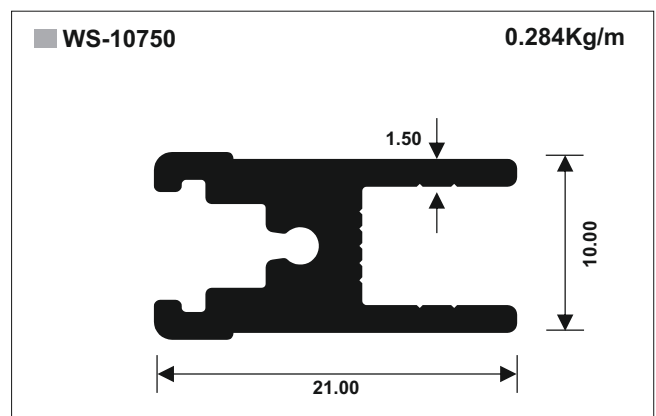
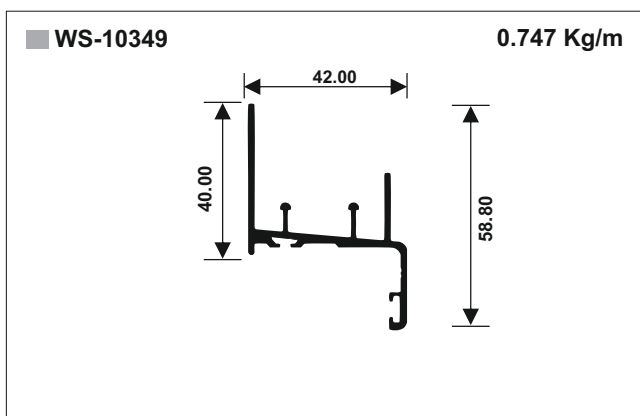
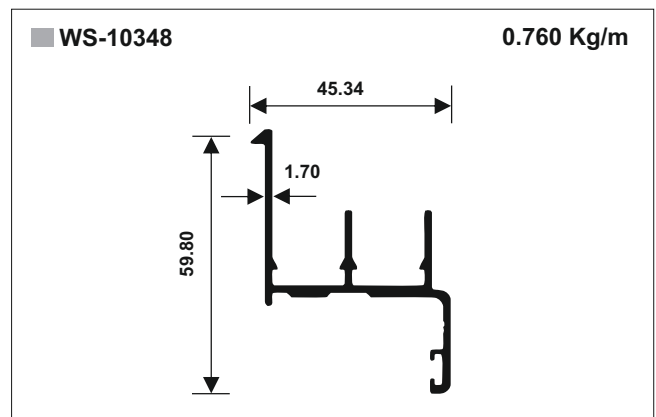
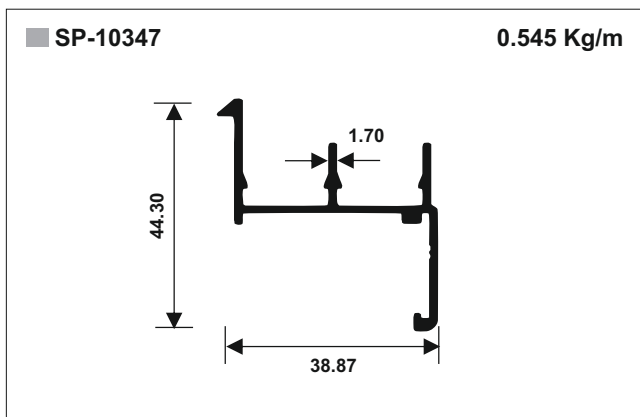
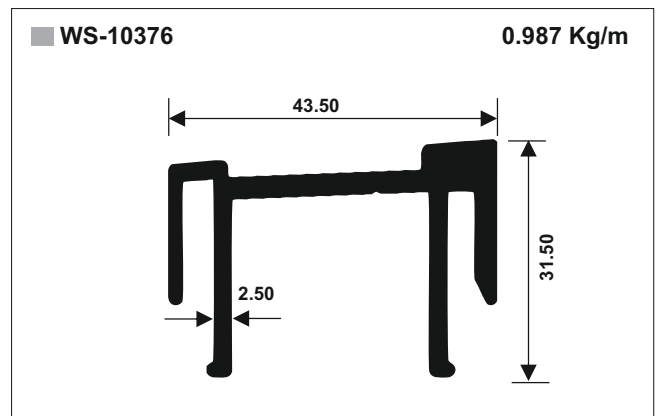
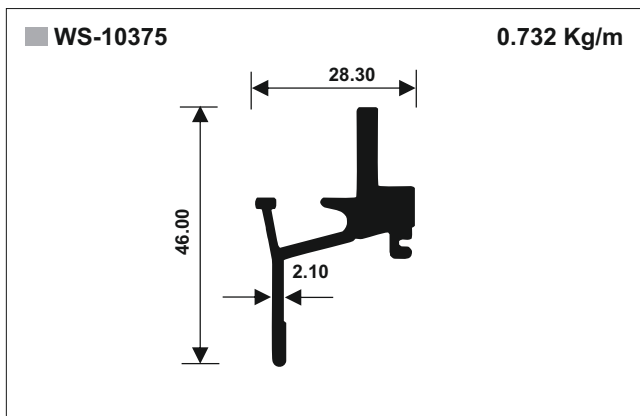
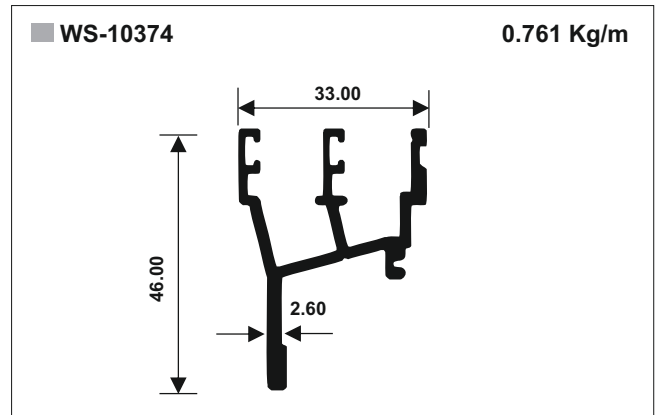
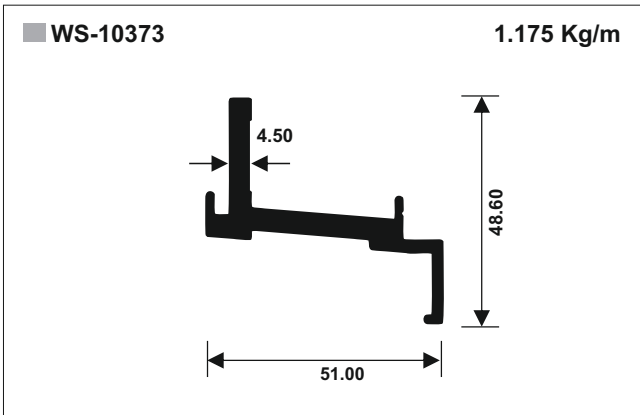


Bus Windows



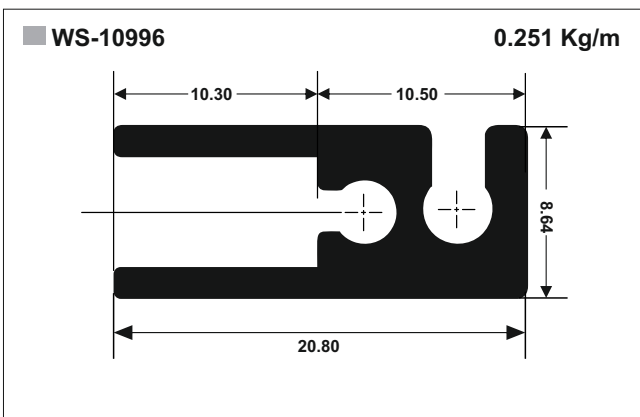
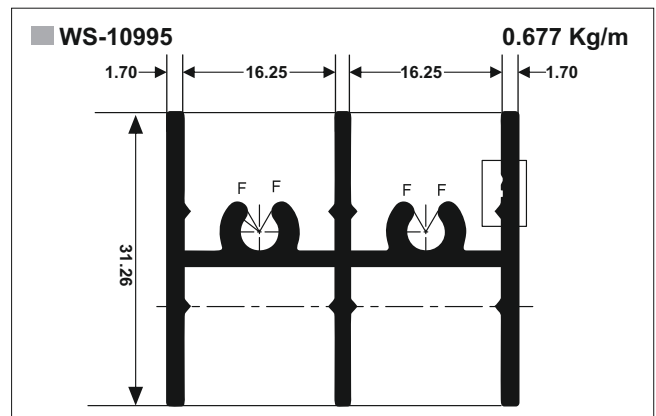
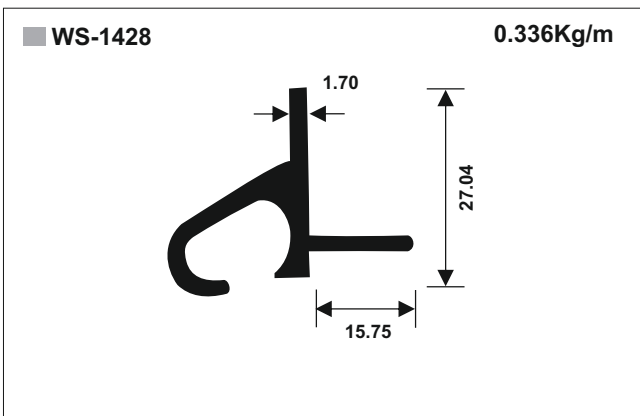
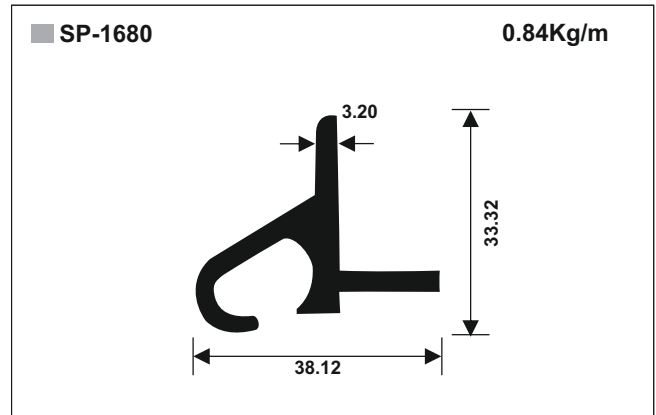
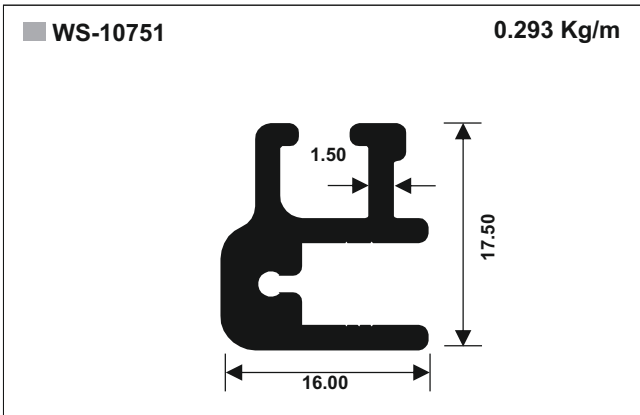


Bus Windows



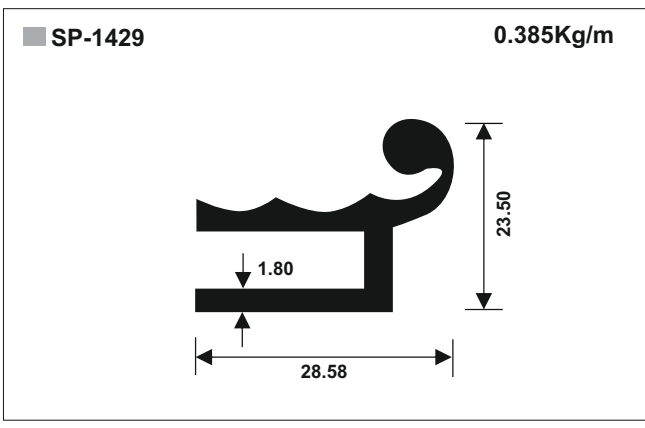
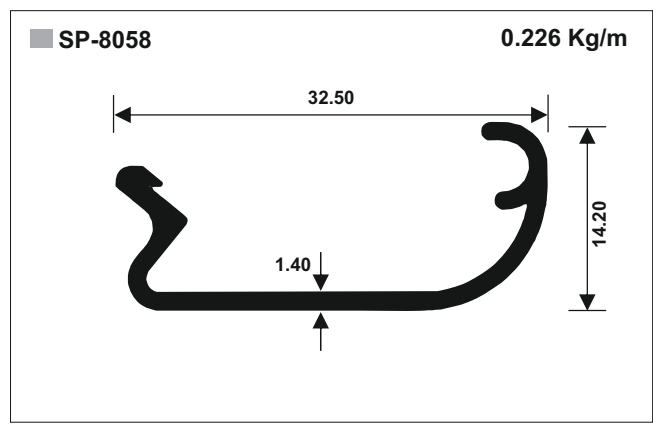
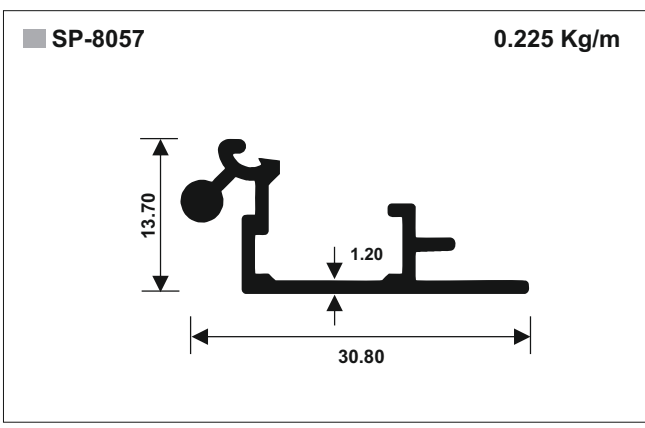
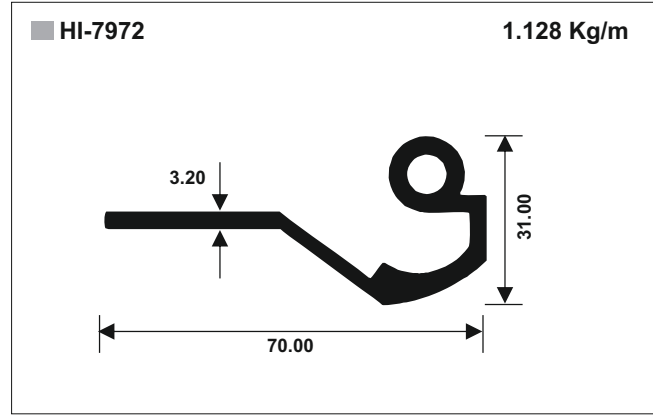
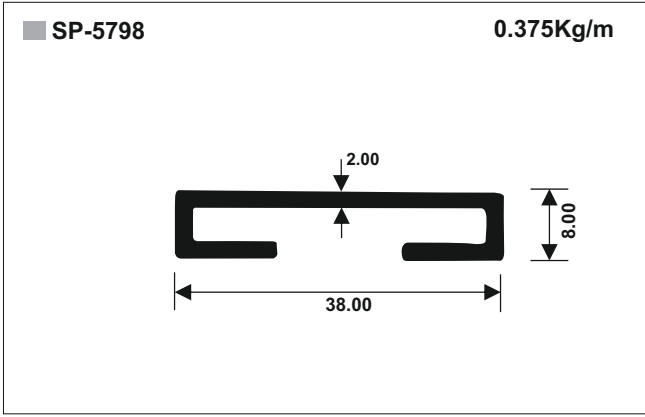


Bus Windows



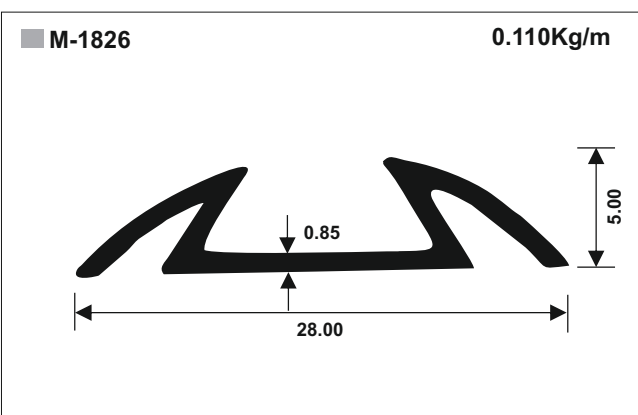
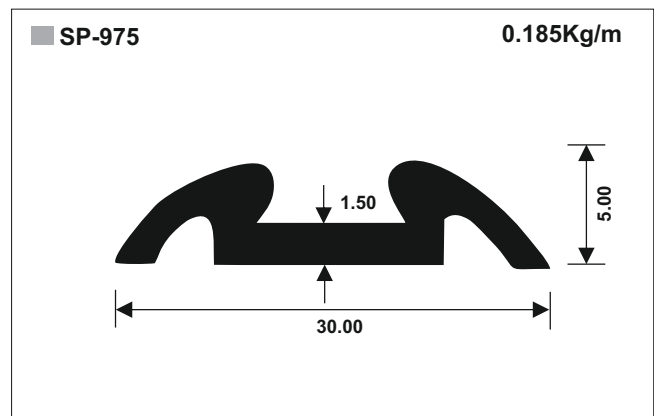
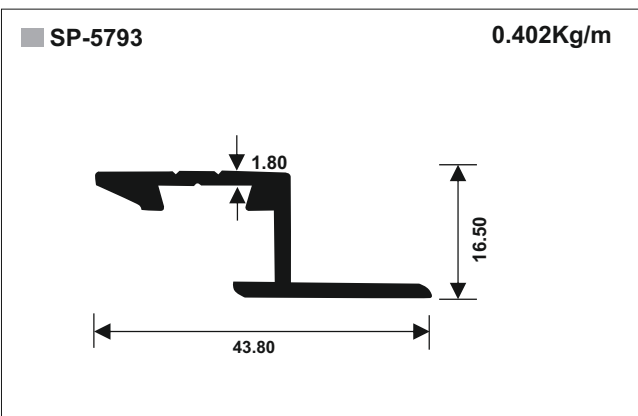
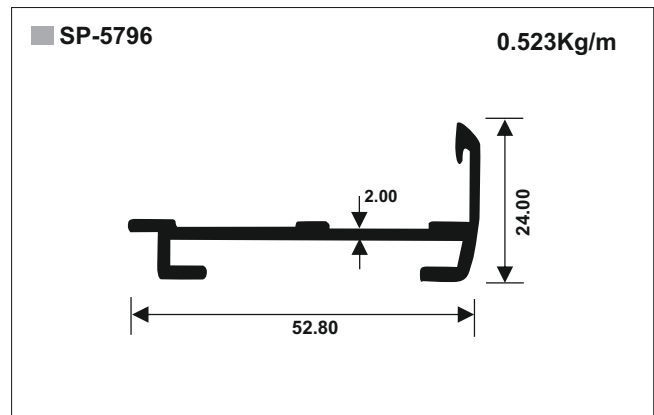
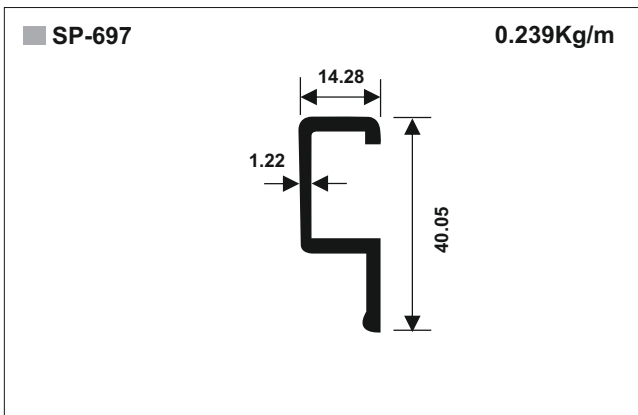
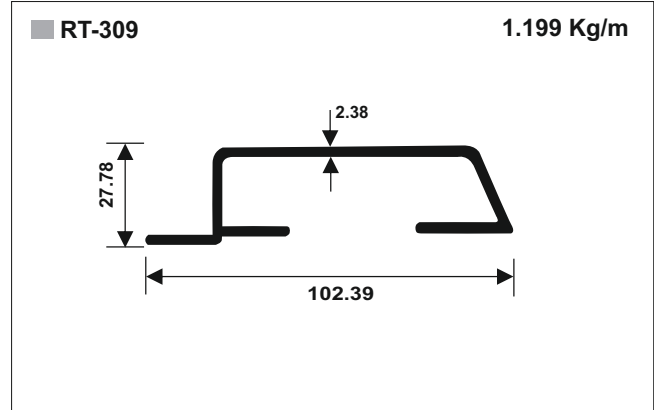
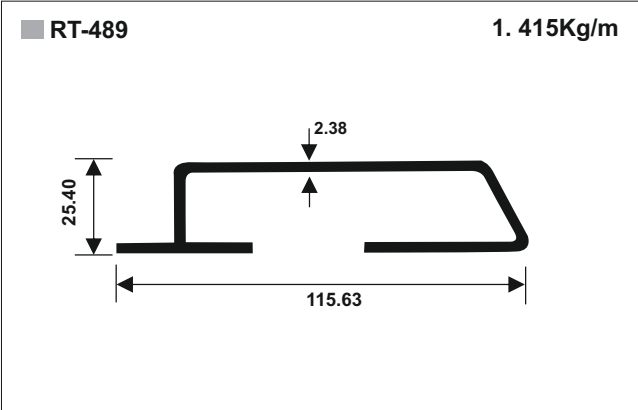


Bus Structural



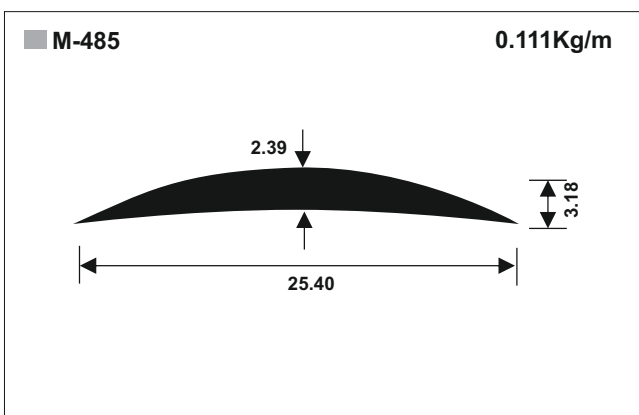
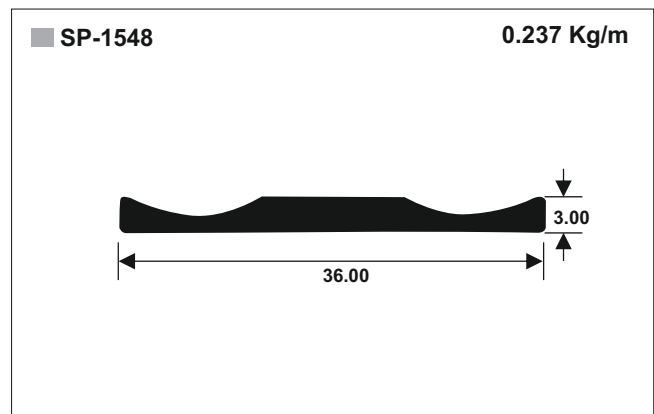
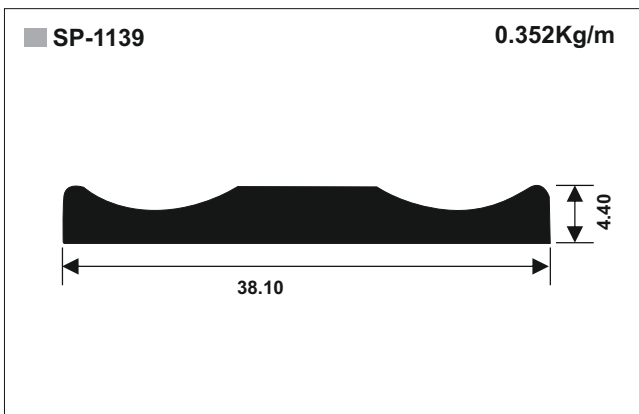
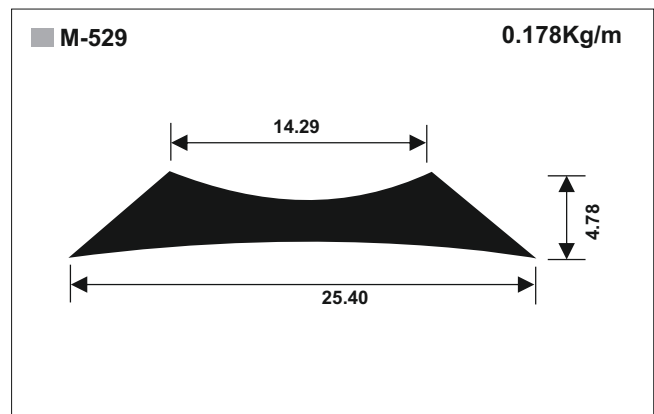
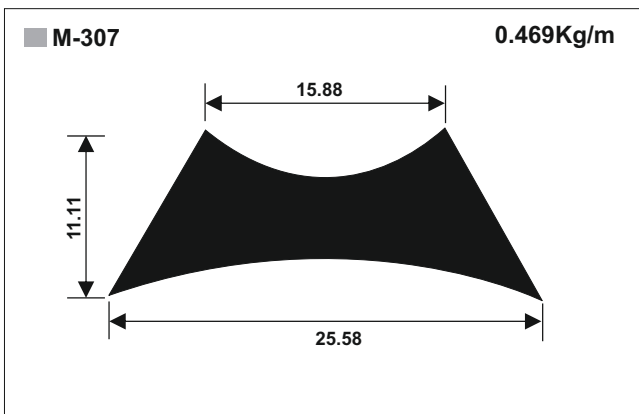
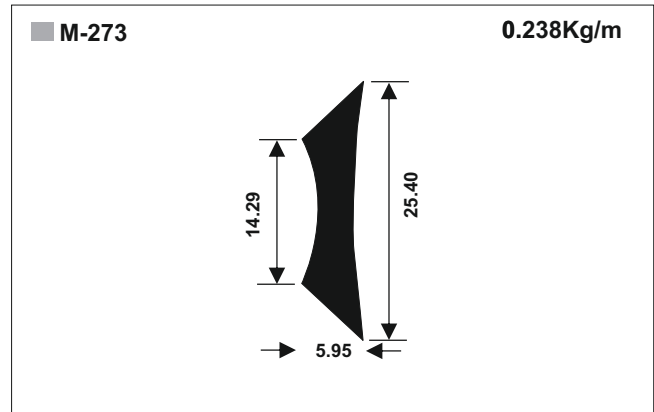
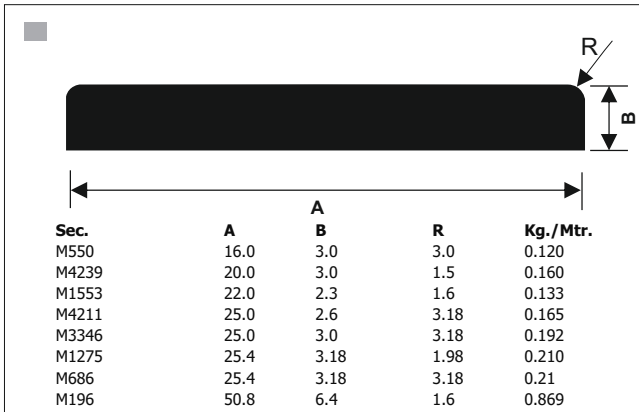


Moulding



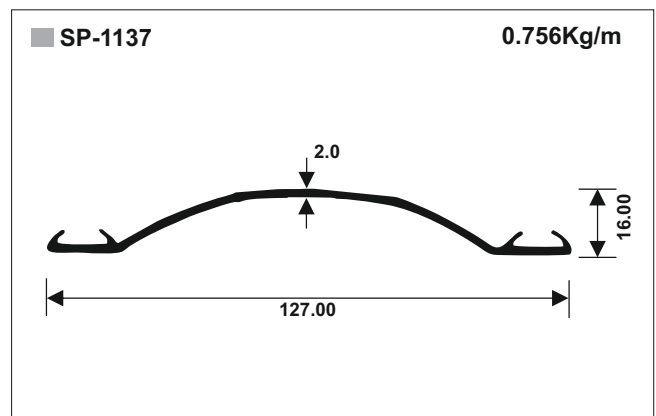
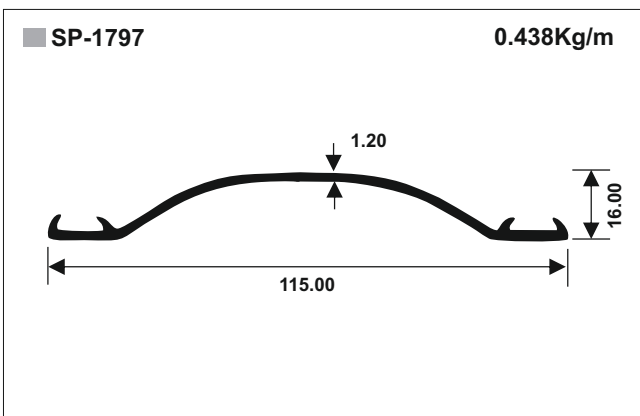
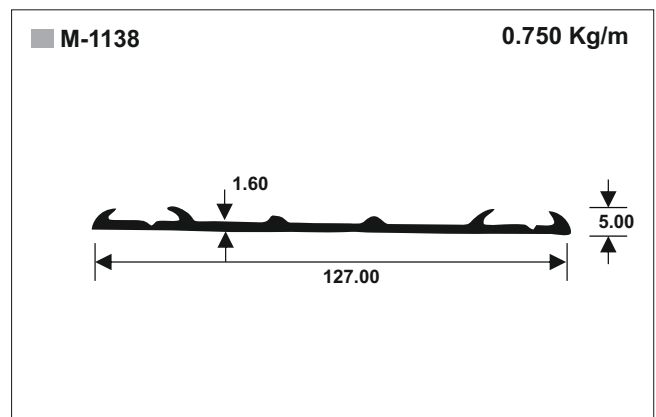
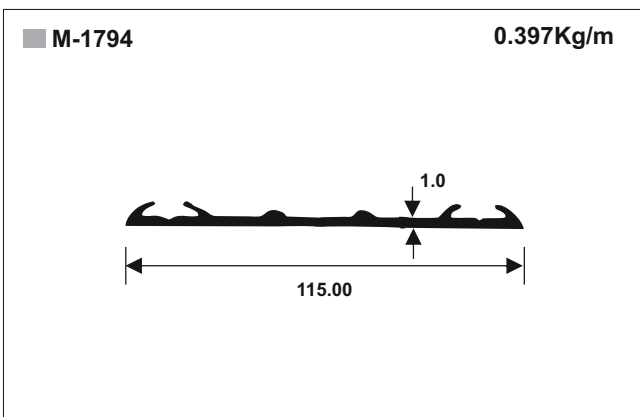
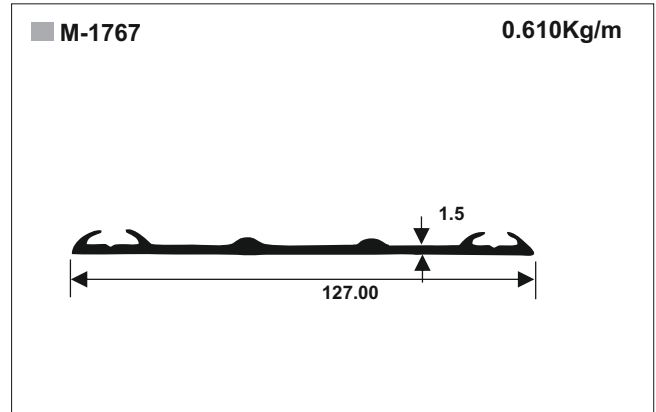
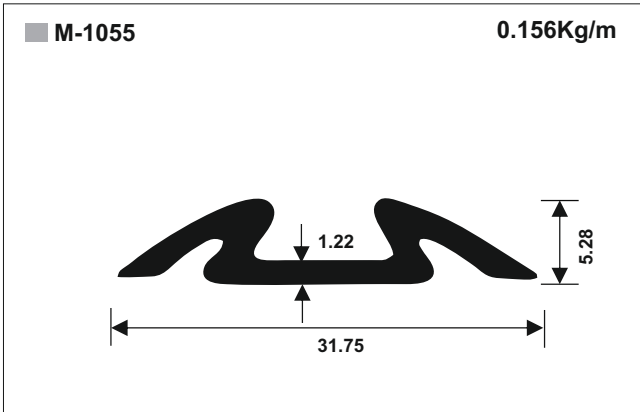


Moulding



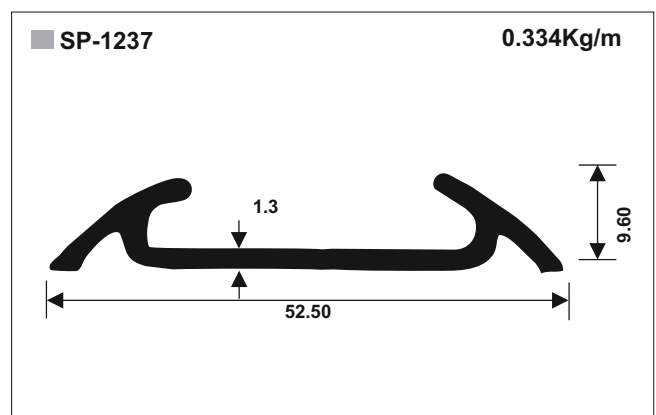
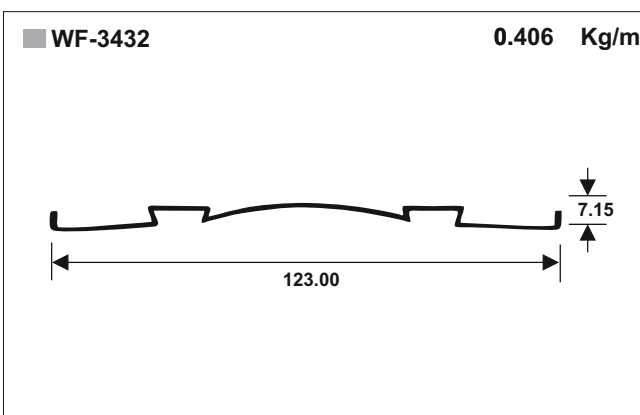
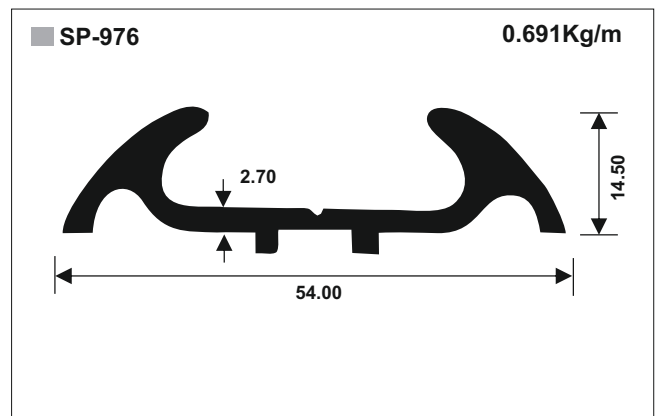
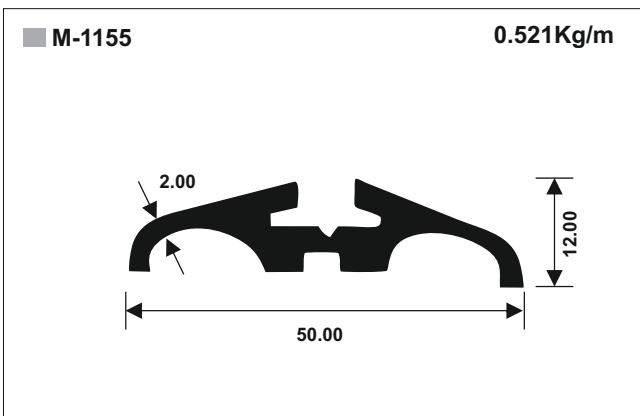
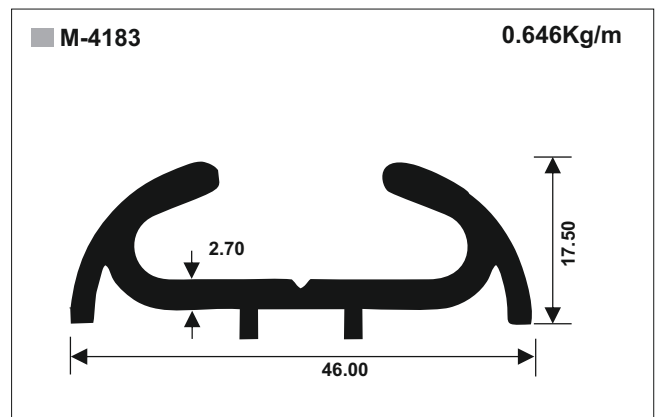
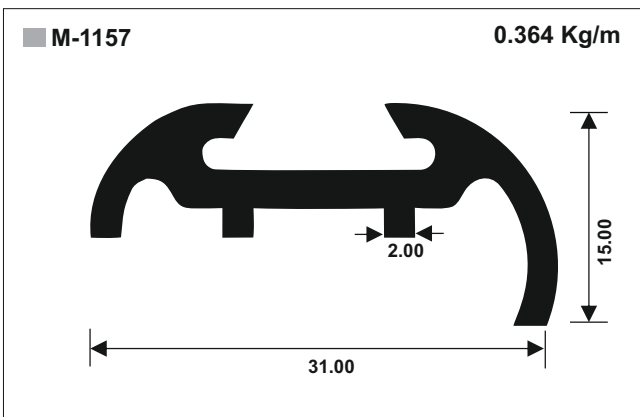
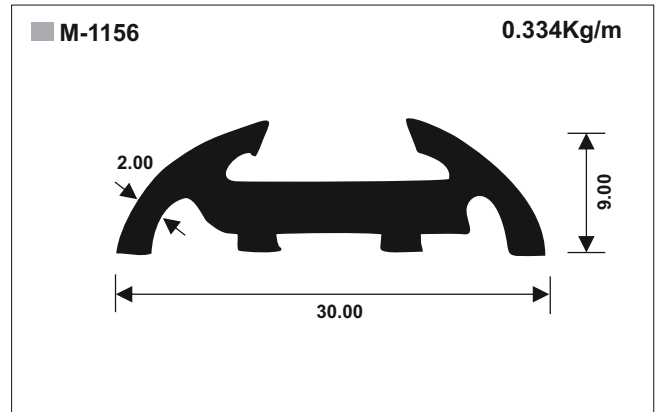
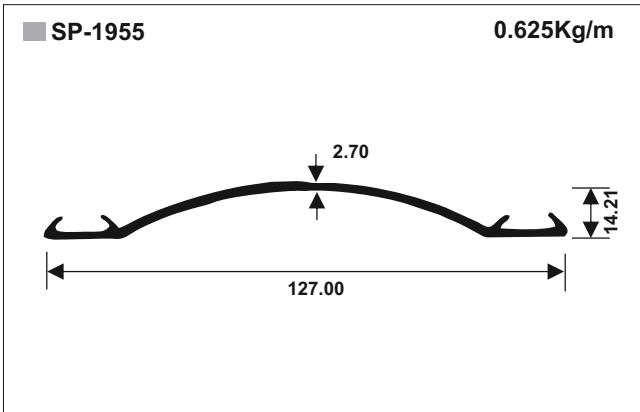


Moulding



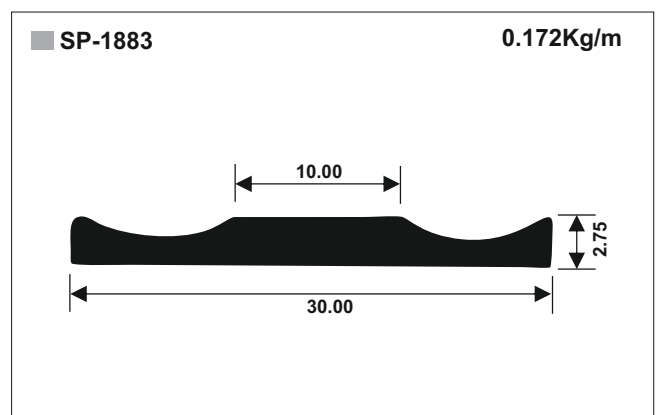
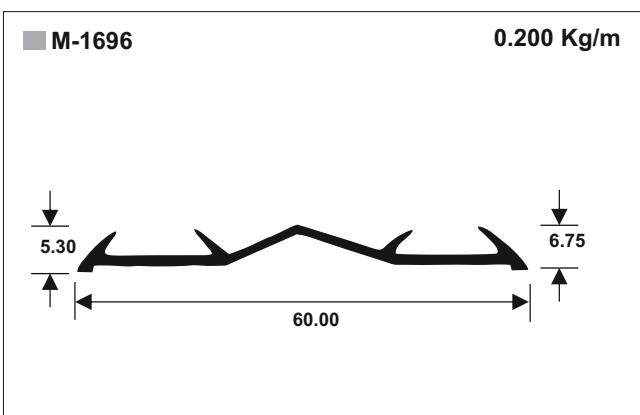
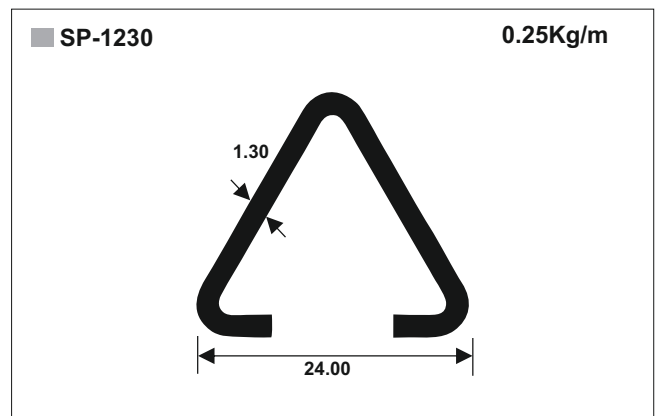
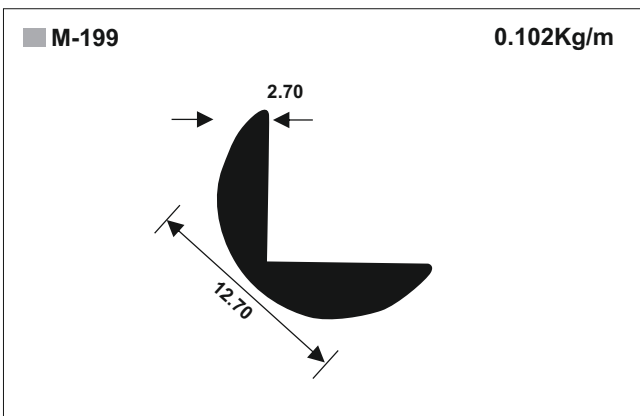
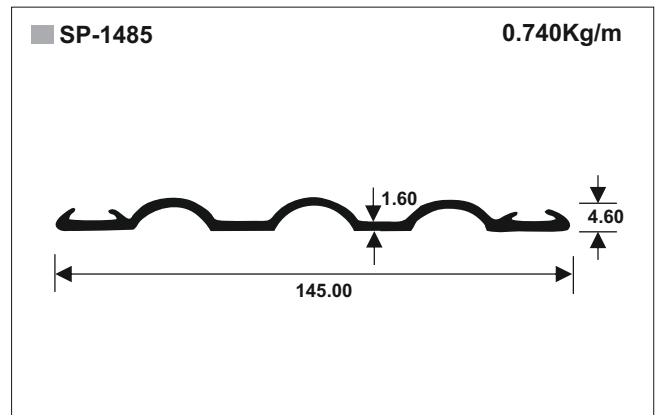
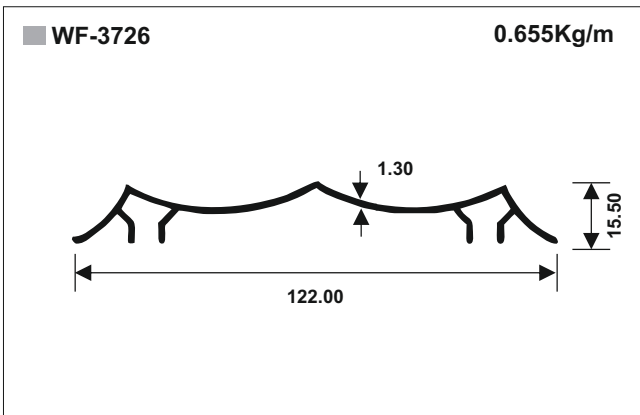
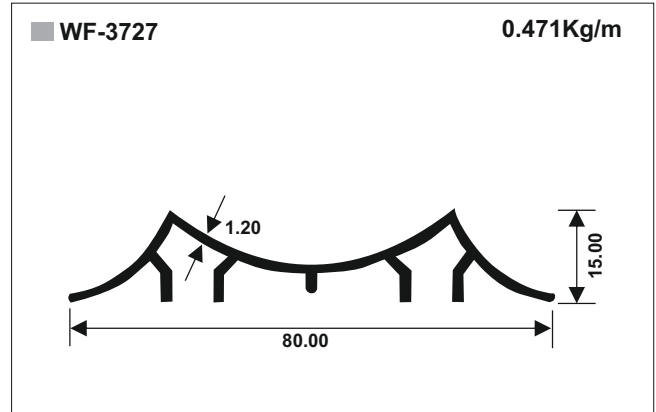
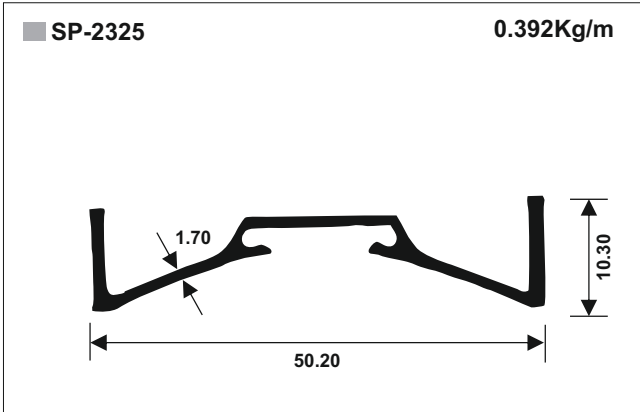


Moulding



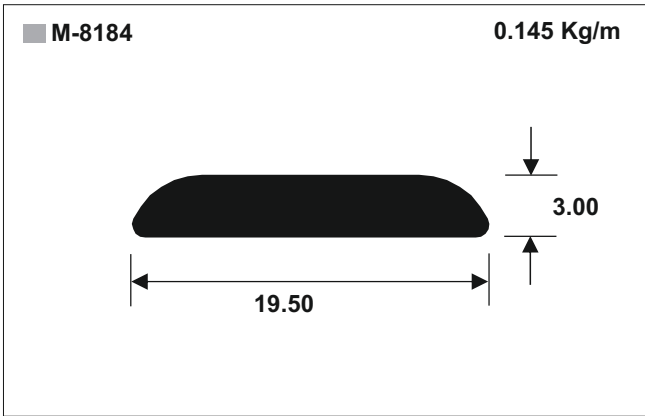
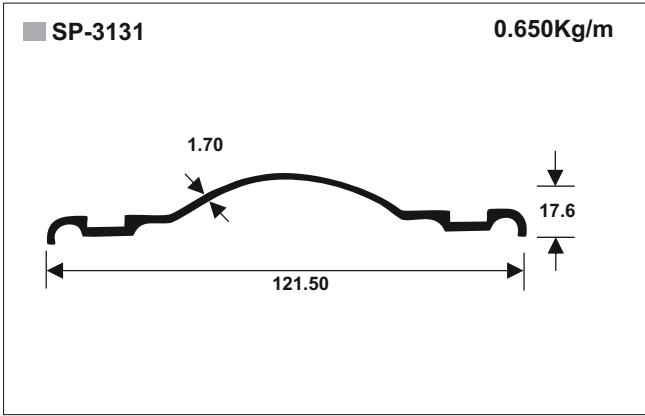
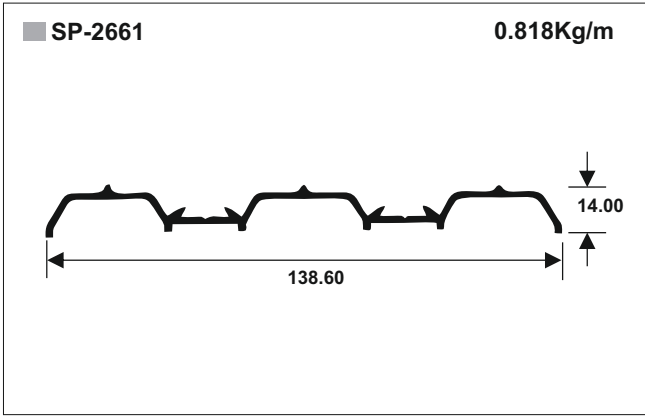
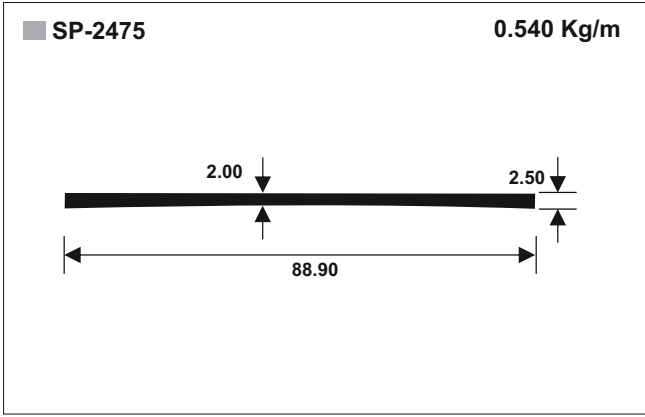
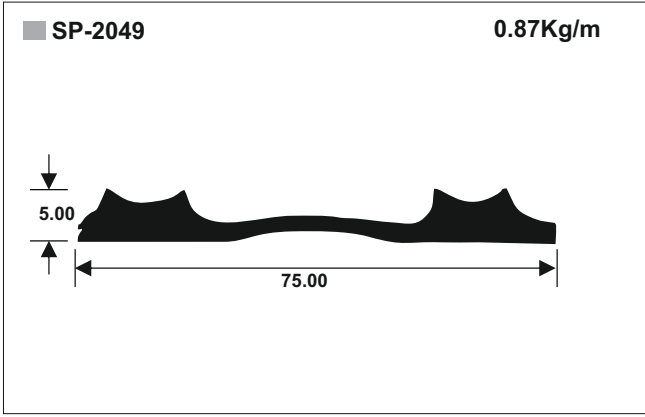


Moulding



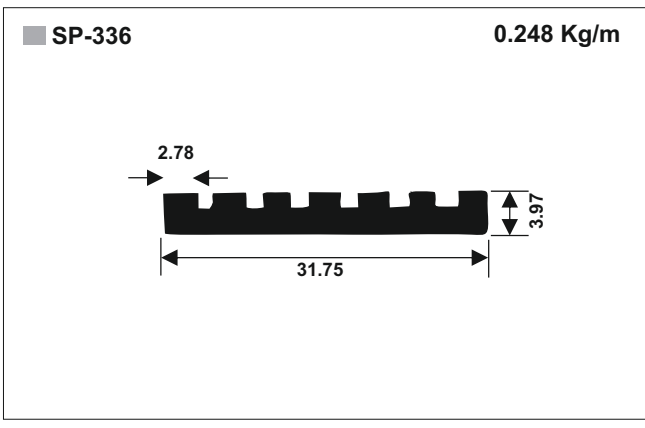
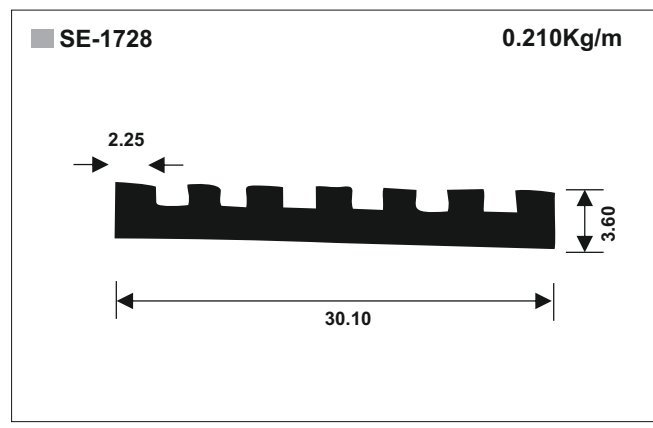
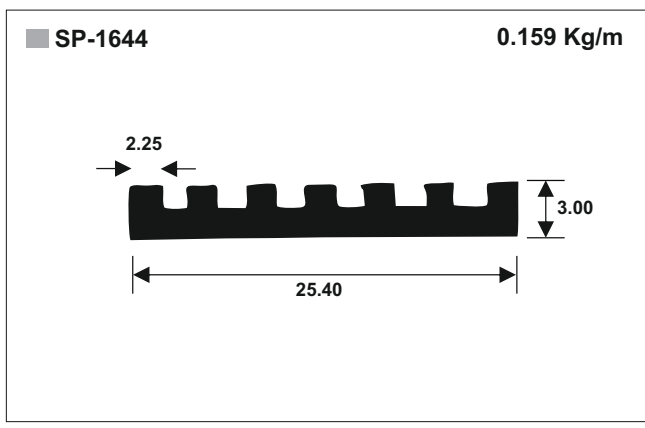
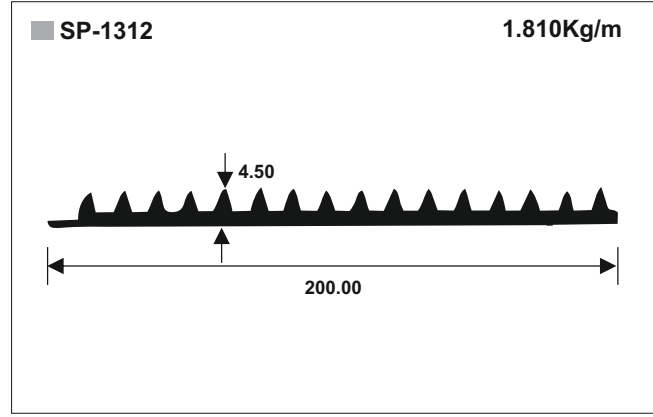
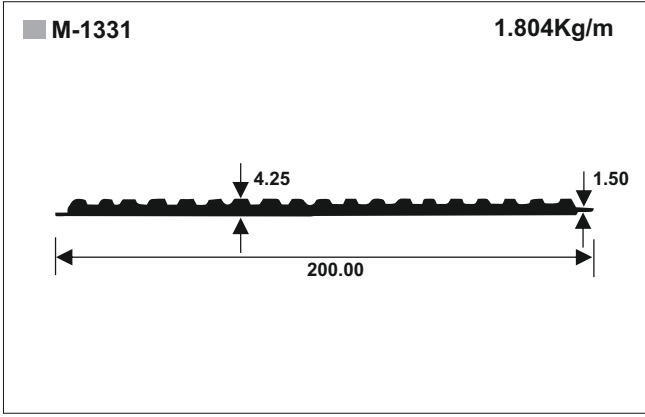


Moulding



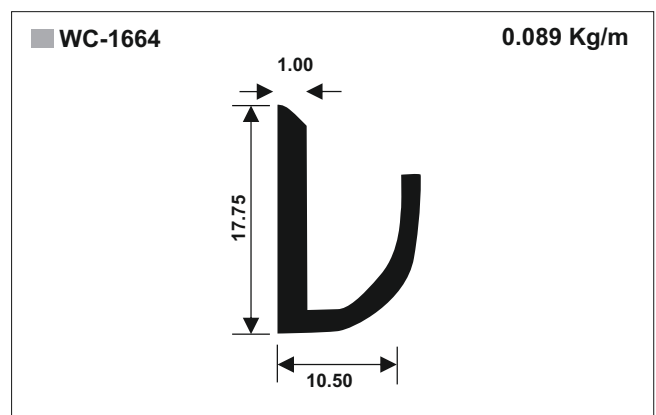
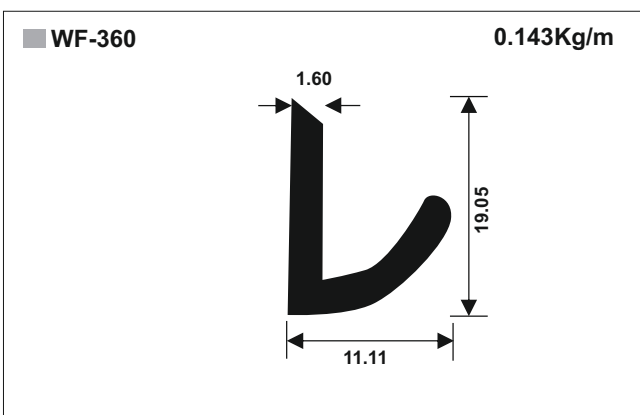
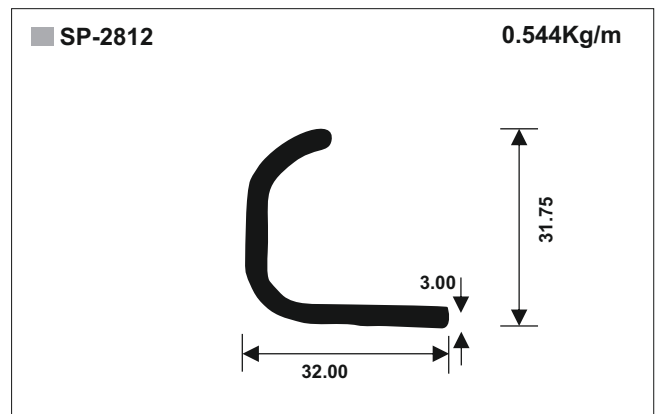
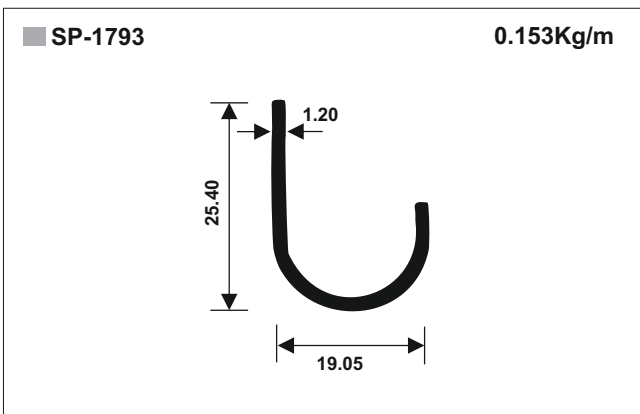
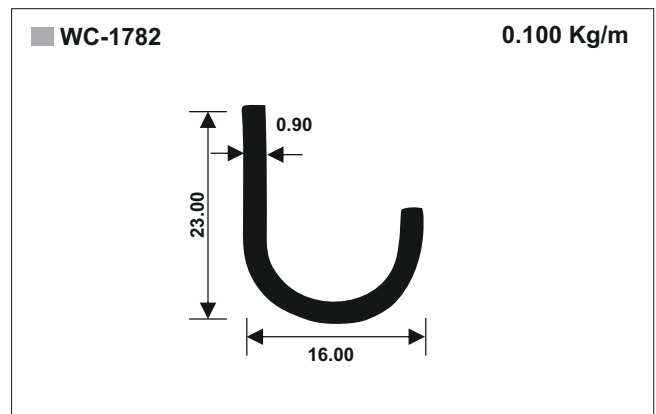
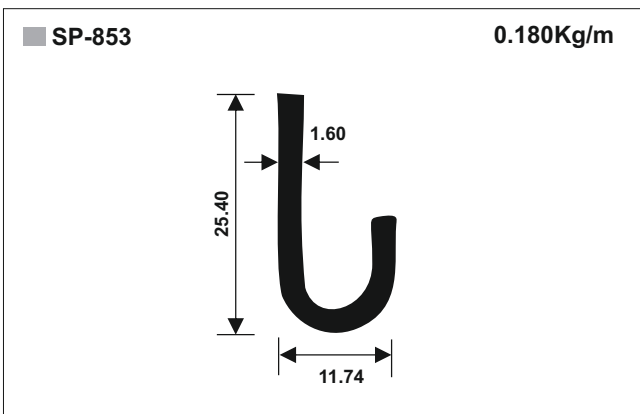
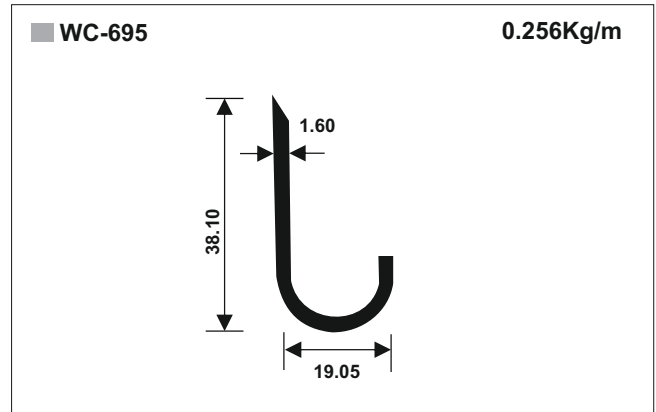
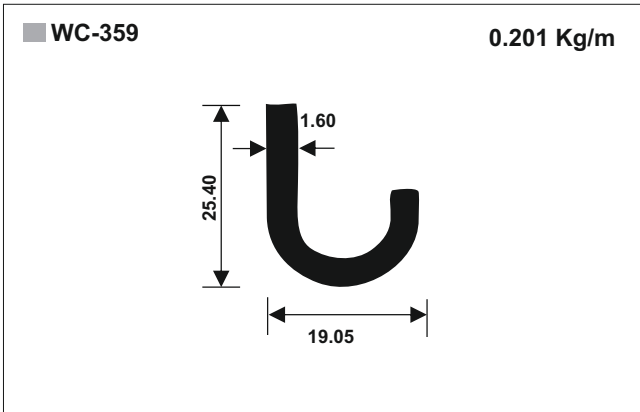


Moulding Fluted Strip



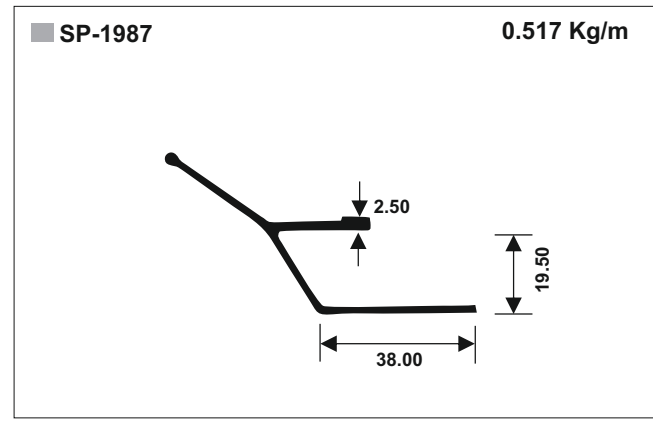
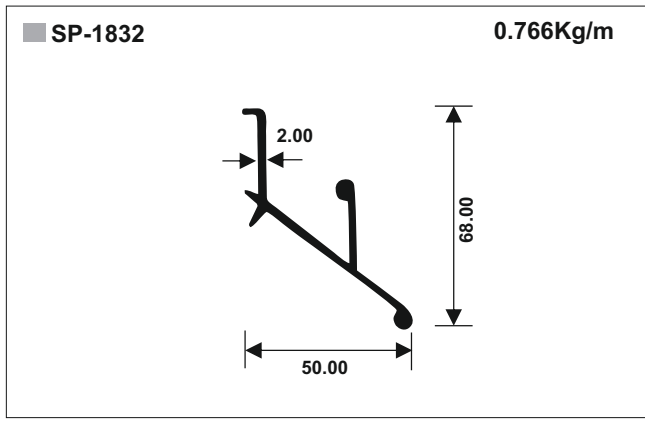
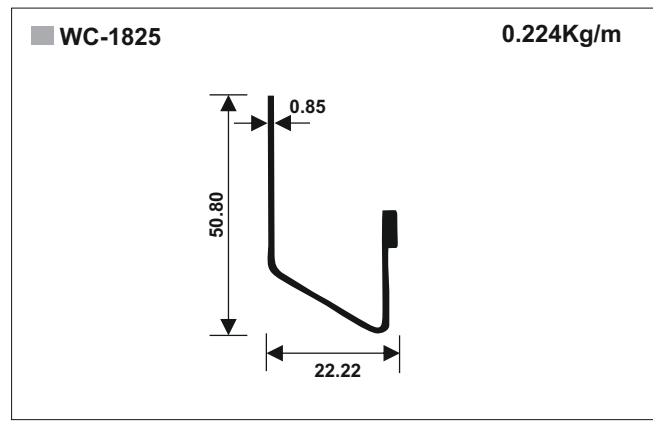
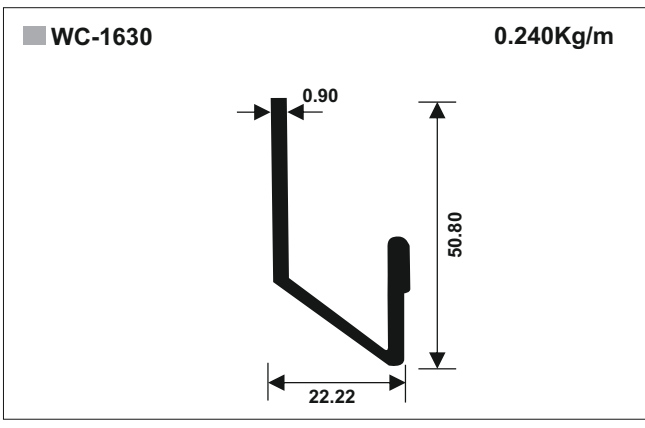
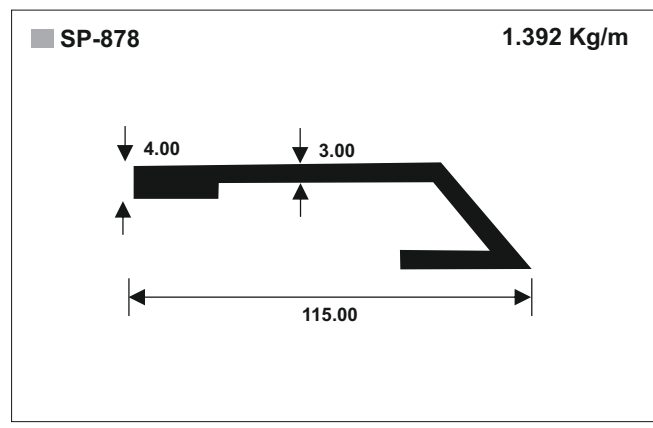
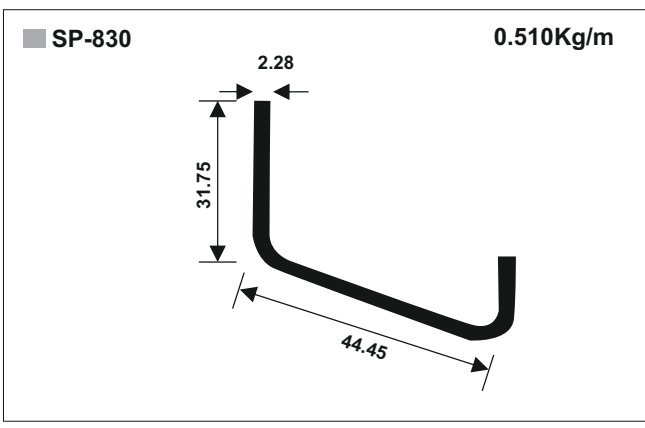
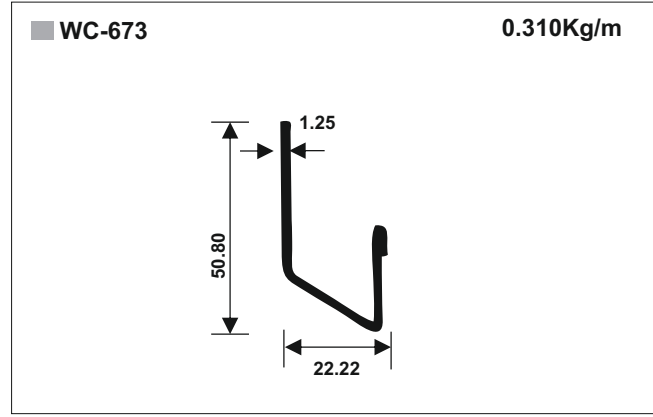
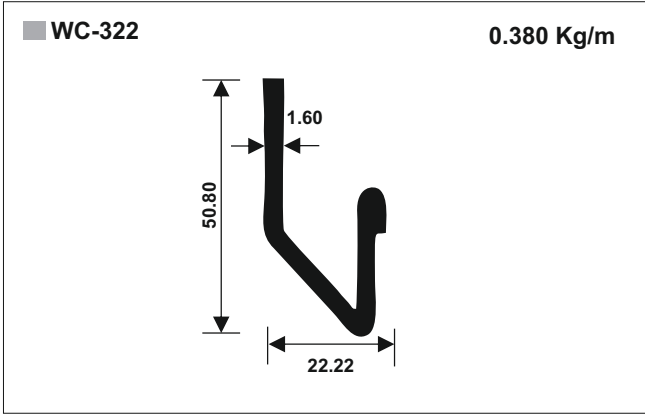


Water Channels





Water Channels





Water Channels

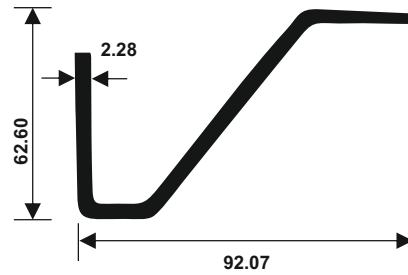
■ SP-4825

1.263 Kg/m



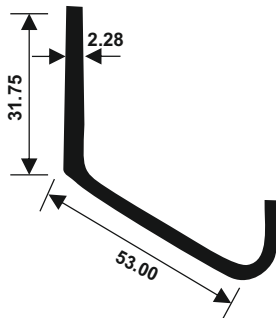
■ SP-1190

1.100Kg/m



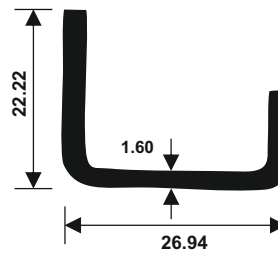
■ SP-1193

0.590Kg/m



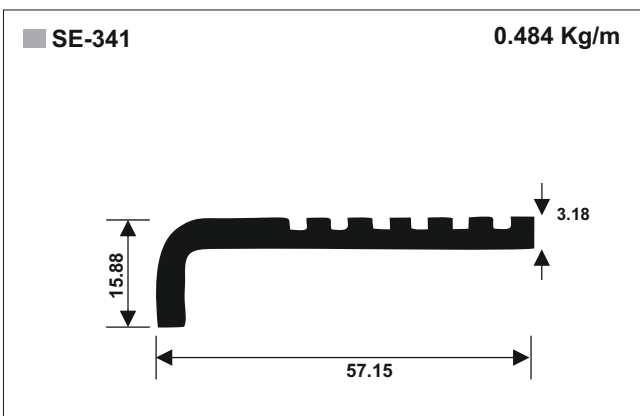
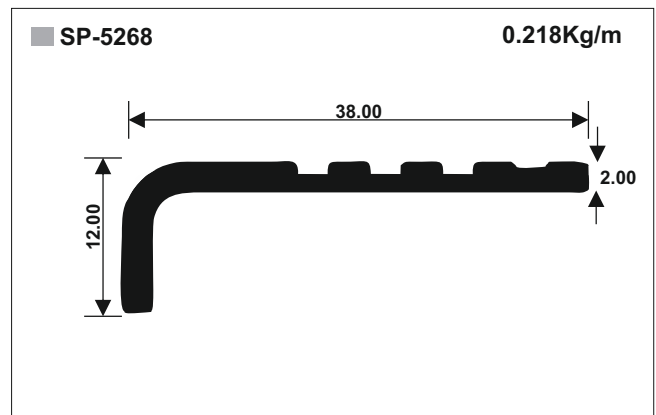
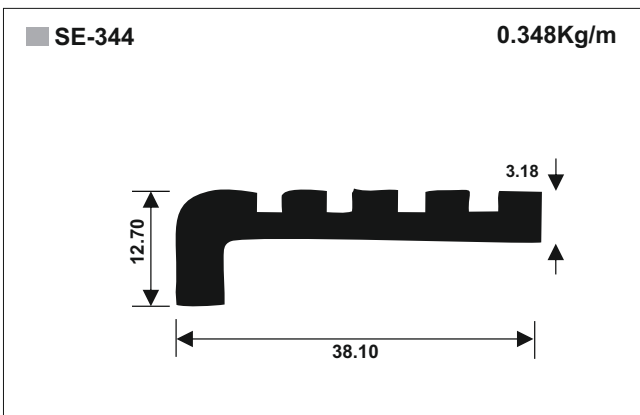
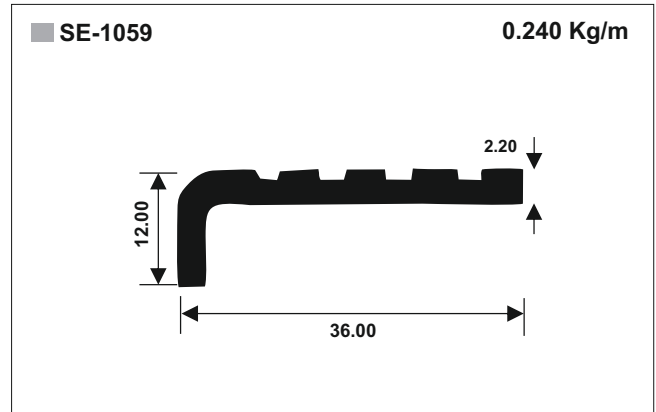
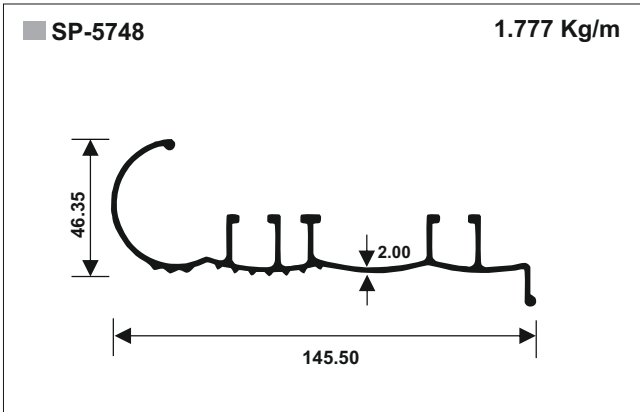
■ SP-1245

0.240 Kg/m



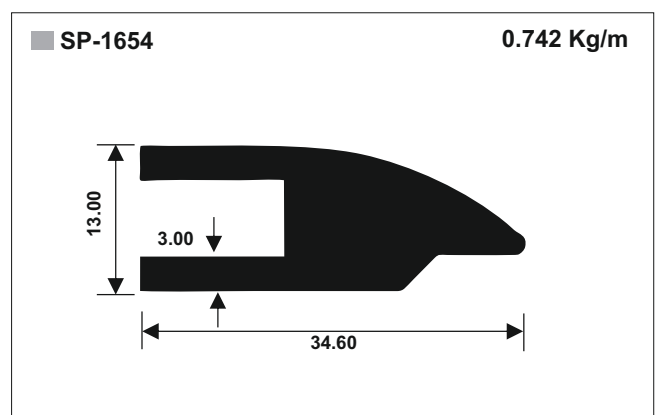
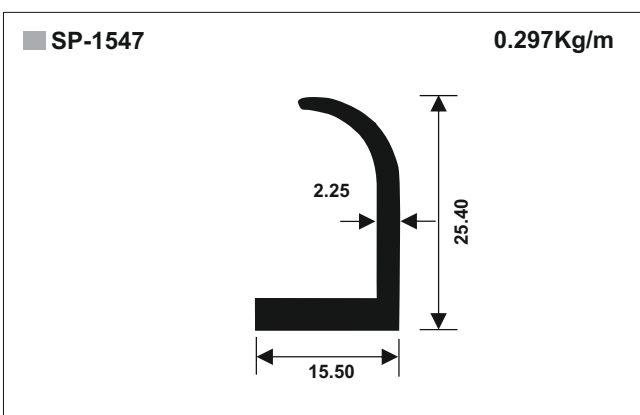
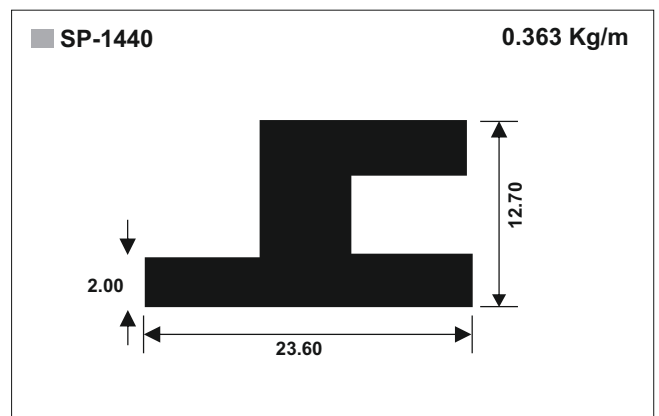
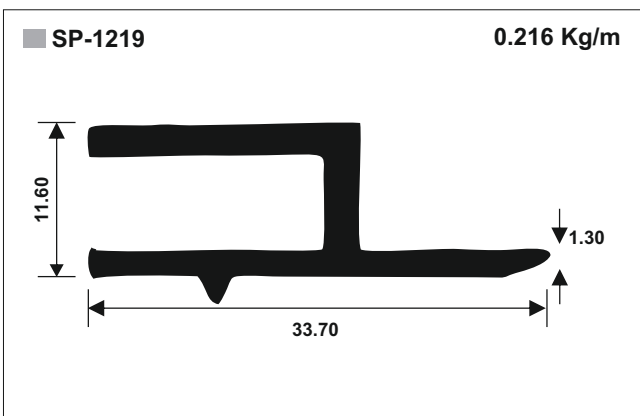
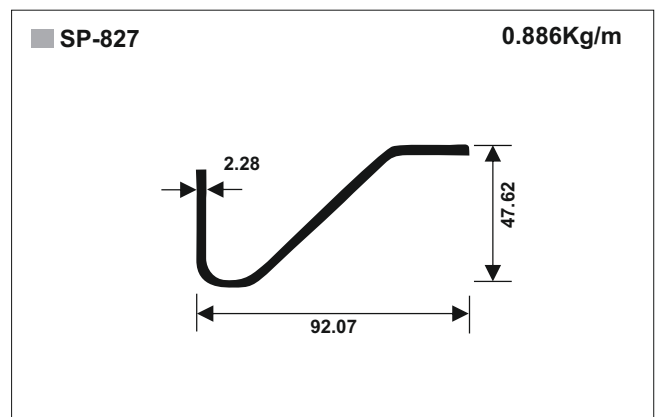
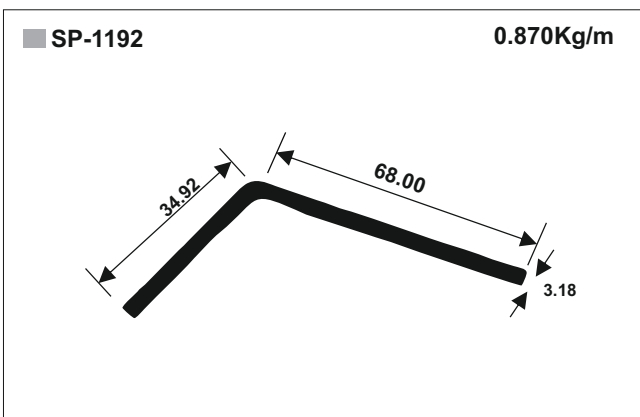
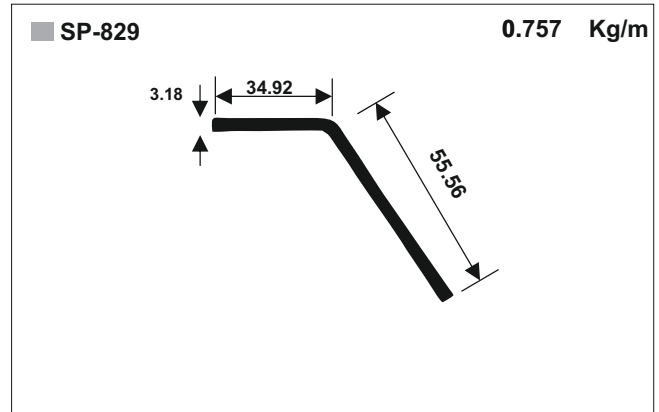
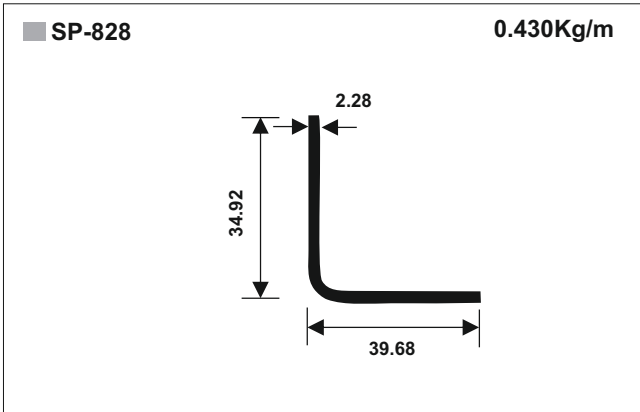


Step Edging



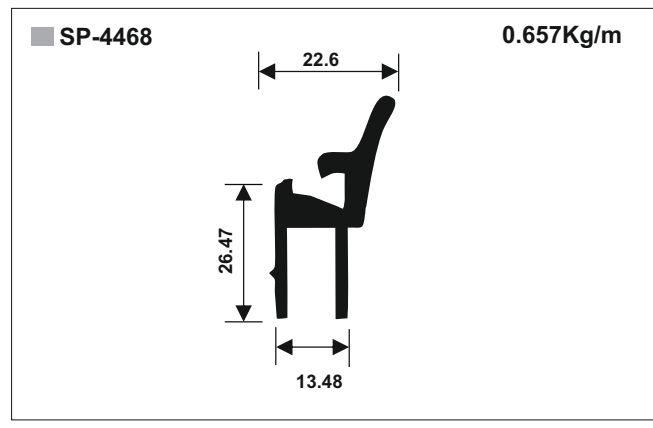
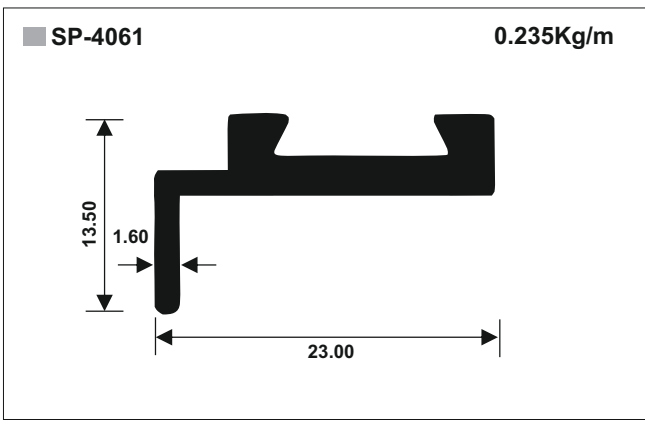
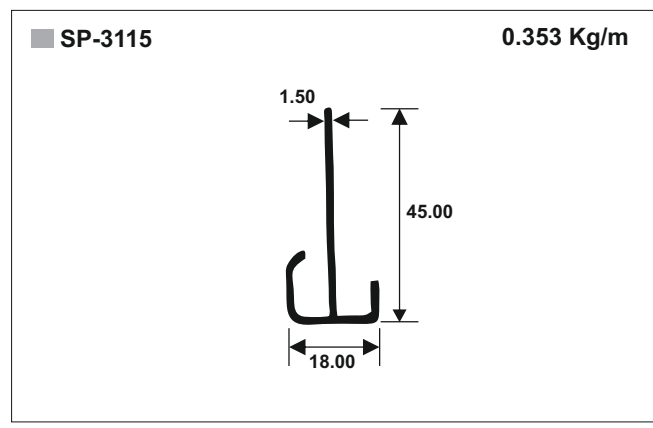
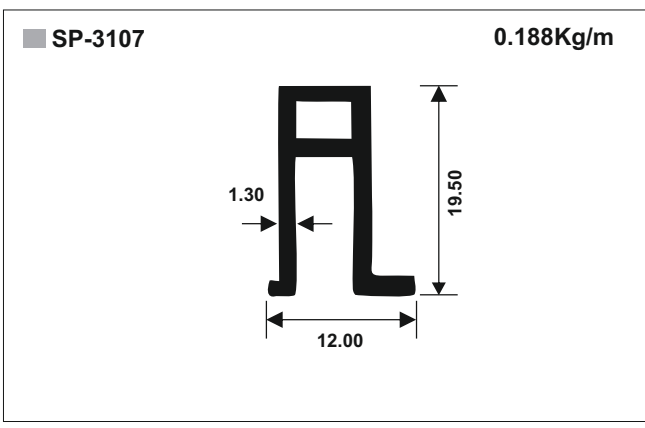
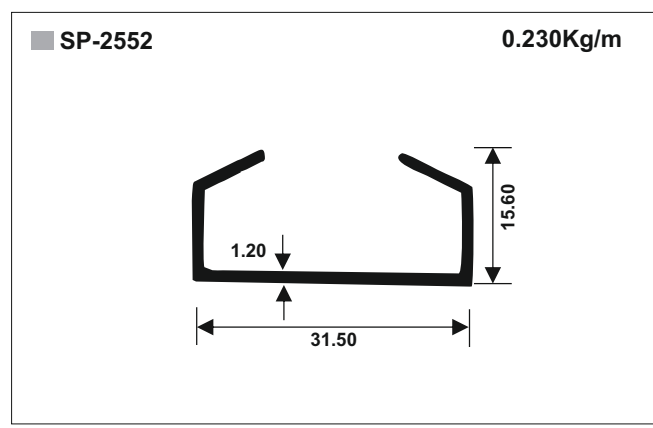
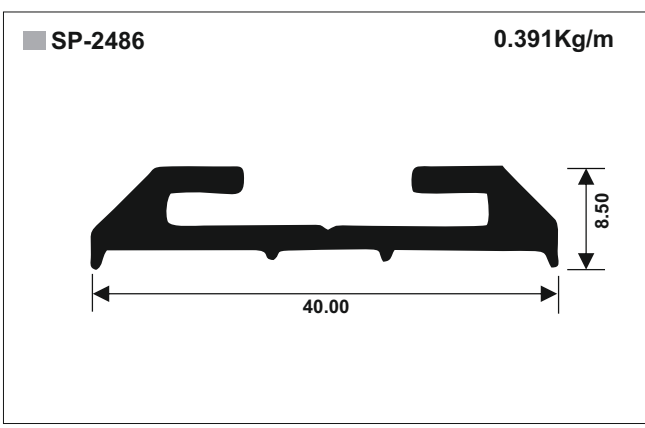
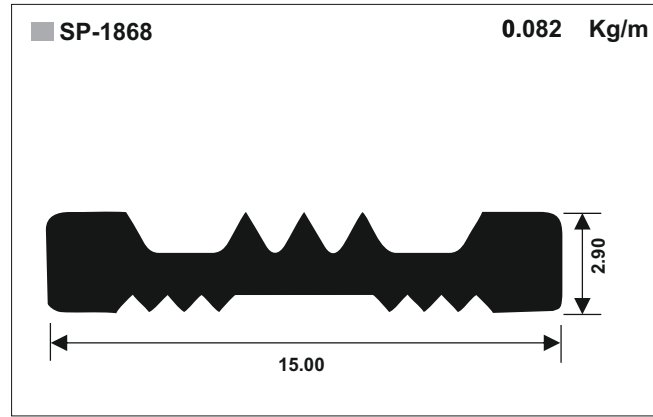
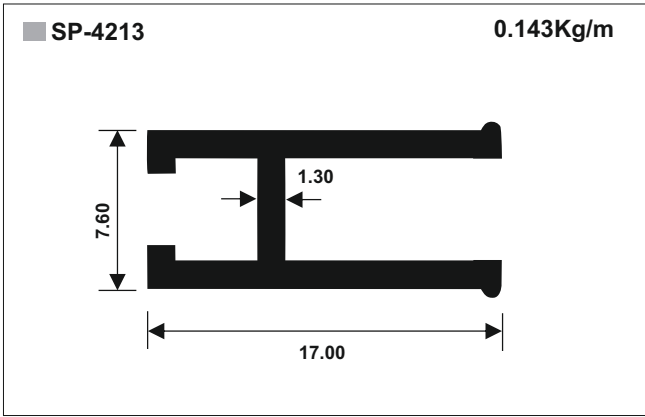


Bus Body Structurals



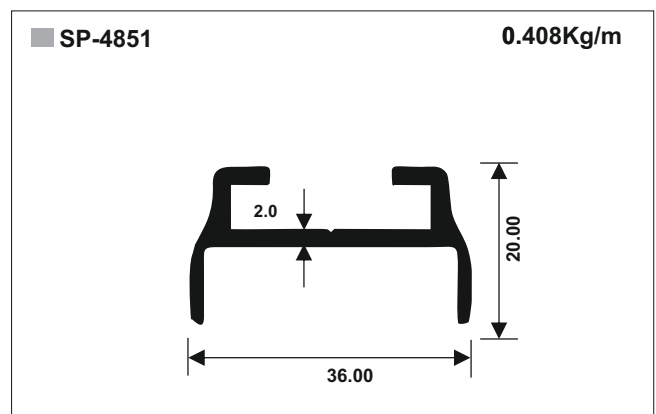
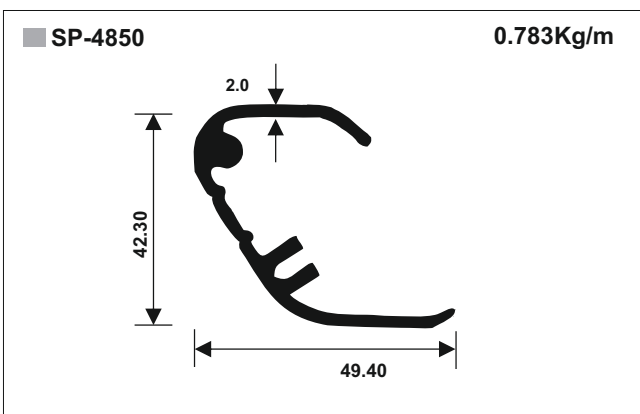
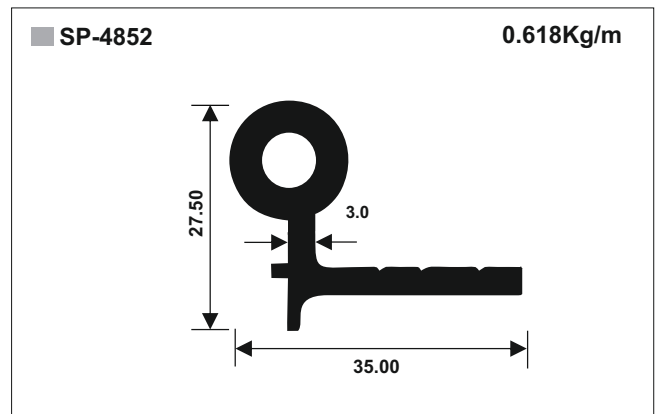
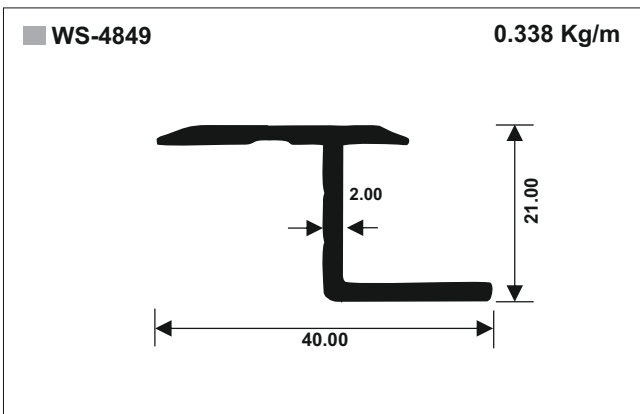
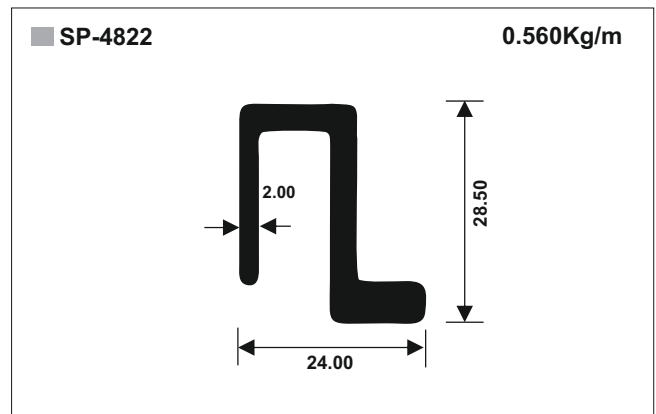
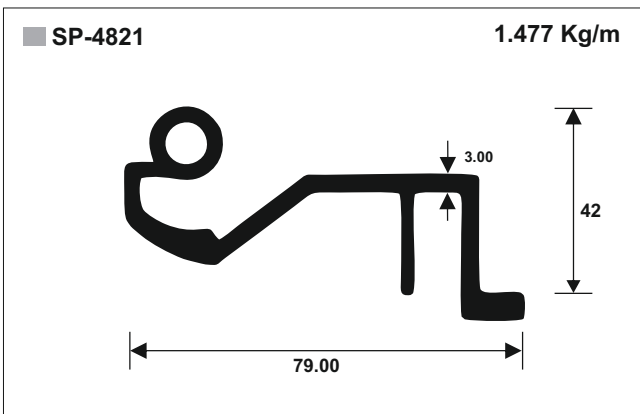
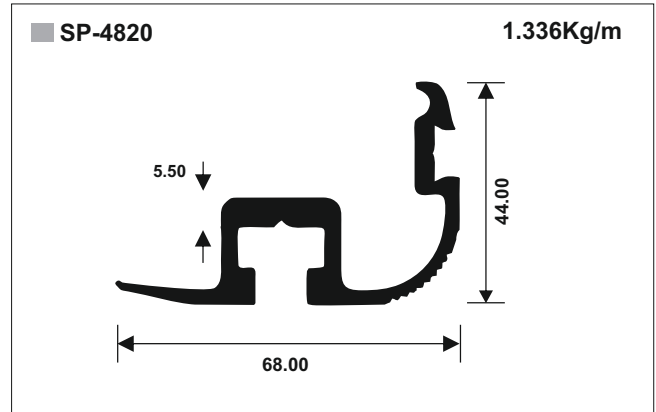
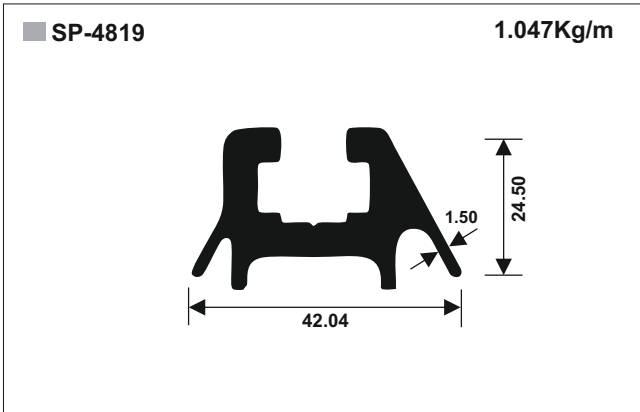


Bus Body Structurals



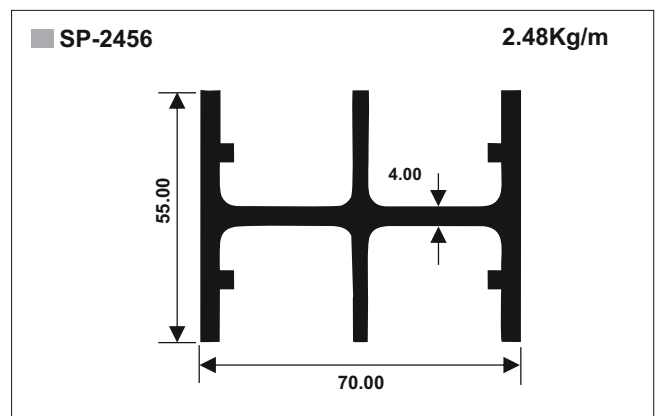
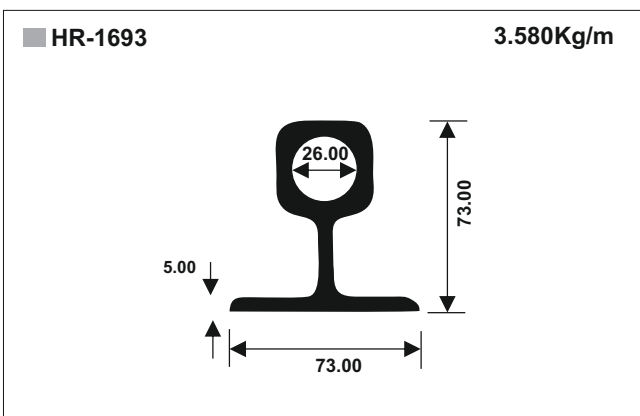
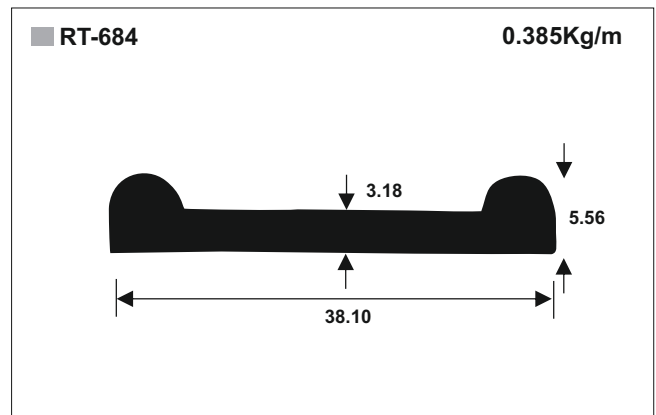
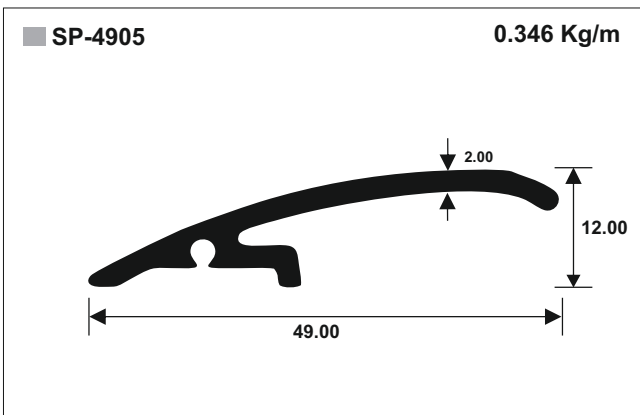
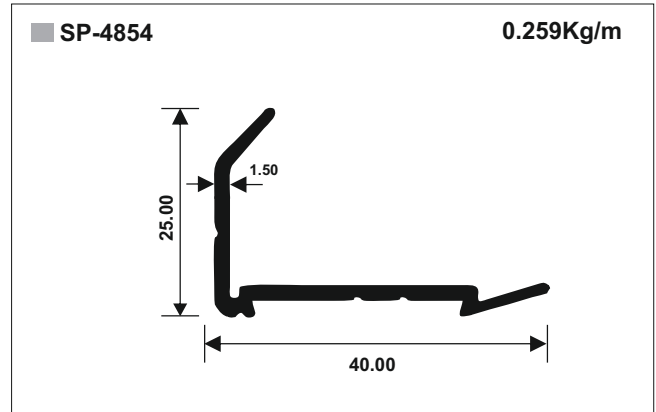
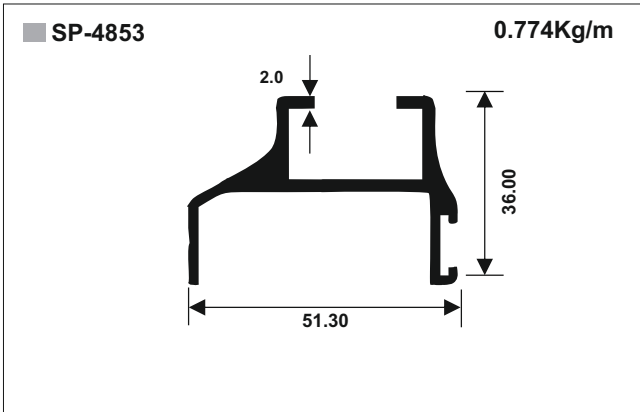


Bus Body Structurals



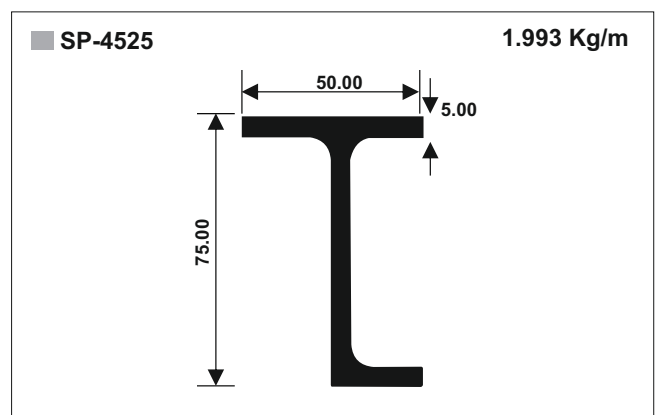
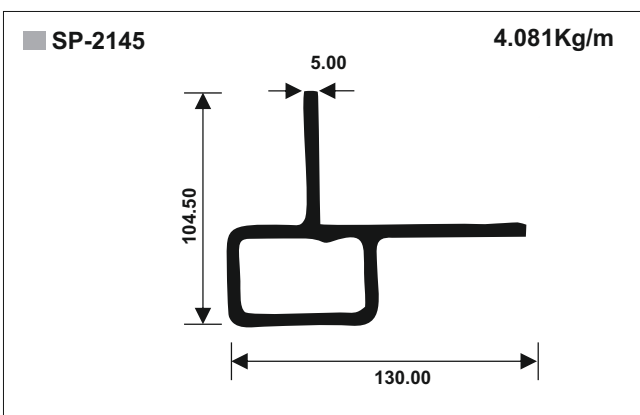
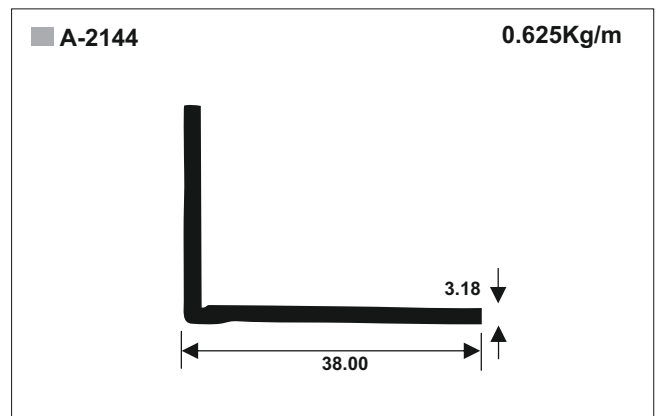
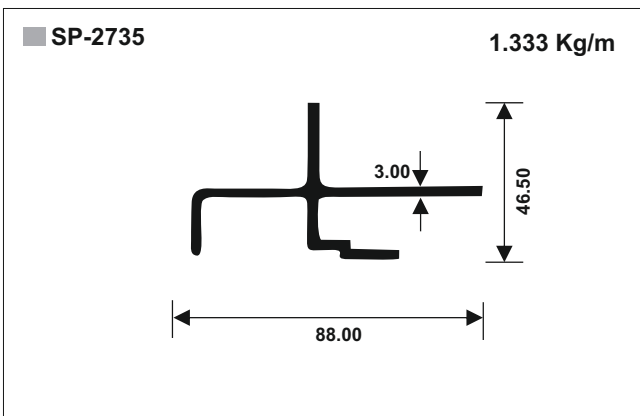
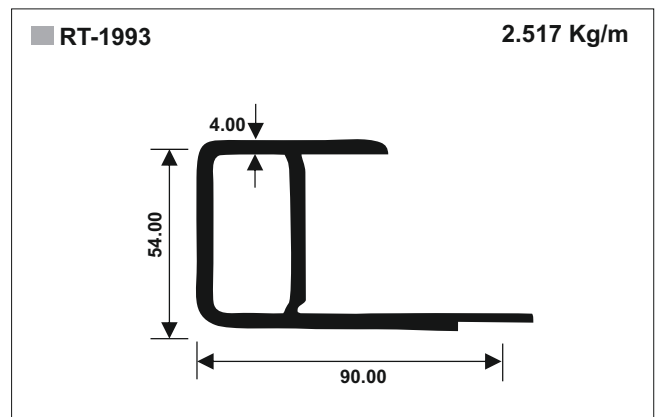
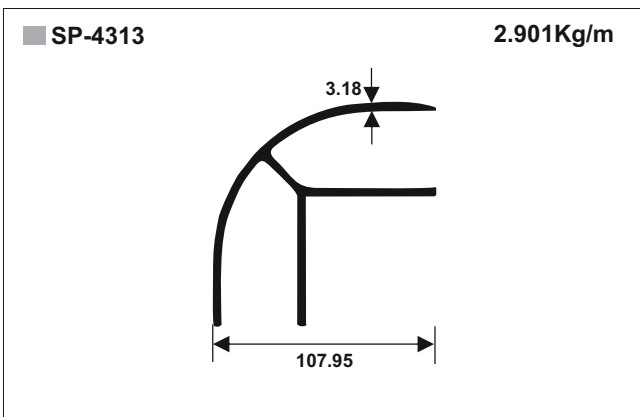
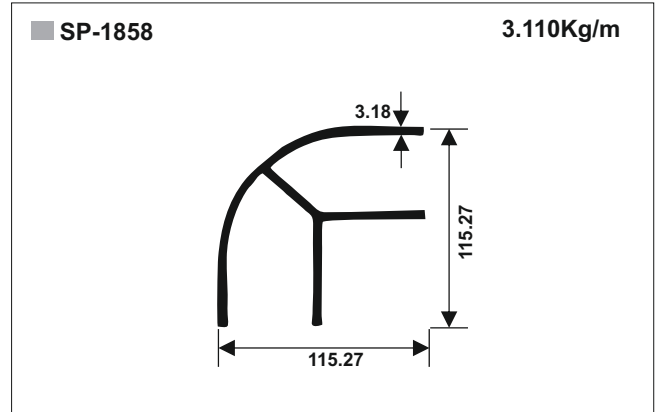
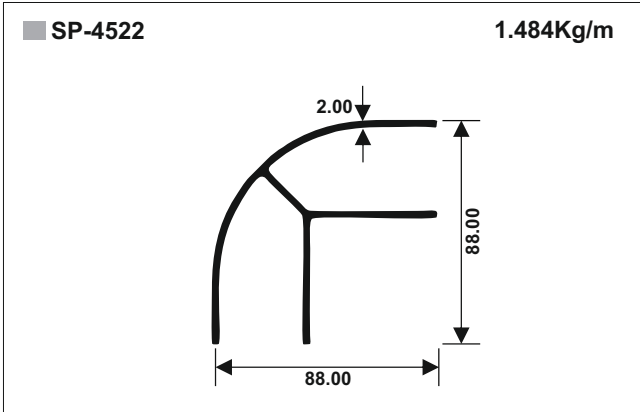


Bus Body Structurals



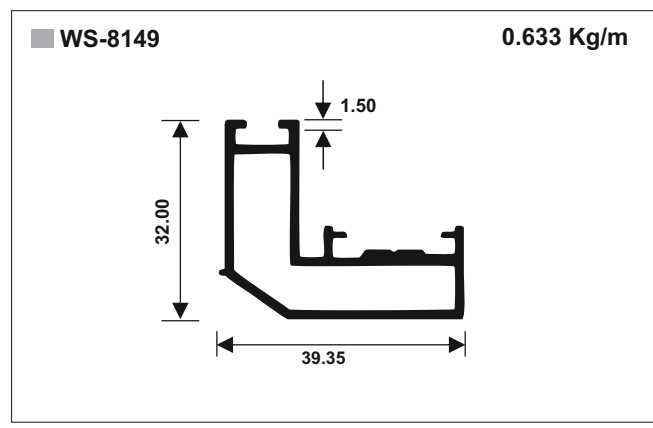
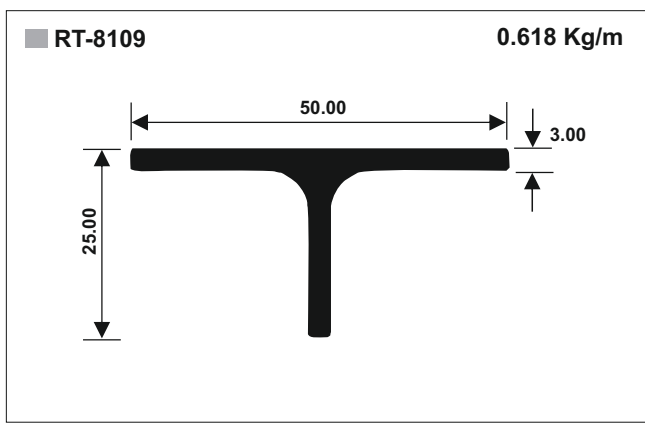
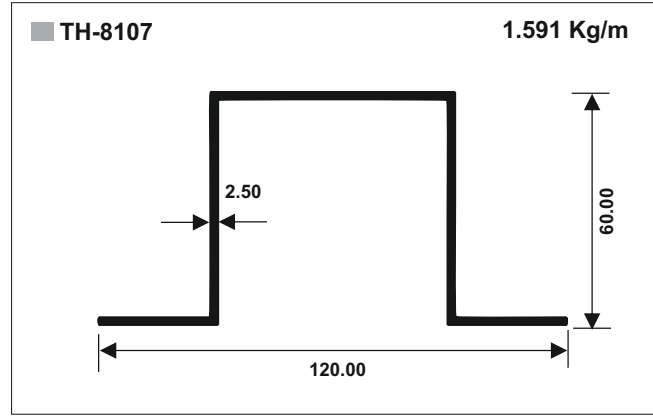
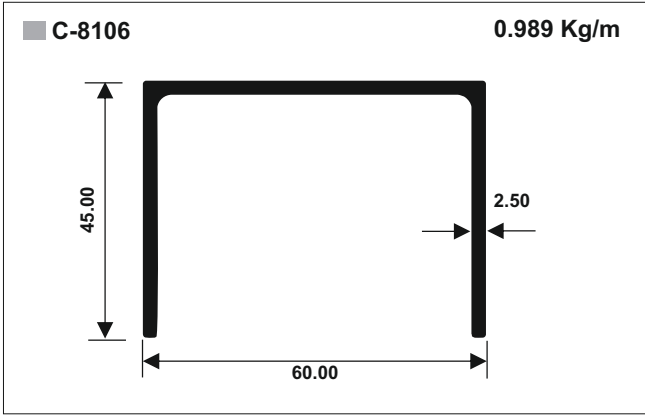


Truck Body Structurals



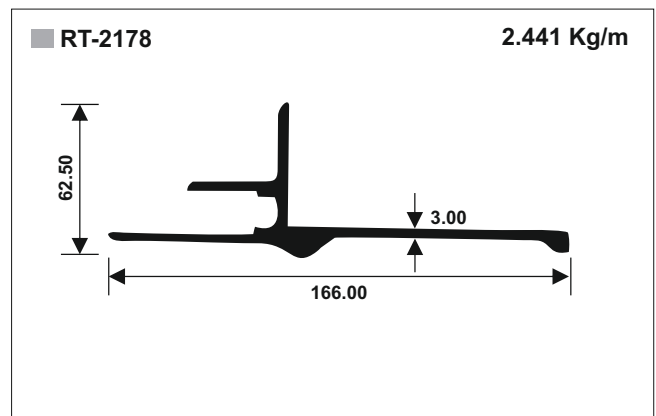
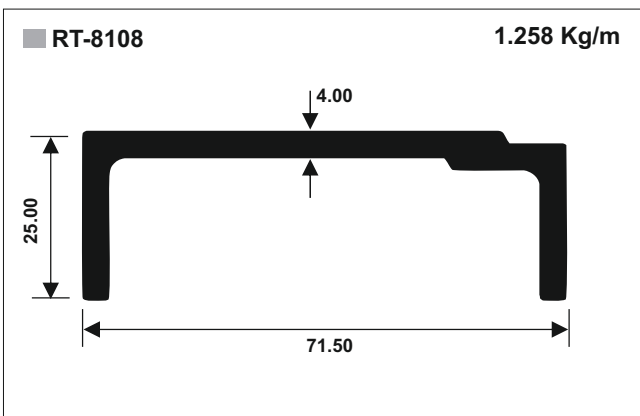
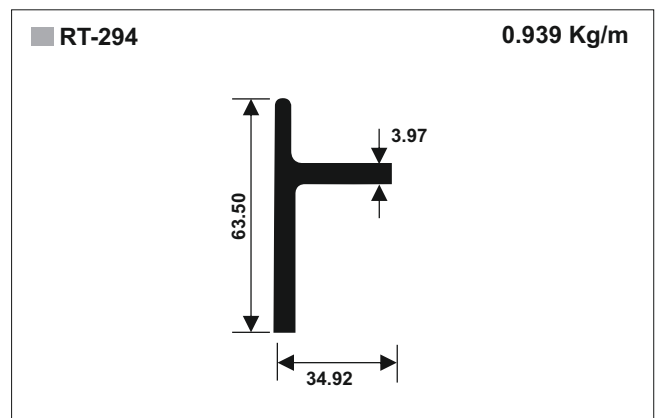
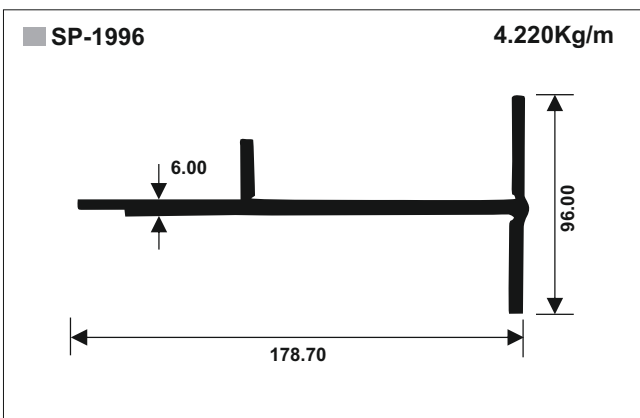
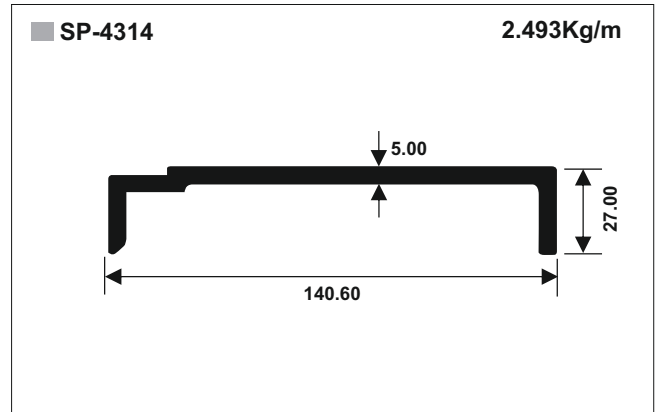
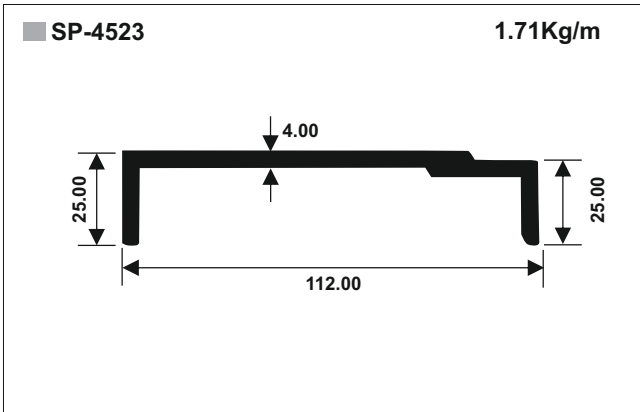


Truck Body Structurals

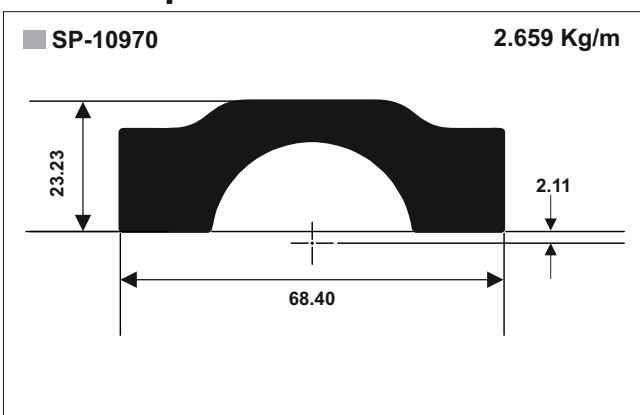




Truck Body Side Raves

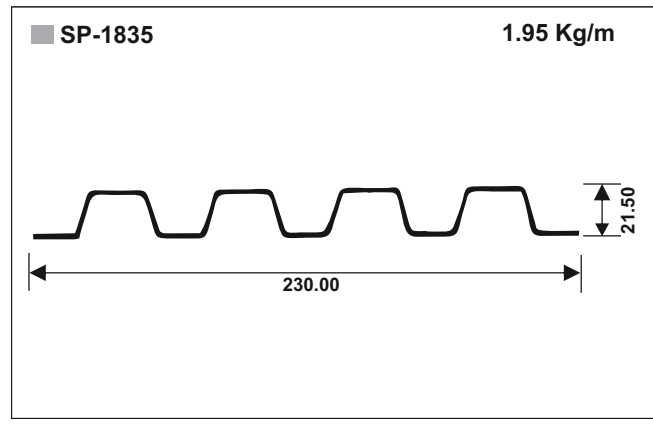
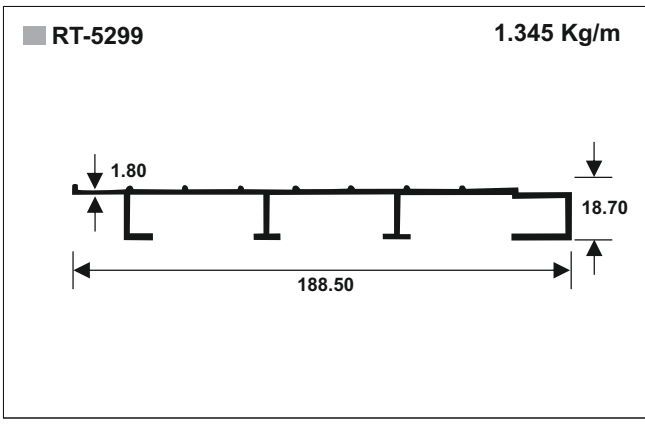
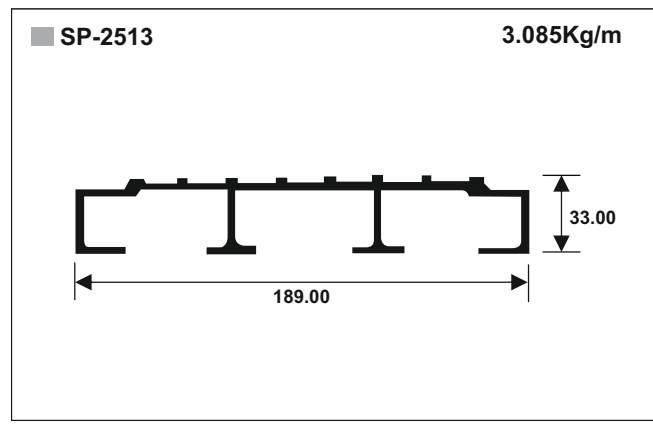
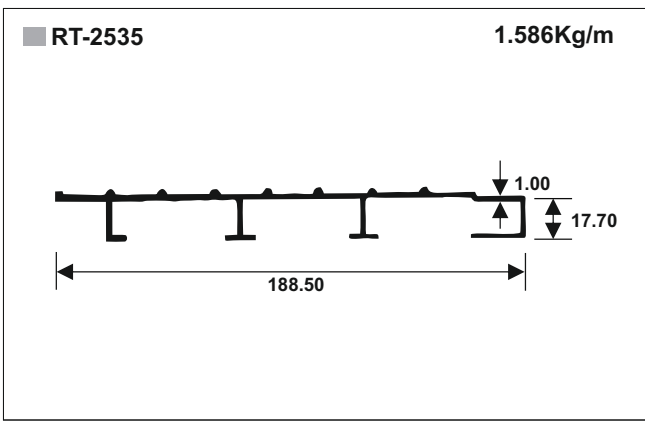
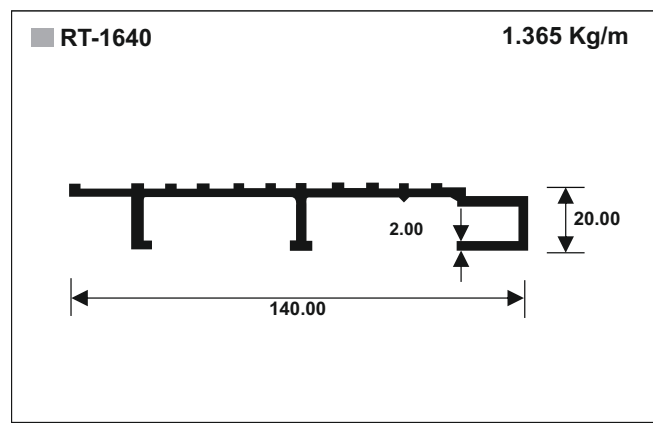
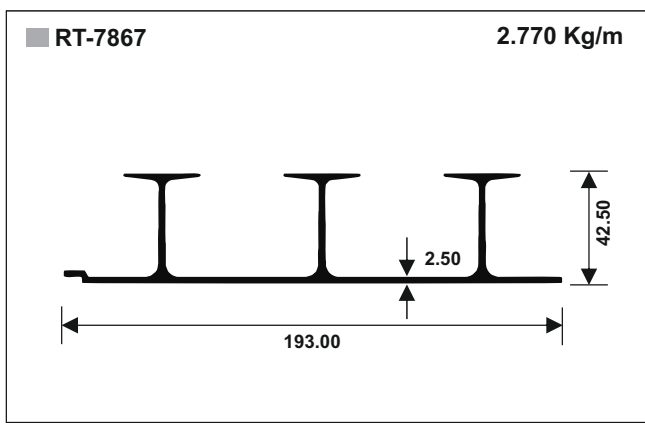
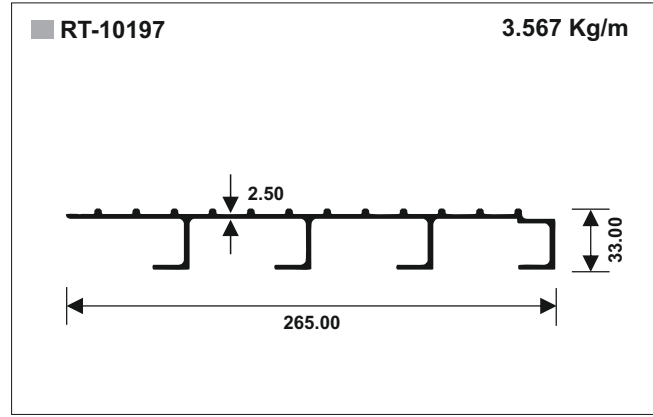
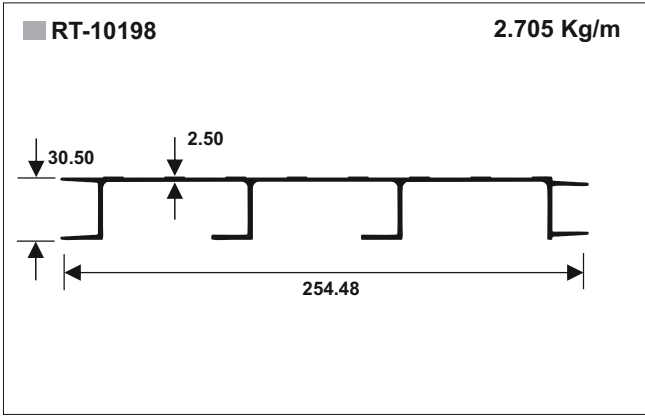


Truck Spacer



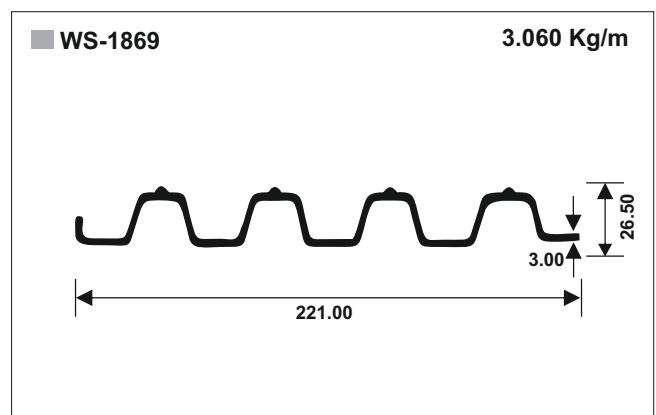
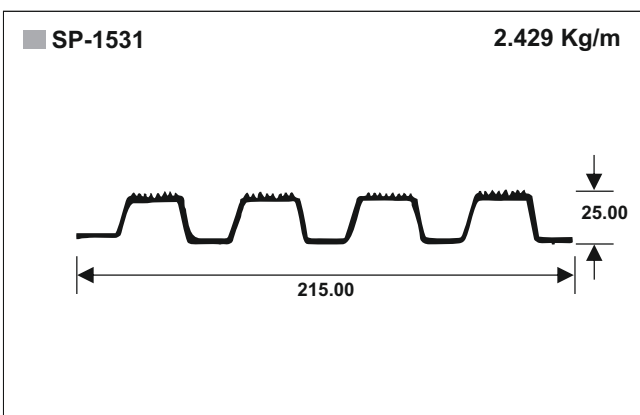
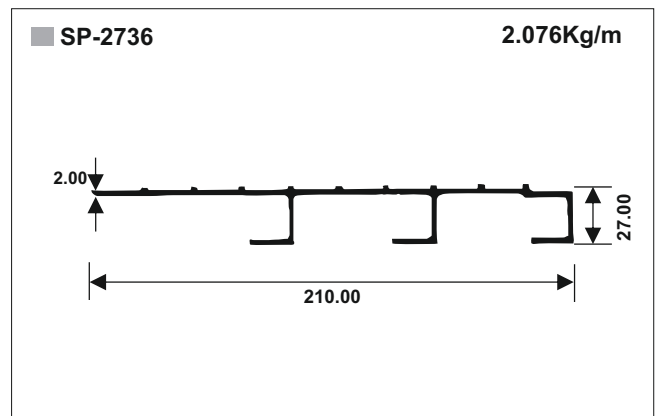
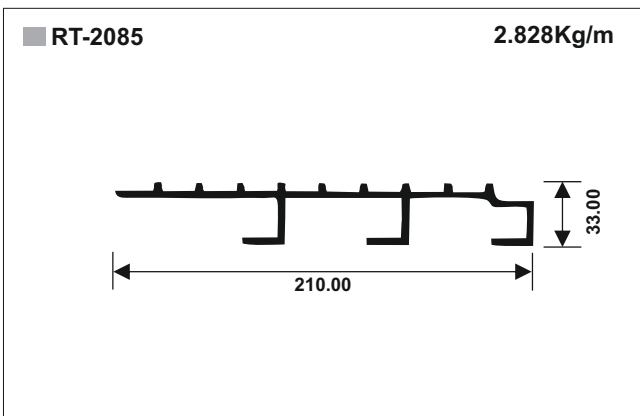
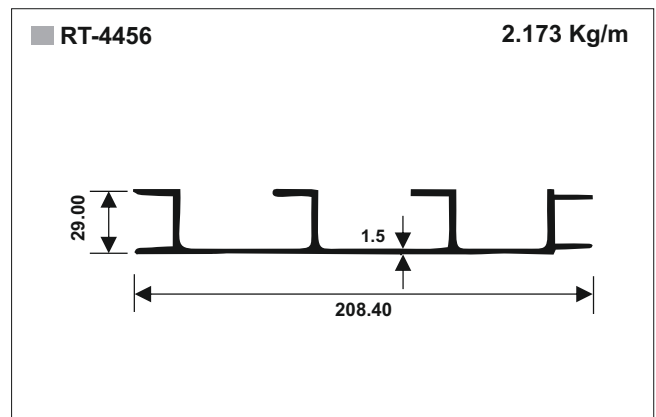
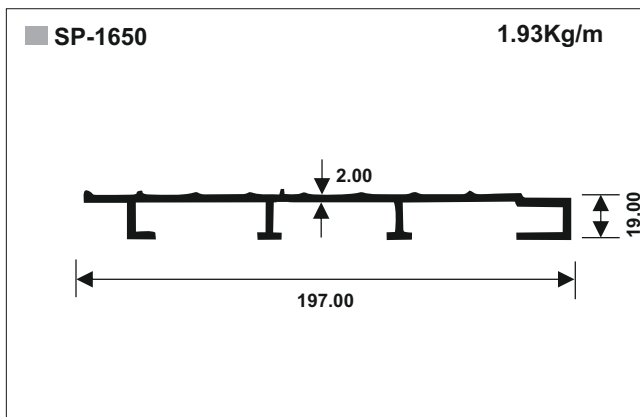
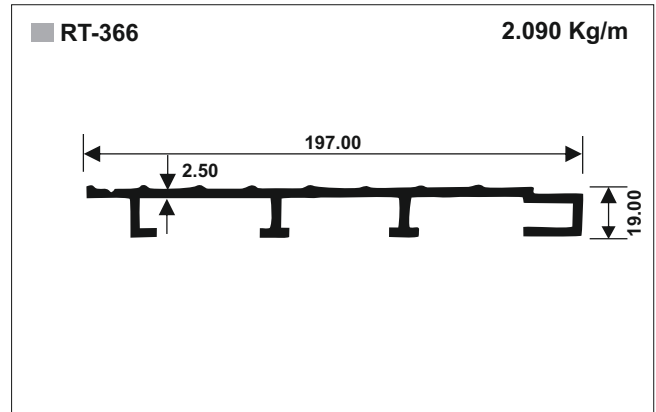
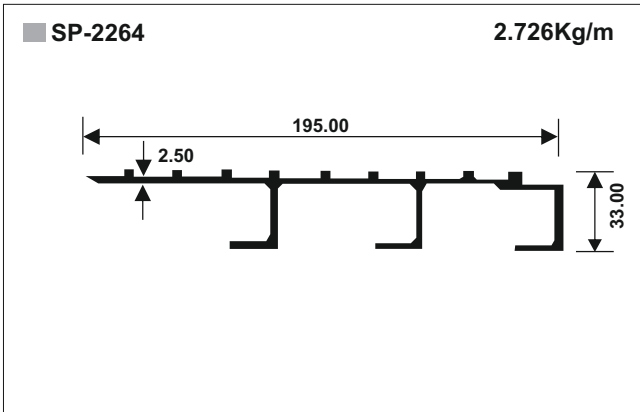


Floor Planks





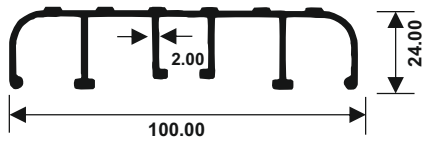
Floor Planks





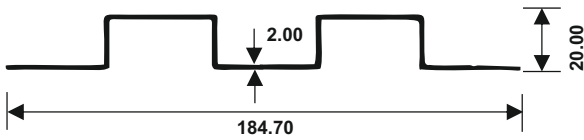
Floor Planks

■ SP-5905 1.363Kg/m



Truck Body Side Planks

■ RT-3550 1.390Kg/m



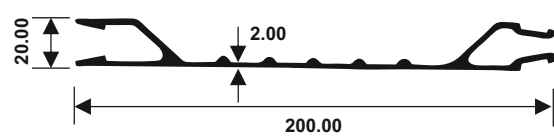
■ SP-2622 1.444Kg/m



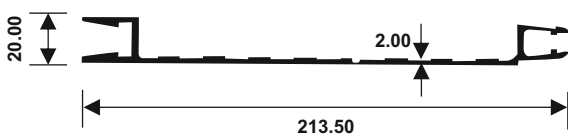
■ SP-1977 2.22Kg/m



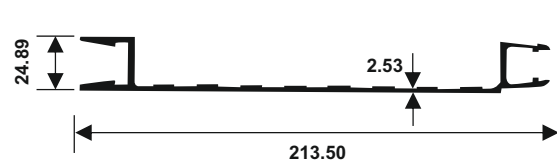
■ SP-2510 1.890 Kg/m



■ SP-3554 1.799Kg/m

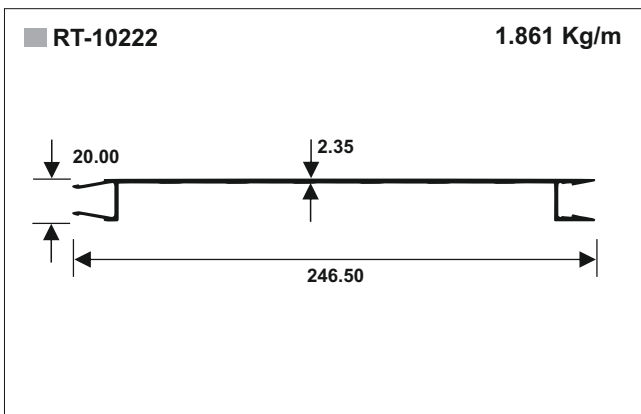
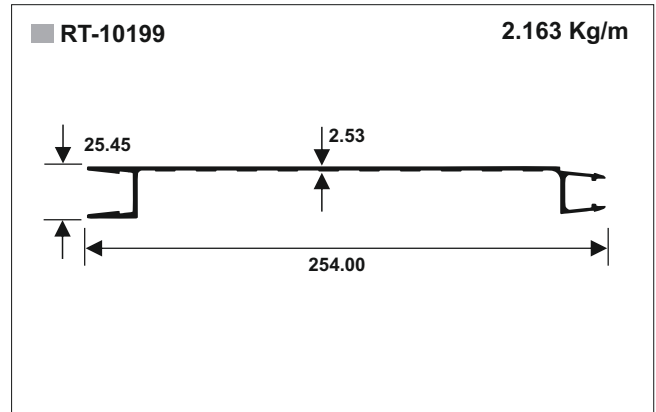
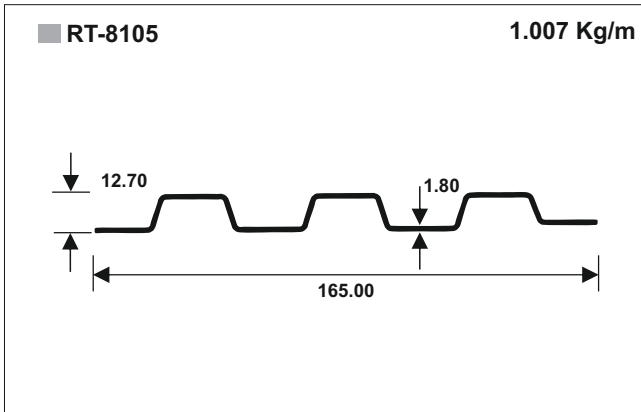


■ RT-4316 1.935Kg/m



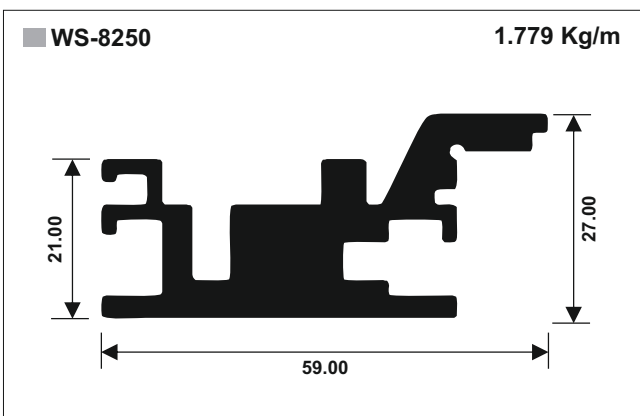
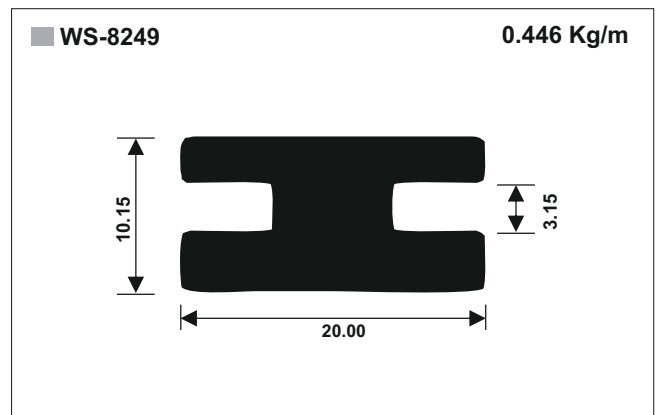
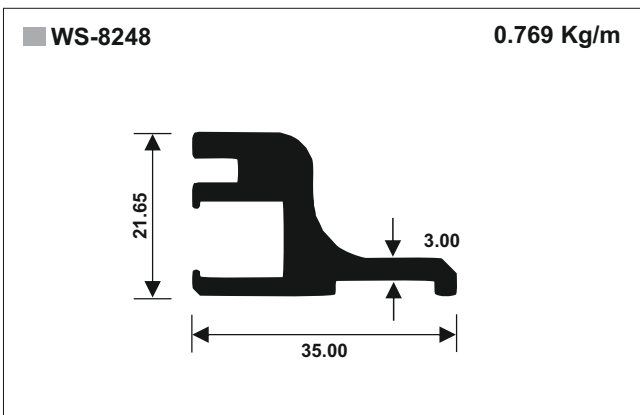
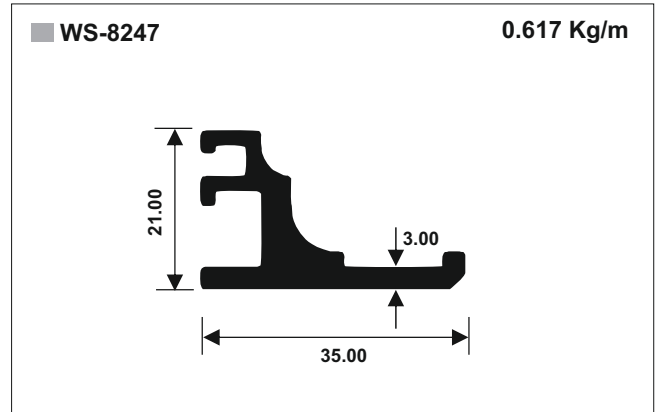
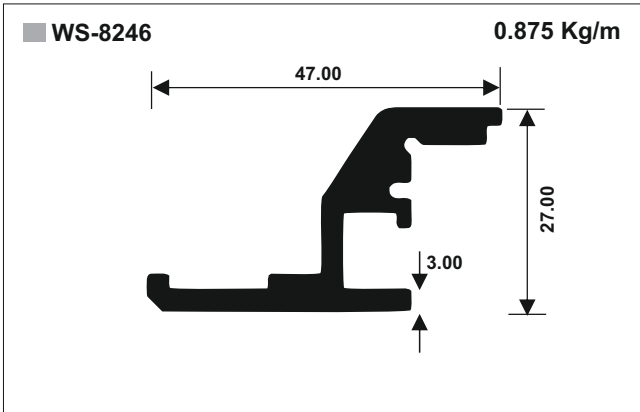


Truck Body Side Planks



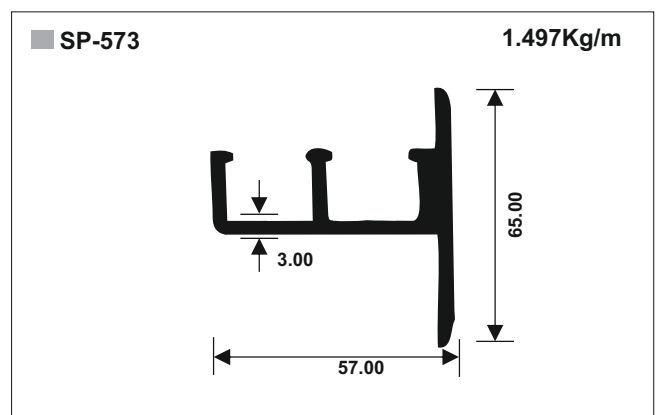
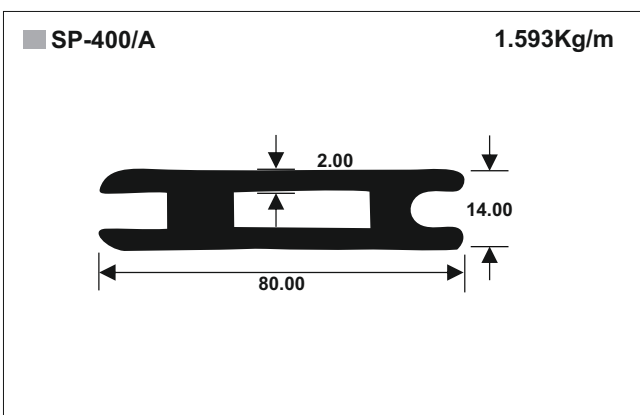
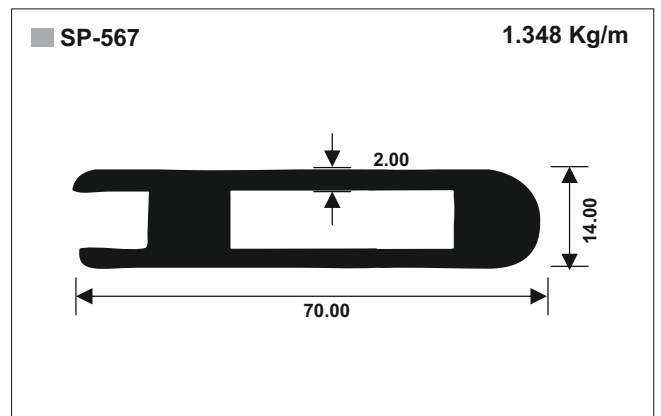
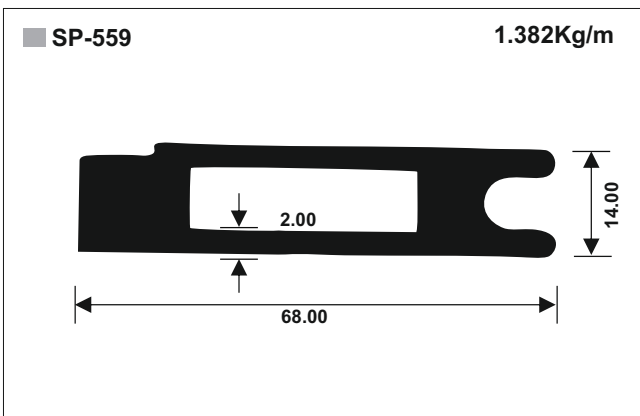
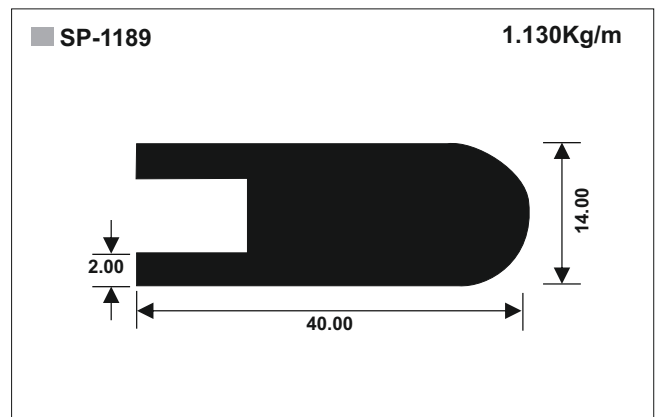
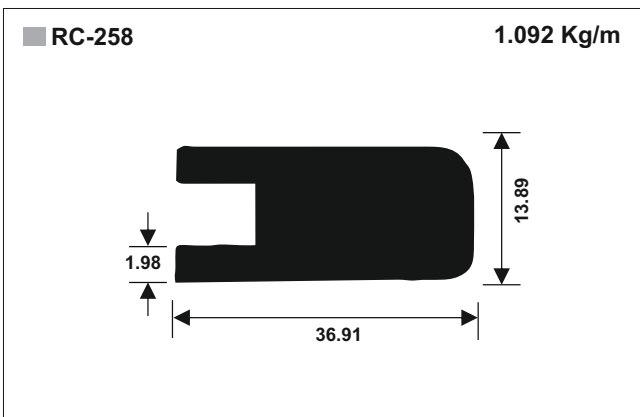
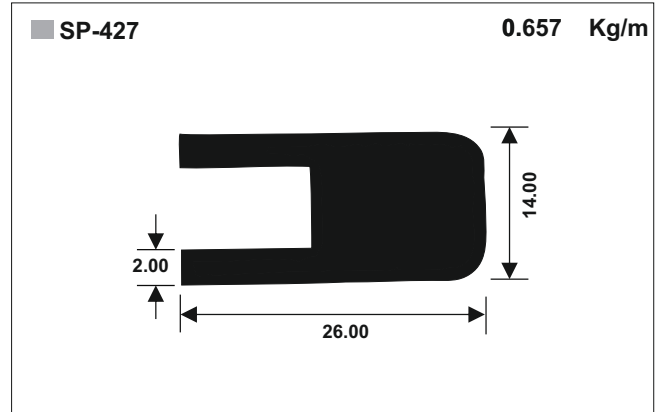
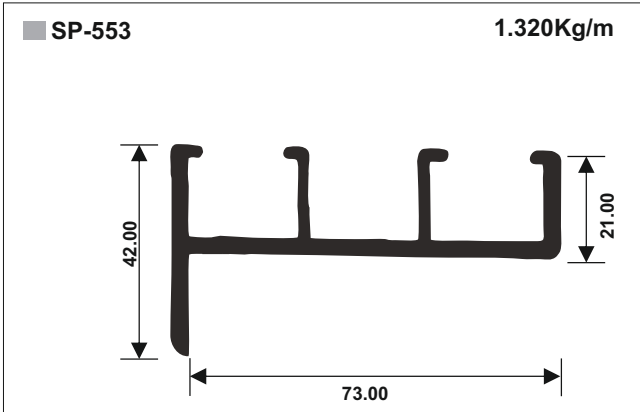


Rail Coach Windows



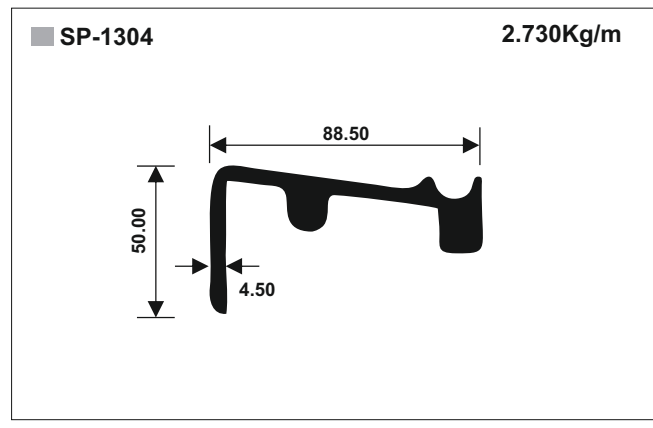
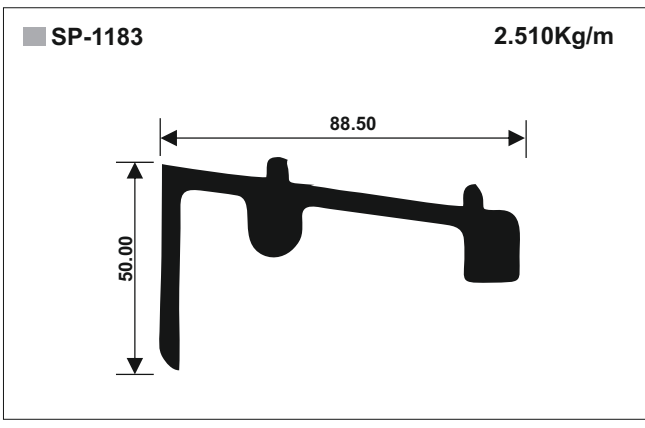
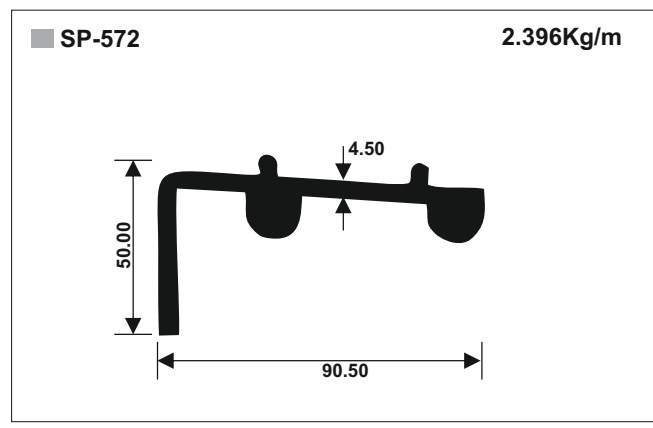
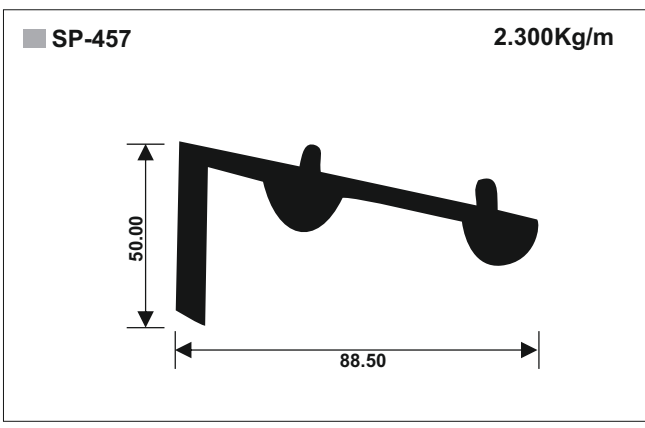
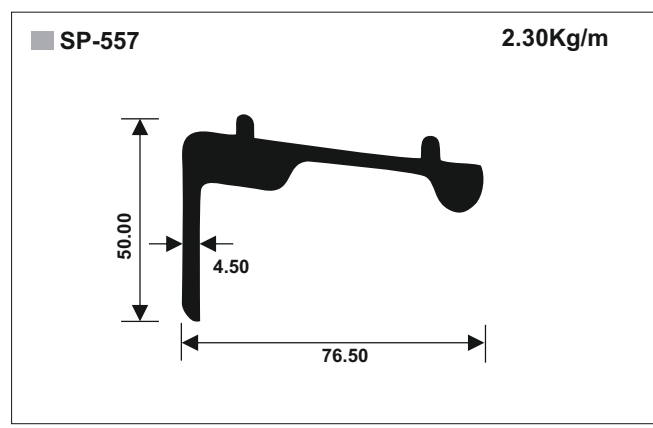
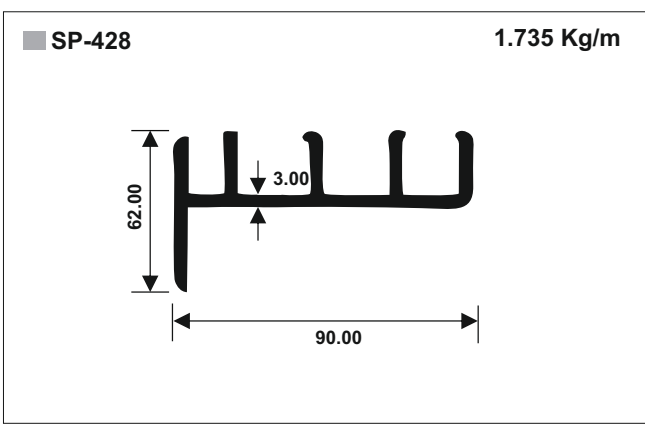
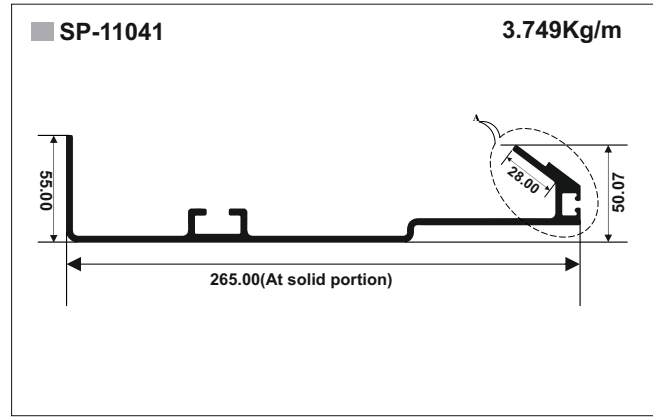
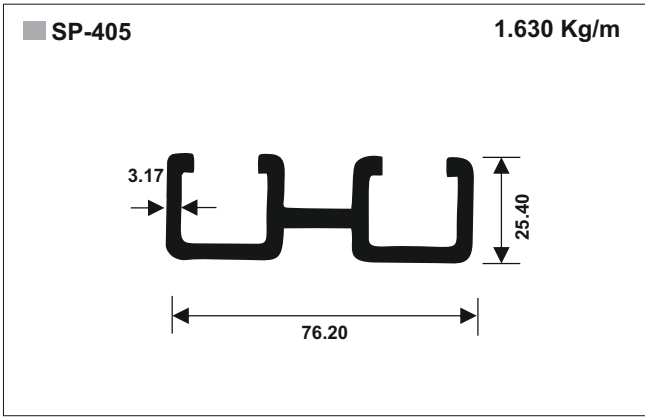


Rail Coach



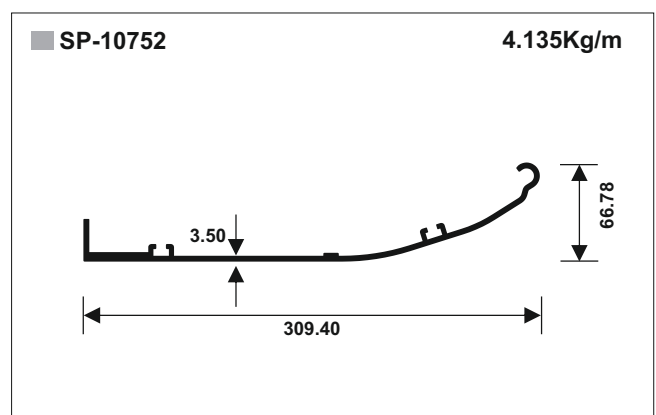
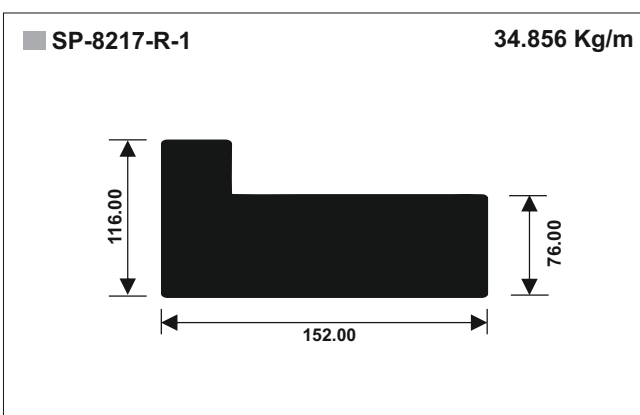
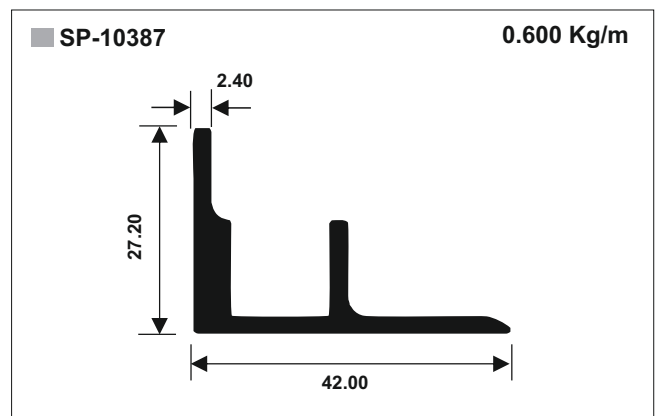
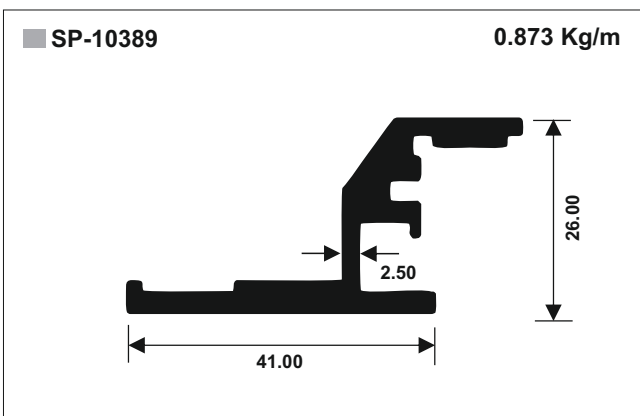
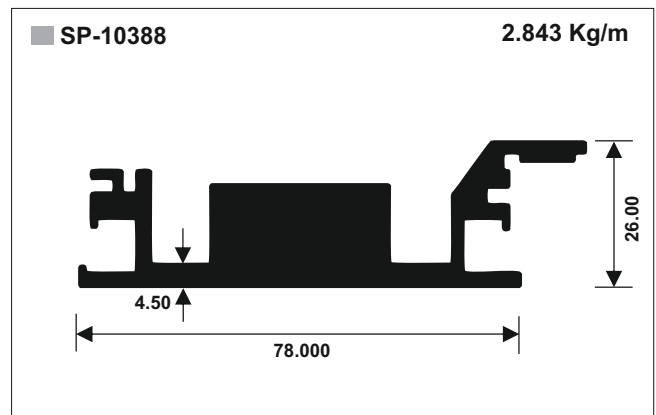
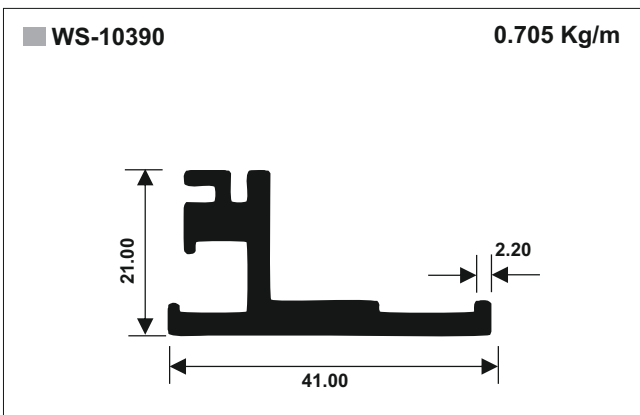
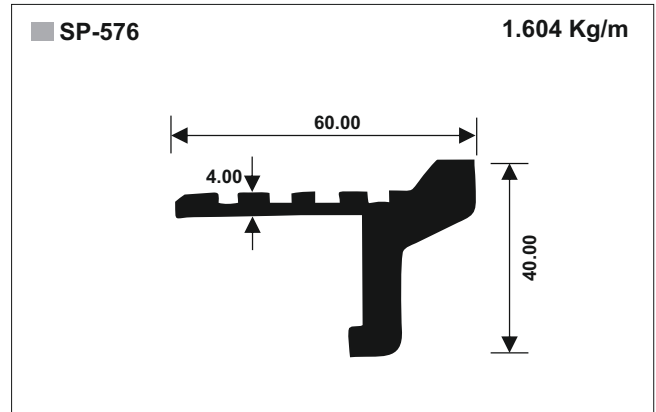
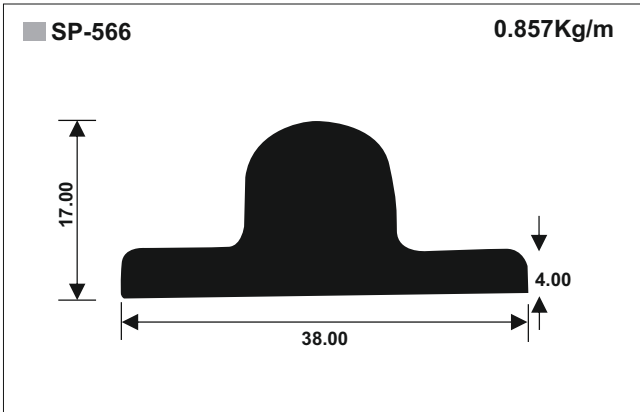


Rail Coach



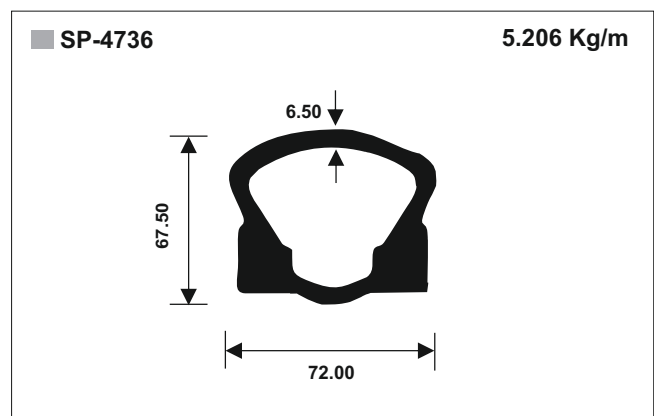
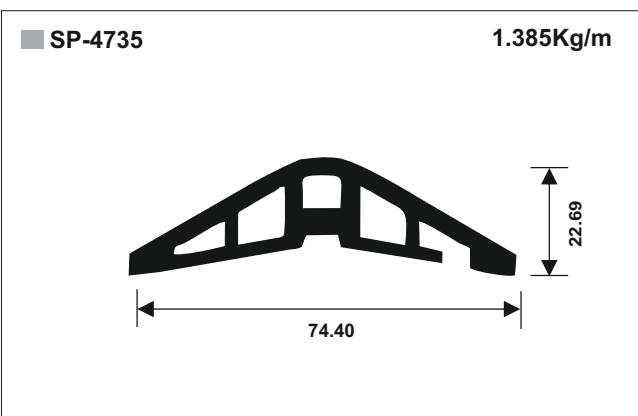
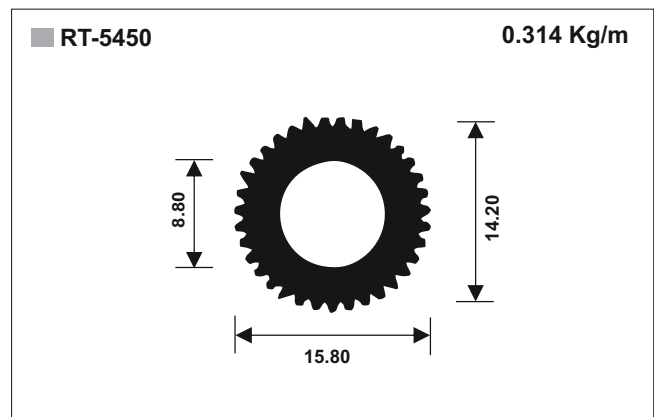
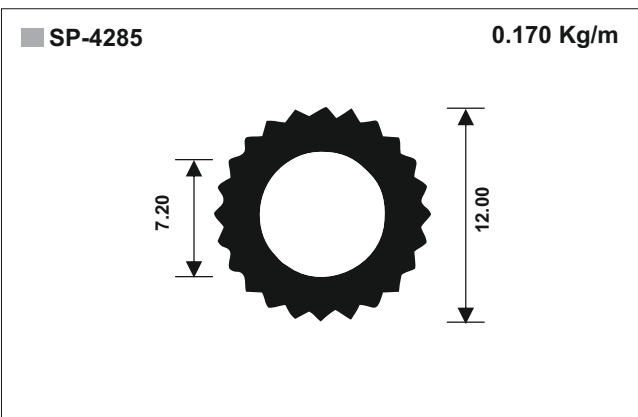
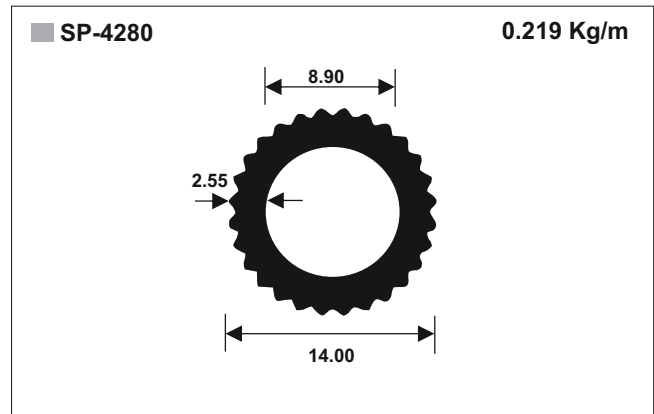
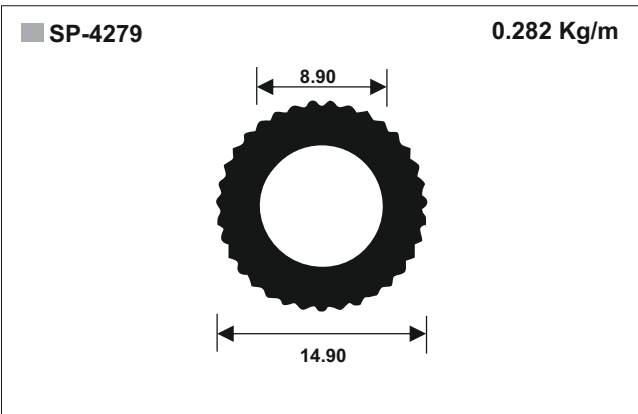
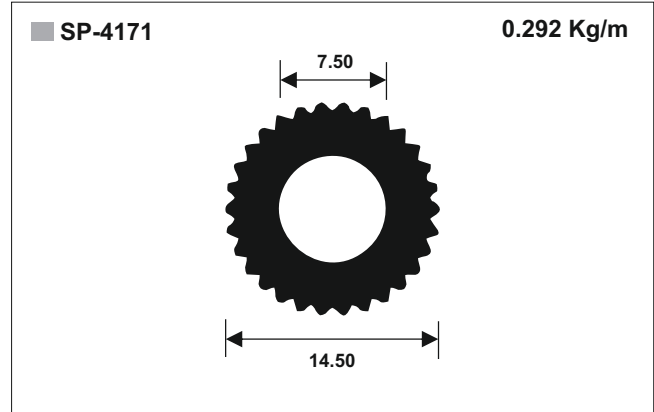
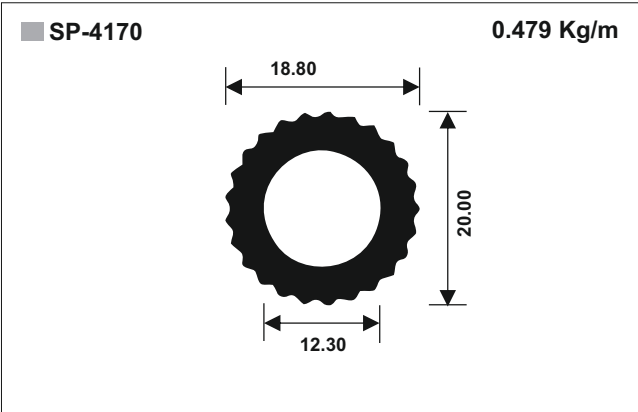


Rail Coach



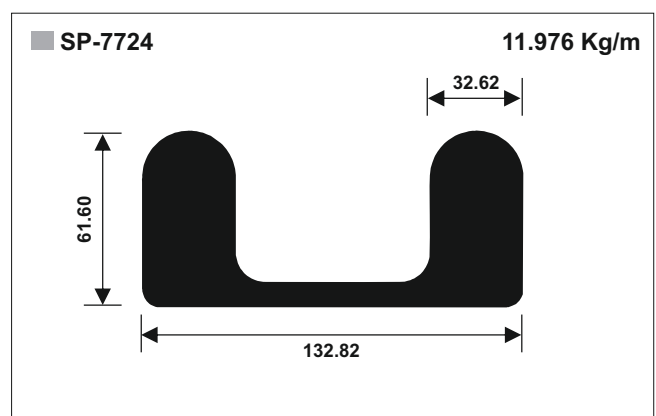
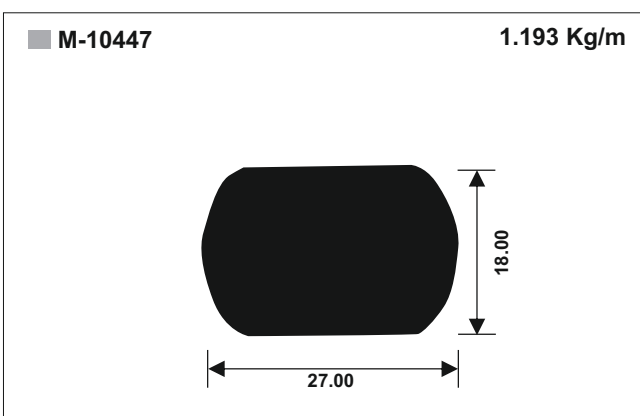
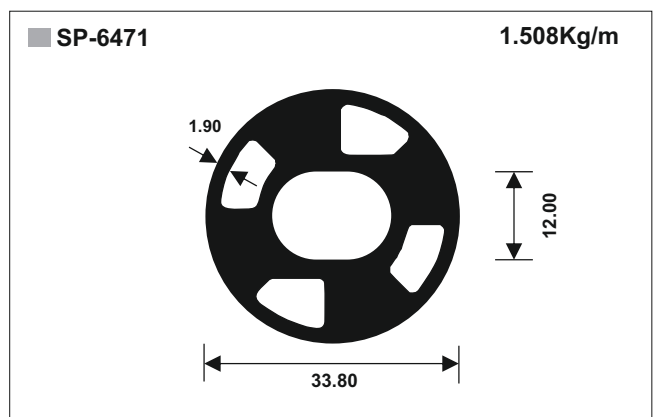
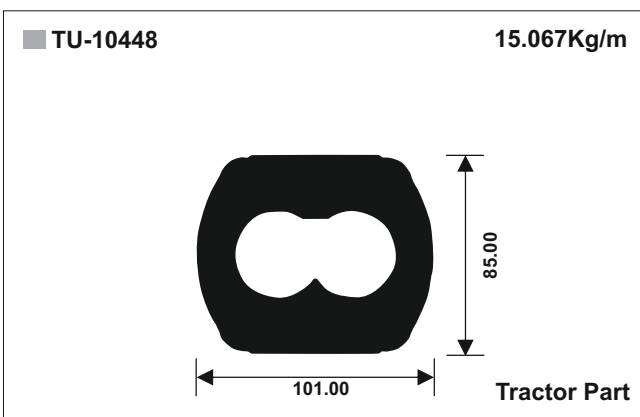
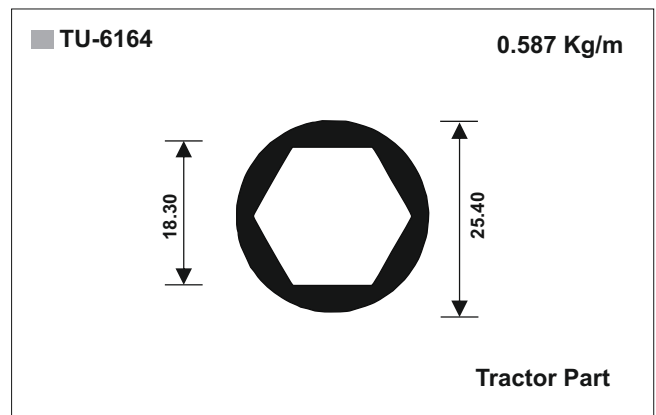
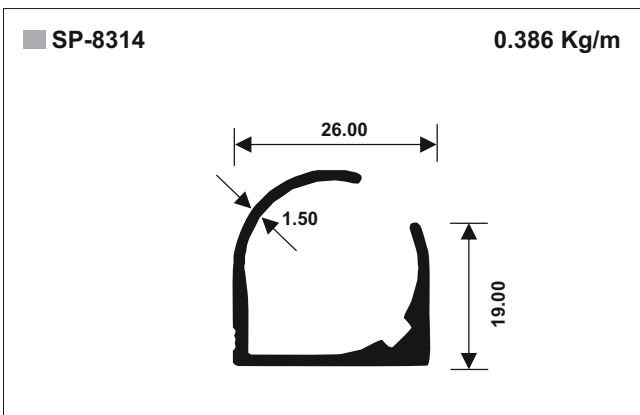
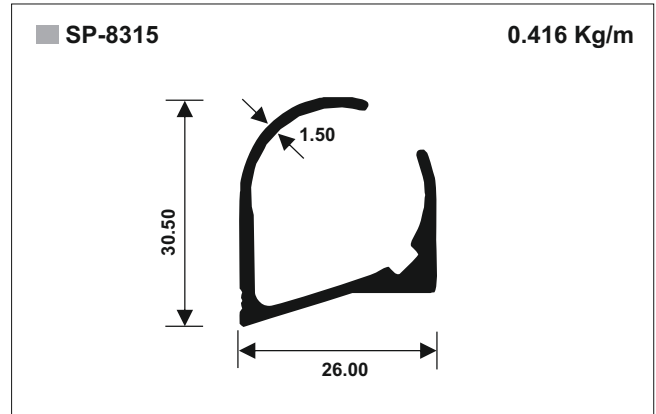
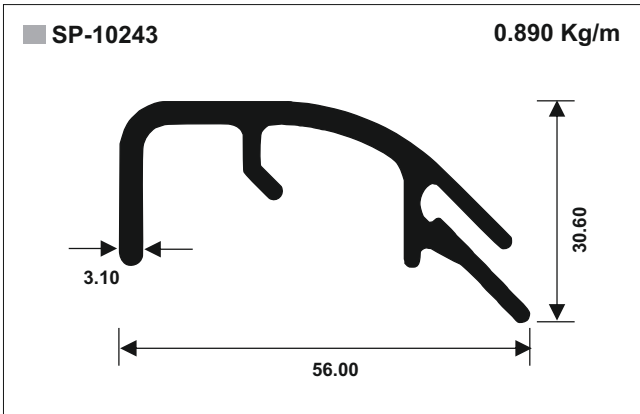


Auto Components



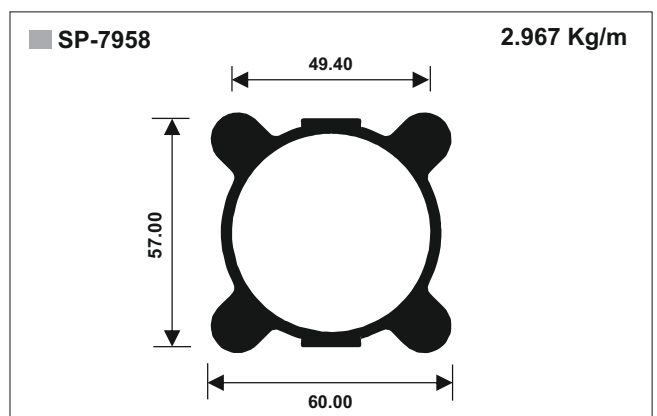
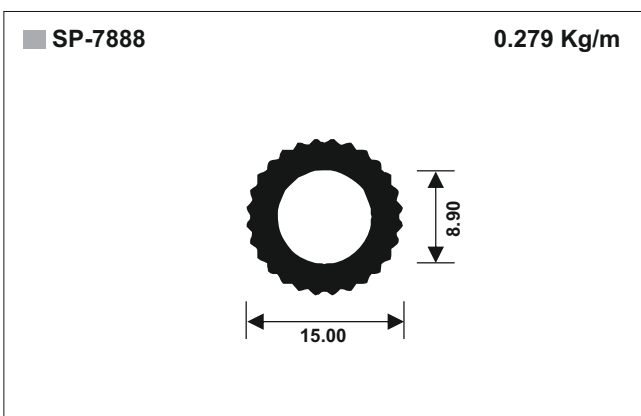
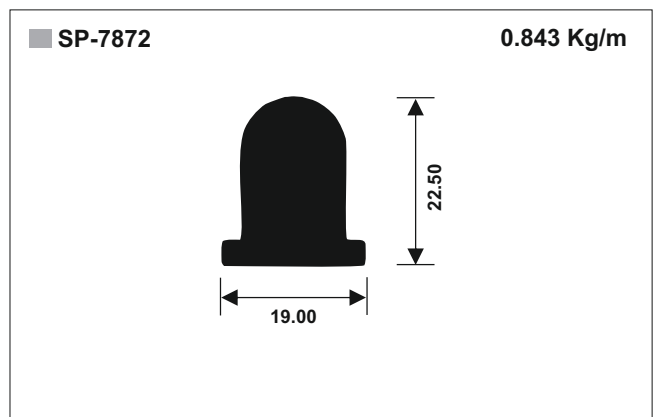
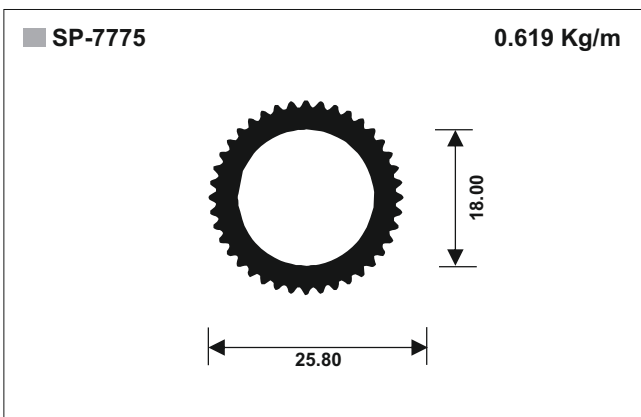
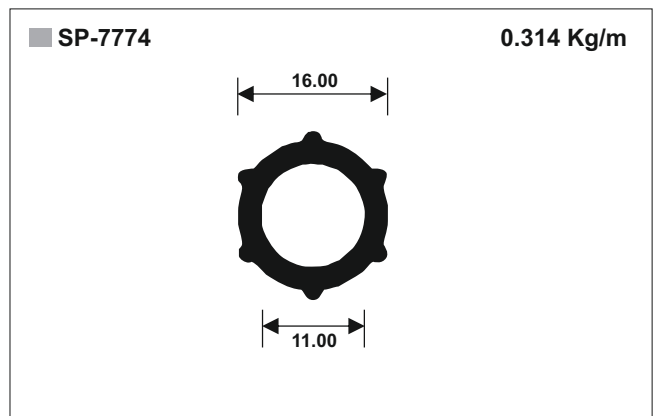
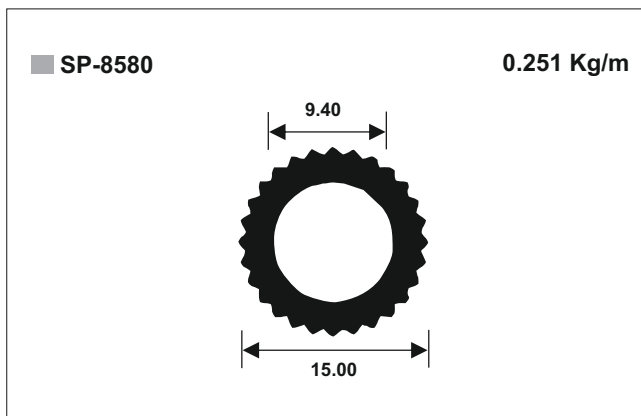
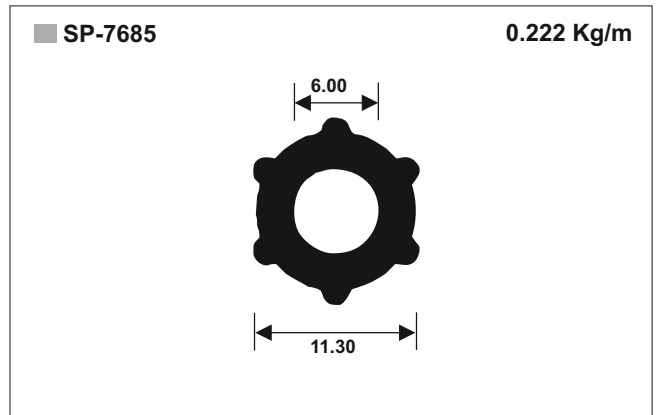
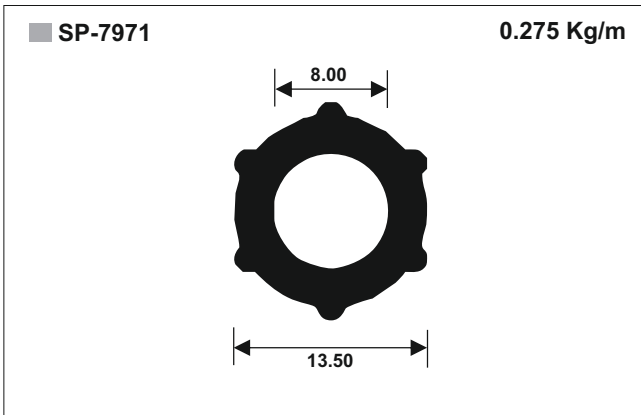


Auto Components



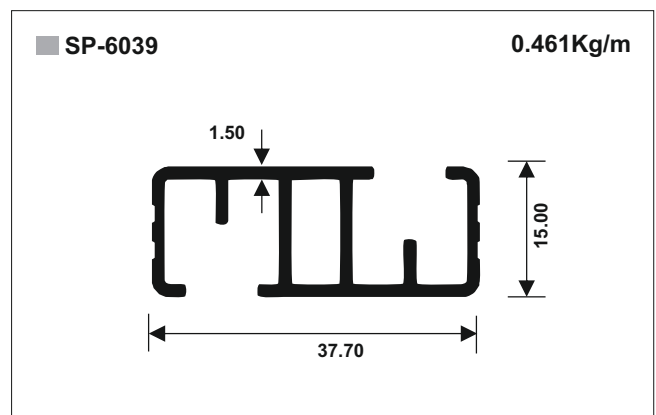
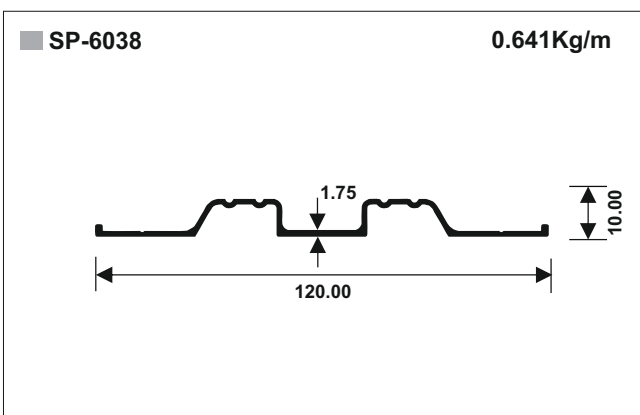
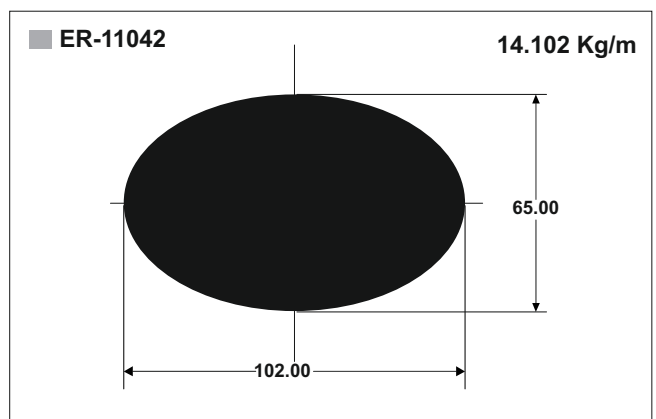
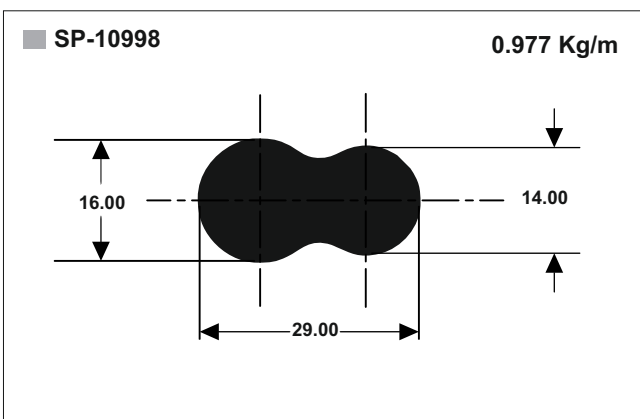
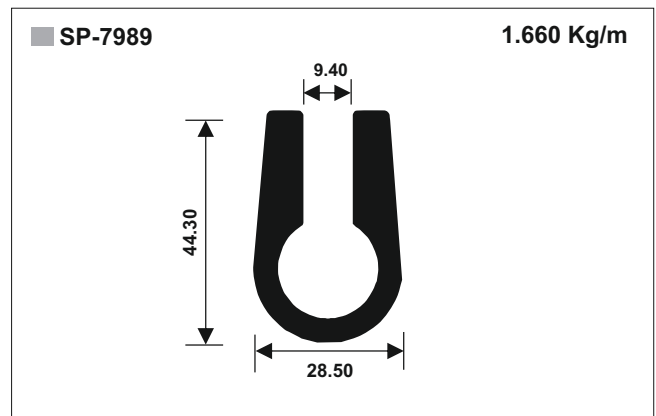
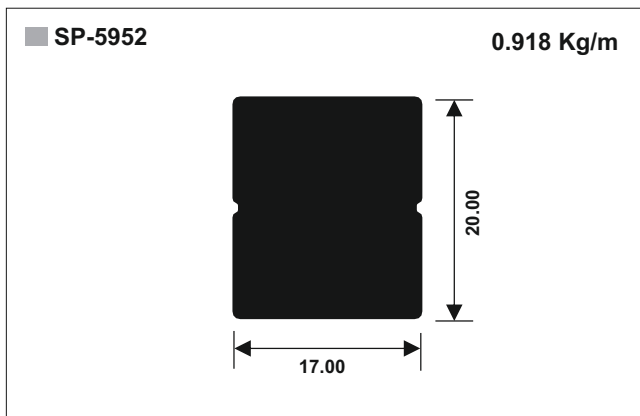
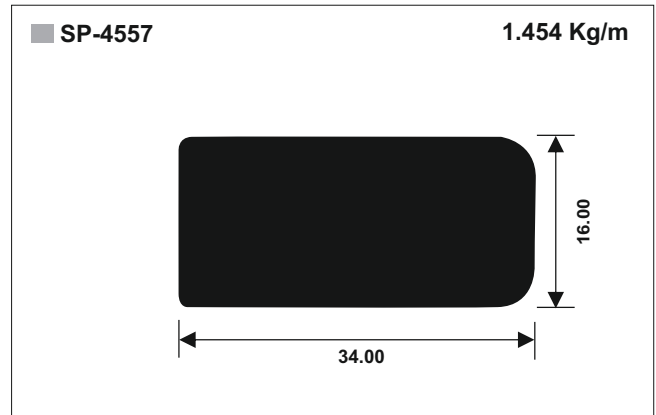
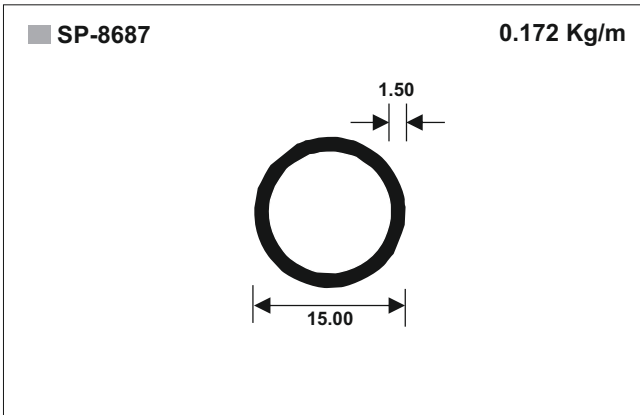


Auto Components



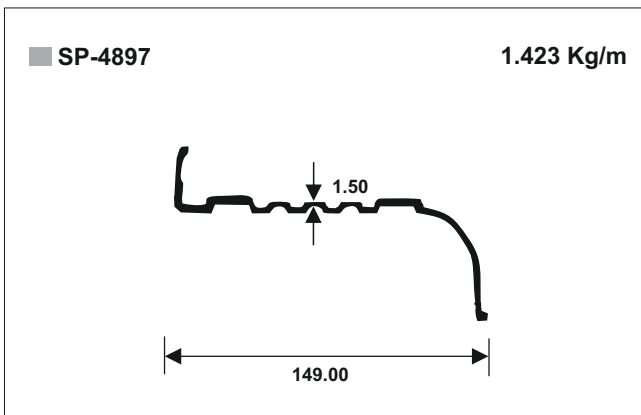
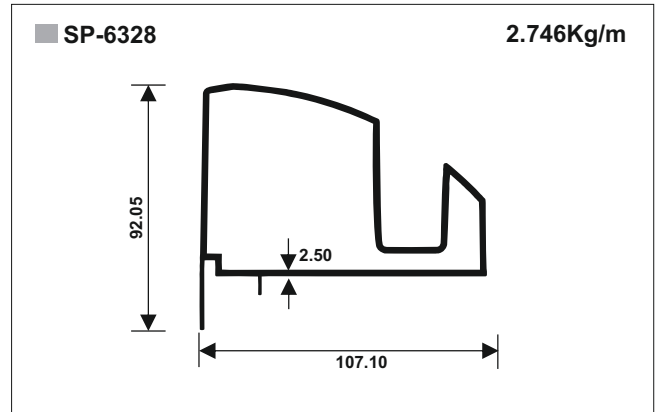
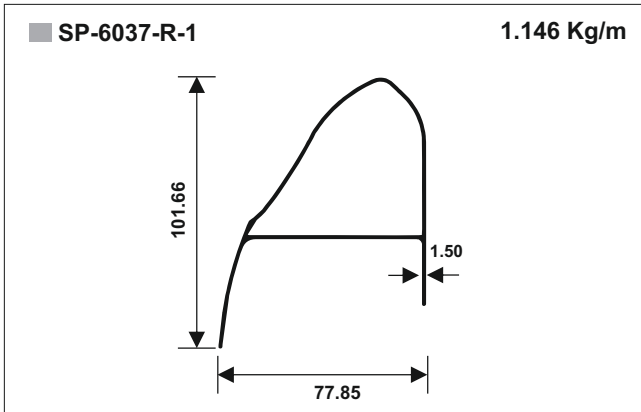


Auto Components



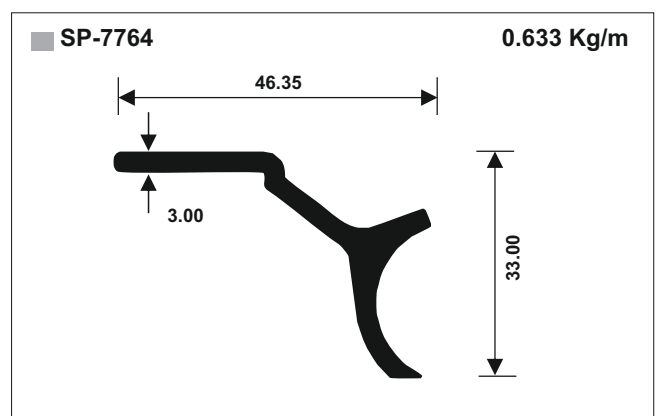
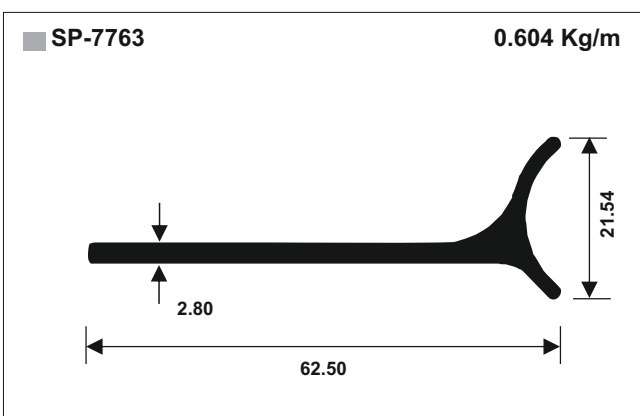
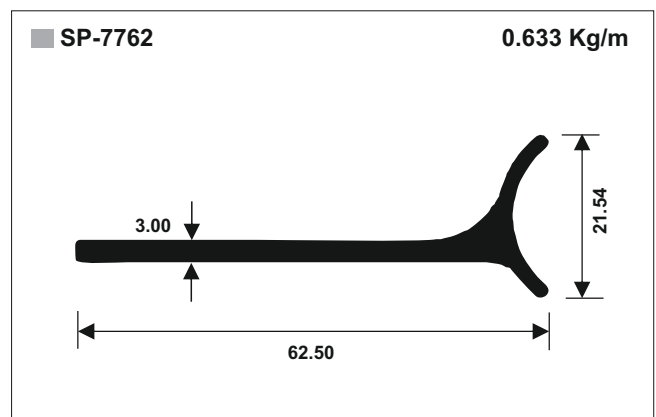
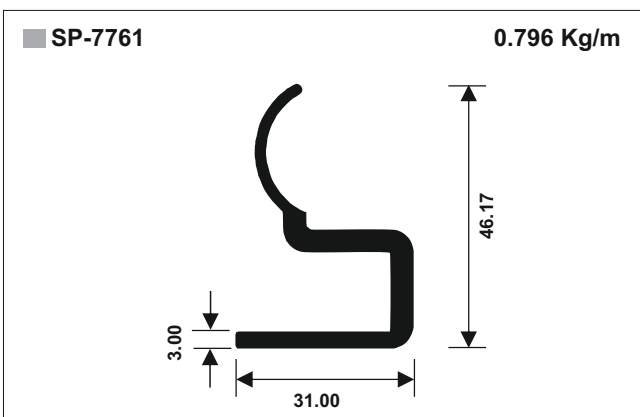
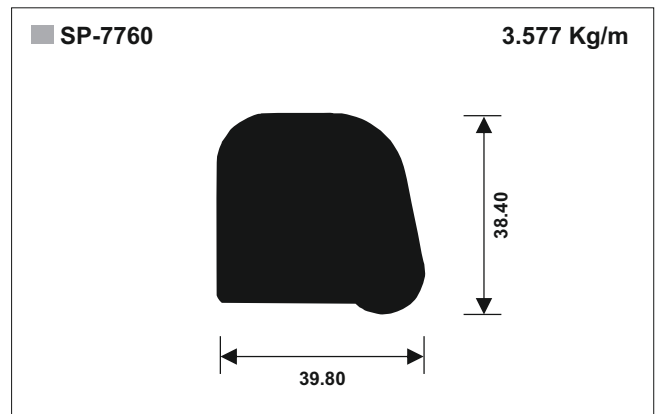
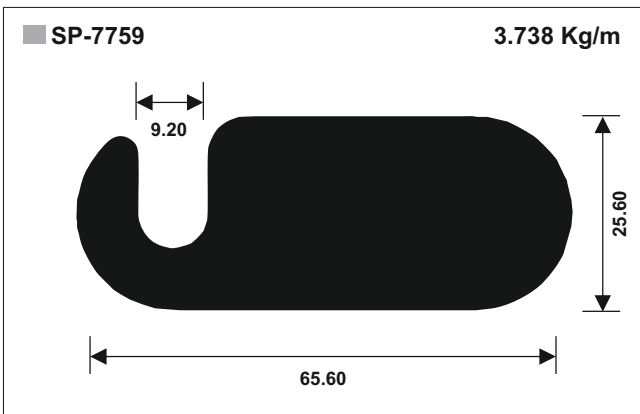
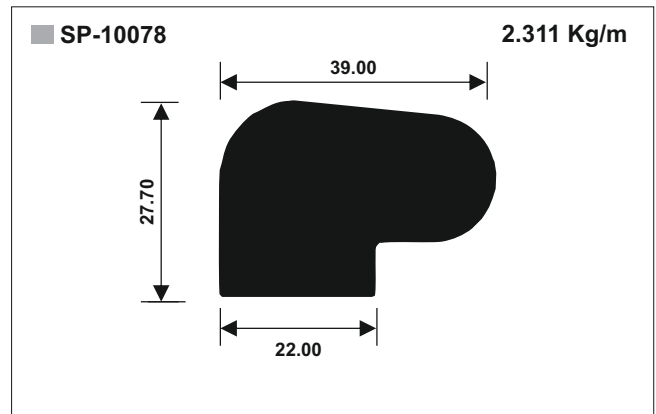
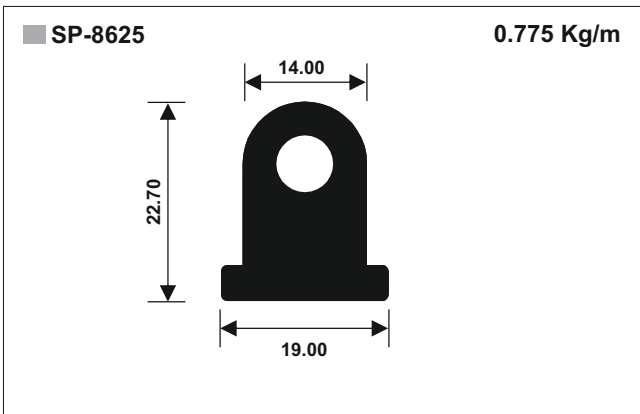


Auto Components



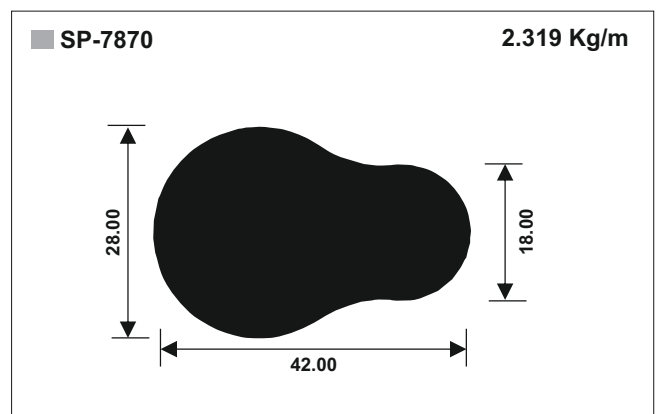
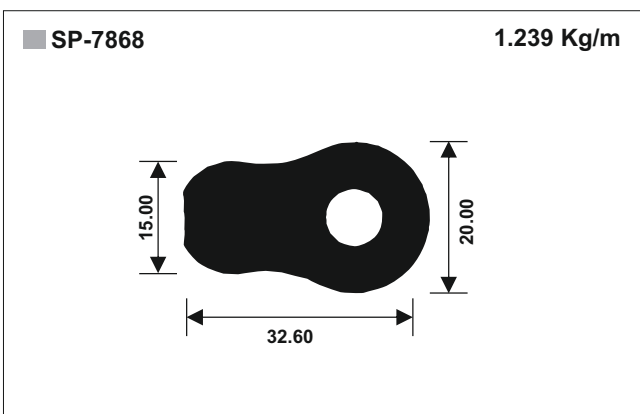
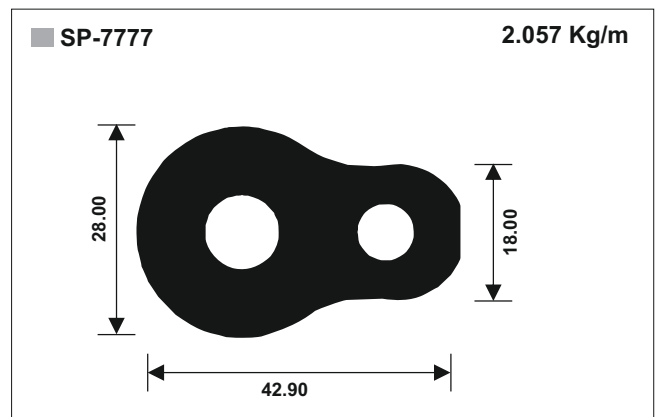
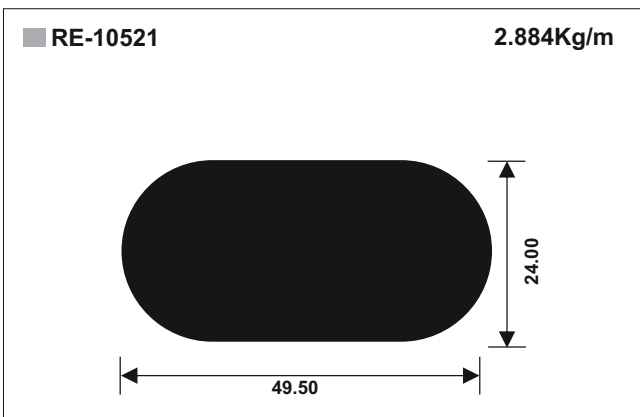
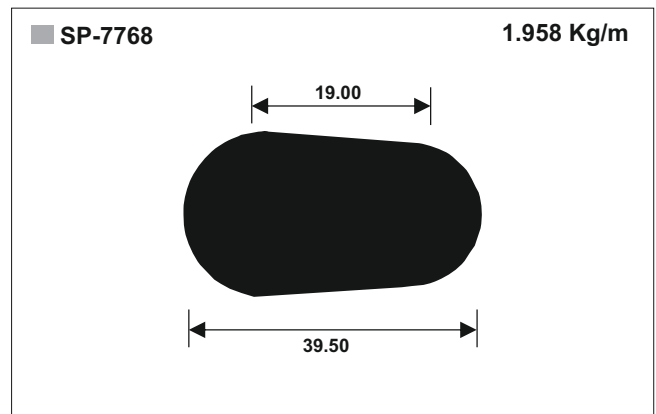
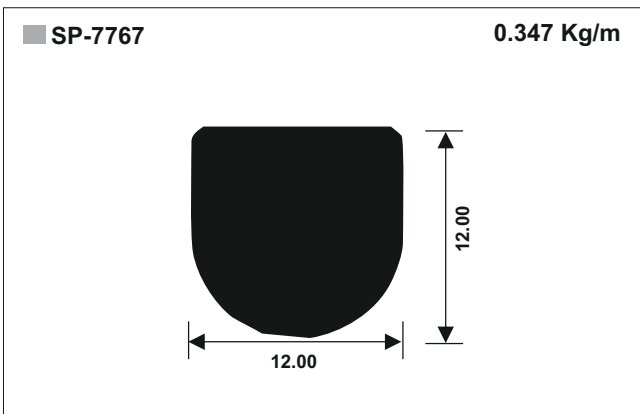
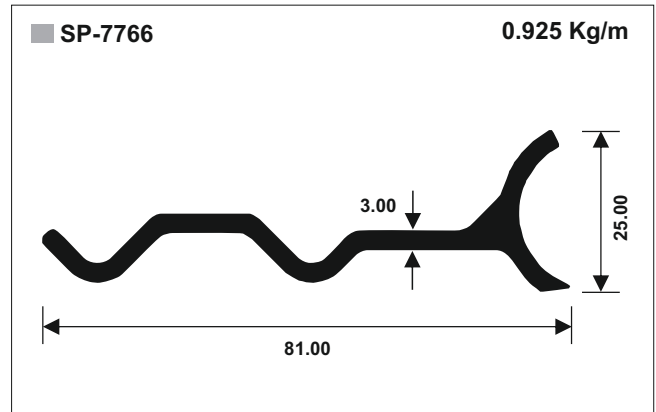
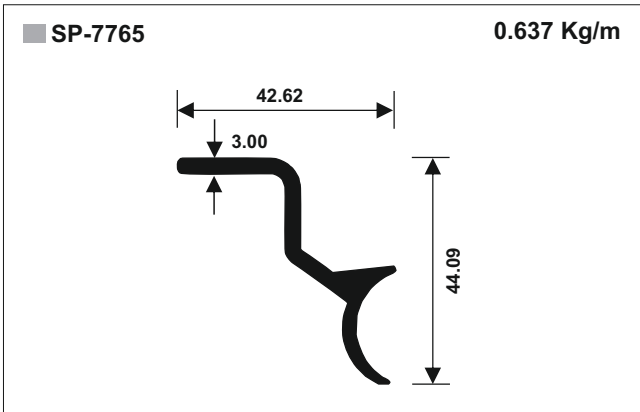


Auto AC Components



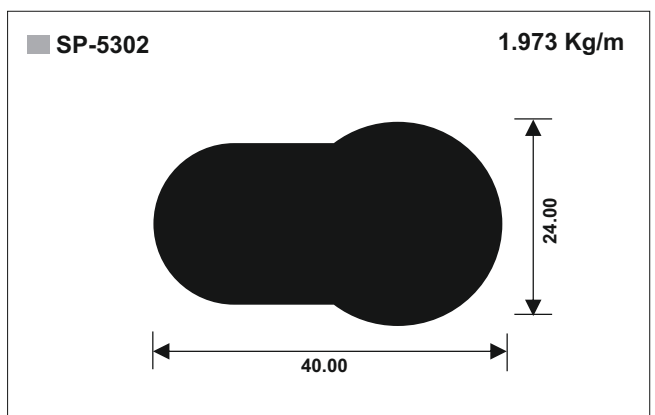
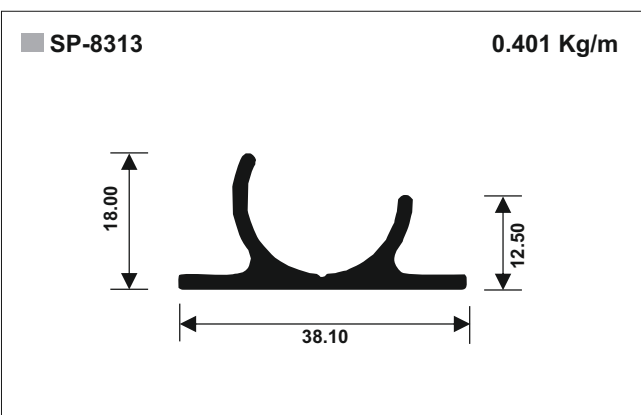
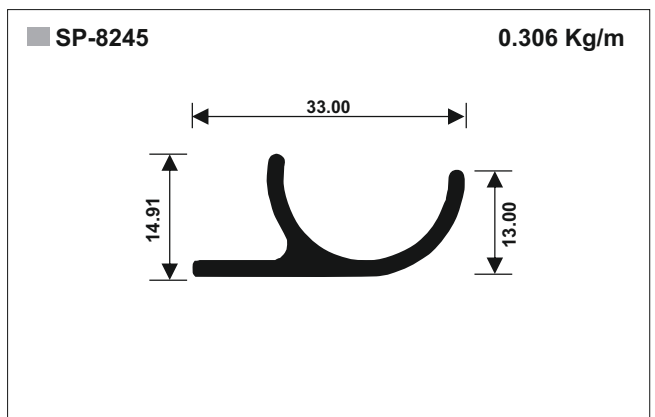
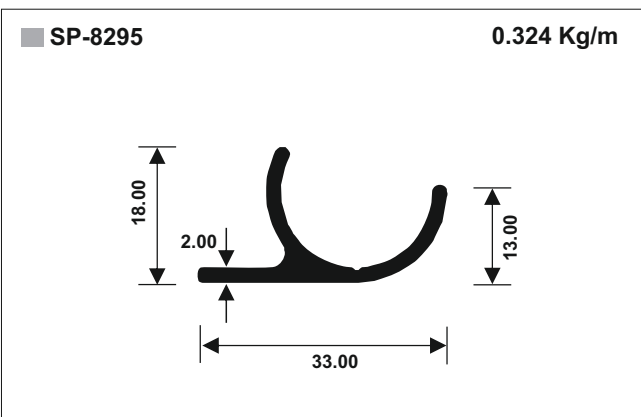
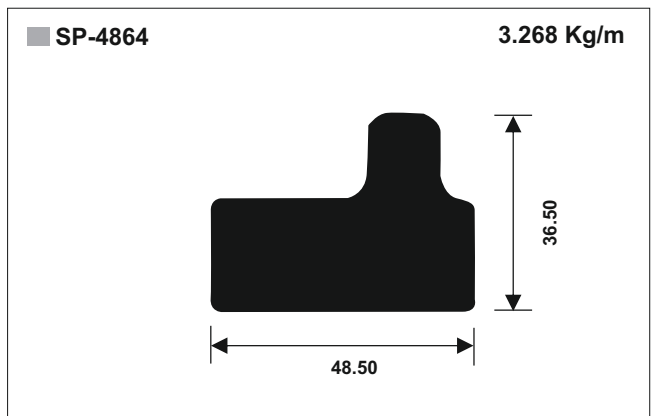
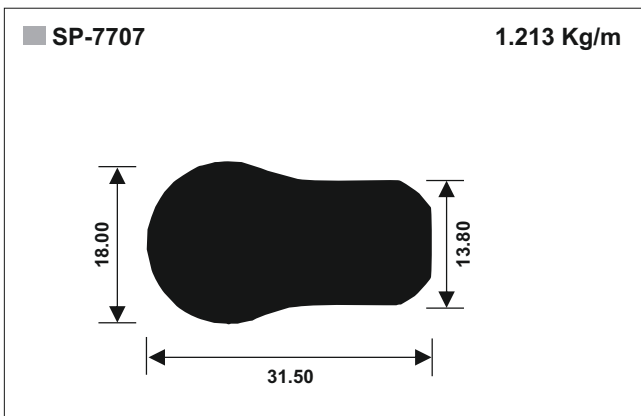
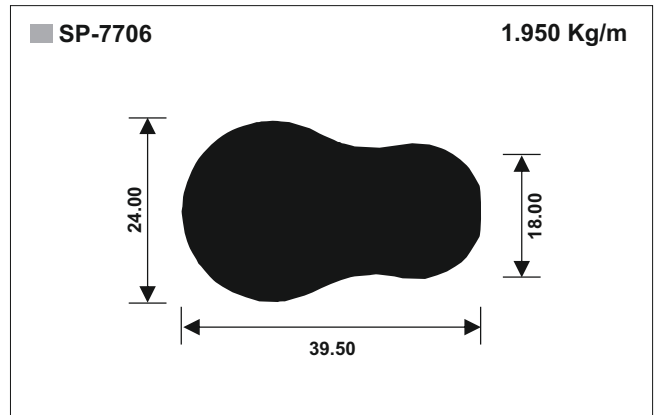
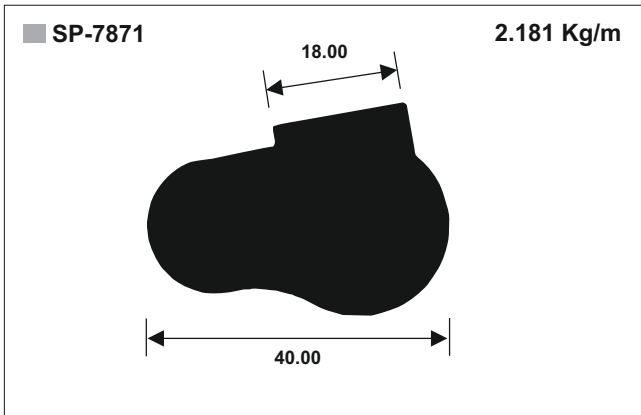


Auto AC Components



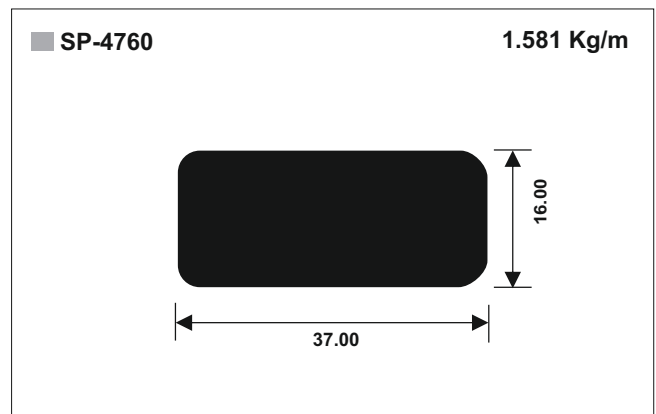
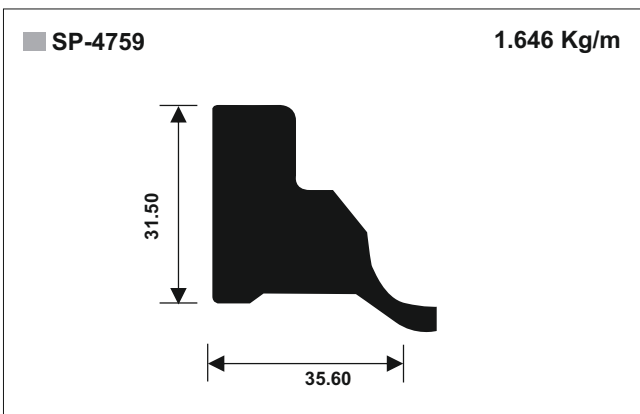
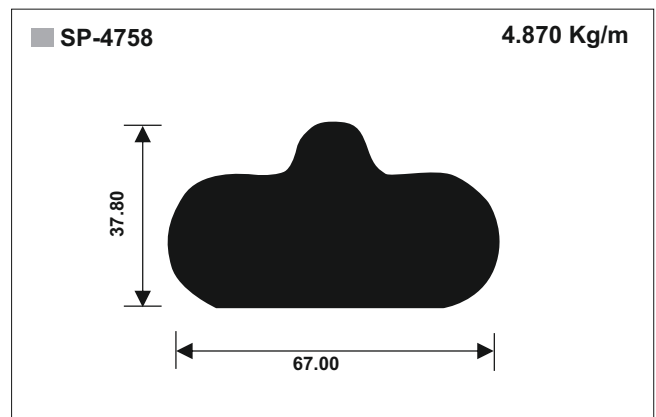
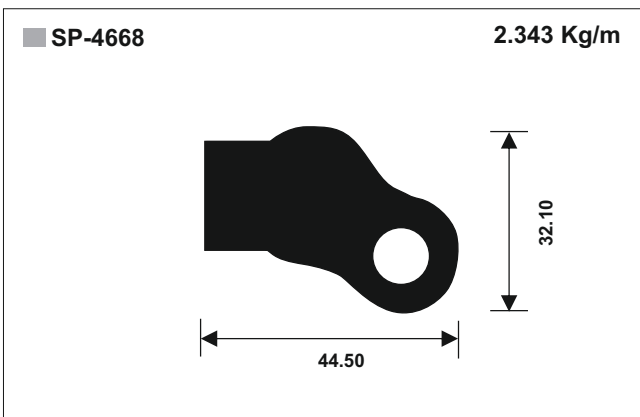
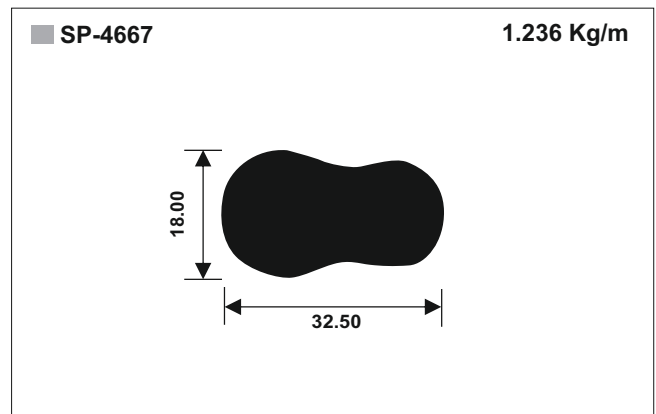
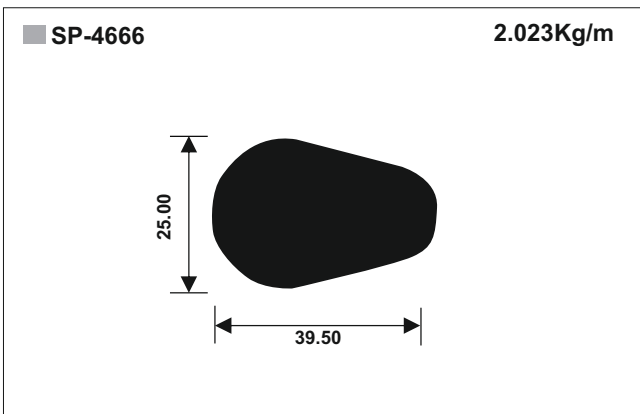
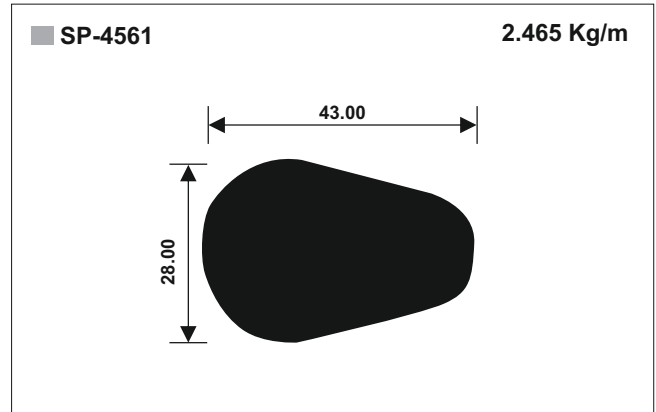
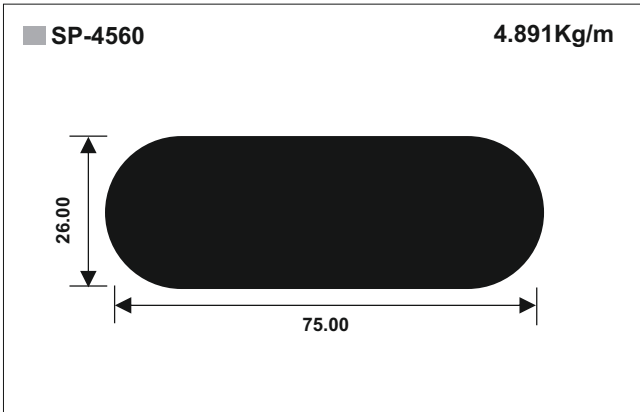


Auto AC Components



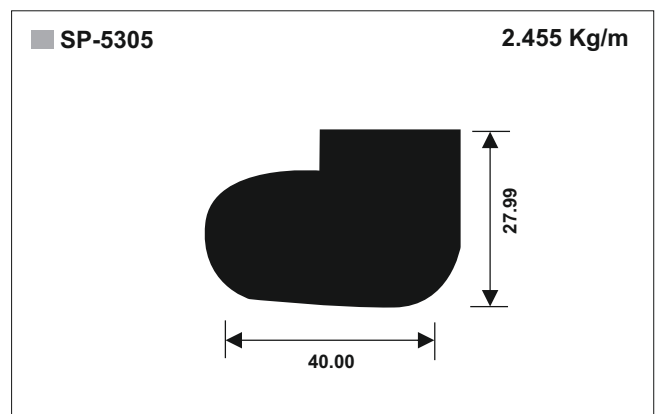
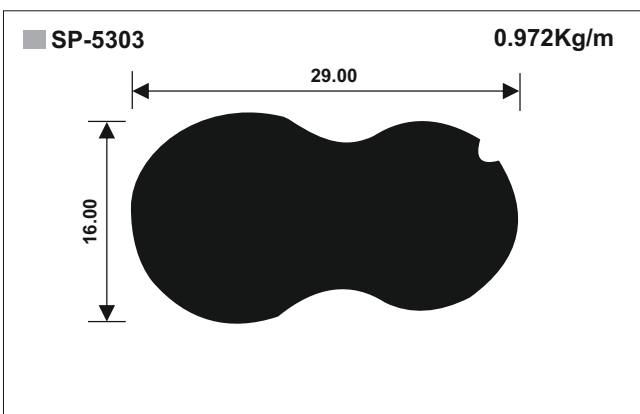
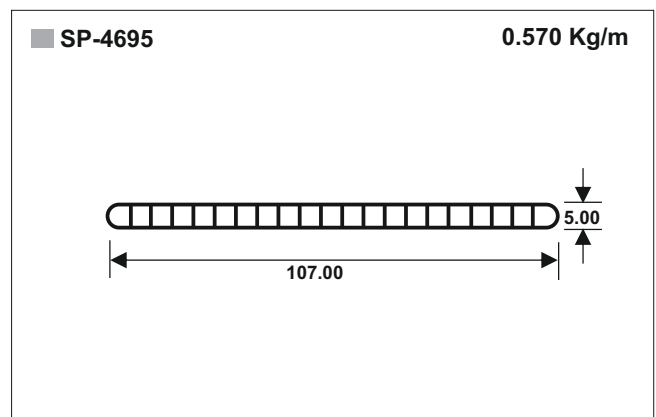
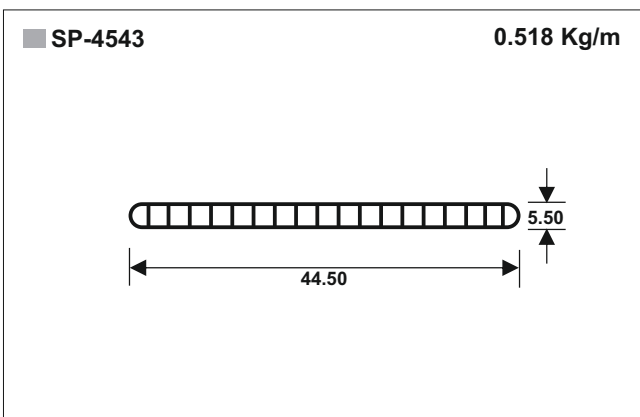
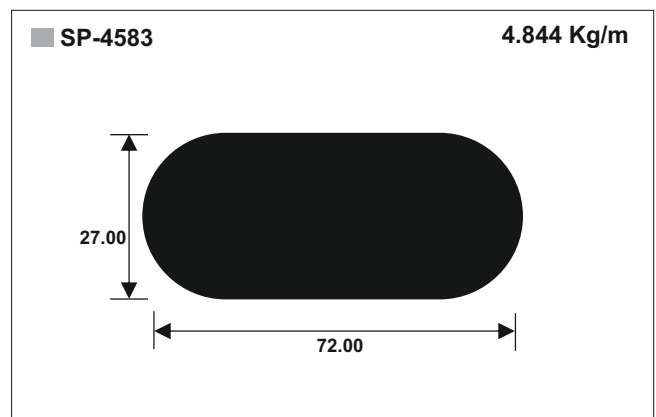
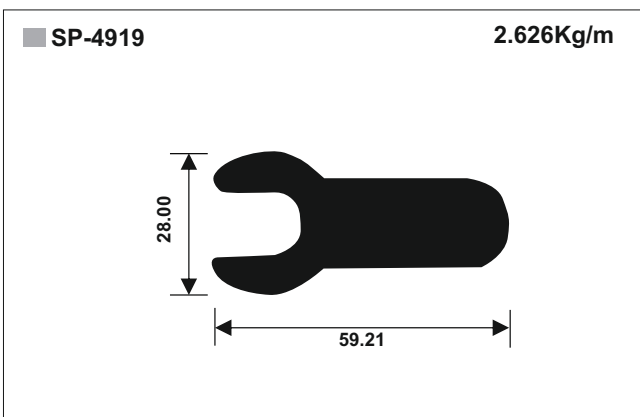
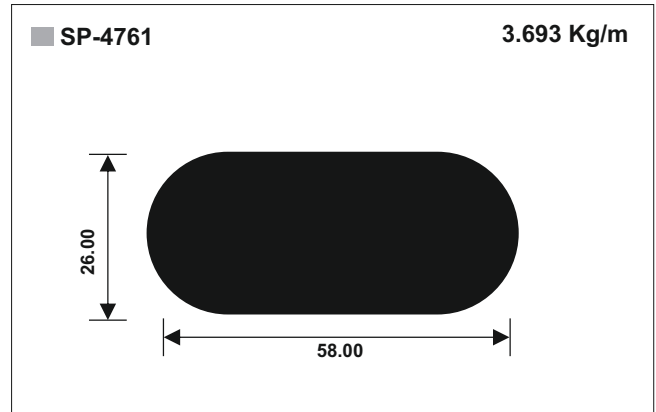
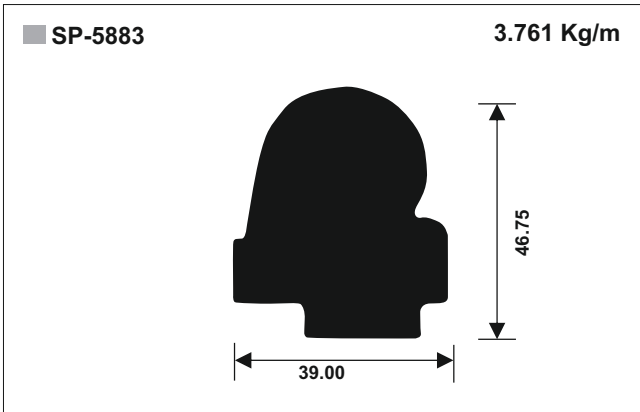


Auto AC Components



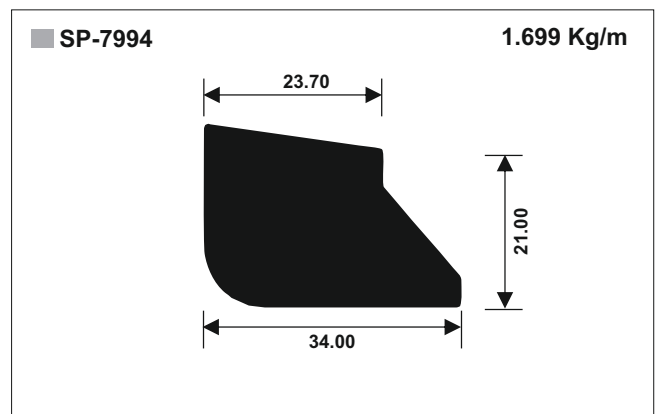
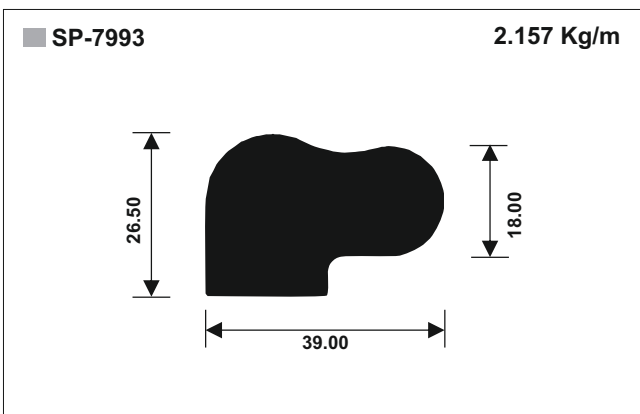
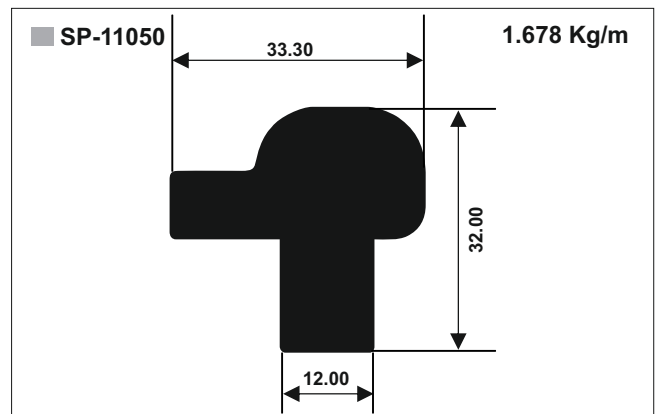
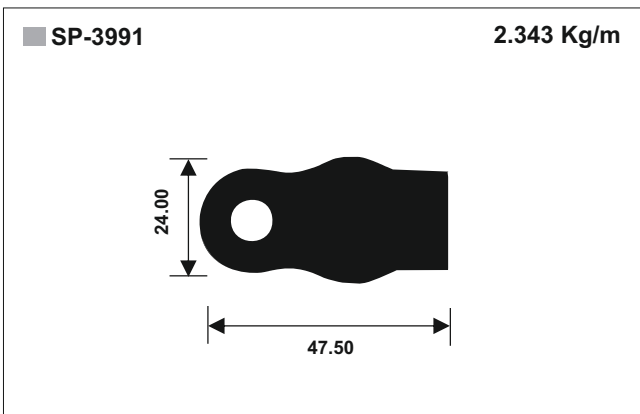
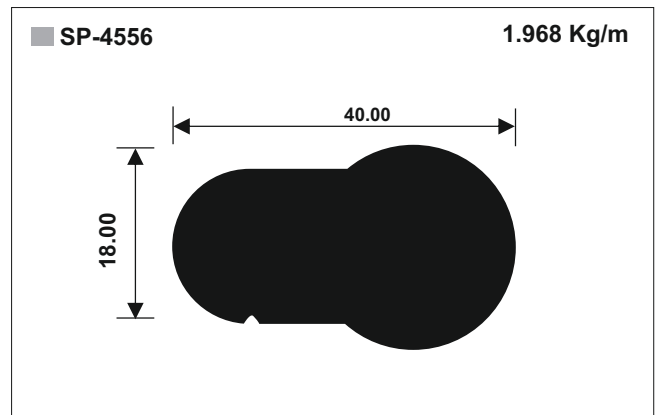
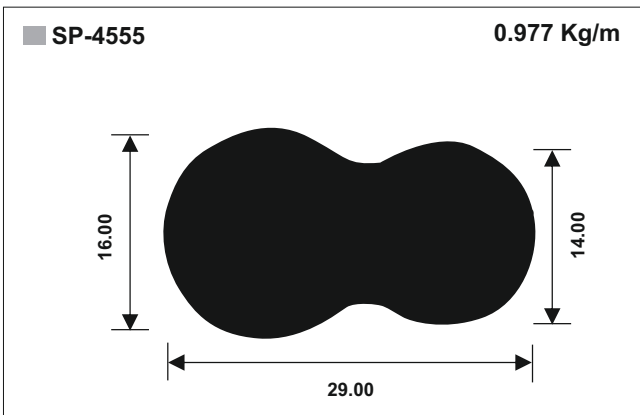
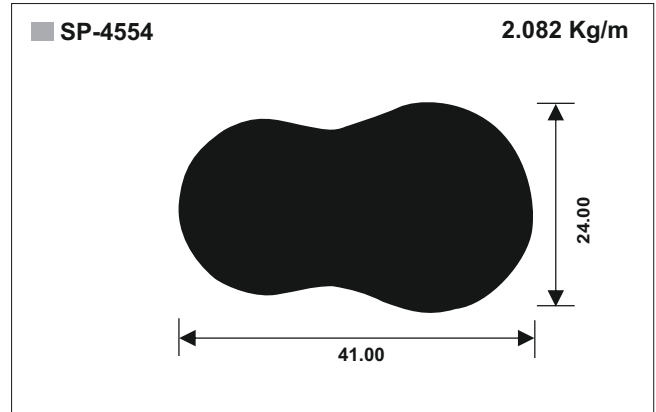
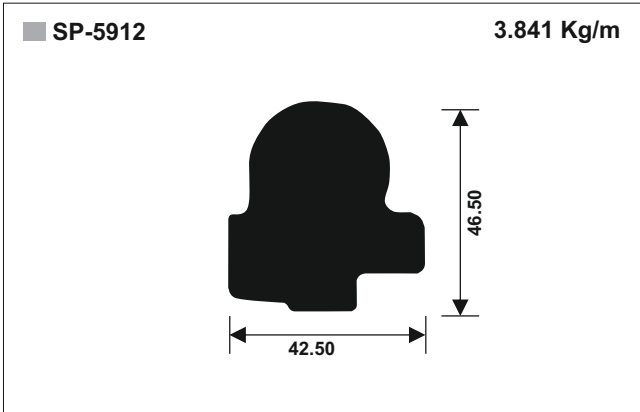


Auto AC Components



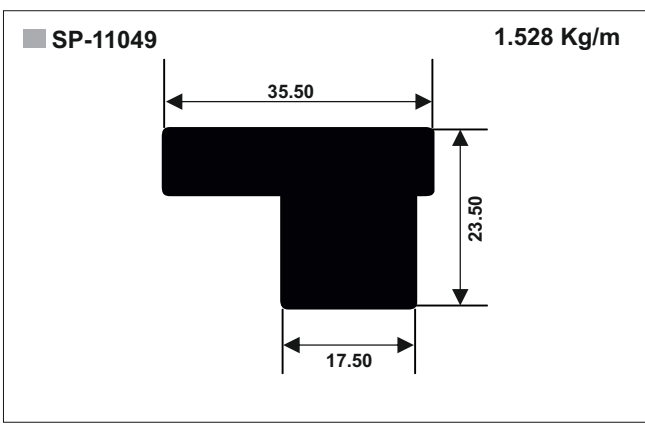
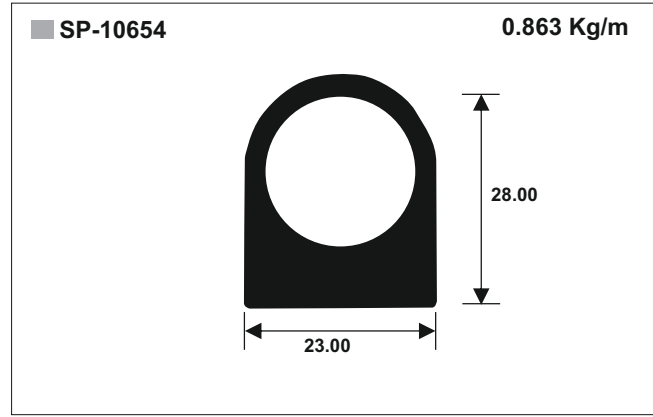
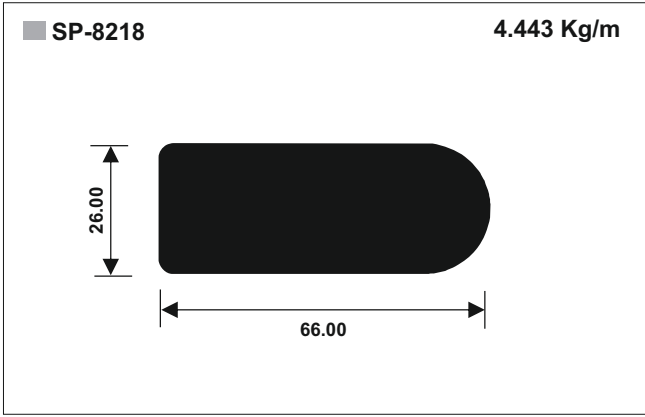


Auto AC Components



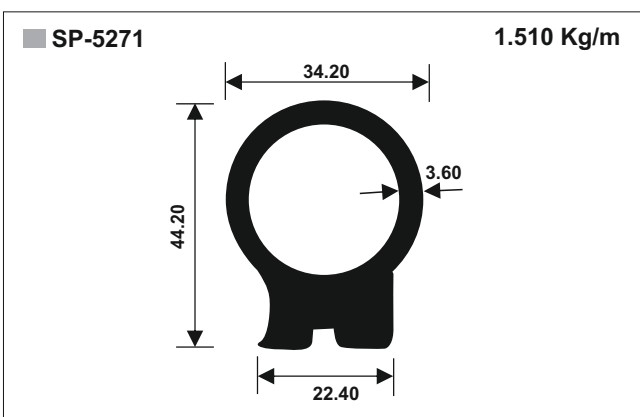
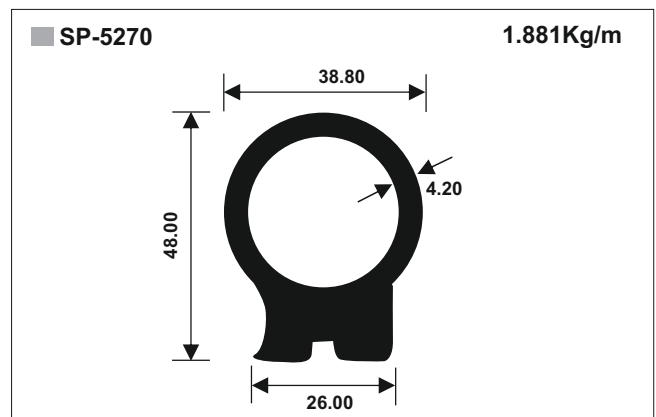
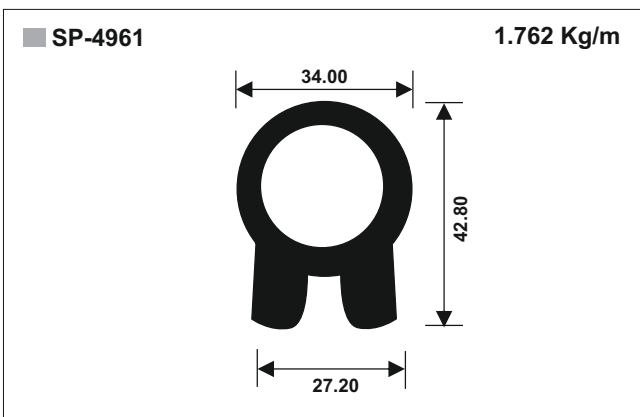
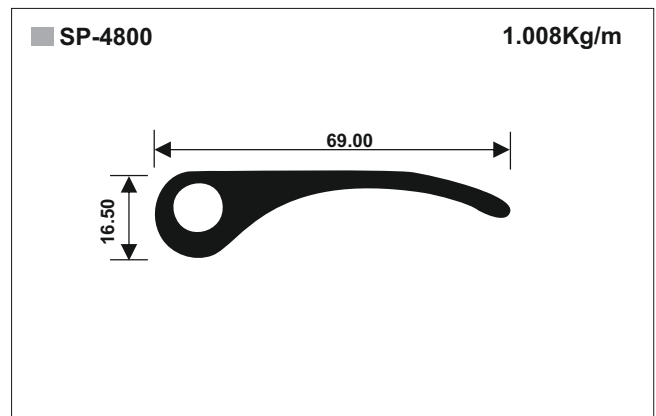
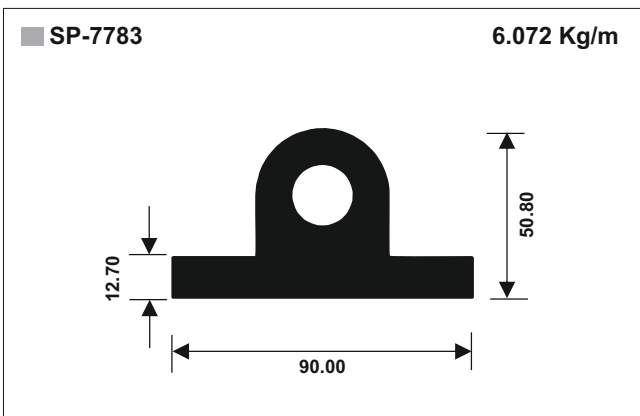
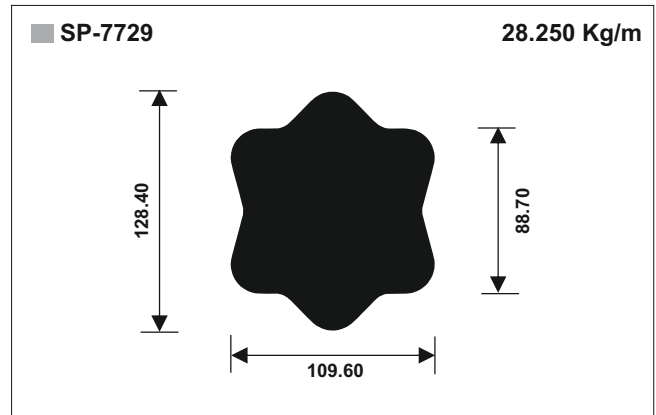
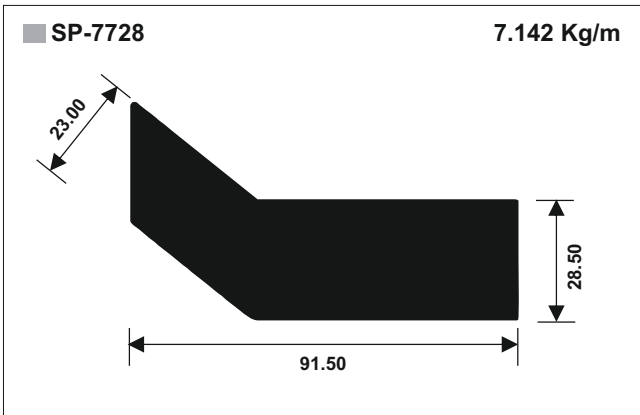


Auto AC Components



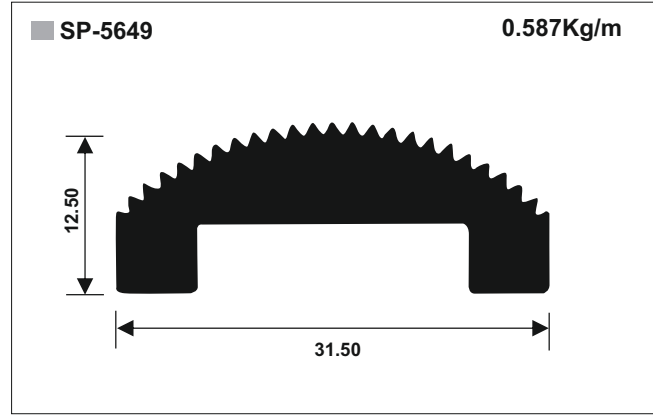
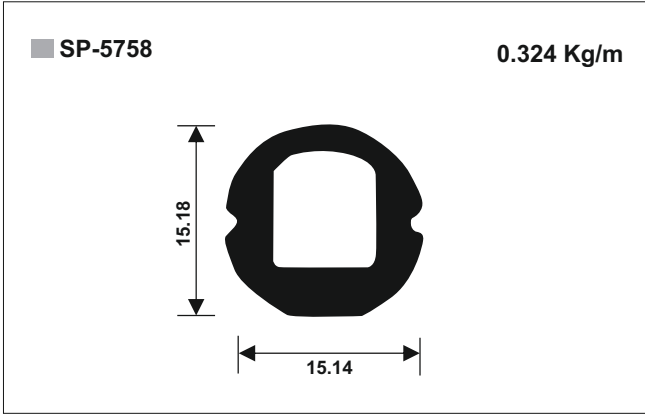
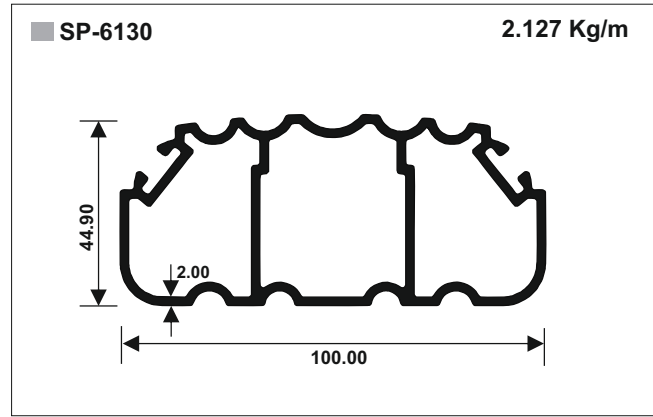
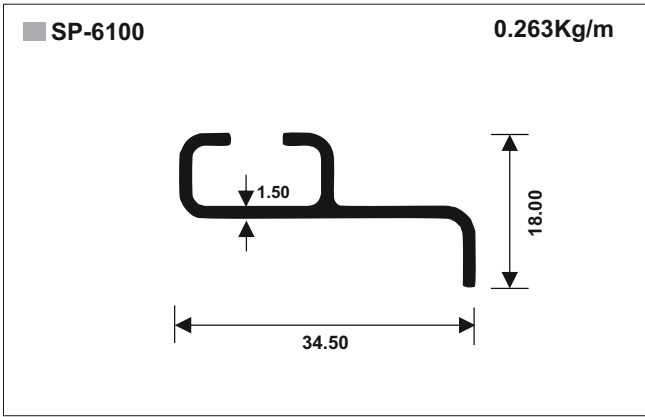
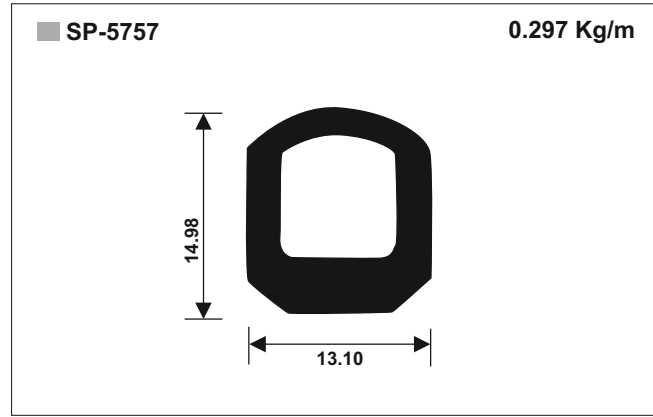
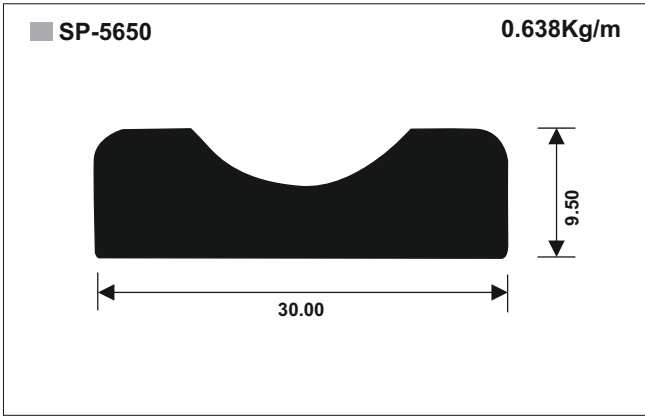


Bicycle Components



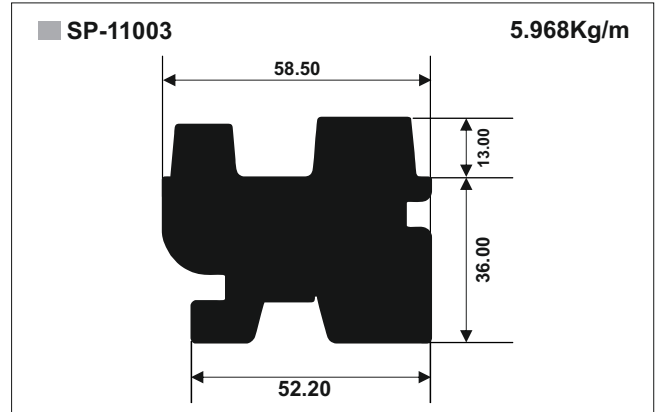
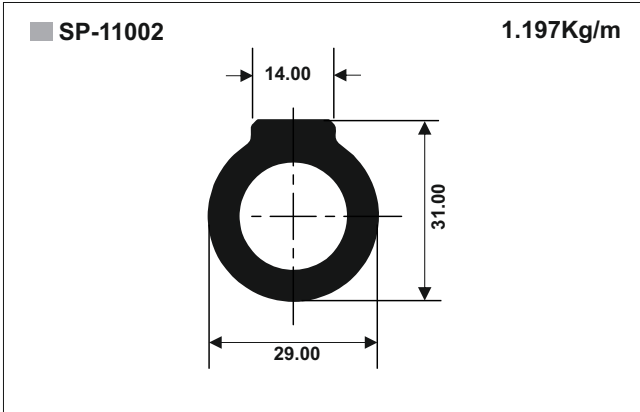


Miscellaneous

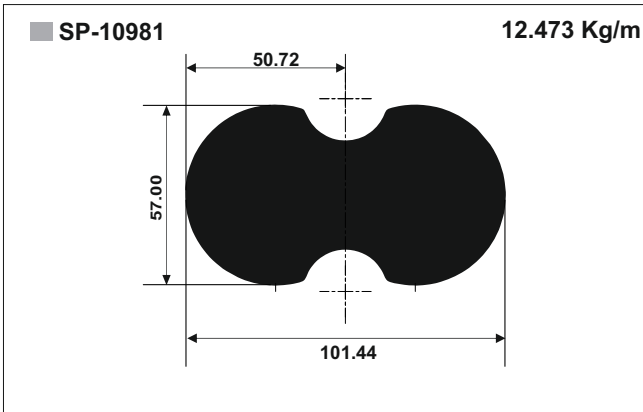




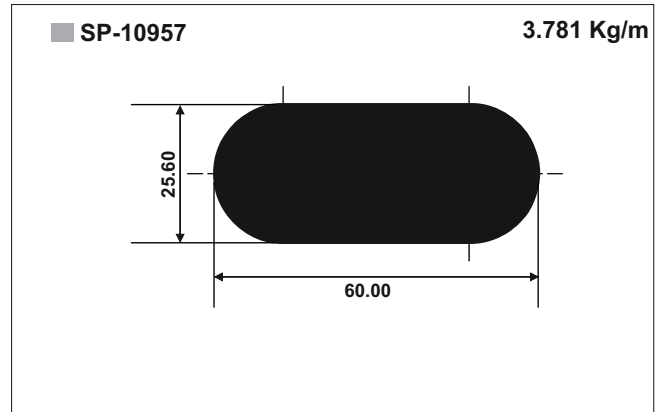
Car AC Component



AC Connector

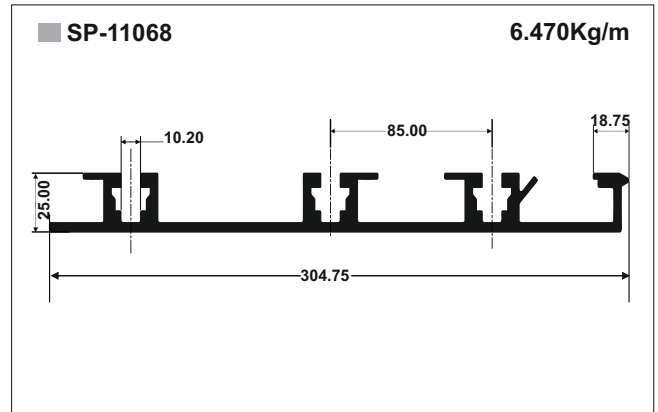
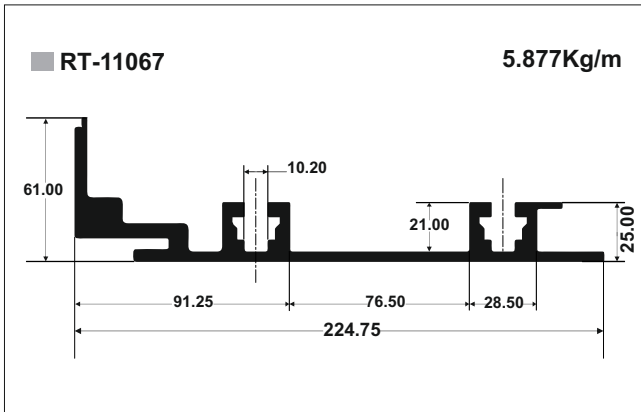


Connector

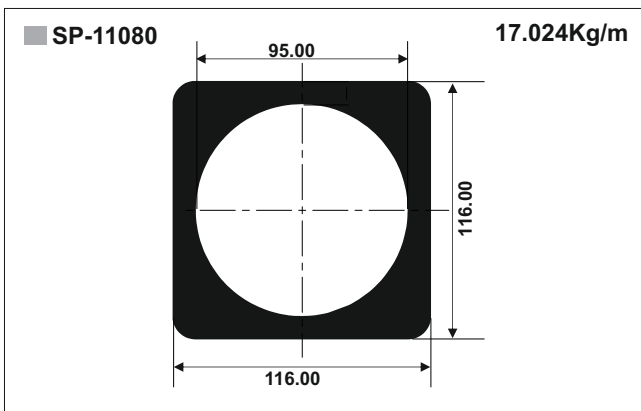
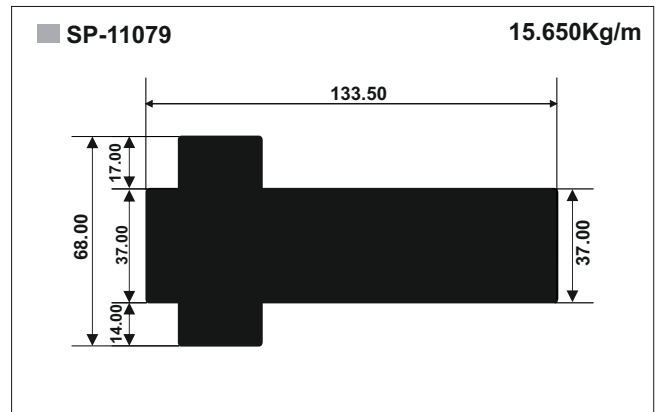
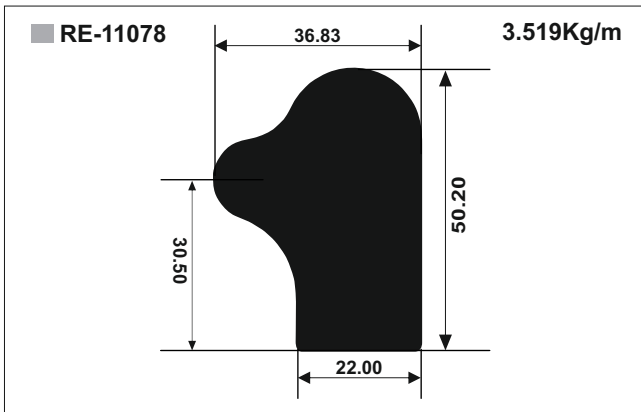




Metro Rail Seat



Rail UPS Part





Index

<u>Sec</u>	<u>Page</u>	<u>Sec</u>	<u>Page</u>	<u>Sec</u>	<u>Page</u>	<u>Sec</u>	<u>Page</u>	<u>Sec</u>	<u>Page</u>	<u>Sec</u>	<u>Page</u>	<u>Sec</u>	<u>Page</u>
199	24	1138	22	1868	32	4314	37	5748	30	8057	19	10957	61
258	43	1139	21	1869	39	4316	40	5757	59	8058	19	10970	37
273	21	1155	23	1883	24	4456	39	5758	59	8105	41	10981	60
294	37	1156	23	1955	23	4468	32	5793	20	8106	36	10995	18
307	21	1157	23	1977	40	4522	35	5796	20	8107	36	10996	18
309	20	1183	44	1984	13	4523	37	5798	19	8108	37	10998	49
322	28	1189	43	1987	28	4525	35	5804	14	8109	36	11002	60
336	26	1190	29	1993	35	4543	55	5883	55	8149	36	11003	60
341	30	1192	31	1996	37	4554	56	5904	40	8184	25	11041	44
344	30	1193	29	2049	25	4555	56	5905	40	8217	45	11042	49
359	27	1218	12	2085	39	4556	56	5912	56	8218	57	11049	57
360	27	1219	31	2144	35	4557	49	5952	49	8245	53	11050	57
366	39	1228	15	2145	35	4560	54	6037	50	8246	42	11067	62
400	43	1230	24	2178	37	4561	54	6038	49	8247	42	11068	62
405	44	1237	23	2264	39	4583	55	6039	49	8248	42	11078	63
415	13	1245	29	2325	24	4666	54	6100	59	8249	42	11079	63
416	15	1304	44	2456	34	4667	54	6130	59	8250	42	11080	63
417	13	1312	26	2475	25	4668	54	6164	47	8295	53		
427	43	1331	26	2486	32	4695	55	6328	50	8313	53		
428	44	1421	15	2510	40	4735	46	6415	16	8314	47		
446	13	1428	18	2513	38	4736	46	6471	47	8315	47		
457	44	1429	19	2535	38	4758	54	7685	48	8344	16		
485	21	1440	31	2552	32	4759	54	7706	53	8345	16		
489	20	1460	13	2553	14	4760	54	7707	53	8346	16		
529	21	1485	24	2622	40	4761	55	7724	47	8580	48		
553	43	1531	39	2661	25	4800	58	7728	58	8625	51		
557	44	1547	31	2735	35	4819	33	7729	58	8687	49		
559	43	1548	21	2736	39	4820	33	7759	51	8769	16		
566	45	1562	12	2812	27	4821	33	7760	51	8770	16		
567	43	1630	28	2813	15	4822	33	7761	51	8771	16		
572	44	1634	13	3106	12	4825	29	7762	51	10078	51		
573	43	1635	13	3107	32	4849	33	7763	51	10197	38		
576	45	1640	38	3115	32	4850	33	7764	51	10198	38		
588	12	1644	26	3131	25	4851	33	7765	52	10199	41		
673	28	1650	39	3432	23	4852	33	7766	52	10222	41		
684	34	1654	31	3550	40	4853	34	7767	52	10243	47		
695	27	1664	27	3554	40	4854	34	7768	52	10347	17		
697	20	1680	18	3703	14	4864	53	7774	48	10348	17		
715	14	1693	34	3726	24	4897	50	7775	48	10349	17		
827	31	1696	24	3727	24	4905	34	7777	52	10373	17		
828	31	1699	14	3728	12	4919	55	7783	58	10374	17		
829	31	1728	26	3991	56	4961	58	7785	16	10375	17		
830	28	1767	22	4021	12	5268	30	7867	38	10376	17		
853	27	1782	27	4060	14	5270	58	7868	52	10387	45		
877	14	1783	15	4061	32	5271	58	7870	52	10388	45		
878	28	1793	27	4170	46	5299	38	7871	53	10389	45		
975	20	1794	22	4171	46	5302	53	7872	48	10390	45		
976	23	1795	12	4183	23	5303	55	7888	48	10447	47		
1047	15	1797	22	4213	32	5305	55	7958	48	10448	47		
1048	15	1825	28	4257	14	5437	12	7971	48	10521	52		
1050	15	1826	20	4279	46	5450	46	7972	19	10654	57		
1055	22	1832	28	4280	46	5649	59	7989	49	10750	17		
1059	30	1835	38	4285	46	5650	59	7993	56	10751	18		
1137	22	1858	35	4313	35	5687	13	7994	56	10752	45		



MARKETING HEAD OFFICE

6th & 7th Floor, Birla Centurion,
Pandurang Budhkar Marg,
Worli, Mumbai 400030
Tel : +91-22-6662 6666 / 6662 6609 / 6643
Fax : +91-22-2422 7586 / 2436 2516
Email : rajendra.pareek@adityabirla.com

EXPORTS OFFICE

7th Floor, Birla Centurion,
Pandurang Budhkar Marg,
Worli, Mumbai 400030
Tel : +91-22-6662 6666 / 6662 6630 / 6646
Fax : +91-22-2422 7586 / 2436 2516
Email : manoj.randive@adityabirla.com

WORKS

P.O. Renukoot, Dist Sonbhadra,
Uttar Pradesh - 231 217, India
Tel. : +91-5446-252 079 / 78
Fax : +91-5446-252 107 / 252 427
Email : sanjeev.singh@adityabirla.com

P.B. No. 21 Alupuram, Kalamassery,
Kerala - 683 104, India
Tel.: +91 - 484 - 293 2446
Fax : +91 - 484 - 254 1887
Email : r.sivaramakrishan@adityabirla.com

REGIONAL OFFICES

North

Mindmill Corporate Tower
24a, Film City
Sec- 16 A,
Noida - 201301.up.
Ph. + 91120 6692100
Fax. 91120 6692105
Email : nutan.singh@adityabirla.com

West

1st floor, Ahura Centre,
82, Mahakali Caves Road, Andheri (East),
Mumbai - 400 093, Maharashtra
Tel.: +91-22-6691 7000 / 7031
Fax : +91-22-6691 7070 / 7050
Email : ashish.nema@adityabirla.com

East

Jeevan Deep Building, 1,
Prafulla Chandra Sen Sarani,
Kolkata - 700 071, West Bengal
Tel.: +91-33-2280 9710, 2288 6135
Fax : +91-33-2288 6139
Email : abhijit.chakraborty@adityabirla.com

South

7th Floor, Industry house,
45 Race Course road,
Bengaluru - 560 001, Karnataka
Tel.: +91-80-4041 6000
Fax : +91-80-4041 6060
Email : ashok.k.kumar@adityabirla.com

AREA OFFICES

Kochi

P.B. No. 21 Alupuram, Kalamassery,
Kerala - 683 104, India
Tel.: +91-484-293 2445
Fax : +91-484-254 1887
Email : vivek.jacob@adityabirla.com

Chennai

Flat 2A, 2nd Floor, Appex Plaza, 3,
Nungambakkam High Road, Chennai - 600 034
Tel.: 91-44-2827 2333 / 2343
Fax : 91-44-2827 4756
Email : s.sugunaraj@adityabirla.com



www.hindalco.com