MUANGTHONG ALUMINIUM

Muangthong Aluminium

ALUMINIUM EXTRUSION

Profile Catalogue Vol.3

MUANGTHONG ALUMINIUM INDUSTRY CO.,LTD.

MUANGTHONG INTRODUCTION

บทนำ

INTRODUCTION

MUANGTHONG ALUMINIUM

เมืองทองอุตสาหกรรมอาลูมีเนียม เป็นหนึ่งในผู้นำด้านการผลิตอลูมิเนียมเส้นหน้าตัดของประเทศไทย เพื่อใช้สำหรับงานติดตั้ง ทำวงกบ และบานกรอบประตู หน้าต่าง งานสถาปัตยกรรม และกลุ่มงานอุตสาหกรรม เช่น เฟอร์นิเจอร์, ชิ้นส่วนรถยนต์ต่างๆ เหล่านี้เป็นต้น

ควบคุมการบริหารงานและคุณภาพด้วยมาตรฐาน ISO 9001 : 2008, ISO - TS 16949 : 2009, ISO 14001 : 2004 และ OHSAS 18001 : 2007 ตามมาตรฐานสากล

ปัจจุบัน บริษัทก้าวเข้าสู่ปีที่ 31 นับตั้งแต่ก่อตั้งขึ้นเมื่อปี 2523 ปัจจุบันทุนจดทะเบียน 400 ล้านบาท มีพนักงาน 700 คน มีกำลังการผลิต 1500 ตัน ต่อเดือน ด้วยเครื่องรีดที่ทันสมัย คือ 1650, 1750, 1800, 3500 ตัน มีระบบการชุบและเคลือบสีผิวอลูมิเนียม, การพ่นสี ทั้งสีฝุ่น ตามมาตรฐานพ่นสีของสหรัฐอเมริกา AAMA 263 - 98 และมีการพ่นสี PVDF ตามมาตรฐาน AAMA 2605 - 05 รวมทั้งสีลายไม้

MUANGTHONG ALUMINIUM is one of an expertise in Aluminium profile industry in Thailand. Its product is various uses for window and door frame, architectural, Furniture Industries and Auto parts.

We have produce and manage under International standard for Quality Management Systems (QMS) ISO 9001 : 2008, ISO - TS 16949 : 2009, ISO 14001 : 2004, OHSAS 18001 : 2007. With 31 years of experience in aluminium industry, 700 of efficiency employees.

MUANGTHONG ALUMINIUM was established in1980 with capital investment 400 million baht, the production capacity on operation is 1500 tons per month for mixed product outputs to meet varied market requirements consequently. Equipped with the most advanced press machine such as 1650, 1750, 1800, 3500 tons and additional with anodizing, powder coating as US standard AAMA 263 - 98, PVDF as US Standard AAMA 2605 - 05 and wood effect technology.

MUANGTHONG ALUMINIUM INDUSTRY CO.,LTD.
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Fax : (662) 337 - 2612
E-mail : sale@mtaluminium.com
Website : www.mtaluminium.com

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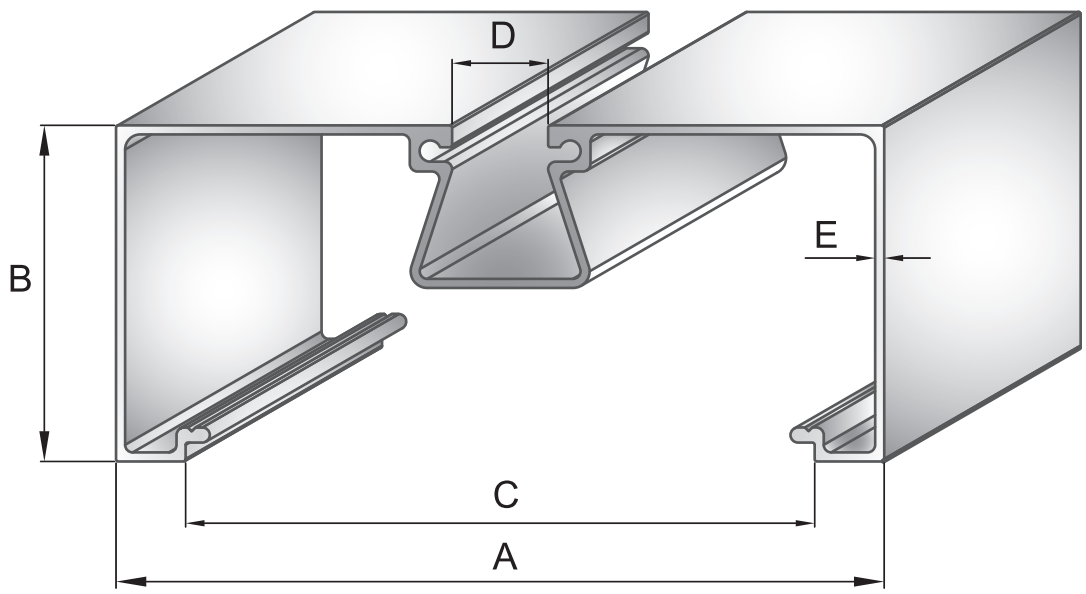
SHOPFRONT & DOORS

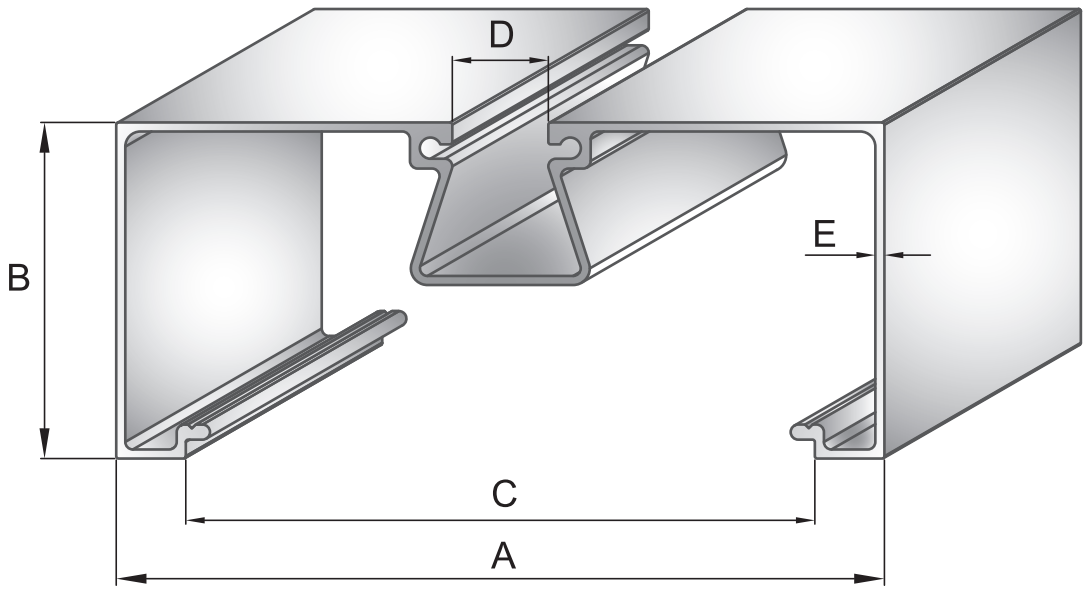
MUANGTHONG ALUMINIUM



DIE NO.	A	B	C	D	E	WEIGHT
	(mm.)	(mm.)	(mm.)	(mm.)	(mm.)	(kg./m.)
3001	76.20	38.10	57.20	12.70	1.00	0.723
3801	76.20	38.10	57.20	12.70	1.20	0.772
3136	76.20	38.10	57.20	12.70	1.50	0.890
3139	76.20	38.10	57.20	12.70	1.78	1.094
3361	76.20	38.10	57.20	12.70	2.00	1.251
3150	101.60	25.00	83.20	12.70	1.50	0.988
3012 A	101.60	44.45	83.20	12.70	0.95	0.771
3012 B	101.60	44.45	83.20	12.70	1.00	0.806
3012 C	101.60	44.45	83.20	12.70	1.05	0.829
3012 D	101.60	44.45	83.20	12.70	1.10	0.859
3012 E	101.60	44.45	83.20	12.70	1.15	0.892
3012 F	101.60	44.45	83.20	12.70	1.20	0.948
3021 A	101.60	44.45	83.20	12.70	1.35	1.038
3021 B	101.60	44.45	83.20	12.70	1.40	1.088
3021 F	101.60	44.45	83.20	12.70	1.50	1.146
3038 A	101.60	44.45	83.20	12.70	1.60	1.213
3038 B	101.60	44.45	83.20	12.70	1.65	1.247
3038 F	101.60	44.45	83.20	12.70	1.75	1.313
3045 A	101.60	44.45	83.20	12.70	1.90	1.410
3045 B	101.60	44.45	83.20	12.70	1.95	1.443

SHOPFRONT & DOORS

ชุดบานเปิดประตู – หน้าต่าง



DIE NO.	A	B	C	D	E	WEIGHT
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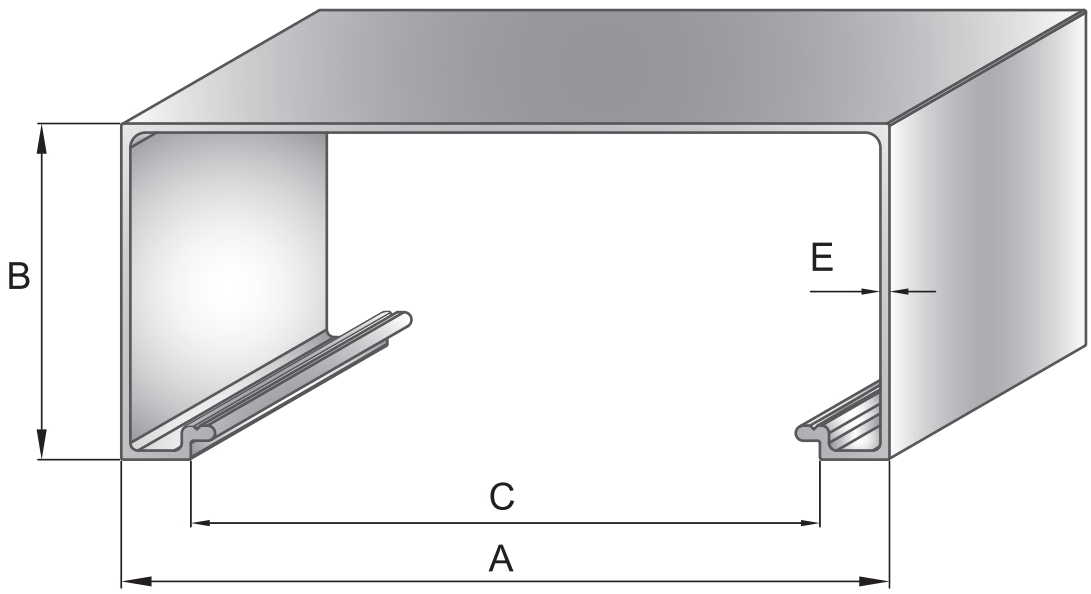
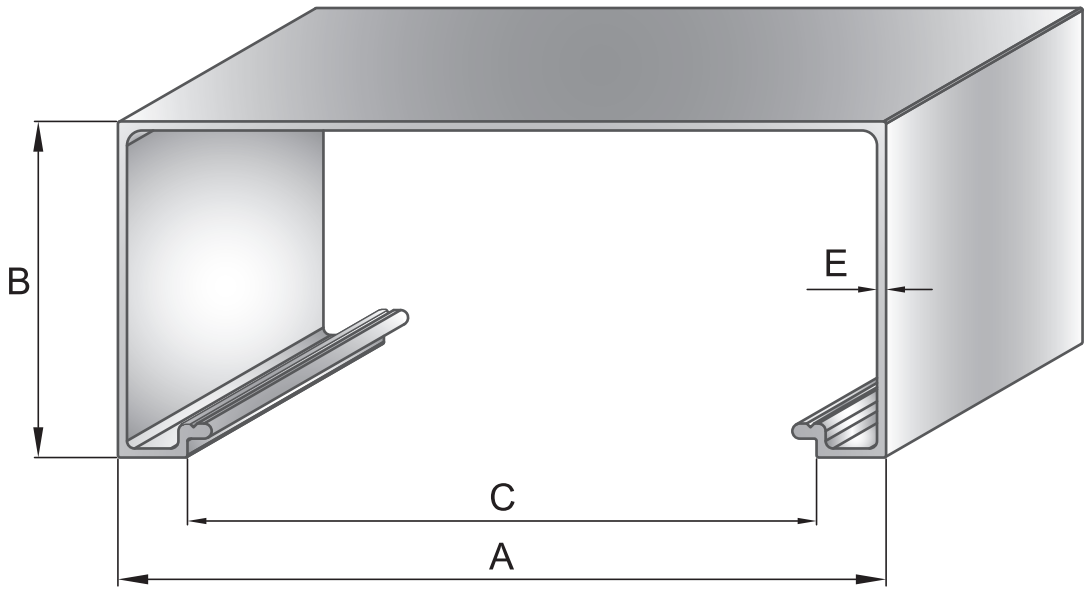
3045 F	101.60	44.45	83.20	12.70	2.00	1.478
3100	101.60	44.45	83.20	12.70	2.50	1.791
3696	101.60	44.45	83.20	16.50	1.50	1.145
3113	101.60	44.45	83.20	16.50	2.00	1.475
3911	101.60	44.45	83.20	20.00	2.00	1.474
3179	101.60	44.45	83.20	25.00	2.00	1.474
3175	101.60	44.45	83.20	30.00	2.00	1.474
3158	101.60	50.80	83.20	12.70	1.60	1.255
3161	101.60	50.80	83.20	12.70	1.80	1.387
3314	101.60	50.80	83.20	12.70	2.00	1.541
3804	101.60	50.80	83.20	16.50	2.00	1.544
3805	101.60	50.80	83.20	20.00	2.00	1.544
3886	101.60	50.80	83.20	25.00	2.00	1.544
3218	101.60	50.80	83.20	30.00	2.00	1.538
3898	101.60	101.60	83.20	12.70	2.00	2.096
3147	127.00	44.45	83.20	12.70	2.00	1.753
3307	127.00	50.80	83.20	12.70	2.00	1.817
3889	152.40	44.45	83.20	12.70	2.00	2.026
3579	152.40	50.80	83.20	12.70	2.00	2.095



DIE NO.	A	B	C	E	WEIGHT
	(mm.)	(mm.)	(mm.)	(mm.)	(kg./m.)
3002	76.20	38.10	57.20	1.00	0.492
3800	76.20	38.10	57.20	1.20	0.581
3134	76.20	38.10	57.20	1.50	0.726
3140	76.20	38.10	57.20	1.78	0.846
3362	76.20	38.10	57.20	2.00	0.948
3151	101.60	25.00	83.20	1.50	0.728
3662	101.60	25.00	83.20	2.00	0.943
3013 A	101.60	44.45	83.20	1.00	0.653
3013 B	101.60	44.45	83.20	1.15	0.706
3013 F	101.60	44.45	83.20	1.20	0.722
3022 A	101.60	44.45	83.20	1.35	0.802
3022 B	101.60	44.45	83.20	1.45	0.847
3022 F	101.60	44.45	83.20	1.50	0.886
3039 F	101.60	44.45	83.20	1.75	1.020
3039 G	101.60	44.45	83.20	1.80	1.047
3046 A	101.60	44.45	83.20	1.90	1.096
3046 F	101.60	44.45	83.20	2.00	1.149
3101 F	101.60	44.45	83.20	2.50	1.408
3101 G	101.60	44.45	83.20	2.55	1.433
3159	101.60	50.80	83.20	1.60	0.996

SHOPFRONT & DOORS

ชุดบานเปิดประตู – หน้าต่าง



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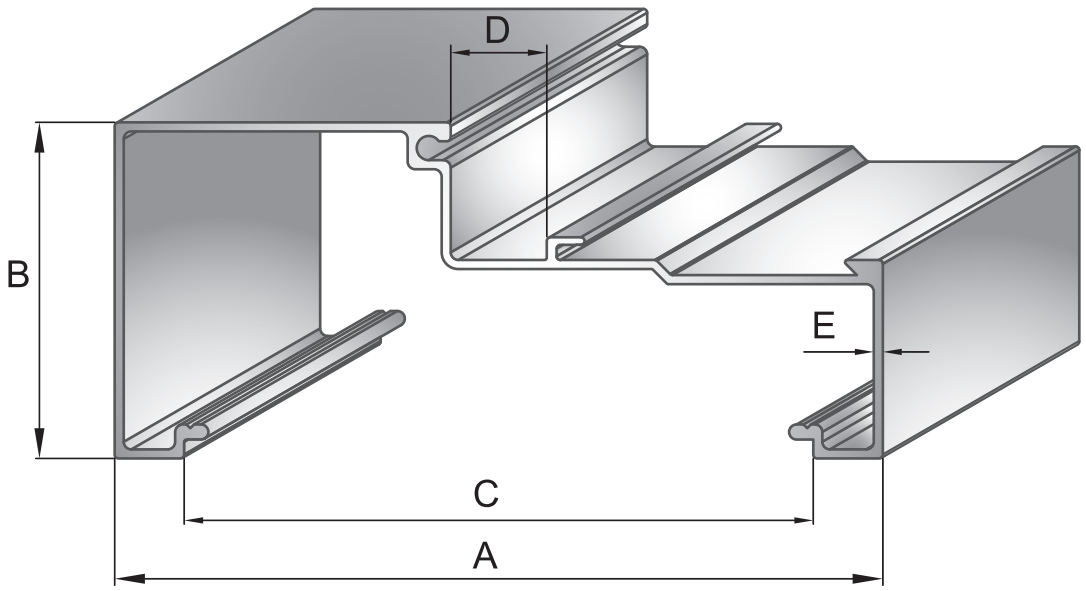
	(mm.)	(mm.)	(mm.)	(mm.)	(kg./m.)
3162	101.60	50.80	83.20	1.80	1.110
3315	101.60	50.80	83.20	2.00	1.219
3478	101.60	101.60	83.20	2.00	1.773
3282	127.00	44.45	83.20	2.00	1.429
3308	127.00	50.80	83.20	2.00	1.494



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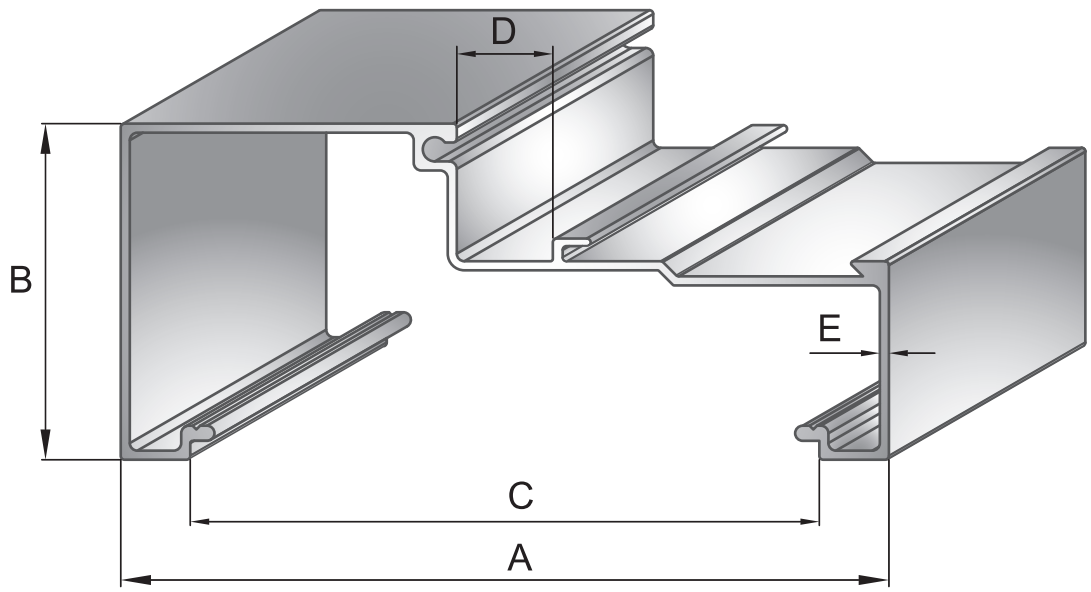
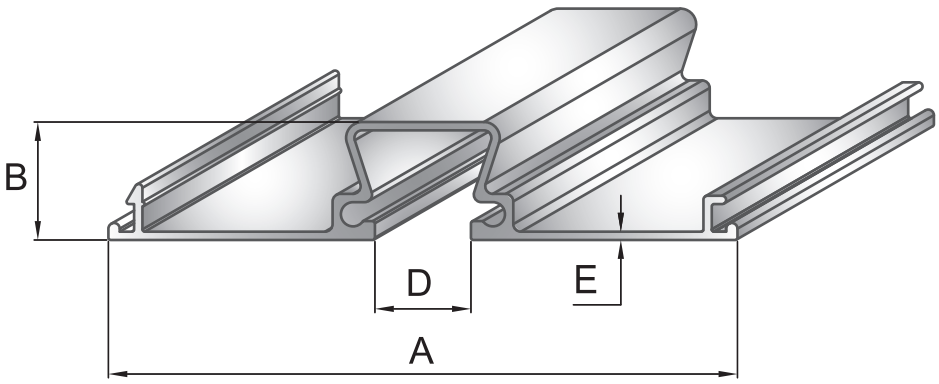
	(mm.)	(mm.)	(mm.)	(mm.)	(mm.)	(kg./m.)
3005	76.20	38.10	57.20	12.70	1.00	0.579
3910	76.20	38.10	57.20	12.70	1.20	0.641
3135	76.20	38.10	57.20	12.70	1.50	0.789
3143	76.20	38.10	57.20	12.70	1.78	0.910
3171	101.60	30.48	83.20	12.70	1.20	0.706
3016 A	101.60	44.45	83.20	12.70	1.05	0.702
3016 B	101.60	44.45	83.20	12.70	1.10	0.729
3016 C	101.60	44.45	83.20	12.70	1.15	0.765
3016 F	101.60	44.45	83.20	12.70	1.20	0.784
3028 A	101.60	44.45	83.20	12.70	1.30	0.839
3028 B	101.60	44.45	83.20	12.70	1.35	0.874
3028 F	101.60	44.45	83.20	12.70	1.50	0.945
3040 A	101.60	44.45	83.20	12.70	1.65	1.023
3040 F	101.60	44.45	83.20	12.70	1.75	1.076
3051 A	101.60	44.45	83.20	12.70	1.85	1.129
3051 B	101.60	44.45	83.20	12.70	1.90	1.155
3051 F	101.60	44.45	83.20	12.70	2.00	1.207
3104	101.60	44.45	83.20	12.70	2.50	1.470
3697	101.60	44.45	83.20	16.50	1.50	0.948
3190	101.60	44.45	83.20	16.50	2.00	1.201

SHOPFRONT & DOORS

ชุดบานเปิดประตู - หน้าต่าง



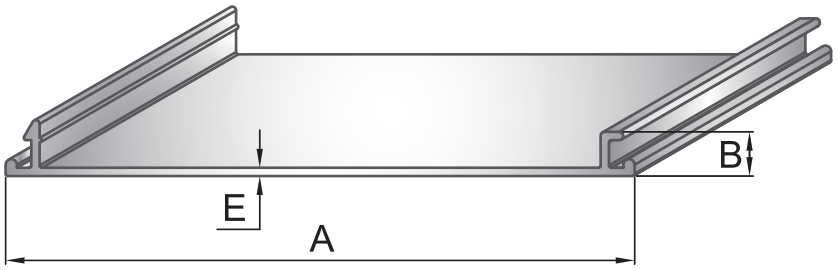
DIE NO.	A	B	C	D	E	WEIGHT
	(mm.)	(mm.)	(mm.)	(mm.)	(mm.)	(kg./m.)
3912	101.60	44.45	83.20	20.00	2.00	1.199
3181	101.60	44.45	83.20	25.00	2.00	1.210
3177	101.60	44.45	83.20	30.00	2.00	1.207
3160	101.60	50.80	83.20	12.70	1.60	1.053
3163	101.60	50.80	83.20	12.70	1.80	1.162
3316	101.60	50.80	83.20	12.70	2.00	1.282
3806	101.60	50.80	83.20	16.50	2.00	1.272
3807	101.60	50.80	83.20	20.00	2.00	1.272
3887	101.60	50.80	83.20	25.00	2.00	1.282
3220	101.60	50.80	83.20	30.00	2.00	1.278
3479	101.60	101.60	83.20	12.70	2.00	1.829
3283	127.00	44.45	83.20	12.70	2.00	1.485
3309	127.00	50.80	83.20	12.70	2.00	1.556
3891	152.40	44.45	83.20	12.70	2.00	1.760
3581	152.40	50.80	83.20	12.70	2.00	1.834



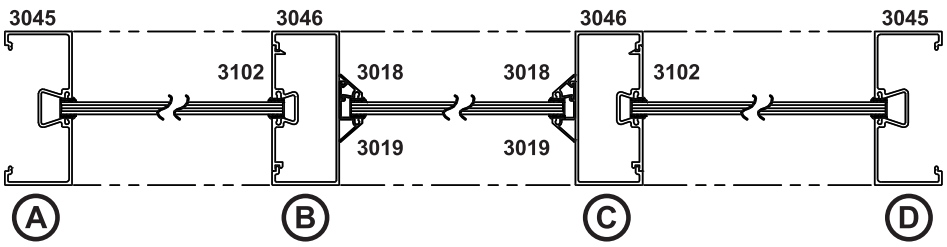
DIE NO.	A	B	D	E	WEIGHT
	(mm.)	(mm.)	(mm.)	(mm.)	(kg./m.)
3132	57.20	15.80	12.70	1.30	0.411
3575	72.20	18.00	12.70	1.50	0.565
3014 A	83.20	15.35	12.70	0.85	0.373
3014 B	83.20	15.45	12.70	1.00	0.419
3014 F	83.20	15.60	12.70	1.10	0.454
3014 G	83.20	15.65	12.70	1.20	0.485
3024 A	83.20	15.80	12.70	1.30	0.525
3024 B	83.20	15.90	12.70	1.40	0.557
3024 F	83.20	16.00	12.70	1.50	0.590
3102 A	83.20	16.40	12.70	1.90	0.721
3102 F	83.20	16.50	12.70	2.00	0.754
3102 G	83.20	16.70	12.70	2.20	0.818
3189	83.20	16.00	16.50	1.50	0.591
3808	83.20	16.00	20.00	2.00	0.698
3180	83.20	17.00	25.00	2.00	0.764
3570	83.20	17.00	30.00	1.50	0.621
3176	83.20	17.00	30.00	2.00	0.773
3219	83.20	23.00	30.00	1.50	0.704
3258	98.60	18.00	12.70	1.50	0.672

SHOPFRONT & DOORS

ชุดบานเปิดประตู – หน้าต่าง



DIE NO.	A	B	C	D	E	WEIGHT
	(mm.)	(mm.)	(mm.)	(mm.)	(mm.)	(kg./m.)
3576	72.20	6.25	-	-	1.50	0.350
3015 A	83.20	5.75	-	-	1.05	0.282
3015 F	83.20	5.85	-	-	1.10	0.298
3025 A	83.20	6.05	-	-	1.30	0.348
3025 F	83.20	6.25	-	-	1.50	0.396
3103	83.20	6.90	-	-	2.00	0.523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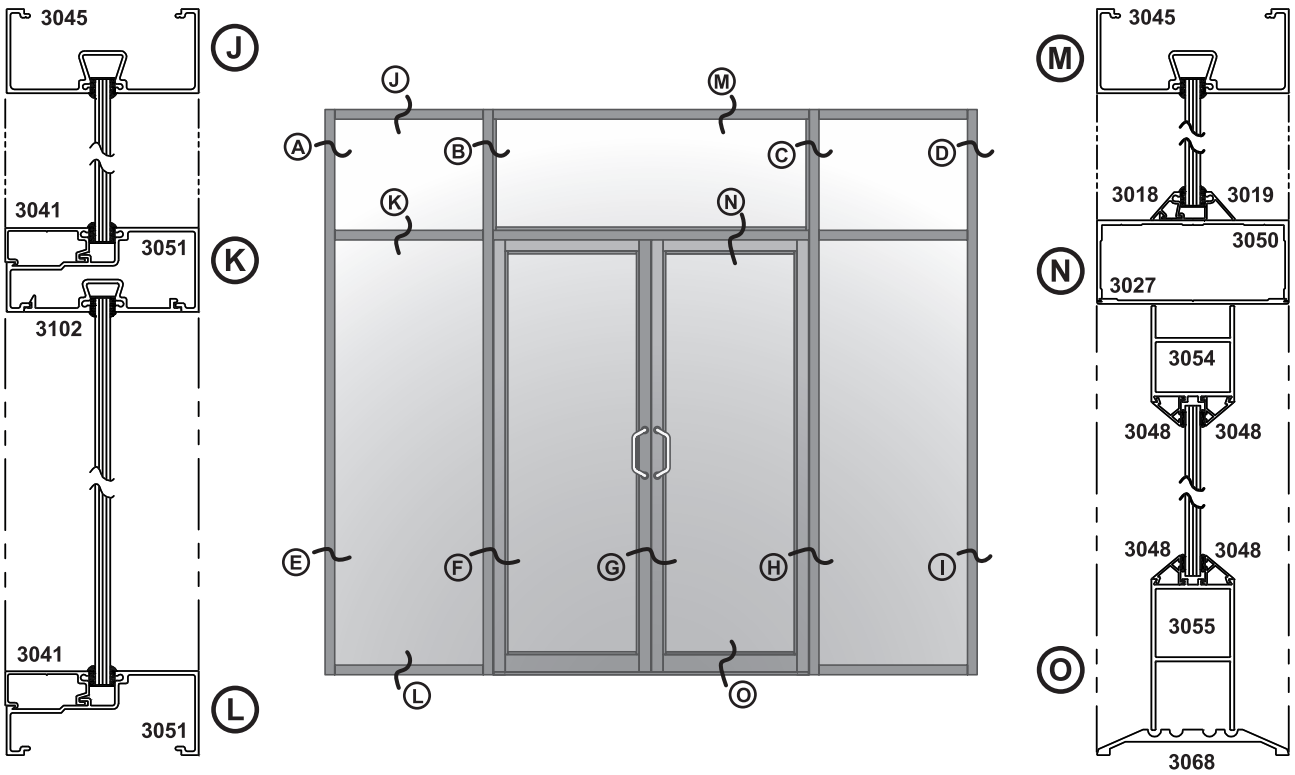
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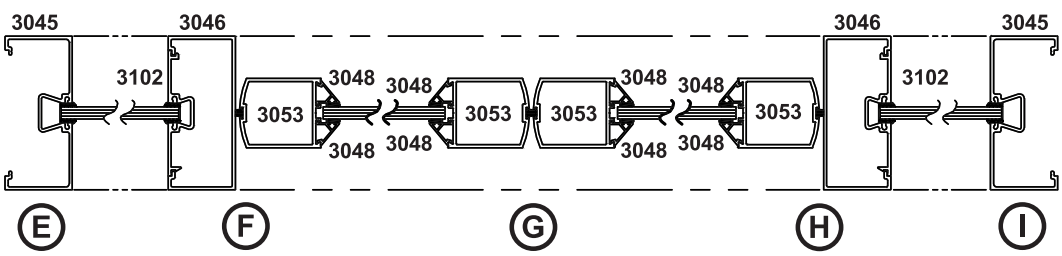
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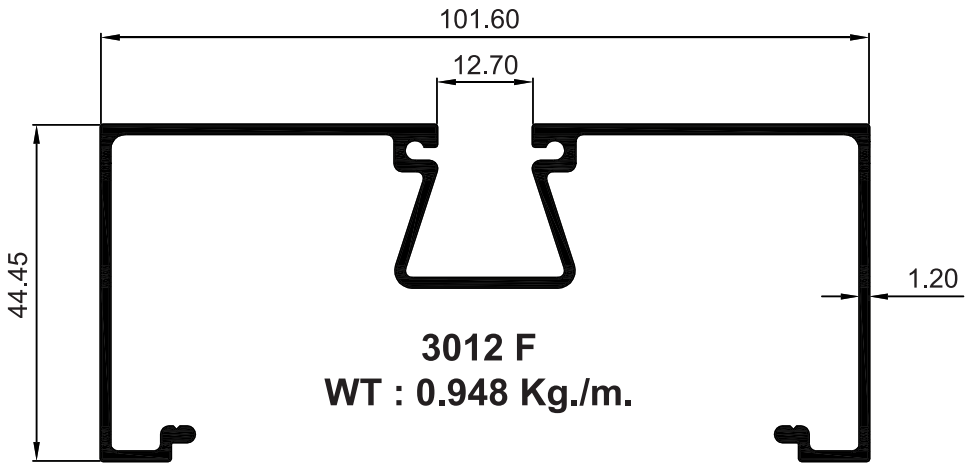

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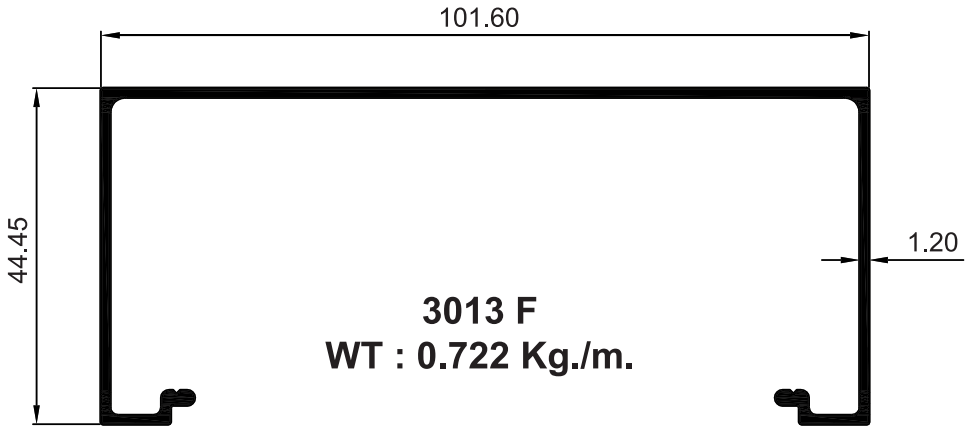

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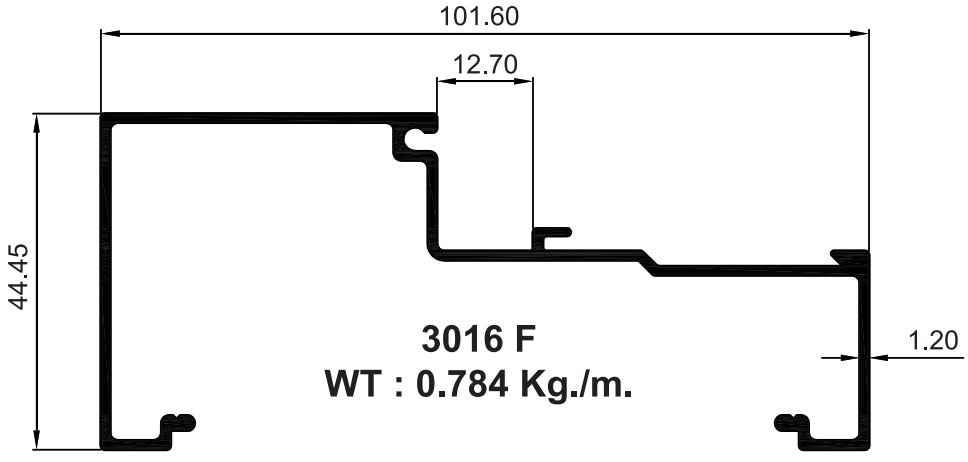

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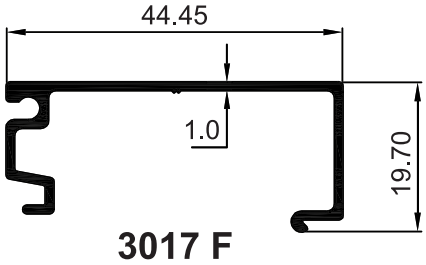

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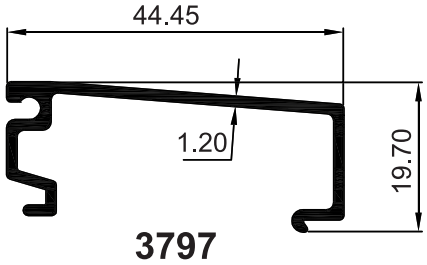

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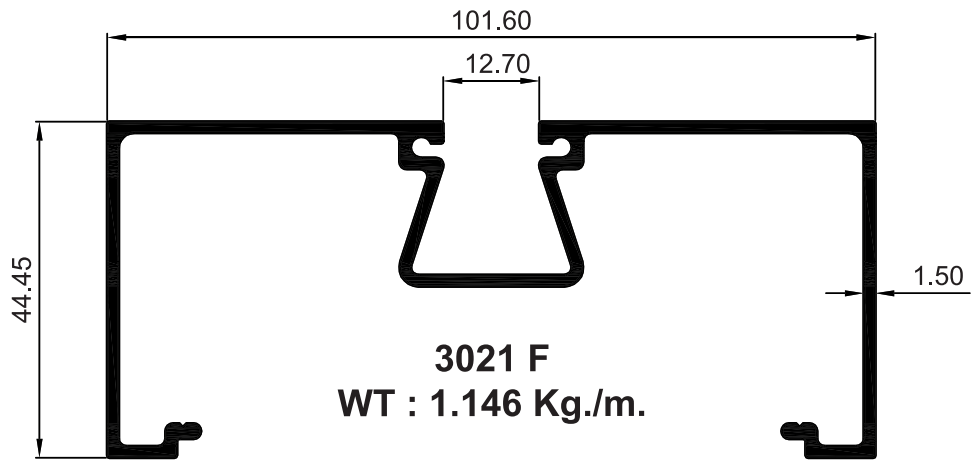

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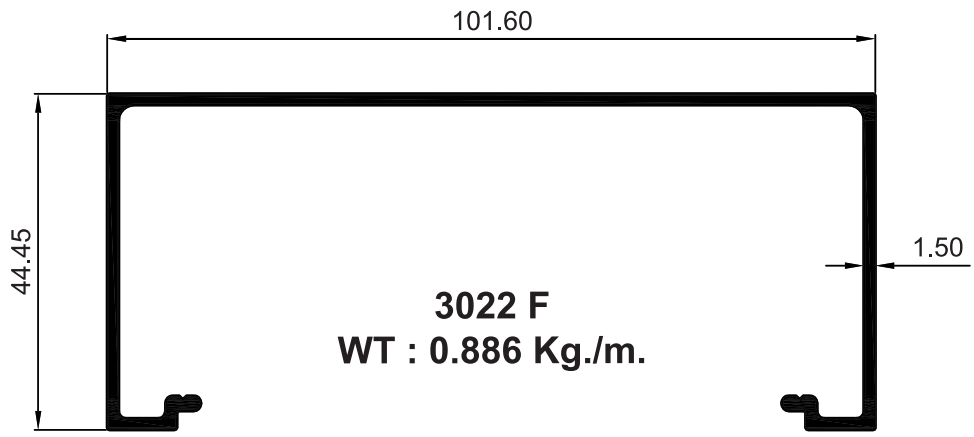

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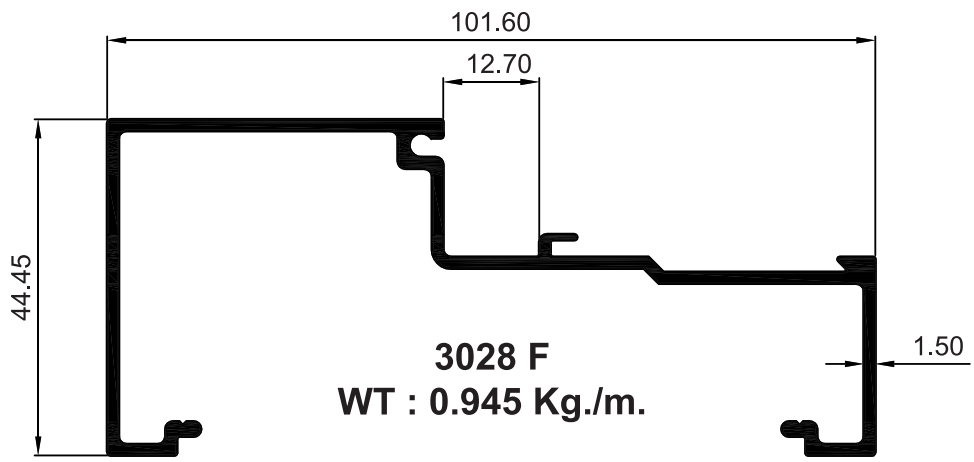

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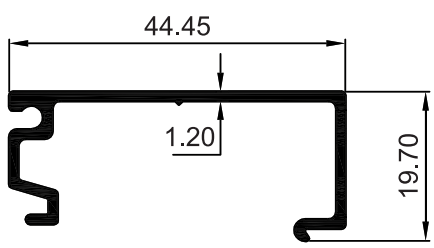
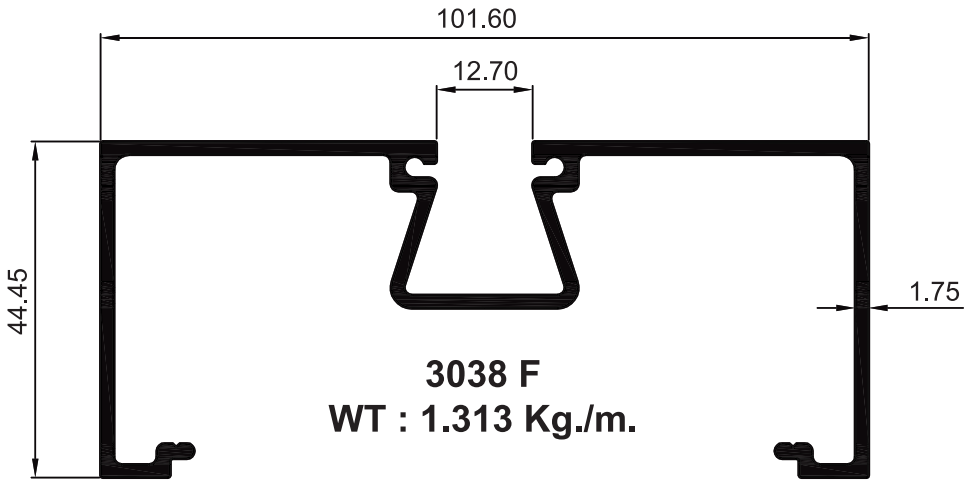
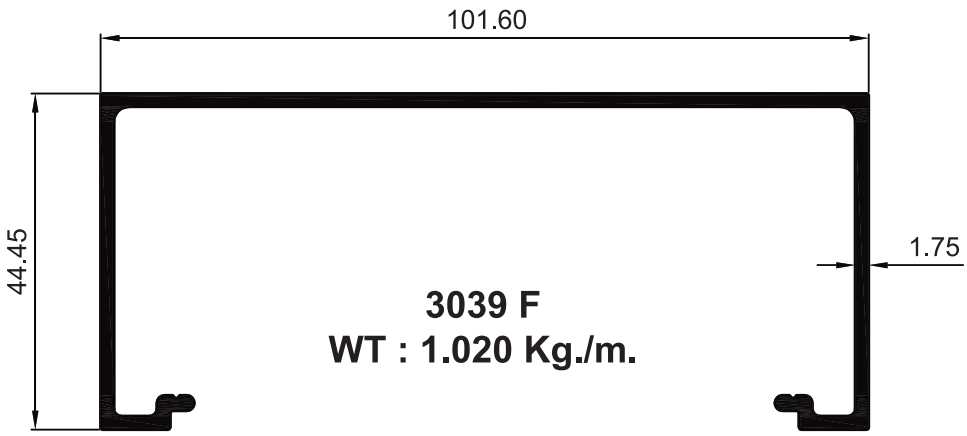


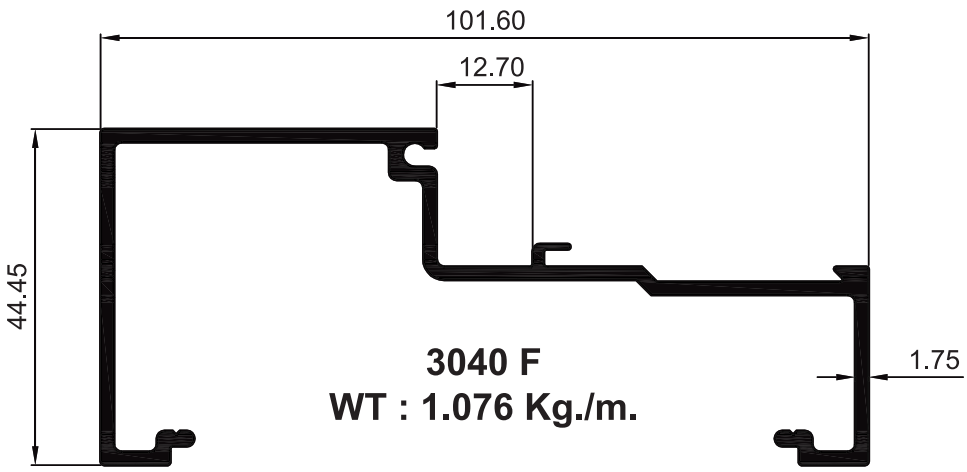
3029 F
WT : 0.327 Kg./m.



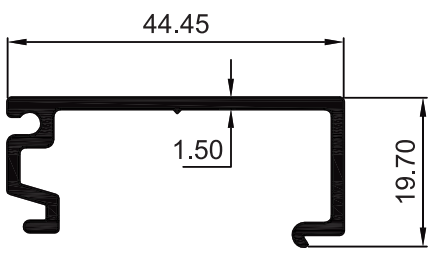
3038 F
WT : 1.313 Kg./m.



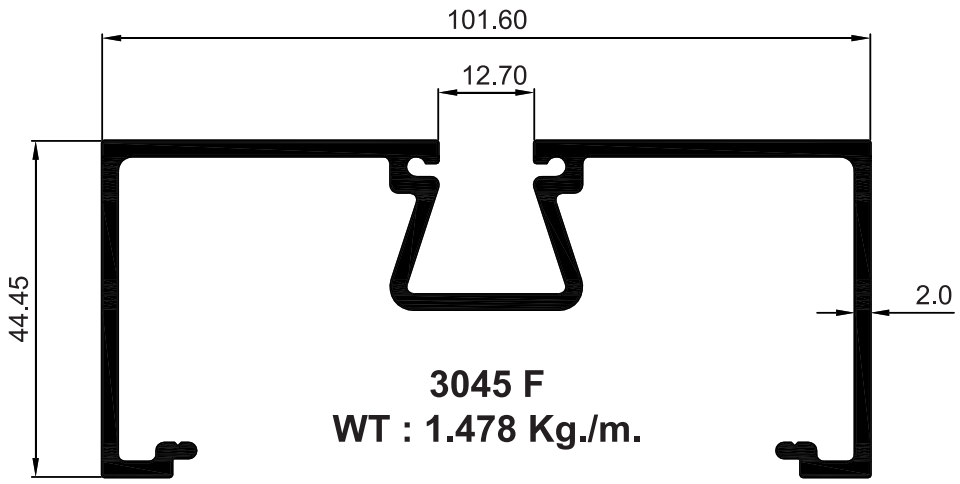
3039 F
WT : 1.020 Kg./m.



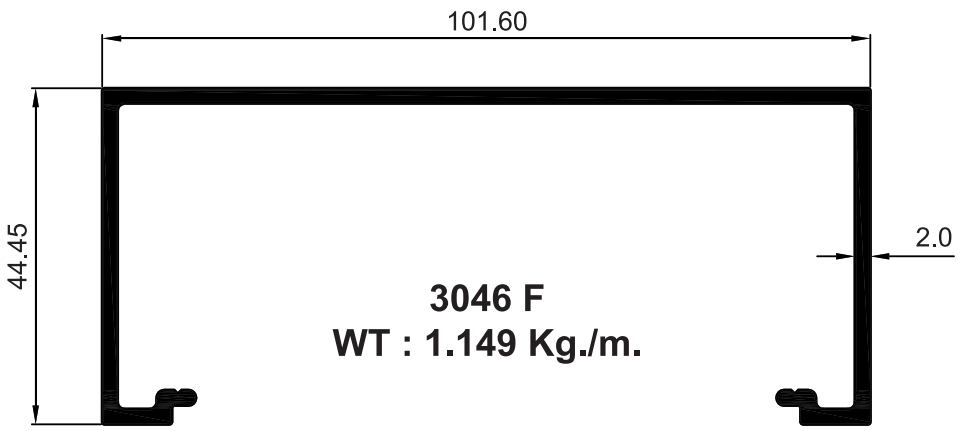
3040 F
WT : 1.076 Kg./m.



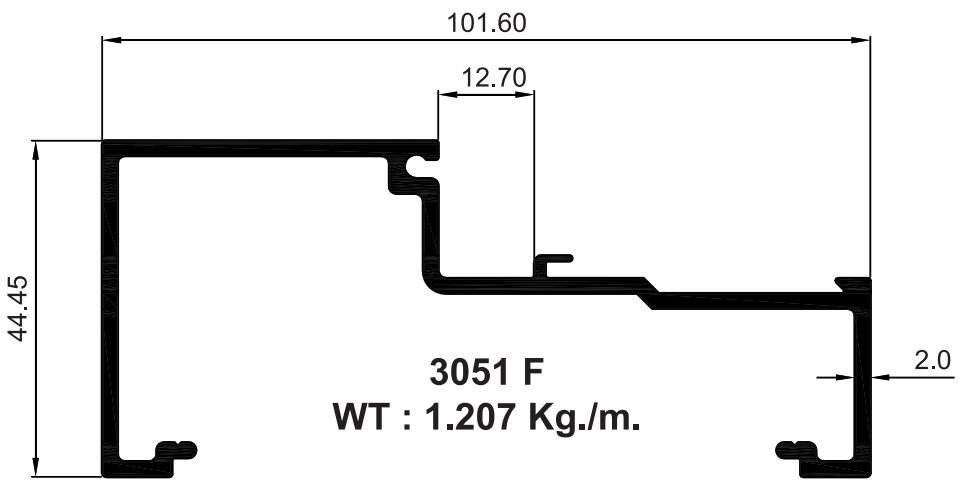
3041 F
WT : 0.397 Kg./m.



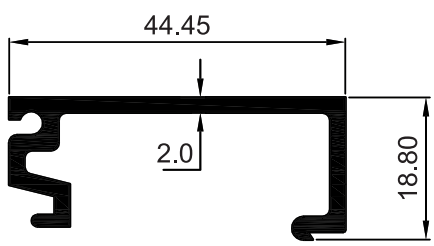
3045 F
WT : 1.478 Kg./m.



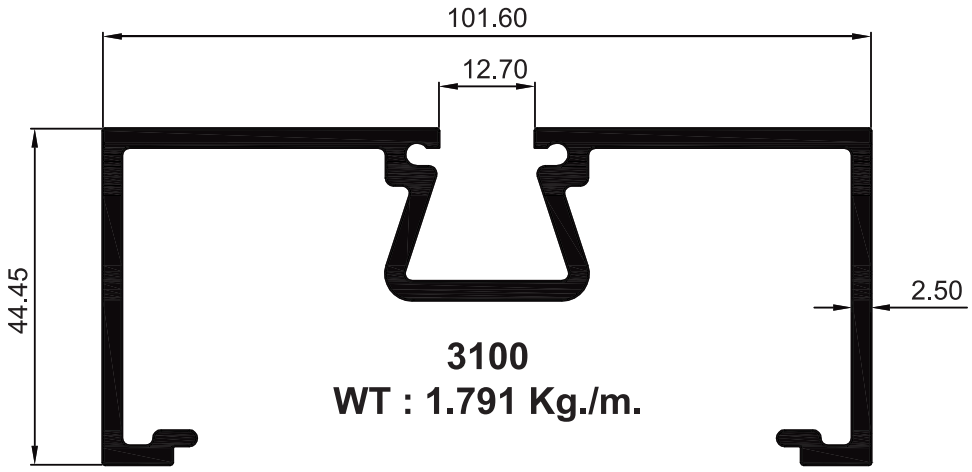
3046 F
WT : 1.149 Kg./m.



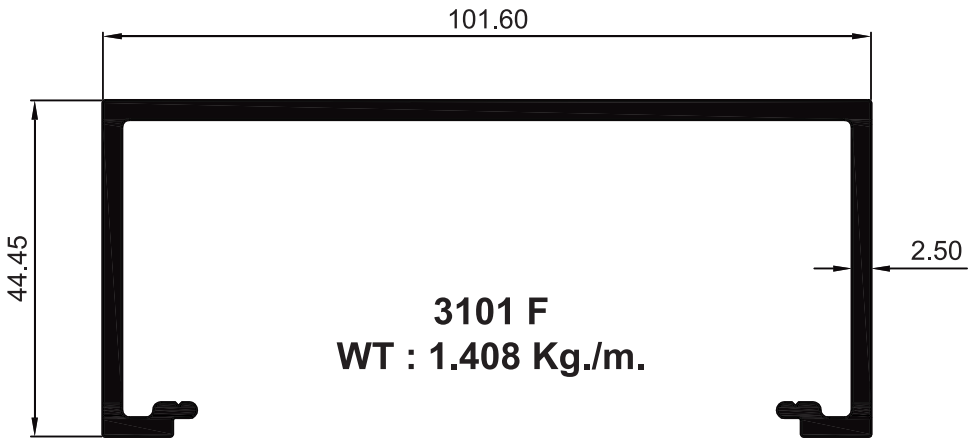
3051 F
WT : 1.207 Kg./m.



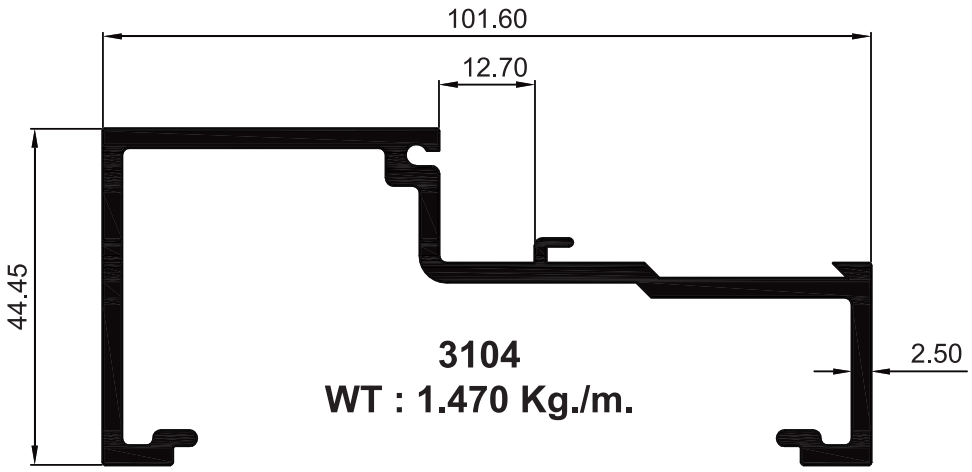
3105
WT : 0.508 Kg./m.



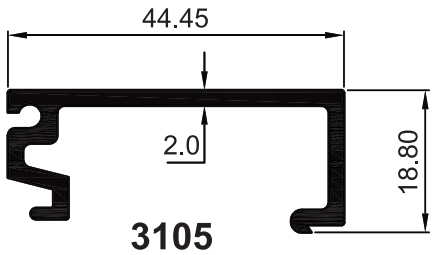
3100
WT : 1.791 Kg./m.



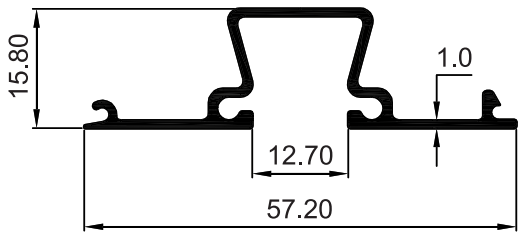
3101 F
WT : 1.408 Kg./m.



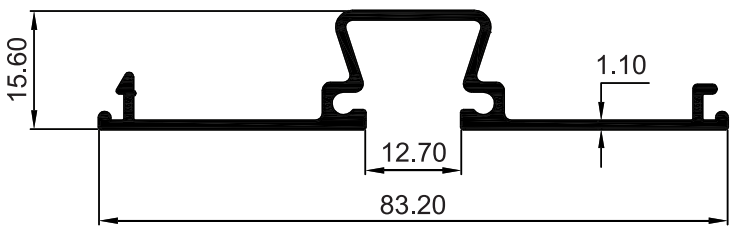
3104
WT : 1.470 Kg./m.



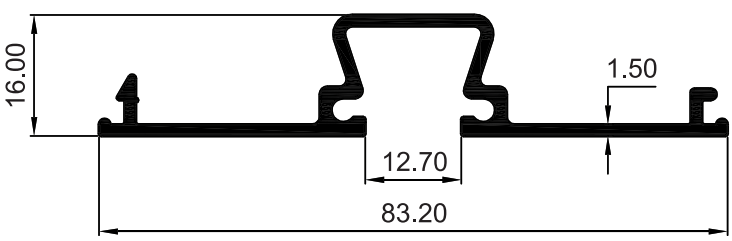
3105
WT : 0.508 Kg./m.



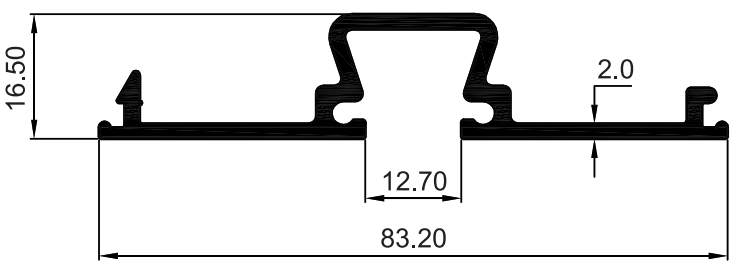
3003
WT : 0.310 Kg./m.



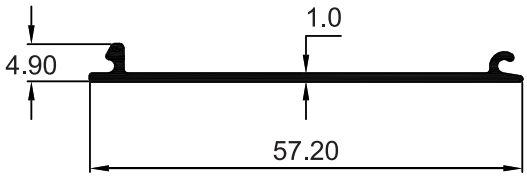
3014 F
WT : 0.454 Kg./m.



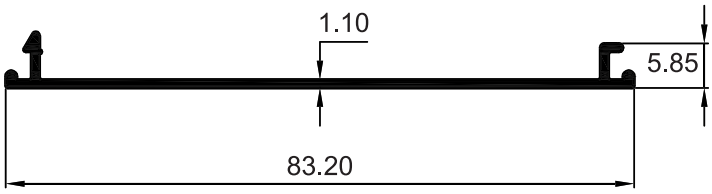
3024 F
WT : 0.590 Kg./m.



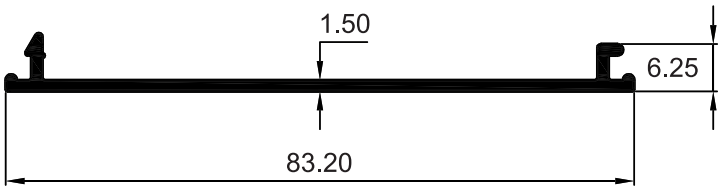
3102 F
WT : 0.754 Kg./m.



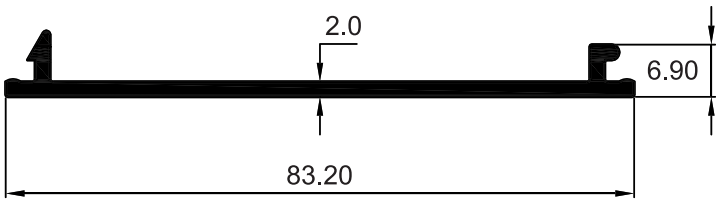
3004 F
WT : 0.180 Kg./m.



3015 F
WT : 0.298 Kg./m.

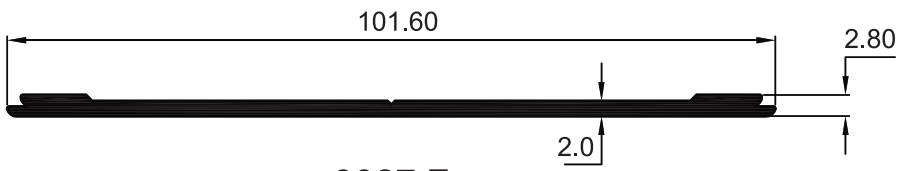


3025 F
WT : 0.396 Kg./m.

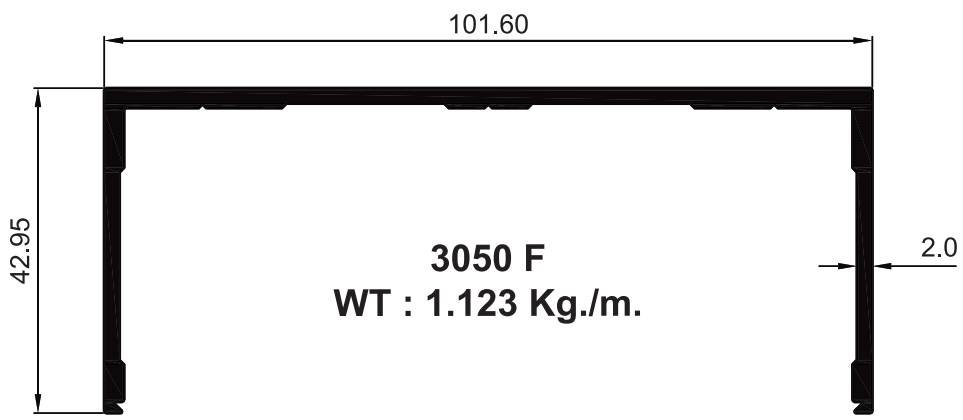


3103
WT : 0.523 Kg./m.

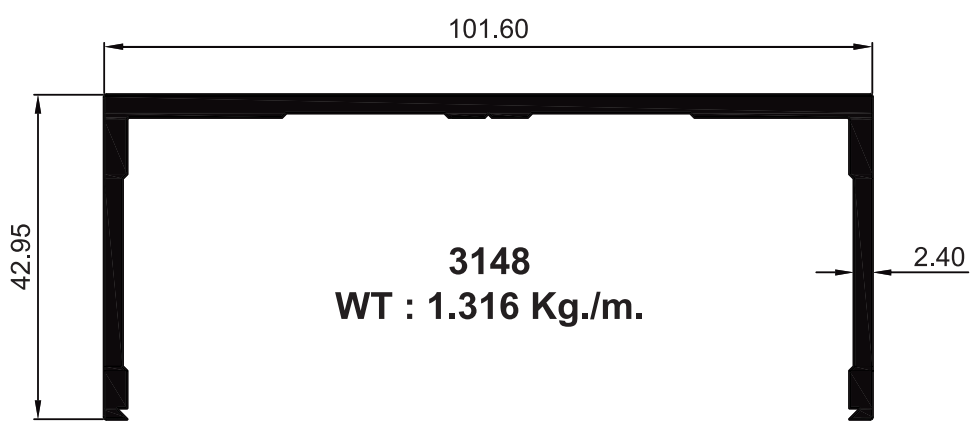
3026 F
WT : 1.017 Kg./m.



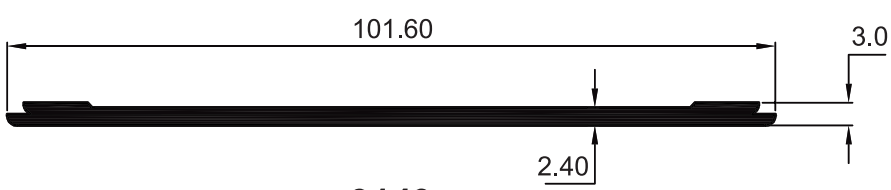
3027 F
WT : 0.578 Kg./m.



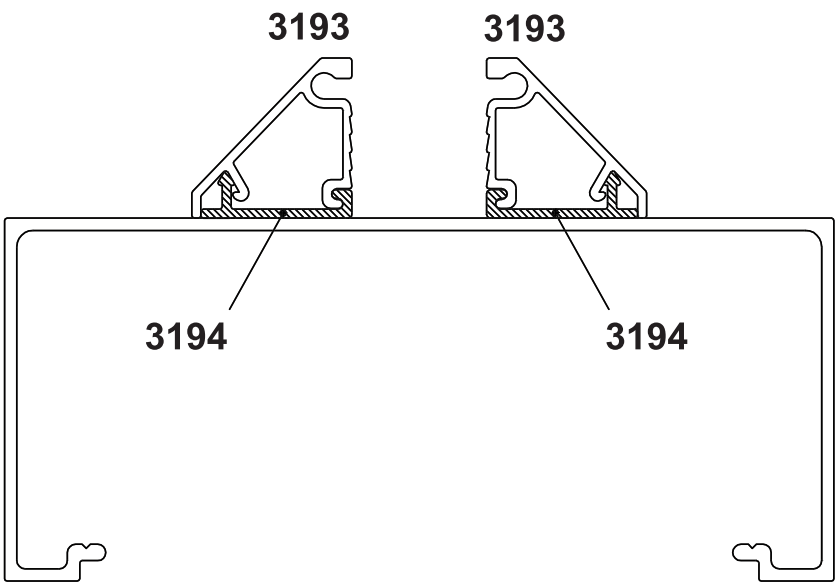
3050 F
WT : 1.123 Kg./m.

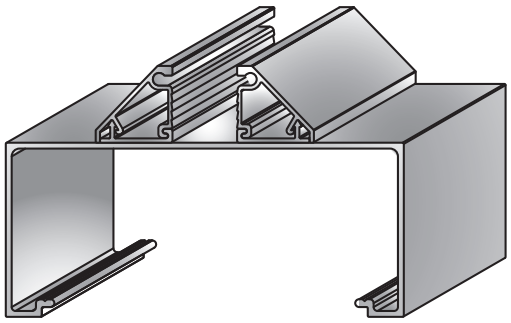


3148
WT : 1.316 Kg./m.

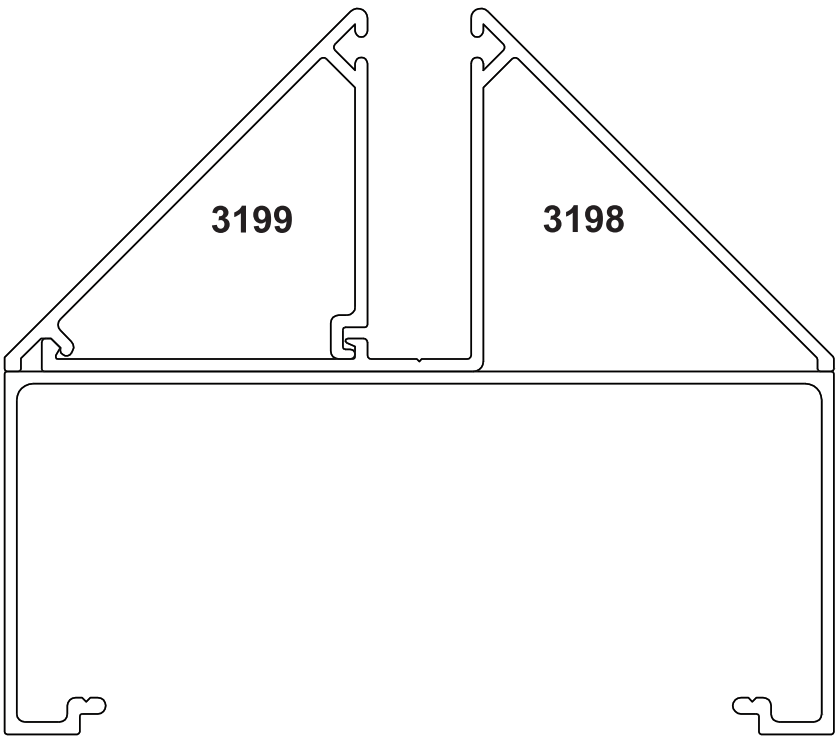


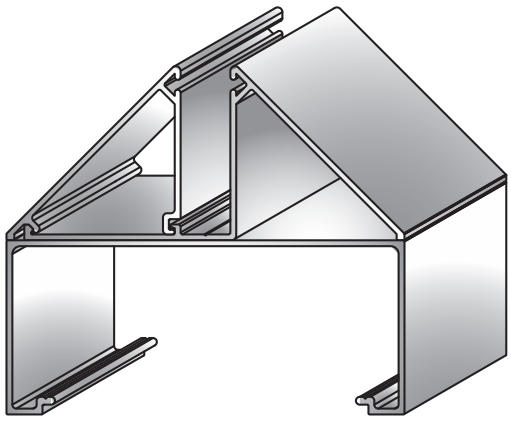
3149
WT : 0.674 Kg./m.



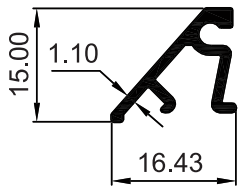


3022 F

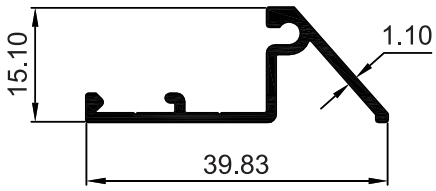




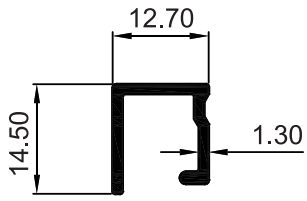
3022 F



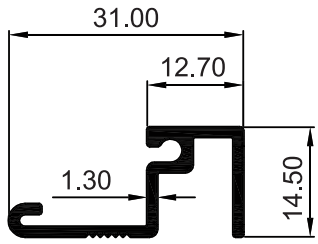
3018 F
WT : 0.140 Kg./m.



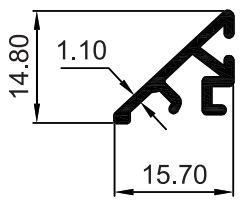
3019 F
WT : 0.215 Kg./m.



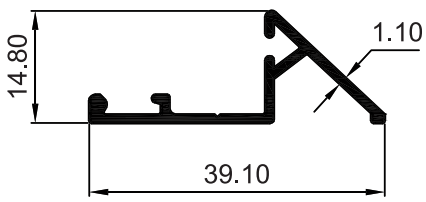
3034
WT : 0.144 Kg./m.



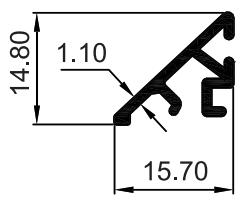
3033
WT : 0.240 Kg./m.



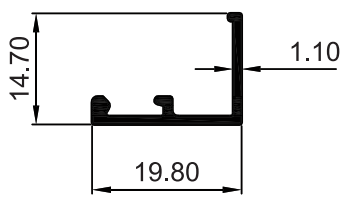
3058
WT : 0.137 Kg./m.



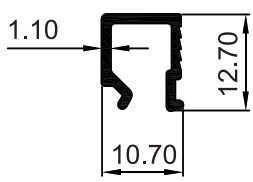
3059
WT : 0.207 Kg./m.



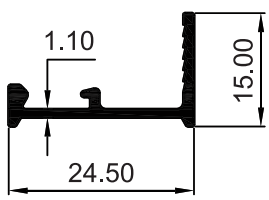
3058
WT : 0.137 Kg./m.



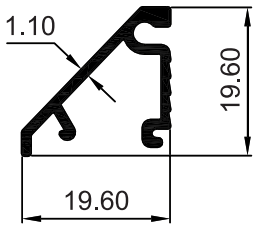
3063
WT : 0.126 Kg./m.



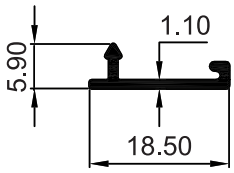
3086
WT : 0.105 Kg./m.



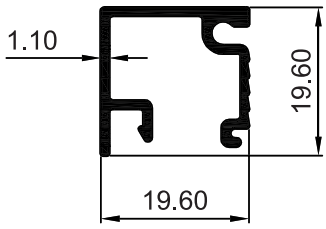
3087
WT : 0.155 Kg./m.



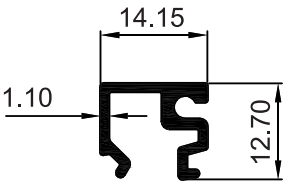
3193
WT : 0.177 Kg./m.



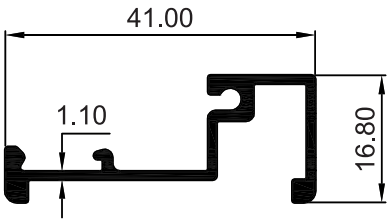
3194
WT : 0.082 Kg./m.



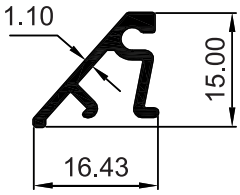
3867
WT : 0.230 Kg./m.



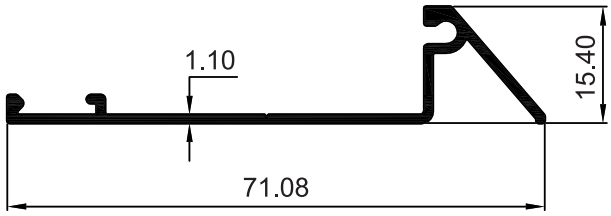
3137
WT : 0.161 Kg./m.



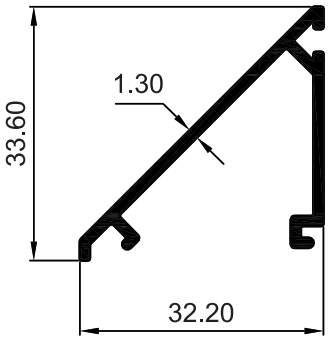
3138
WT : 0.308 Kg./m.



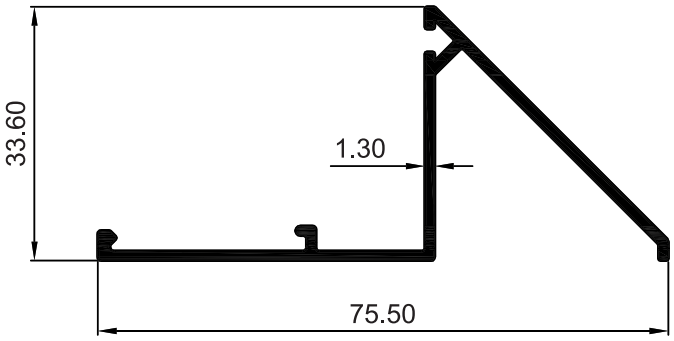
3018 F
WT : 0.140 Kg./m.



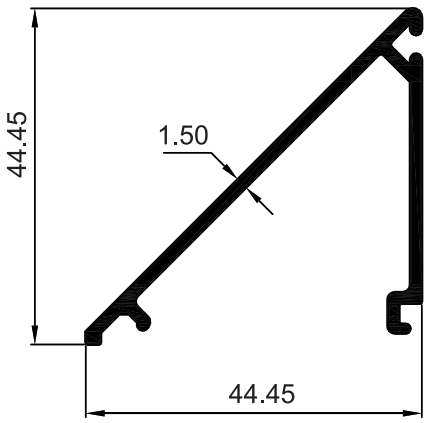
3225
WT : 0.309 Kg./m.



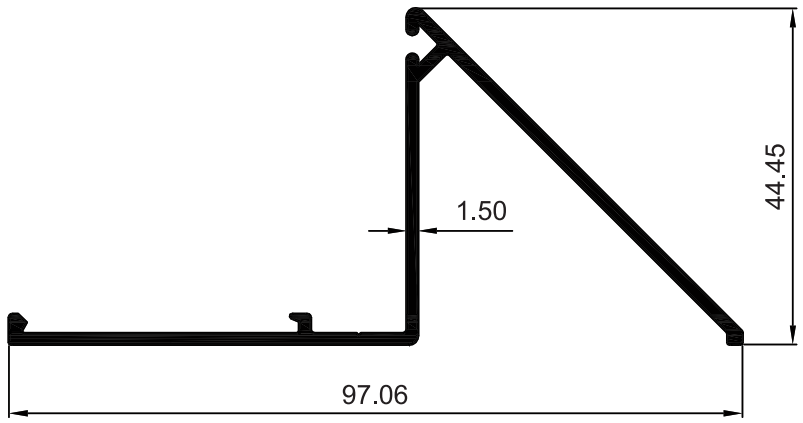
3767
WT : 0.311 Kg./m.



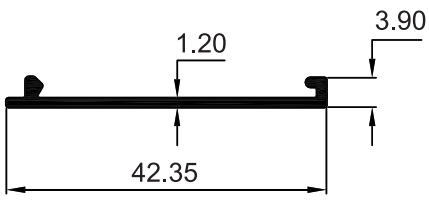
3768
WT : 0.465 Kg./m.



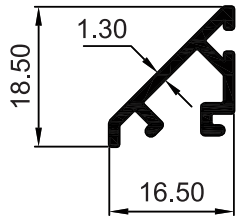
3199
WT : 0.467 Kg./m.



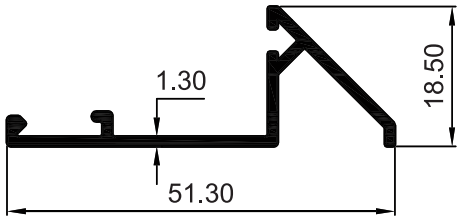
3198
WT : 0.675 Kg./m.



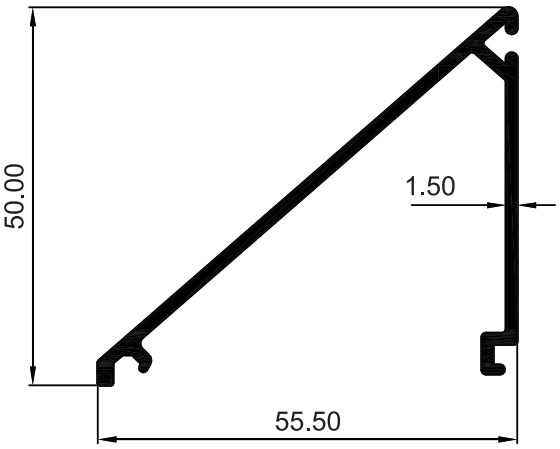
3803
WT : 0.164 Kg./m.



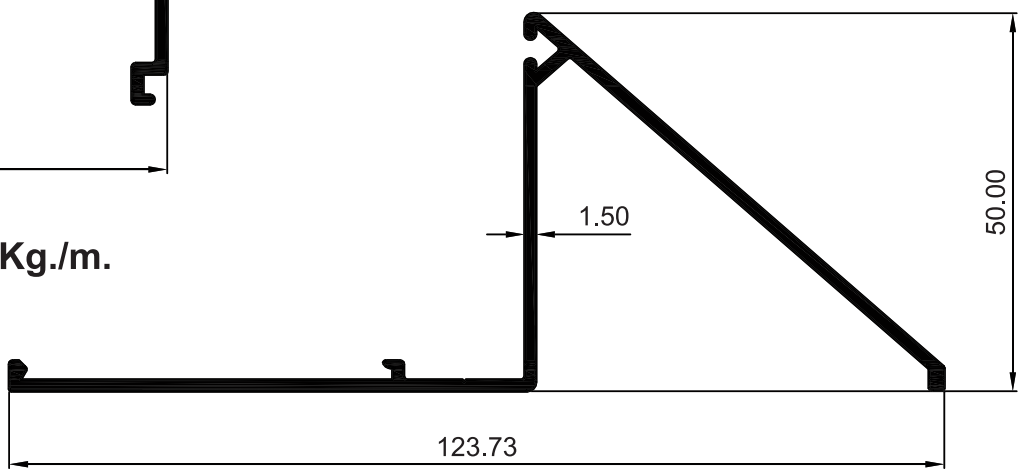
3769
WT : 0.182 Kg./m.



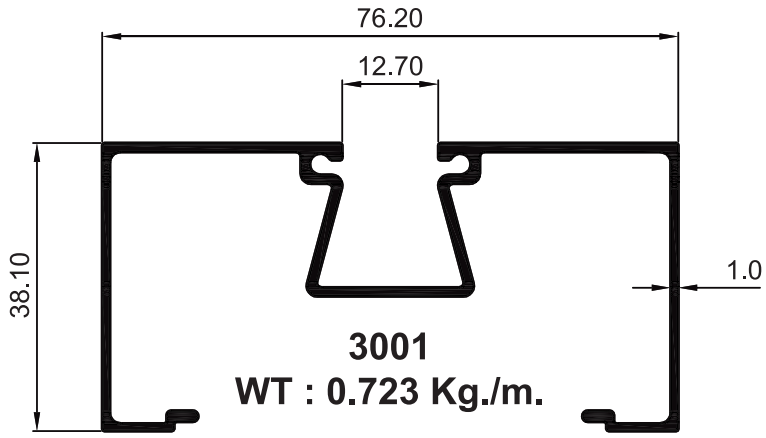
3770
WT : 0.305 Kg./m.



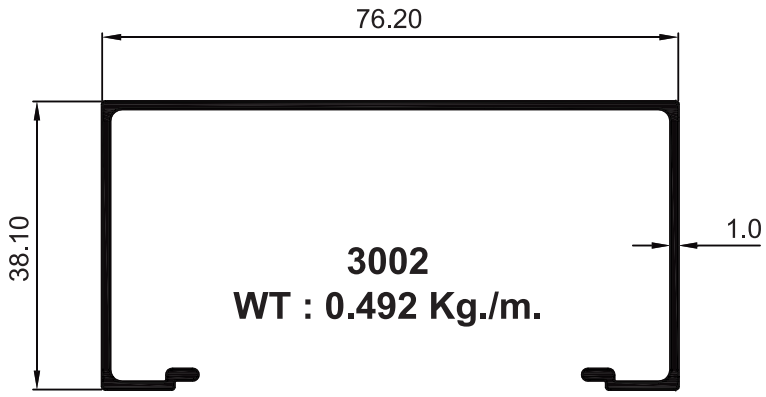
5482
WT : 0.541 Kg./m.



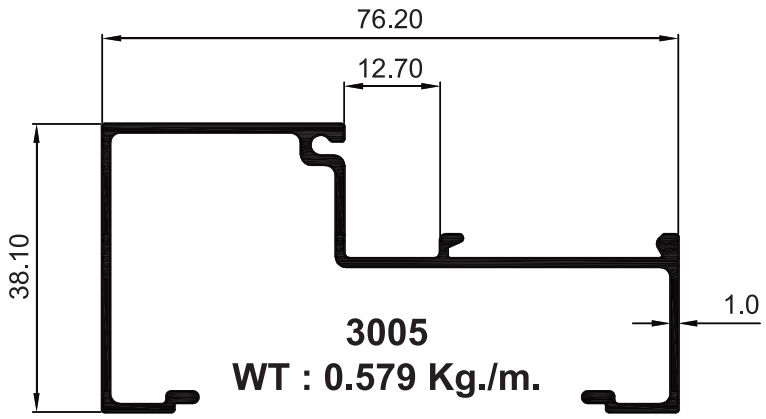
5481
WT : 0.816 Kg./m.



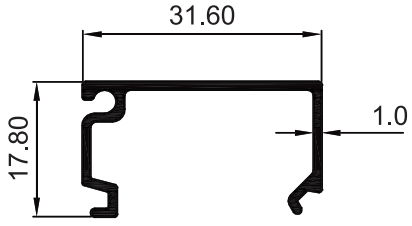
3001
WT : 0.723 Kg./m.



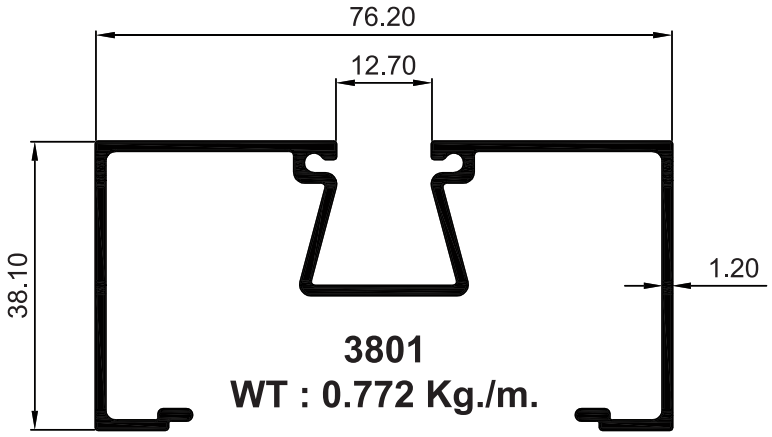
3002
WT : 0.492 Kg./m.



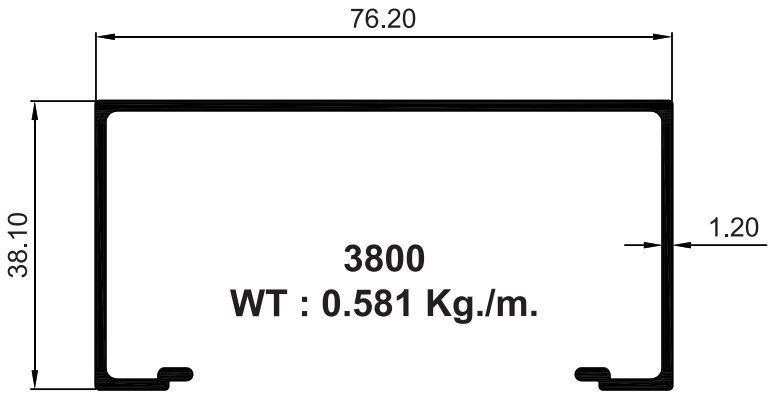
3005
WT : 0.579 Kg./m.



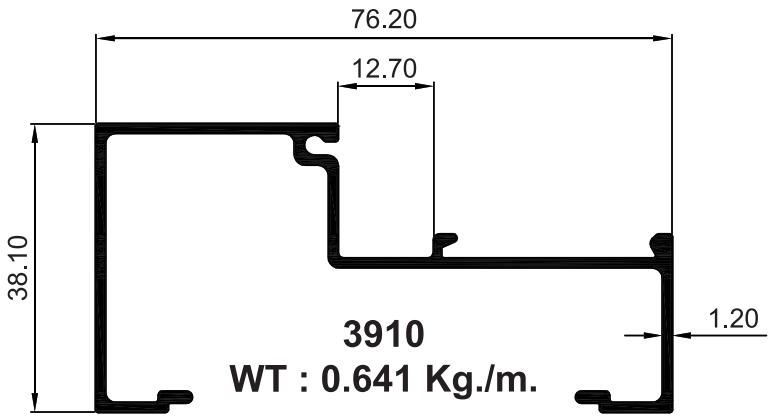
3006
WT : 0.218 Kg./m.



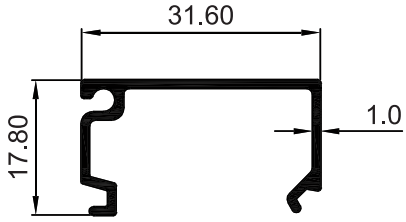
3801
WT : 0.772 Kg./m.



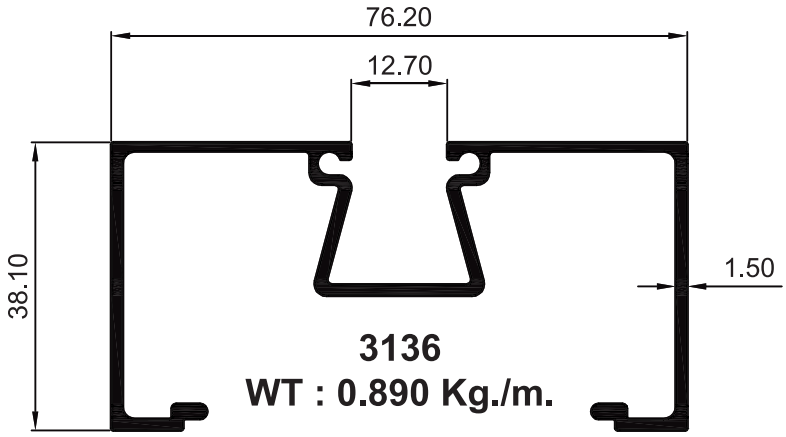
3800
WT : 0.581 Kg./m.



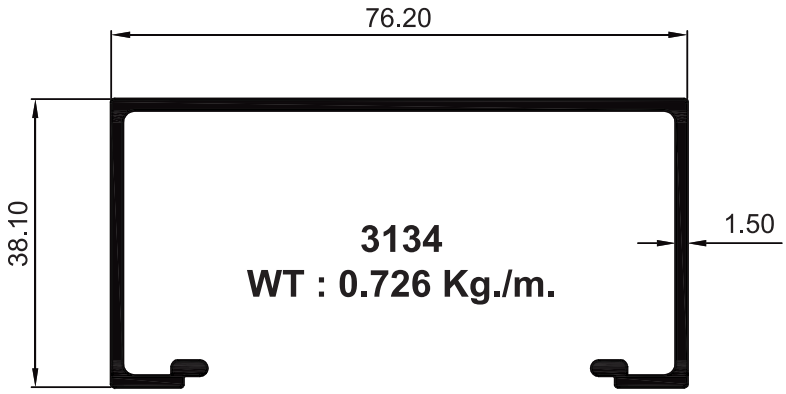
3910
WT : 0.641 Kg./m.



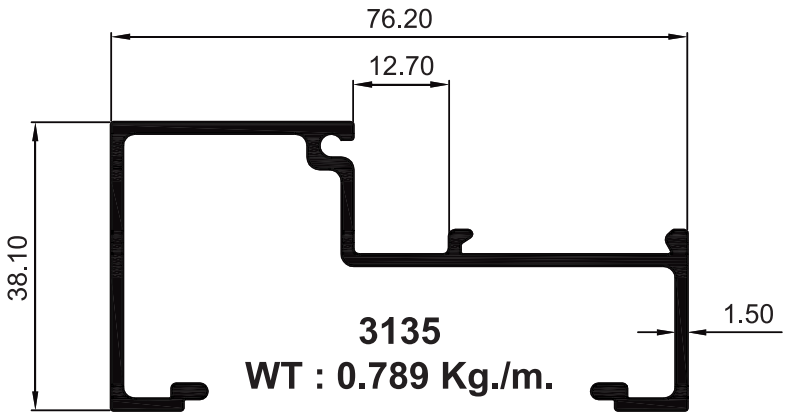
3006
WT : 0.218 Kg./m.



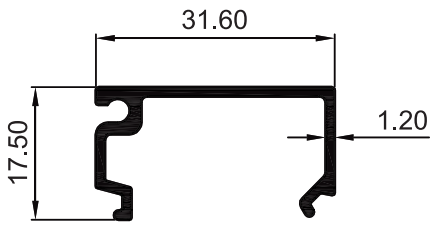
3136
WT : 0.890 Kg./m.



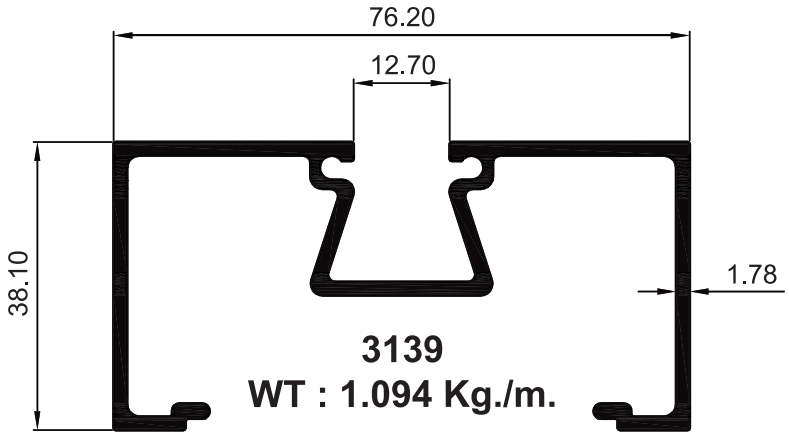
3134
WT : 0.726 Kg./m.



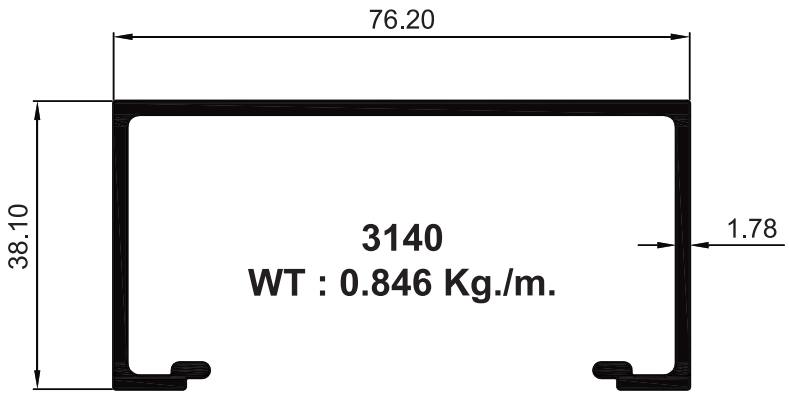
3135
WT : 0.789 Kg./m.



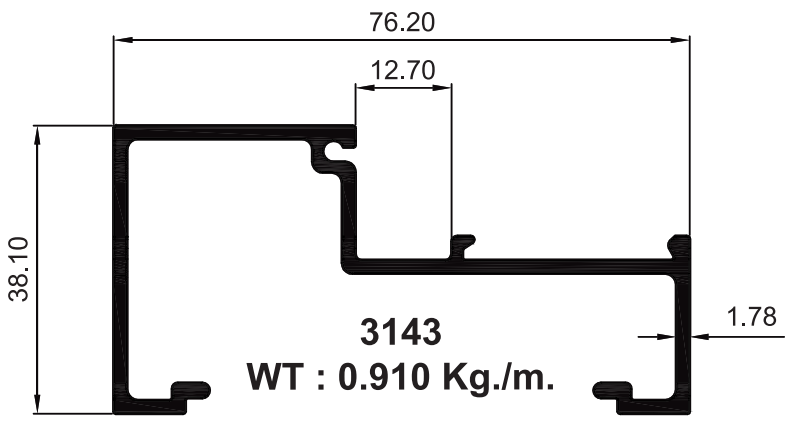
3133
WT : 0.261 Kg./m.



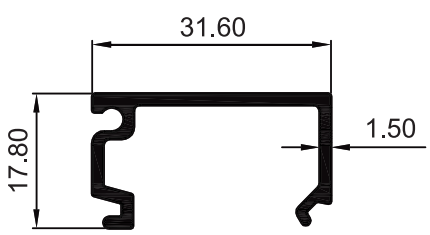
3139
WT : 1.094 Kg./m.



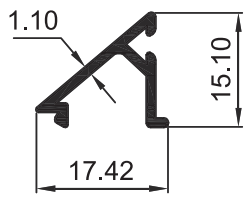
3140
WT : 0.846 Kg./m.



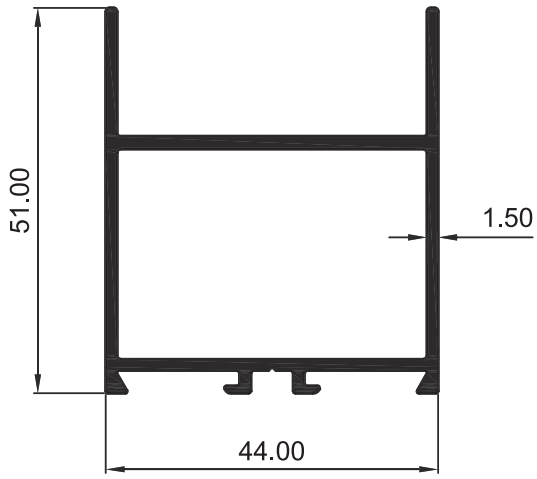
3143
WT : 0.910 Kg./m.



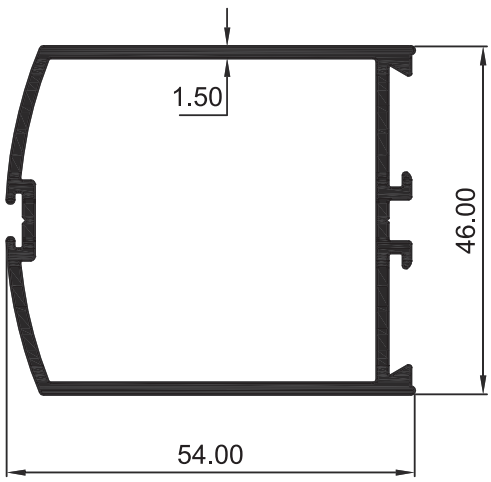
3144
WT : 0.303 Kg./m.



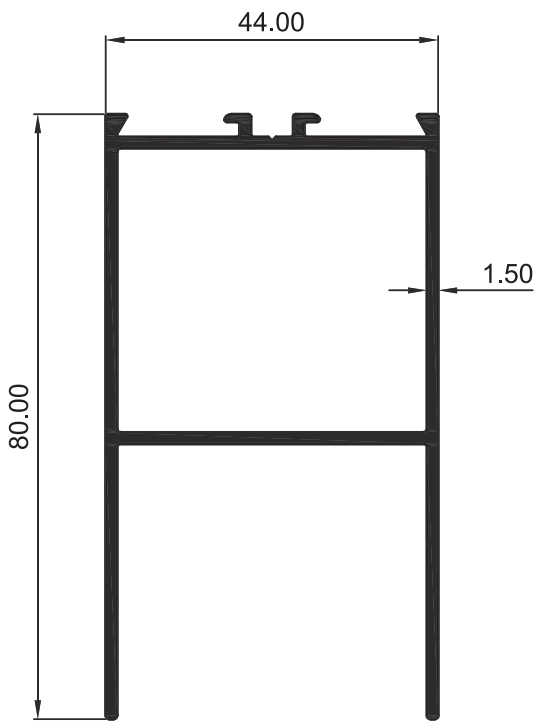
3020 F
WT : 0.124 Kg./m.



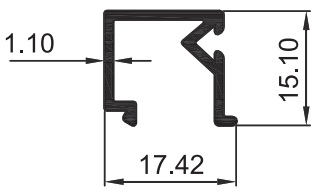
3031 F
WT : 0.814 Kg./m.



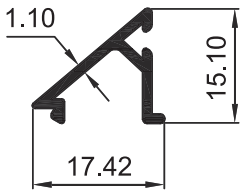
3030 F
WT : 0.840 Kg./m.



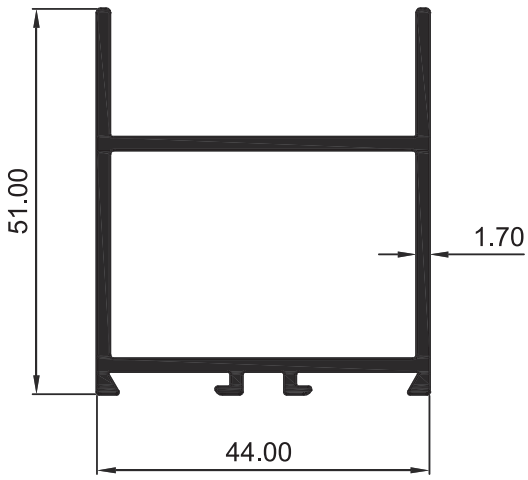
3032 F
WT : 1.028 Kg./m.



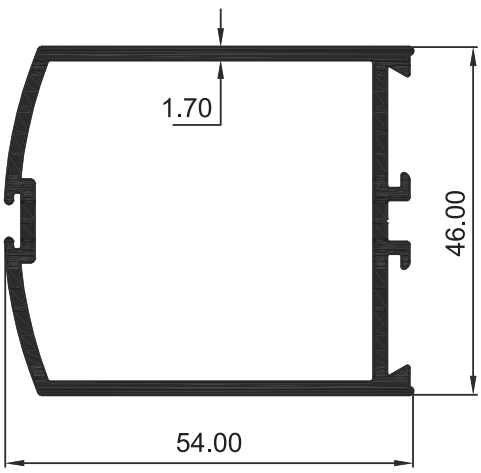
3843
WT : 0.165 Kg./m.



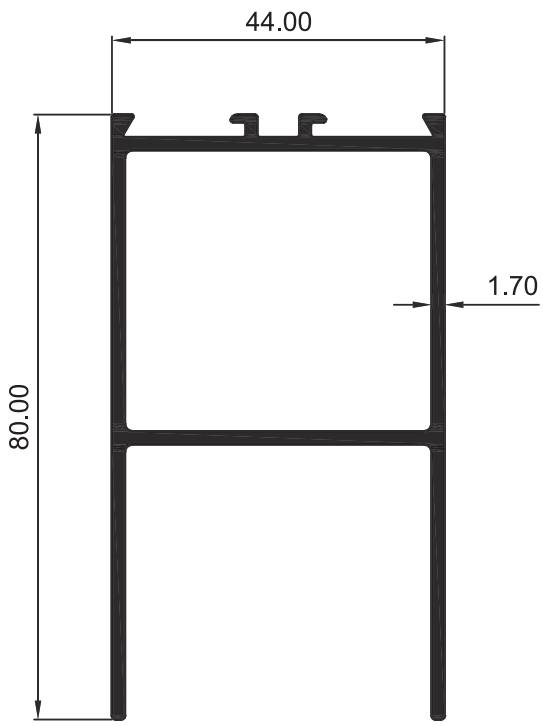
3020 F
WT : 0.124 Kg./m.



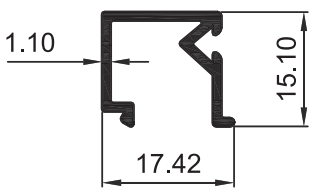
3043
WT : 0.886 Kg./m.



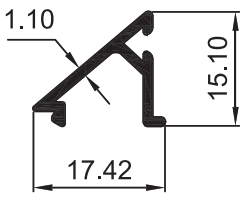
3042
WT : 0.936 Kg./m.



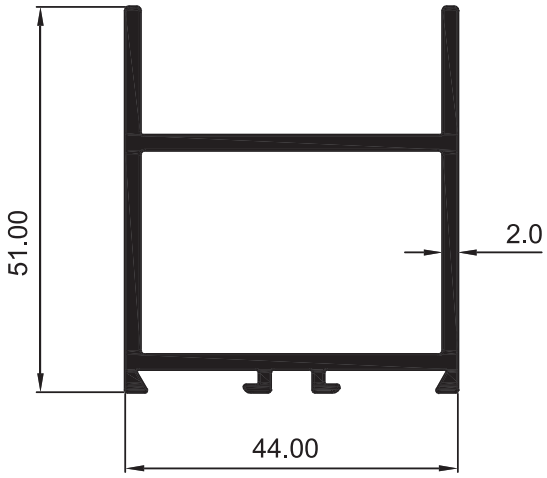
3044
WT : 1.156 Kg./m.



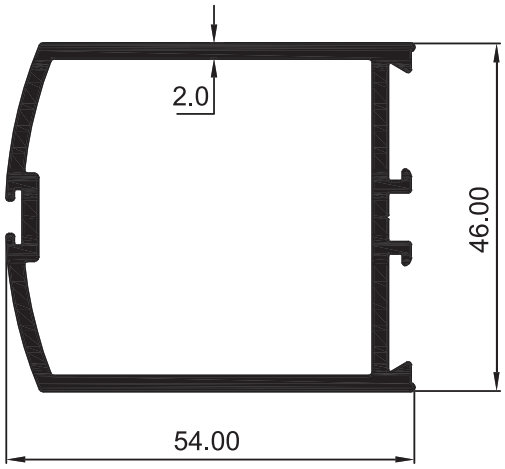
3843
WT : 0.165 Kg./m.



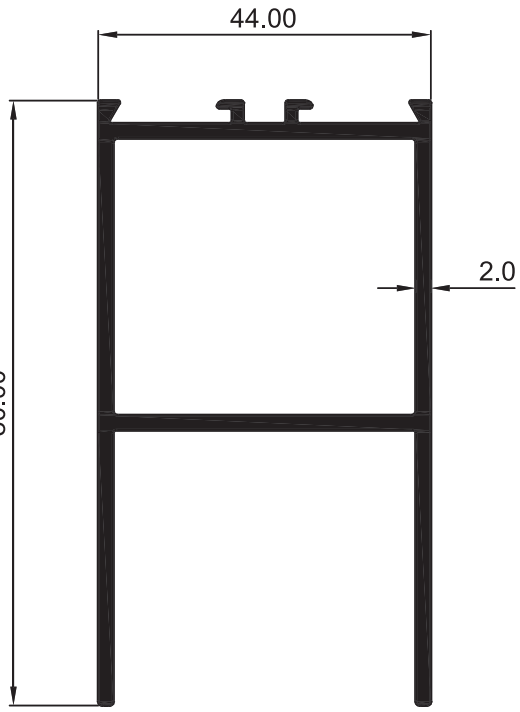
3020 F
WT : 0.124 Kg./m.



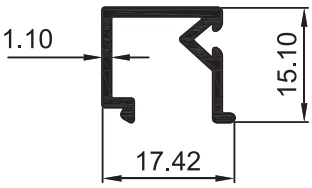
3796
WT : 1.023 Kg./m.



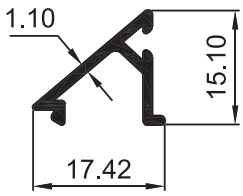
3795
WT : 1.077 Kg./m.



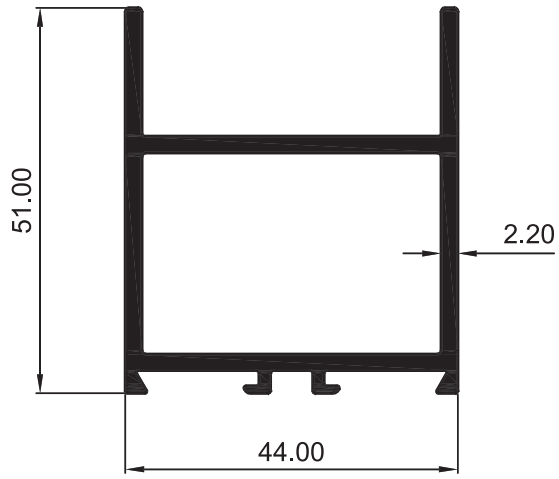
3794
WT : 1.337 Kg./m.



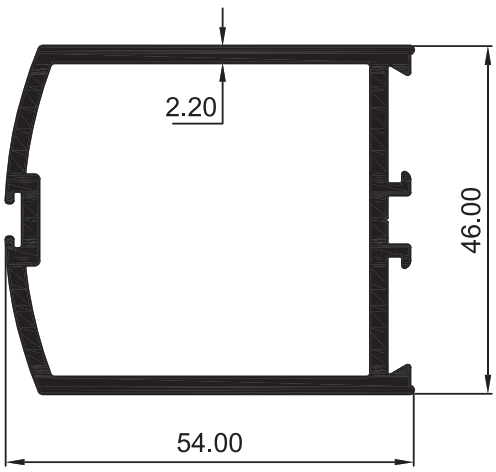
3843
WT : 0.165 Kg./m.



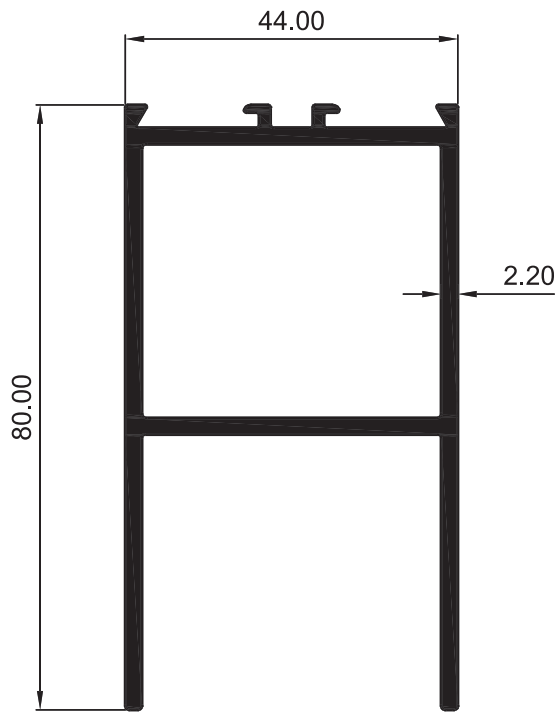
3020 F
WT : 0.124 Kg./m.



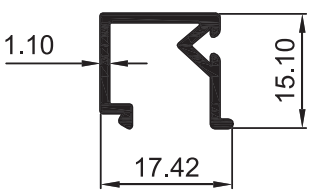
3054
WT : 1.114 Kg./m.



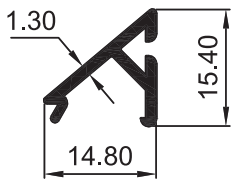
3053
WT : 1.170 Kg./m.



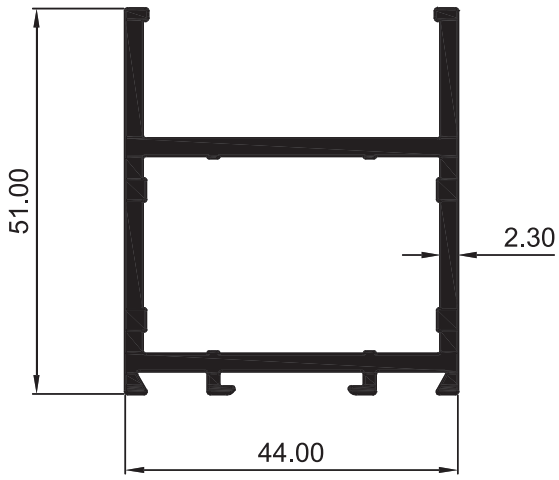
3055
WT : 1.459 Kg./m.



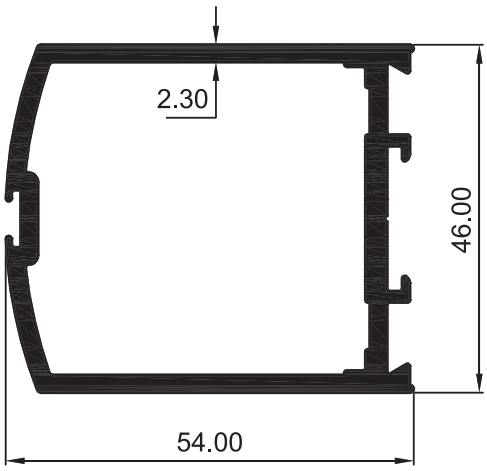
3843
WT : 0.165 Kg./m.



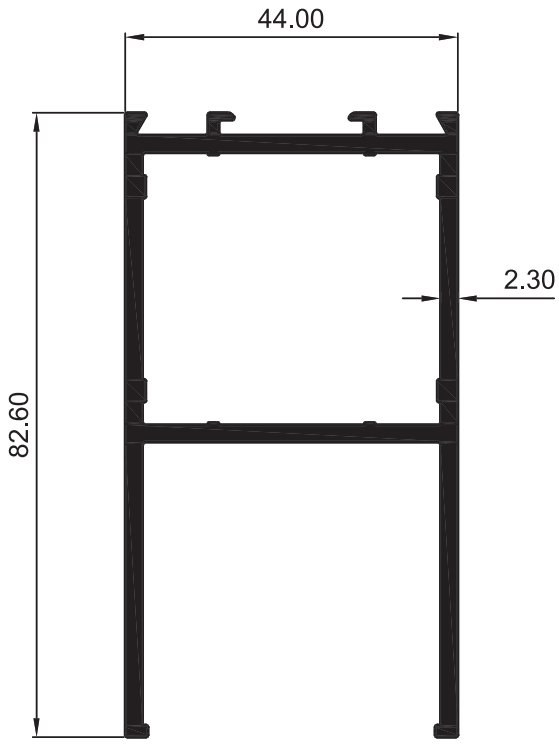
3077
WT : 0.136 Kg./m.



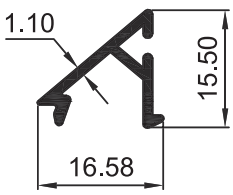
3079
WT : 1.182 Kg./m.



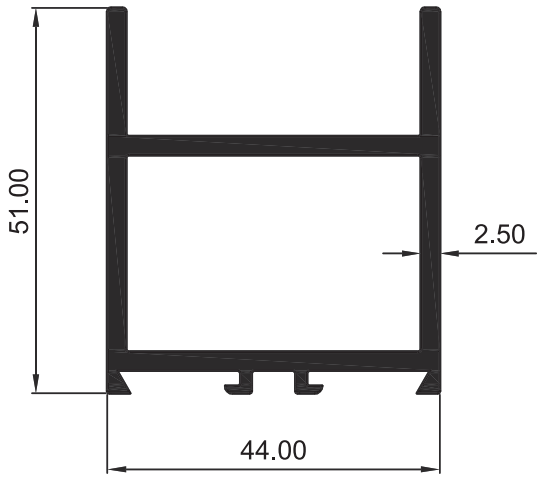
3078
WT : 1.272 Kg./m.



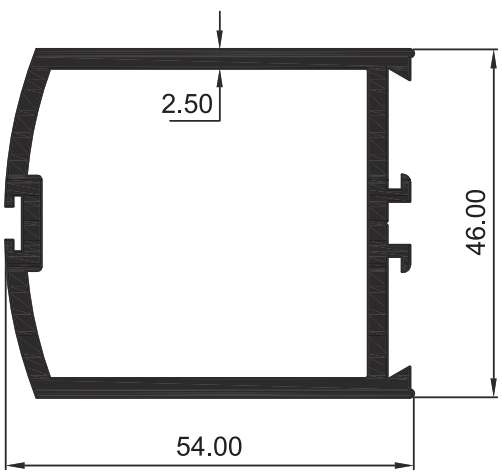
3080
WT : 1.576 Kg./m.



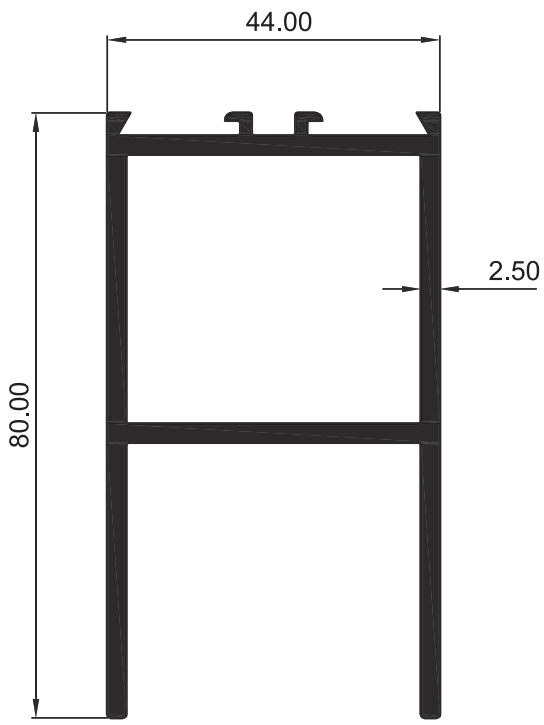
3048
WT : 0.126 Kg./m.



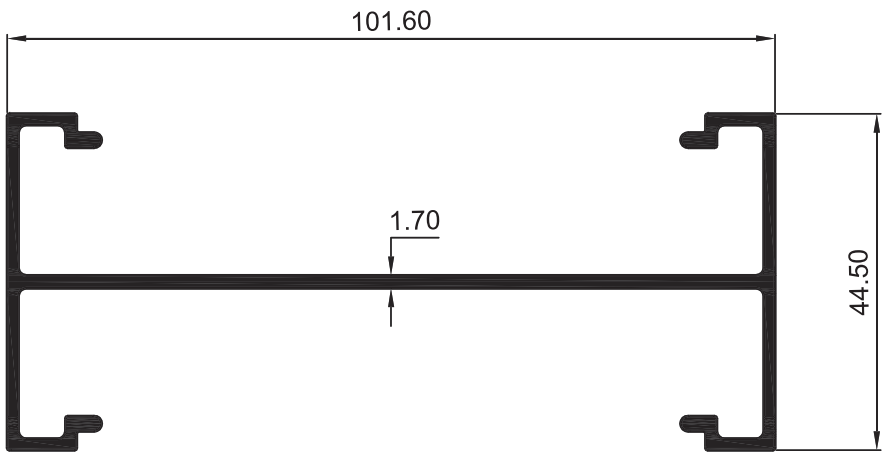
3107
WT : 1.247 Kg./m.



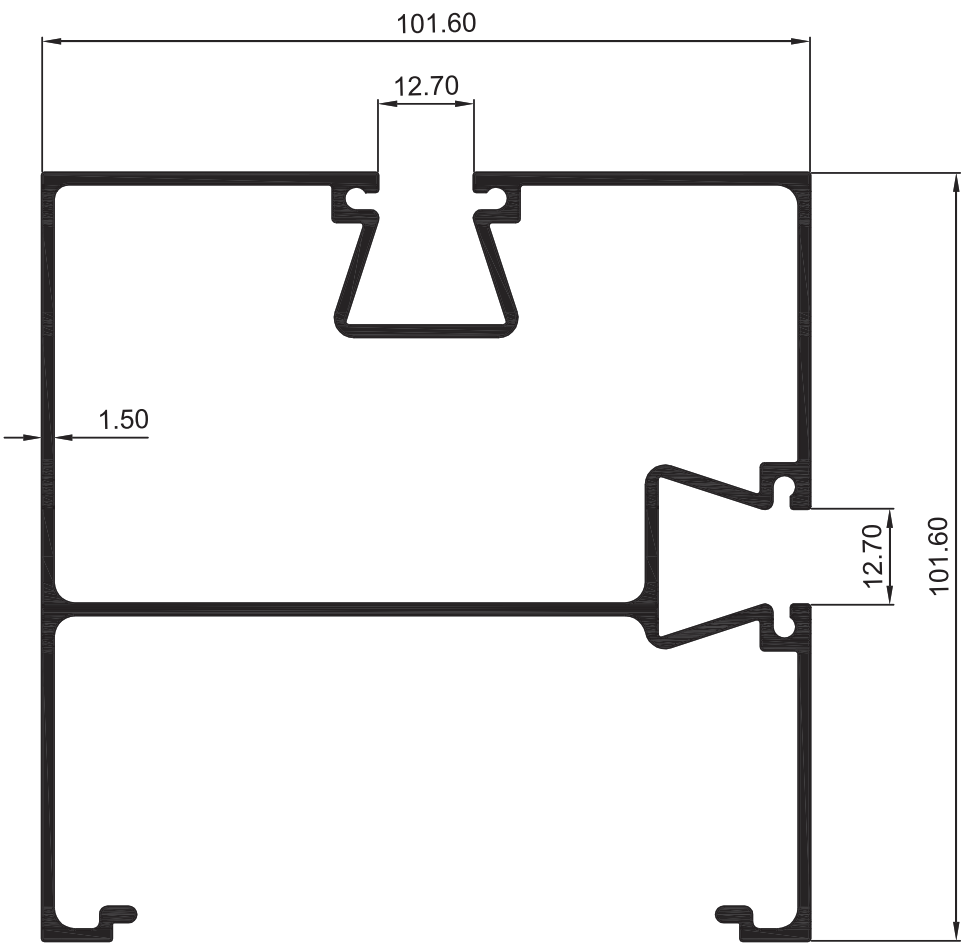
3106
WT : 1.317 Kg./m.



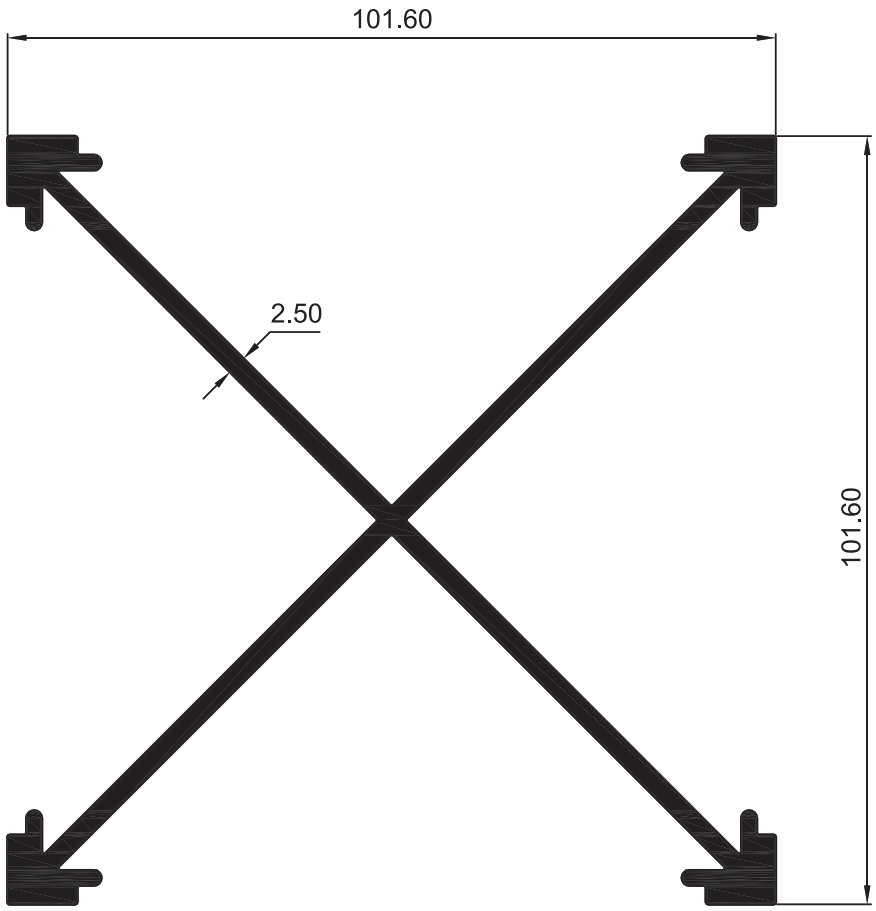
3108
WT : 1.639 Kg./m.



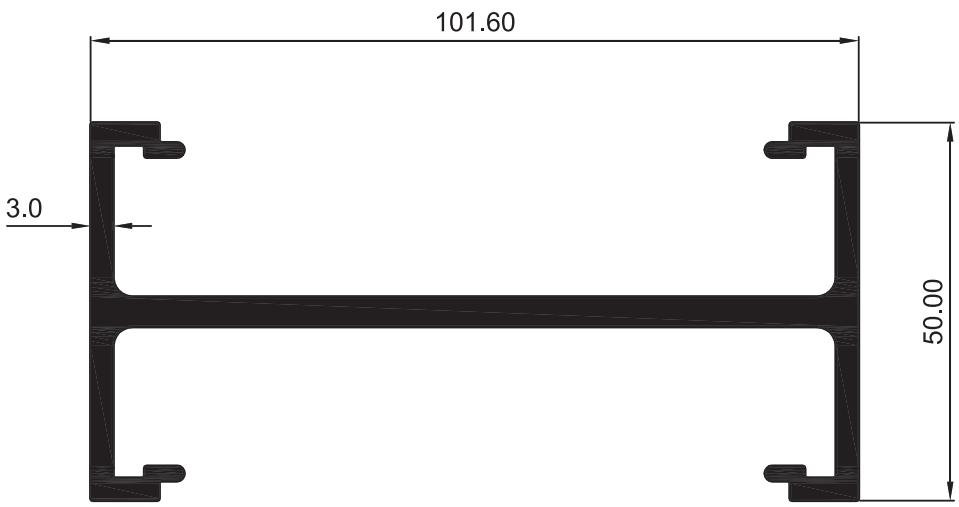
3212
WT : 1.068 Kg./m.



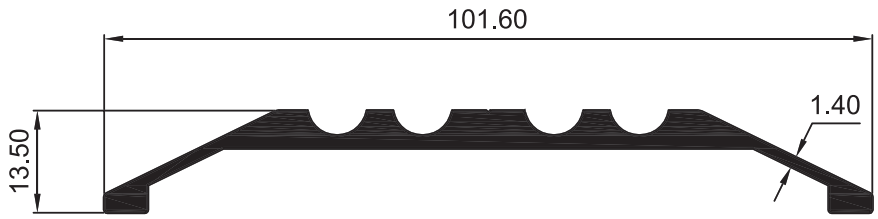
3252
WT : 2.303 Kg./m.



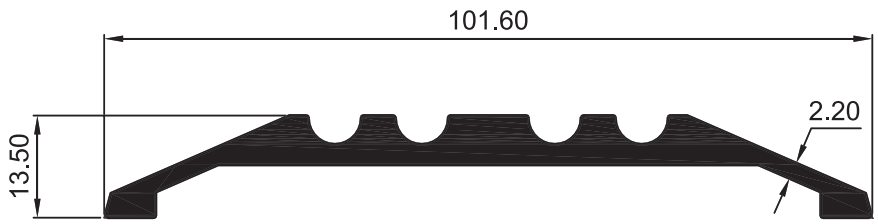
3186
WT : 2.550 Kg./m.



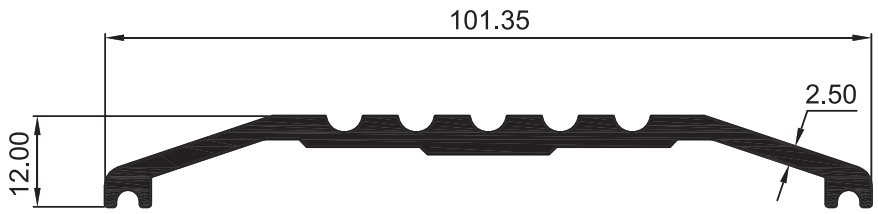
3187
WT : 2.164 Kg./m.



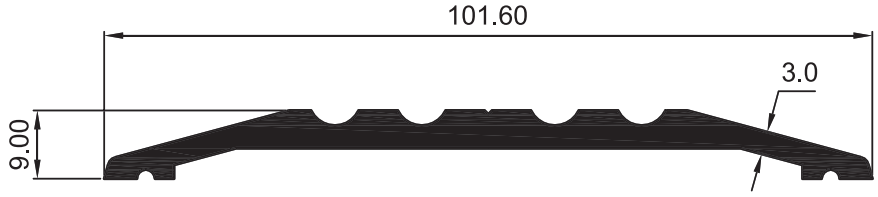
3067
WT : 0.874 Kg./m.



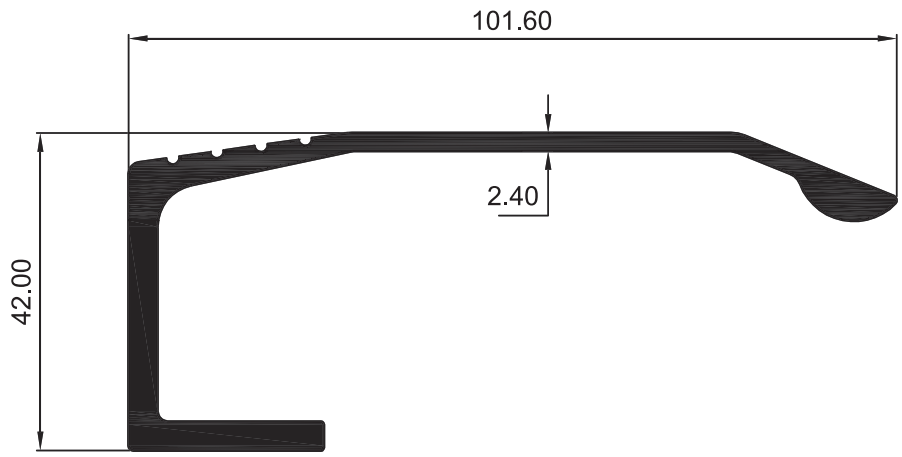
3068
WT : 1.182 Kg./m.



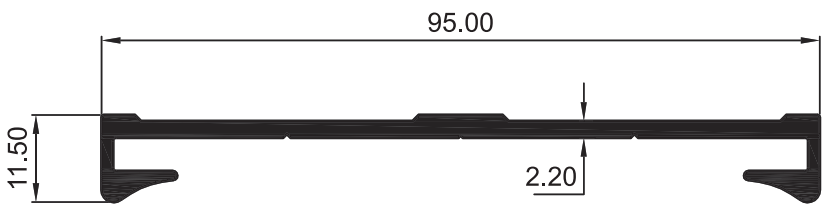
3037
WT : 0.906 Kg./m.



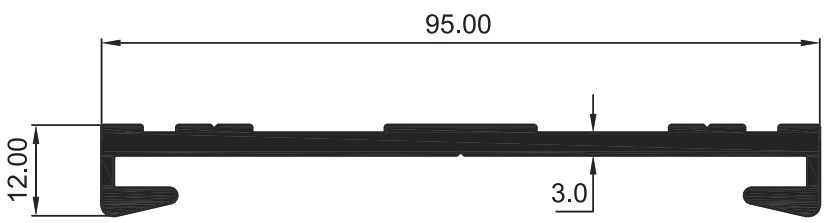
3069
WT : 1.073 Kg./m.



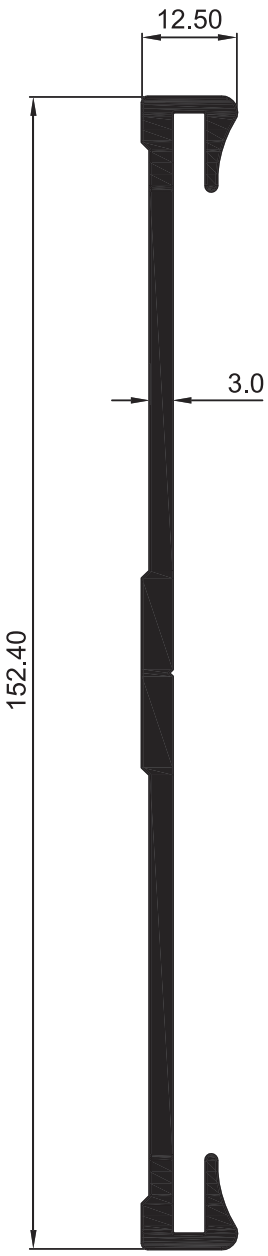
3035
WT : 1.402 Kg./m.



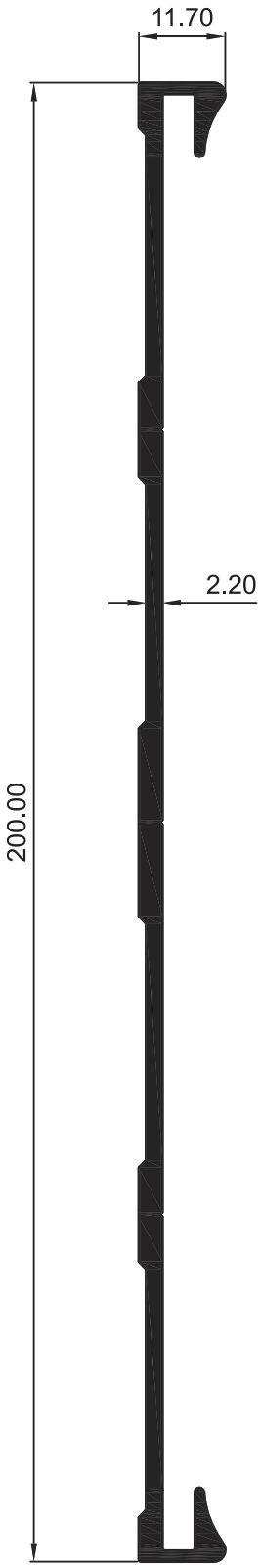
3062 F
WT : 0.782 Kg./m.



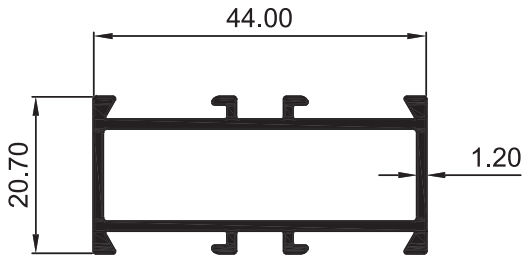
3036
WT : 1.098 Kg./m.



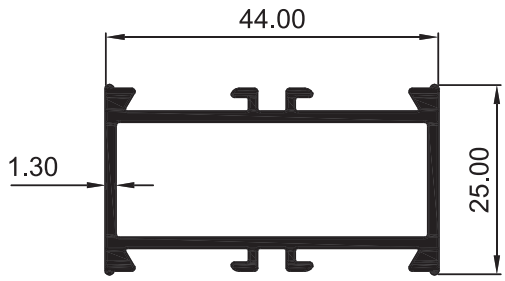
3303
WT : 1.561 Kg./m.



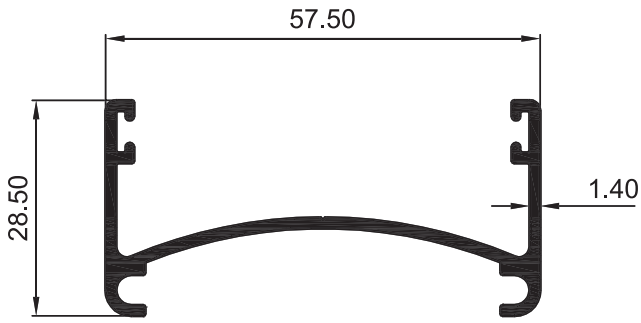
3321
WT : 1.542 Kg./m.



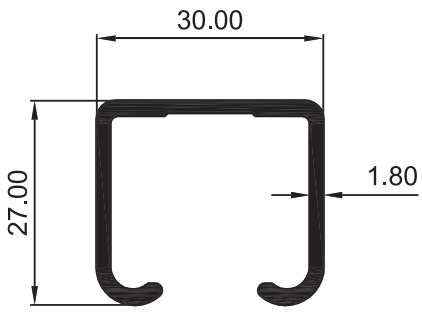
3065
WT : 0.492 Kg./m.



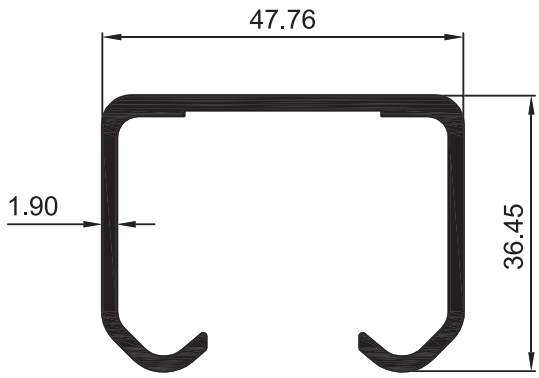
3047
WT : 0.581 Kg./m.



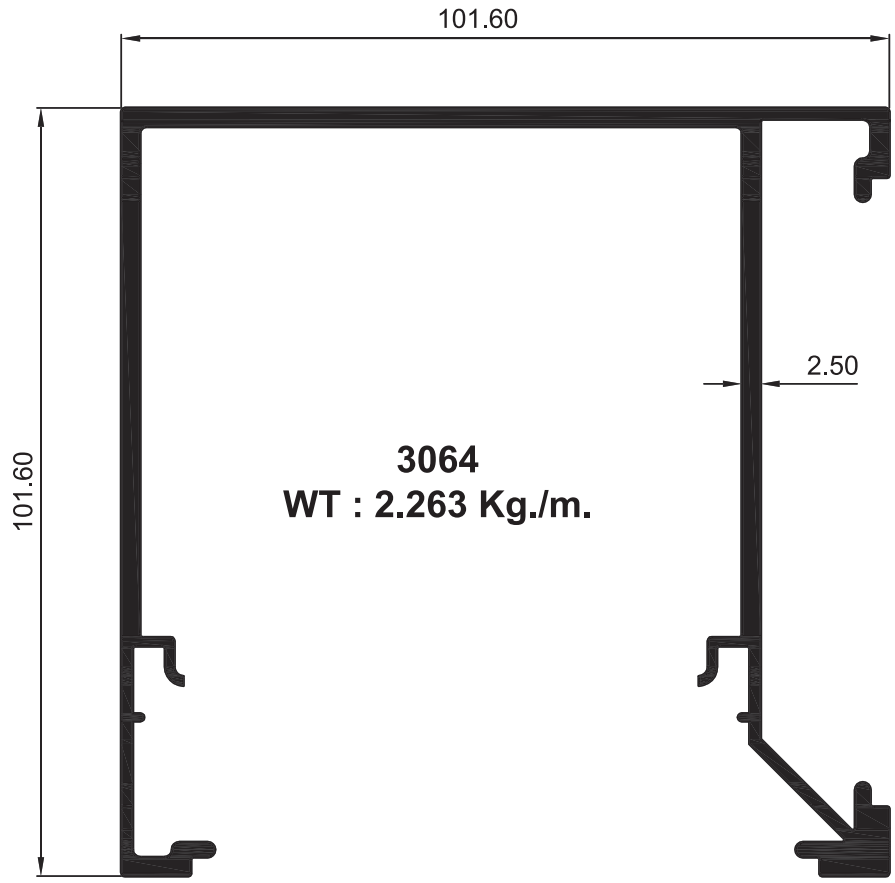
3344
WT : 0.527 Kg./m.



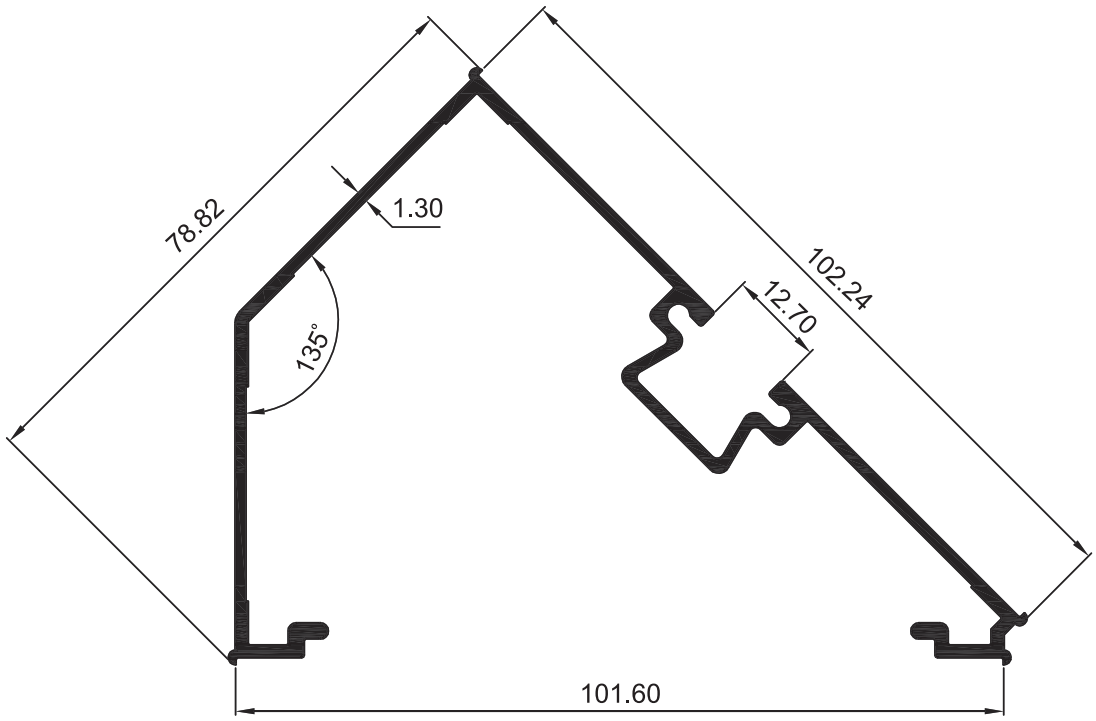
3061
WT : 0.443 Kg./m.



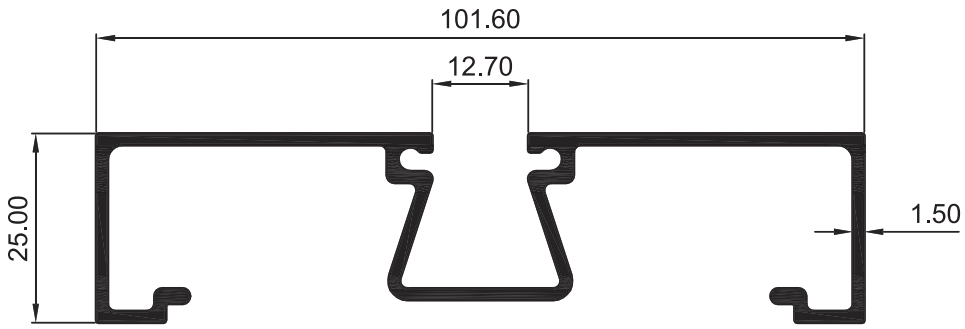
3060
WT : 0.727 Kg./m.



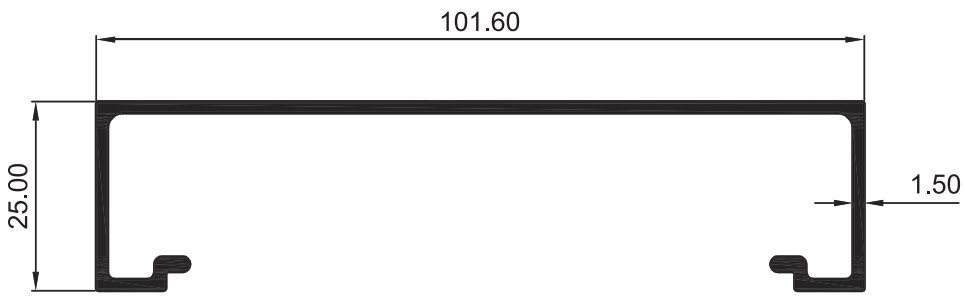
3064
WT : 2.263 Kg./m.



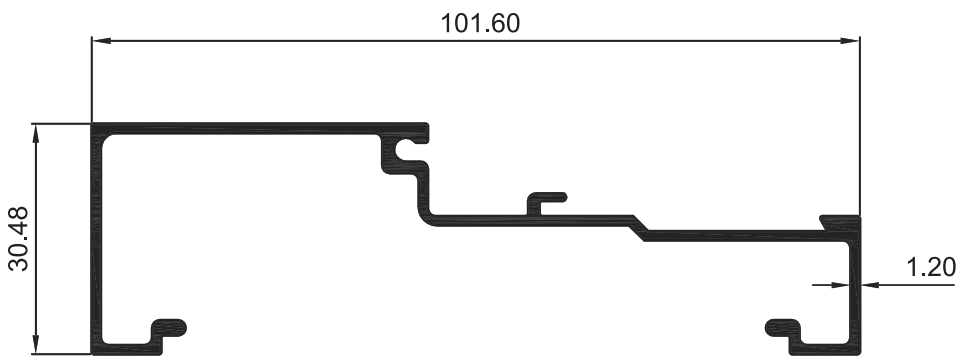
3116
WT : 1.035 Kg./m.



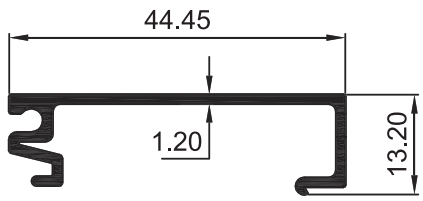
3150
WT : 0.988 Kg./m.



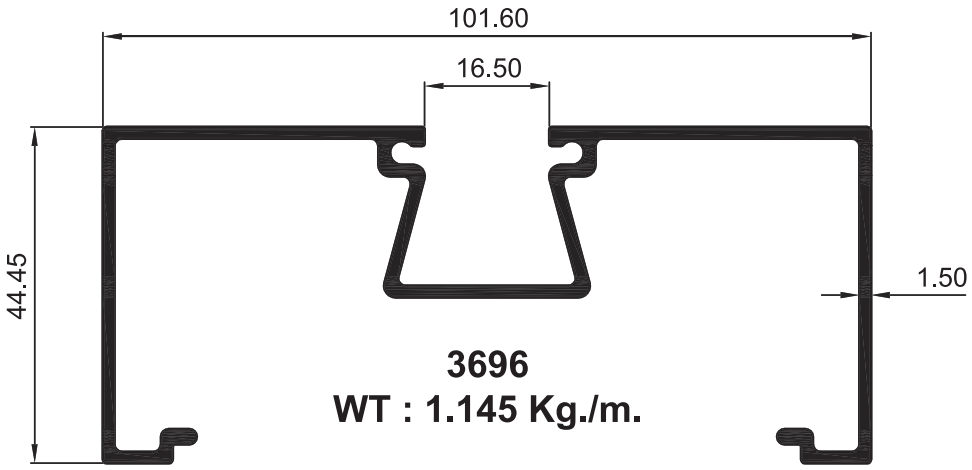
3151
WT : 0.728 Kg./m.



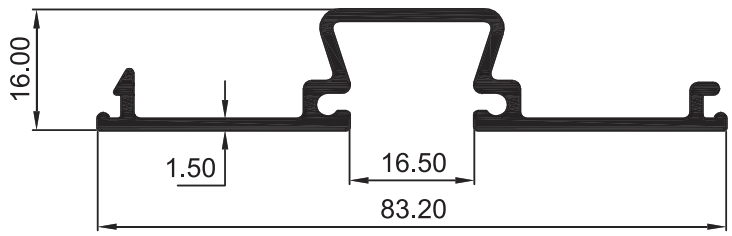
3171
WT : 0.706 Kg./m.



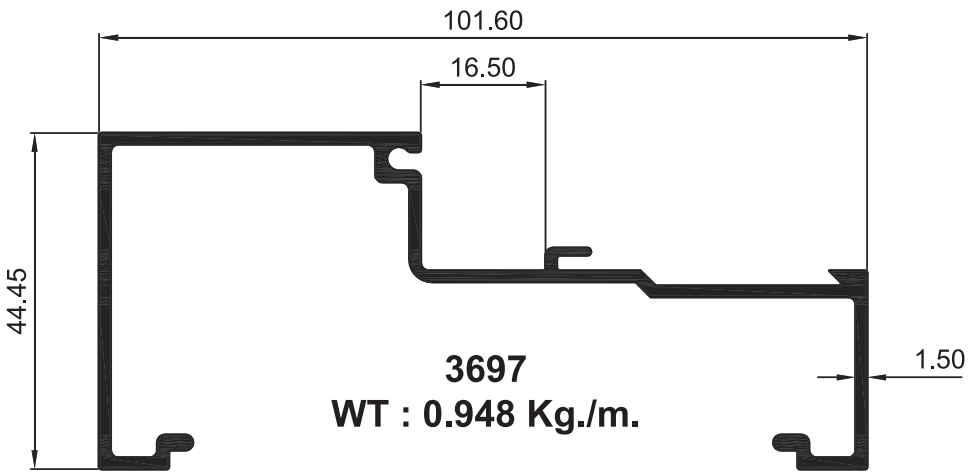
3172
WT : 0.286 Kg./m.



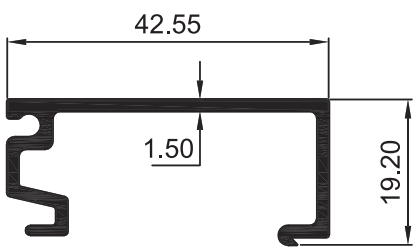
3696
WT : 1.145 Kg./m.



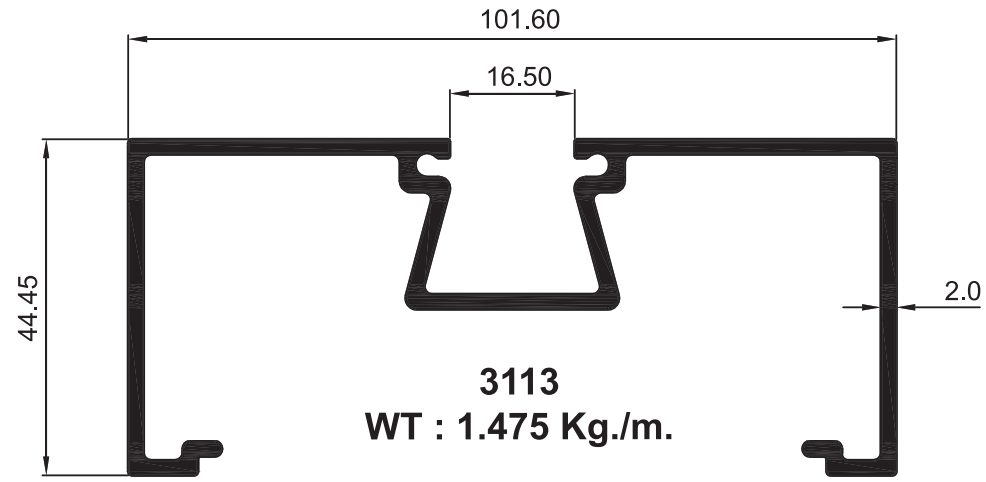
3189
WT : 0.591 Kg./m.



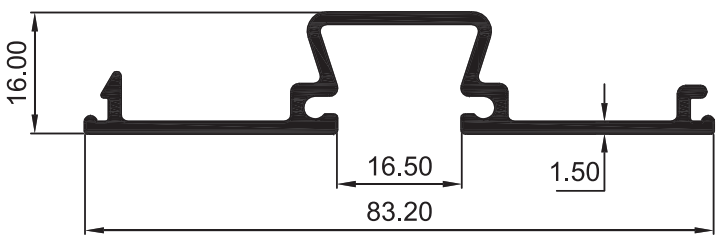
3697
WT : 0.948 Kg./m.



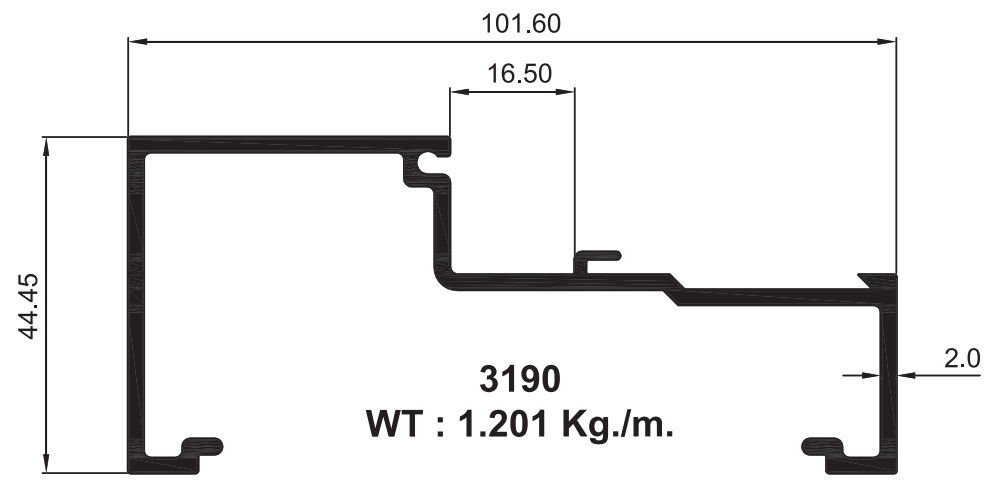
3191
WT : 0.395 Kg./m.



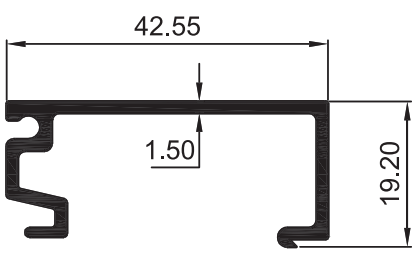
3113
WT : 1.475 Kg./m.



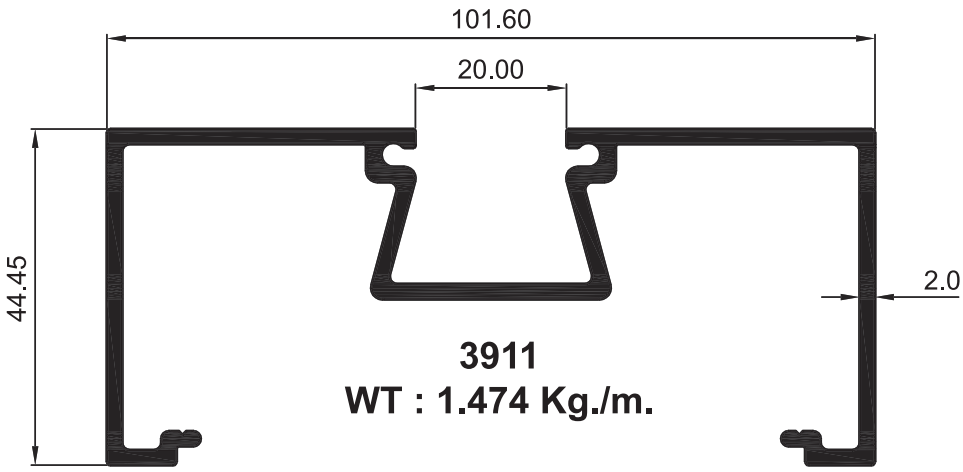
3189
WT : 0.591 Kg./m.



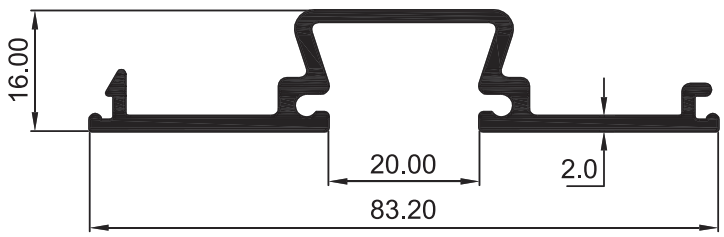
3190
WT : 1.201 Kg./m.



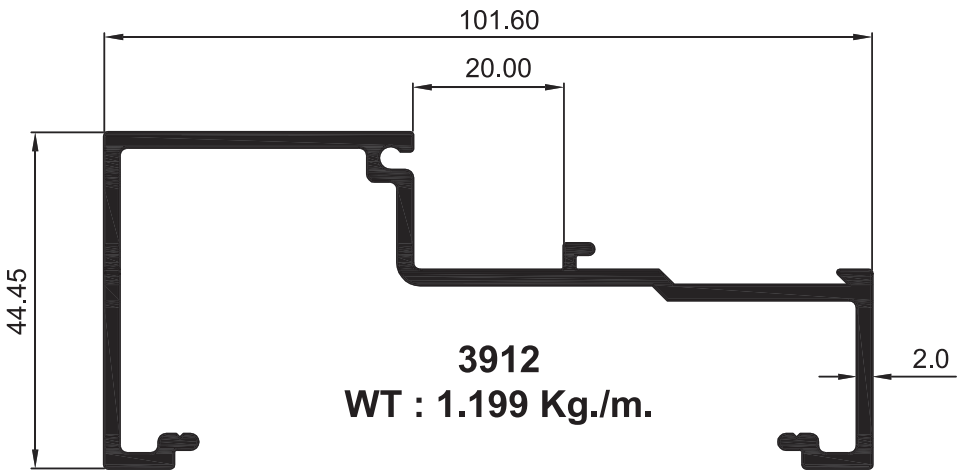
3191
WT : 0.395 Kg./m.



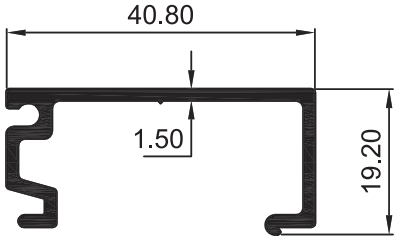
3911
WT : 1.474 Kg./m.



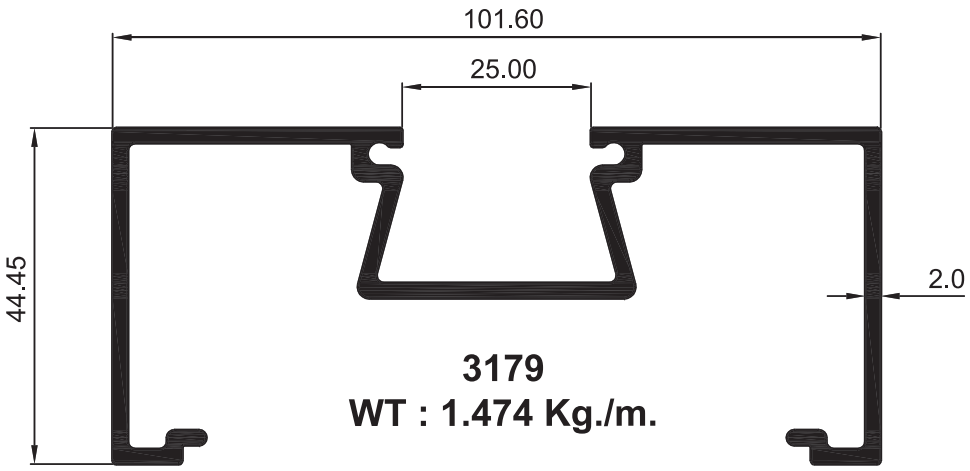
3808
WT : 0.698 Kg./m.



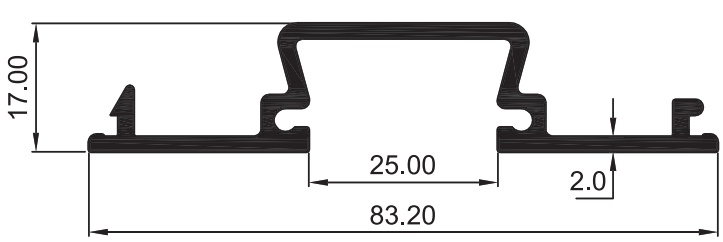
3912
WT : 1.199 Kg./m.



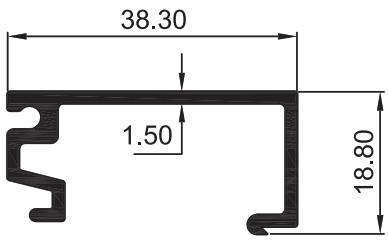
3809
WT : 0.384 Kg./m.



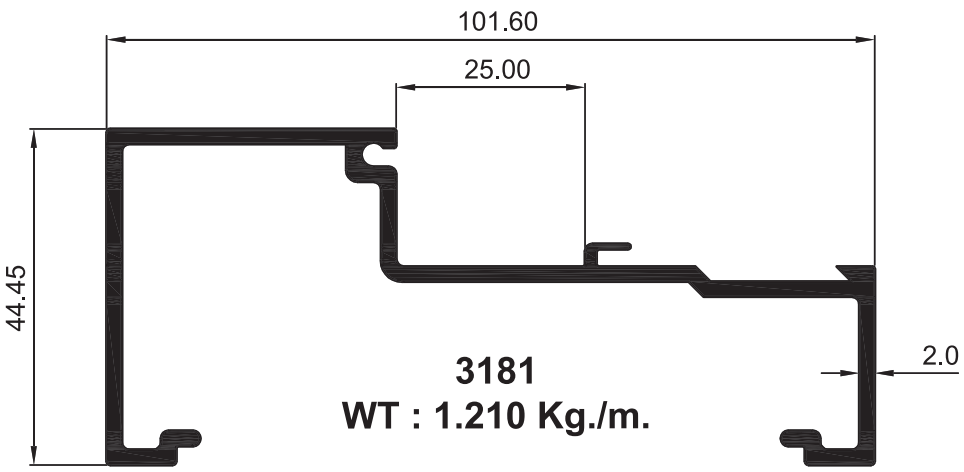
3179
WT : 1.474 Kg./m.



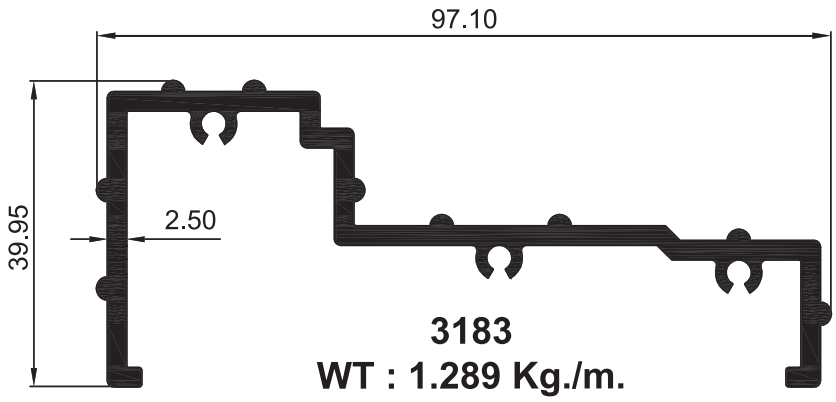
3180
WT : 0.764 Kg./m.



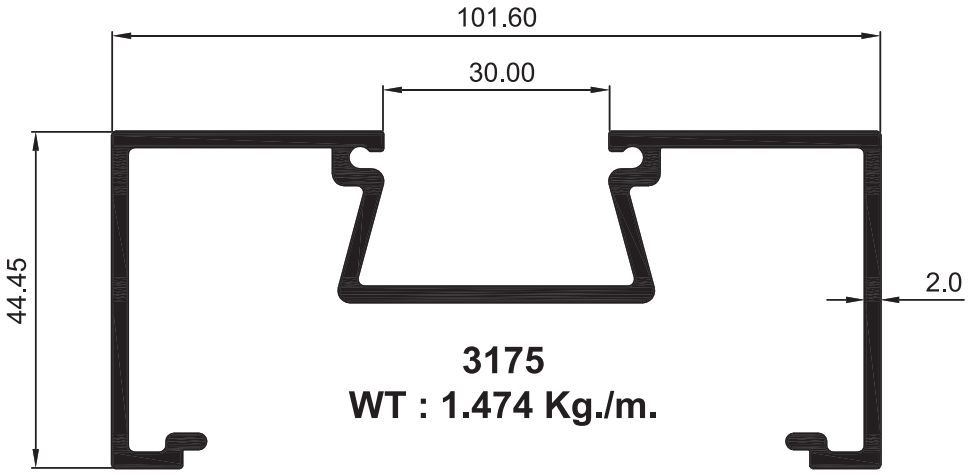
3182
WT : 0.379 Kg./m.



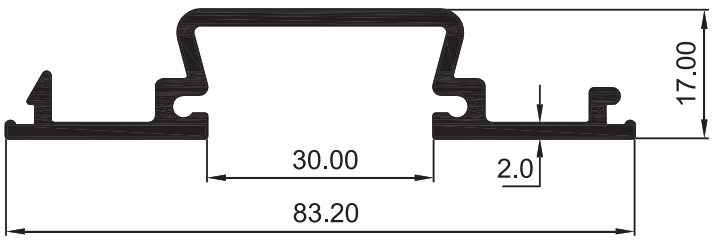
3181
WT : 1.210 Kg./m.



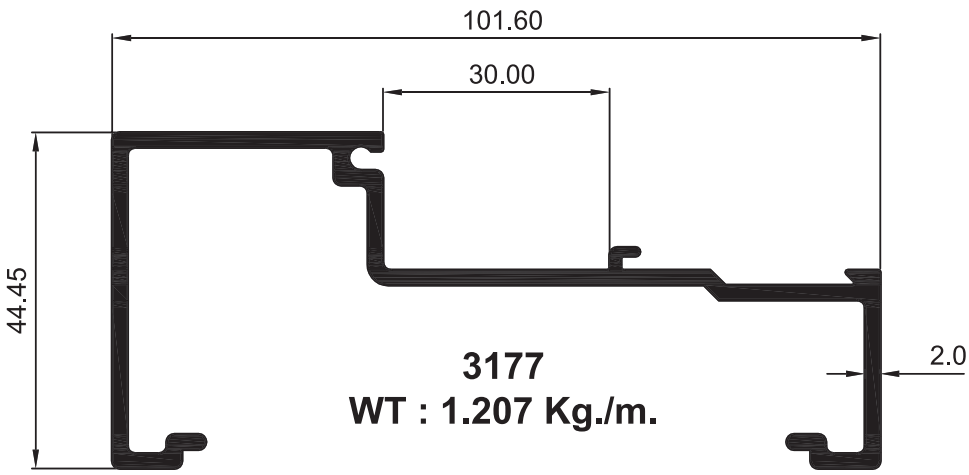
3183
WT : 1.289 Kg./m.



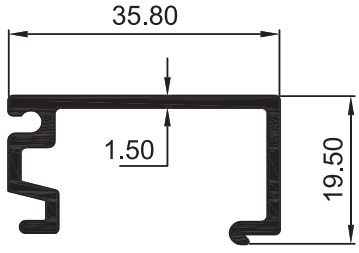
3175
WT : 1.474 Kg./m.



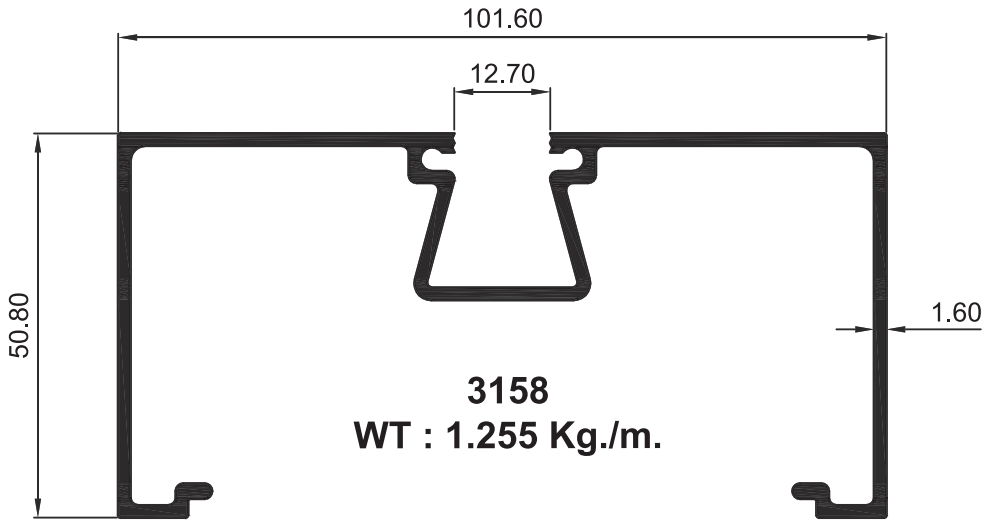
3176
WT : 0.773 Kg./m.



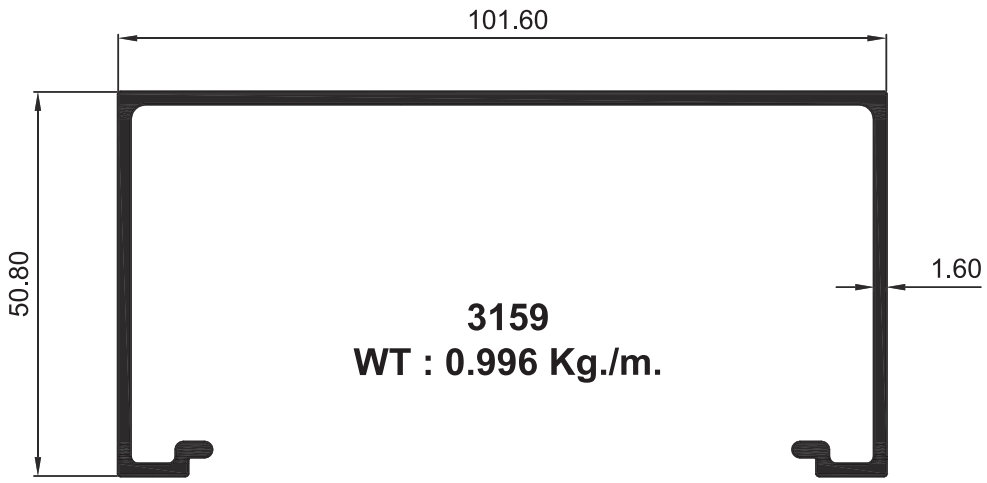
3177
WT : 1.207 Kg./m.



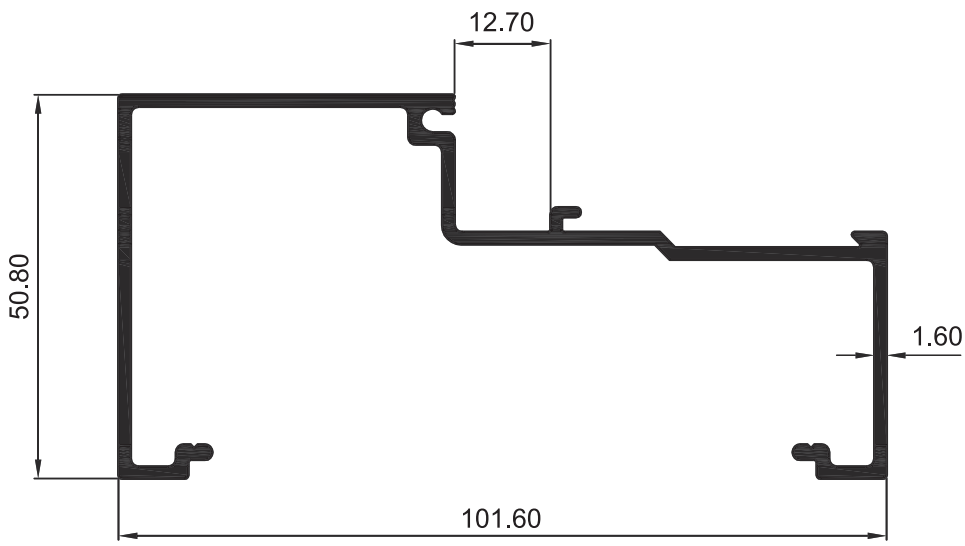
3178
WT : 0.367 Kg./m.



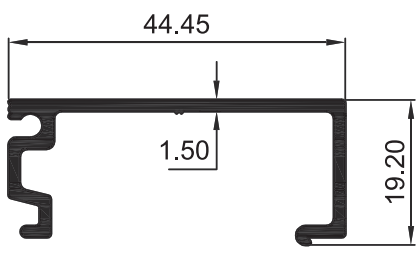
3158
WT : 1.255 Kg./m.



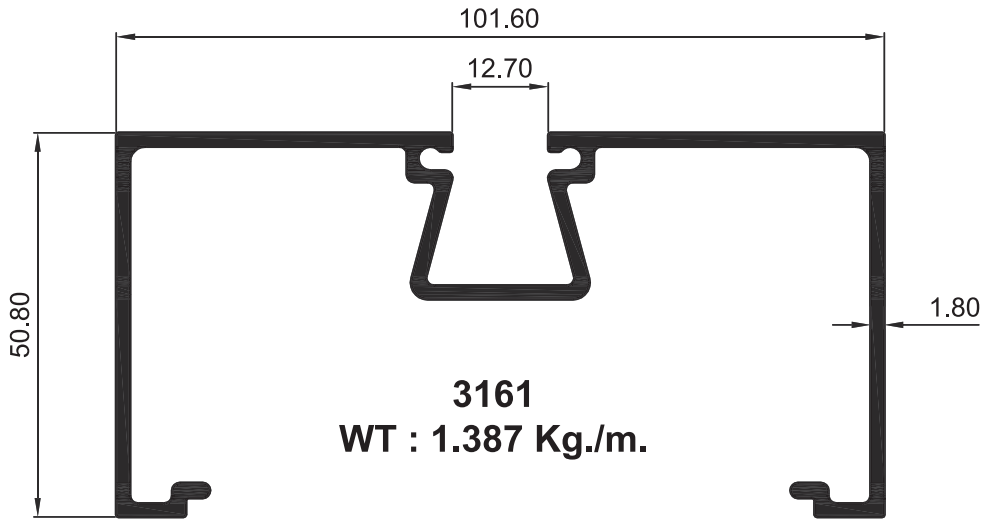
3159
WT : 0.996 Kg./m.



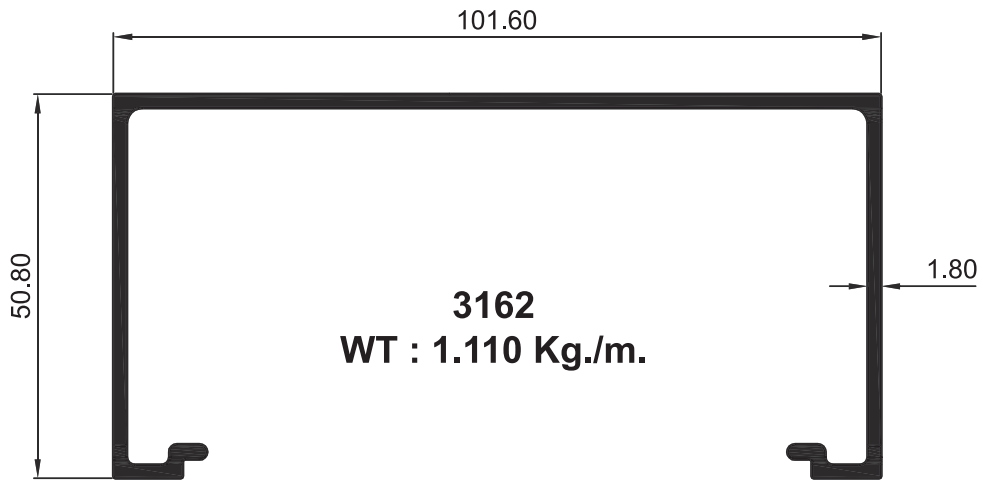
3160
WT : 1.053 Kg./m.



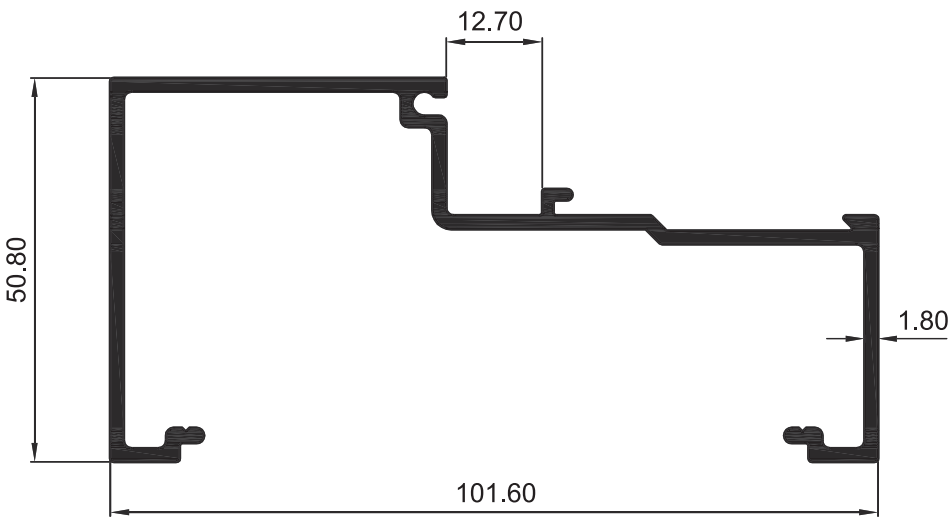
3301
WT : 0.392 Kg./m.



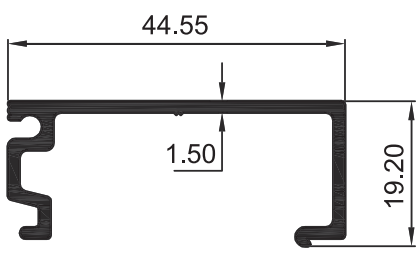
3161
WT : 1.387 Kg./m.



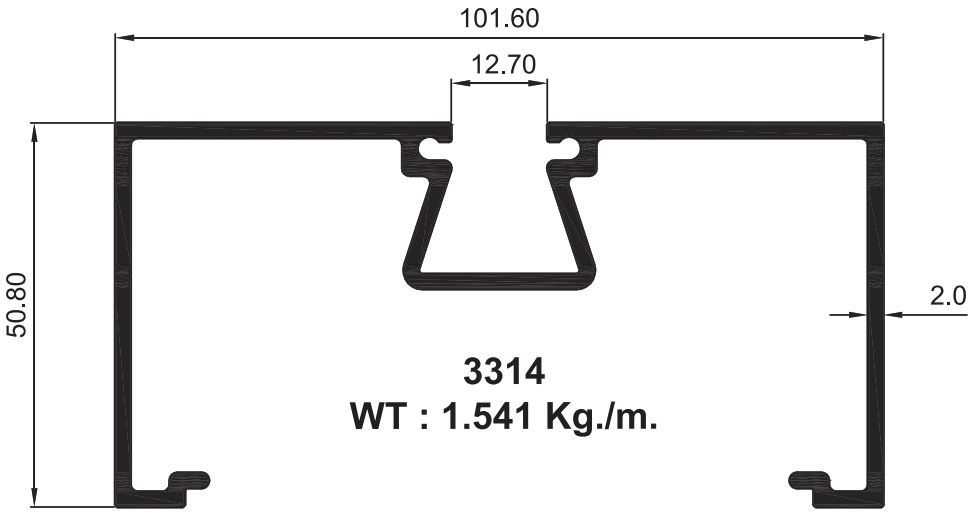
3162
WT : 1.110 Kg./m.



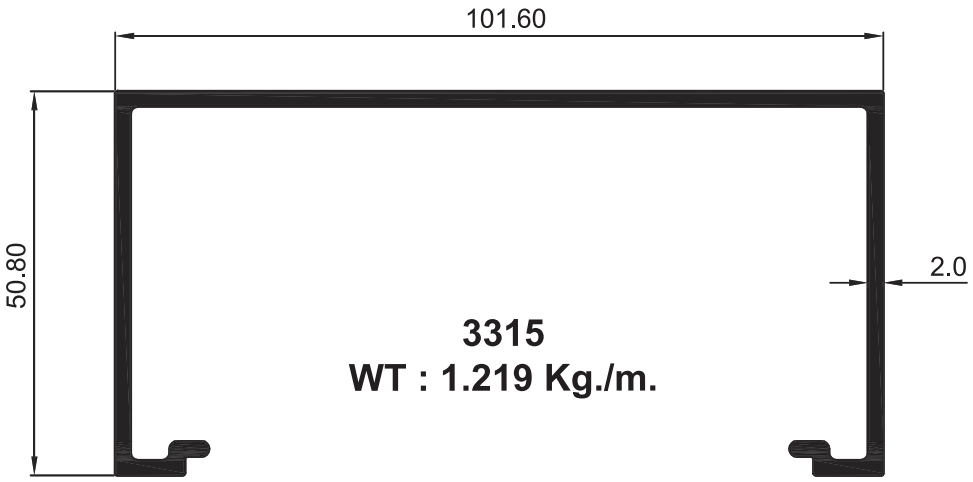
3163
WT : 1.162 Kg./m.



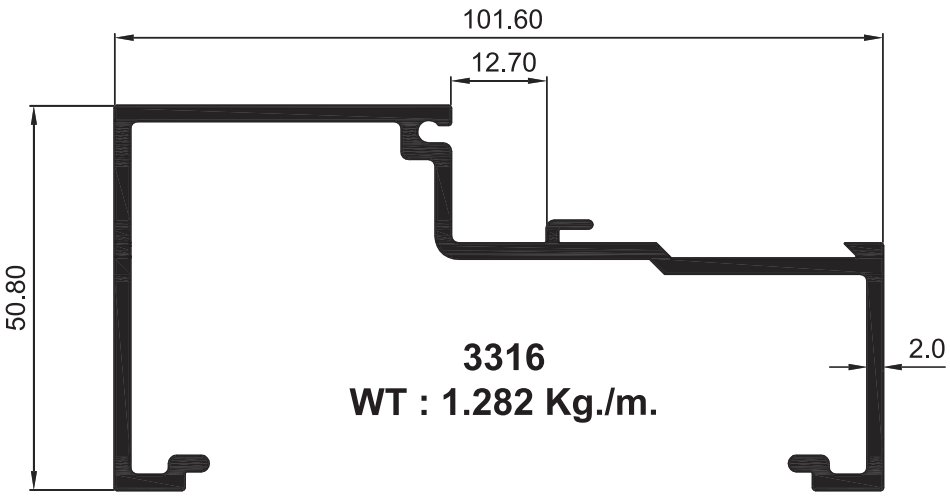
3301
WT : 0.392 Kg./m.



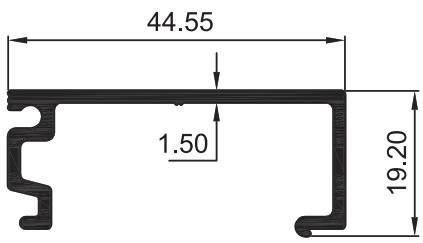
3314
WT : 1.541 Kg./m.



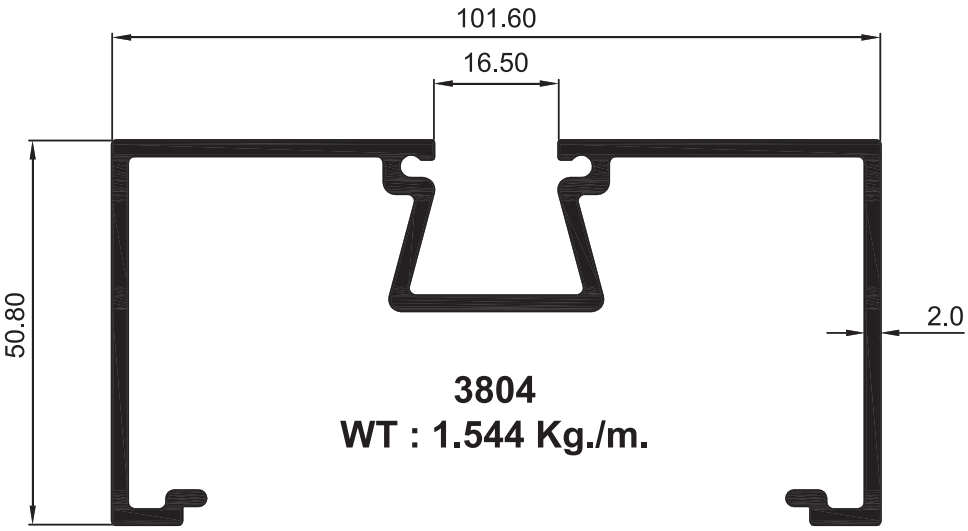
3315
WT : 1.219 Kg./m.



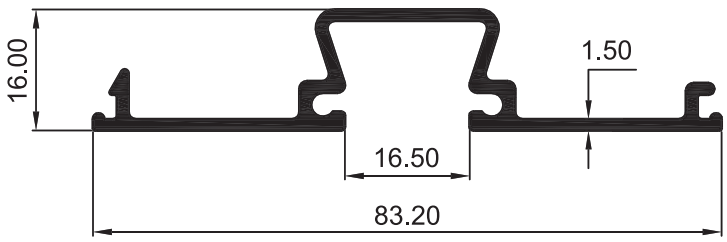
3316
WT : 1.282 Kg./m.



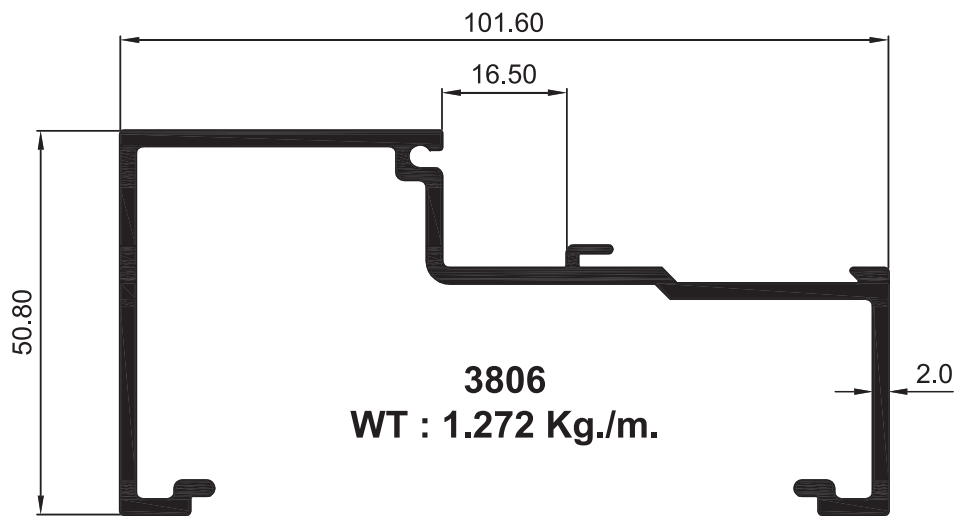
3301
WT : 0.392 Kg./m.



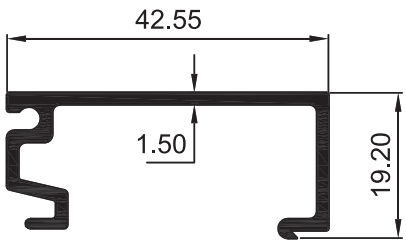
3804
WT : 1.544 Kg./m.



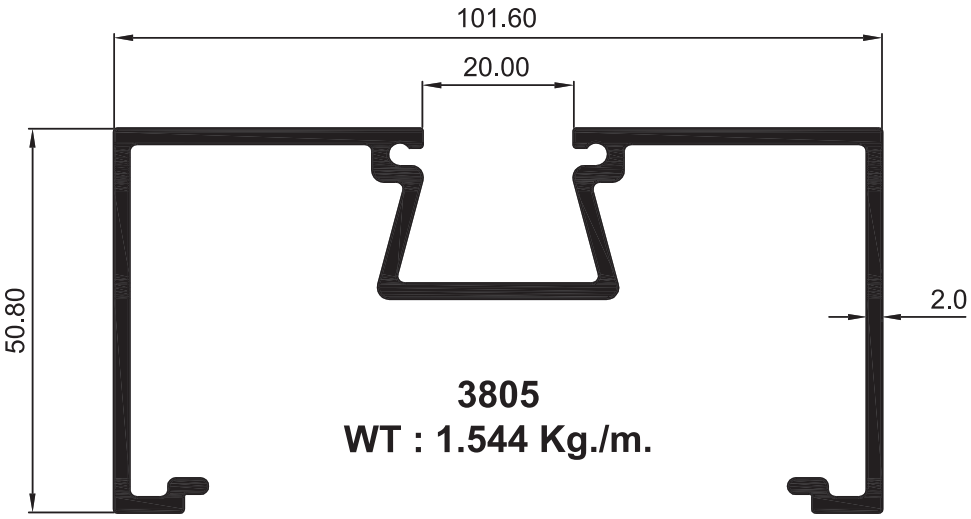
3189
WT : 0.591 Kg./m.



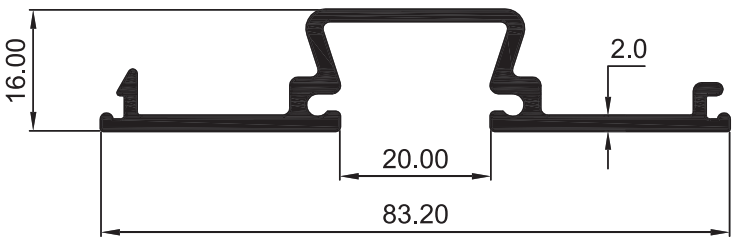
3806
WT : 1.272 Kg./m.



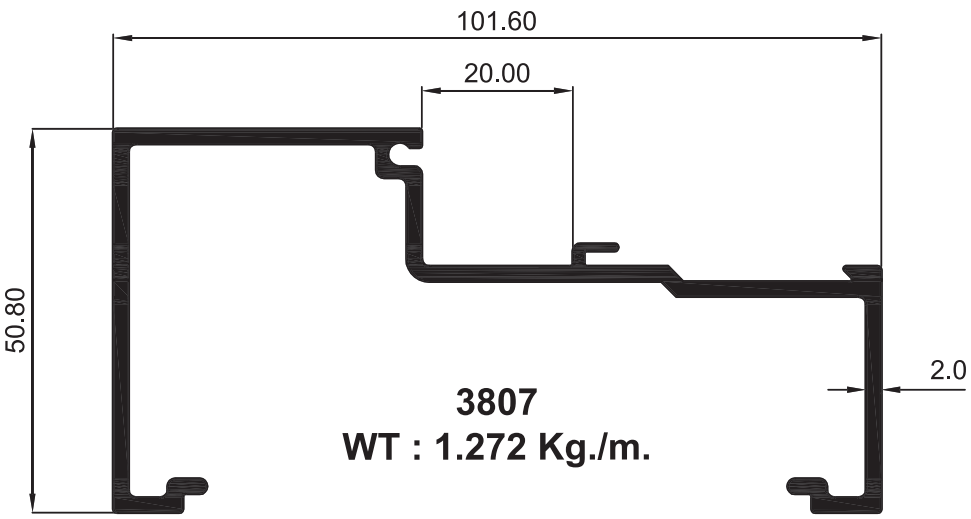
3191
WT : 0.395 Kg./m.



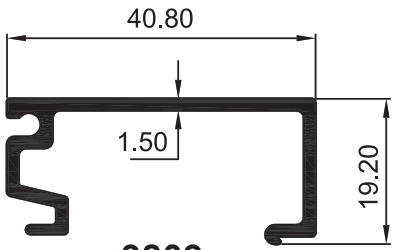
3805
WT : 1.544 Kg./m.



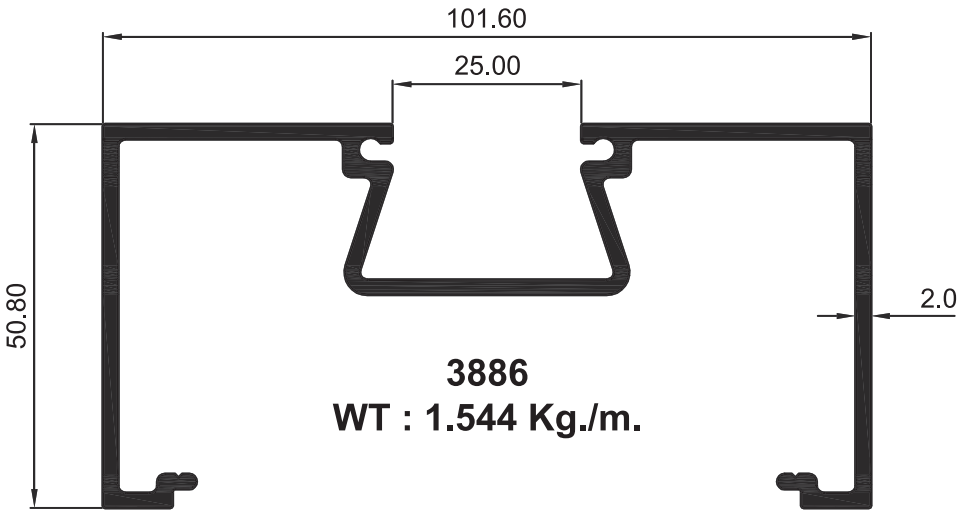
3808
WT : 0.698 Kg./m.



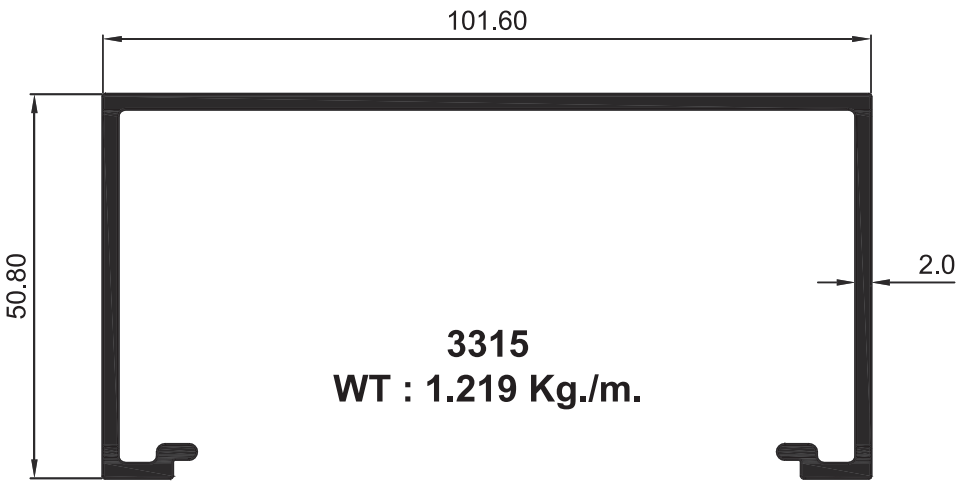
3807
WT : 1.272 Kg./m.



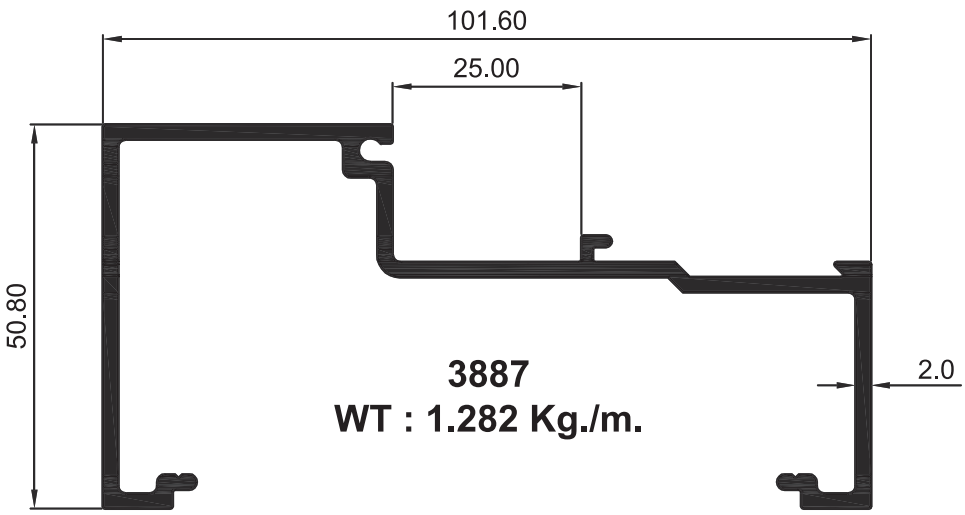
3809
WT : 0.387 Kg./m.



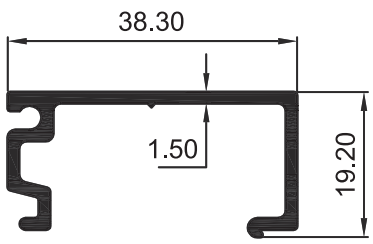
3886
WT : 1.544 Kg./m.



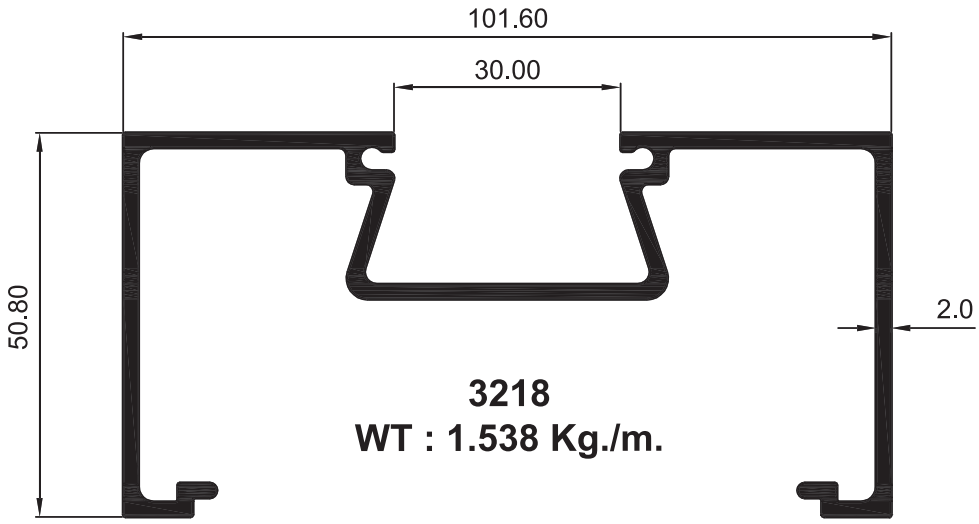
3315
WT : 1.219 Kg./m.



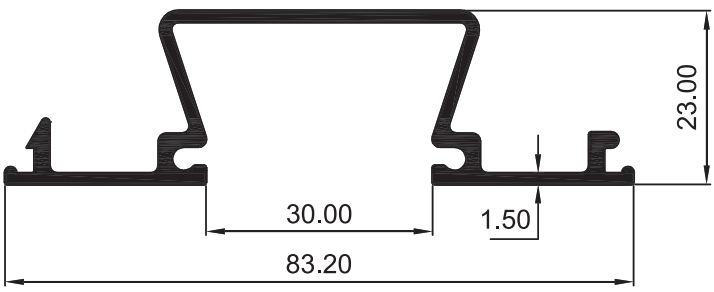
3887
WT : 1.282 Kg./m.



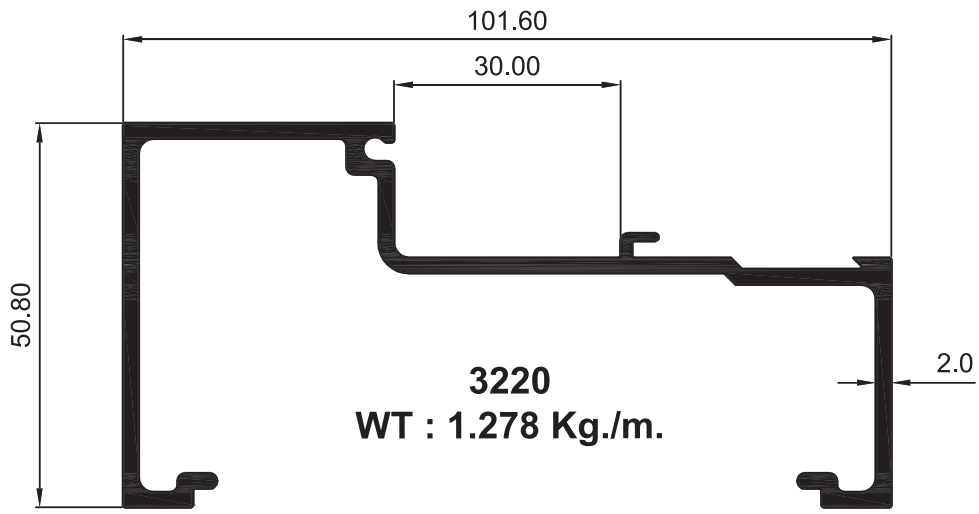
3888
WT : 0.368 Kg./m.



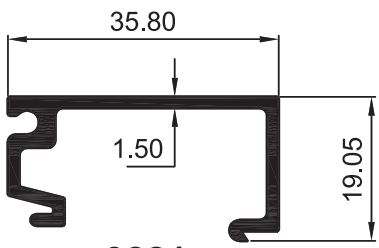
3218
WT : 1.538 Kg./m.



3219
WT : 0.704 Kg./m.

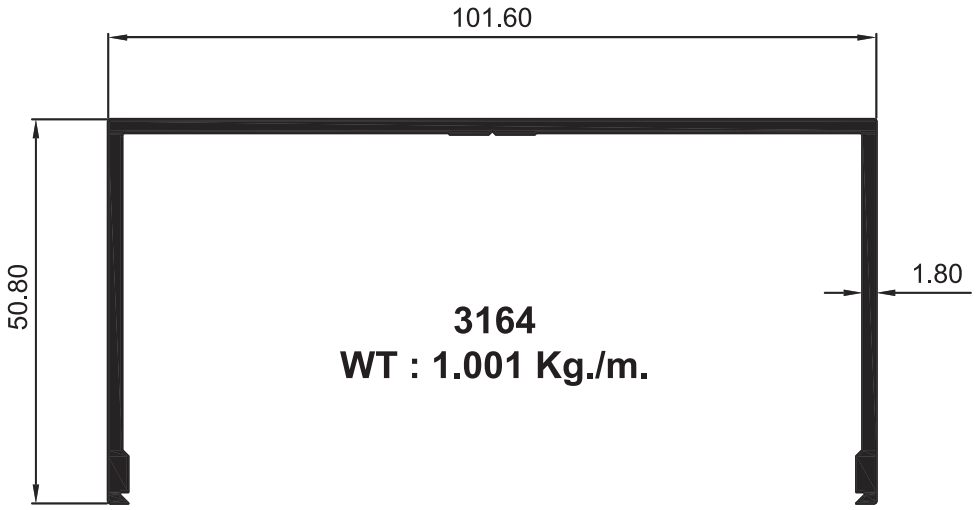


3220
WT : 1.278 Kg./m.

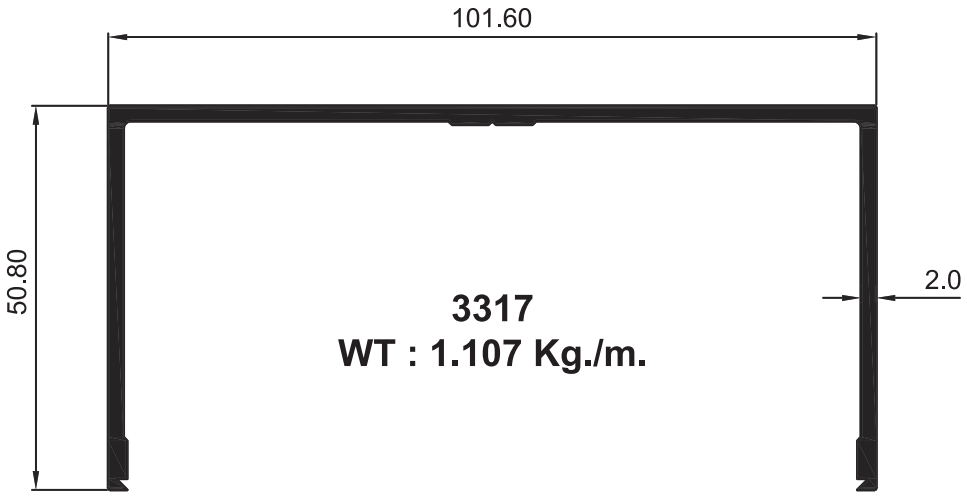


3221
WT : 0.369 Kg./m.

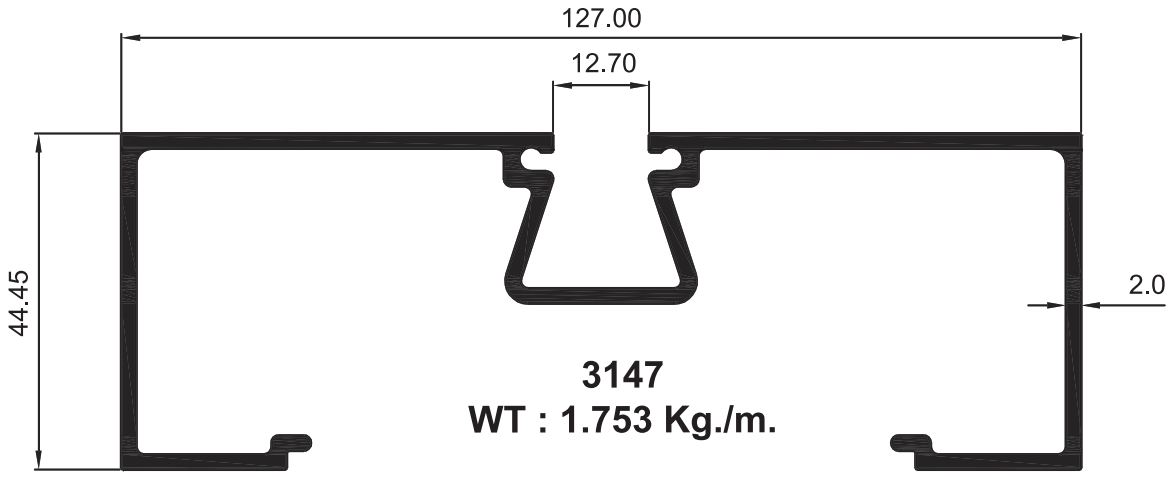
3885
WT : 0.924 Kg./m.



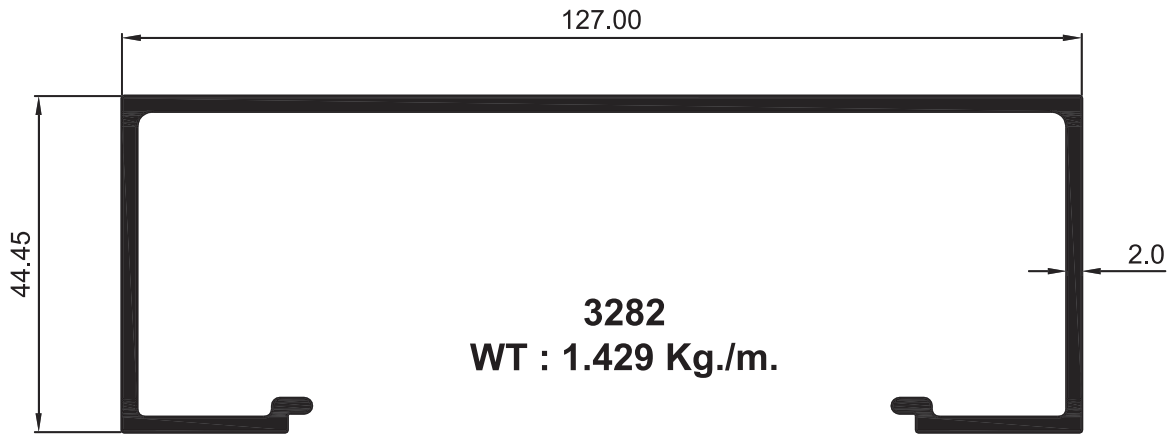
3164
WT : 1.001 Kg./m.



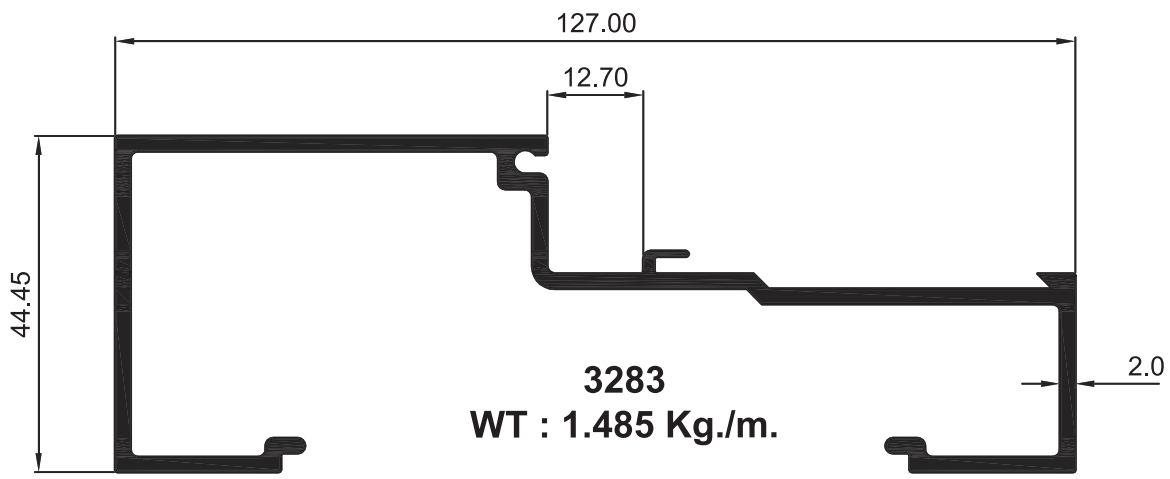
3317
WT : 1.107 Kg./m.



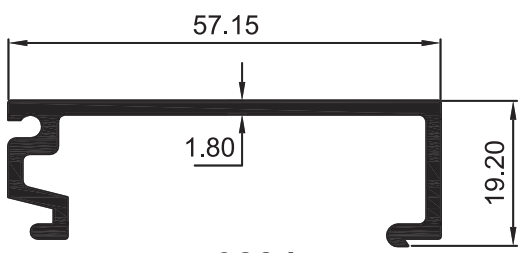
3147
WT : 1.753 Kg./m.



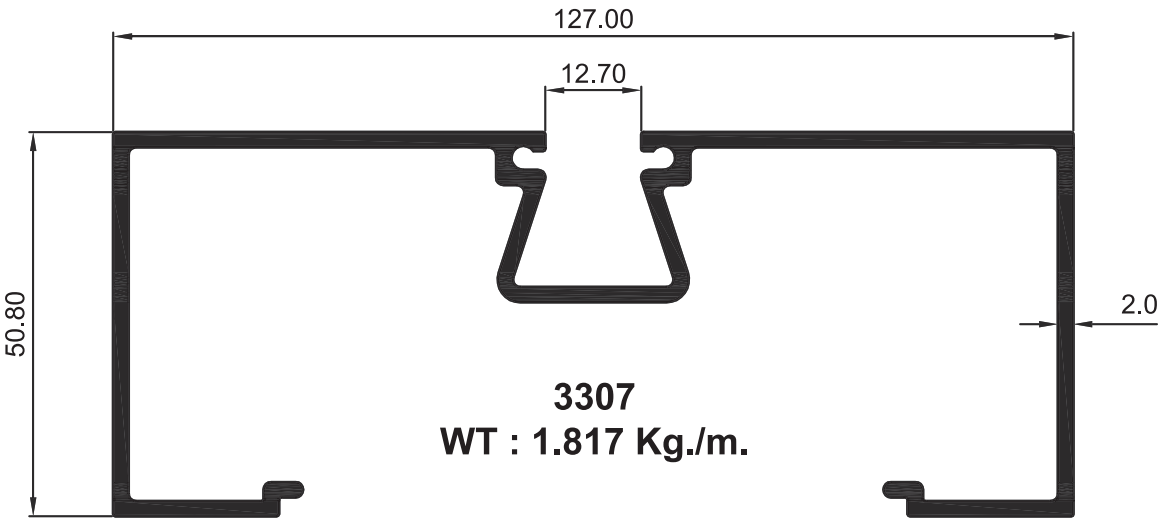
3282
WT : 1.429 Kg./m.



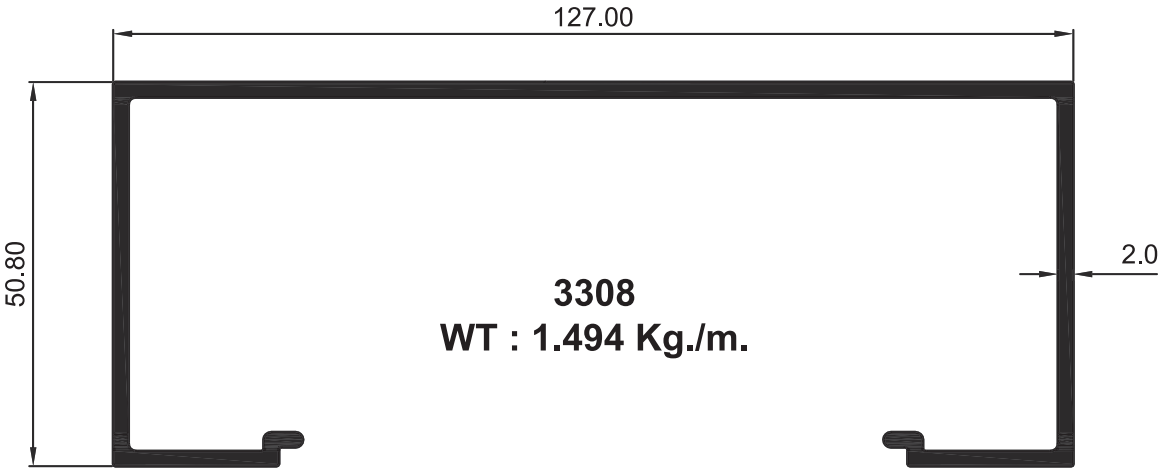
3283
WT : 1.485 Kg./m.



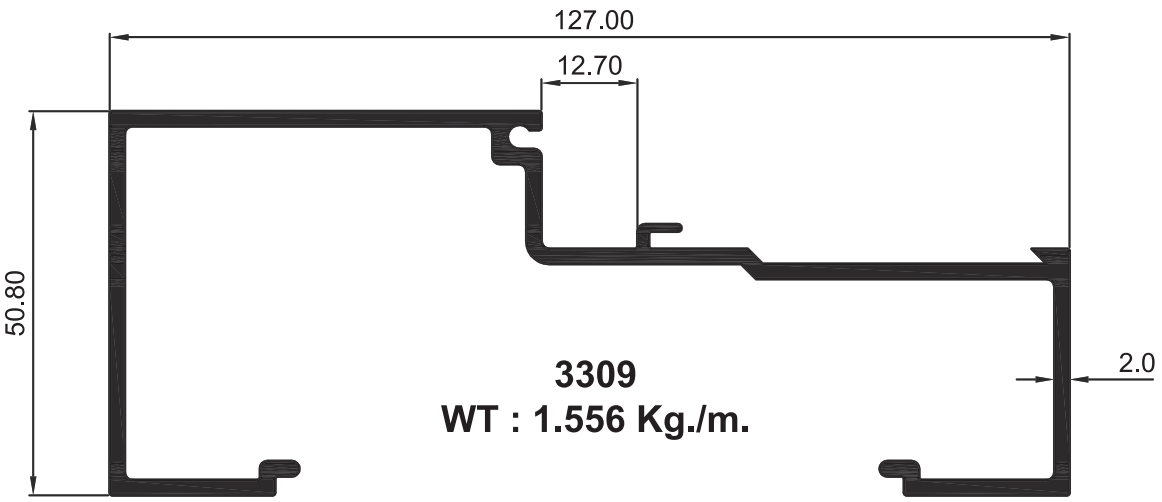
3284
WT : 0.540 Kg./m.



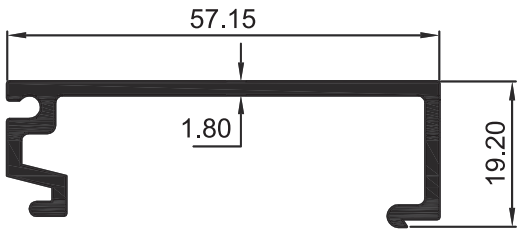
3307
WT : 1.817 Kg./m.



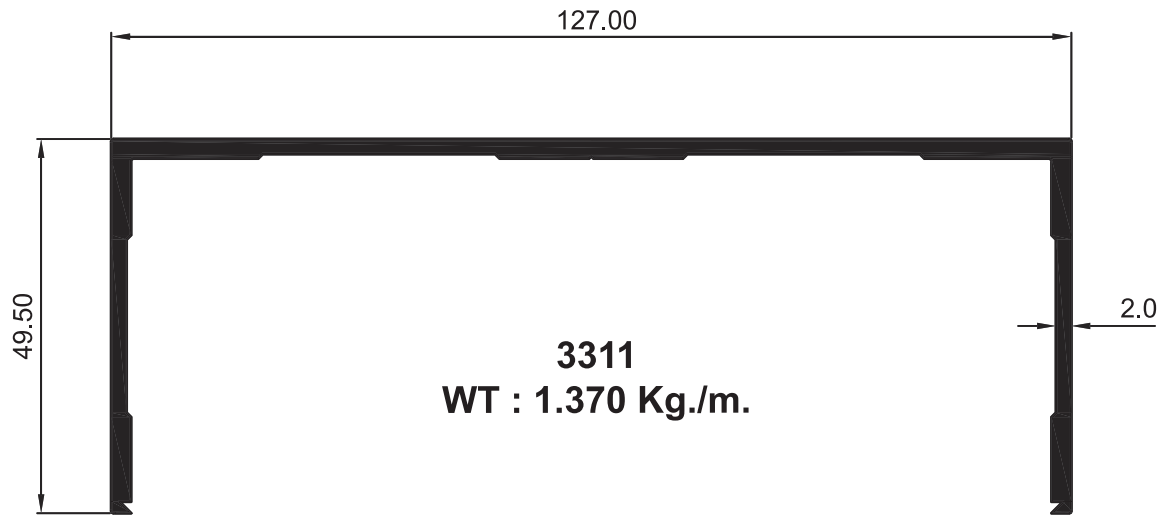
3308
WT : 1.494 Kg./m.



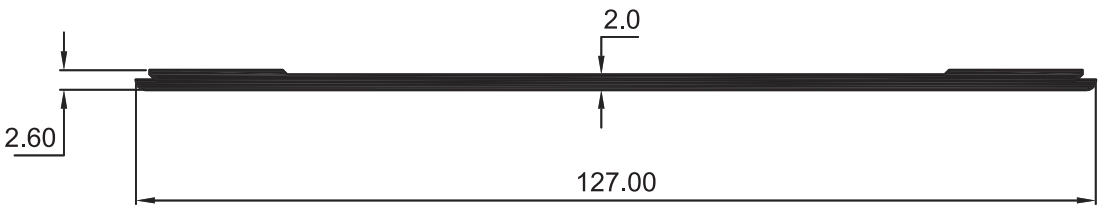
3309
WT : 1.556 Kg./m.



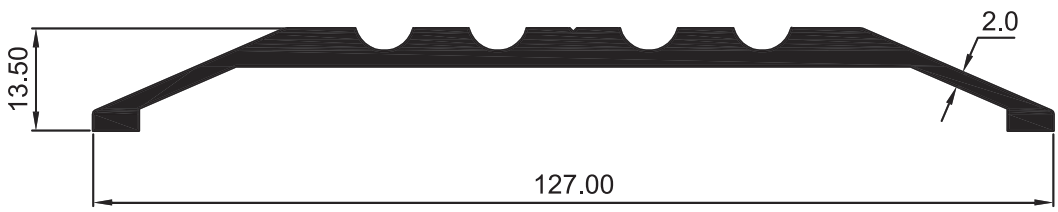
3310
WT : 0.531 Kg./m.



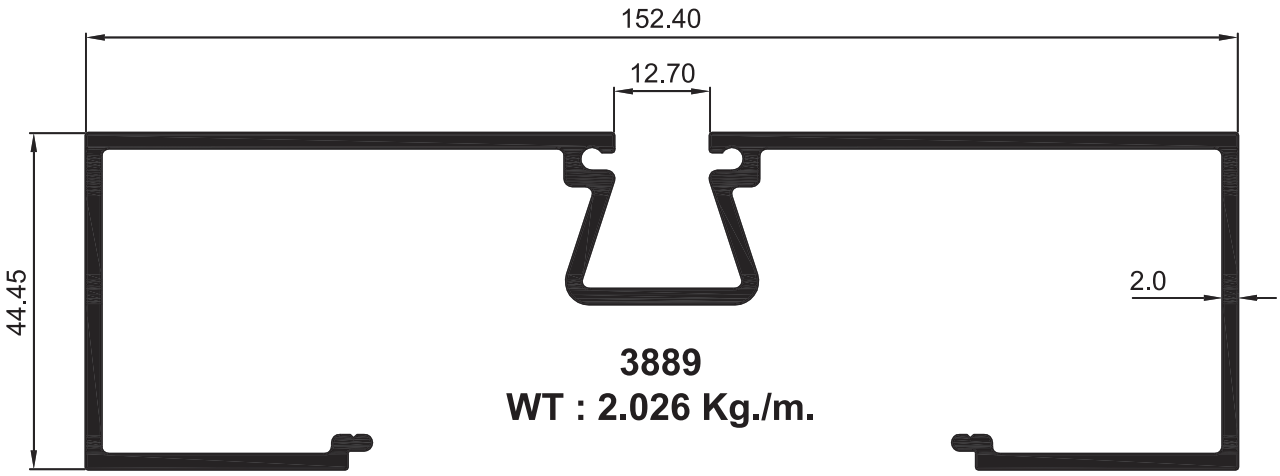
3311
WT : 1.370 Kg./m.



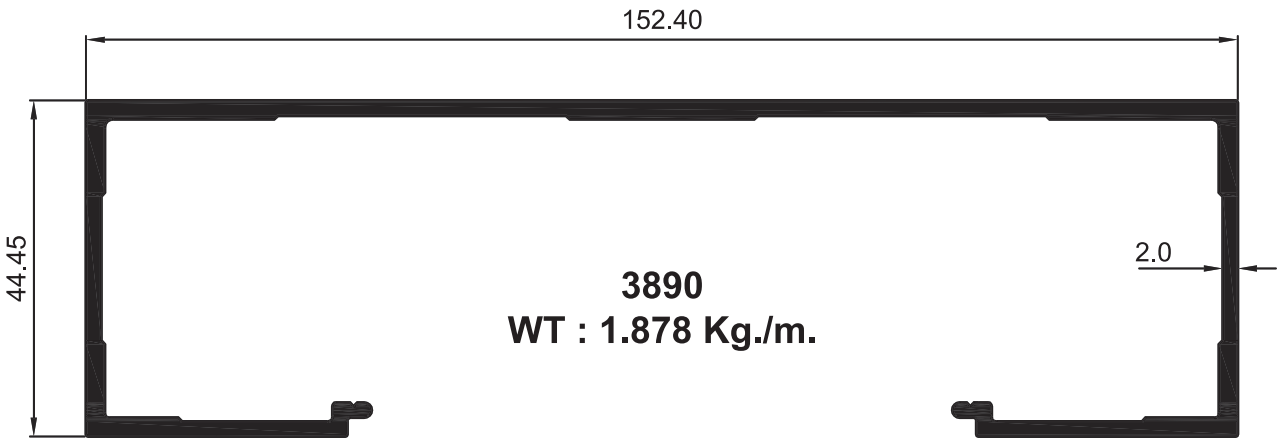
3312
WT : 0.735 Kg./m.



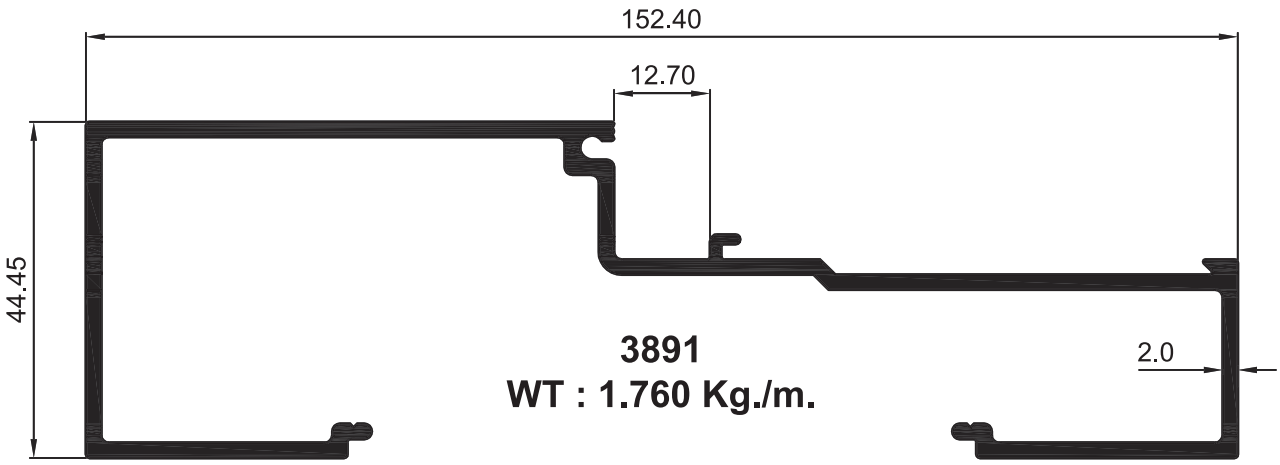
3313
WT : 1.248 Kg./m.



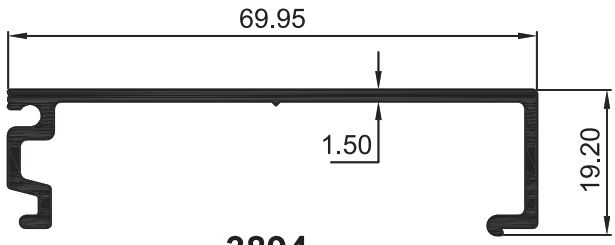
3889
WT : 2.026 Kg./m.



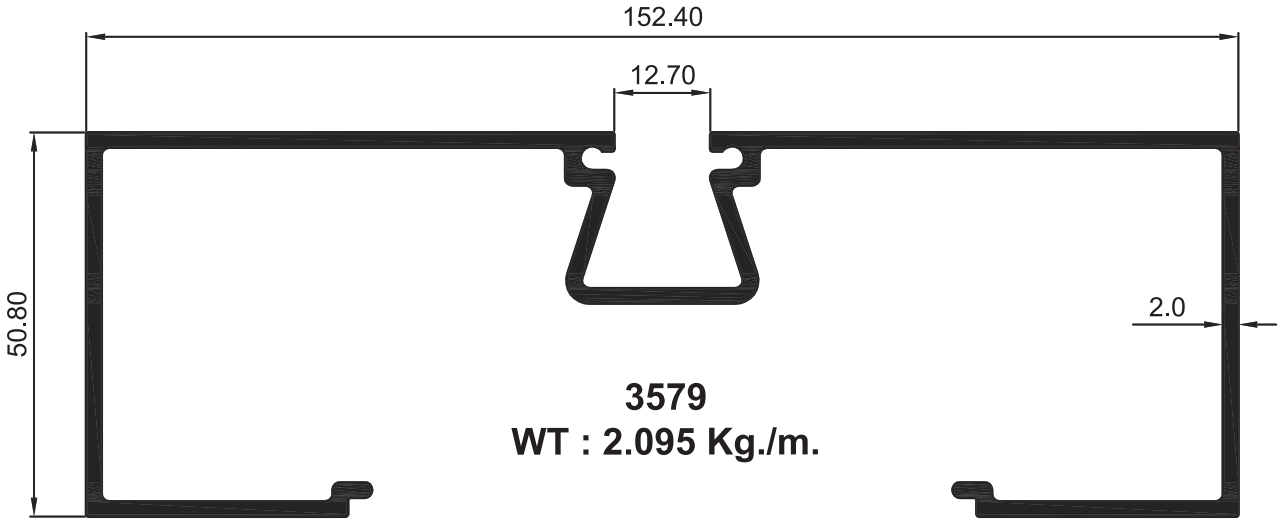
3890
WT : 1.878 Kg./m.



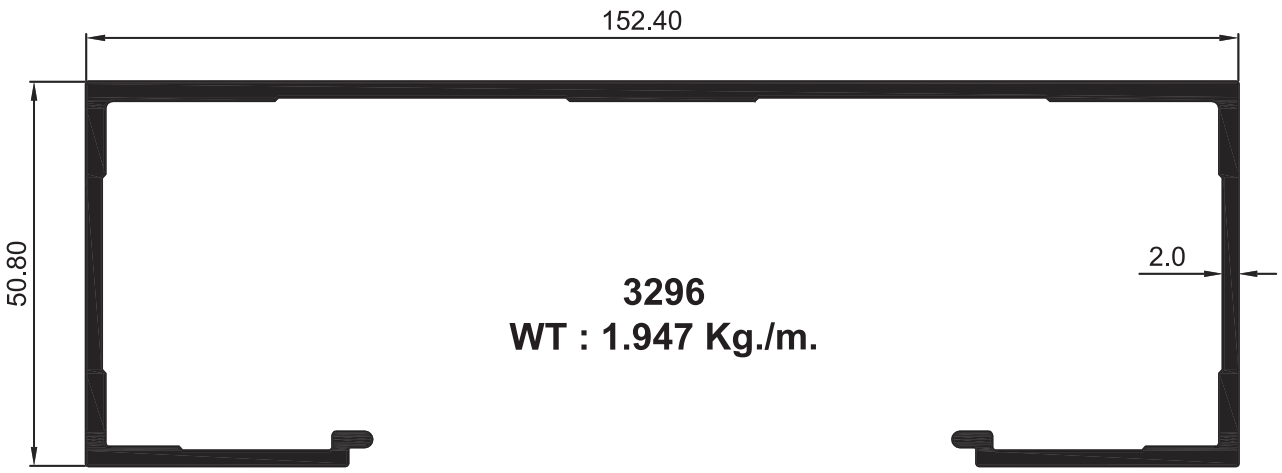
3891
WT : 1.760 Kg./m.



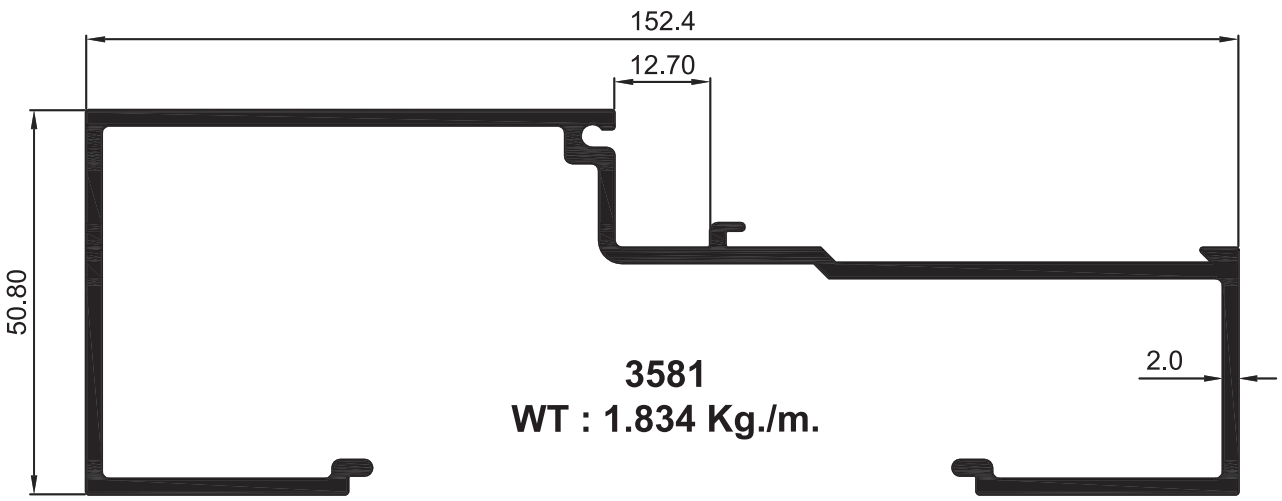
3894
WT : 0.496 Kg./m.



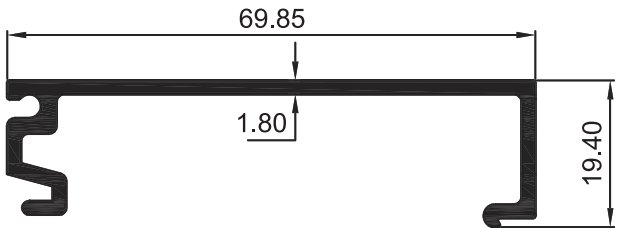
3579
WT : 2.095 Kg./m.



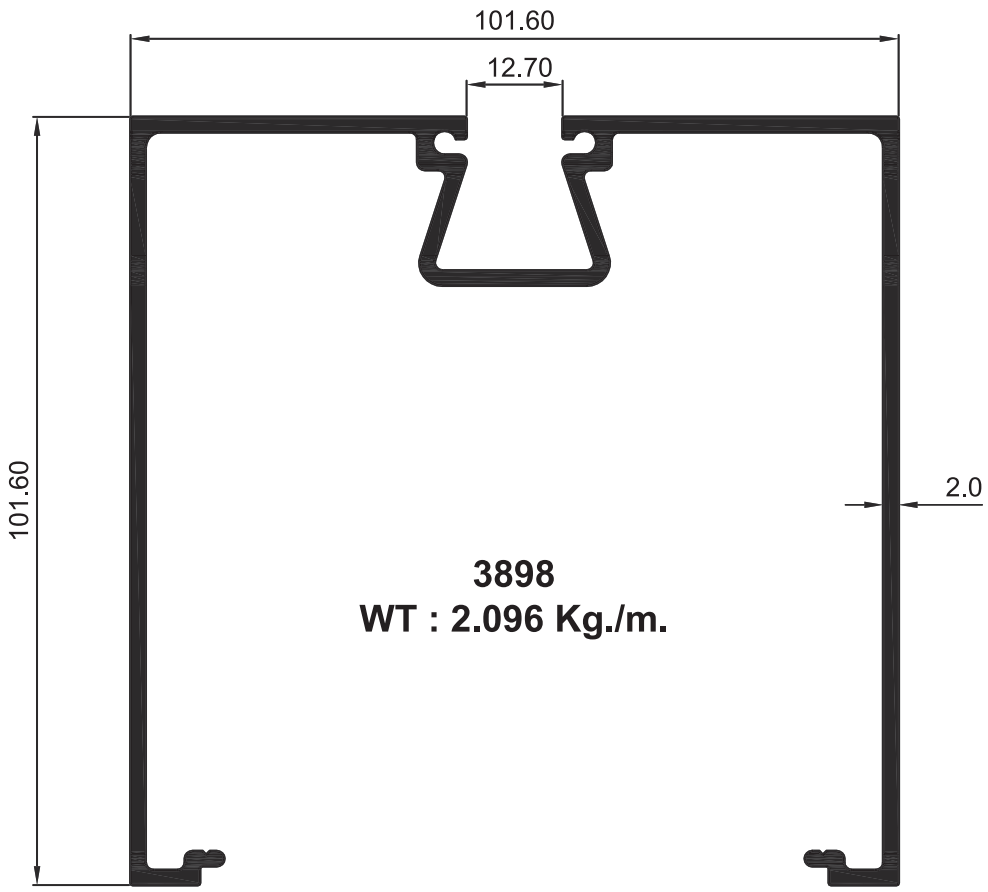
3296
WT : 1.947 Kg./m.



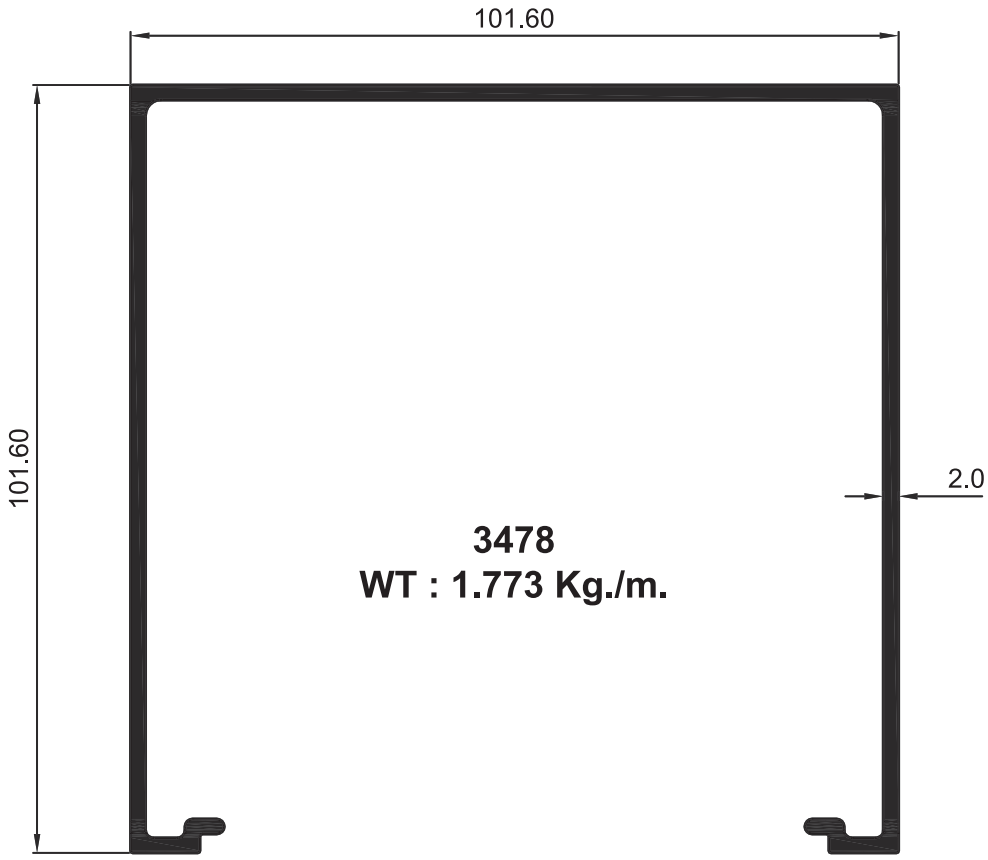
3581
WT : 1.834 Kg./m.



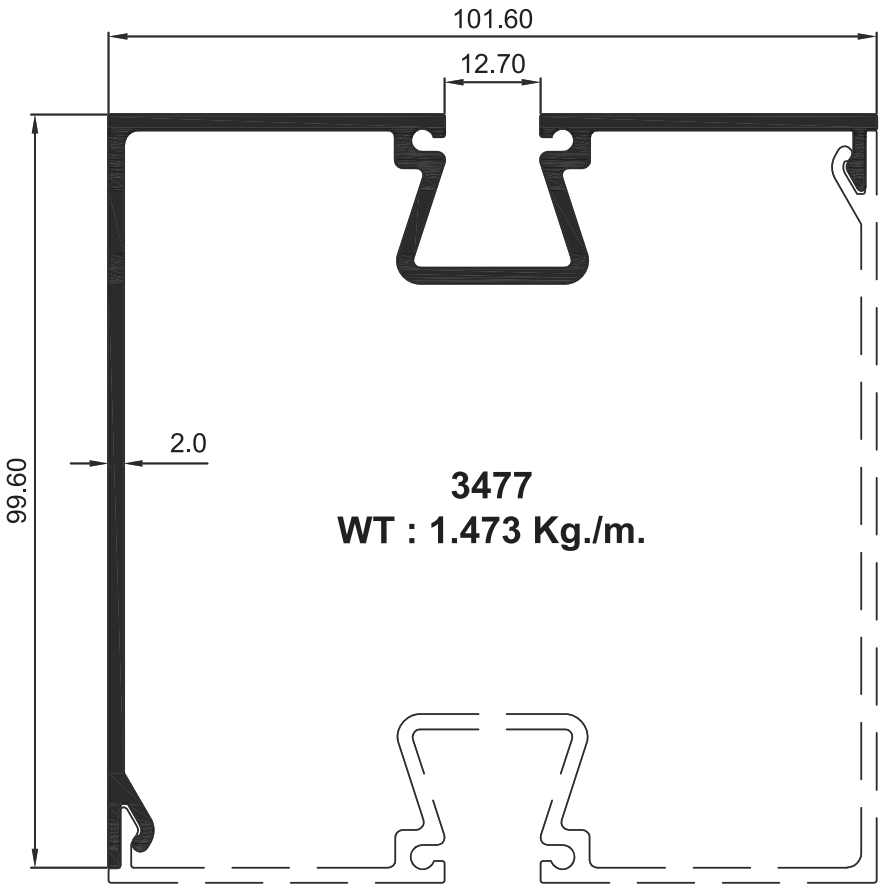
3582
WT : 0.601 Kg./m.

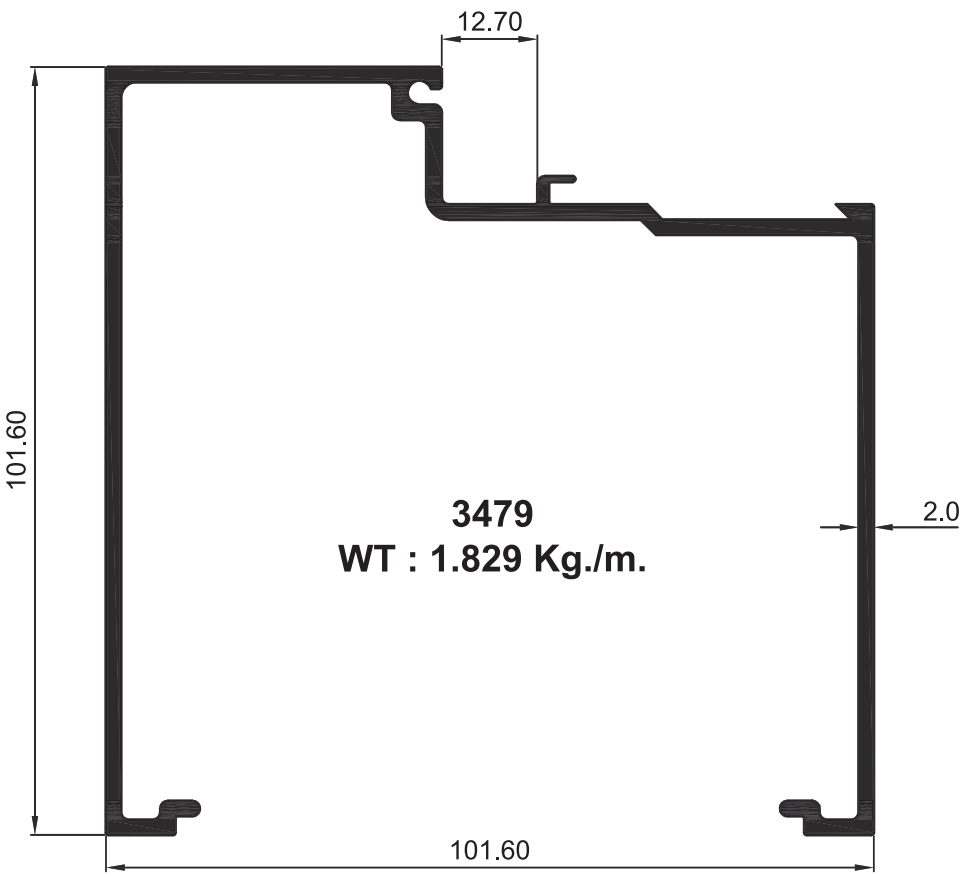


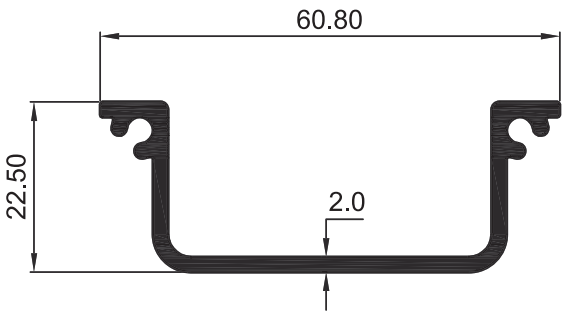
3898
WT : 2.096 Kg./m.



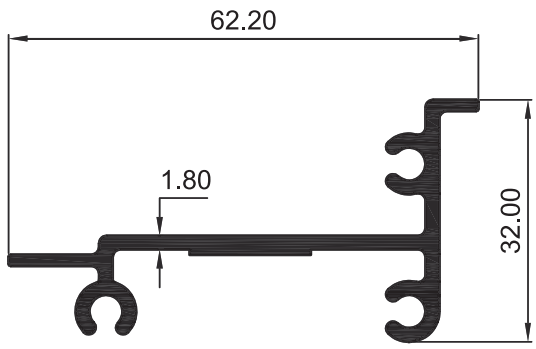
3478
WT : 1.773 Kg./m.


101.60
12.70
99.60
2.0
3477
WT : 1.473 Kg./m.

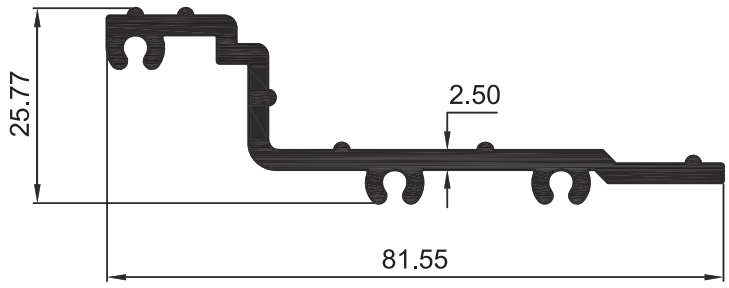

12.70
101.60
3479
WT : 1.829 Kg./m.
2.0
101.60



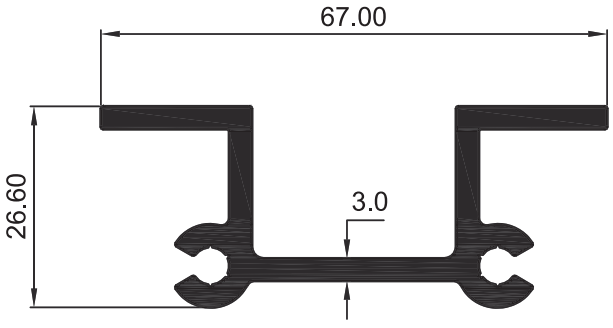
3222
WT : 0.589 Kg./m.



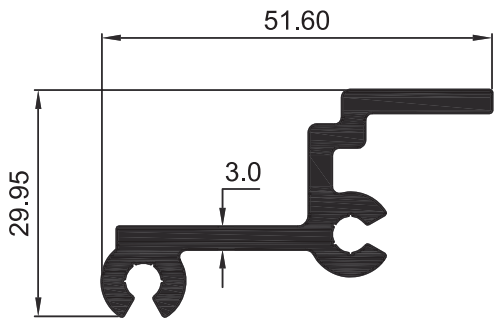
3483
WT : 0.671 Kg./m.



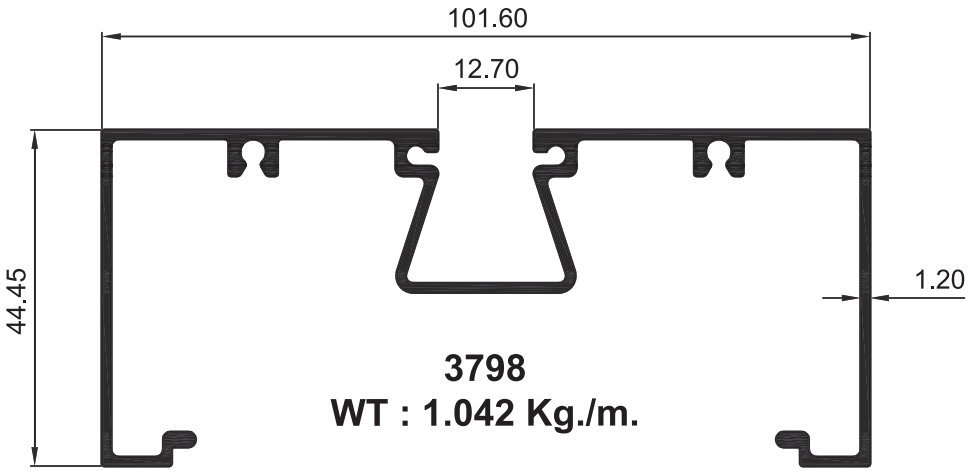
3223
WT : 0.846 Kg./m.



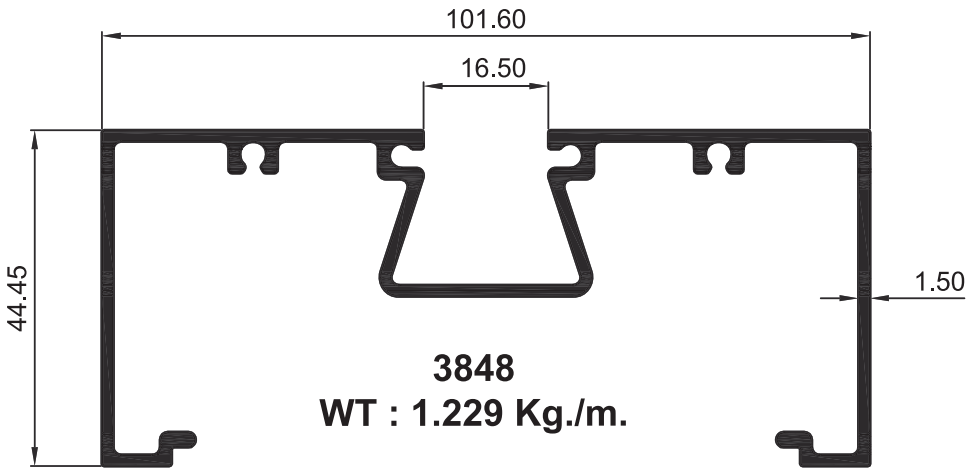
3635
WT : 1.126 Kg./m.



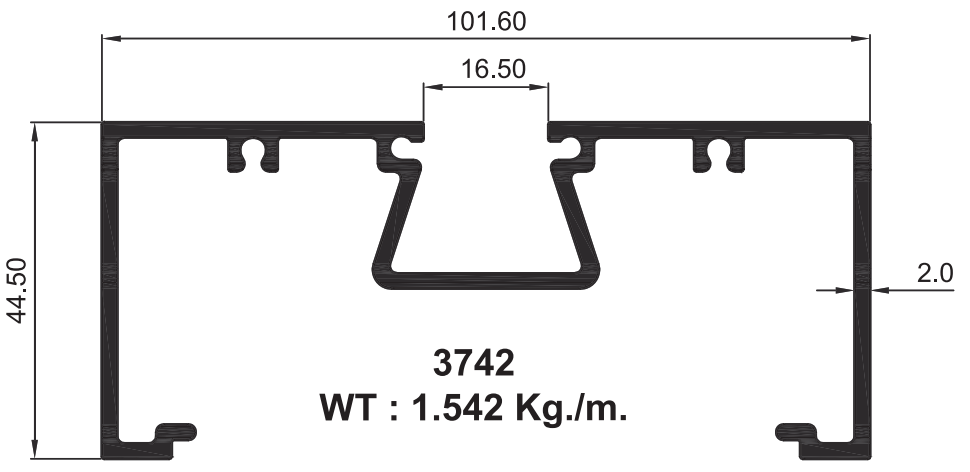
3636
WT : 0.831 Kg./m.



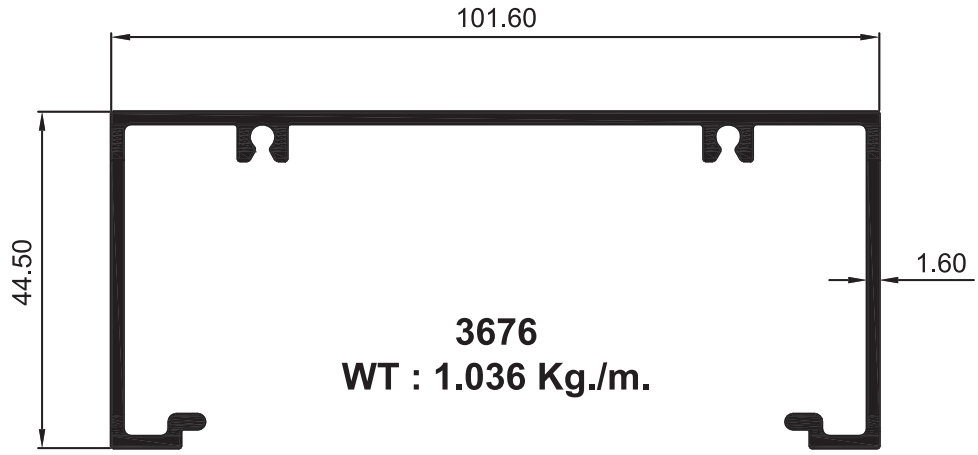
3798
WT : 1.042 Kg./m.



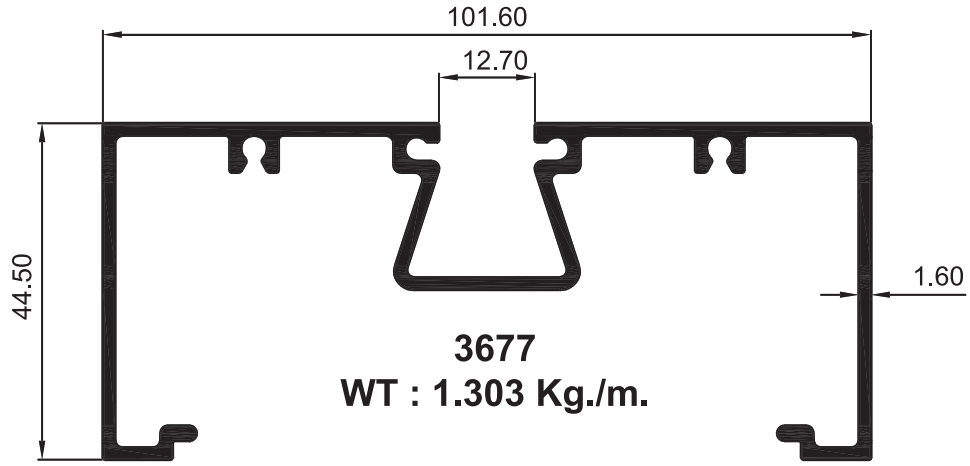
3848
WT : 1.229 Kg./m.



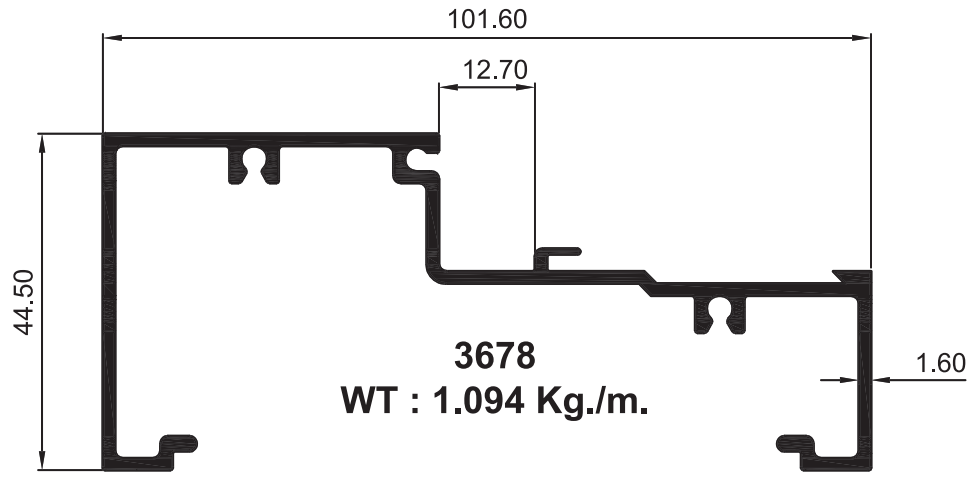
3742
WT : 1.542 Kg./m.



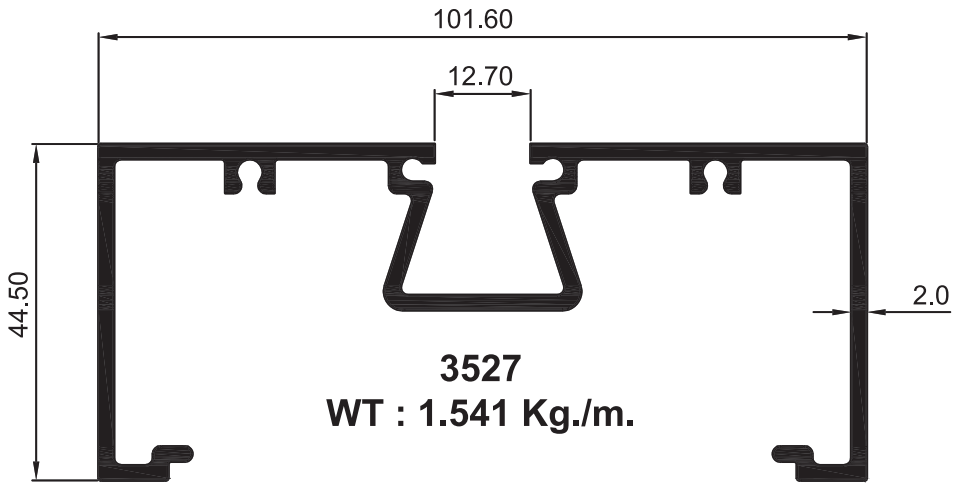
3676
WT : 1.036 Kg./m.



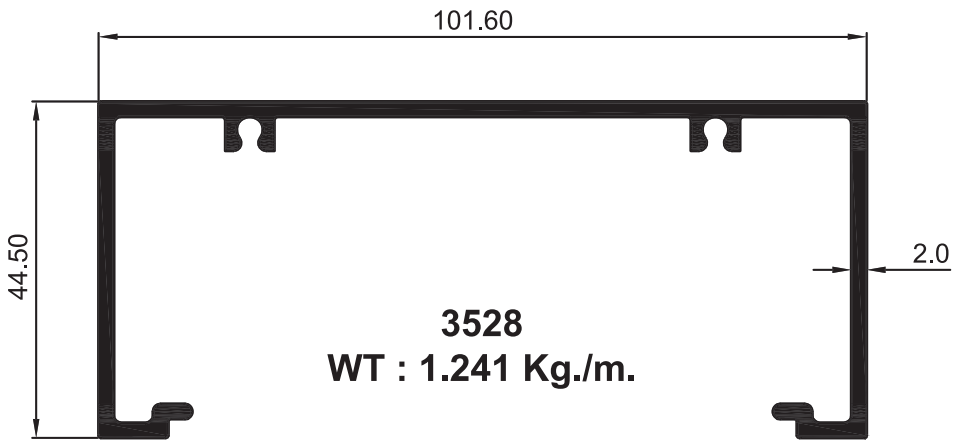
3677
WT : 1.303 Kg./m.



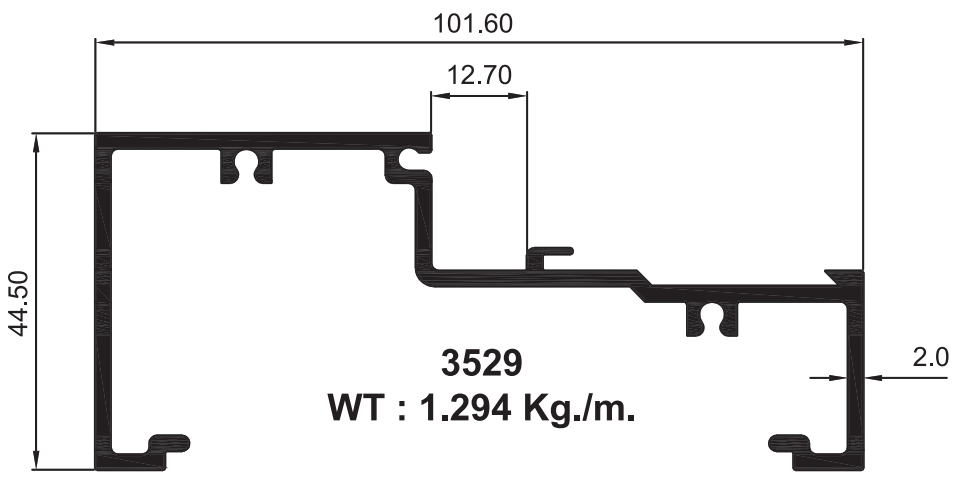
3678
WT : 1.094 Kg./m.



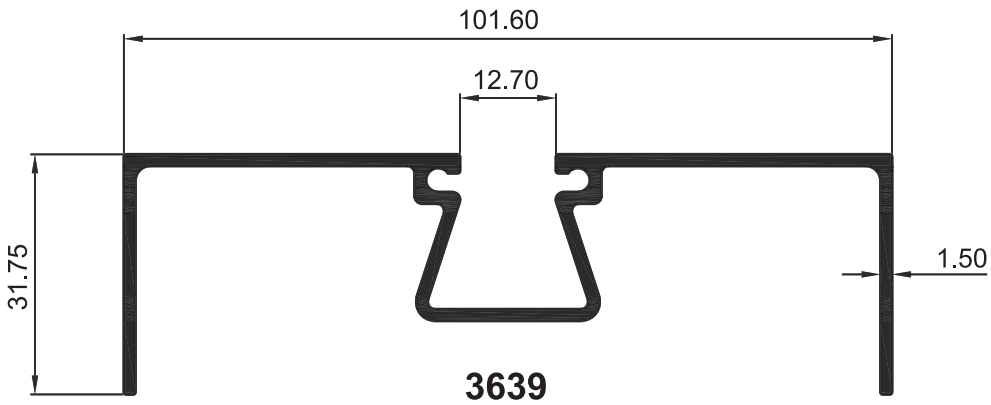
3527
WT : 1.541 Kg./m.



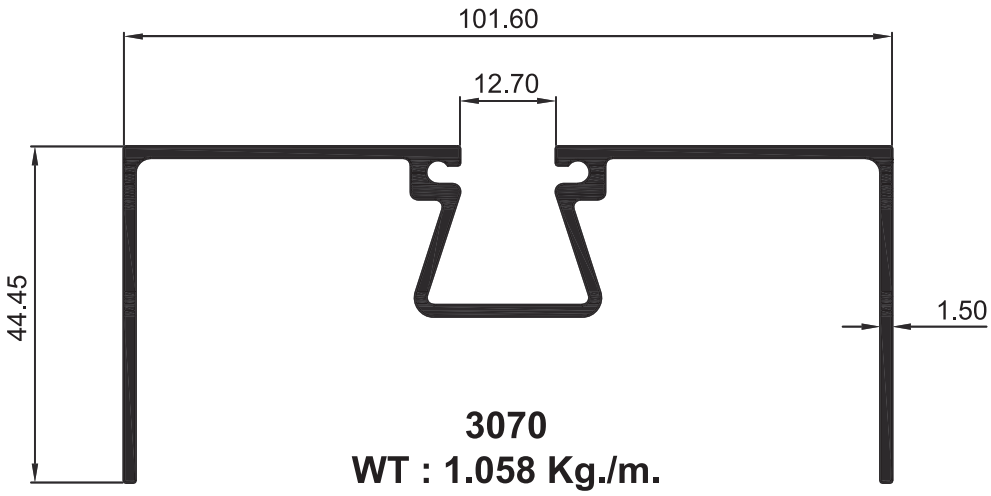
3528
WT : 1.241 Kg./m.



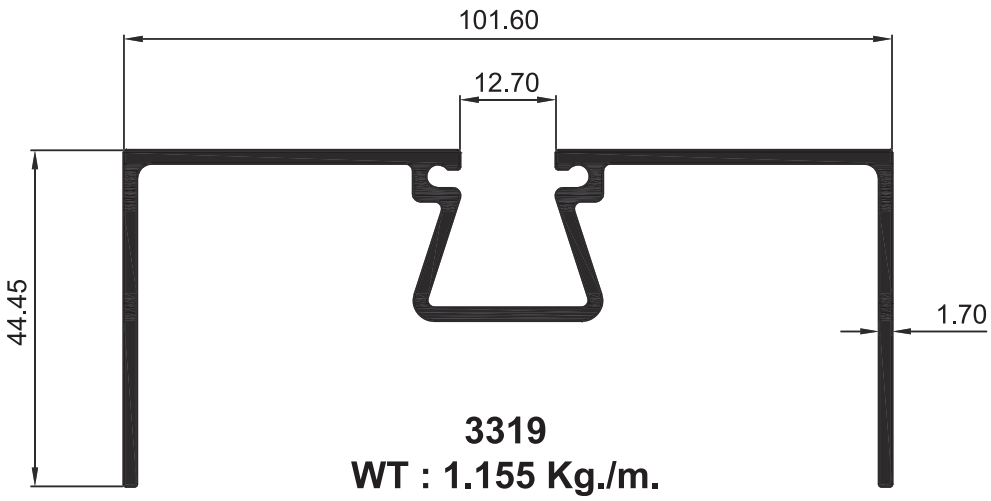
3529
WT : 1.294 Kg./m.



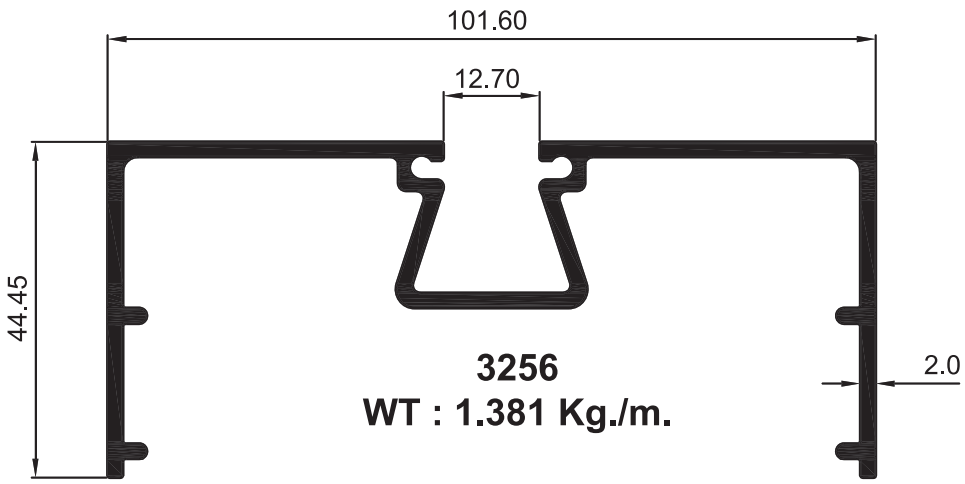
3639
WT : 0.923 Kg./m.



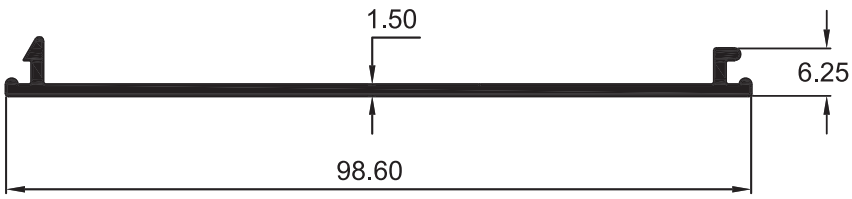
3070
WT : 1.058 Kg./m.



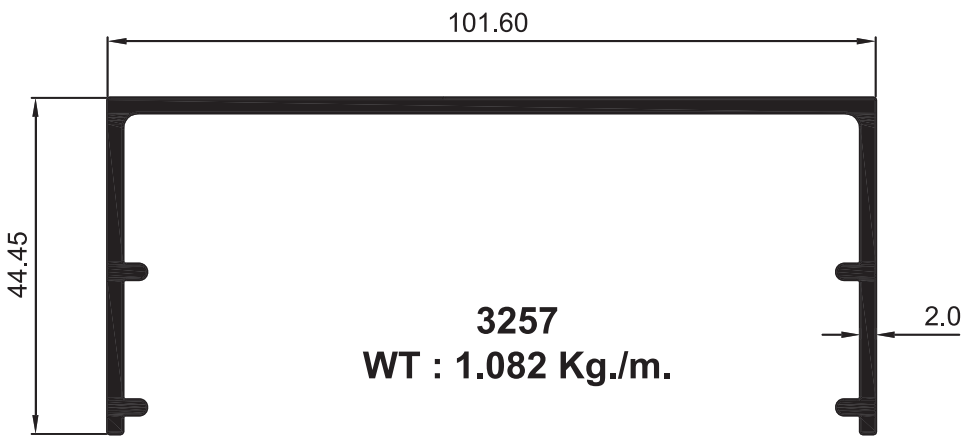
3319
WT : 1.155 Kg./m.



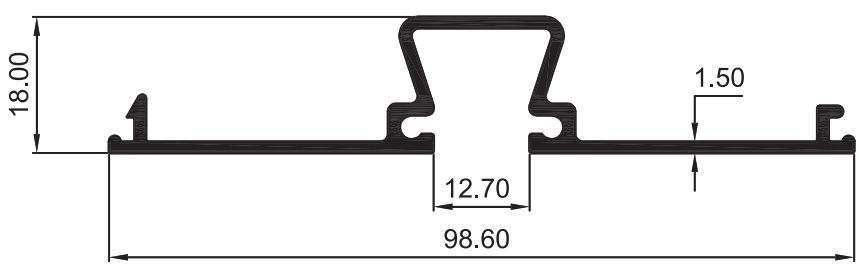
3256
WT : 1.381 Kg./m.



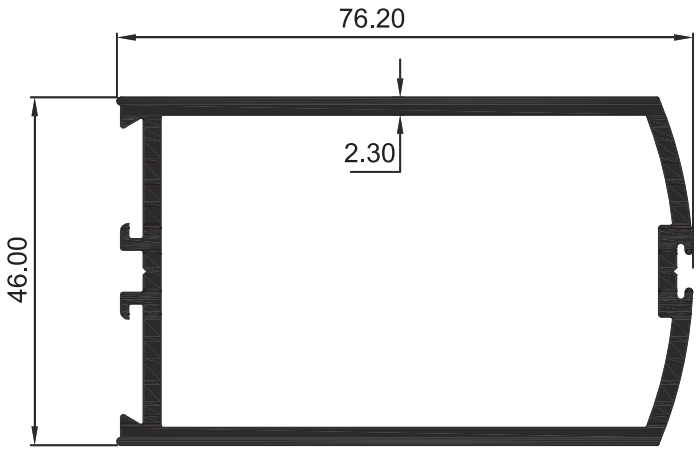
3259
WT : 0.459 Kg./m.



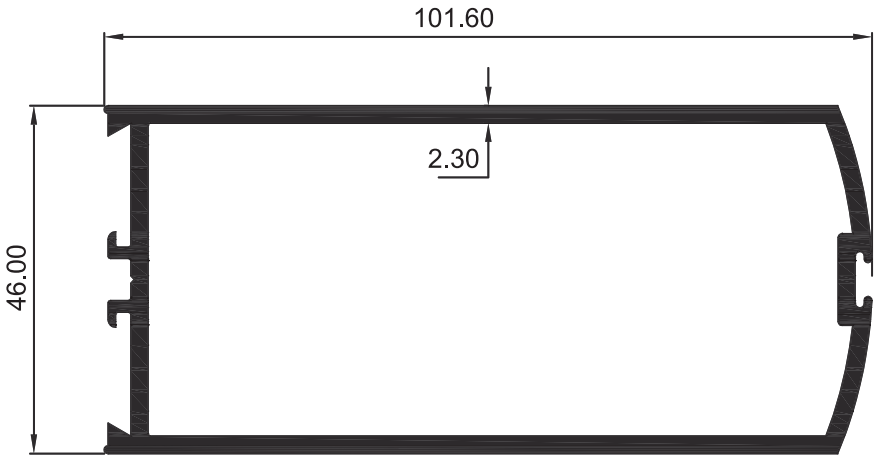
3257
WT : 1.082 Kg./m.



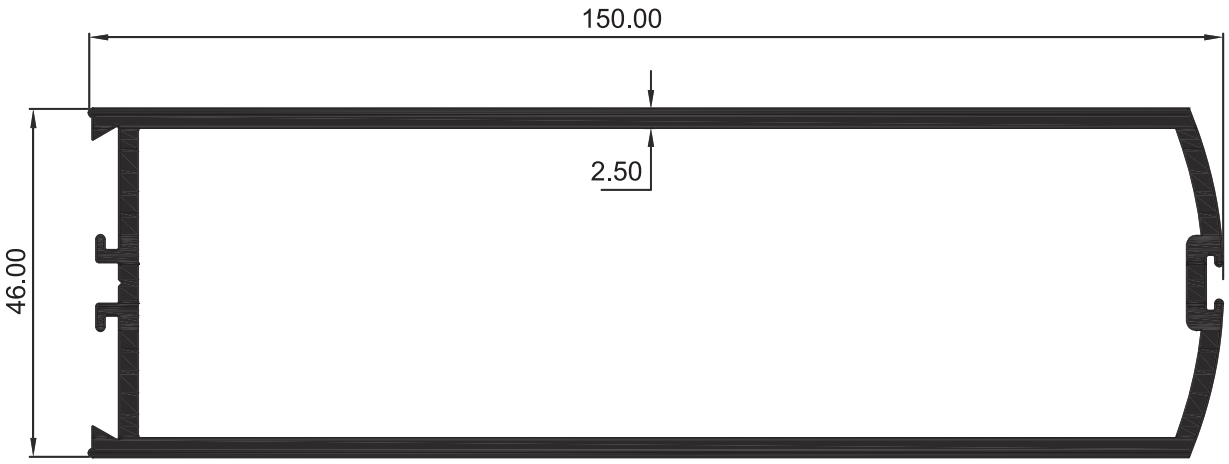
3258
WT : 0.672 Kg./m.



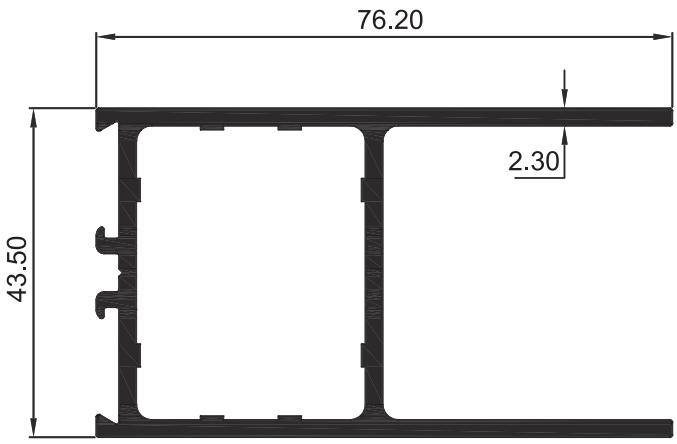
3884
WT : 1.500 Kg./m.



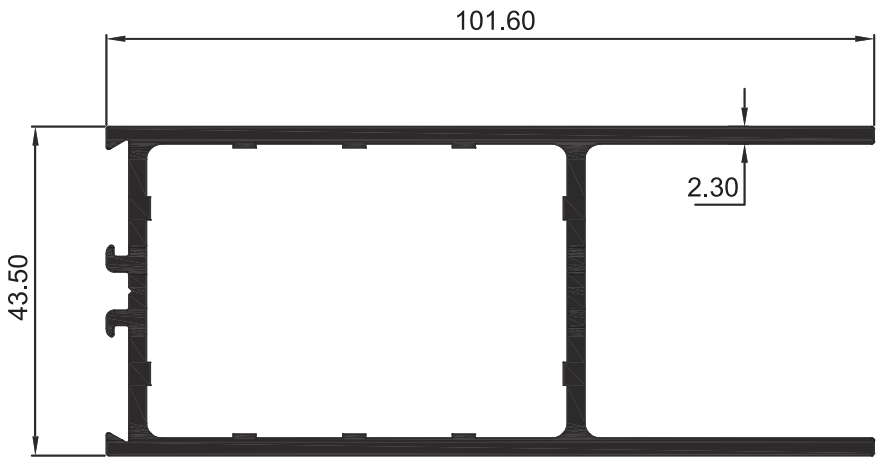
3325
WT : 1.814 Kg./m.



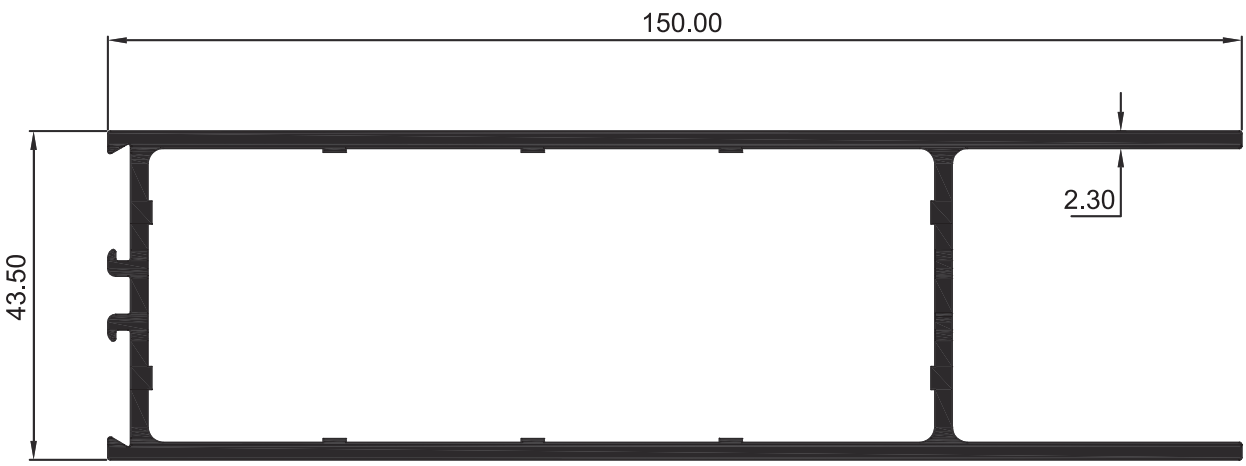
3562
WT : 2.613 Kg./m.



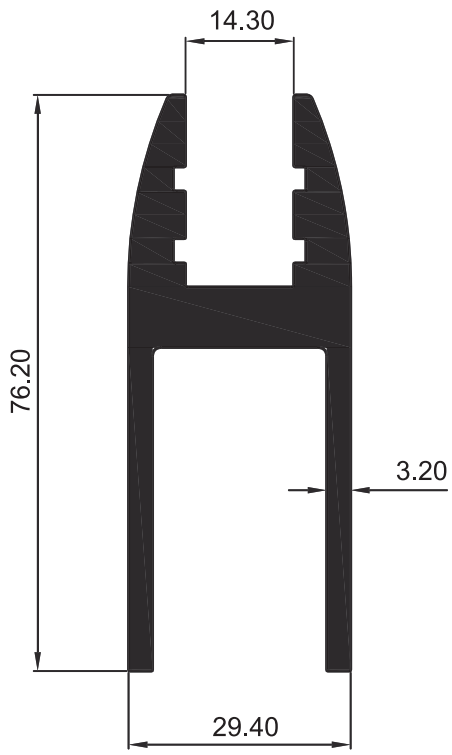
3892
WT : 1.521 Kg./m.



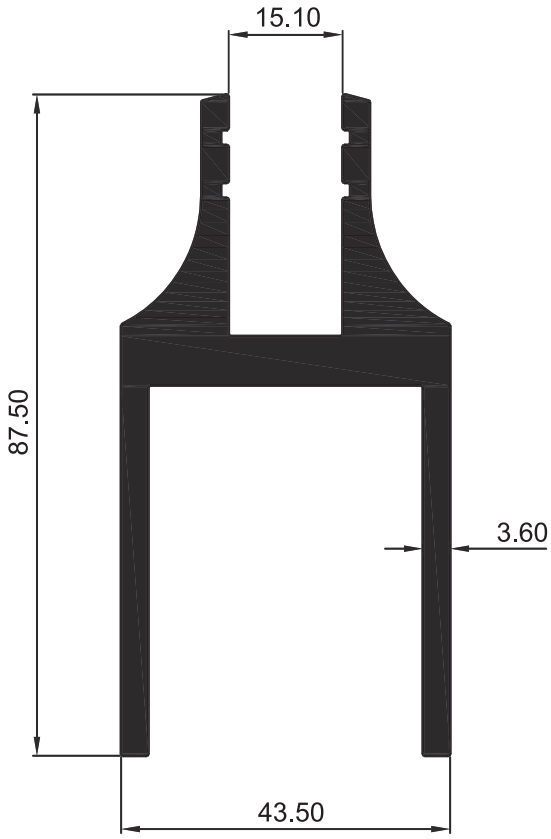
3893
WT : 1.845 Kg./m.



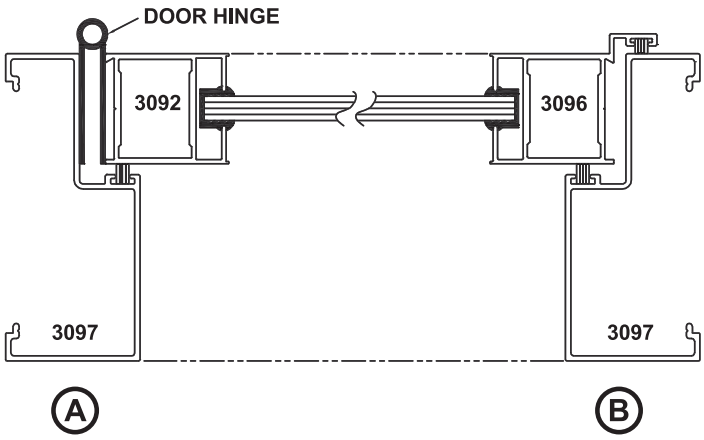
3397
WT : 2.445 Kg./m.

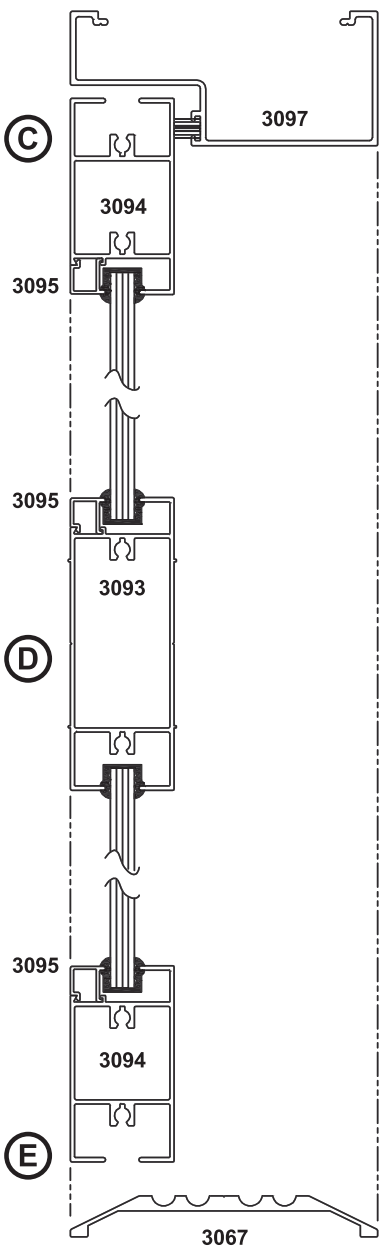


4030
WT : 2.125 Kg./m.



4024
WT : 2.683 Kg./m.


DOOR HINGE
3092
3096
3097
3097
A
B


C
3097
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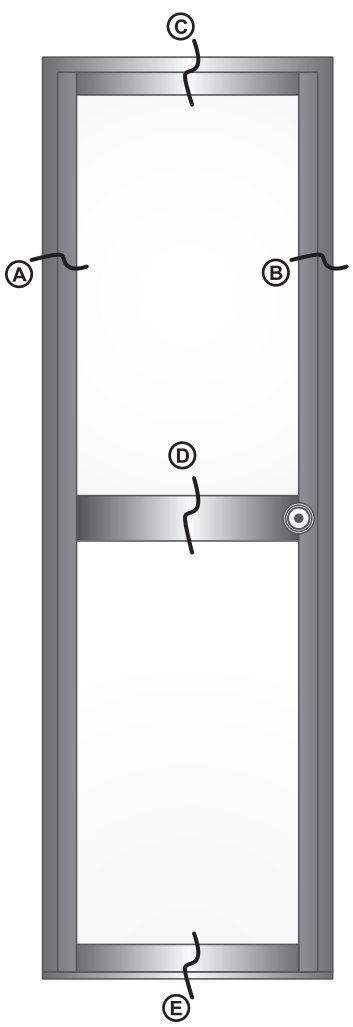
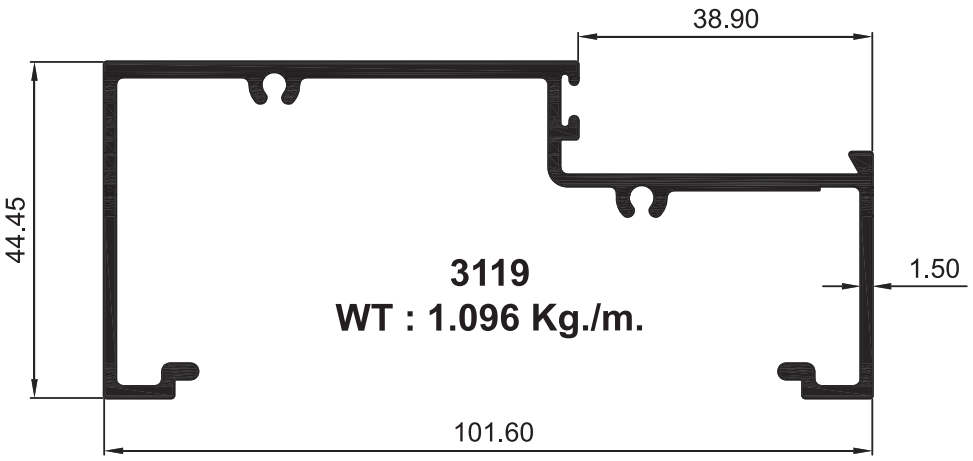
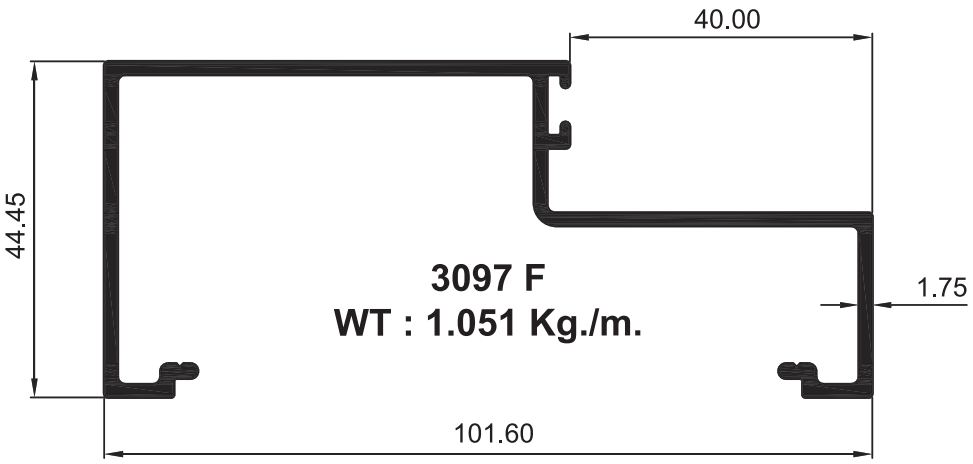
3095
3093
D
3095
3094
E
3067

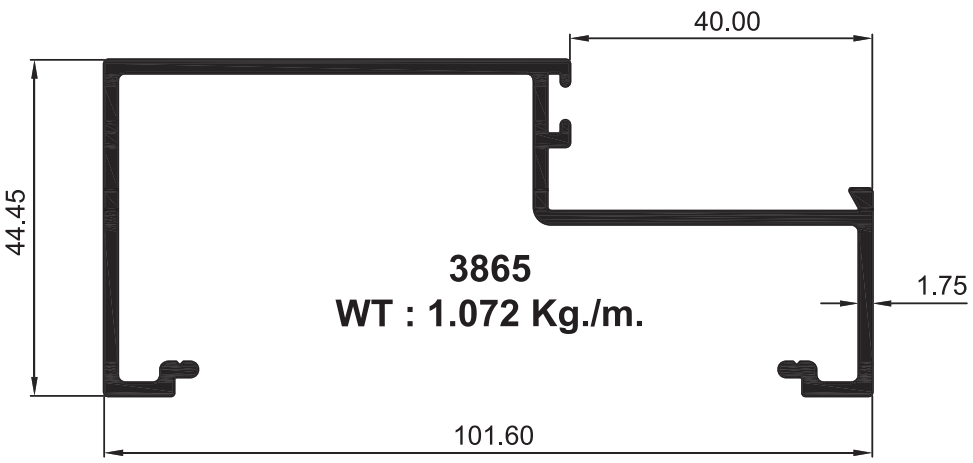

C
A
B
D
E



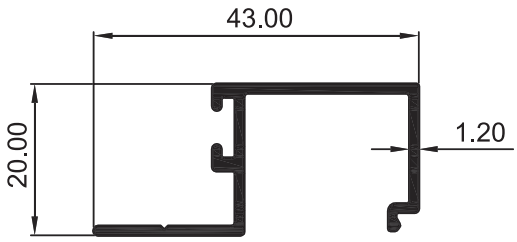
3119
WT : 1.096 Kg./m.



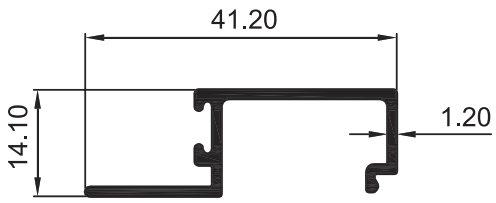
3097 F
WT : 1.051 Kg./m.



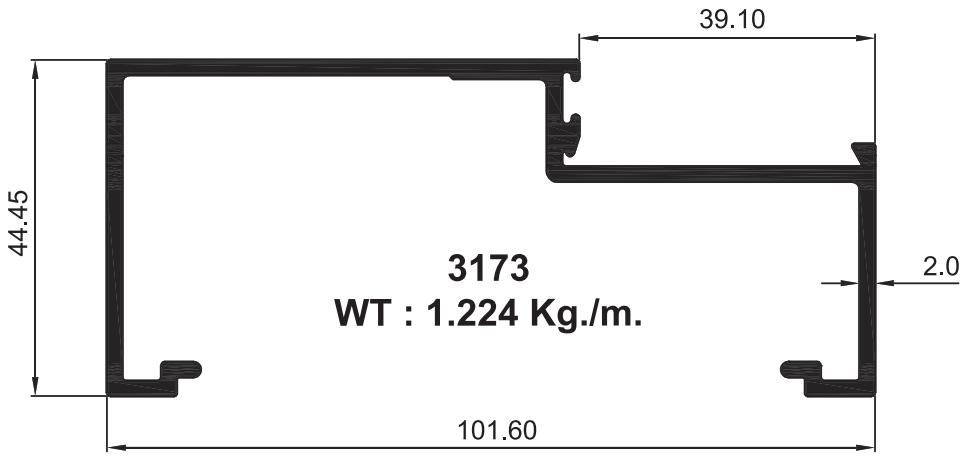
3865
WT : 1.072 Kg./m.



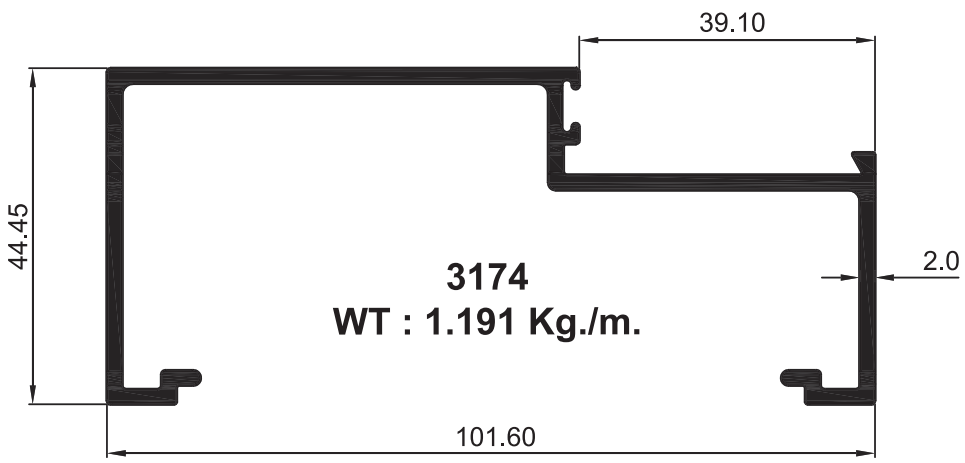
3866
WT : 0.307 Kg./m.



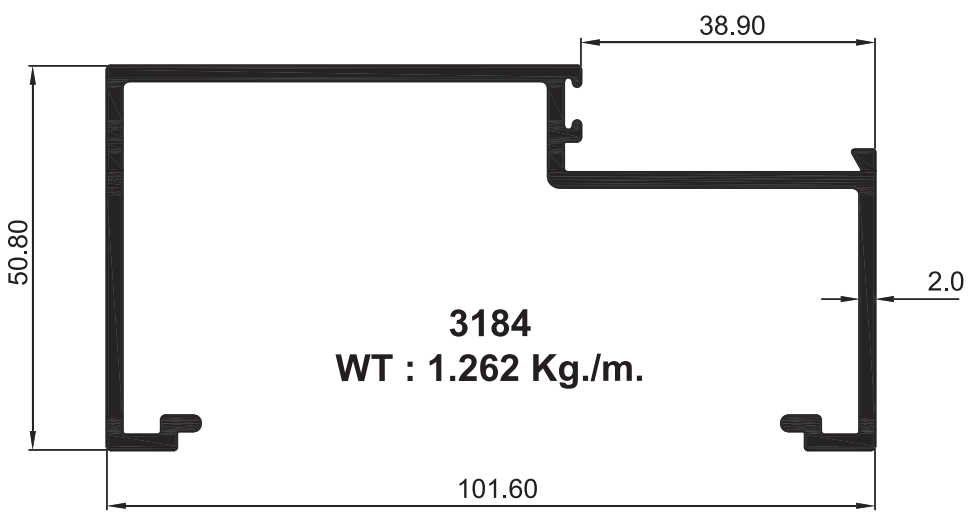
3185
WT : 0.251 Kg./m.



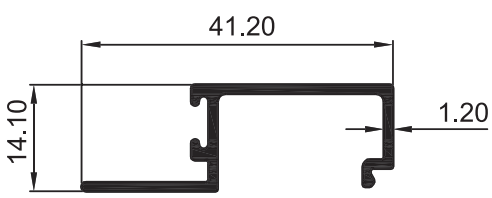
3173
WT : 1.224 Kg./m.



3174
WT : 1.191 Kg./m.



3184
WT : 1.262 Kg./m.



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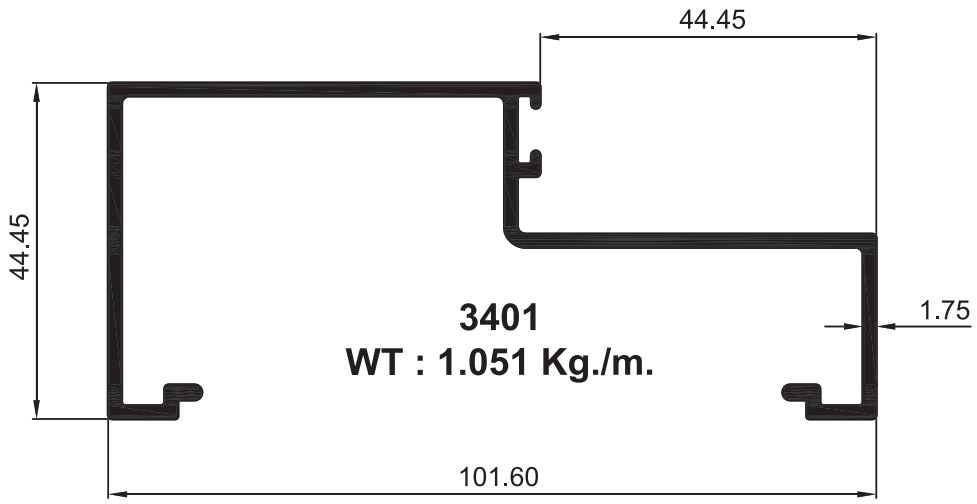
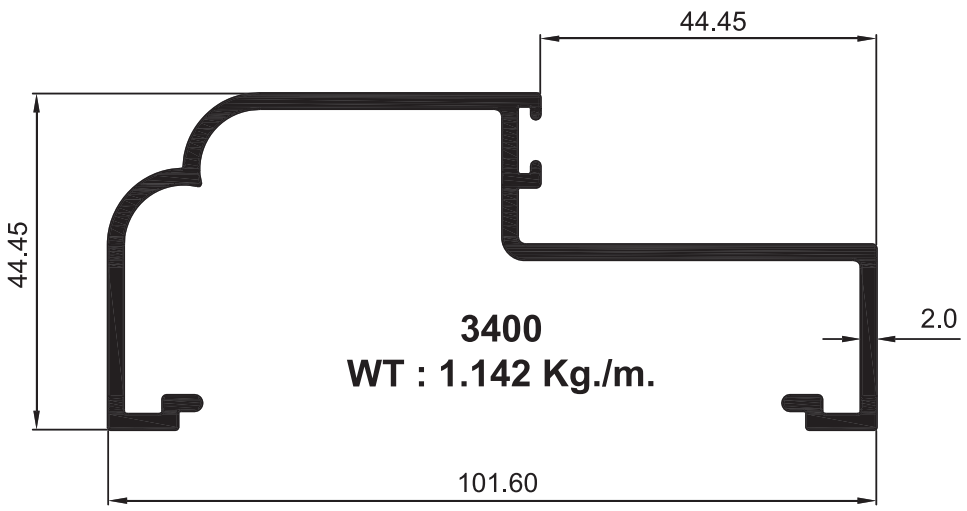
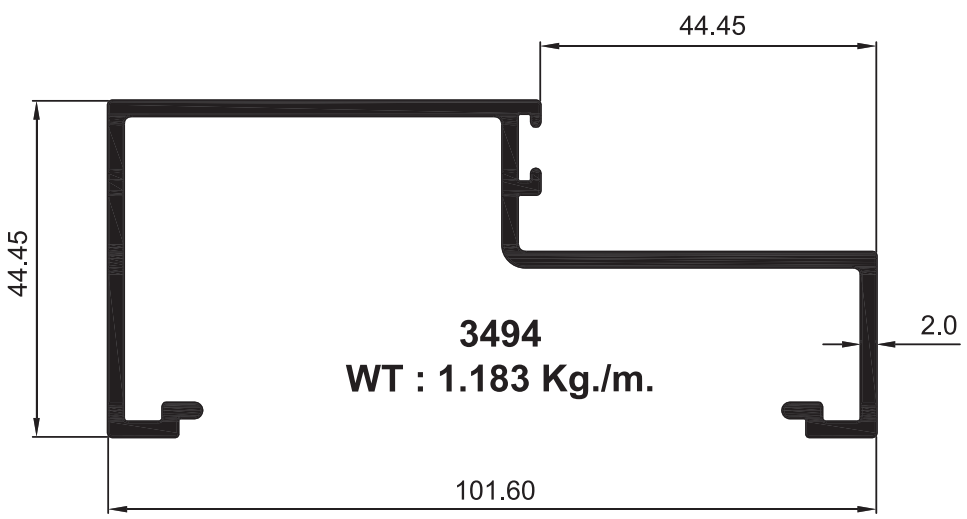
WT : 0.251 Kg./m.


44.45
44.45
1.75
3401
WT : 1.051 Kg./m.
101.60


44.45
44.45
2.0
3400
WT : 1.142 Kg./m.
101.60


44.45
44.45
2.0
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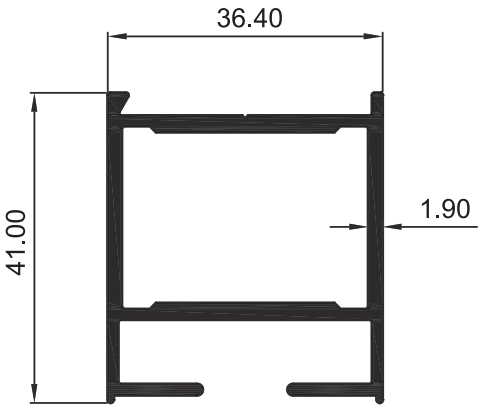
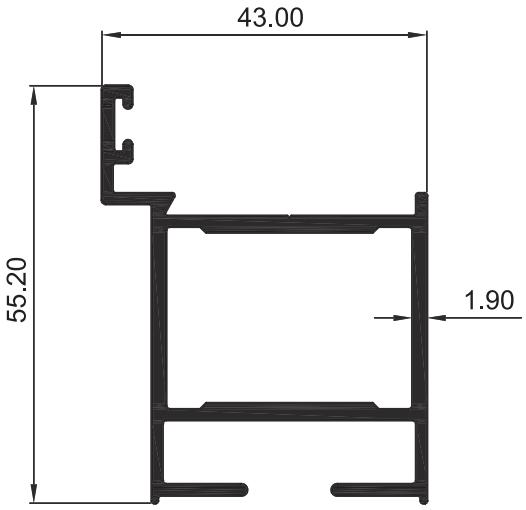
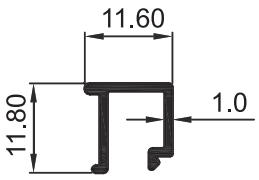
WT : 1.183 Kg./m.
101.60



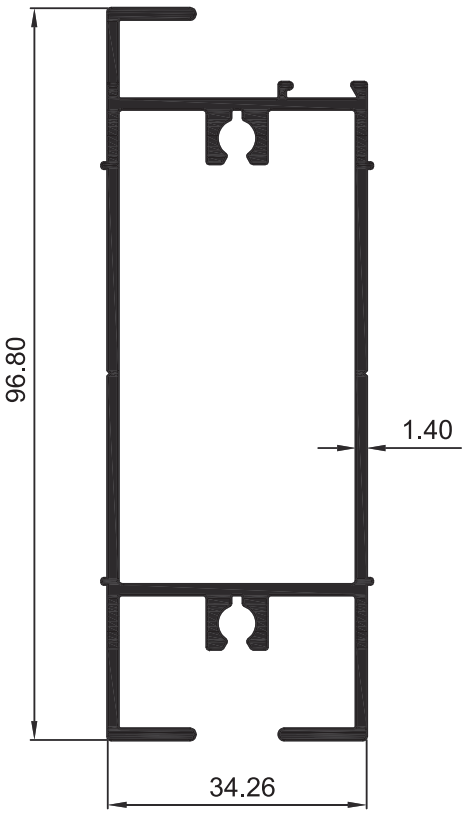
3092
WT : 0.829 Kg./m.



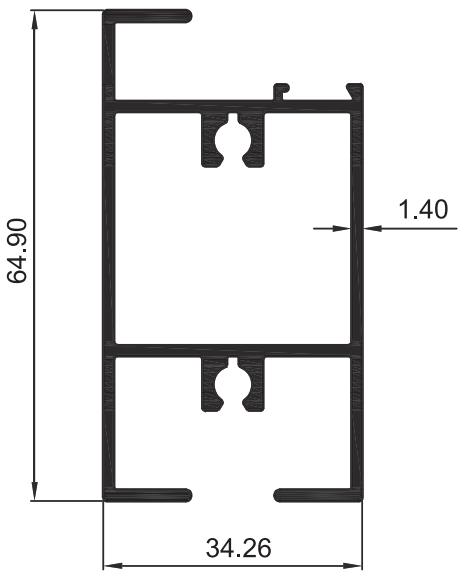
3096
WT : 0.937 Kg./m.



3095
WT : 0.098 Kg./m.



3093
WT : 1.243 Kg./m.

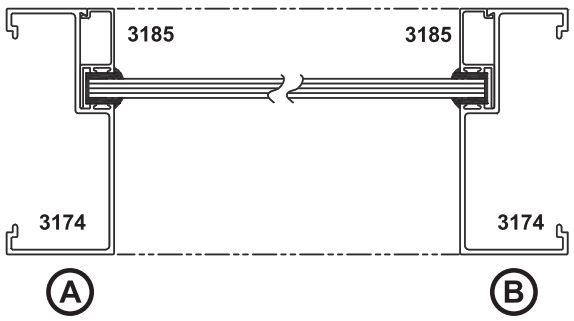


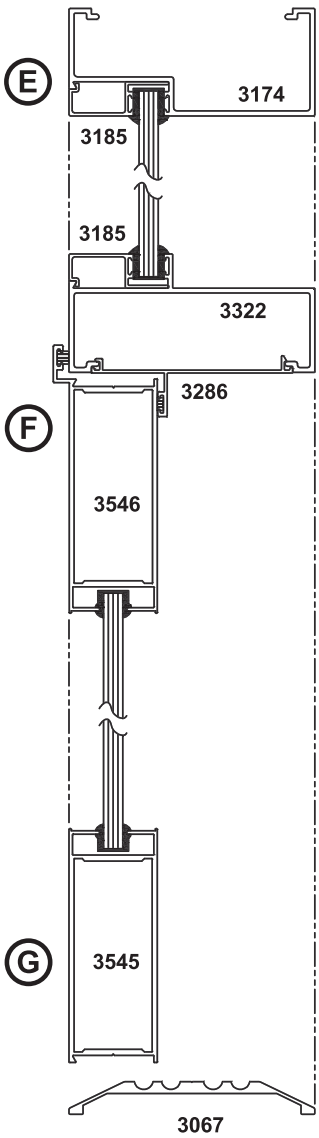
3094
WT : 0.995 Kg./m.

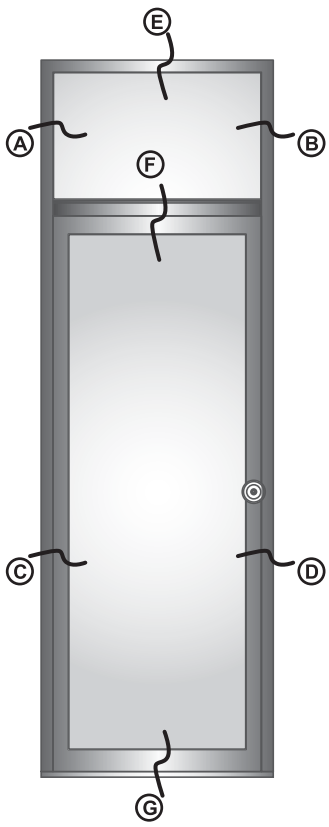
SHOPFRONT & DOORS

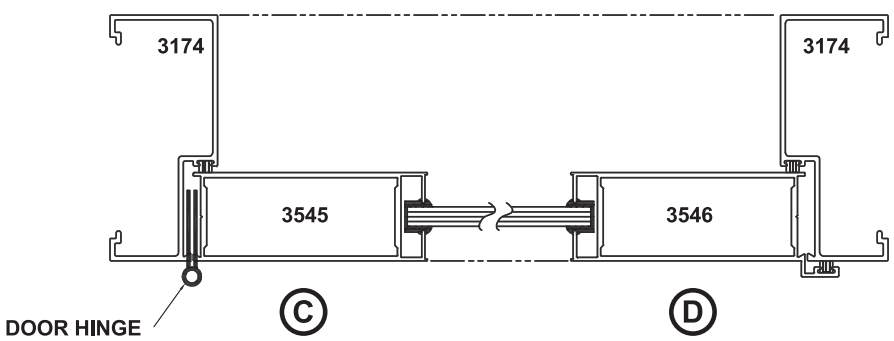
ชุดบานเปิดประตู - หน้าต่าง

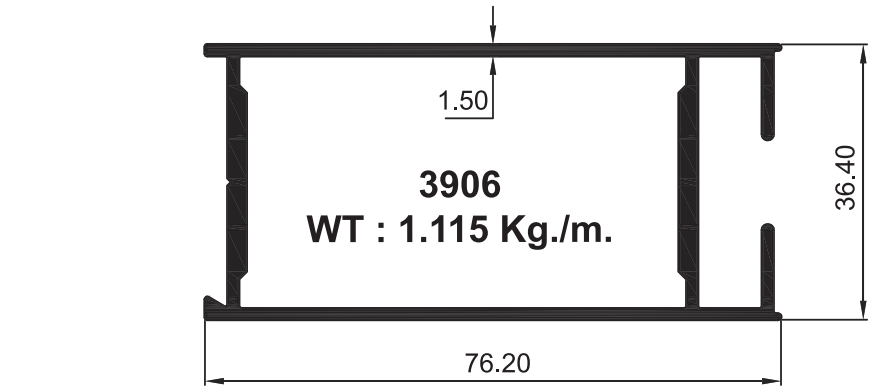
MUANGTHONG ALUMINIUM

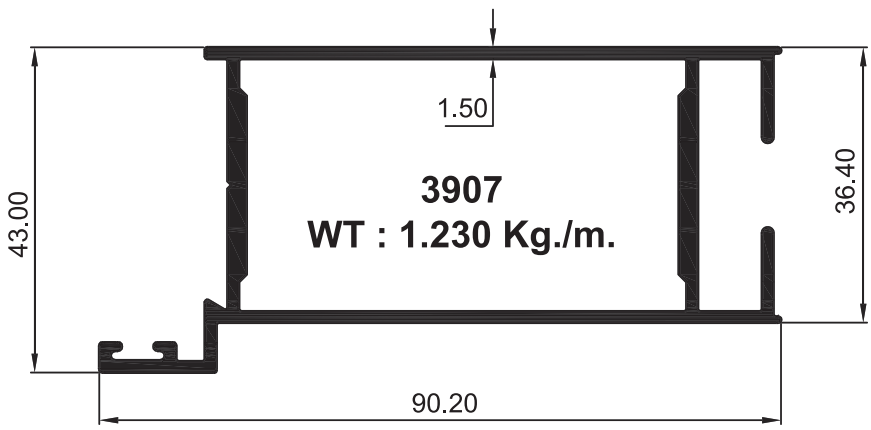


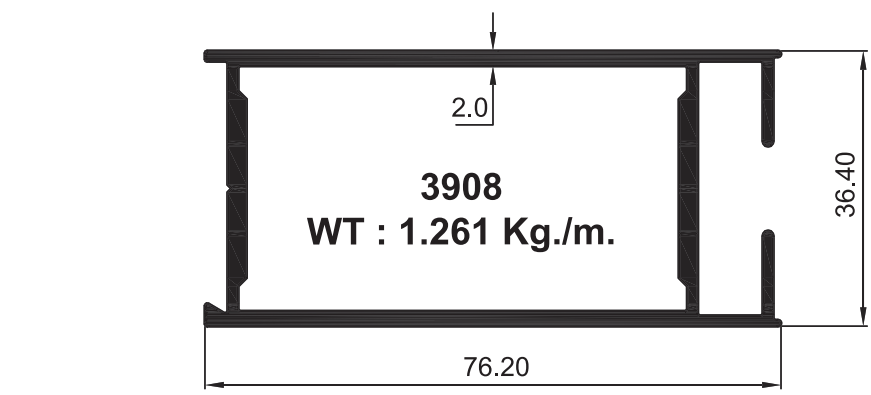


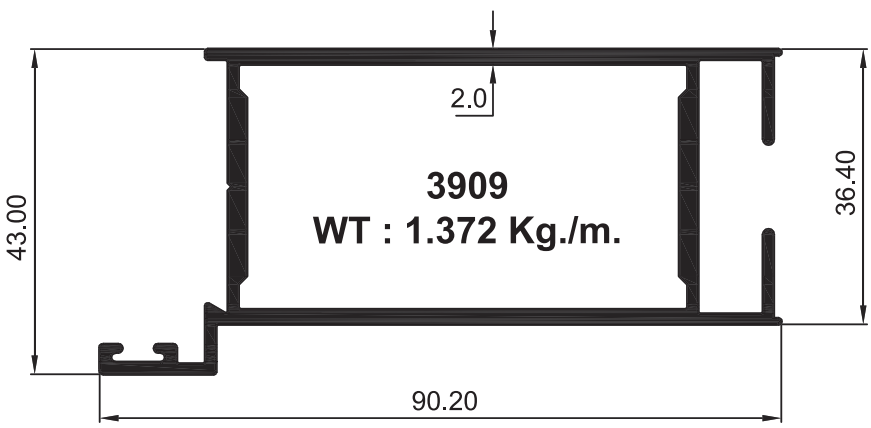





1.50
3906
WT : 1.115 Kg./m.
36.40
76.20


1.50
3907
WT : 1.230 Kg./m.
43.00
36.40
90.20


2.0
3908
WT : 1.261 Kg./m.
36.40
76.20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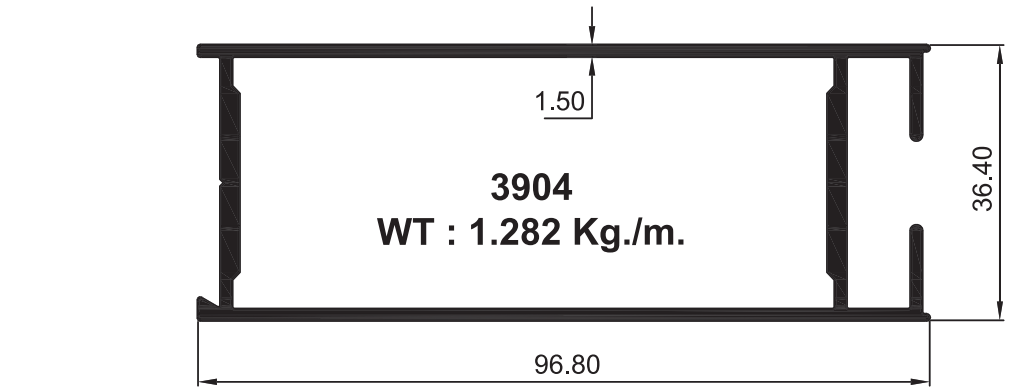
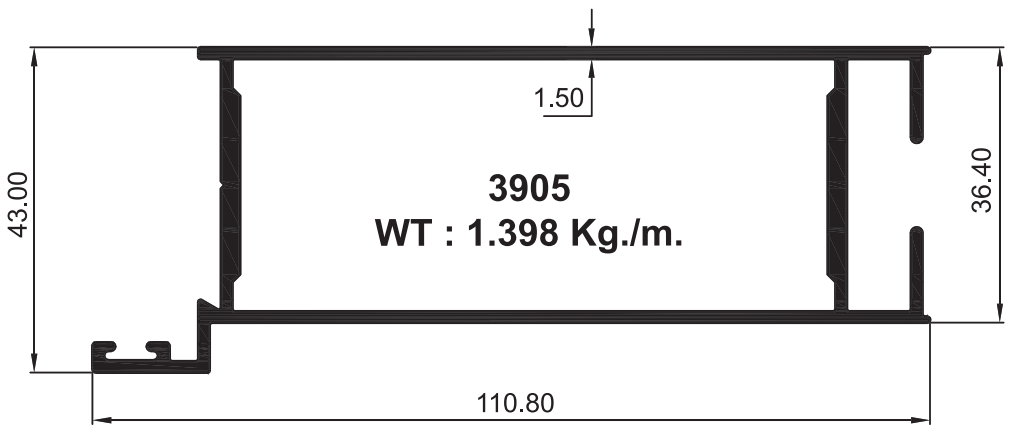
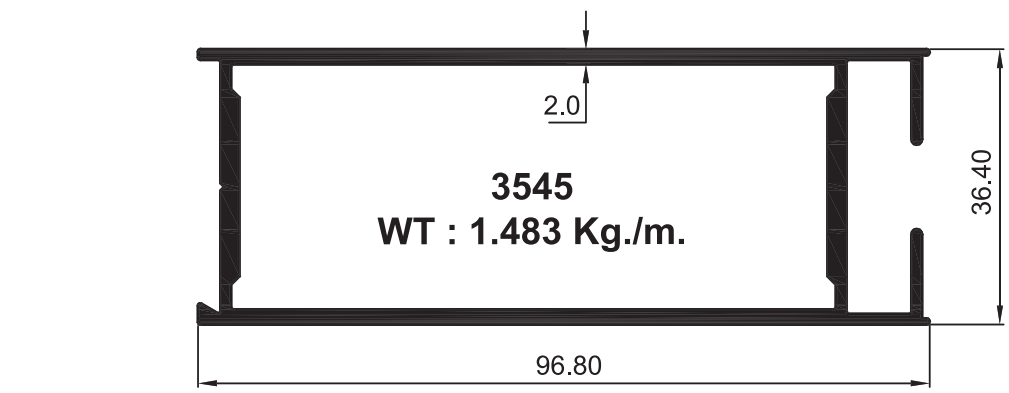
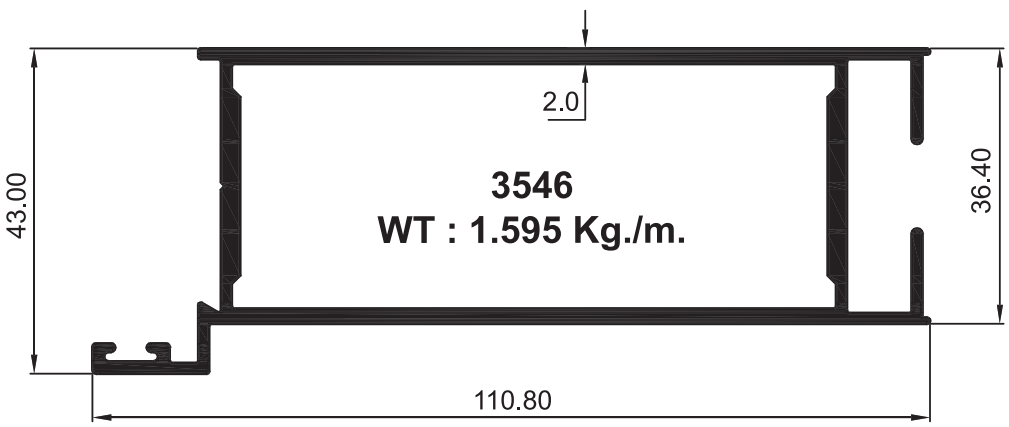
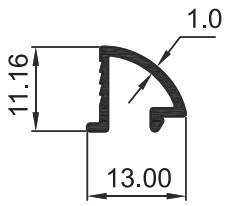
3909
WT : 1.372 Kg./m.
43.00
36.40
90.20


1.50
3904
WT : 1.282 Kg./m.
36.40
96.80

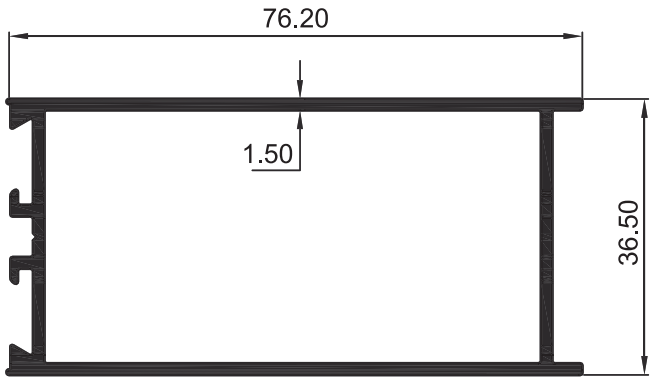

1.50
3905
WT : 1.398 Kg./m.
43.00
36.40
110.80


2.0
3545
WT : 1.483 Kg./m.
36.40
96.80

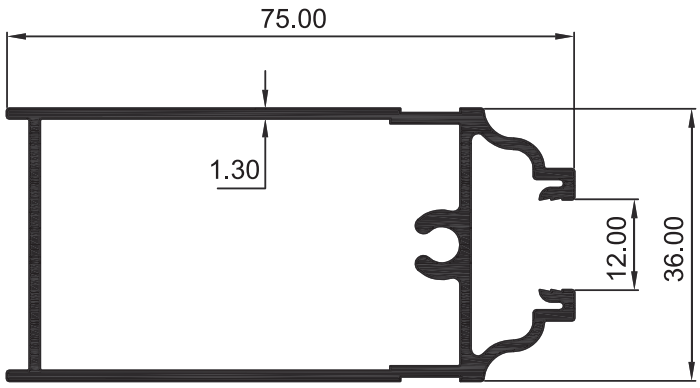

2.0
3546
WT : 1.595 Kg./m.
43.00
36.40
110.80



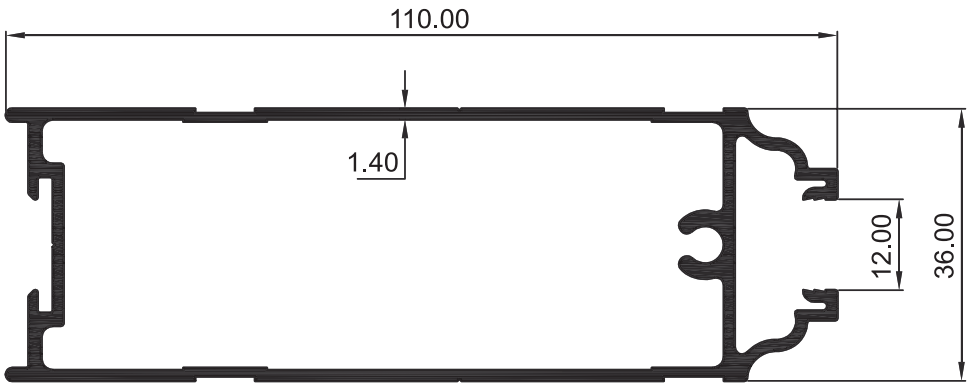
3604
WT : 0.086 Kg./m.



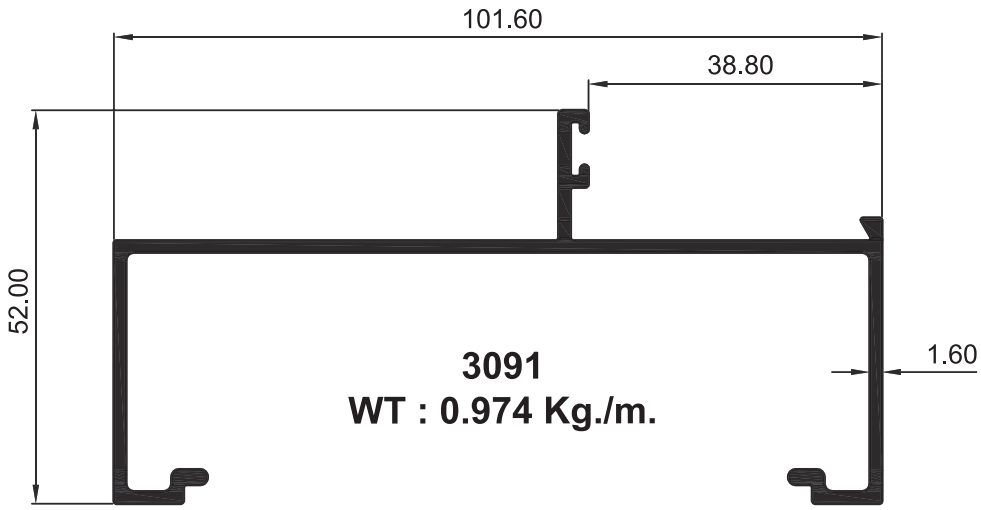
3603
WT : 0.954 Kg./m.



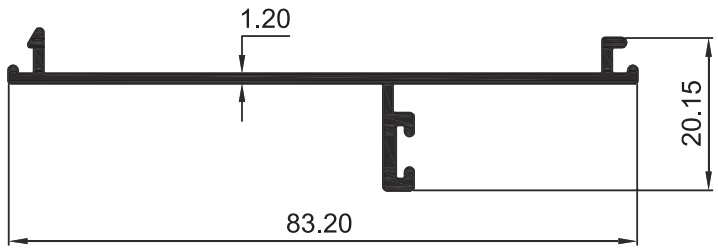
3368
WT : 0.923 Kg./m.



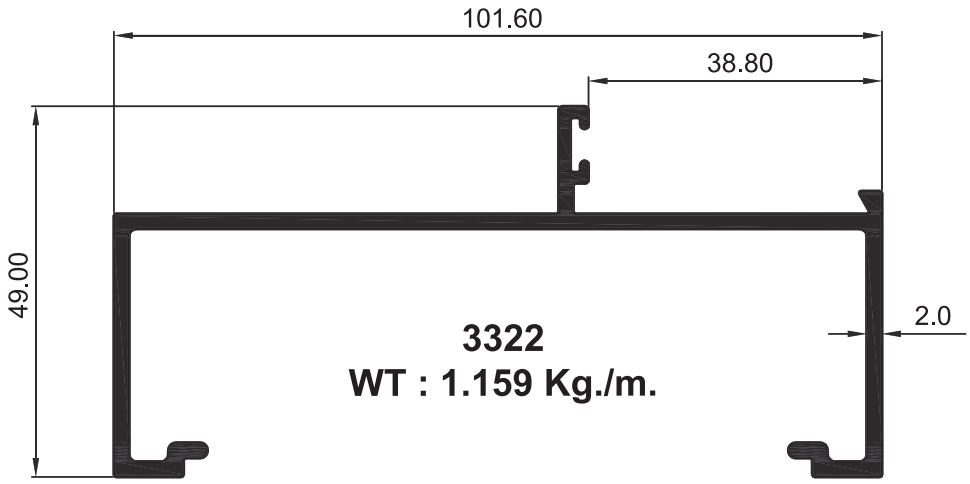
4343
WT : 1.290 Kg./m.



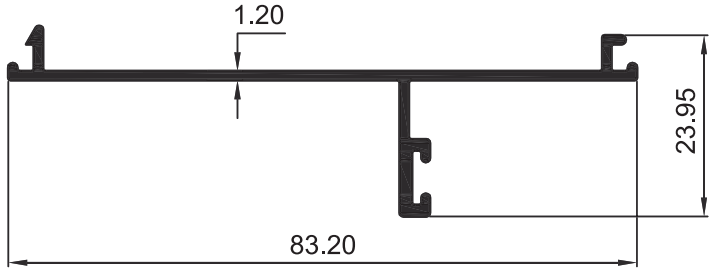
3091
WT : 0.974 Kg./m.



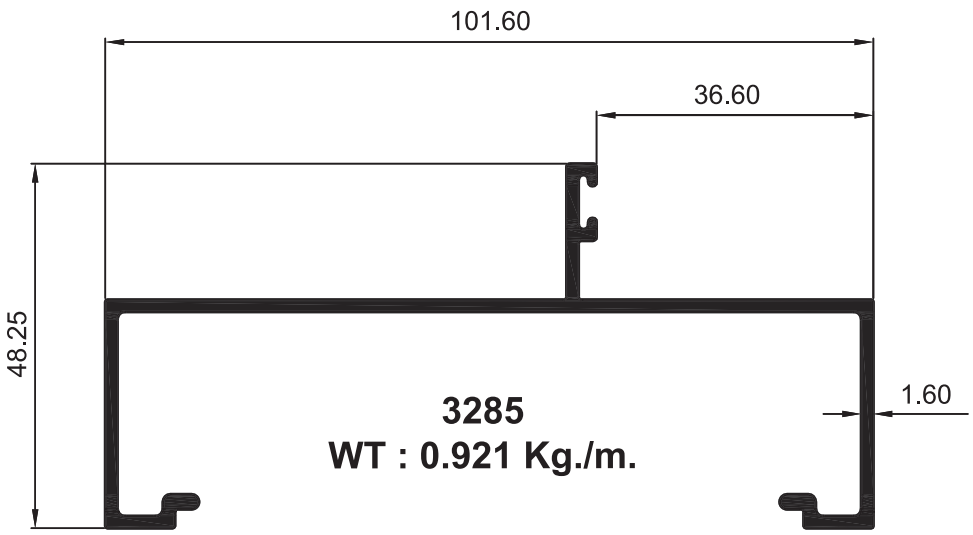
3090
WT : 0.404 Kg./m.



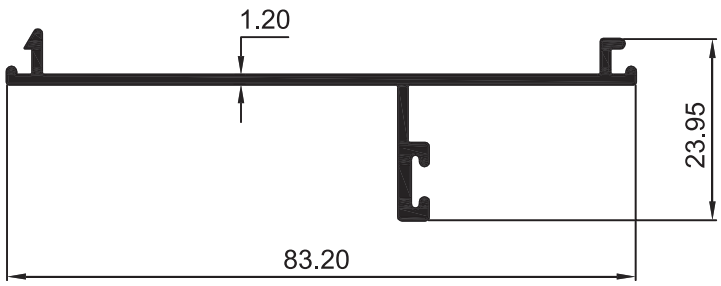
3322
WT : 1.159 Kg./m.



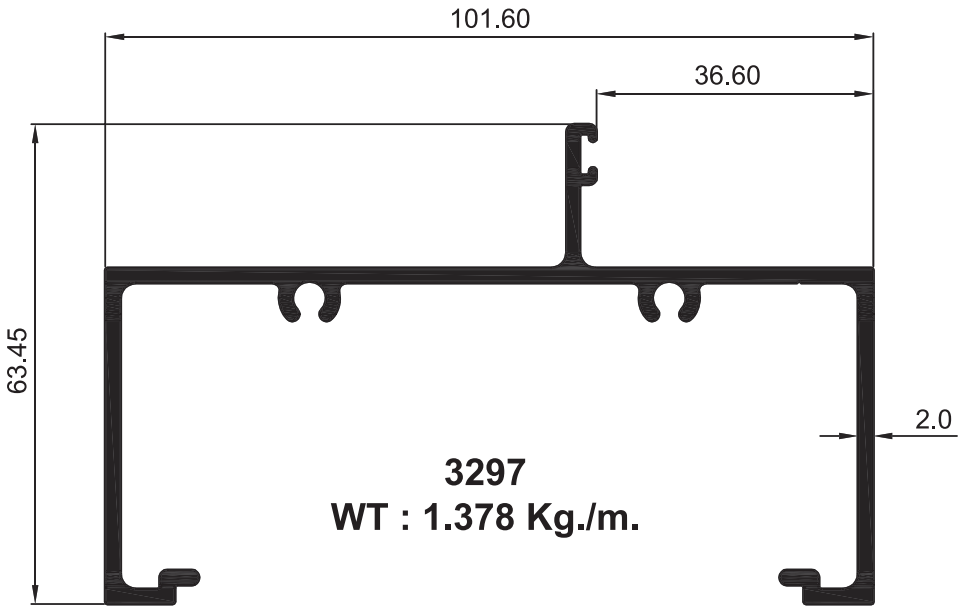
3286
WT : 0.417 Kg./m.



3285
WT : 0.921 Kg./m.



3286
WT : 0.417 Kg./m.



3297
WT : 1.378 Kg./m.

SLIDING WINDOWS & DOORS
ชุดบานเลื่อนประตู - หน้าต่าง

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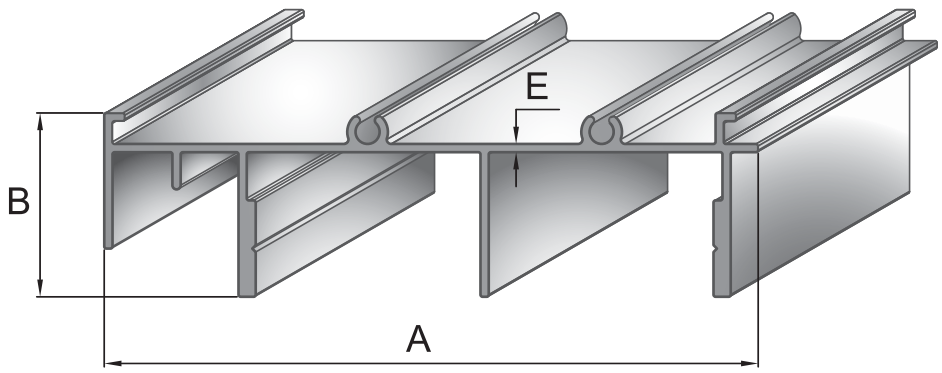
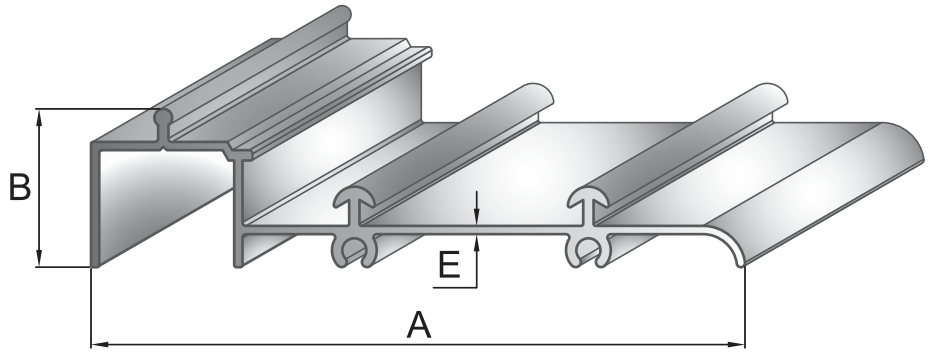


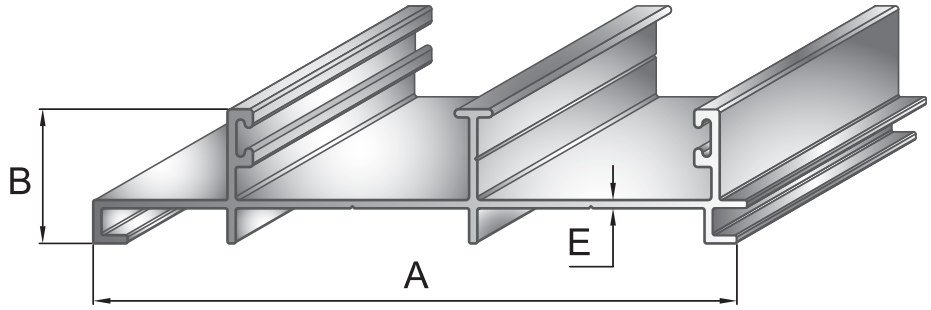
DIE NO.	A	B	E	WEIGHT
	(mm.)	(mm.)	(mm.)	(kg./m.)
4001 A	95.00	26.70	0.95	0.662
4001 B	95.00	26.70	1.05	0.703
4001 C	95.00	26.70	1.15	0.748
4001 F	95.00	26.70	1.20	0.774
4007 A	95.00	26.70	1.40	0.855
4007 F	95.00	26.70	1.50	0.896
4007 G	95.00	26.70	1.60	0.936
4127	95.00	26.70	1.70	0.994
4131	95.00	26.70	2.00	1.182

SLIDING WINDOWS & DOORS

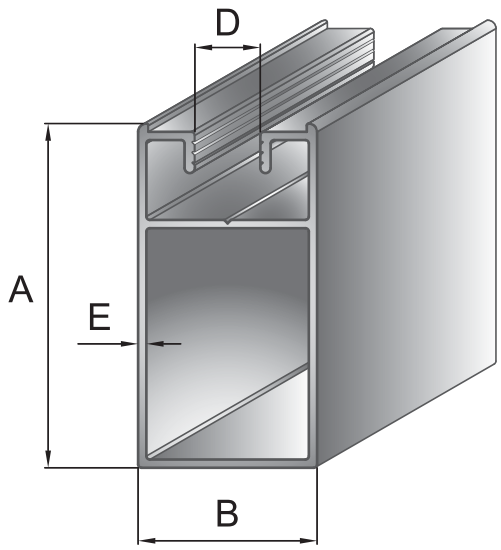
ชุดบานเลื่อนประตู - หน้าต่าง



DIE NO.	A	B	E	WEIGHT
	(mm.)	(mm.)	(mm.)	(kg./m.)
4002 A	95.00	23.00	0.90	0.504
4002 B	95.00	23.00	1.05	0.554
4002 C	95.00	23.00	1.10	0.591
4002 F	95.00	23.00	1.20	0.634
4008 A	95.00	23.00	1.30	0.666
4008 F	95.00	23.00	1.50	0.728
4128	95.00	23.00	1.70	0.789
4132	95.00	23.00	2.00	0.910



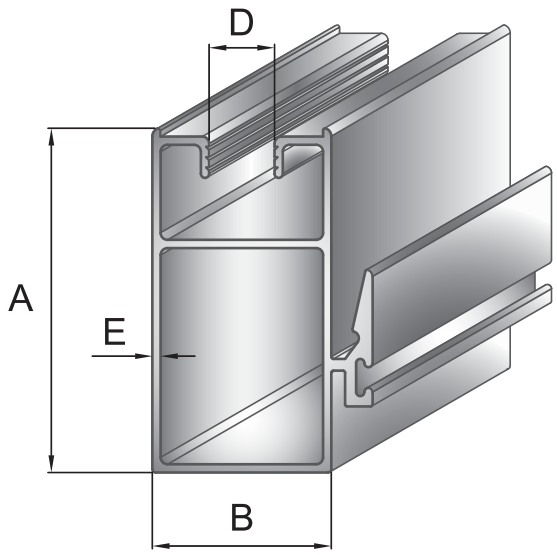
DIE NO.	A	B	E	WEIGHT
	(mm.)	(mm.)	(mm.)	(kg./m.)
4003 A	95.00	19.50	1.05	0.543
4003 F	95.00	19.50	1.20	0.599
4003 G	95.00	19.50	1.30	0.636
4009 A	95.00	19.50	1.45	0.691
4009 F	95.00	19.50	1.50	0.709
4129	95.00	19.50	1.70	0.791
4133	95.00	19.50	2.00	0.929



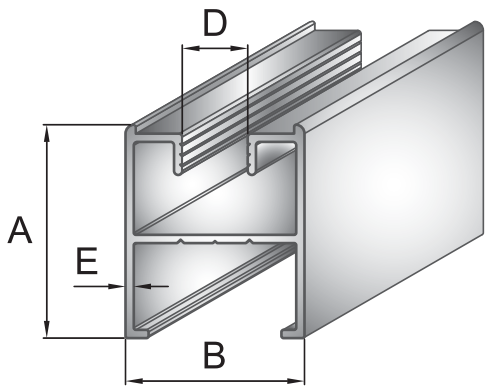
DIE NO.	A	B	D	E	WEIGHT
	(mm.)	(mm.)	(mm.)	(mm.)	(kg./m.)
4083	35.00	18.50	6.10	1.20	0.382
4011 A	50.00	26.00	9.50	1.00	0.481
4011 B	50.00	26.00	9.50	1.15	0.542
4011 F	50.00	26.00	9.50	1.20	0.562
4019 A	50.00	26.00	9.50	1.40	0.642
4019 F	50.00	26.00	9.50	1.50	0.681
4113	50.00	26.00	9.50	1.80	0.809
4134	50.00	26.00	9.50	2.00	0.886
41531	50.00	26.00	12.00	1.50	0.668
41547	50.00	26.00	12.00	1.50	0.671
4163	50.80	25.40	13.50	2.00	0.866
4104	50.80	27.50	9.50	1.50	0.716
4880	52.50	30.20	12.00	2.00	0.972

SLIDING WINDOWS & DOORS

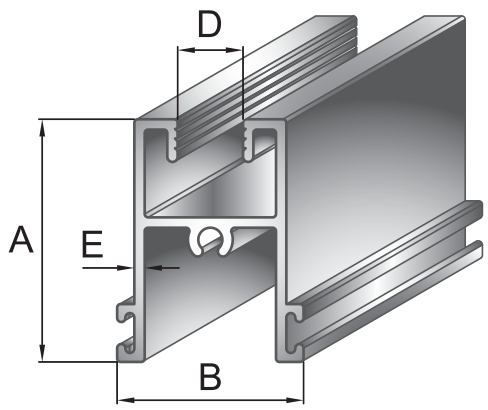
ชุดบานเลื่อนประตู - หน้าต่าง



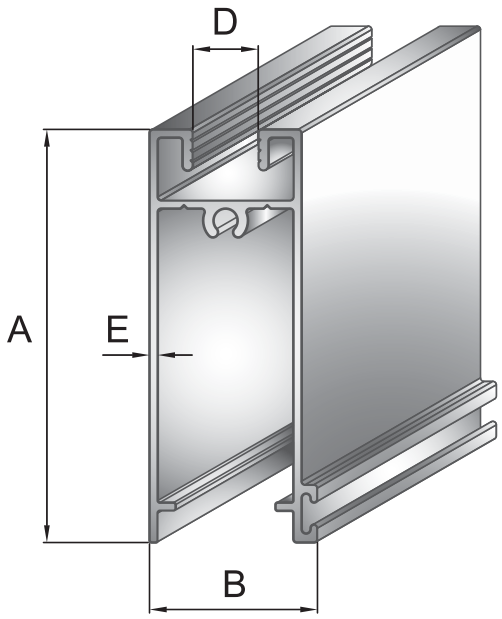
DIE NO.	A	B	D	E	WEIGHT
	(mm.)	(mm.)	(mm.)	(mm.)	(kg./m.)
4012 A	34.30	32.00	9.50	0.95	0.495
4012 B	34.30	32.00	9.50	1.10	0.543
4012 F	34.30	32.00	9.50	1.20	0.575
4020 F	34.30	32.00	9.50	1.50	0.669
4020 G	34.30	32.00	9.50	1.60	0.689
4114	34.30	32.00	9.50	1.80	0.774
4135	34.30	32.00	9.50	2.00	0.838
41546	34.30	32.00	12.00	1.50	0.659
41528	45.00	32.00	12.00	1.50	0.772
41353	50.00	32.00	9.50	1.20	0.691
41354	50.00	32.00	9.50	1.50	0.819
41147	50.00	32.00	9.50	1.70	0.902
4772	50.00	32.00	9.50	2.00	1.022
41551	50.00	32.00	12.00	1.50	0.786
4879	52.50	39.30	12.00	2.00	1.180



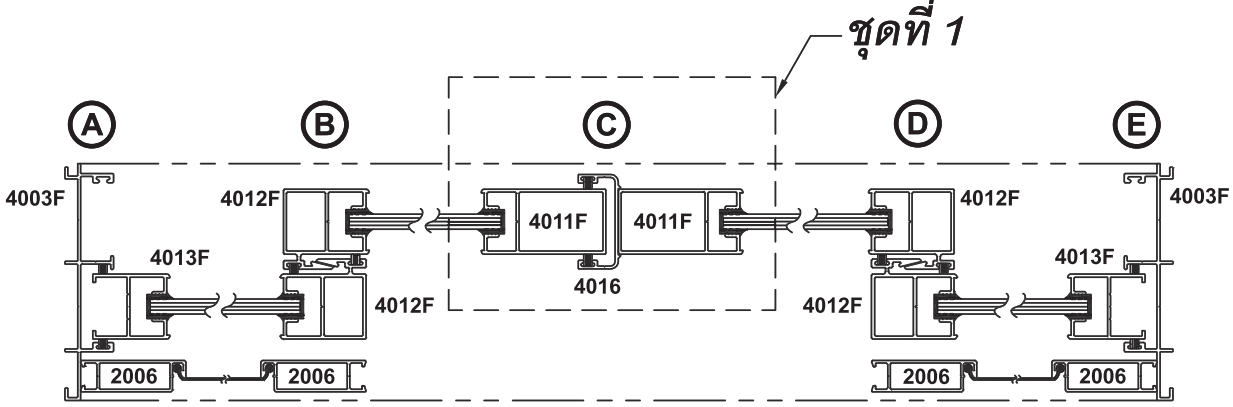
DIE NO.	A	B	D	E	WEIGHT
	(mm.)	(mm.)	(mm.)	(mm.)	(kg./m.)
4013 A	31.00	26.00	9.50	1.10	0.340
4013 F	31.00	26.00	9.50	1.20	0.367
4021 F	31.00	26.00	9.50	1.50	0.445
4021 G	31.00	26.00	9.50	1.70	0.497
4136	31.00	26.00	9.50	2.00	0.571
41550	31.00	26.00	12.00	1.50	0.435
4162	31.80	25.40	13.50	2.00	0.575

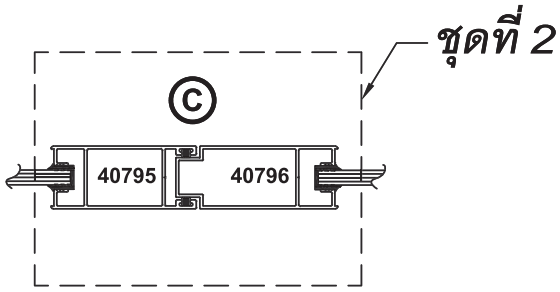


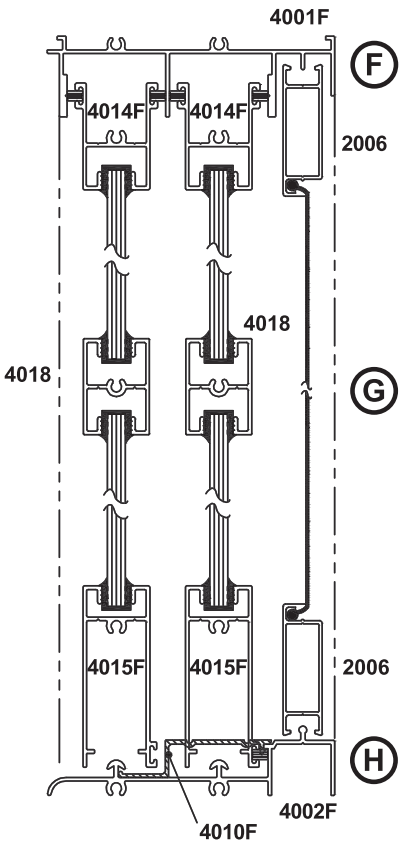
DIE NO.	A	B	D	E	WEIGHT
	(mm.)	(mm.)	(mm.)	(mm.)	(kg./m.)
4022	35.25	27.08	9.50	1.50	0.528
4115	35.25	27.08	9.50	1.80	0.605
4137	35.25	27.28	9.50	2.00	0.659
4014 A	35.25	27.30	9.50	0.95	0.396
4014 F	35.25	27.30	9.50	1.10	0.432
4014 G	35.25	27.30	9.50	1.20	0.455
41548	35.25	27.30	12.00	1.50	0.536

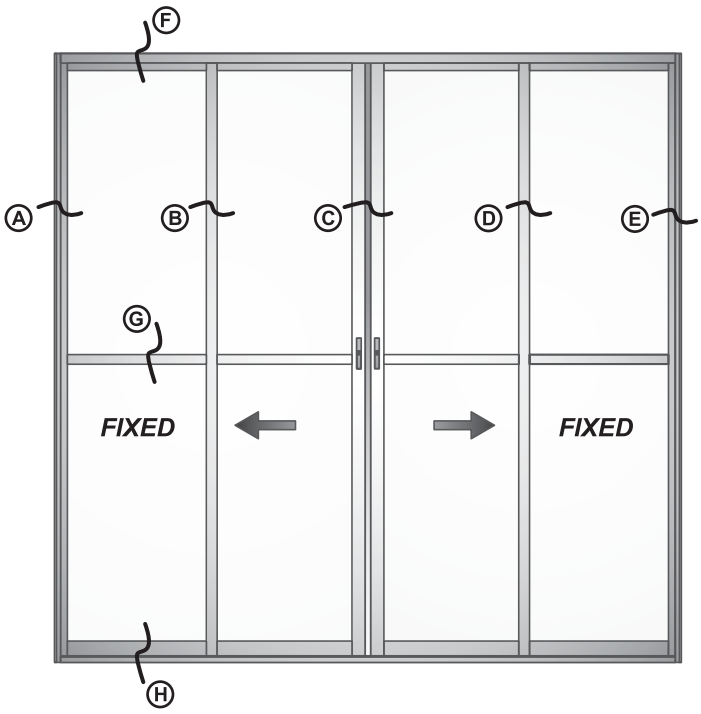


DIE NO.	A	B	D	E	WEIGHT
	(mm.)	(mm.)	(mm.)	(mm.)	(kg./m.)
4015 A	60.00	24.40	9.50	0.95	0.506
4015 B	60.00	24.40	9.50	1.10	0.564
4015 F	60.00	24.40	9.50	1.20	0.601
4023 A	60.00	24.40	9.50	1.30	0.657
4023 F	60.00	24.40	9.50	1.50	0.713
4023 G	60.00	24.40	9.50	1.55	0.730
4116	60.00	24.40	9.50	1.80	0.837
4138	60.00	24.40	9.60	2.00	0.910
41549	60.00	24.40	12.00	1.50	0.725


ชุดที่ 1
A
B
C
D
E
4003F
4012F
4011F
4011F
4012F
4003F
4013F
4016
4013F
4012F
4012F
2006
2006
2006
2006

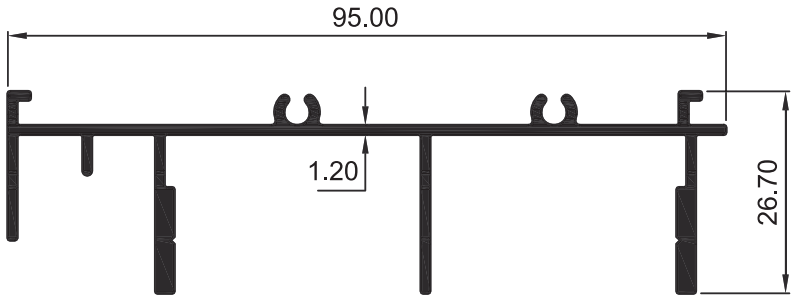

ชุดที่ 2
C
40795
40796


4001F
F
4014F
4014F
2006
4018
4018
G
4015F
4015F
2006
H
4002F
4010F

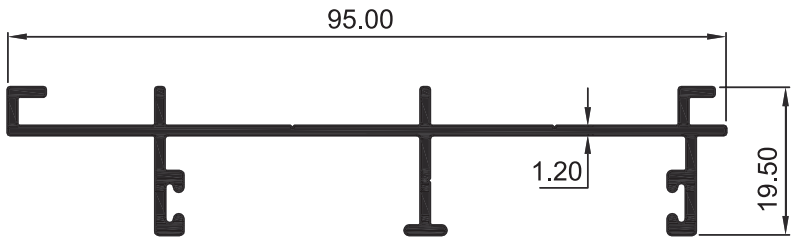

F
A
B
C
D
E
G
FIXED
FIXED
H

= กระจก

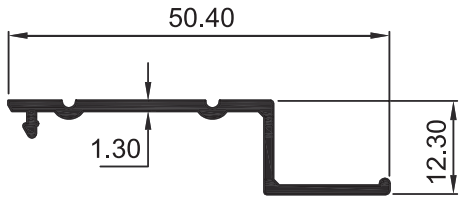
= มุ้งลวด



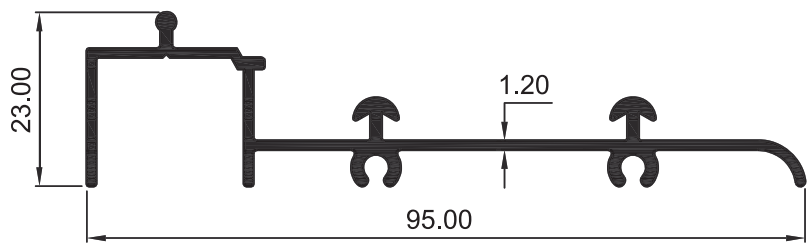
4001 F
WT : 0.774 Kg./m.



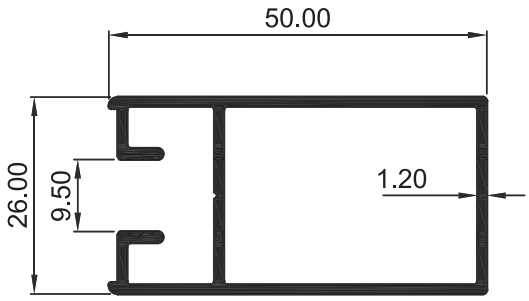
4003 F
WT : 0.599 Kg./m.



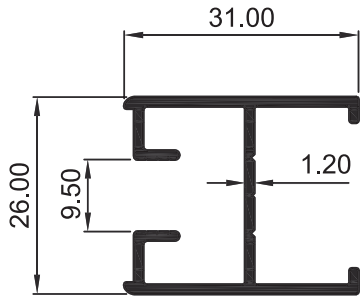
4010 F
WT : 0.223 Kg./m.



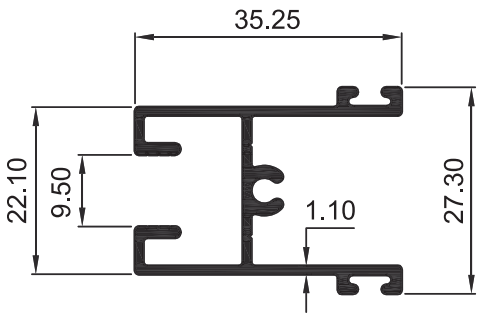
4002 F
WT : 0.634 Kg./m.



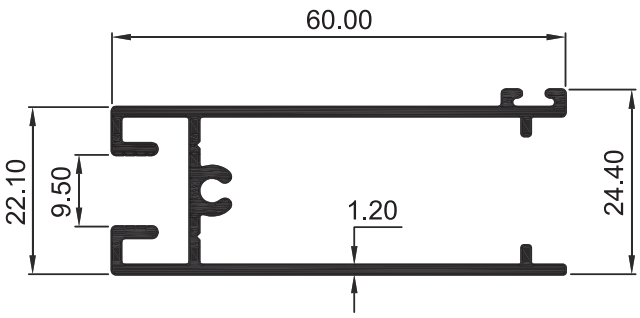
4011 F
WT : 0.562 Kg./m.



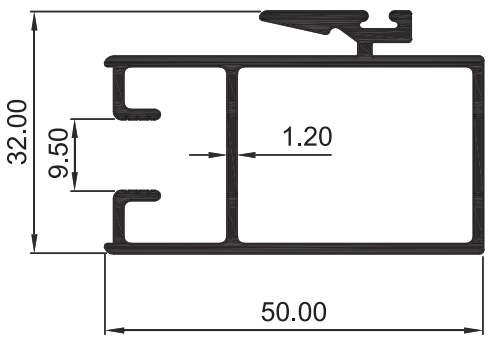
4013 F
WT : 0.367 Kg./m.



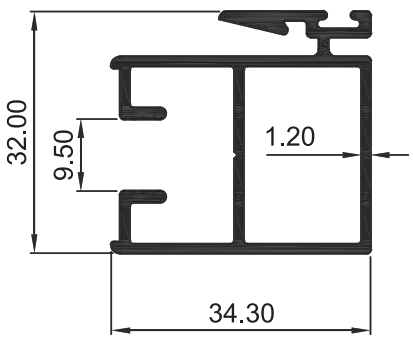
4014 F
WT : 0.432 Kg./m.



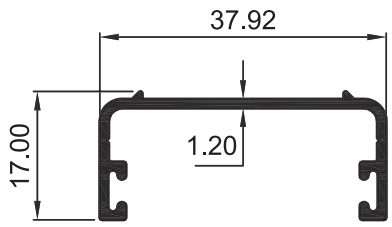
4015 F
WT : 0.601 Kg./m.



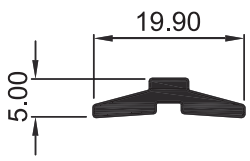
41353
WT : 0.691 Kg./m.



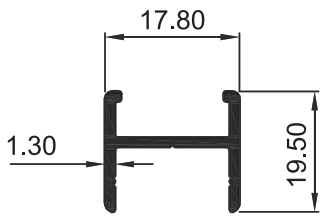
4012 F
WT : 0.575 Kg./m.



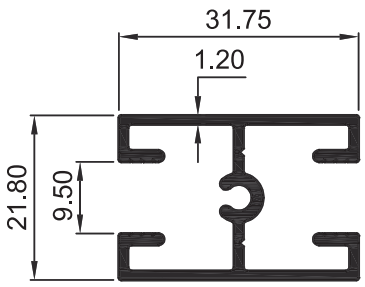
4016 F
WT : 0.257 Kg./m.



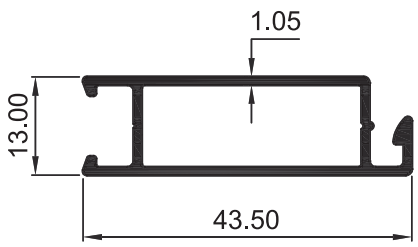
4478
WT : 0.137 Kg./m.



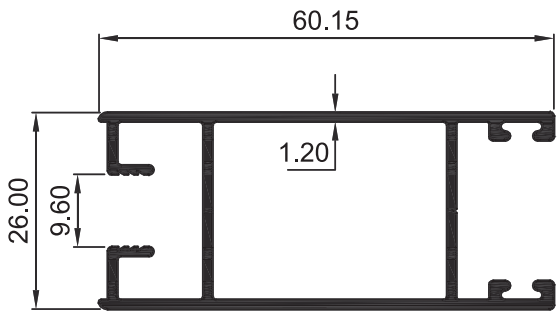
4017 F
WT : 0.163 Kg./m.



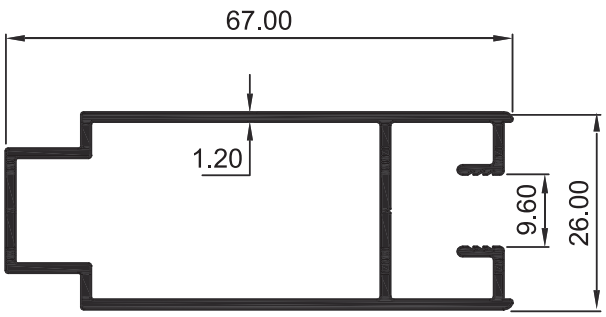
4018 F
WT : 0.439 Kg./m.



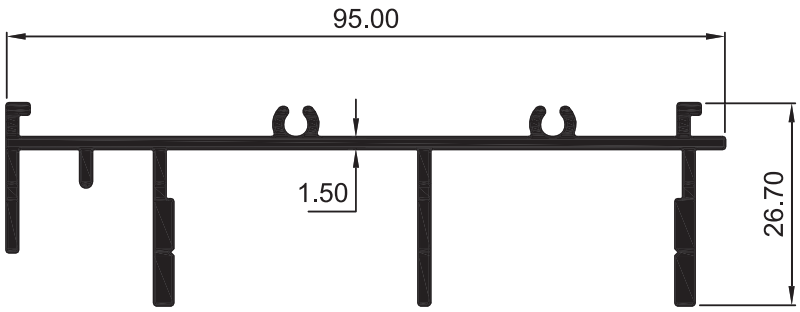
2006 F
WT : 0.331 Kg./m.



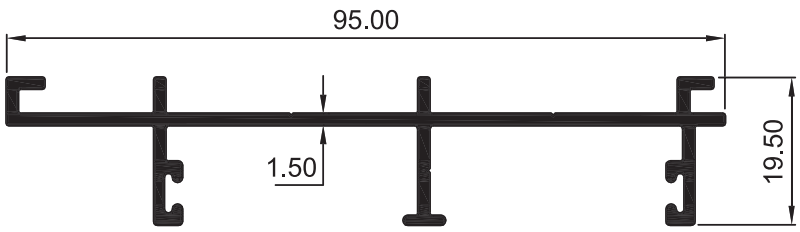
40795
WT : 0.672 Kg./m.



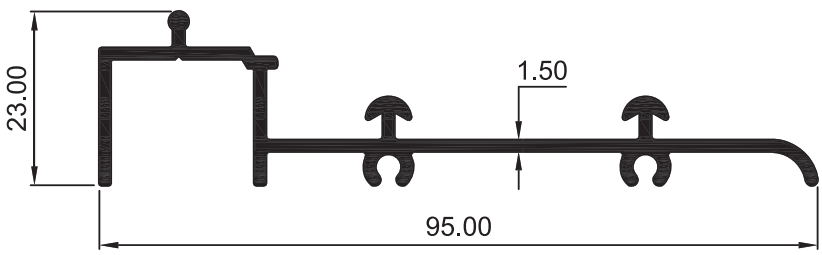
40796
WT : 0.660 Kg./m.



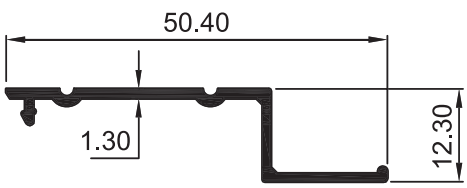
4007 F
WT : 0.896 Kg./m.



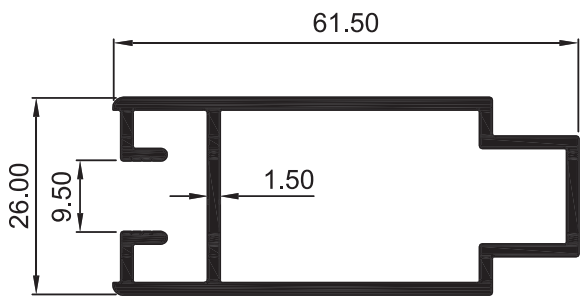
4009 F
WT : 0.709 Kg./m.



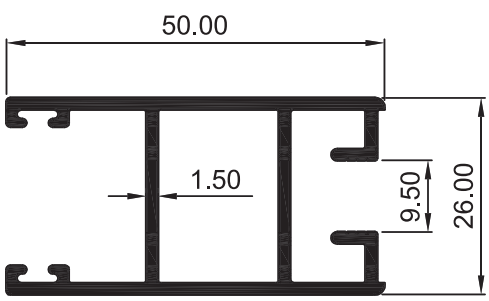
4008 F
WT : 0.728 Kg./m.



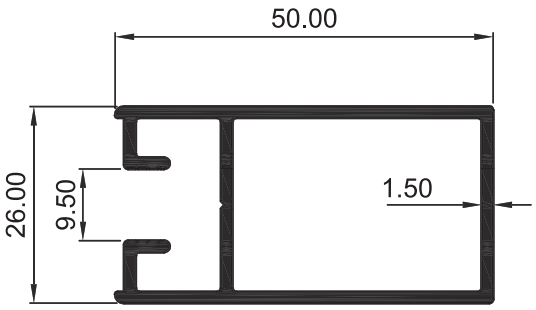
4010 F
WT : 0.223 Kg./m.



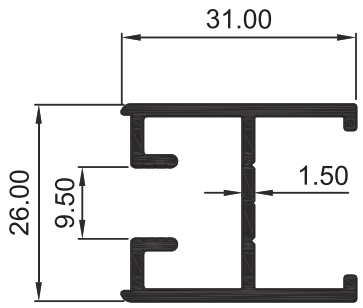
4944
WT : 0.775 Kg./m.



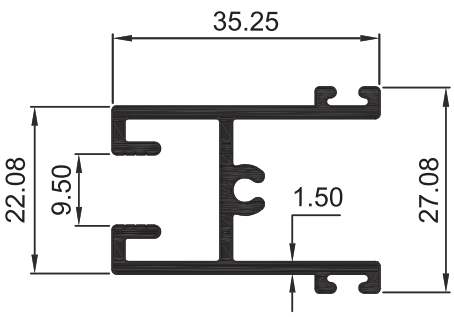
4945
WT : 0.728 Kg./m.



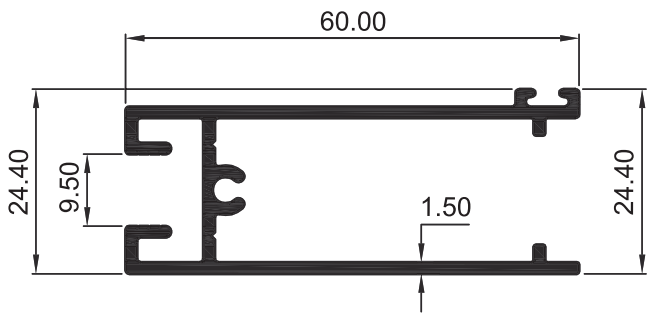
4019 F
WT : 0.681 Kg./m.



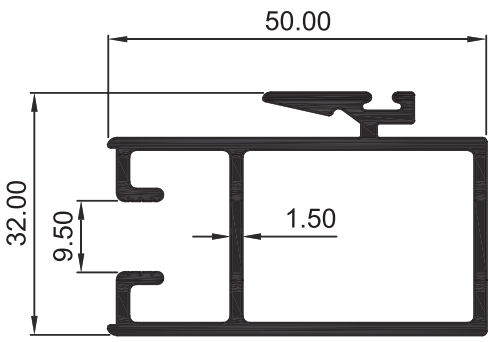
4021 F
WT : 0.445 Kg./m.



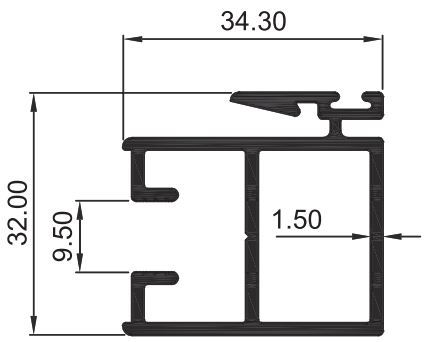
4022
WT : 0.528 Kg./m.



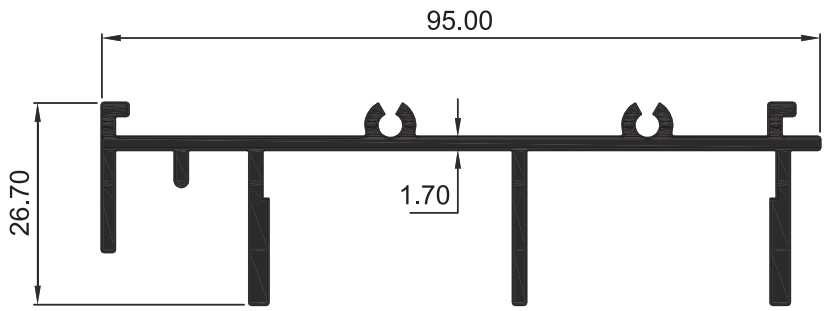
4023 F
WT : 0.713 Kg./m.



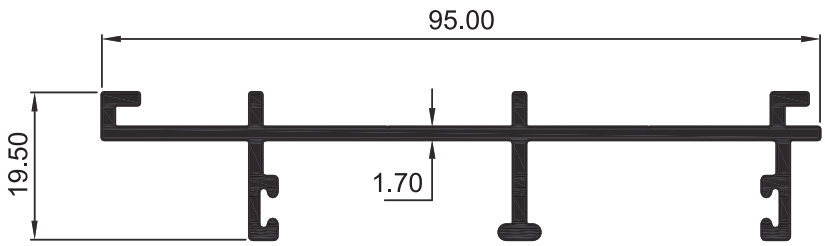
41354
WT : 0.819 Kg./m.



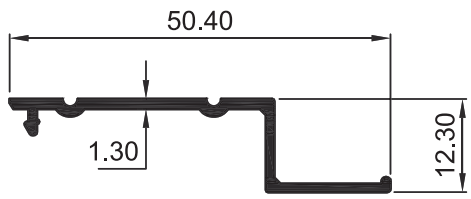
4020 F
WT : 0.669 Kg./m.



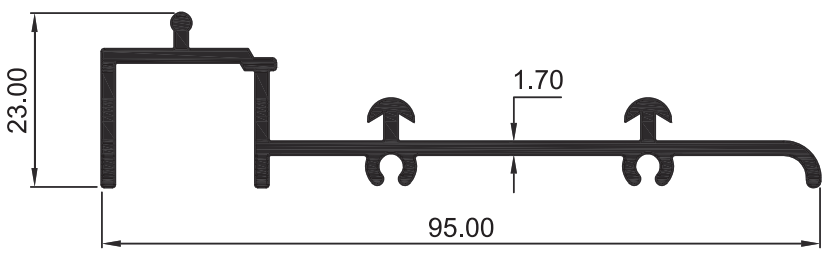
4127
WT : 0.994 Kg./m.



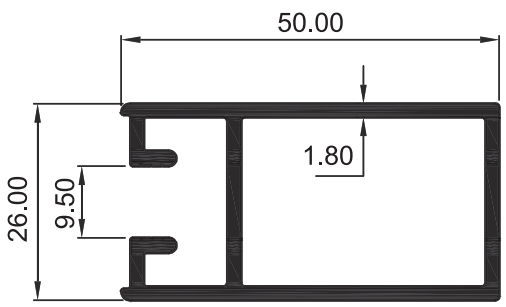
4129
WT : 0.790 Kg./m.



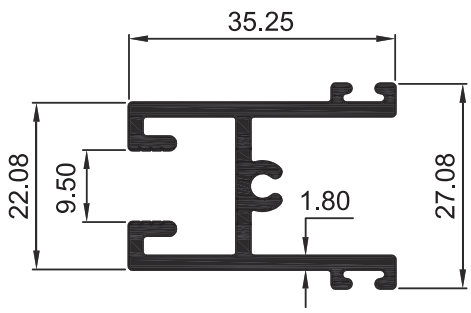
4010 F
WT : 0.223 Kg./m.



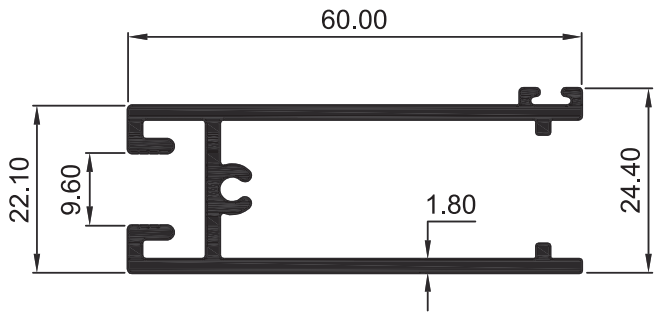
4128
WT : 0.782 Kg./m.



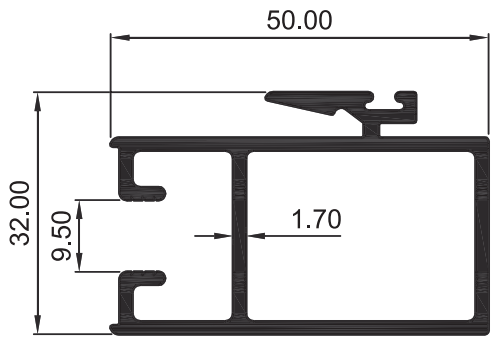
4113
WT : 0.809 Kg./m.



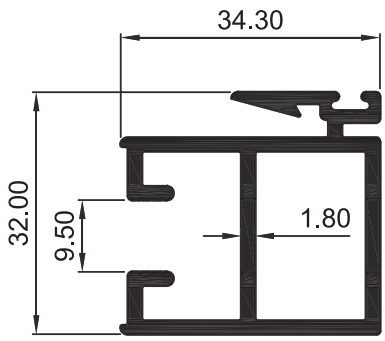
4115
WT : 0.605 Kg./m.



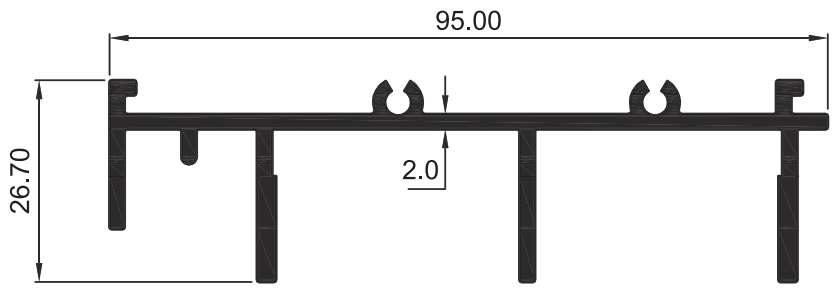
4116
WT : 0.837 Kg./m.



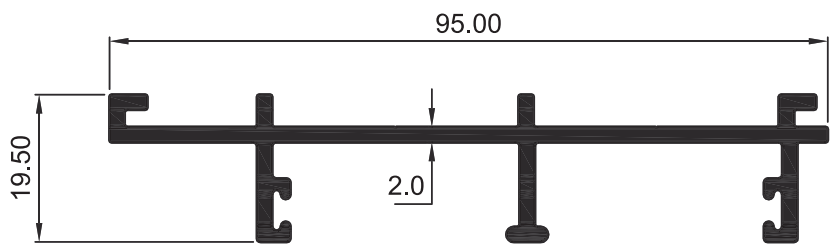
41147
WT : 0.902 Kg./m.



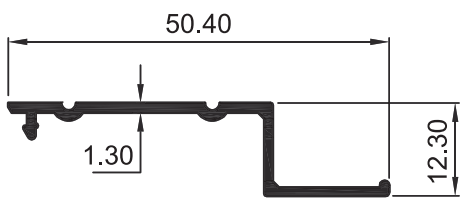
4114
WT : 0.774 Kg./m.



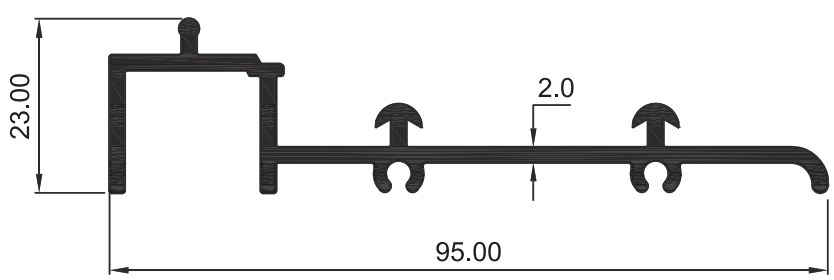
4131
WT : 1.182 Kg./m.



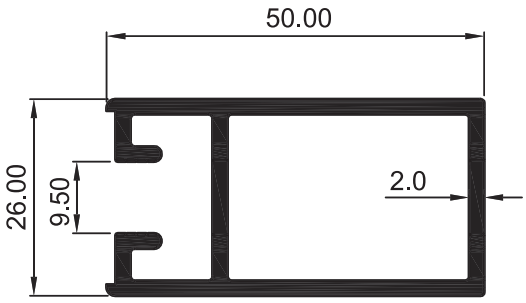
4133
WT : 0.929 Kg./m.



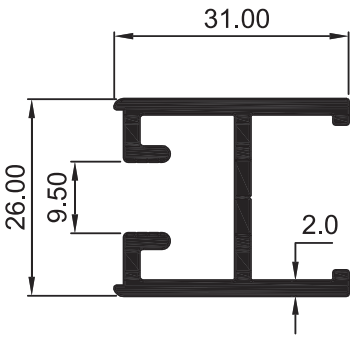
4010 F
WT : 0.223 Kg./m.



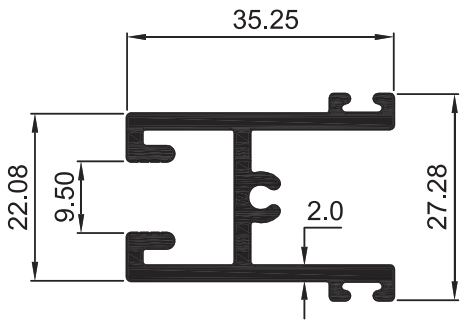
4132
WT : 0.887 Kg./m.



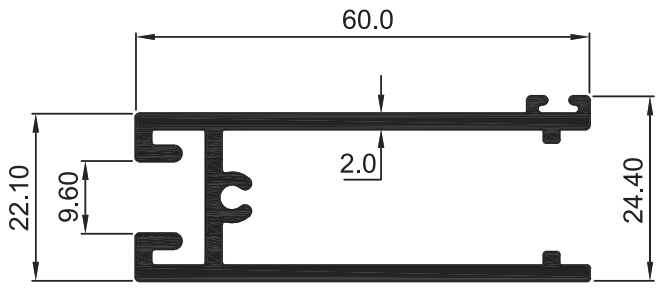
4134
WT : 0.886 Kg./m.



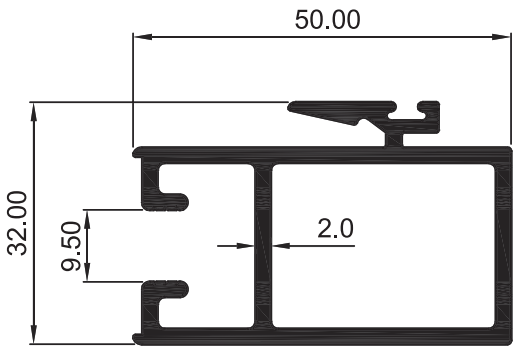
4136
WT : 0.571 Kg./m.



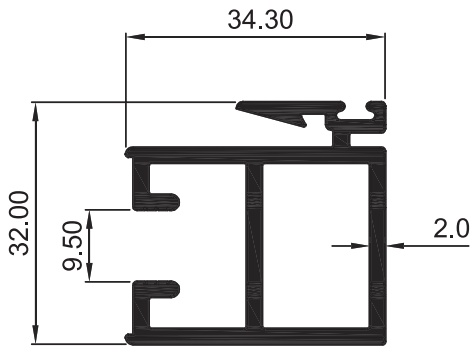
4137
WT : 0.659 Kg./m.



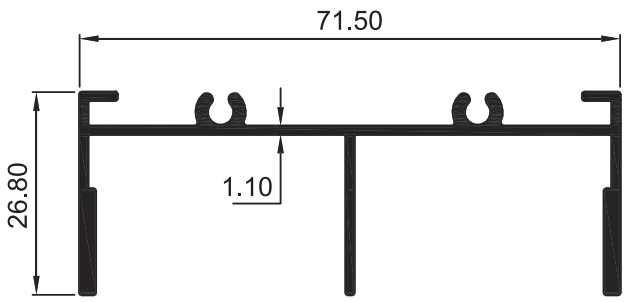
4138
WT : 0.910 Kg./m.



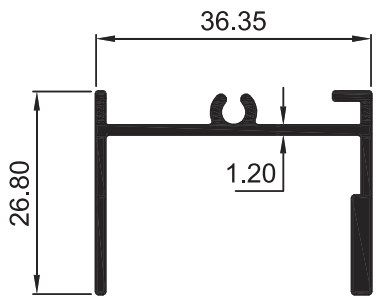
4772
WT : 1.022 Kg./m.



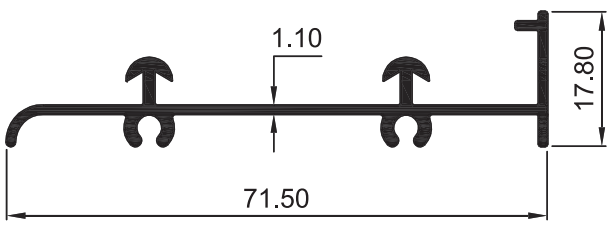
4135
WT : 0.838 Kg./m.



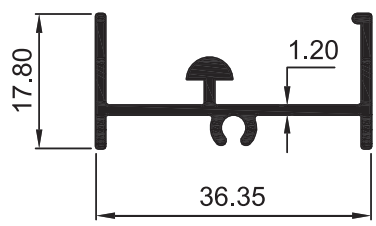
4004
WT : 0.605 Kg./m.



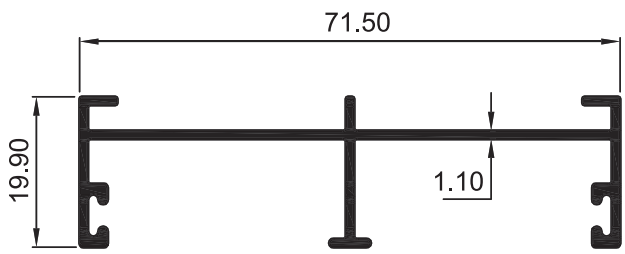
4534
WT : 0.372 Kg./m.



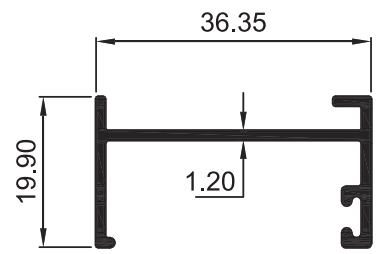
4005
WT : 0.446 Kg./m.



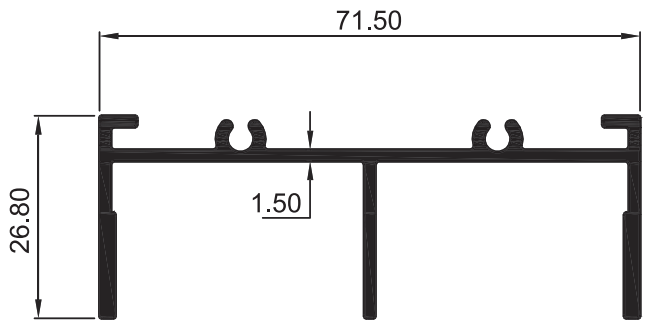
4535
WT : 0.305 Kg./m.



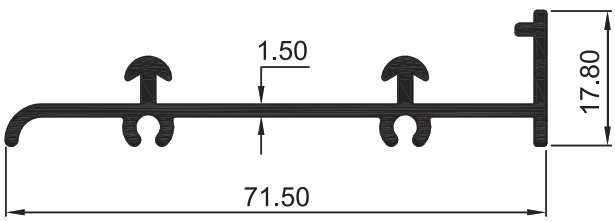
4006
WT : 0.473 Kg./m.



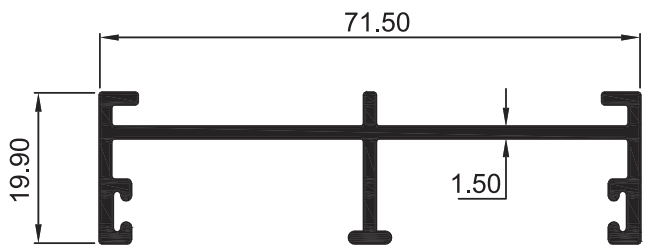
4536
WT : 0.281 Kg./m.



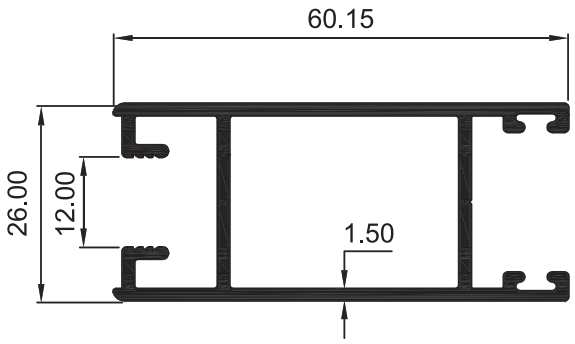
4037
WT : 0.720 Kg./m.



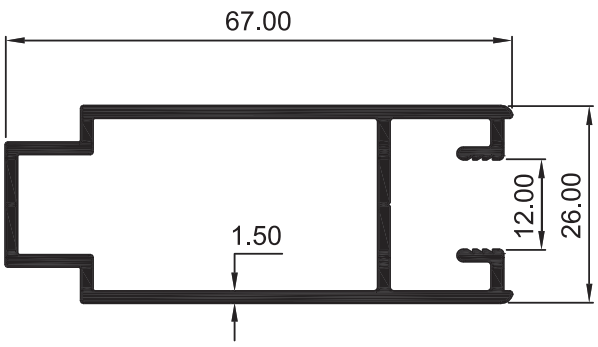
4038
WT : 0.540 Kg./m.



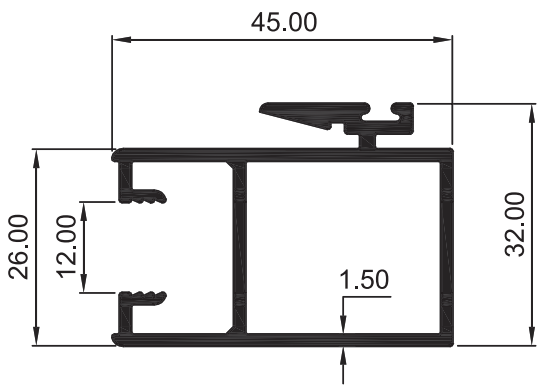
4039
WT : 0.621 Kg./m.



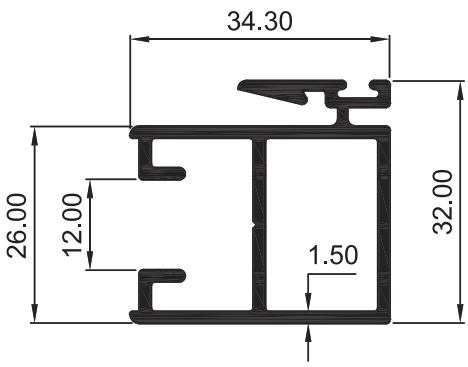
41625
WT : 0.792 Kg./m.



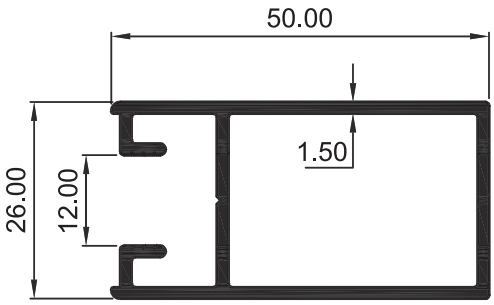
41626
WT : 0.806 Kg./m.



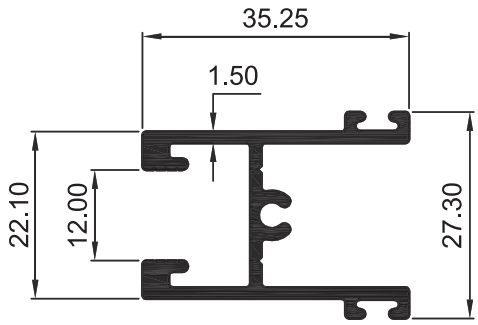
41528
WT : 0.772 Kg./m.



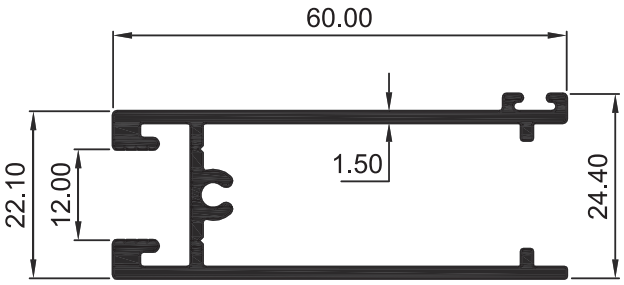
41546
WT : 0.659 Kg./m.



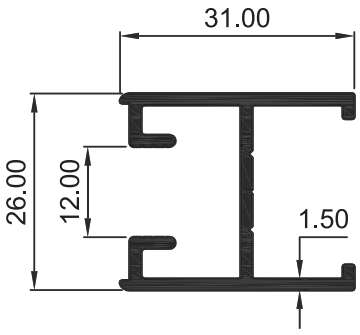
41547
WT : 0.671 Kg./m.



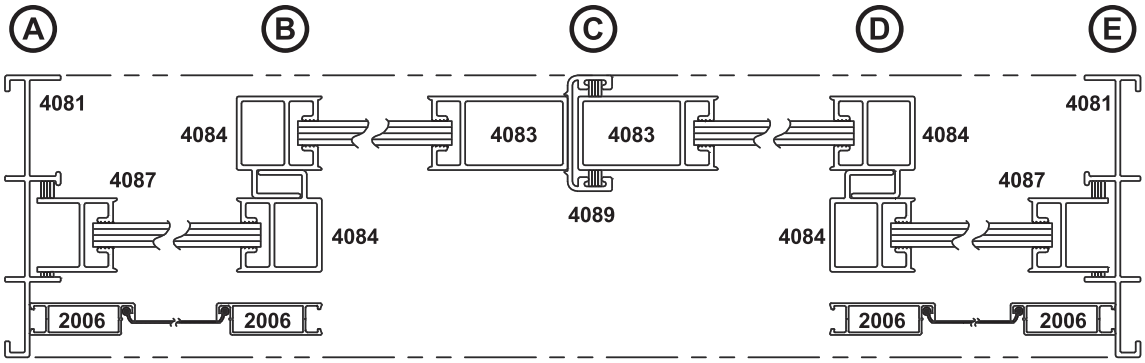
41548
WT : 0.536 Kg./m.



41549
WT : 0.725 Kg./m.



41550
WT : 0.435 Kg./m.


A
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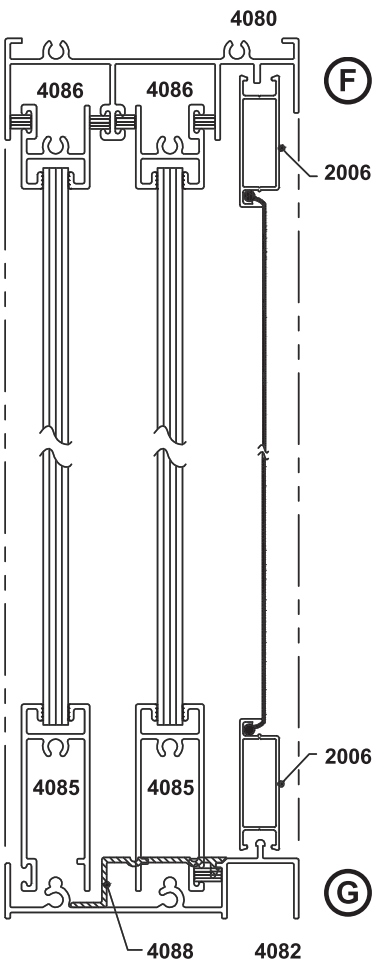
4081
2006
2006
2006
2006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2006
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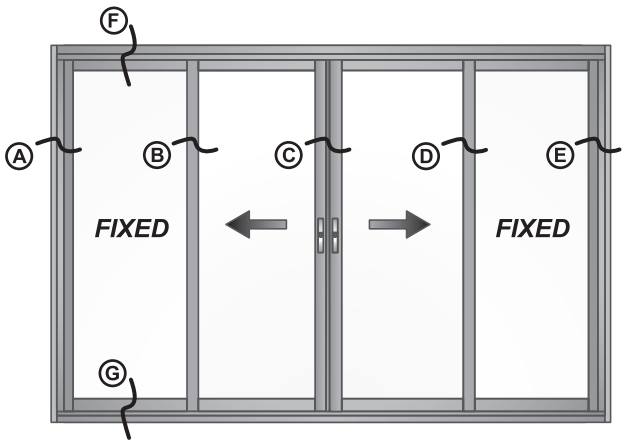
G
4088
4082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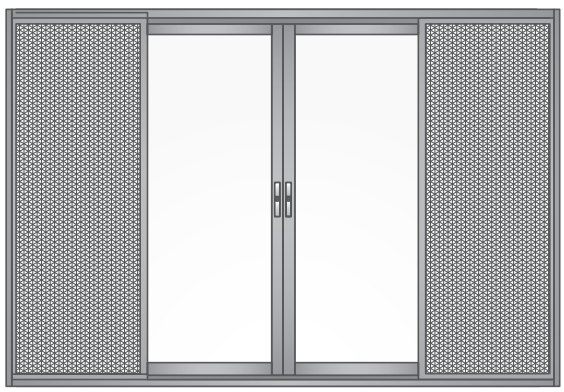
FIXED
G



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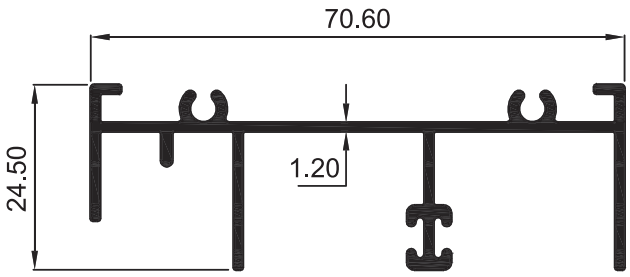

4080
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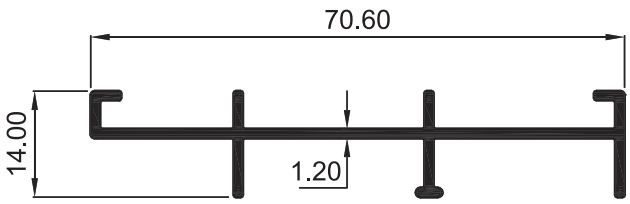
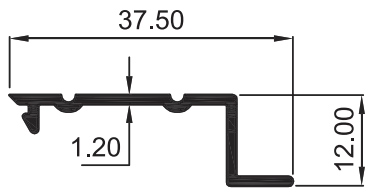
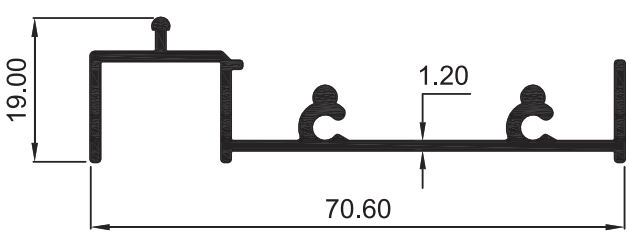


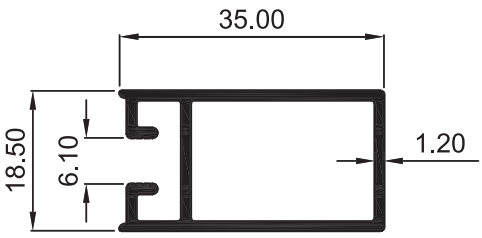
4081
WT : 0.395 Kg./m.



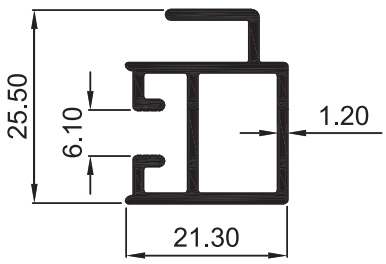
4088
WT : 0.174 Kg./m.



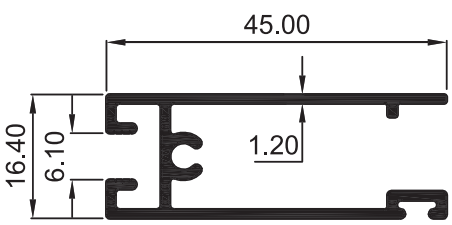
4082
WT : 0.486 Kg./m.



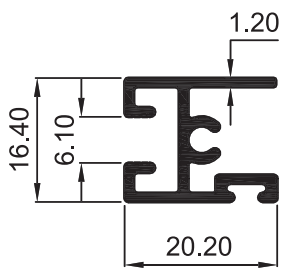
4083
WT : 0.382 Kg./m.



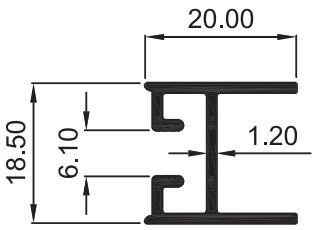
4084
WT : 0.350 Kg./m.



4085
WT : 0.438 Kg./m.



4086
WT : 0.272 Kg./m.



4087
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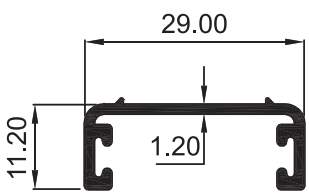
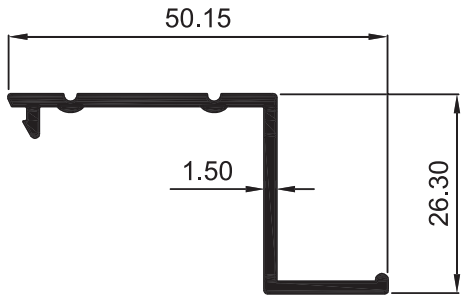
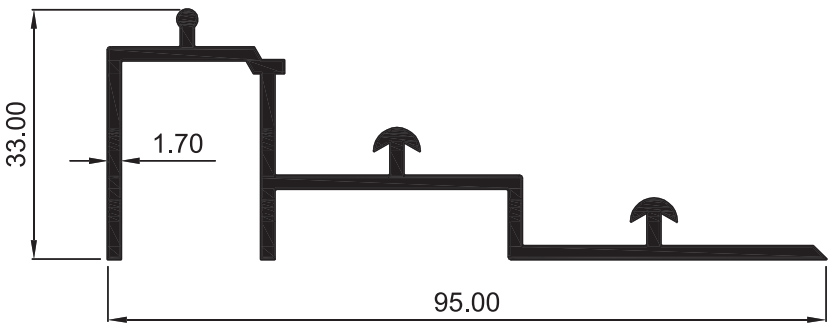


4089
WT : 0.212 Kg./m.



4199
WT : 0.326 Kg./m.



4112
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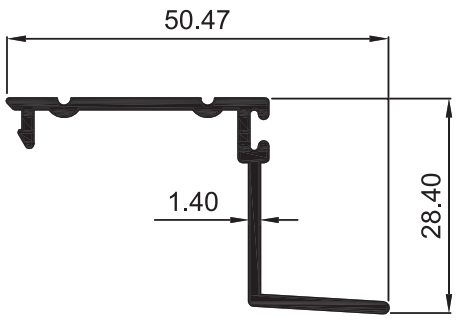
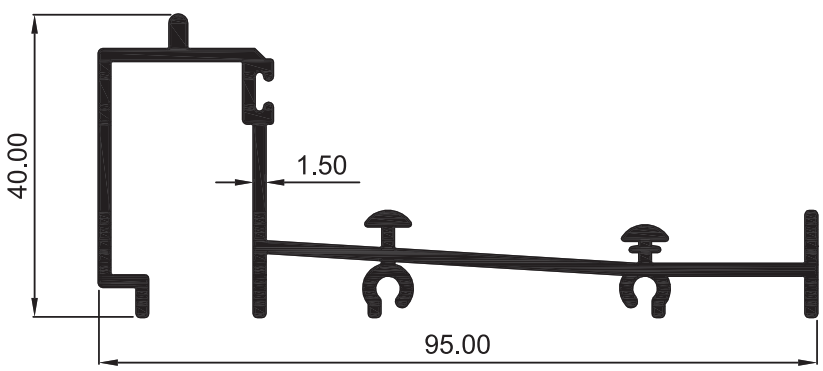


4033
WT : 0.336 Kg./m.



4034
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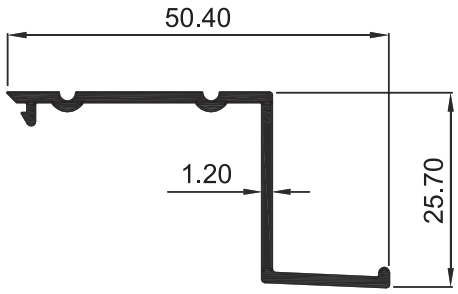
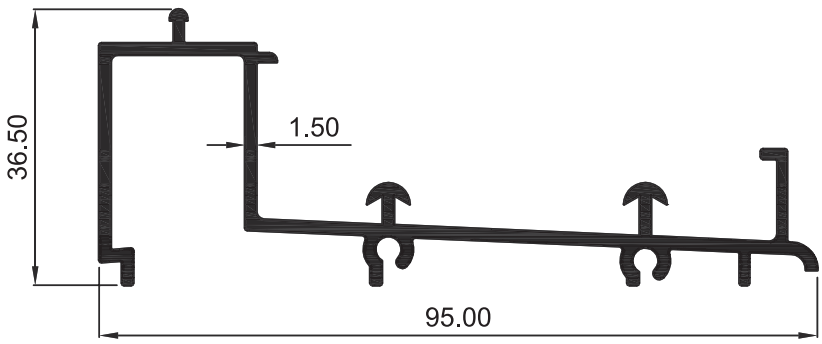
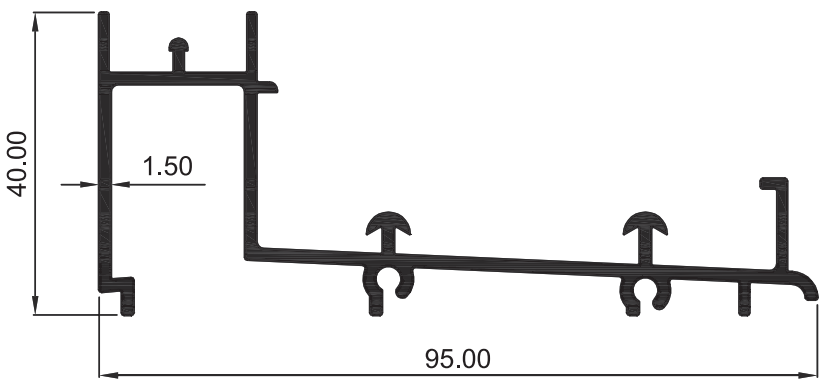


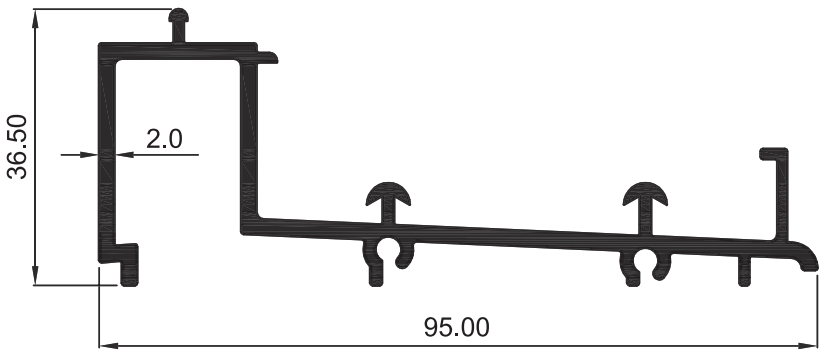
4701
WT : 0.260 Kg./m.



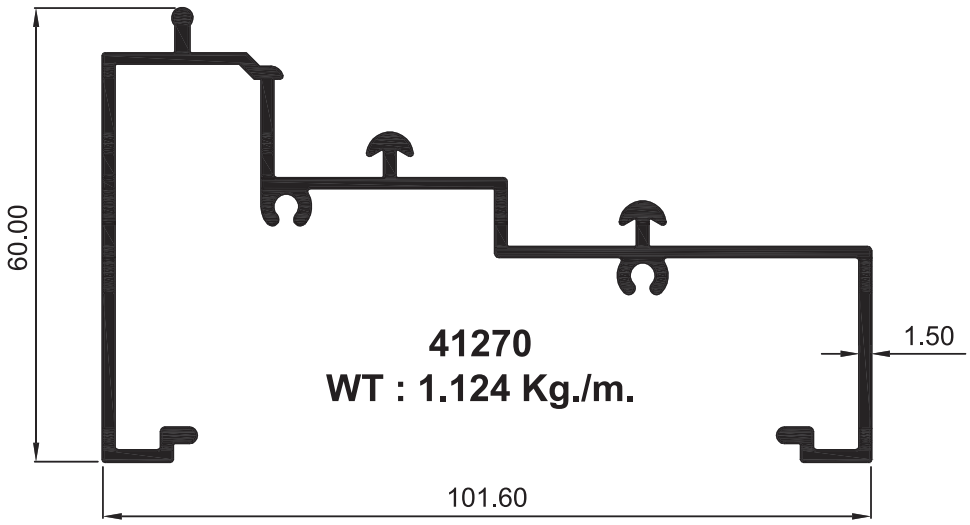
4782
WT : 0.887 Kg./m.



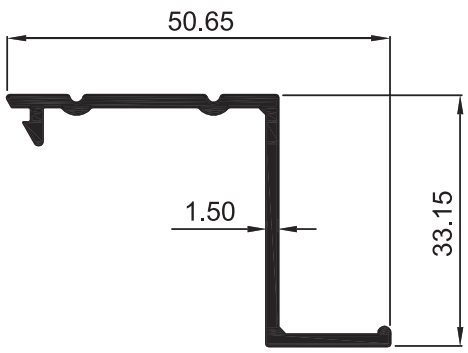
41185
WT : 0.940 Kg./m.



40799
WT : 1.072 Kg./m.



41270
WT : 1.124 Kg./m.



4775
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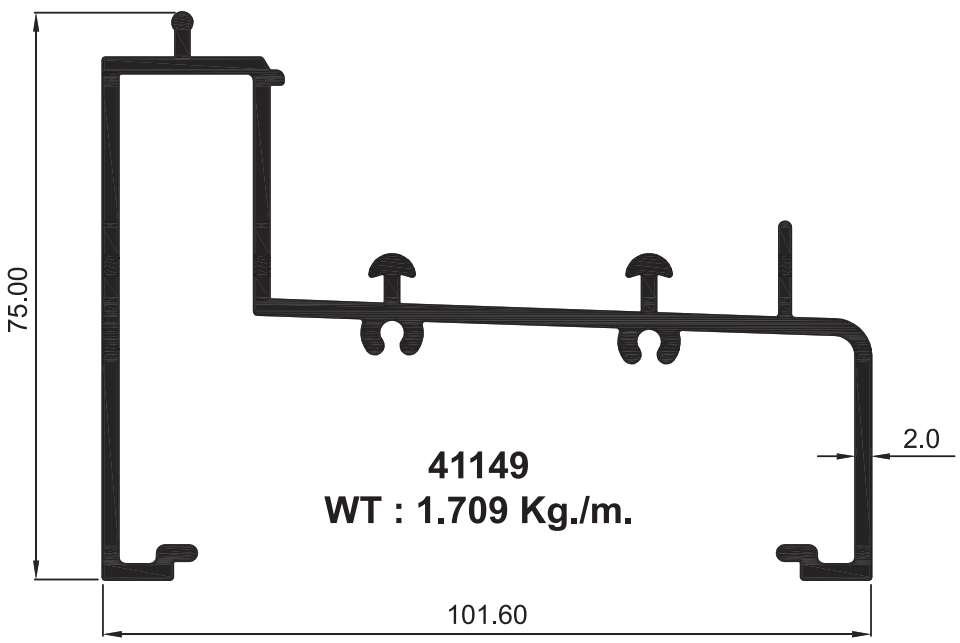
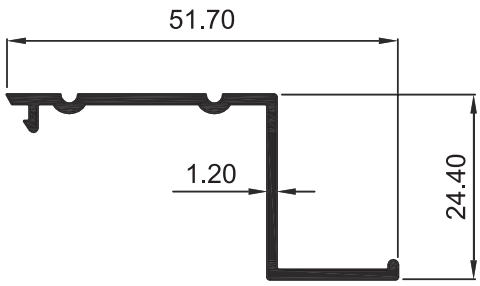
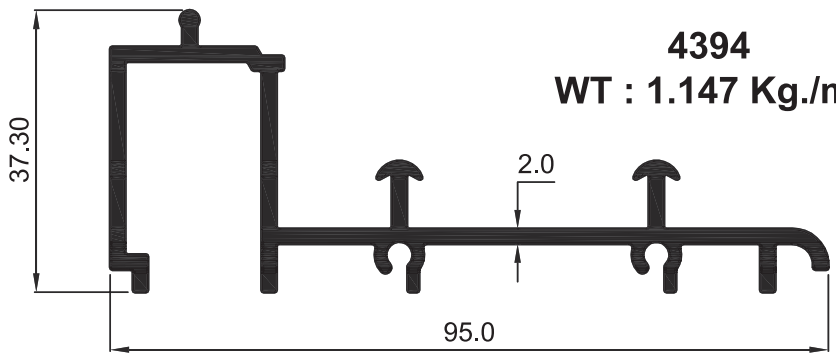


41149
WT : 1.709 Kg./m.



4484
WT : 0.263 Kg./m.



4394
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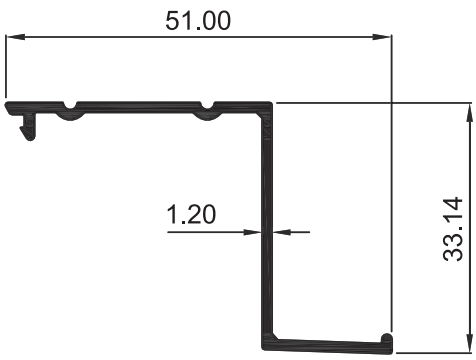
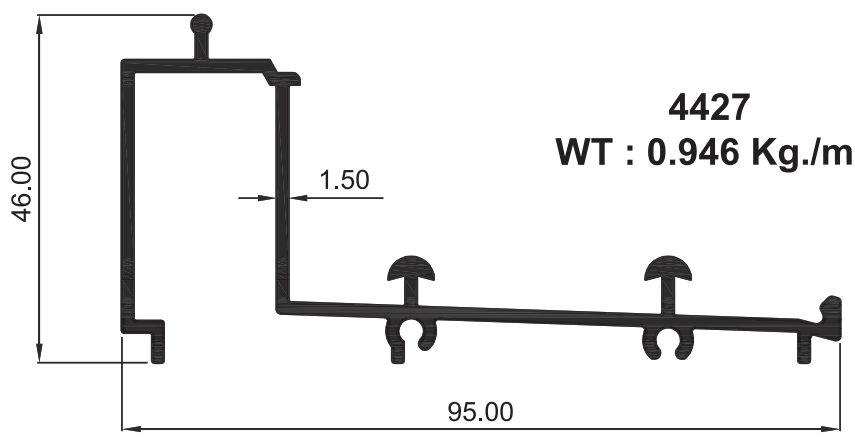
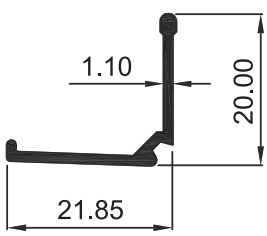


4428
WT : 0.292 Kg./m.



4427
WT : 0.946 Kg./m.

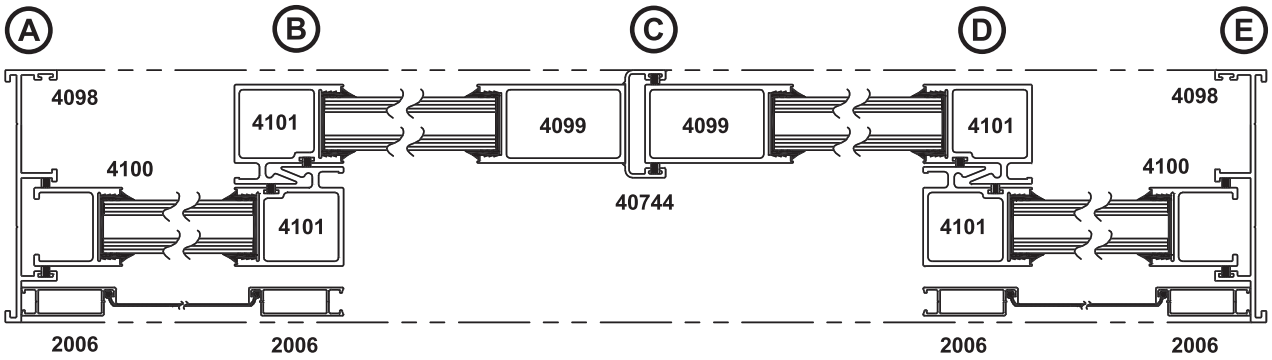


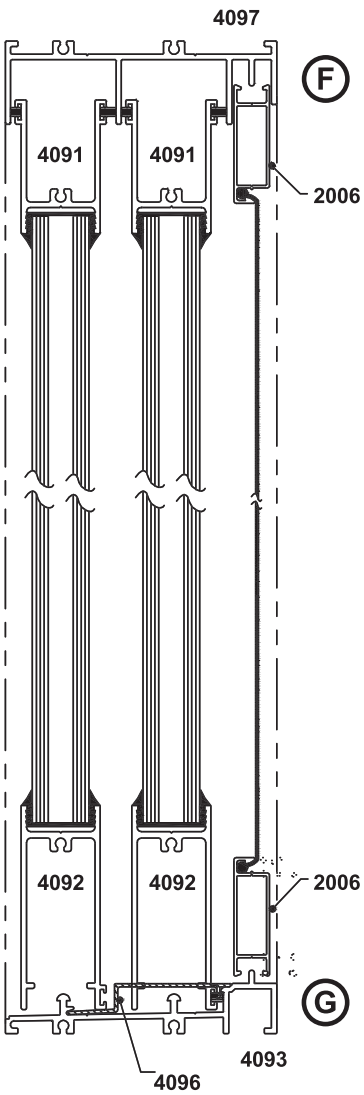
4777
WT : 0.133 Kg./m.

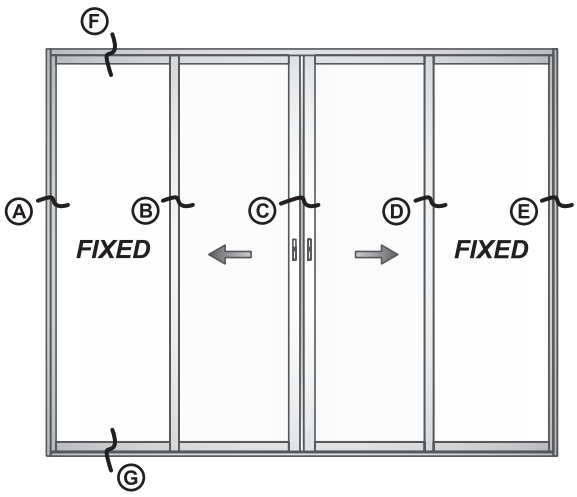
SLIDING WINDOWS & DOORS

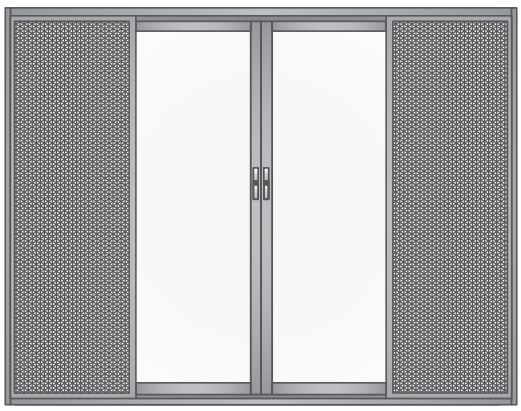
ชุดบานเลื่อนประตู - หน้าต่าง

MUANGTHONG ALUMINIUM









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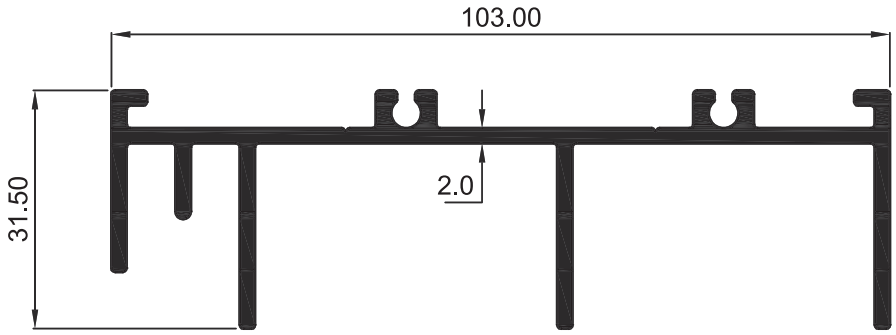
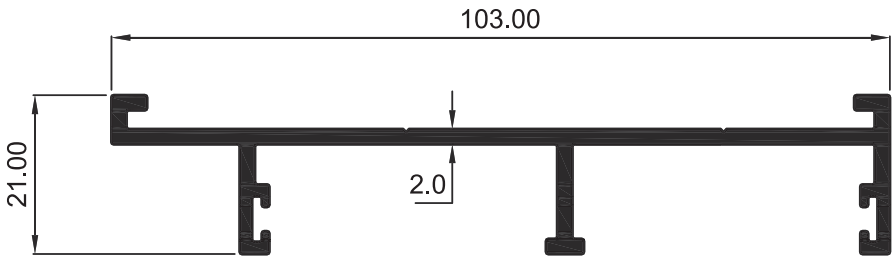
= มุ้งลวด



4097
WT : 1.315 Kg./m.



4098
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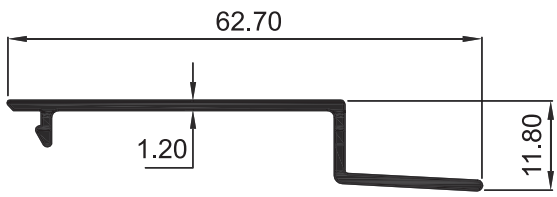

4096
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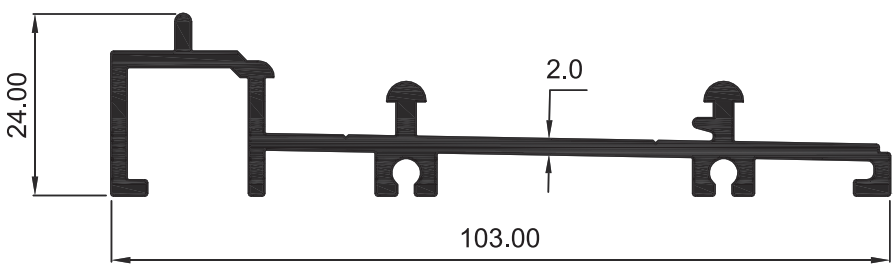

4093
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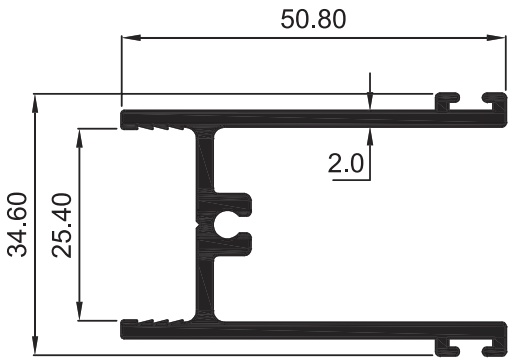
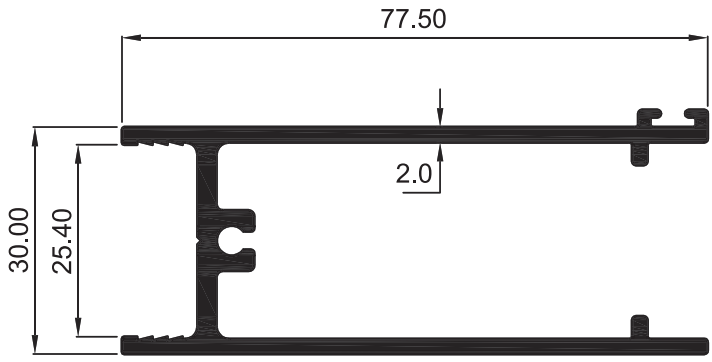


4091
WT : 0.821 Kg./m.



4092
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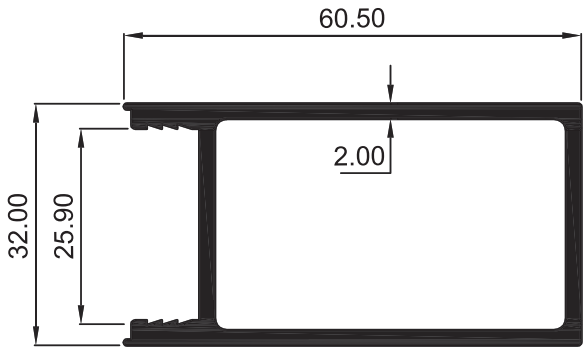
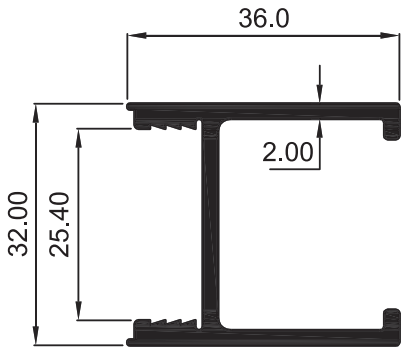
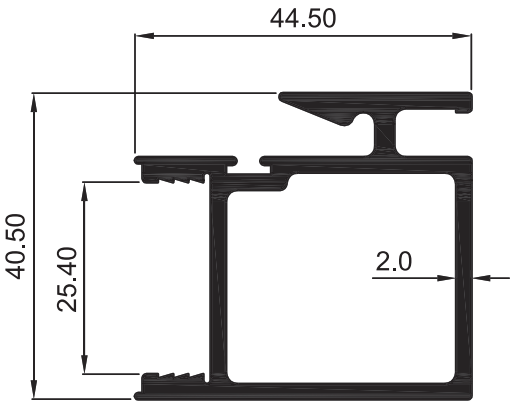


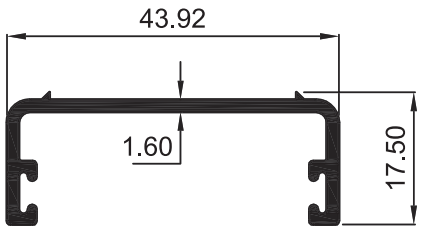
4099
WT : 0.821 Kg./m.



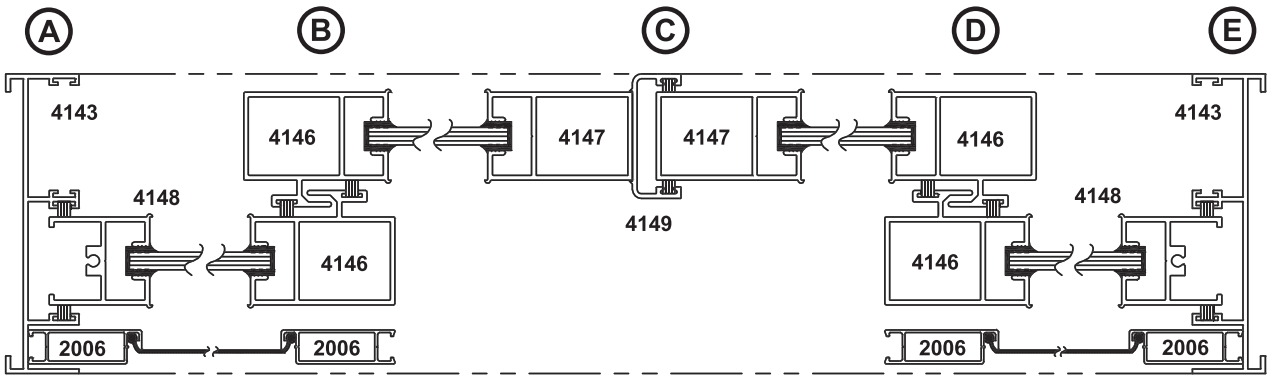
4100
WT : 0.614 Kg./m.



4101
WT : 1.065 Kg./m.



40744
WT : 0.363 Kg./m.


A
B
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D
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4143
4146
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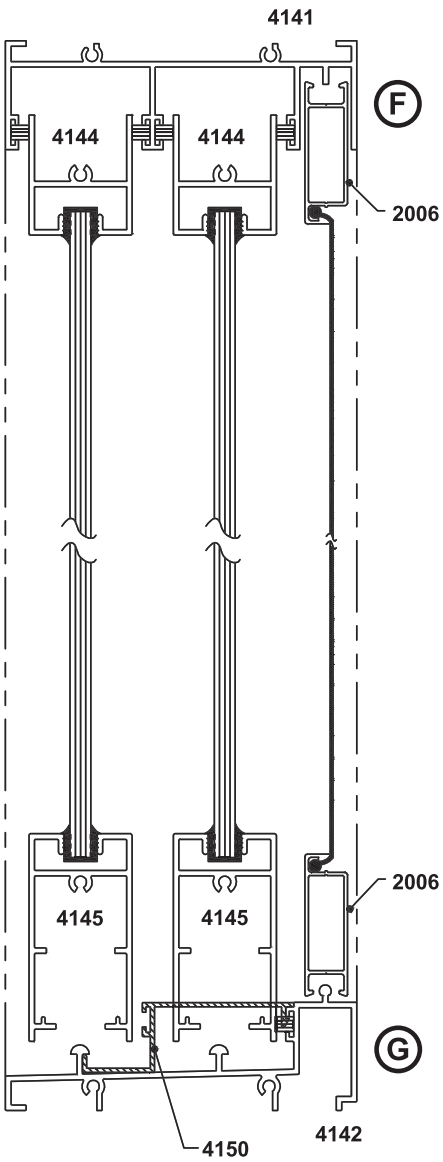
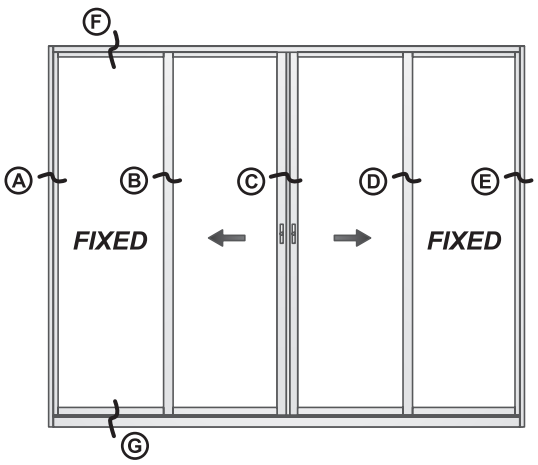
2006
2006
2006
2006


4141
F
4144
4144
2006
2006
4145
4145
G
4150
4142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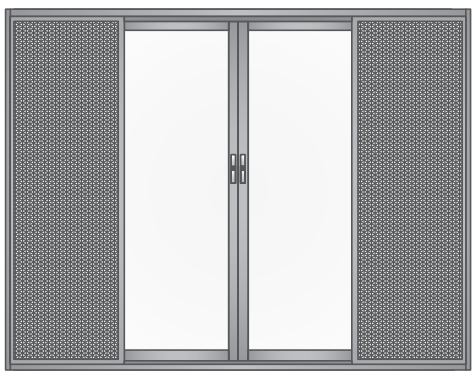
FIXED
FIXED
G



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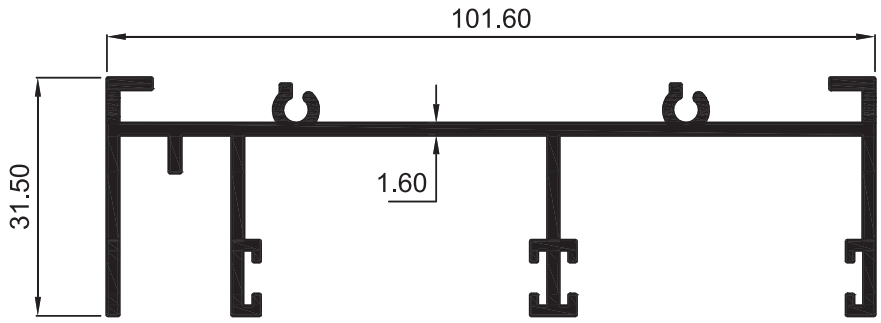
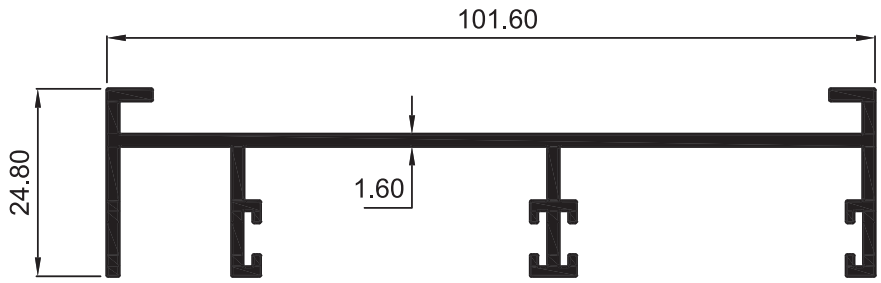
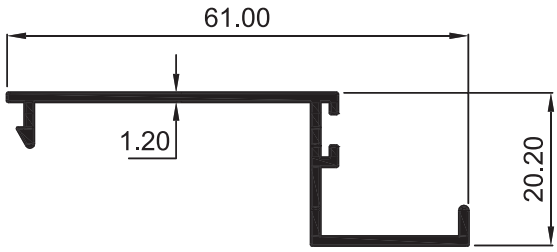
= มุ้งลวด



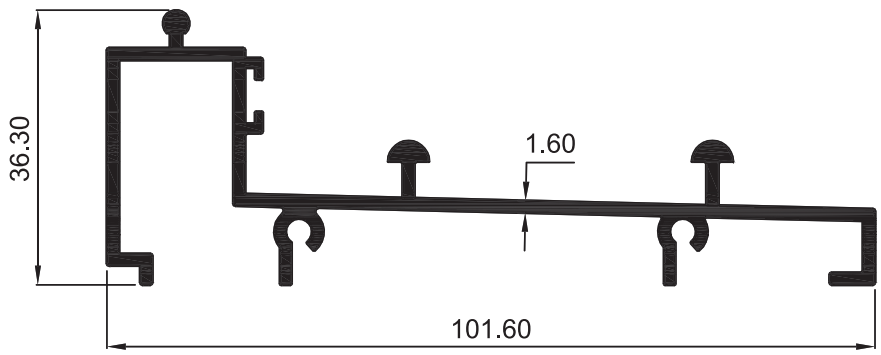
4141
WT : 1.126 Kg./m.



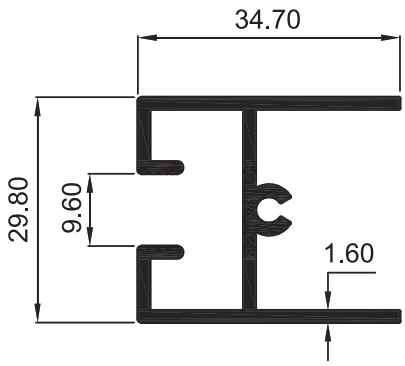
4143
WT : 0.918 Kg./m.



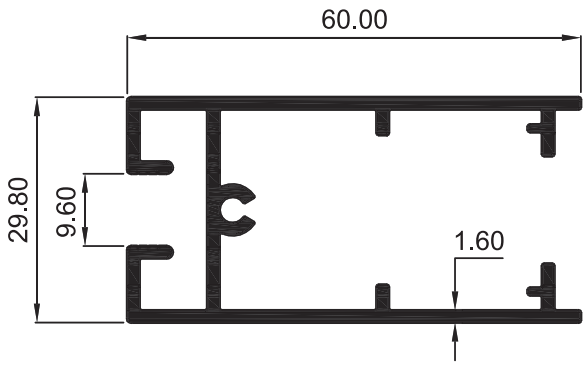
4150
WT : 0.318 Kg./m.



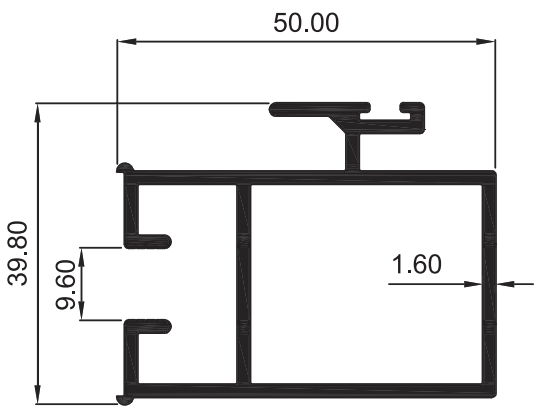
4142
WT : 1.025 Kg./m.



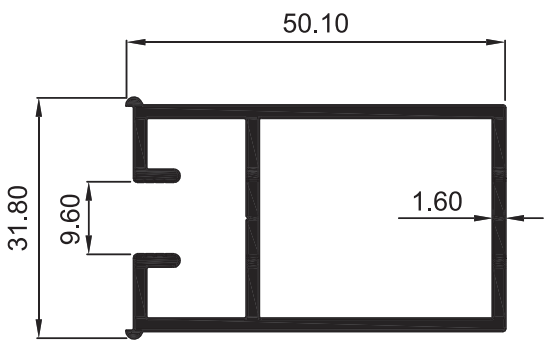
4144
WT : 0.566 Kg./m.



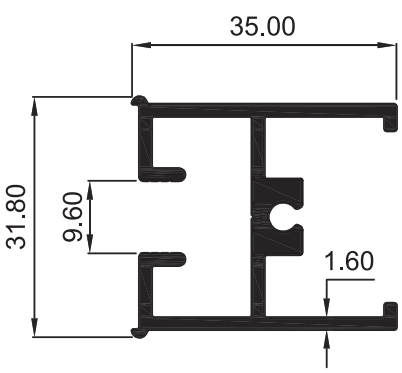
4145
WT : 0.879 Kg./m.



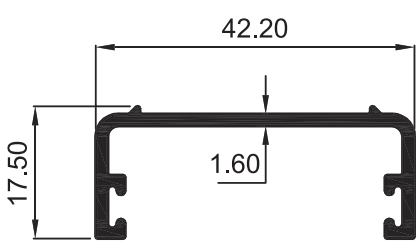
4146
WT : 0.919 Kg./m.



4147
WT : 0.775 Kg./m.



4148
WT : 0.642 Kg./m.

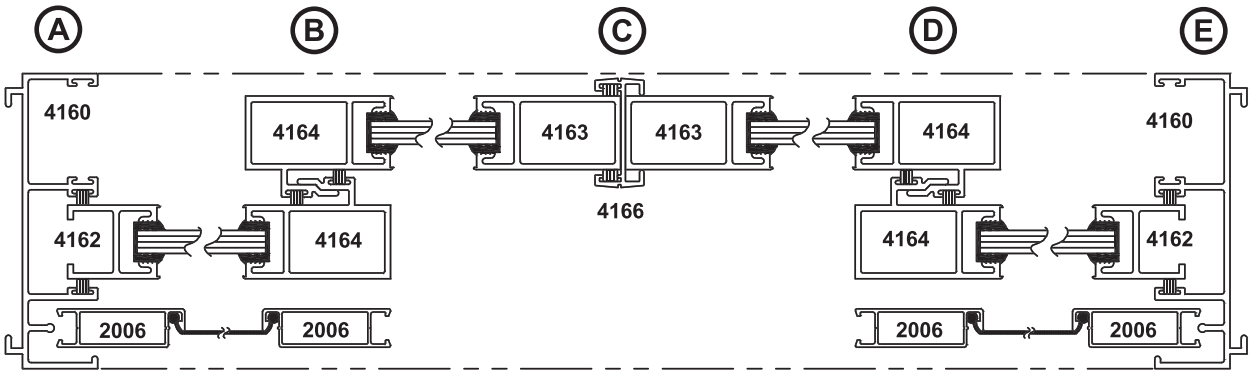


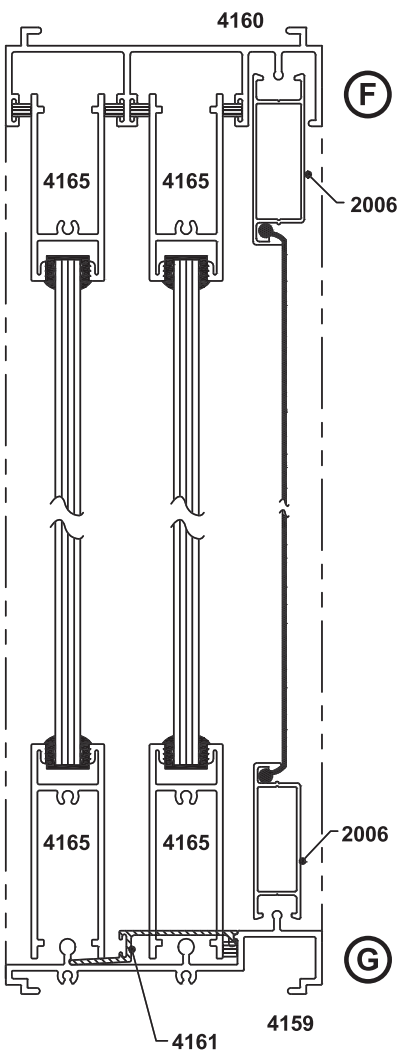
4149
WT : 0.358 Kg./m.

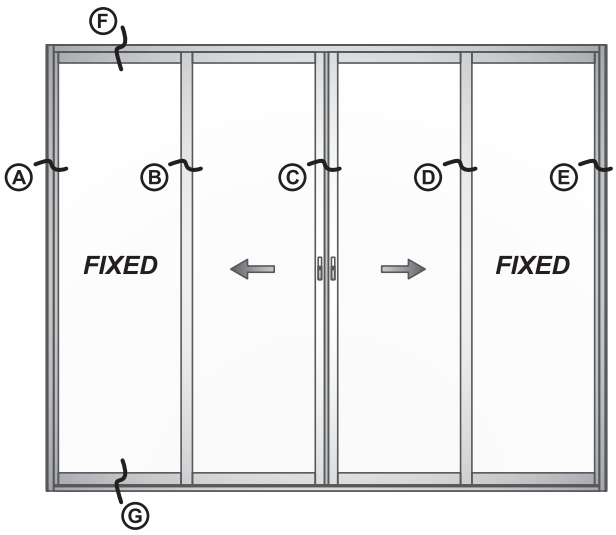
SLIDING WINDOWS & DOORS

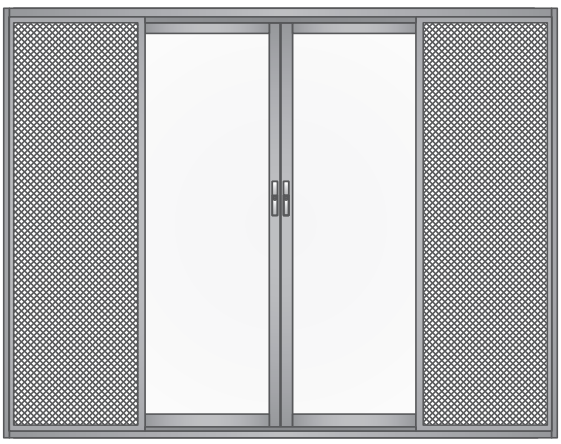
ชุดบานเลื่อนประตู - หน้าต่าง

MUANGTHONG ALUMINIUM









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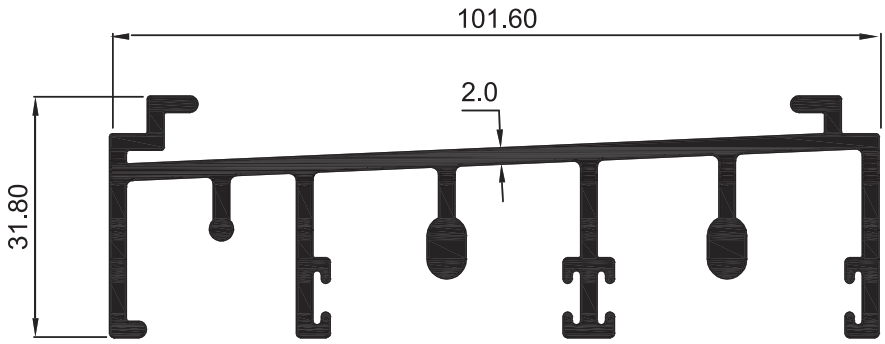
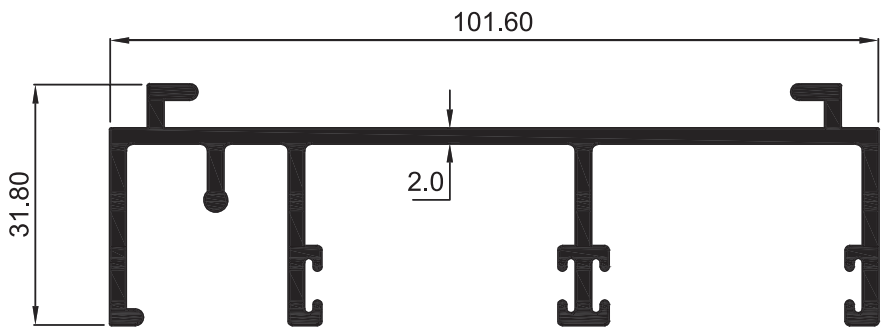
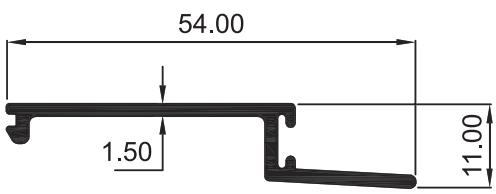
= *มุ้งลวด*



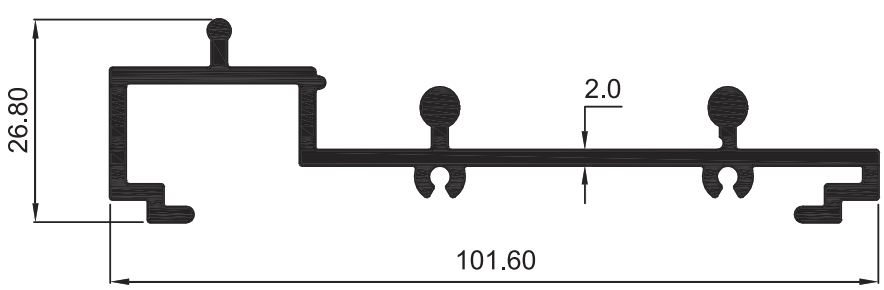
4158
WT : 1.647 Kg./m.



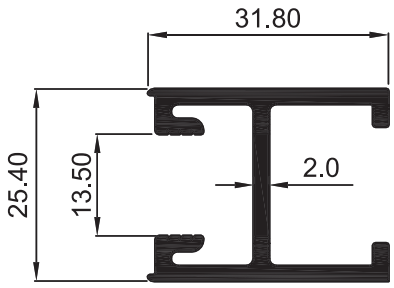
4160
WT : 1.260 Kg./m.



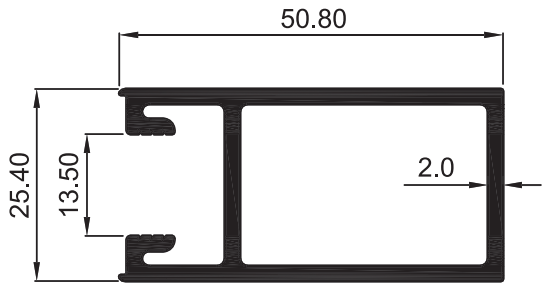
4161
WT : 0.290 Kg./m.



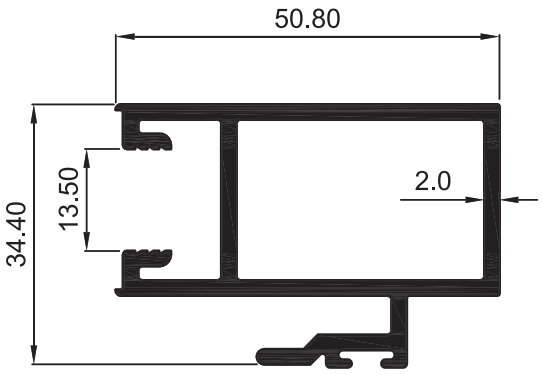
4159
WT : 1.116 Kg./m.



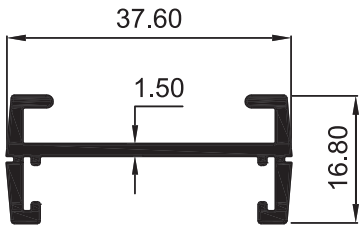
4162
WT : 0.575 Kg./m.



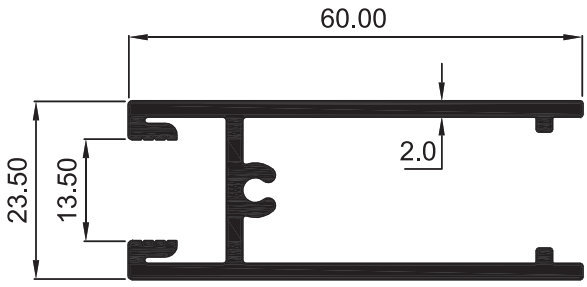
4163
WT : 0.866 Kg./m.



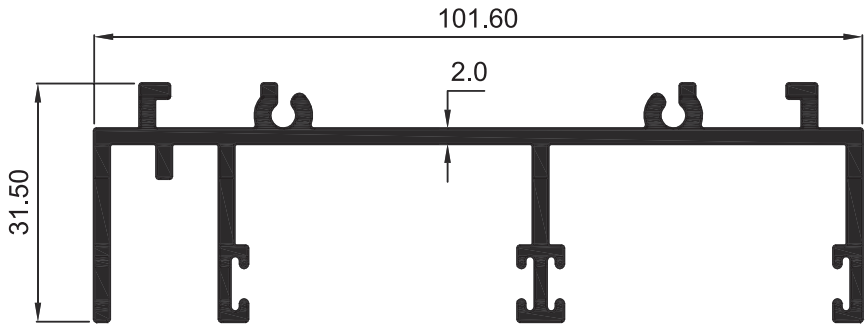
4164
WT : 1.026 Kg./m.



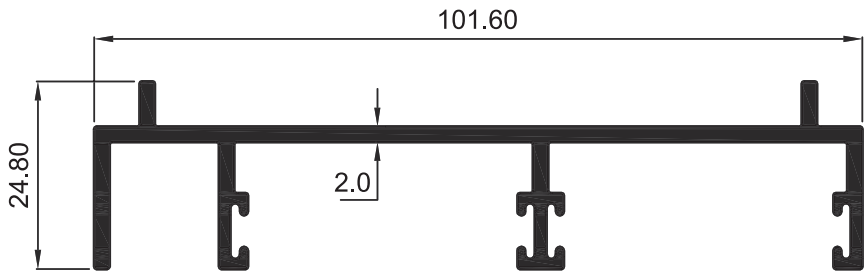
4166
WT : 0.347 Kg./m.



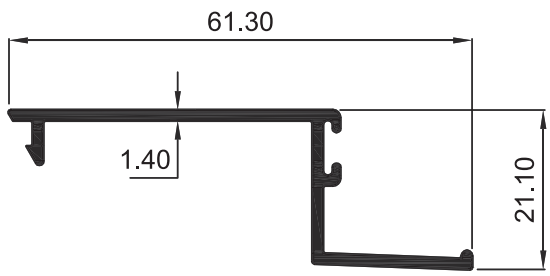
4165
WT : 0.896 Kg./m.



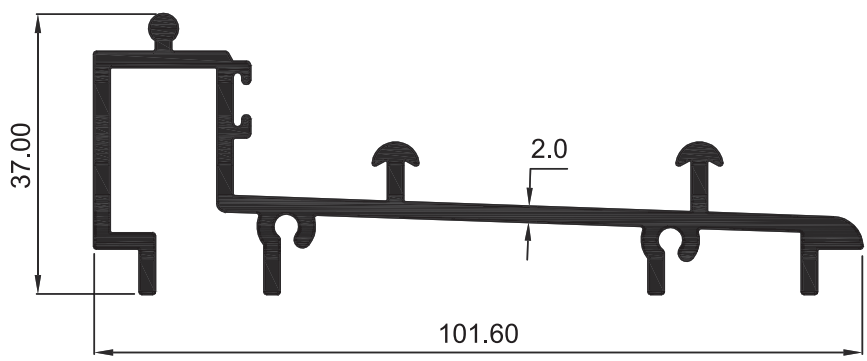
4873
WT : 1.354 Kg./m.



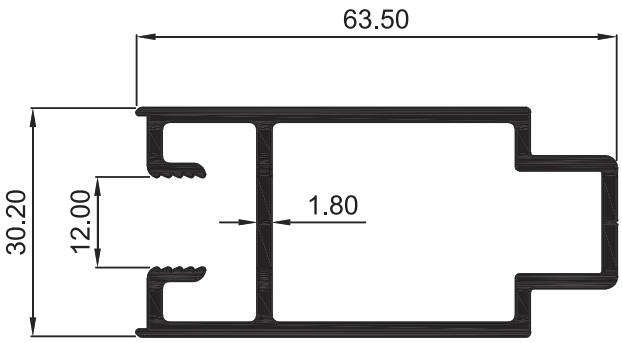
4874
WT : 1.040 Kg./m.



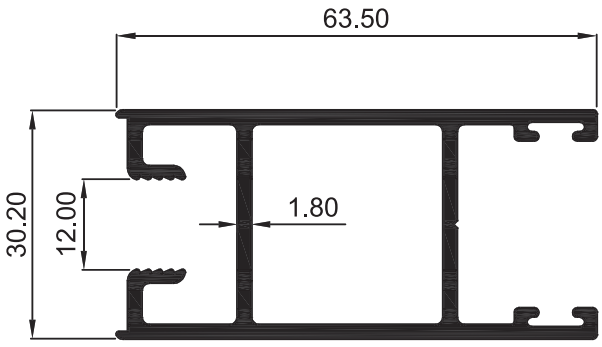
4876
WT : 0.354 Kg./m.



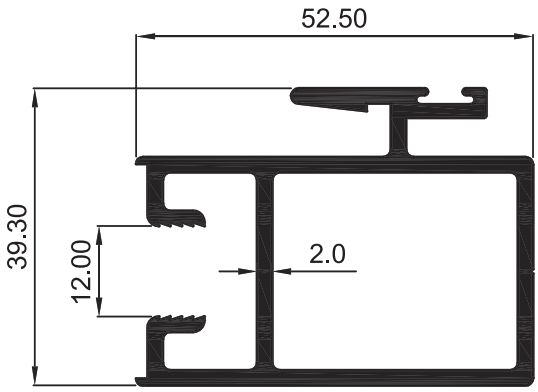
4875
WT : 1.271 Kg./m.



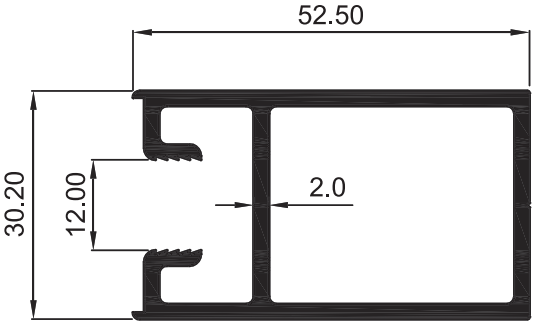
4877
WT : 0.986 Kg./m.



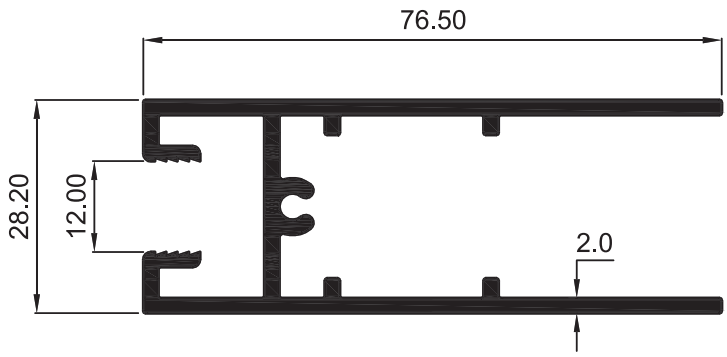
4878
WT : 1.032 Kg./m.



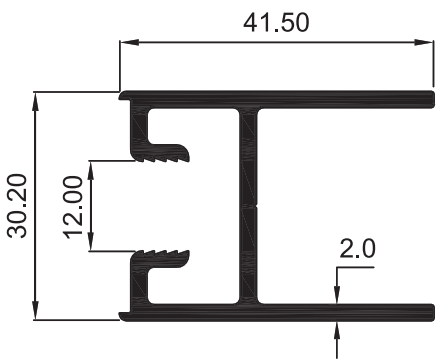
4879
WT : 1.180 Kg./m.



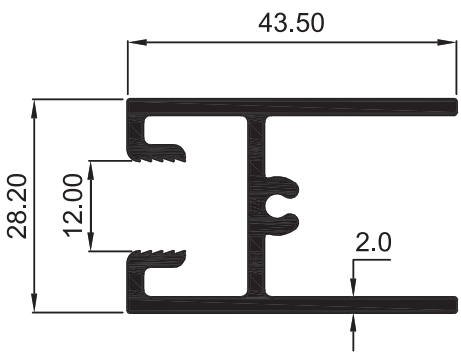
4880
WT : 0.972 Kg./m.



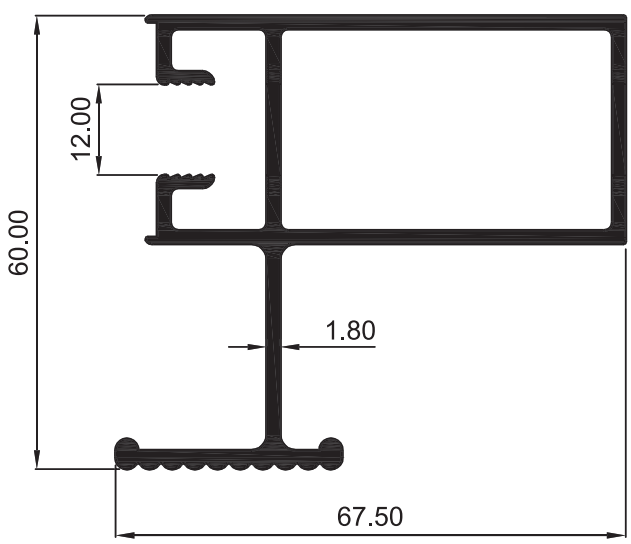
4881
WT : 1.183 Kg./m.



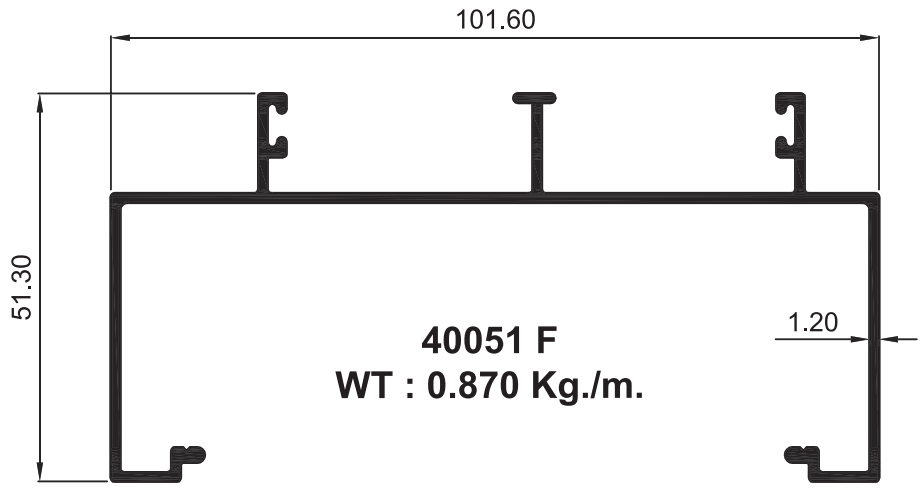
4882
WT : 0.710 Kg./m.



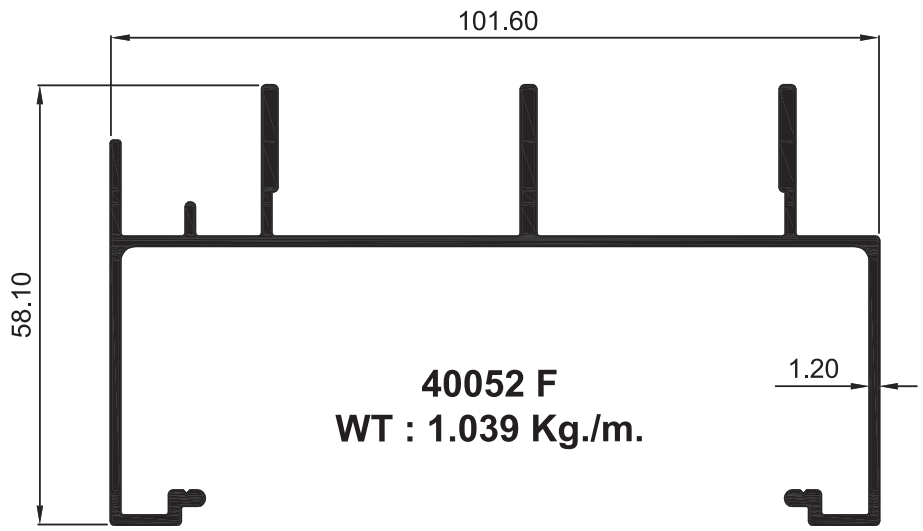
4883
WT : 0.770 Kg./m.



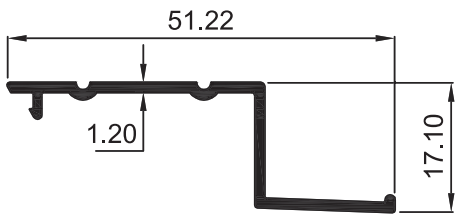
4884
WT : 1.331 Kg./m.



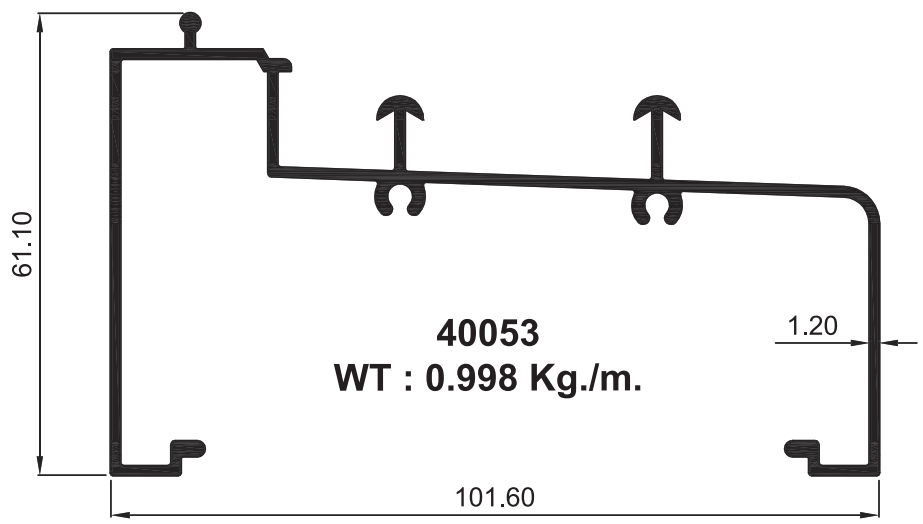
40051 F
WT : 0.870 Kg./m.



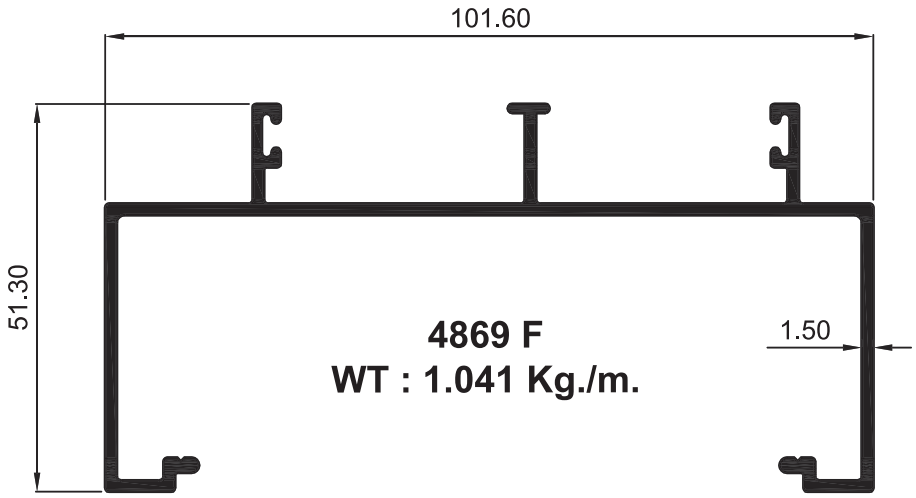
40052 F
WT : 1.039 Kg./m.



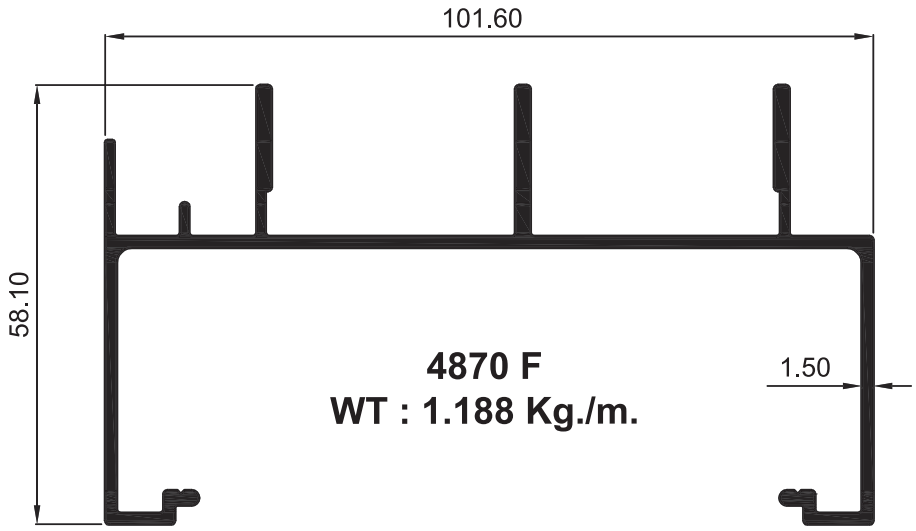
4872
WT : 0.234 Kg./m.



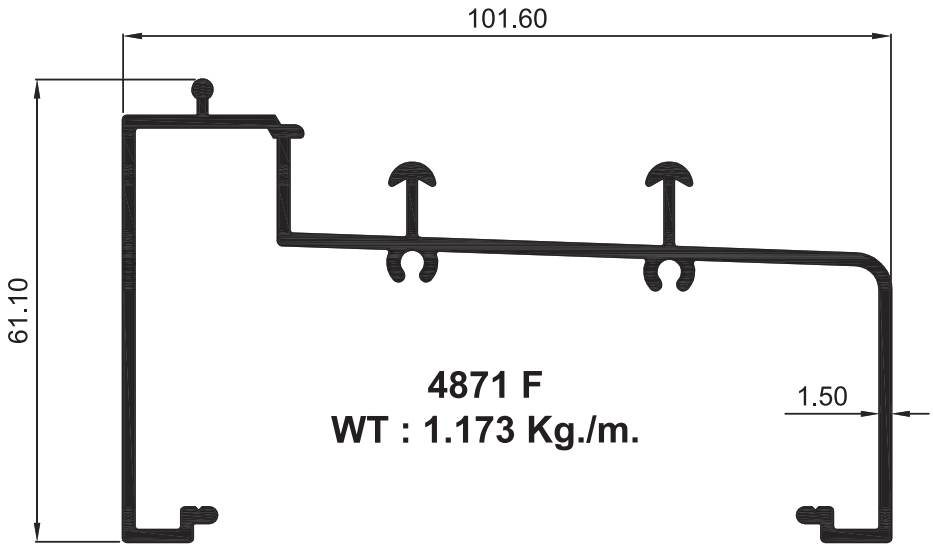
40053
WT : 0.998 Kg./m.



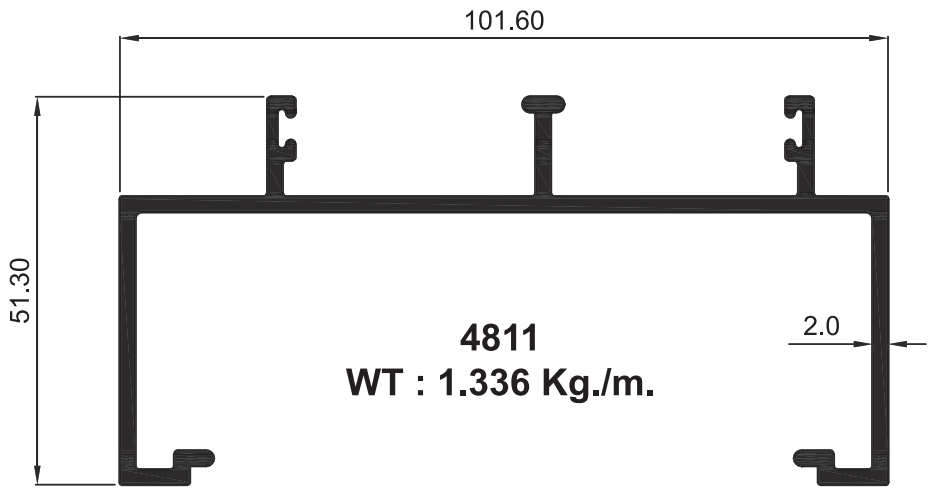
4869 F
WT : 1.041 Kg./m.

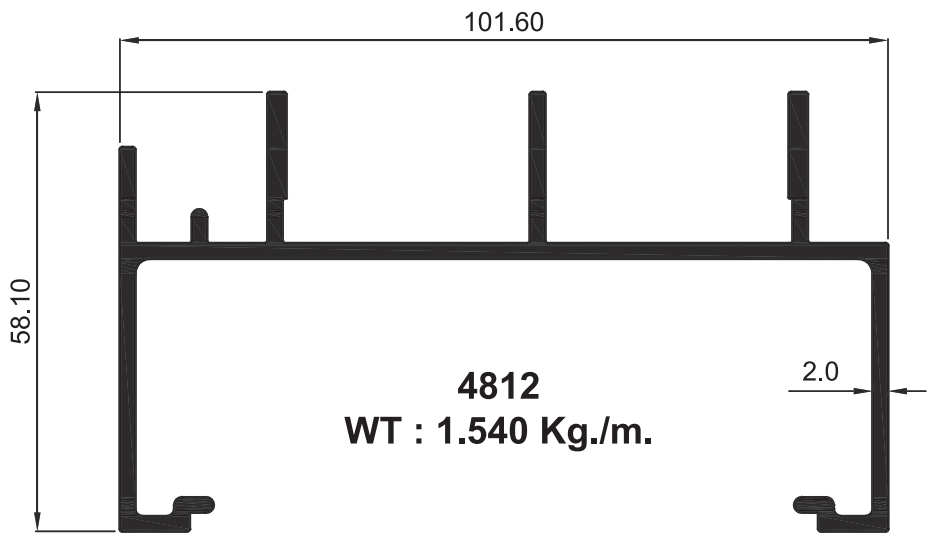


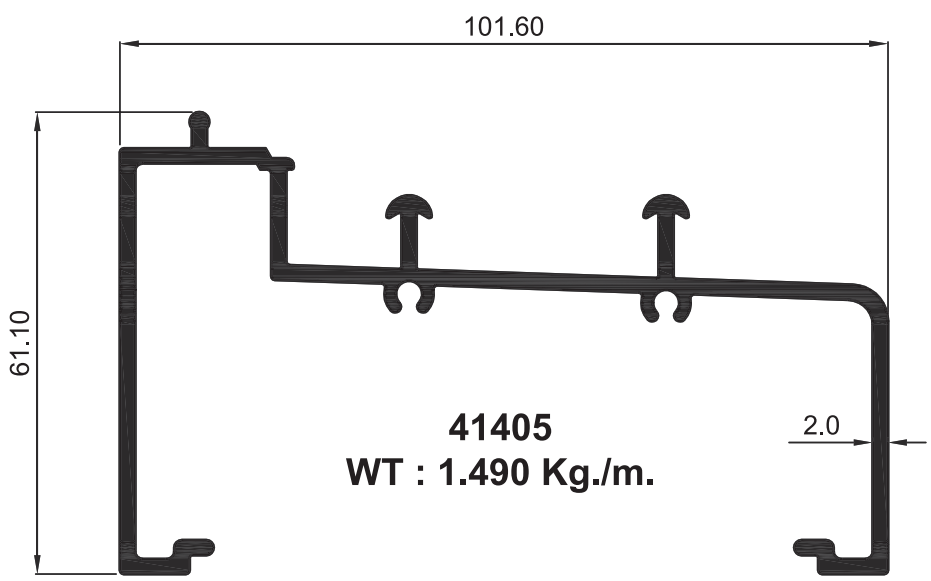
4870 F
WT : 1.188 Kg./m.

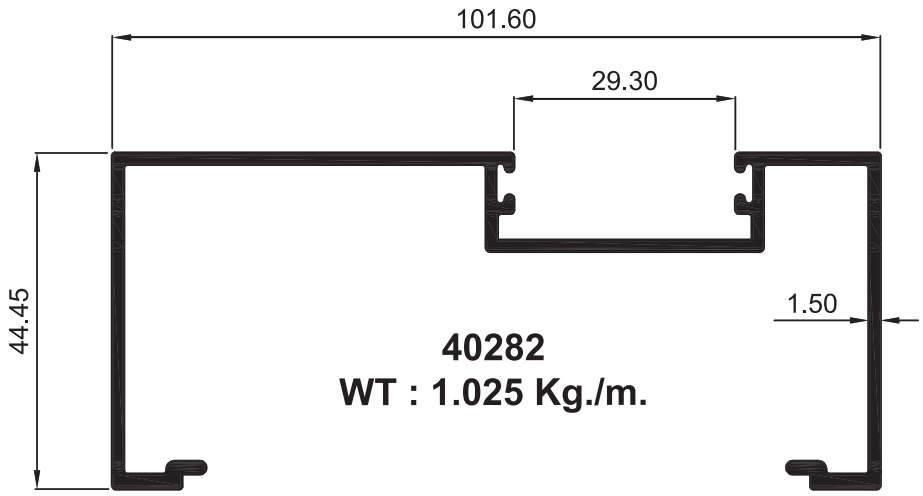


4871 F
WT : 1.173 Kg./m.

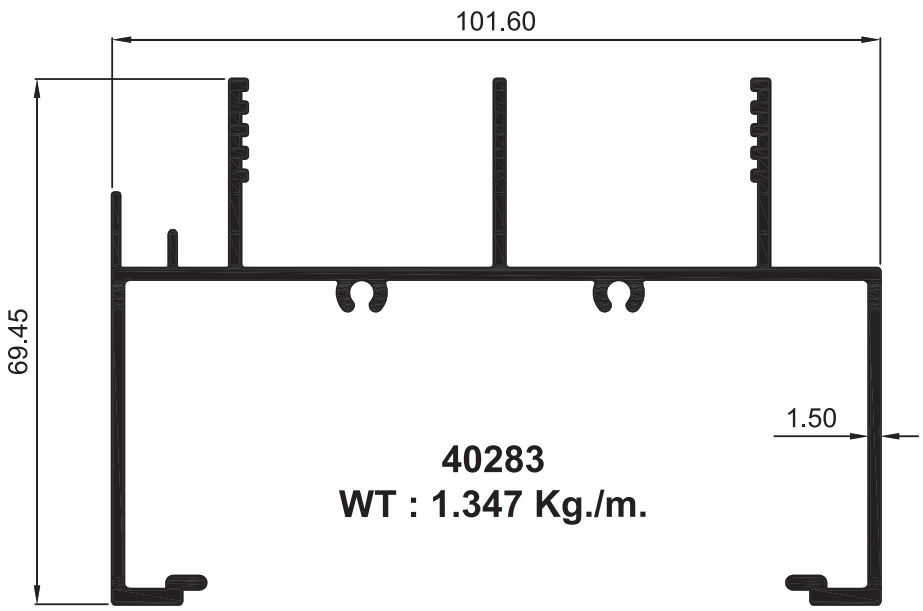

101.60
51.30
2.0
4811
WT : 1.336 Kg./m.


101.60
58.10
2.0
4812
WT : 1.540 Kg./m.

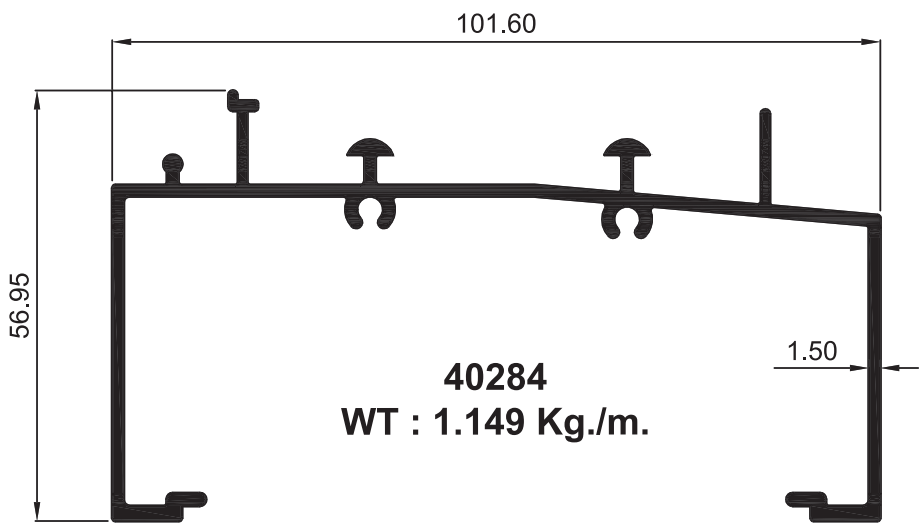

101.60
61.10
2.0
41405
WT : 1.490 Kg./m.



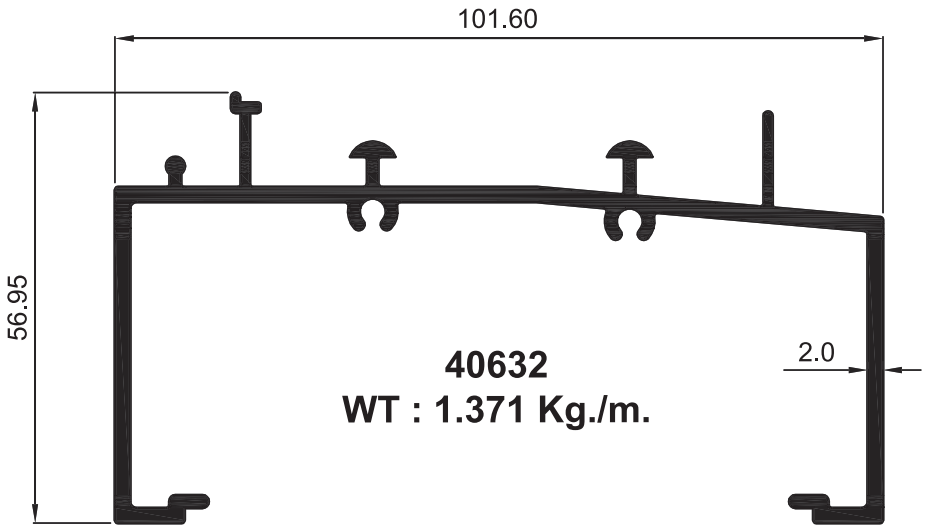
40282
WT : 1.025 Kg./m.



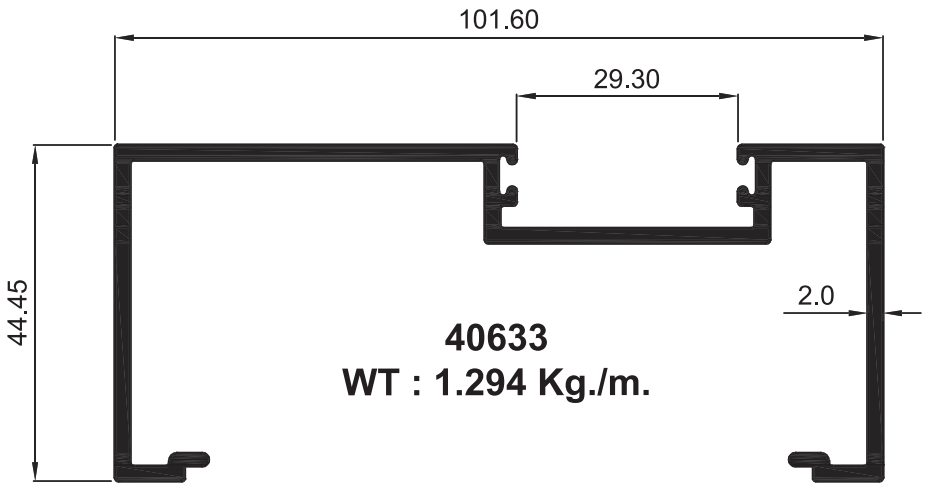
40283
WT : 1.347 Kg./m.



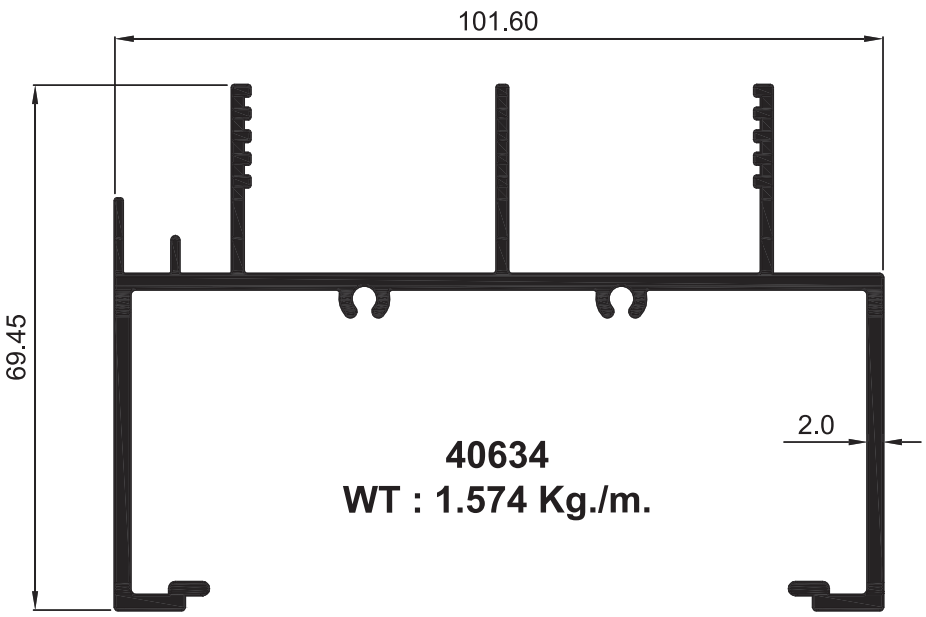
40284
WT : 1.149 Kg./m.



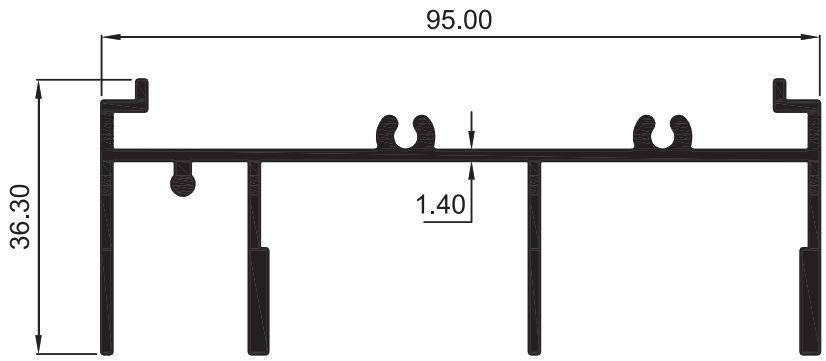
40632
WT : 1.371 Kg./m.



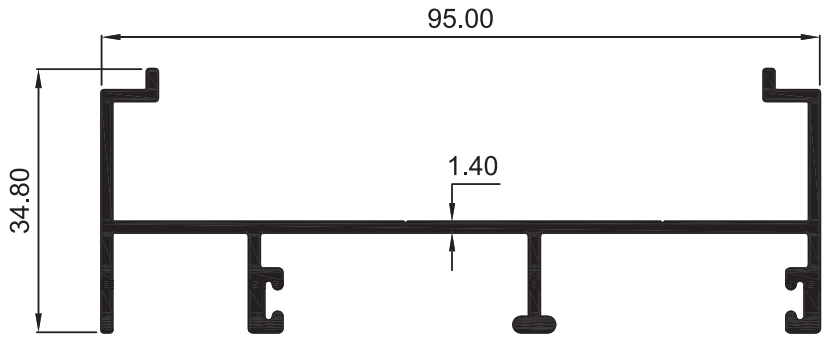
40633
WT : 1.294 Kg./m.



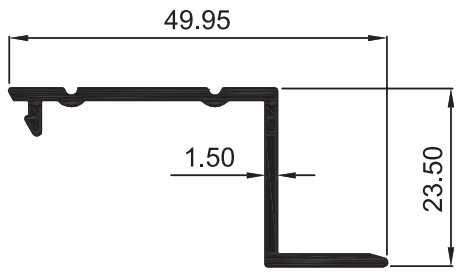
40634
WT : 1.574 Kg./m.



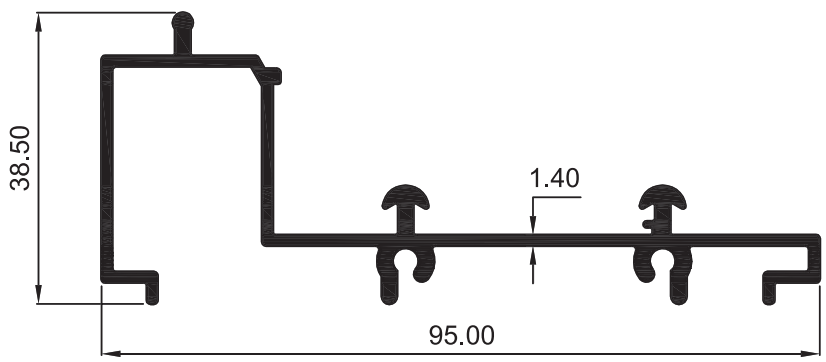
40240
WT : 1.066 Kg./m.



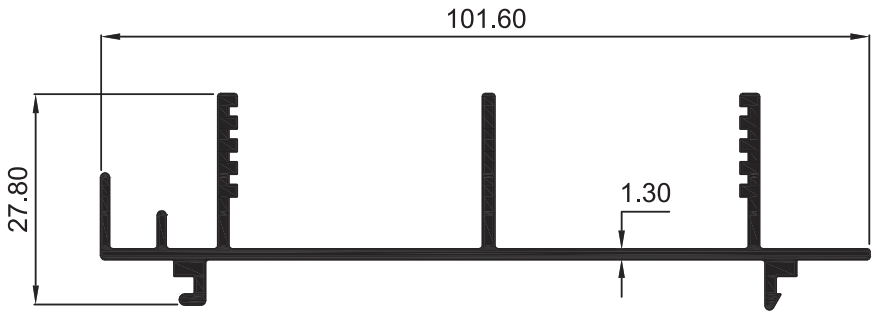
40242
WT : 0.860 Kg./m.



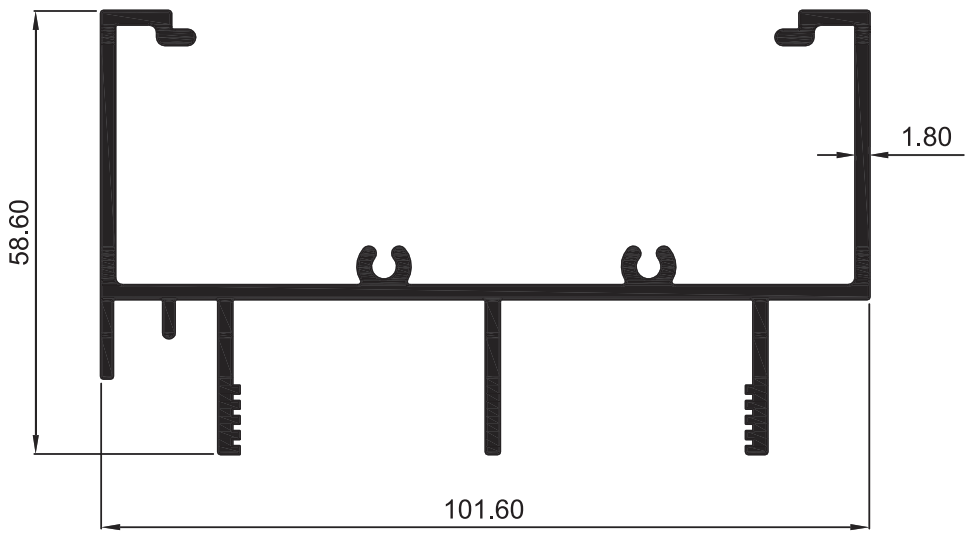
40195
WT : 0.310 Kg./m.



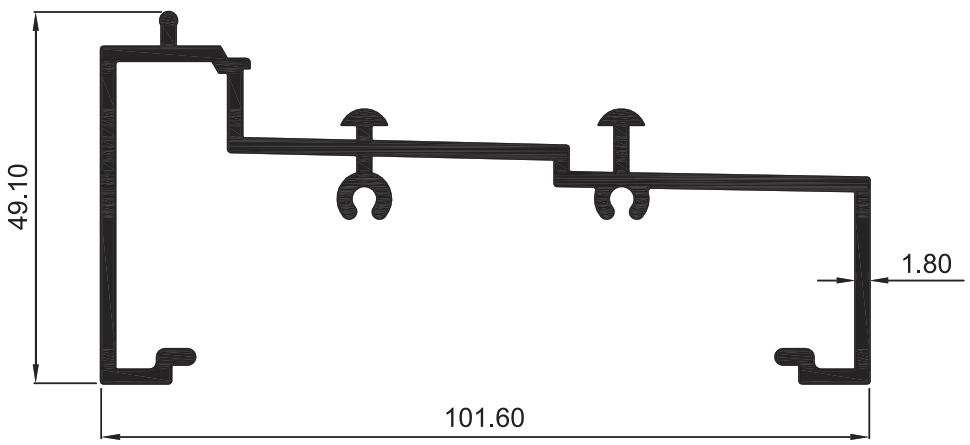
40241
WT : 0.933 Kg./m.



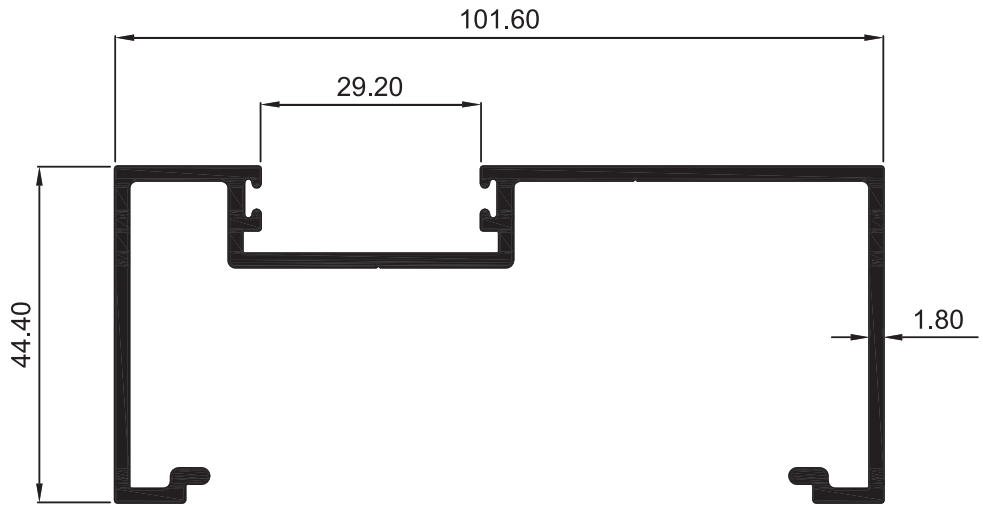
40393
WT : 0.755 Kg./m.



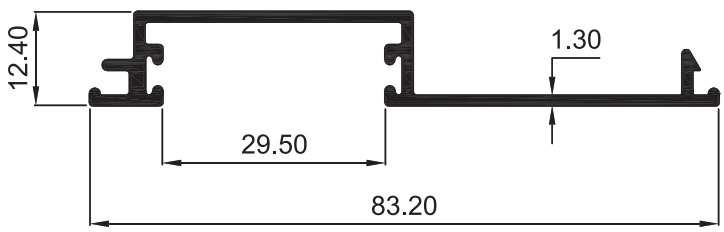
40389
WT : 1.483 Kg./m.



40390
WT : 1.262 Kg./m.



40391
WT : 1.213 Kg./m.

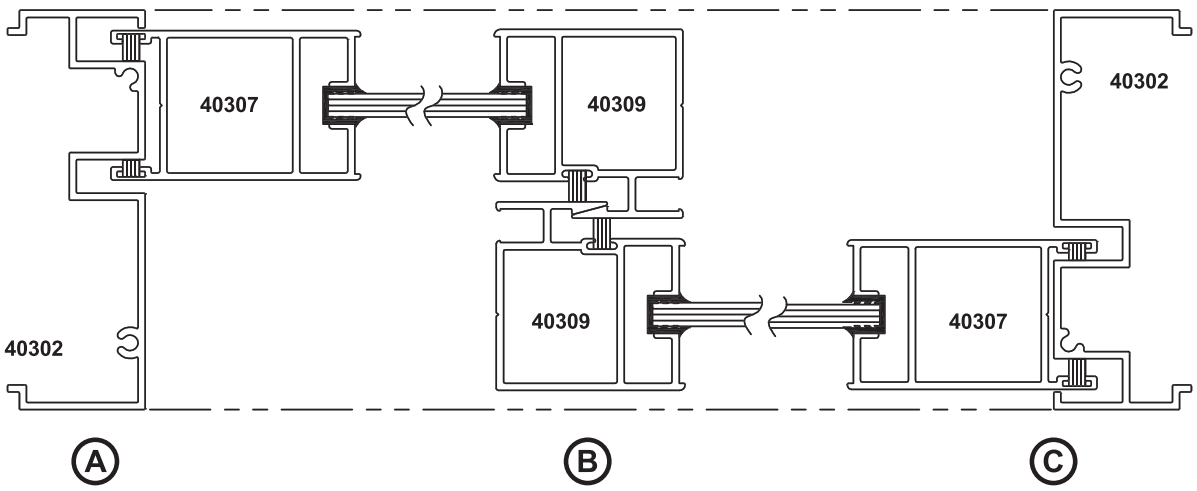


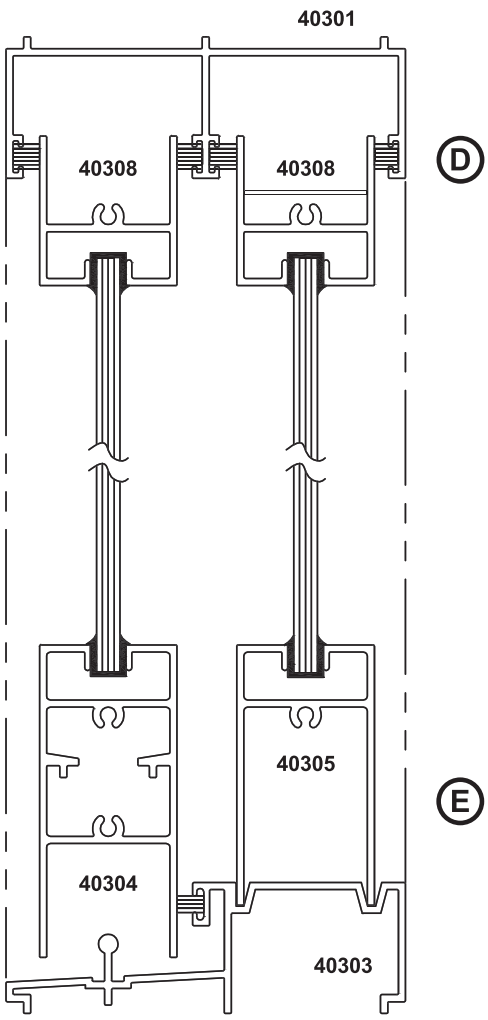
40392
WT : 0.469 Kg./m.

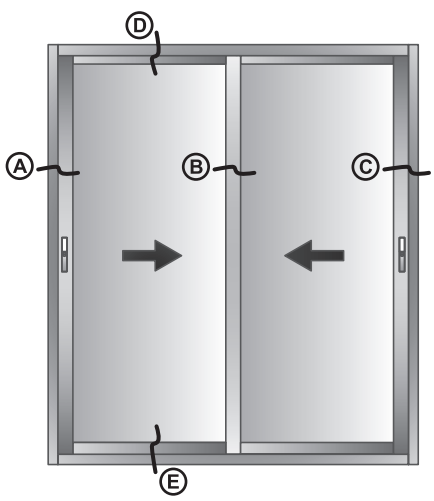
SLIDING WINDOWS & DOORS

ชุดบานเลื่อนประตู - หน้าต่าง

MUANGTHONG ALUMINIUM







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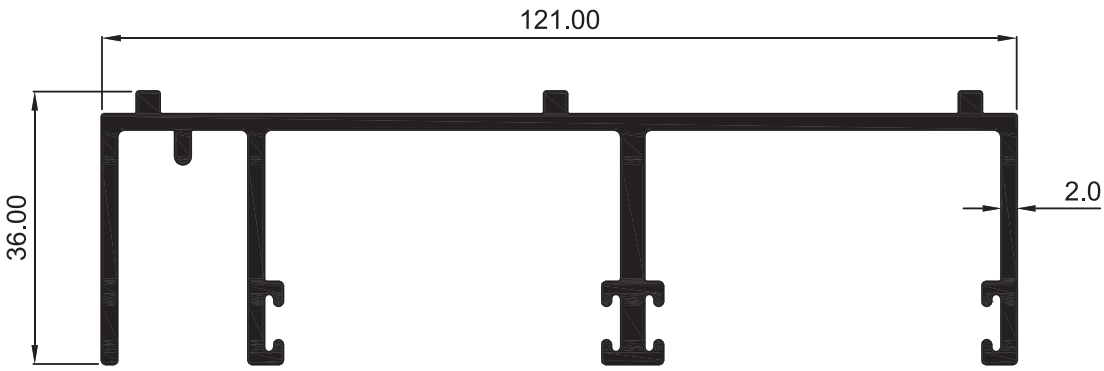
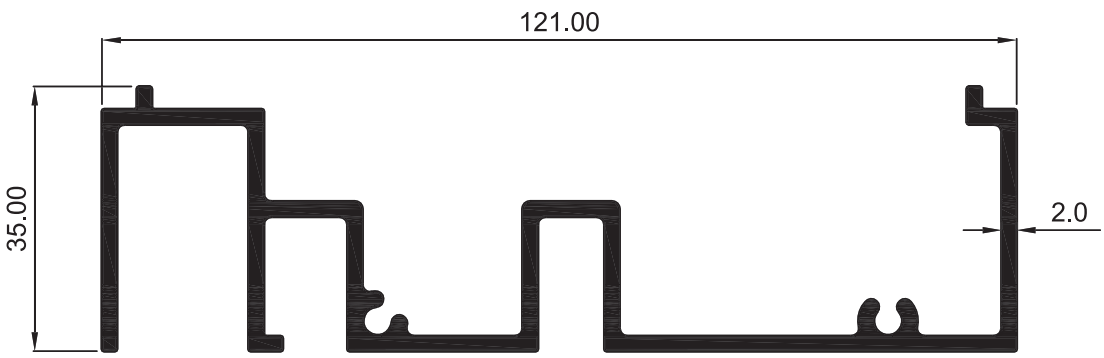
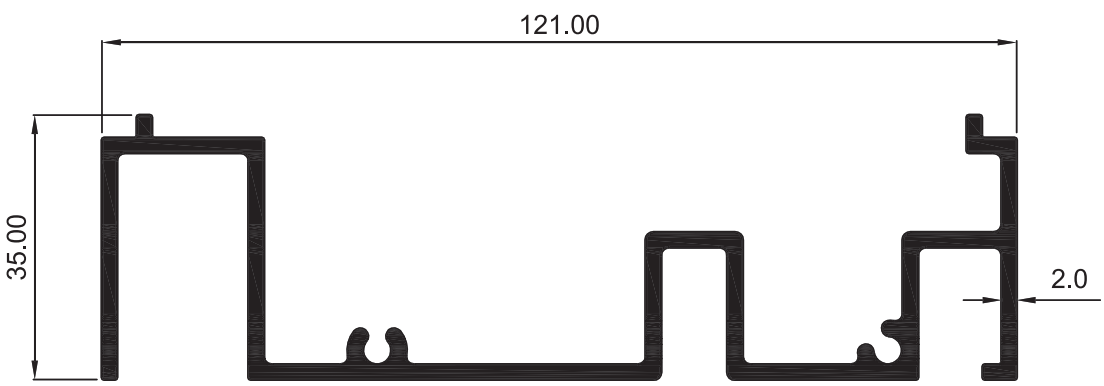


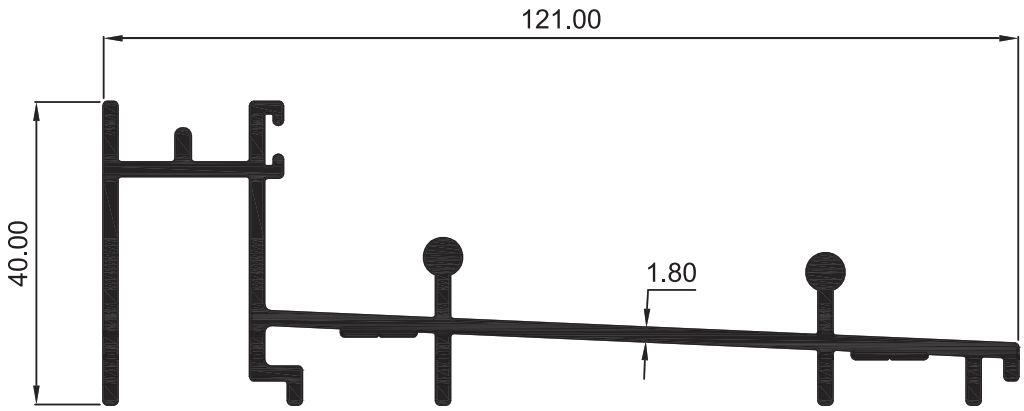
4720
WT : 1.632 Kg./m.



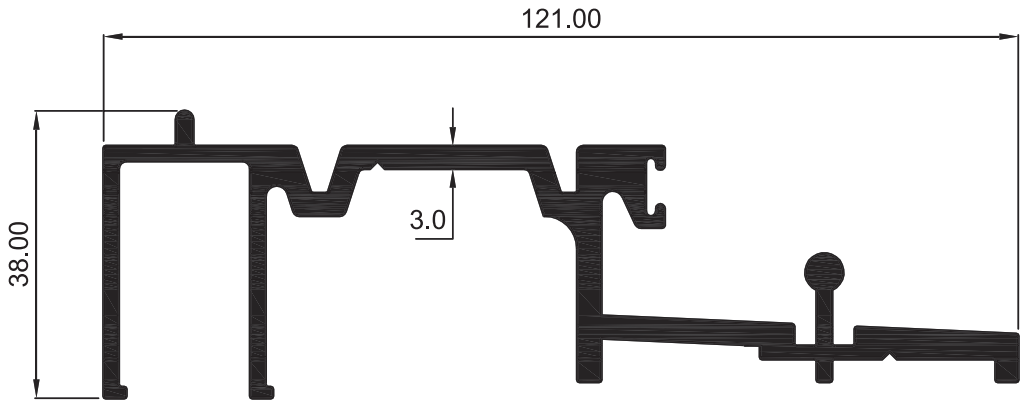
4722
WT : 1.600 Kg./m.



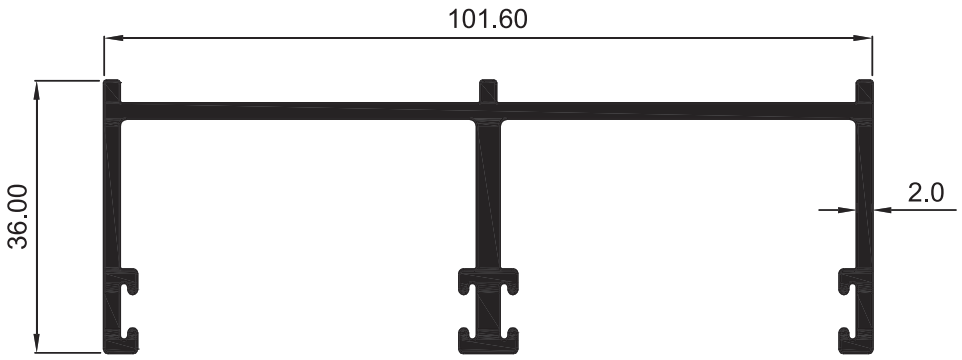
4723
WT : 1.600 Kg./m.



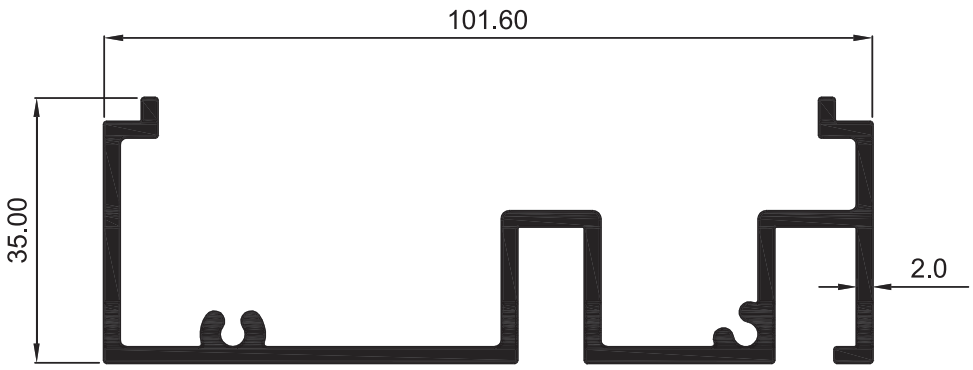
41223
WT : 1.382 Kg./m.



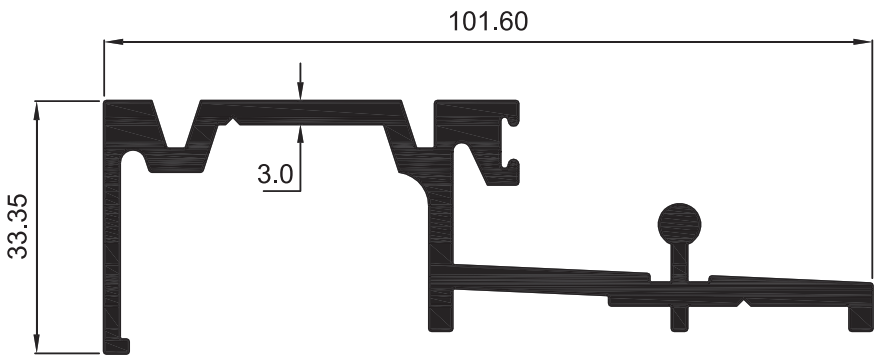
4721
WT : 2.008 Kg./m.



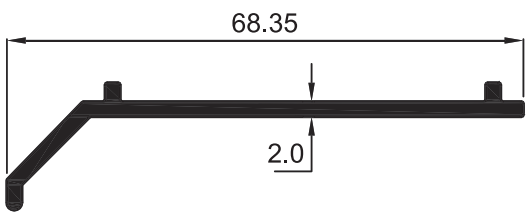
4056
WT : 1.309 Kg./m.



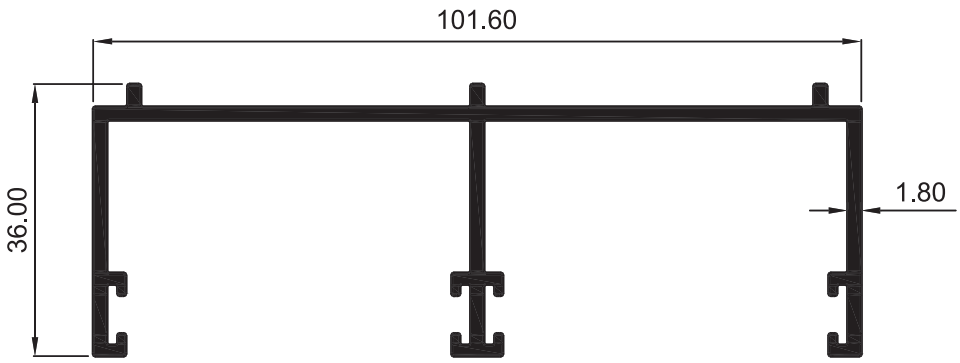
4058
WT : 1.371 Kg./m.



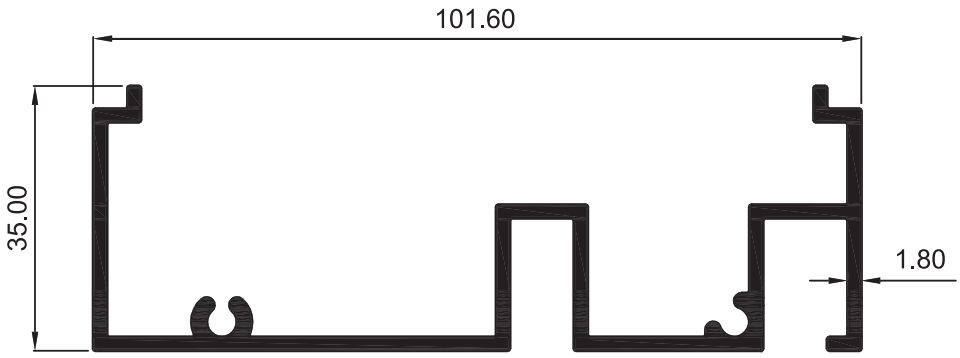
4055
WT : 1.695 Kg./m.



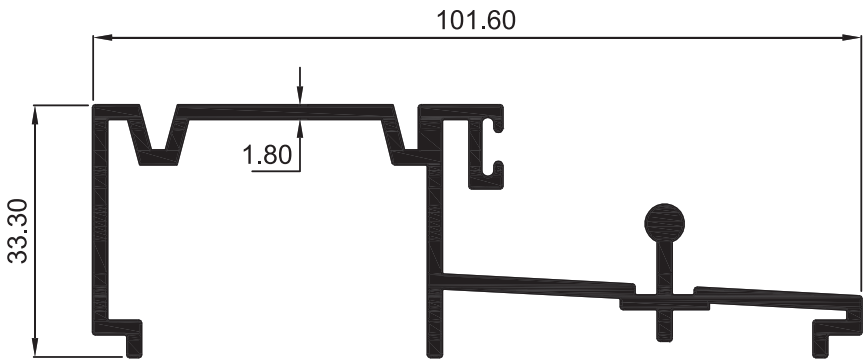
4050
WT : 0.445 Kg./m.



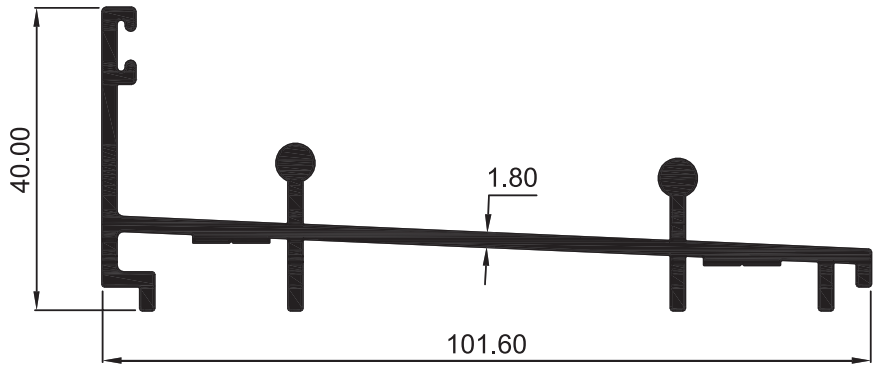
40301
WT : 1.113 Kg./m.



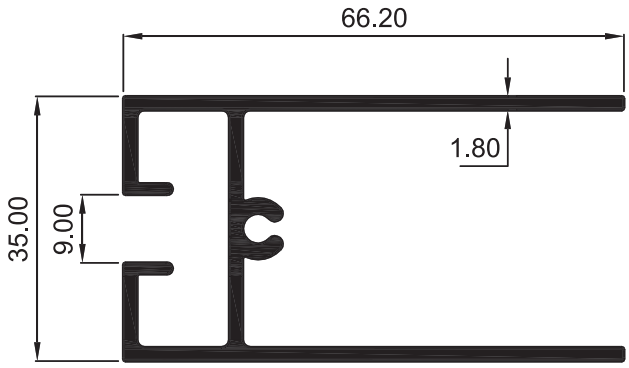
40302
WT : 1.218 Kg./m.



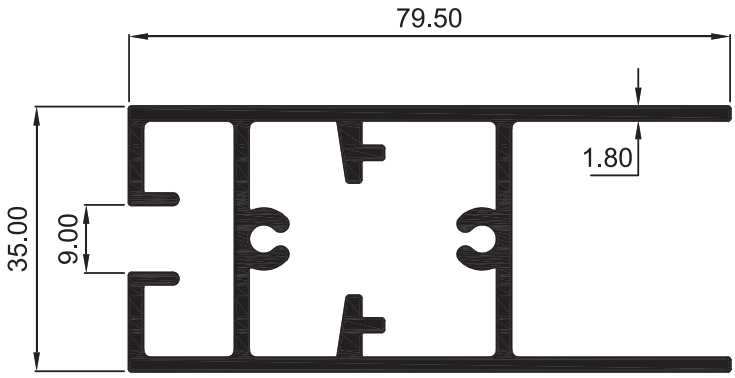
40303
WT : 1.182 Kg./m.



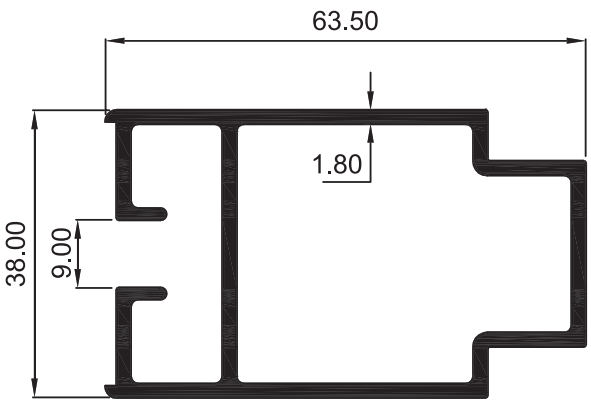
4893
WT : 1.080 Kg./m.



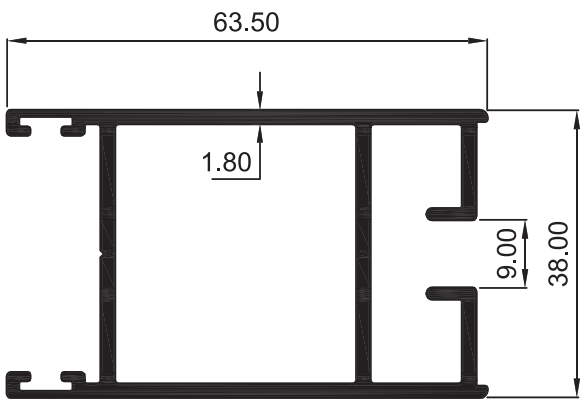
40305
WT : 1.009 Kg./m.



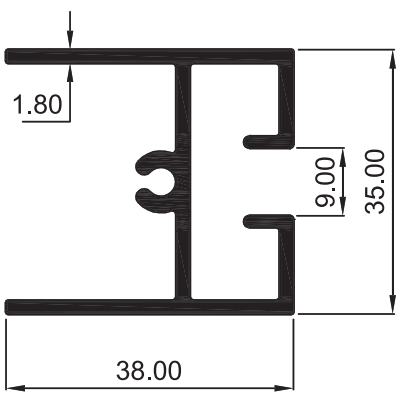
40304
WT : 1.495 Kg./m.



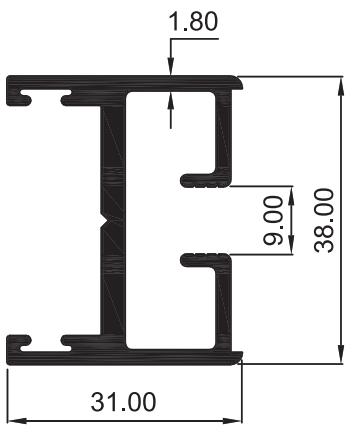
40306
WT : 1.114 Kg./m.



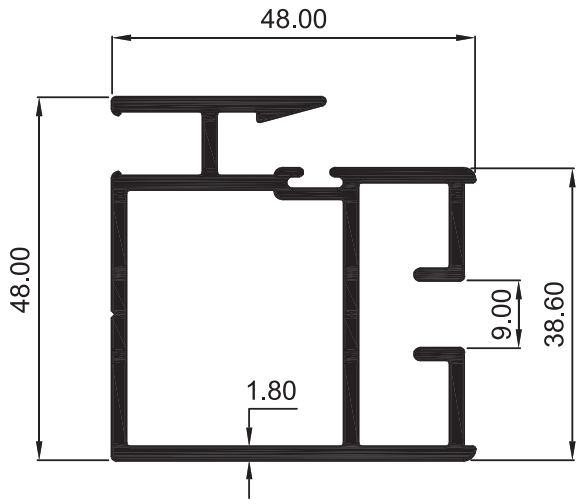
40307
WT : 1.115 Kg./m.



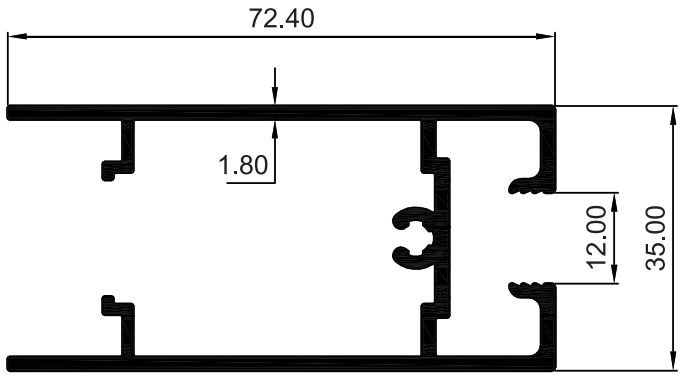
40308
WT : 0.732 Kg./m.



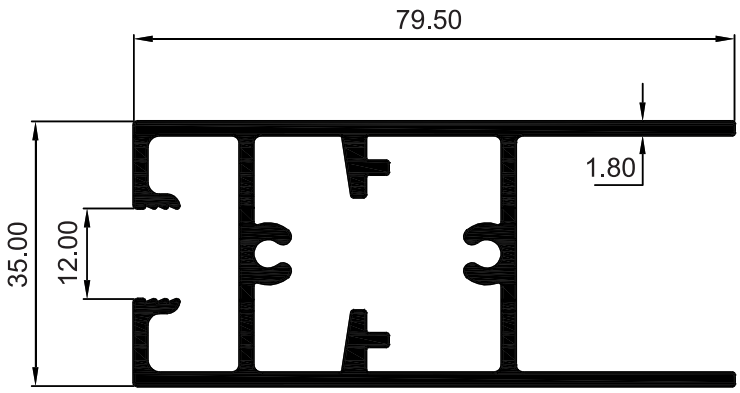
4057
WT : 0.796 Kg./m.



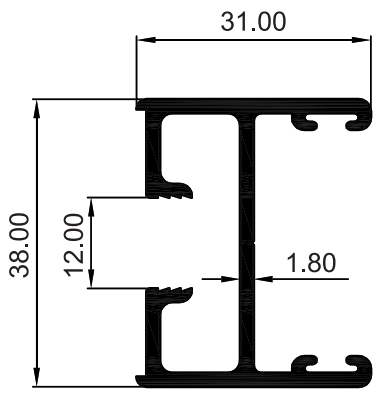
40309
WT : 1.164 Kg./m.



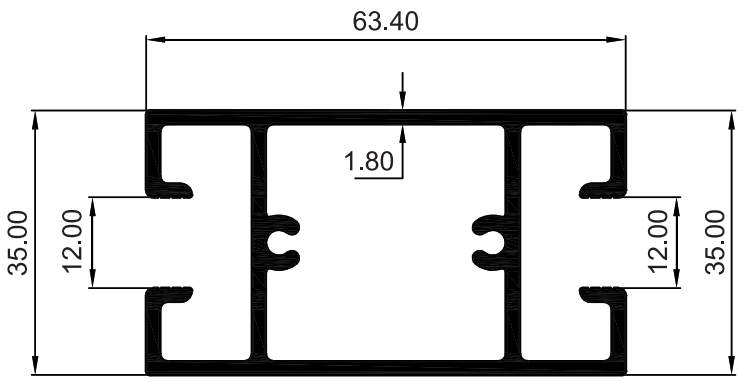
4975
WT : 1.151 Kg./m.



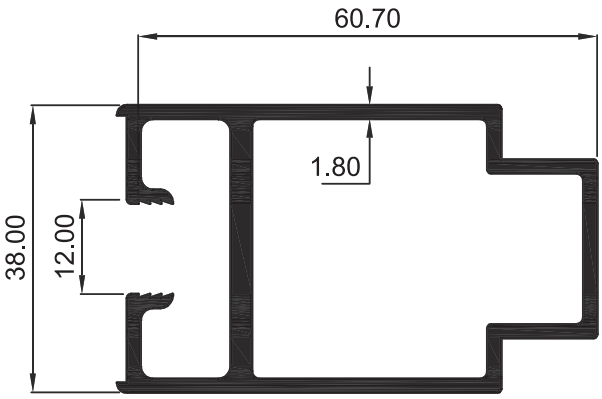
41648
WT : 1.473 Kg./m.



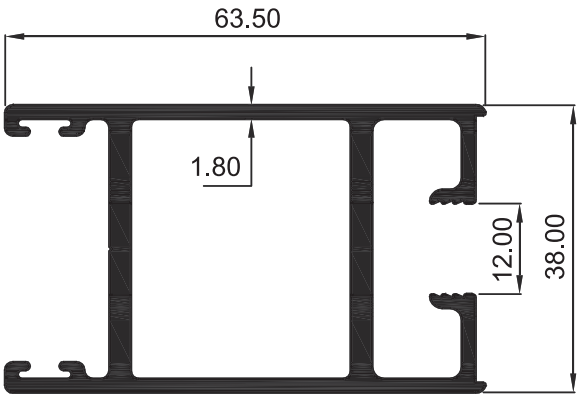
4977
WT : 0.662 Kg./m.



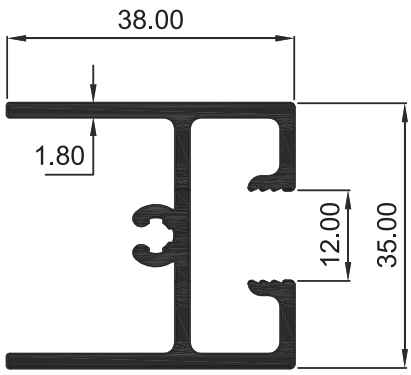
41190
WT : 1.283 Kg./m.



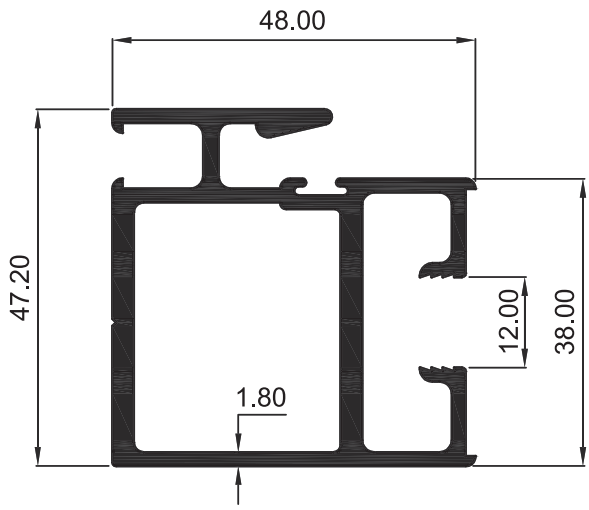
4983
WT : 1.195 Kg./m.



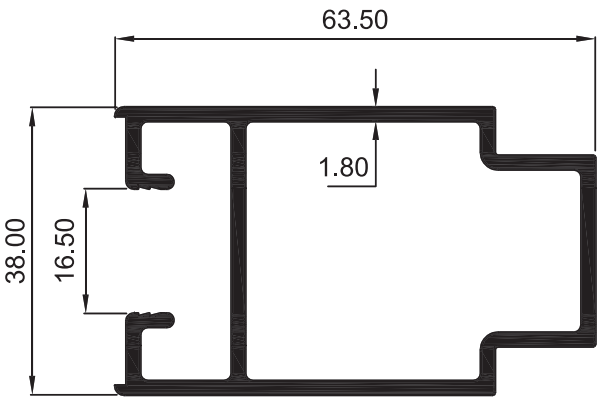
4984
WT : 1.345 Kg./m.



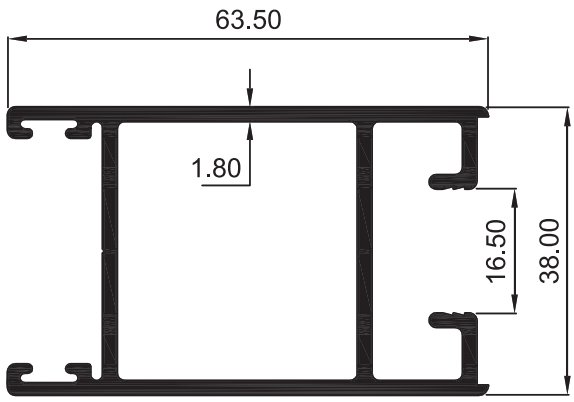
4981
WT : 0.720 Kg./m.



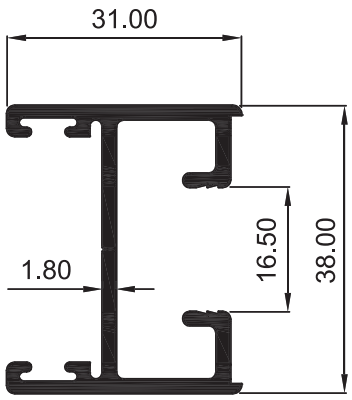
4982
WT : 1.369 Kg./m.



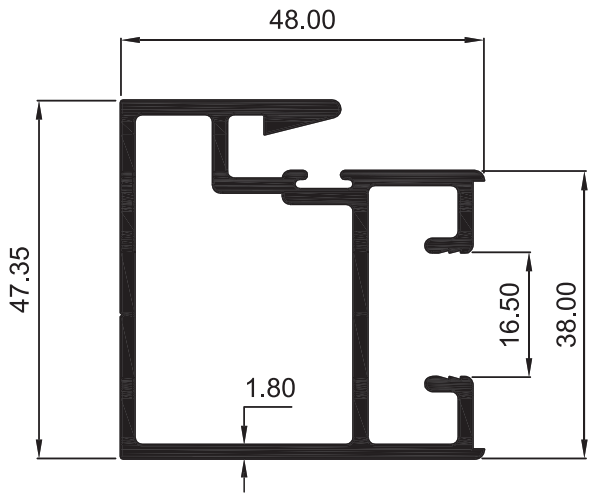
40889
WT : 1.073 Kg./m.



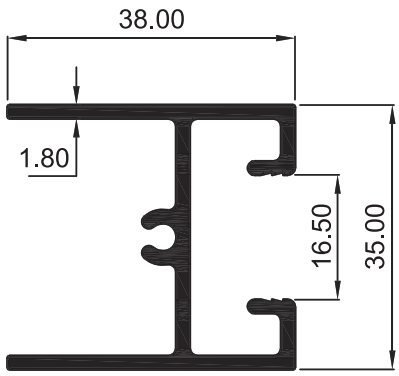
40888
WT : 1.121 Kg./m.



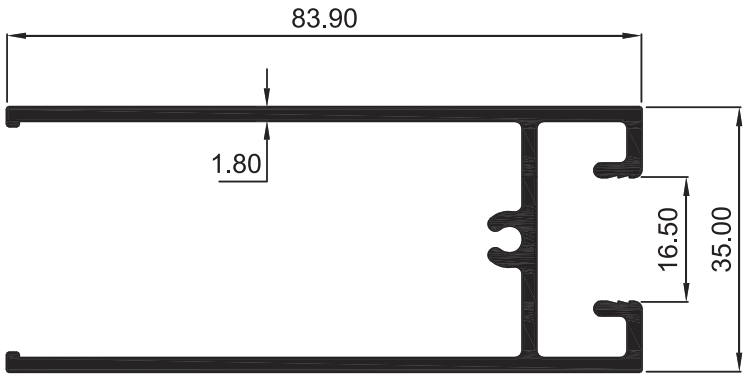
40890
WT : 0.634 Kg./m.



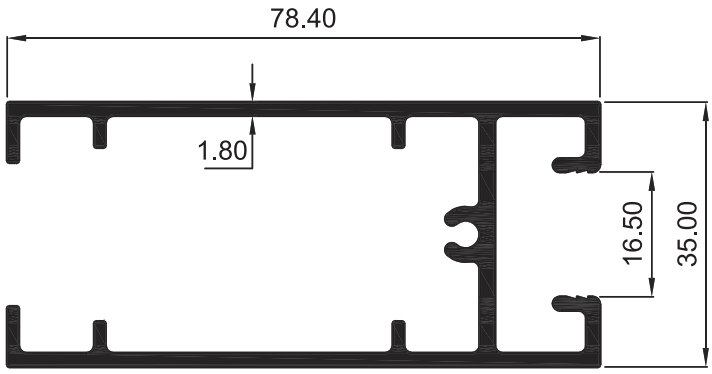
40887
WT : 1.155 Kg./m.



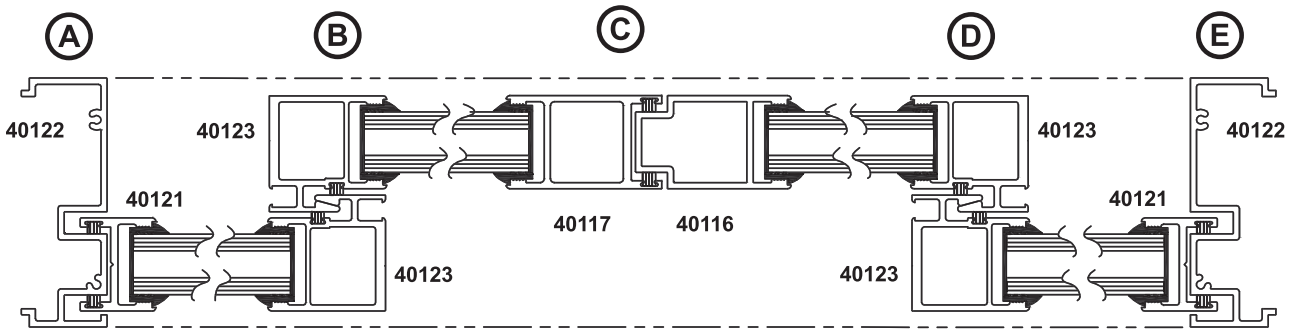
40891
WT : 0.683 Kg./m.



40892
WT : 1.137 Kg./m.



40893
WT : 1.221 Kg./m.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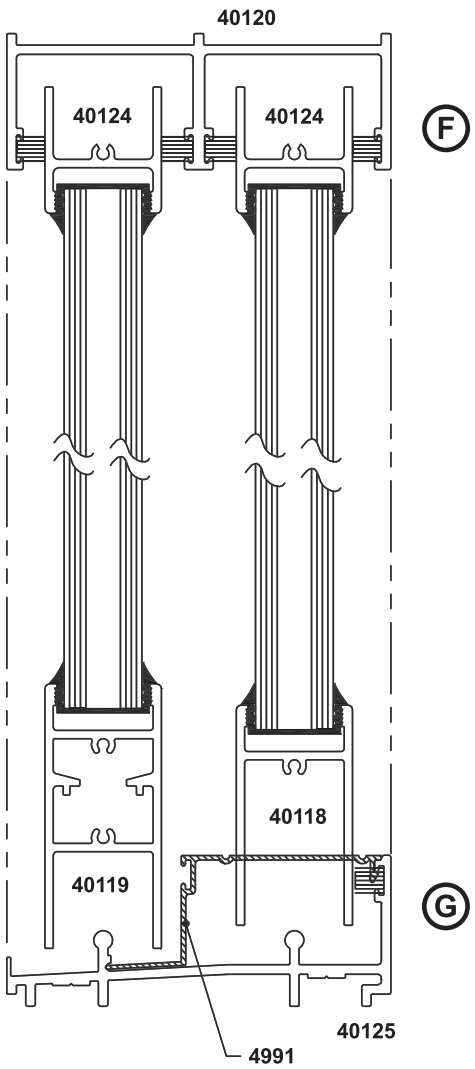
40123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40124
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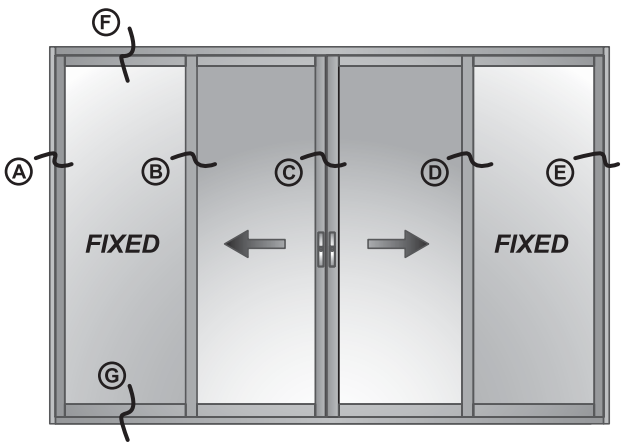
40125
4991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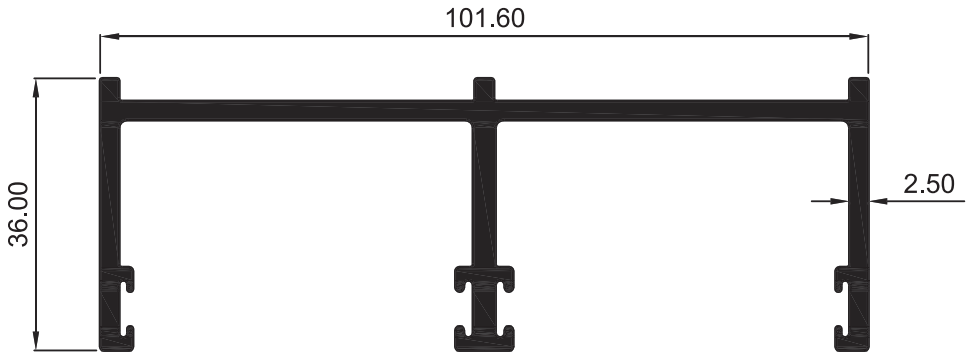
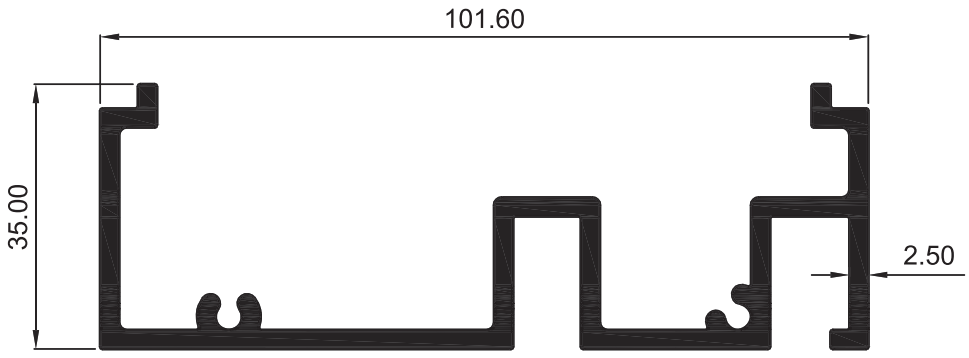
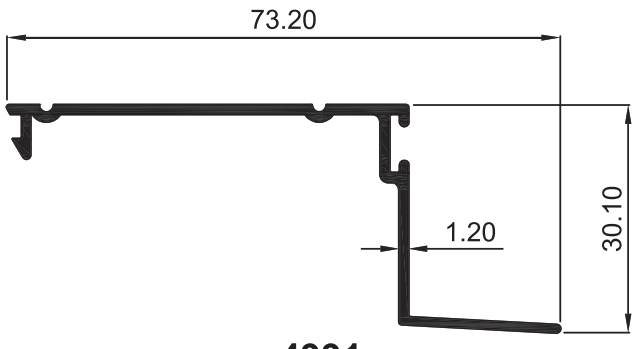


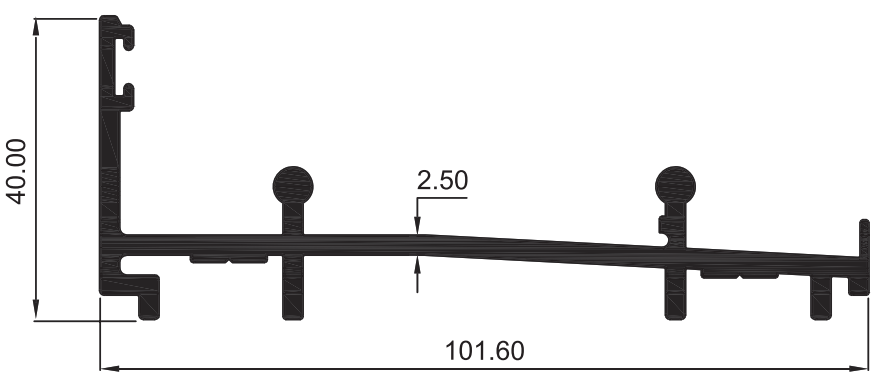
40120
WT : 1.517 Kg./m.



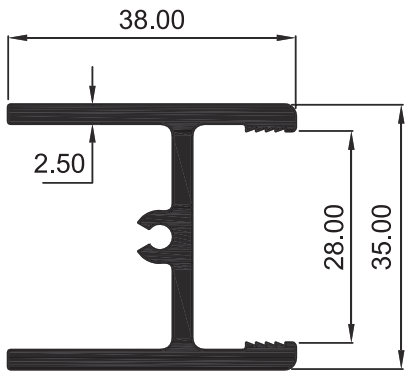
40122
WT : 1.668 Kg./m.



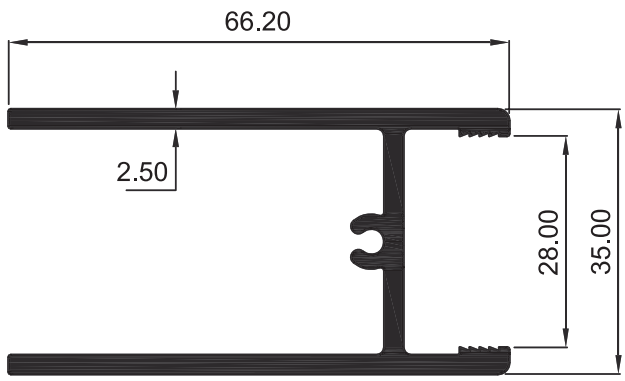
4991
WT : 0.360 Kg./m.



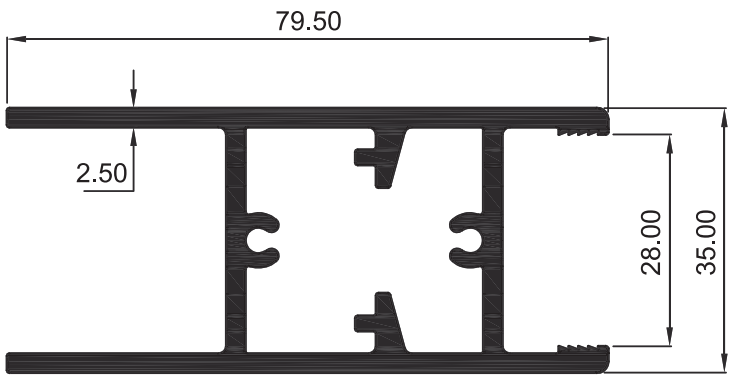
40125
WT : 1.385 Kg./m.



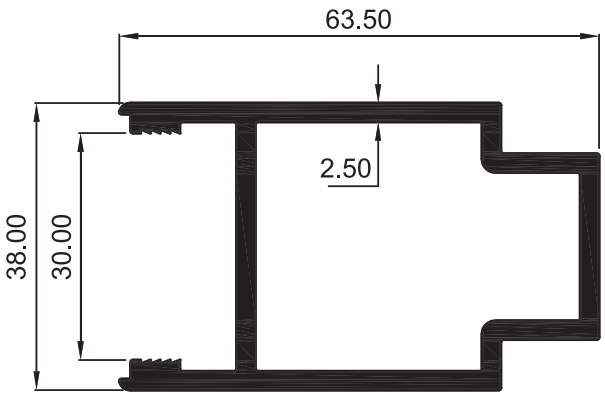
40124
WT : 0.790 Kg./m.



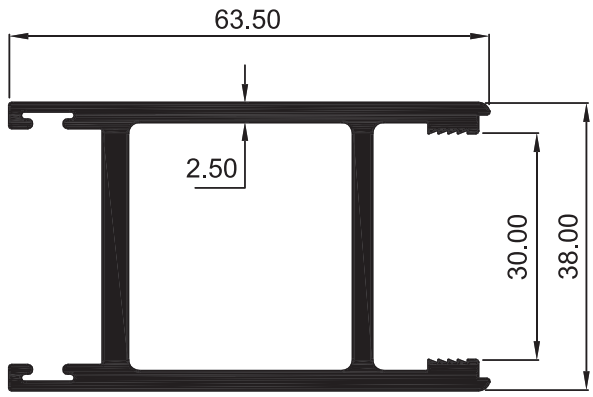
40118
WT : 1.173 Kg./m.



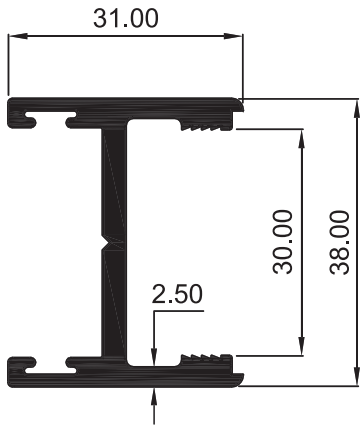
40119
WT : 1.757 Kg./m.



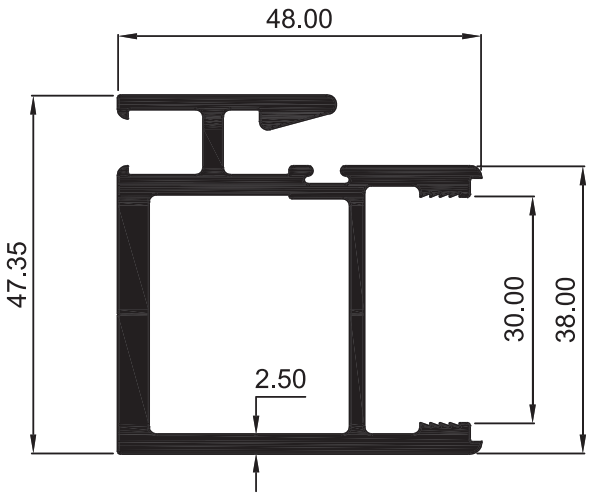
40116
WT : 1.339 Kg./m.



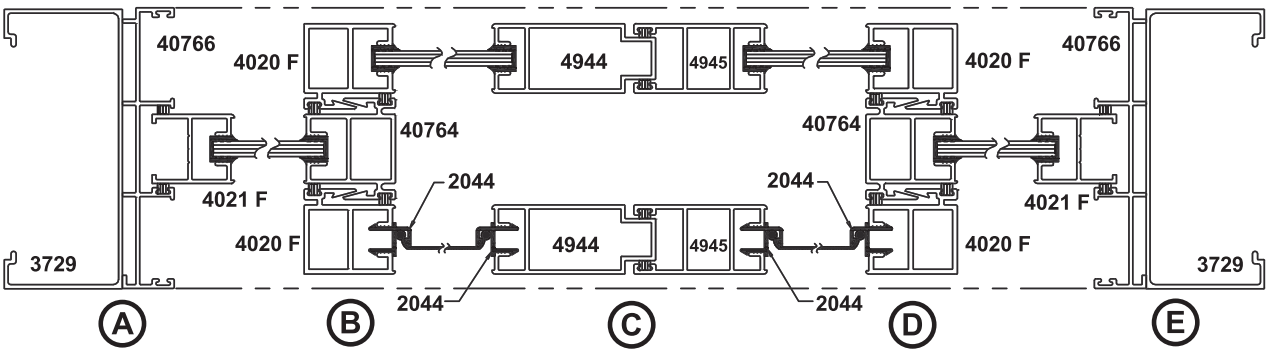
40117
WT : 1.408 Kg./m.



40121
WT : 0.736 Kg./m.



40123
WT : 1.450 Kg./m.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4020 F
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4020 F
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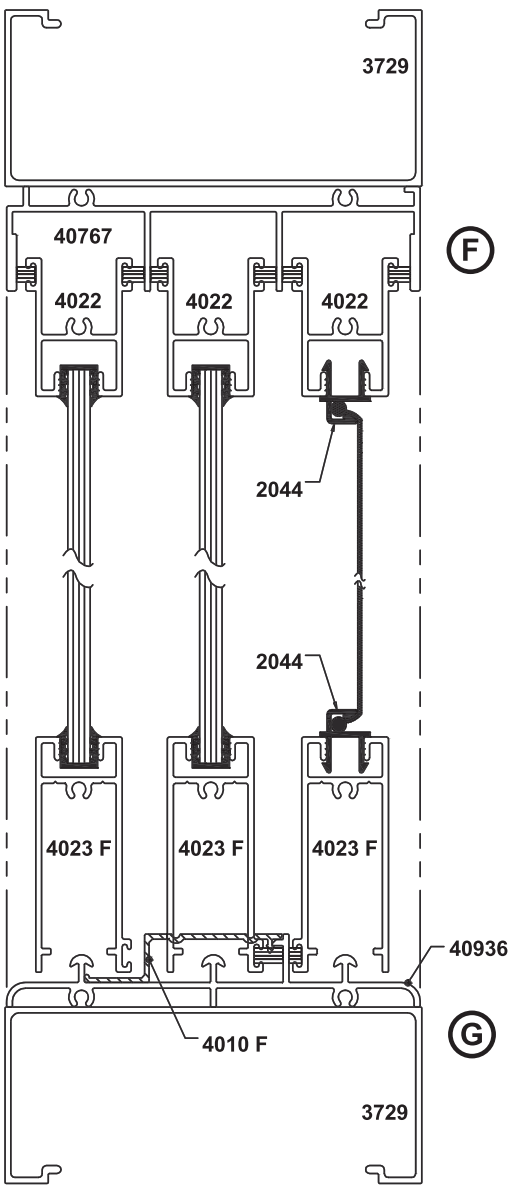
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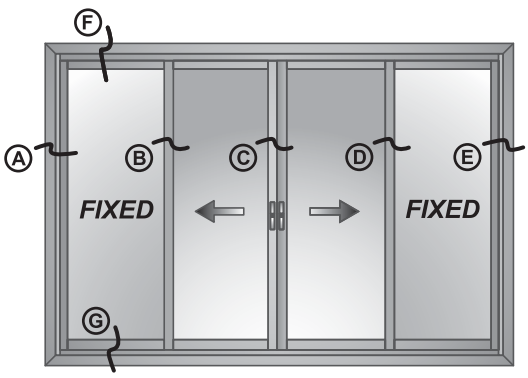
40936
4010 F
G
3729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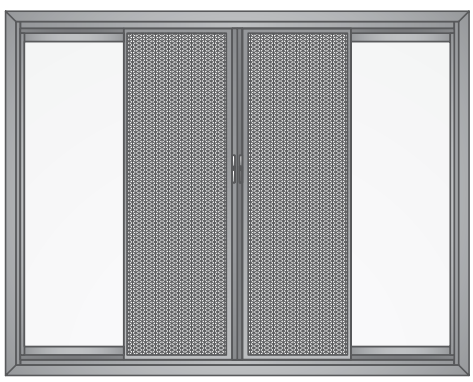

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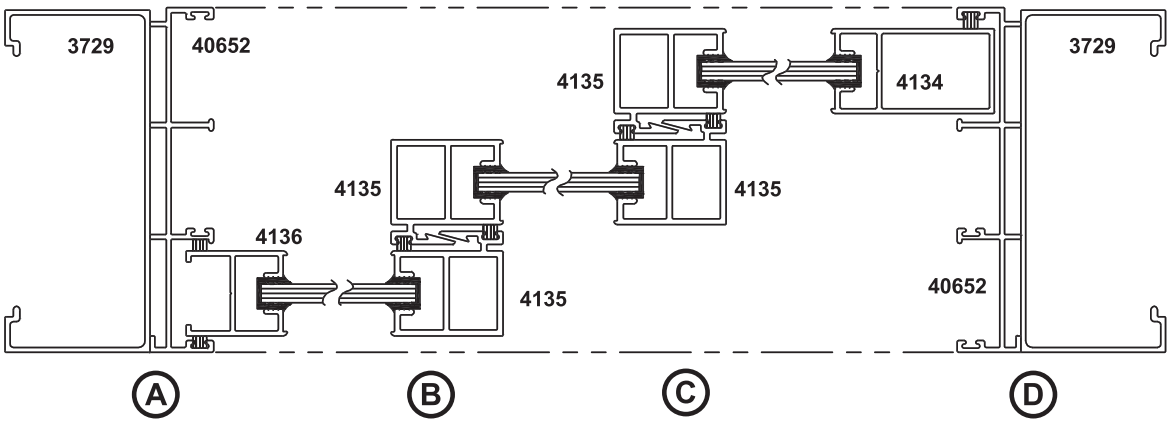
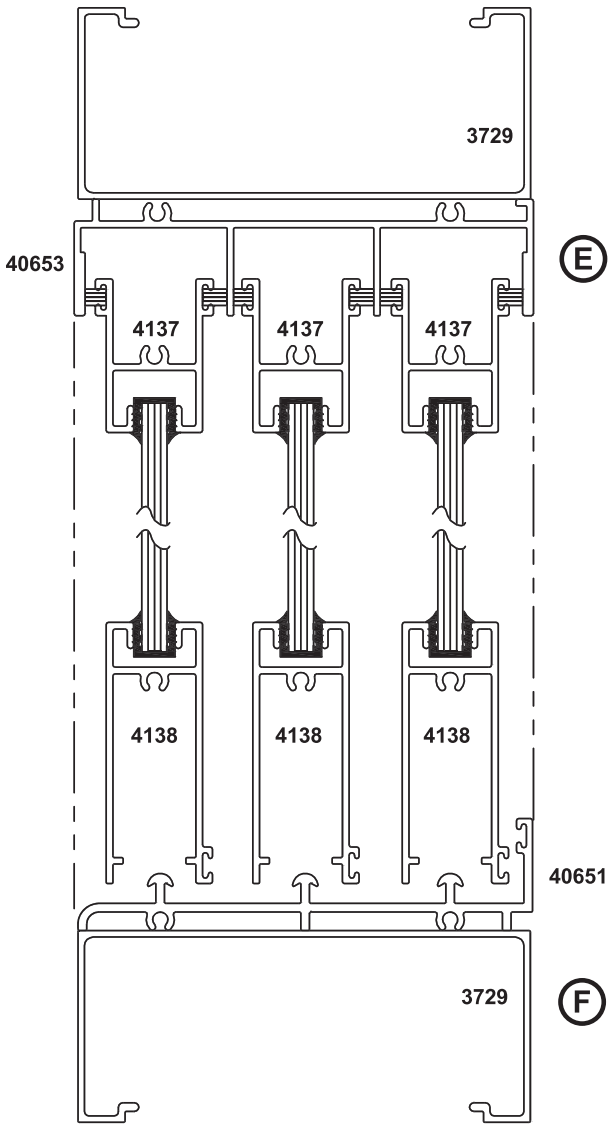
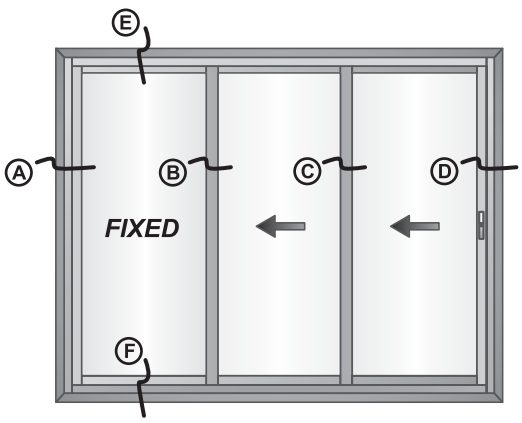
SLIDING WINDOWS & DOORS

ชุดบานเลื่อนประตู - หน้าต่าง







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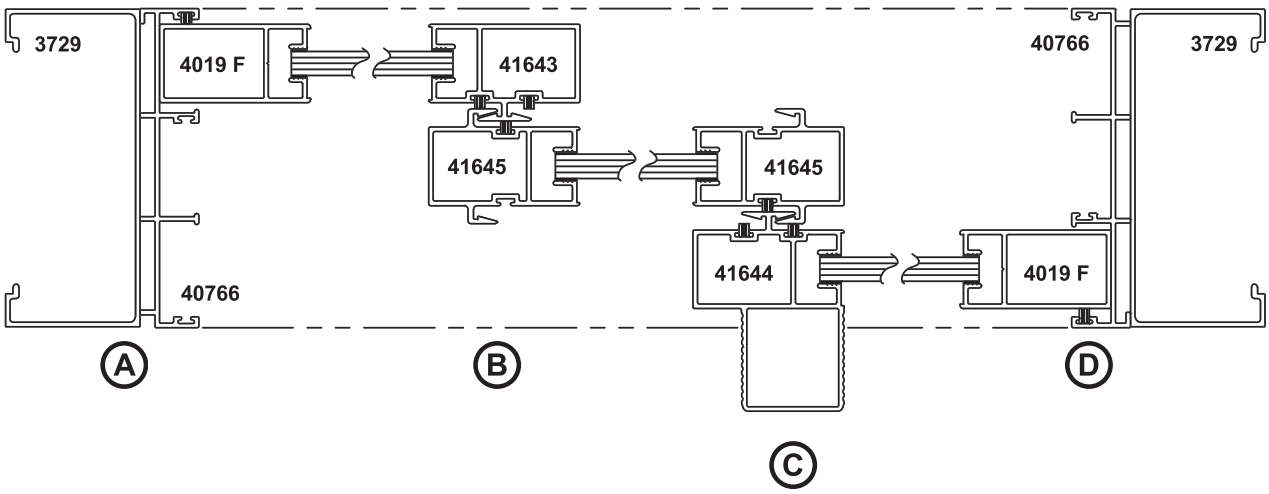
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41643
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41645
40766
41644
4019 F
40766
3729
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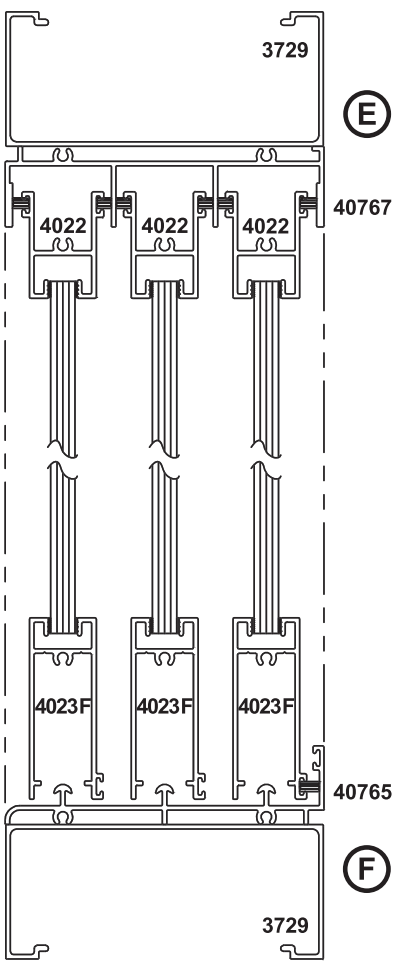
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40765
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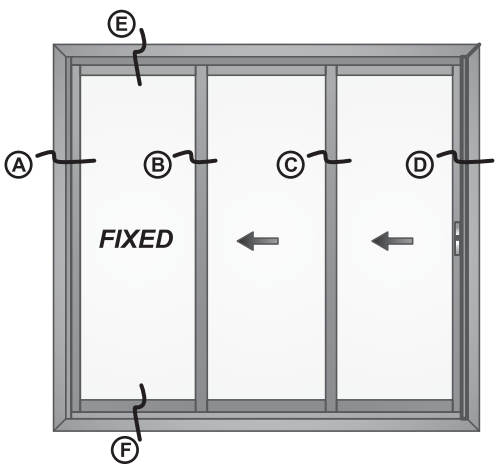
3729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FIXED
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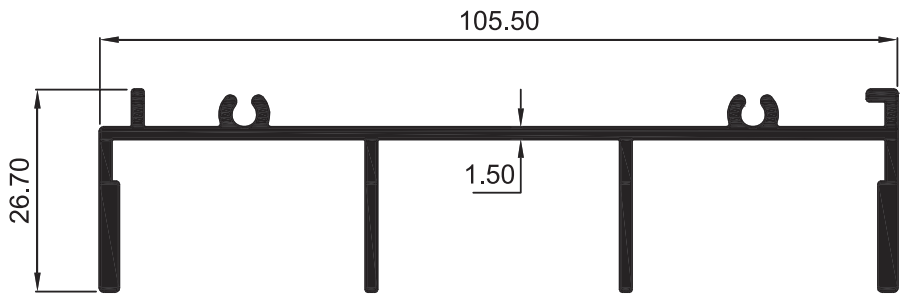
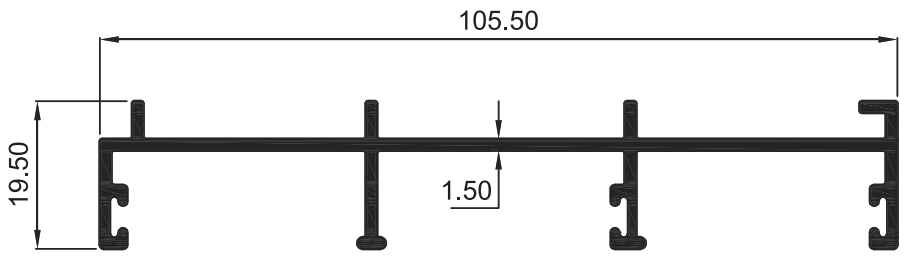
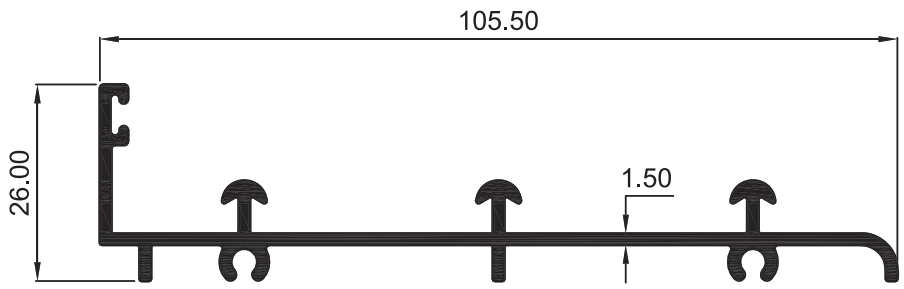


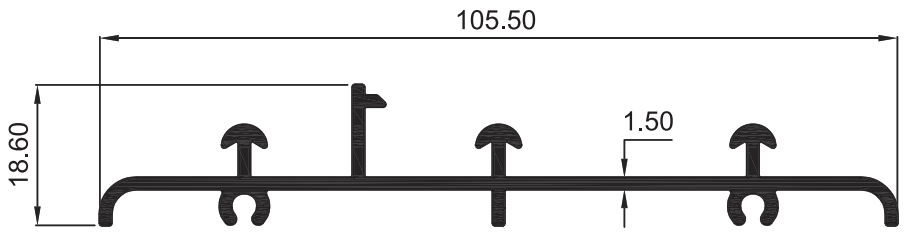
40767
WT : 0.999 Kg./m.



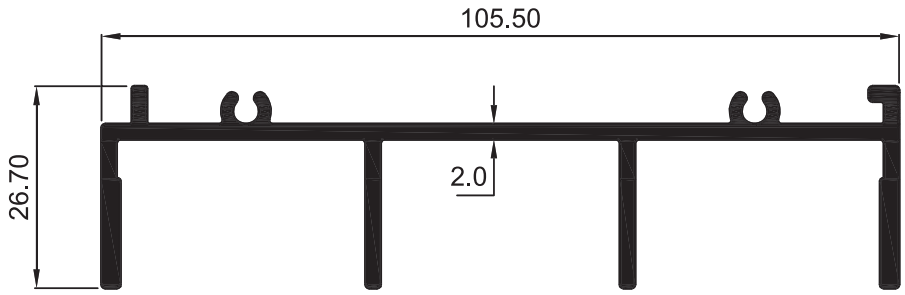
40766
WT : 0.805 Kg./m.



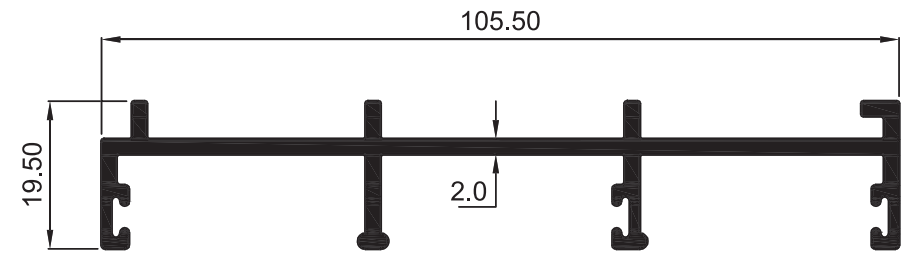
40765
WT : 0.817 Kg./m.



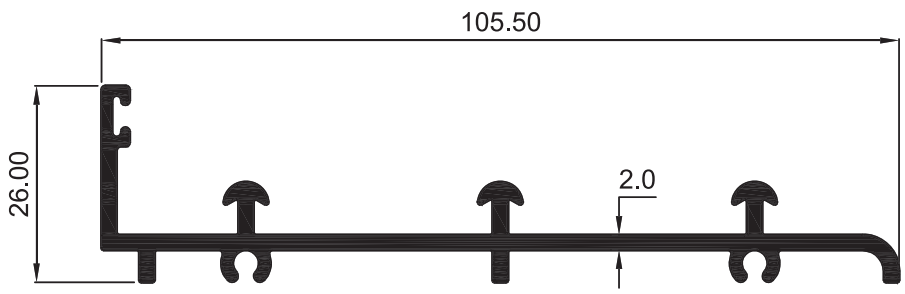
40936
WT : 0.769 Kg./m.



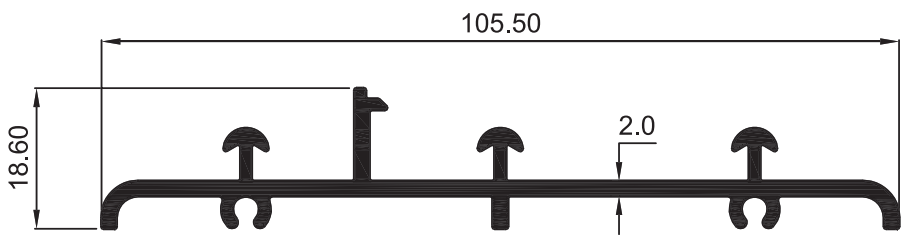
40653
WT : 1.175 Kg./m.



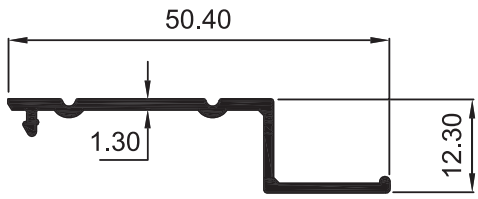
40652
WT : 1.008 Kg./m.



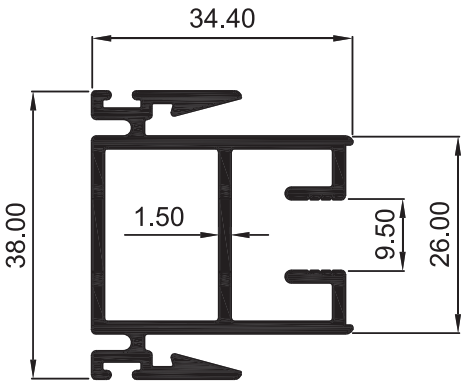
40651
WT : 0.991 Kg./m.



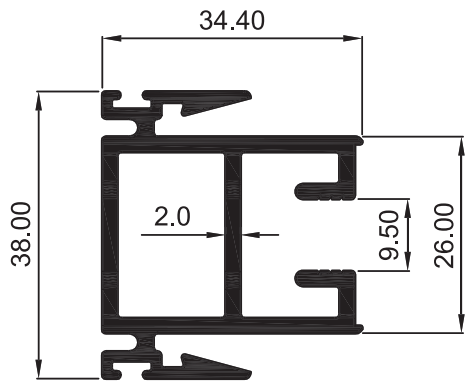
41623
WT : 0.918 Kg./m.



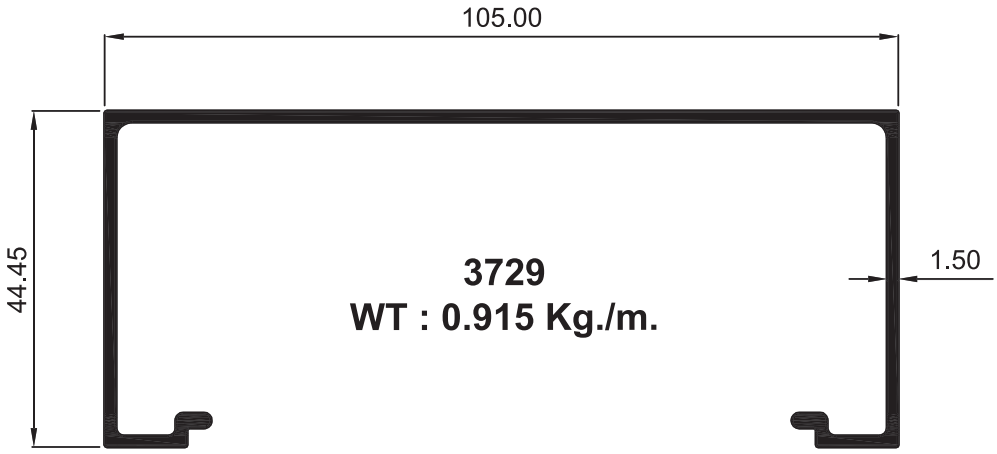
4010 F
WT : 0.223 Kg./m.



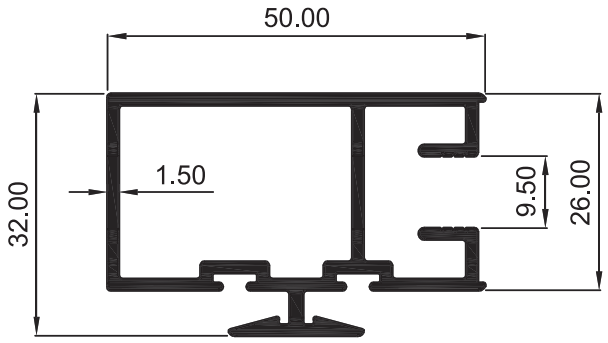
40764
WT : 0.808 Kg./m.



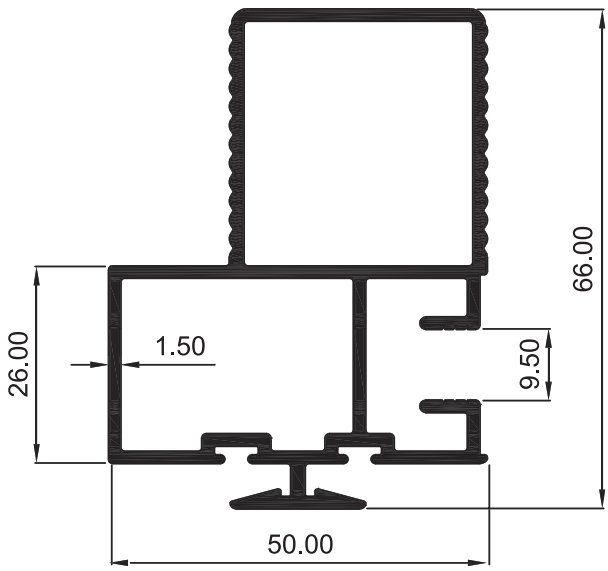
40650
WT : 0.980 Kg./m.



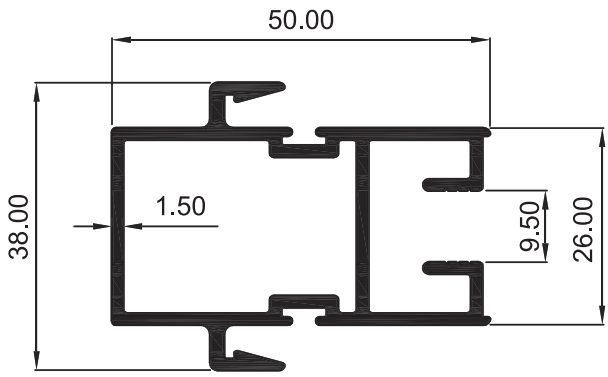
3729
WT : 0.915 Kg./m.



41643
WT : 0.837 Kg./m.



41644
WT : 1.251 Kg./m.

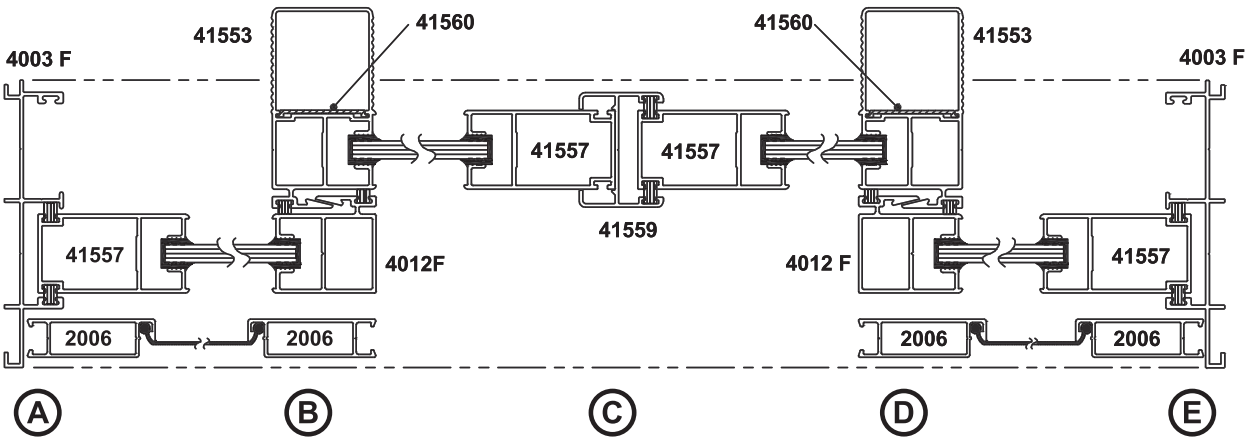


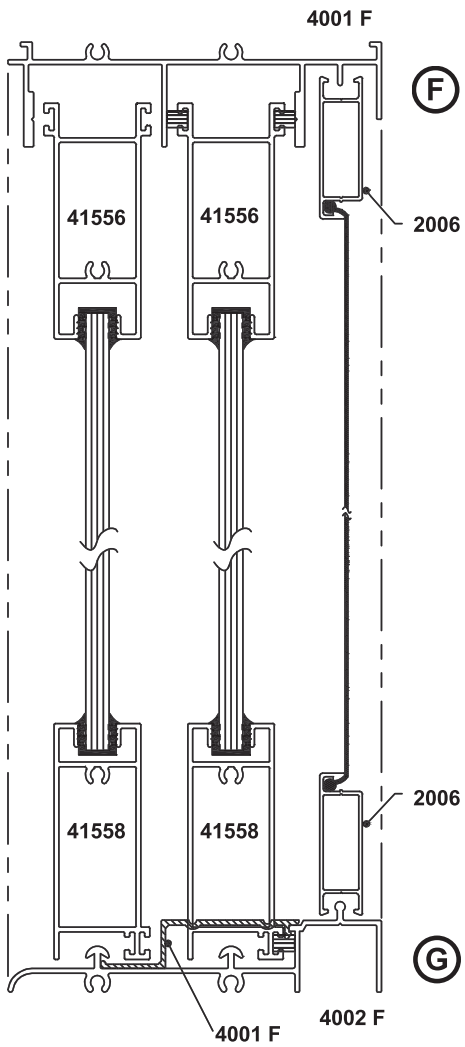
41645
WT : 0.877 Kg./m.

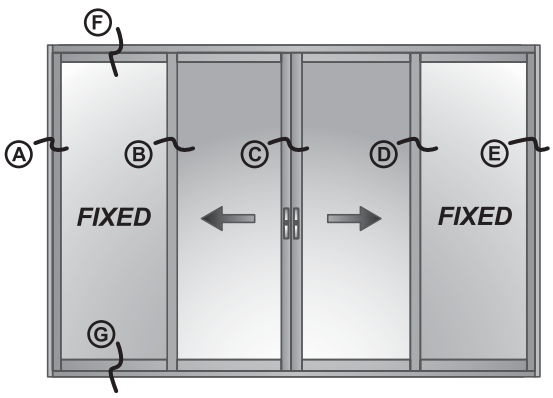
SLIDING WINDOWS & DOORS

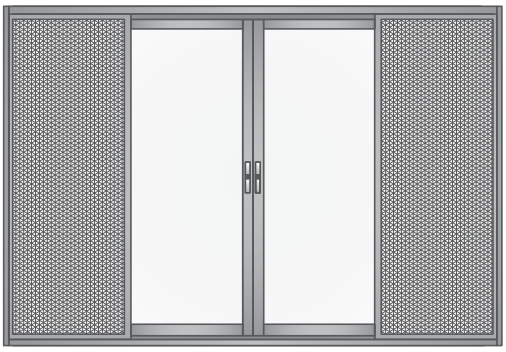
ชุดบานเลื่อนประตู - หน้าต่าง

MUANGTHONG ALUMINIUM









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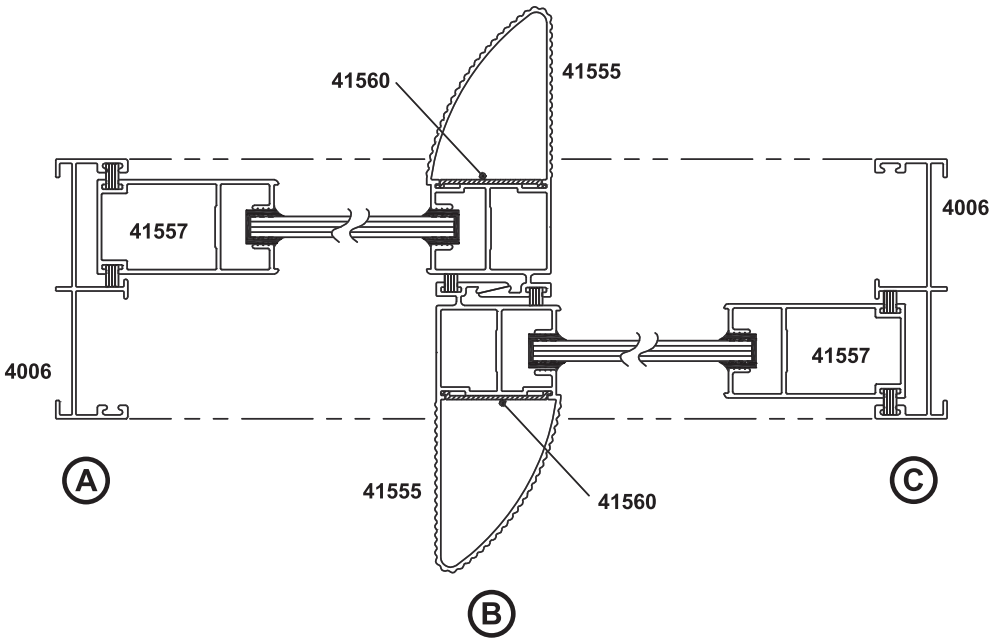
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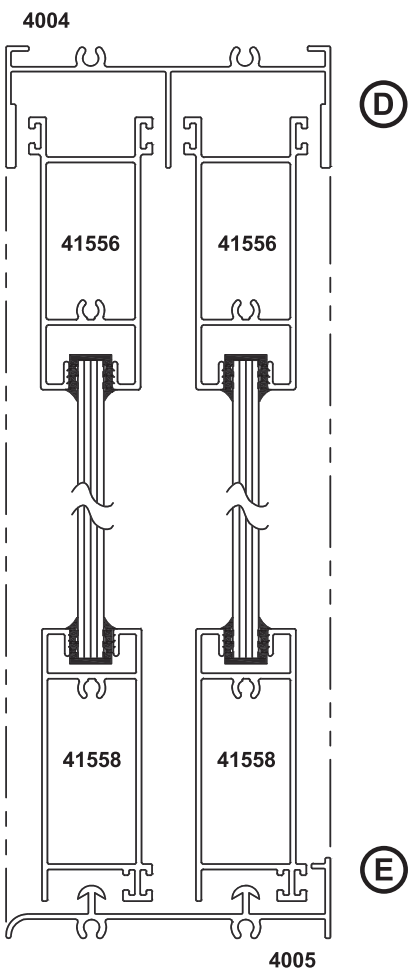
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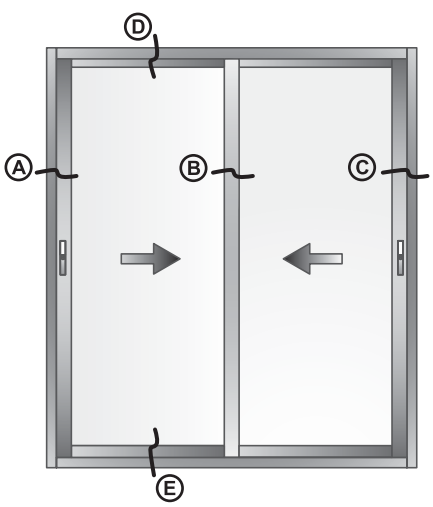
4005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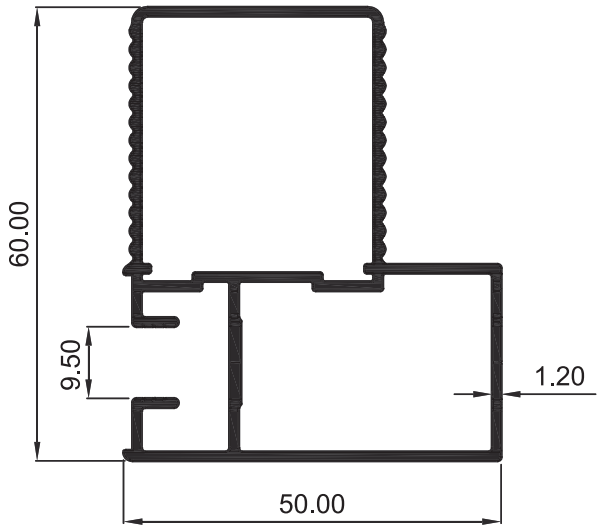
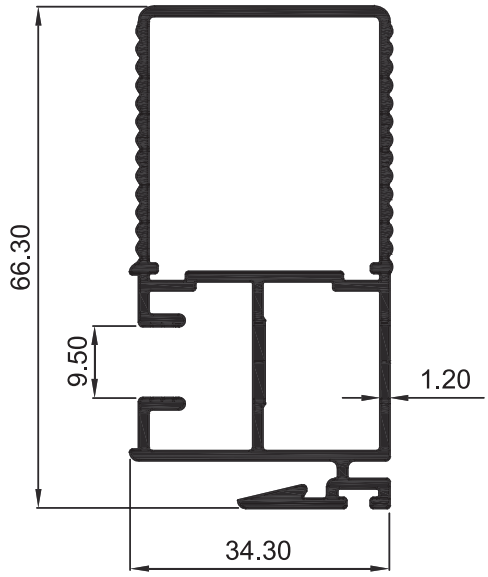
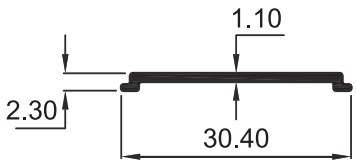


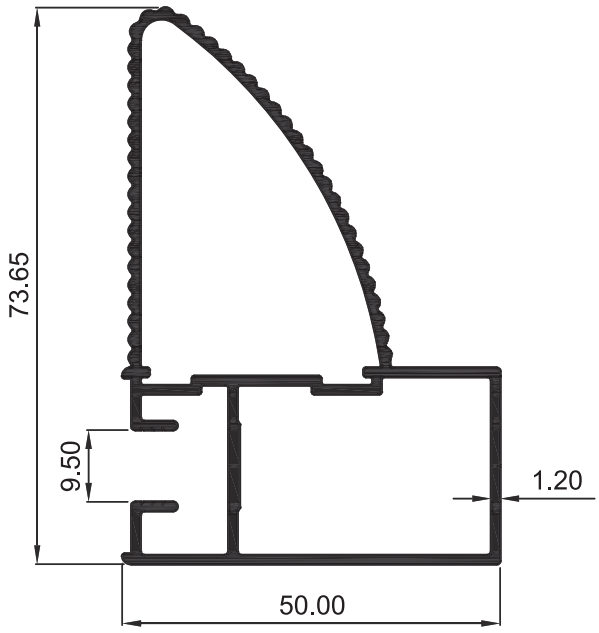
41552
WT : 0.919 Kg./m.



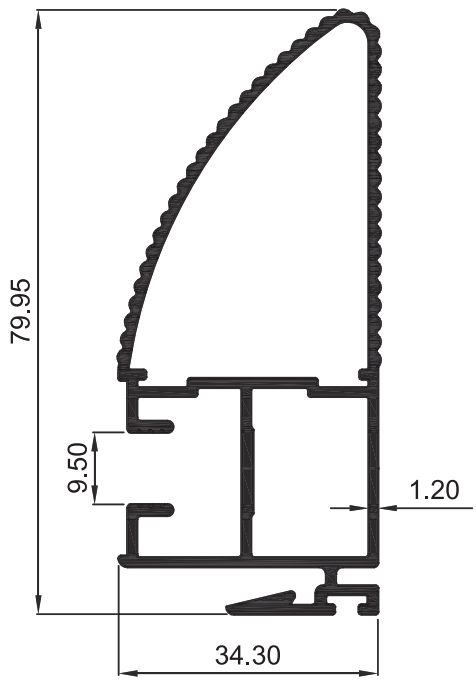
41553
WT : 0.937 Kg./m.



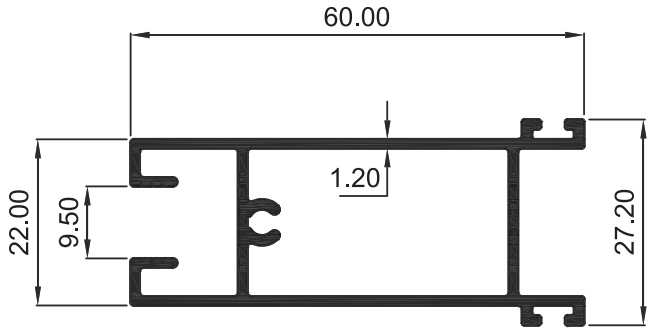
41560
WT : 0.096 Kg./m.



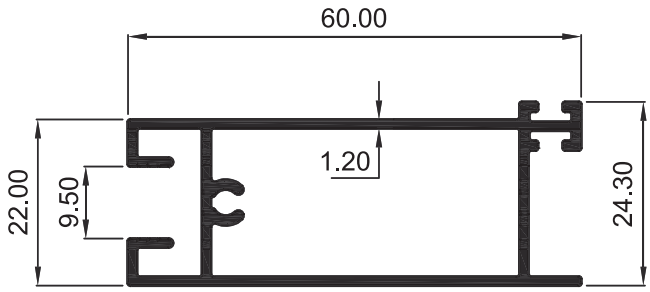
41554
WT : 0.961 Kg./m.



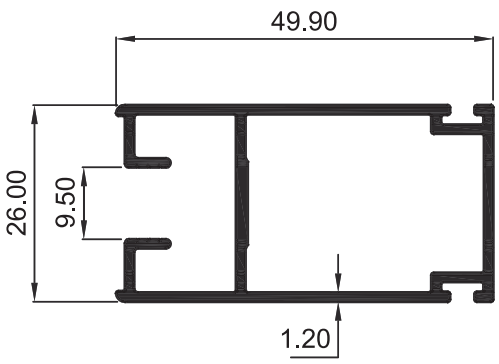
41555
WT : 0.979 Kg./m.



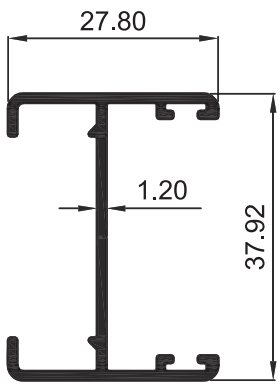
41556
WT : 0.669 Kg./m.



41558
WT : 0.657 Kg./m.



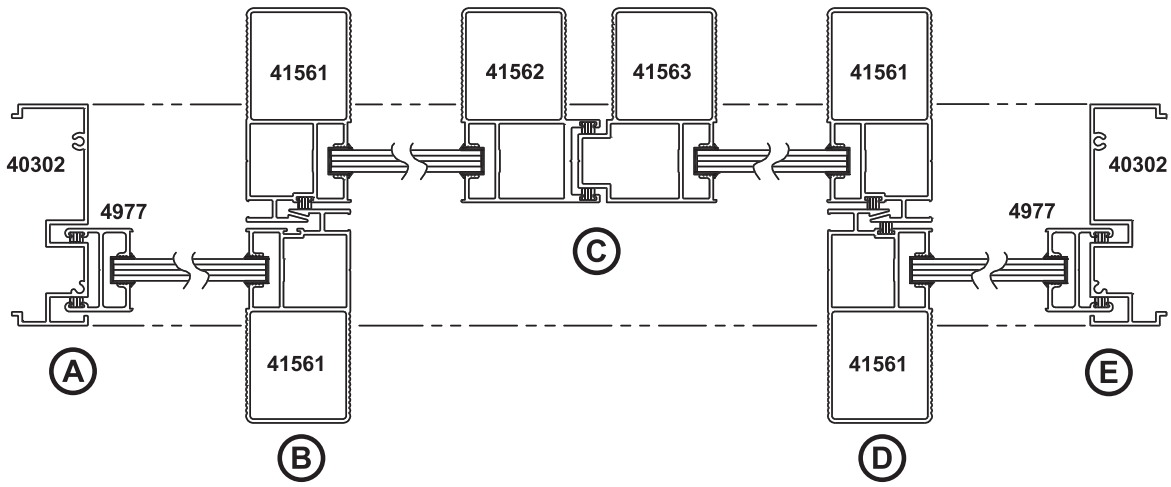
41557
WT : 0.599 Kg./m.

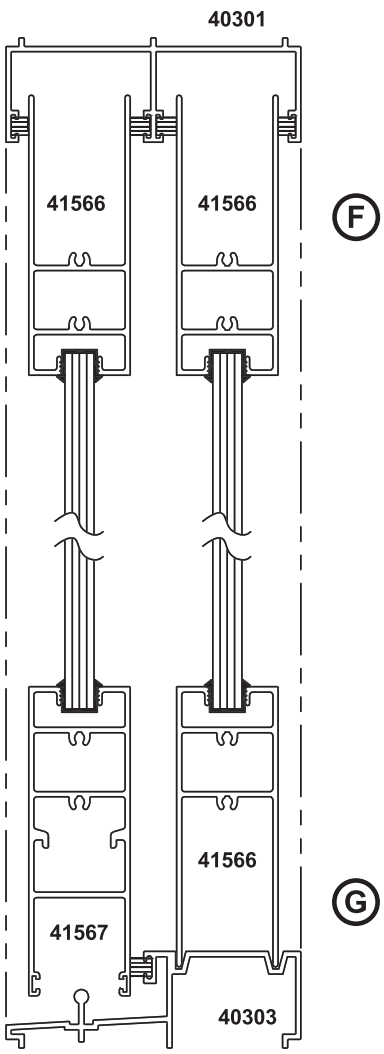


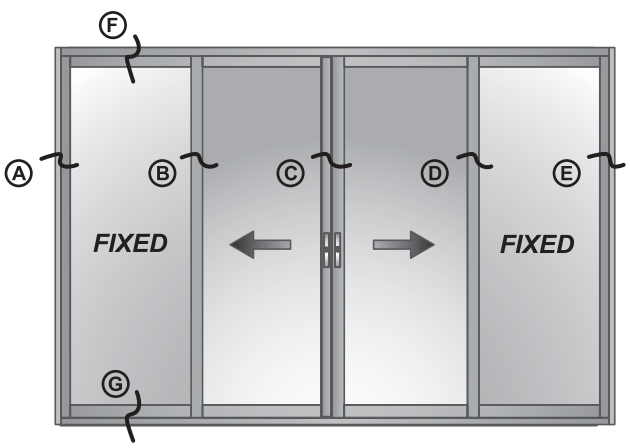
41559
WT : 0.363 Kg./m.

SLIDING WINDOWS & DOORS

ชุดบานเลื่อนประตู - หน้าต่าง







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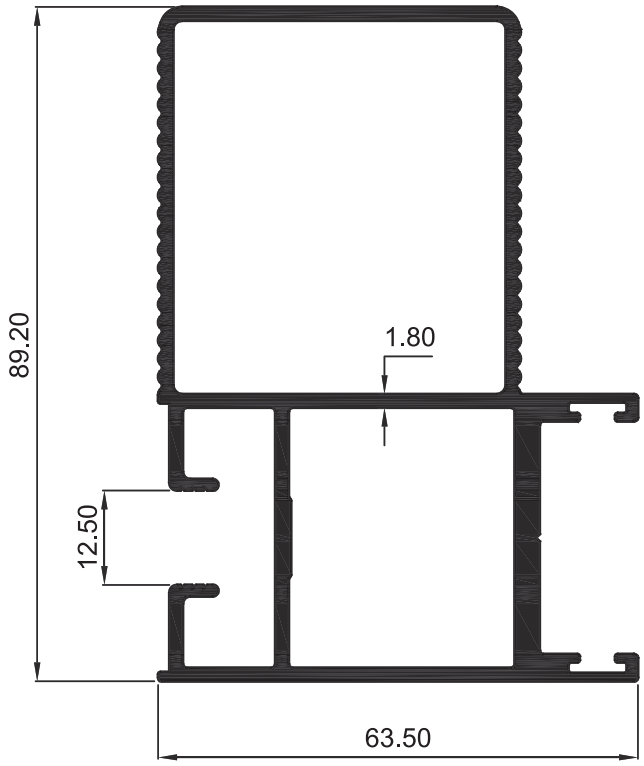

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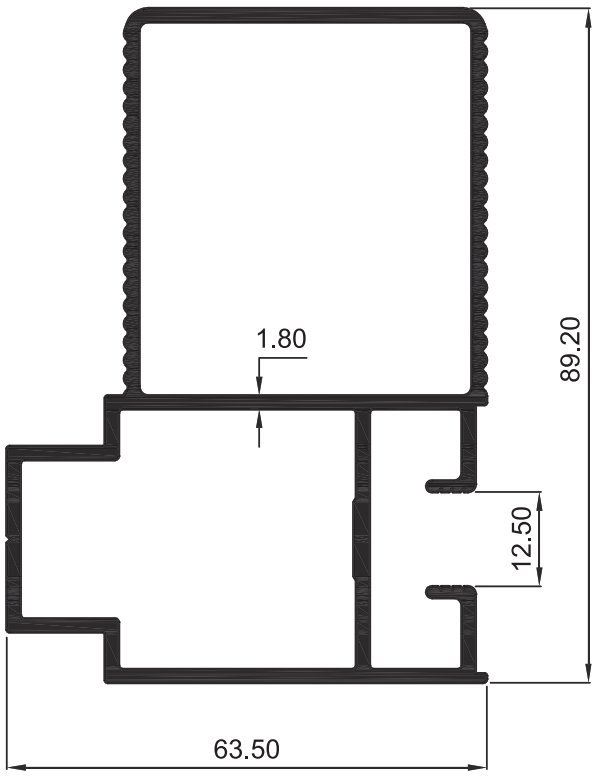
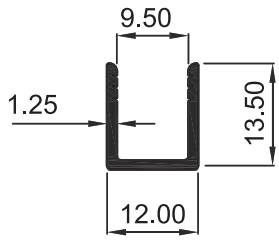
WT : 1.977 Kg./m.



41563
WT : 1.797 Kg./m.



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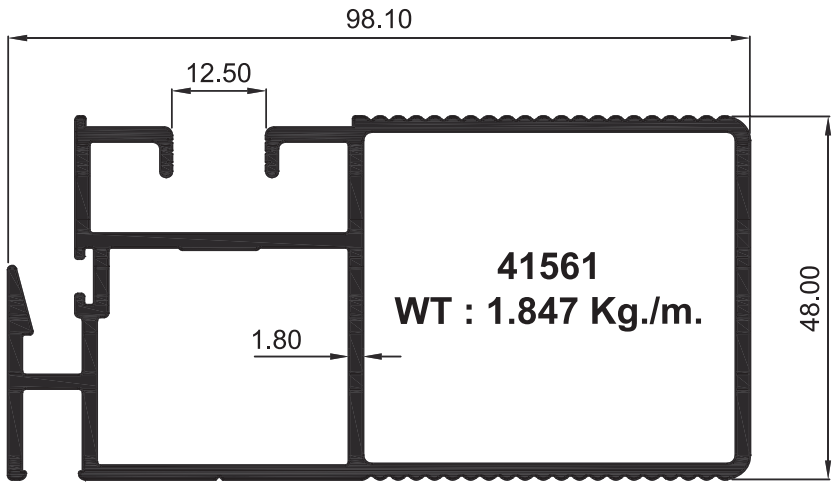

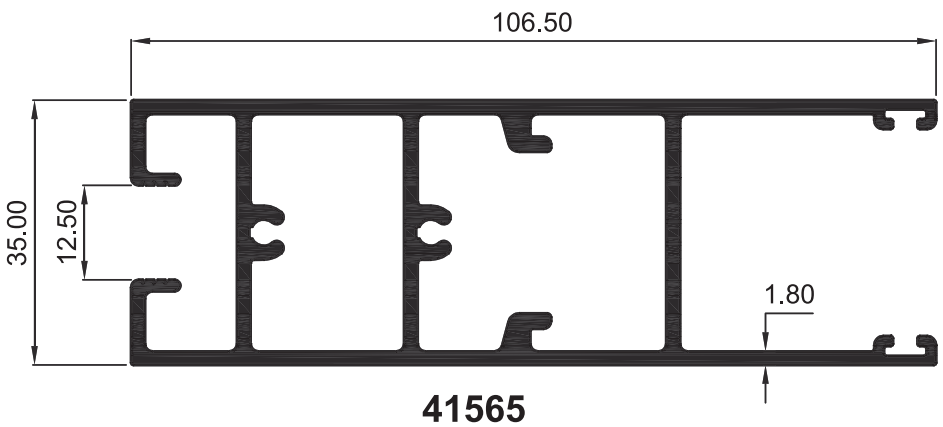

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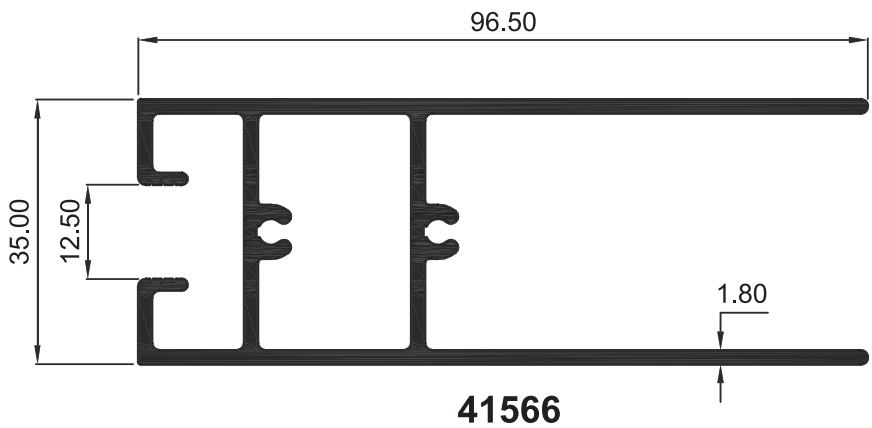
WT : 1.864 Kg./m.



41566
WT : 1.468 Kg./m.

SLIDING WINDOWS & DOORS
ชุดบานเลื่อนประตู – หน้าต่าง
WIND PRESSURE STANDING DATA

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02

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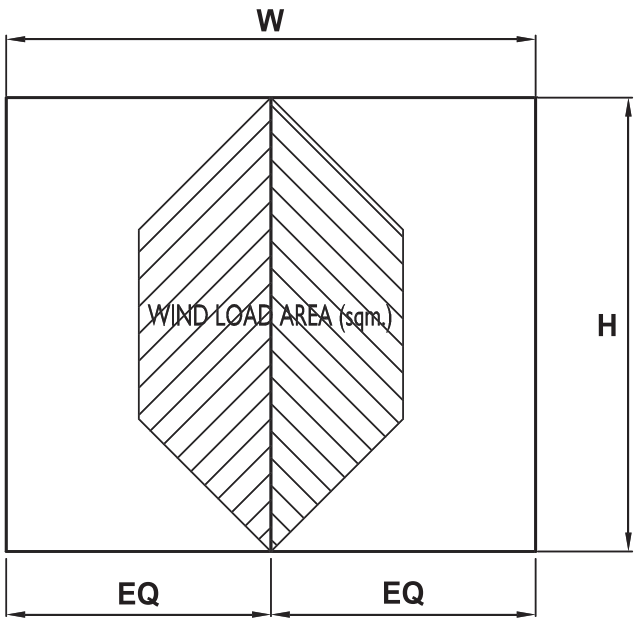
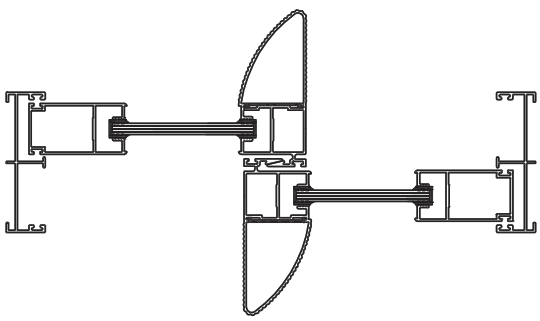
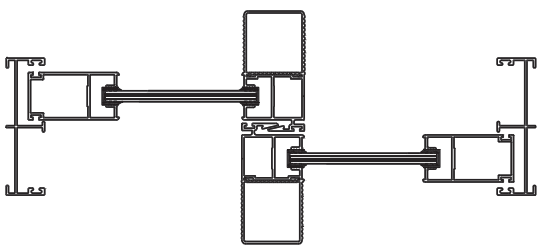
WIND PRESSURE STANDING GUIDE





TR SERIES



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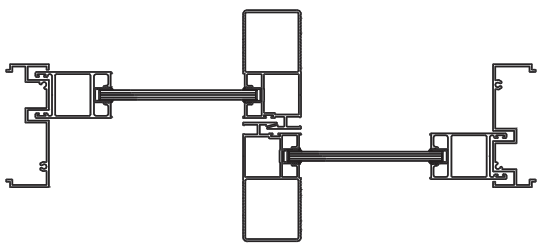


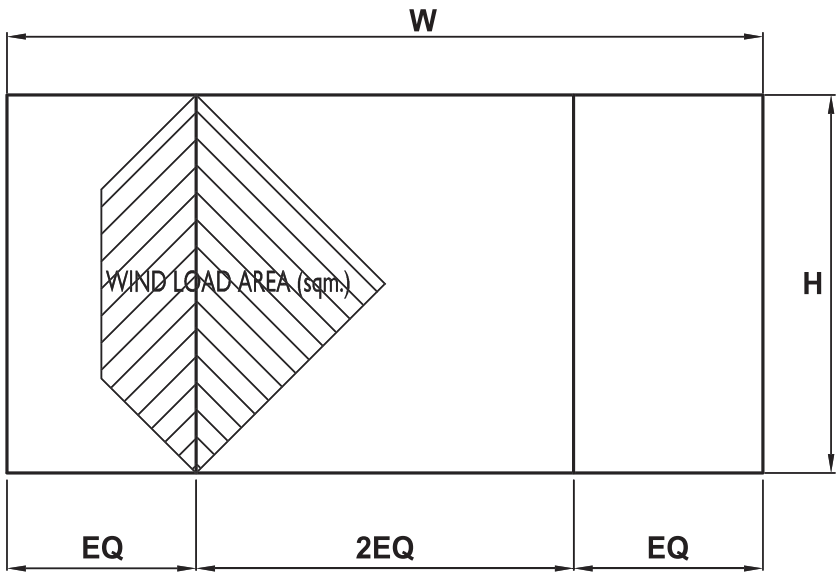
HR SERIES

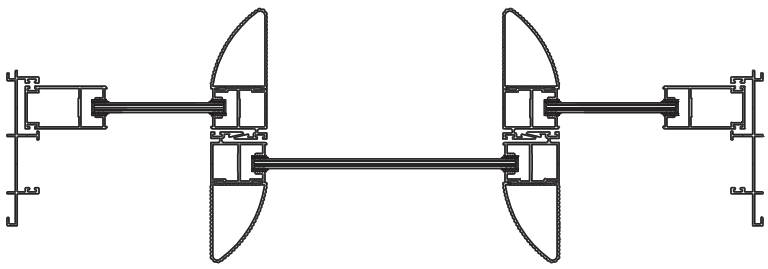
WIND PRESSURE STANDING TABLE
(I FIX AND I SLIDER OR 2 BY-PASS SLIDERS)

W (mm.)	H (mm.)	MAXIMUM ALLOWABLE DEFLECTION at L/180 (mm.)	MAXIMUM WIND PRESSURE for HR SERIES (kg./sqm.)	MAXIMUM WIND PRESSURE for TR SERIES (kg./sqm.)
2000	2000	11.1	160	100
2000	2200	12.2	160	70
2000	2400	13.3	160	55
2000	2600	14.4	160	40
2500	2000	11.1	160	80
2500	2200	12.2	160	60
2500	2400	13.3	160	45
2500	2600	14.4	160	35
3000	2000	11.1	160	80
3000	2200	12.2	160	55
3000	2400	13.3	160	40
3000	2600	14.4	160	30
3500	2000	11.1	160	75
3500	2200	12.2	160	50
3500	2400	13.3	160	40
3500	2600	14.4	140	30

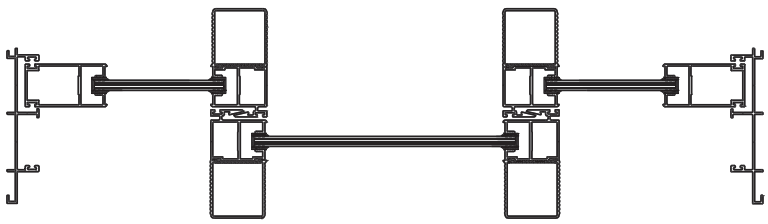
“This information table is a suggestion only and it is understood that Muangthong Aluminium Industry Co.,Ltd shall be under no responsibility of liability therefore.”

WIND PRESSURE STANDING GUIDE

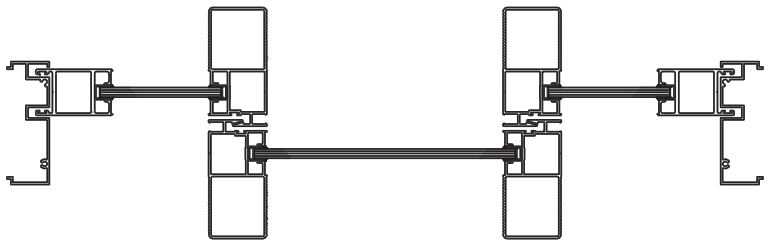




TR SERIES



TR SERIES



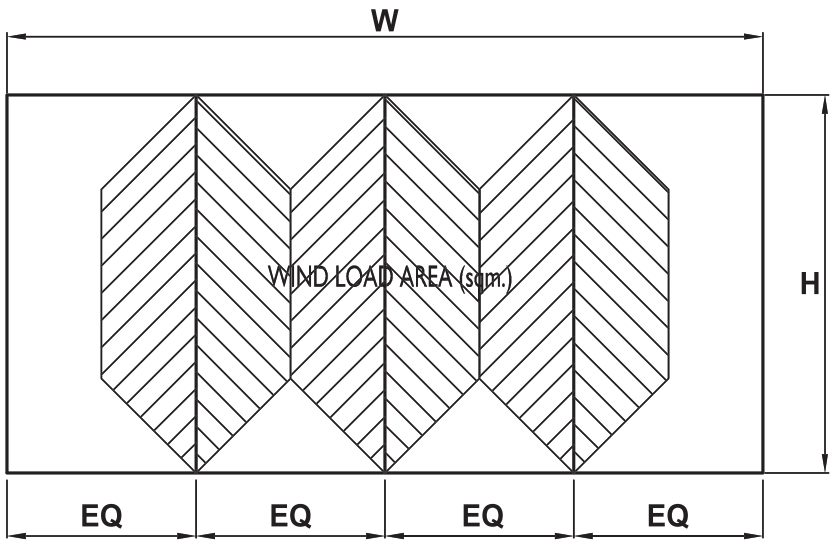
HR SERIES

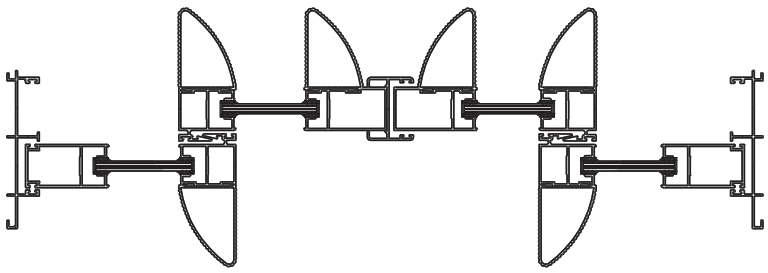
WIND PRESSURE STANDING TABLE
(2 SLIDER WITH I FIX)

W (mm.)	H (mm.)	MAXIMUM ALLOWABLE DEFLECTION at L/180 (mm.)	MAXIMUM WIND PRESSURE for HR SERIES (kg./sqm.)	MAXIMUM WIND PRESSURE for TR SERIES (kg./sqm.)
3000	2000	11.1	160	100
3000	2200	12.2	160	75
3000	2400	13.3	160	55
3000	2600	14.4	160	40
3750	2000	11.1	160	80
3750	2200	12.2	160	60
3750	2400	13.3	160	45
3750	2600	14.4	160	35
4500	2000	11.1	160	80
4500	2200	12.2	160	55
4500	2400	13.3	160	40
4500	2600	14.4	160	30
5250	2000	11.1	160	75
5250	2200	12.2	160	50
5250	2400	13.3	160	40
5250	2600	14.4	140	30

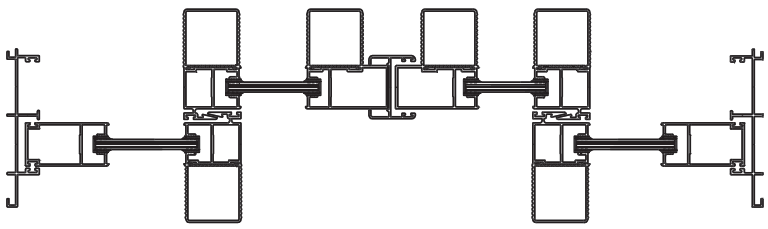
“This information table is a suggestion only and it is understood that Muangthong Aluminium Industry Co.,Ltd shall be under no responsibility of liability therefore.”

WIND PRESSURE STANDING GUIDE

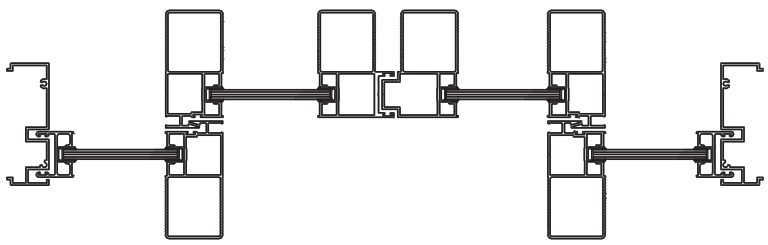




TR SERIES



TR SERIES



HR SERIES

WIND PRESSURE STANDING TABLE
(2 FIX AND 2 SLIDERS)

W (mm.)	H (mm.)	MAXIMUM ALLOWABLE DEFLECTION at L/180 (mm.)	MAXIMUM WIND PRESSURE for HR SERIES (kg./sqm.)	MAXIMUM WIND PRESSURE for TR SERIES (kg./sqm.)
3000	2000	11.1	160	120
3000	2200	12.2	160	90
3000	2400	13.3	160	70
3000	2600	14.4	160	50
4000	2000	11.1	160	100
4000	2200	12.2	160	70
4000	2400	13.3	160	55
4000	2600	14.4	160	40
5000	2000	11.1	160	80
5000	2200	12.2	160	60
5000	2400	13.3	160	45
5000	2600	14.4	160	35
6000	2000	11.1	160	80
6000	2200	12.2	160	55
6000	2400	13.3	160	40
6000	2600	14.4	140	30

“This information table is a suggestion only and it is understood that Muangthong Aluminium Industry Co.,Ltd shall be under no responsibility of liability therefore.”

CASEMENT WINDOWS & DOORS
ชุดบานกระทุ้งประตู - หน้าต่าง

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03

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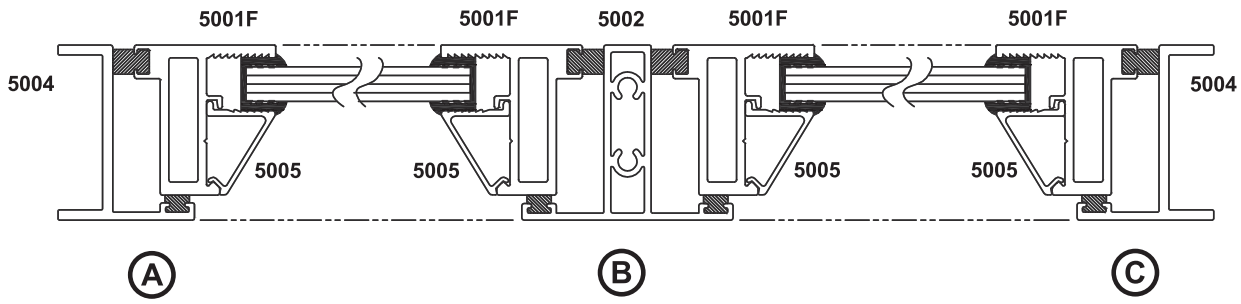
CASEMENT WINDOWS & DOORS

MUANGTHONG ALUMINIUM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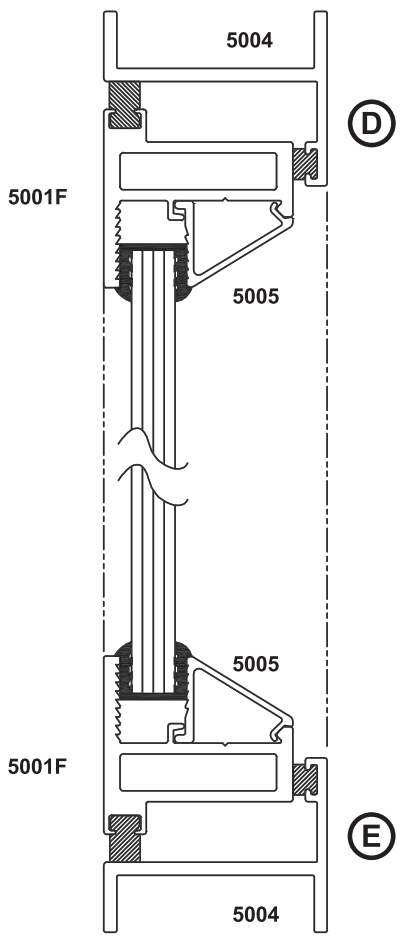
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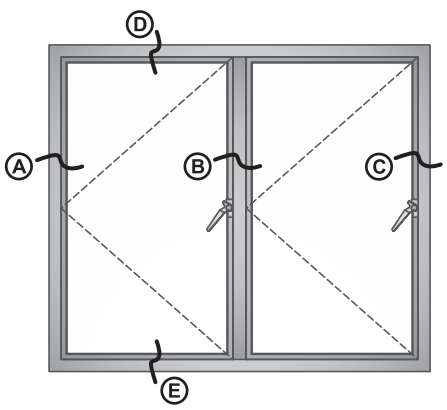
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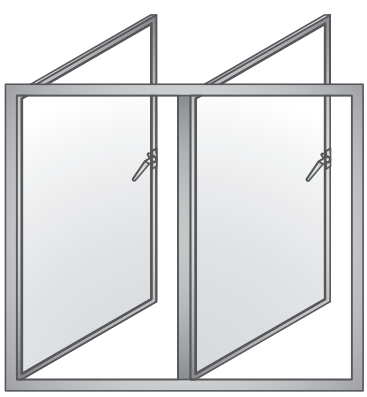

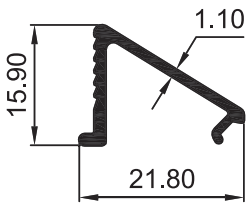

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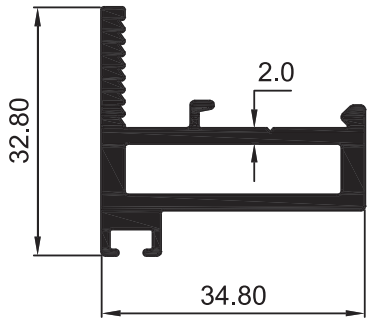

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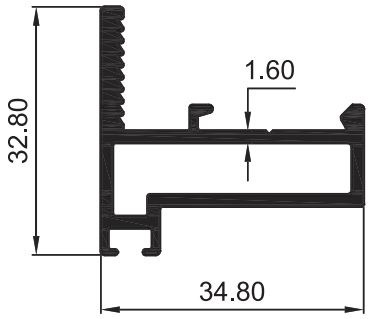
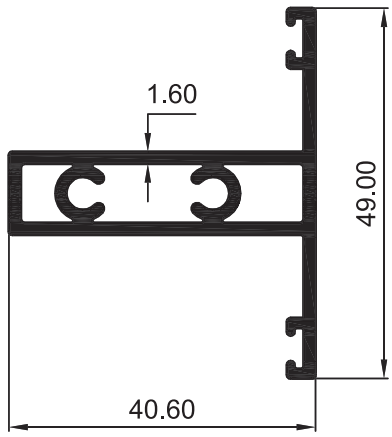
WT : 0.717 Kg./m.



5076
WT : 0.568 Kg./m.



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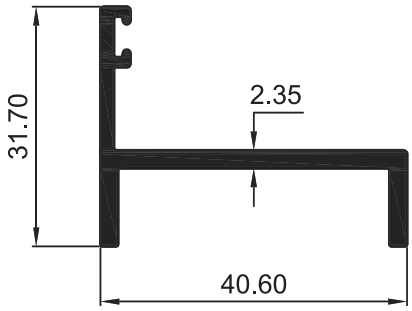
WT : 0.748 Kg./m.



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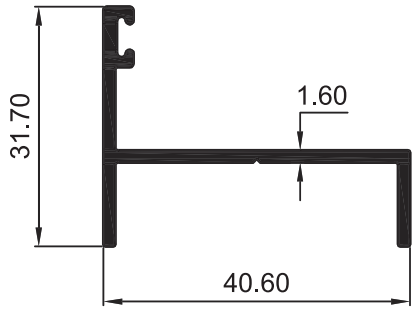
WT : 0.503 Kg./m.



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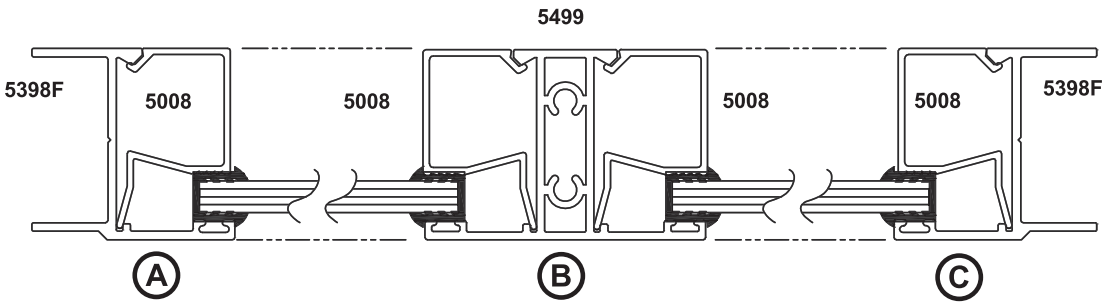
WT : 0.380 Kg./m.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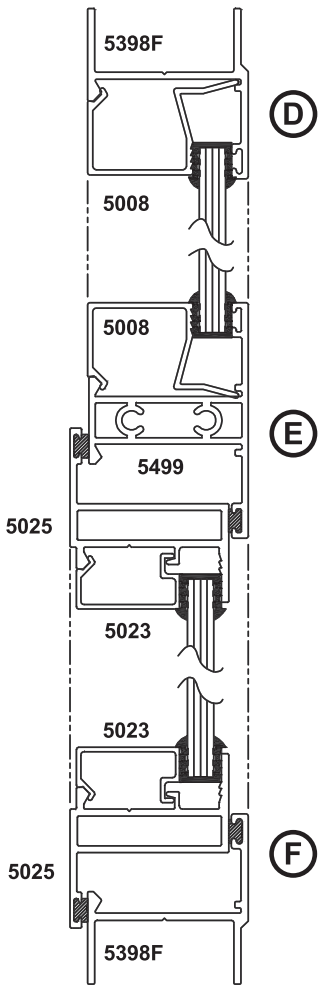
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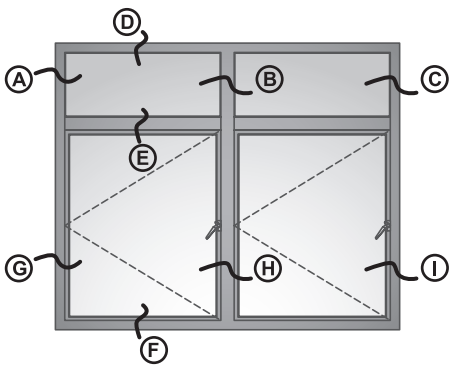
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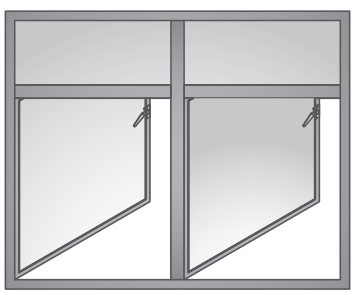

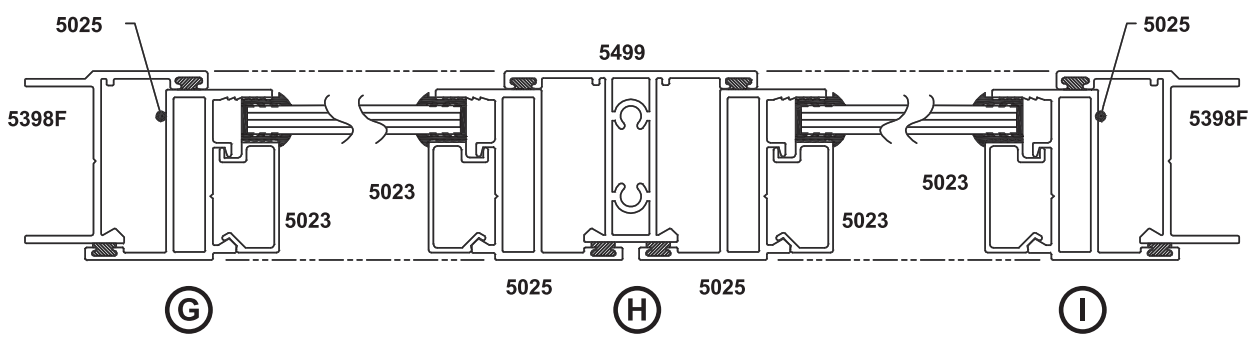
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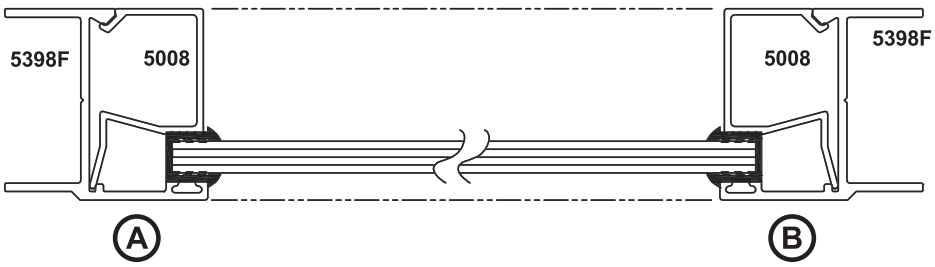
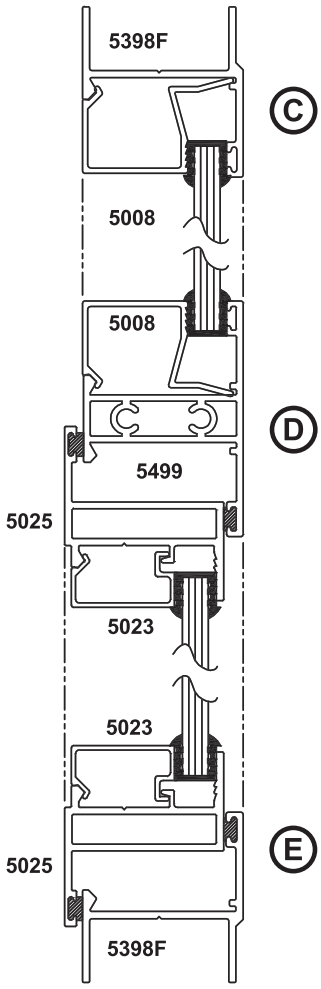
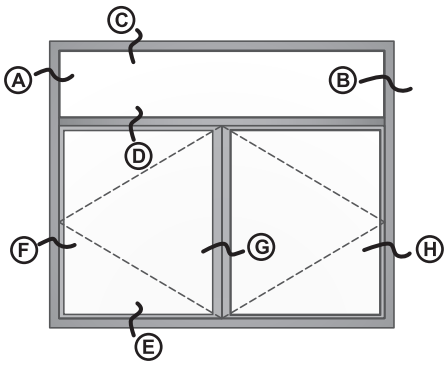
CASEMENT WINDOWS & DOORS

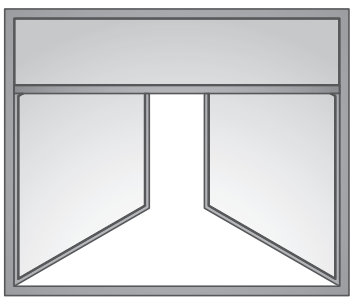
ชุดบานกระทุ้งประตู - หน้าต่าง

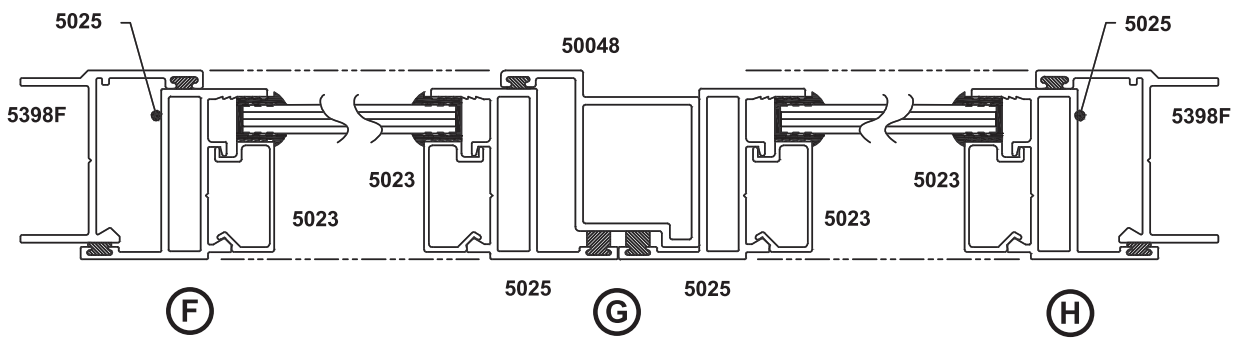
MUANGTHONG ALUMINIUM

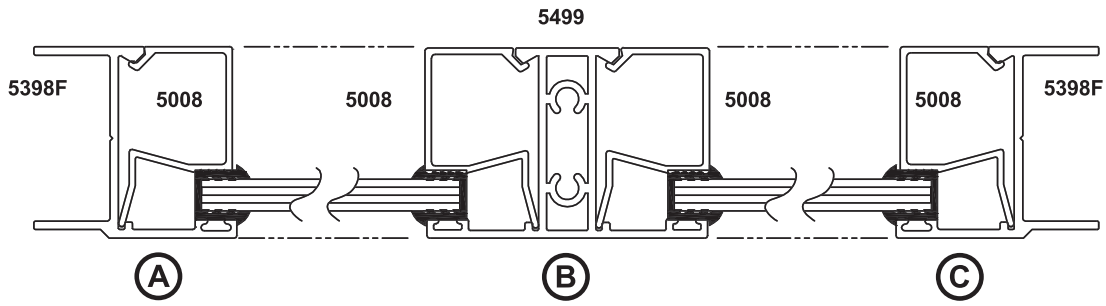








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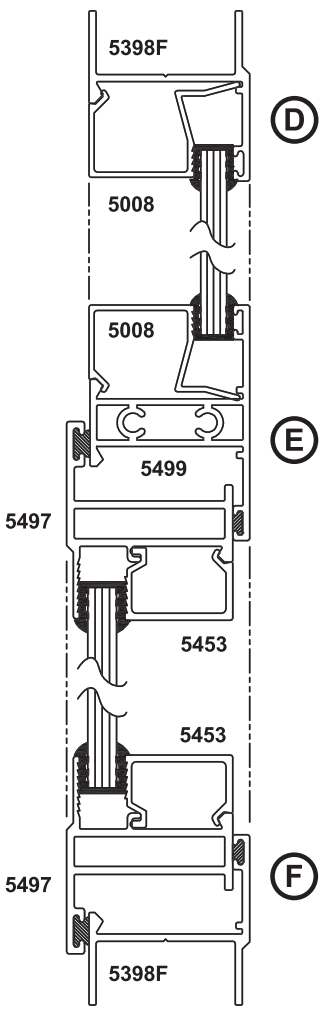
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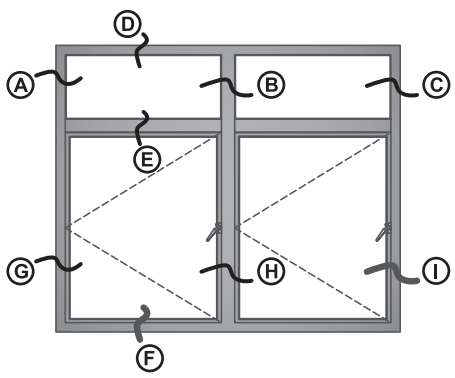
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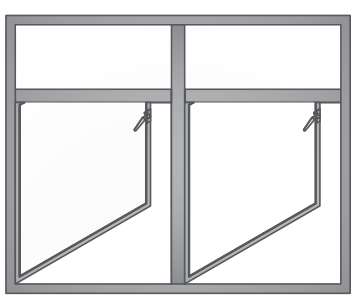

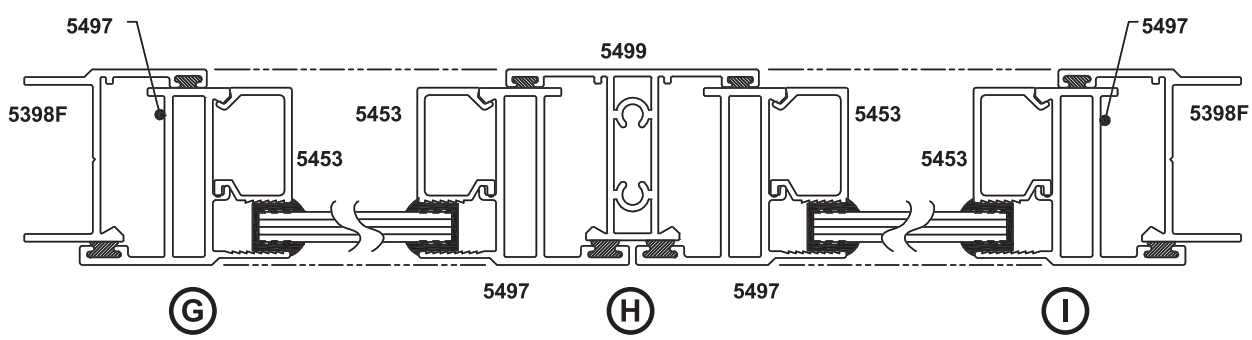
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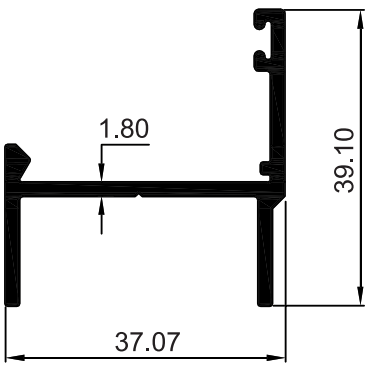
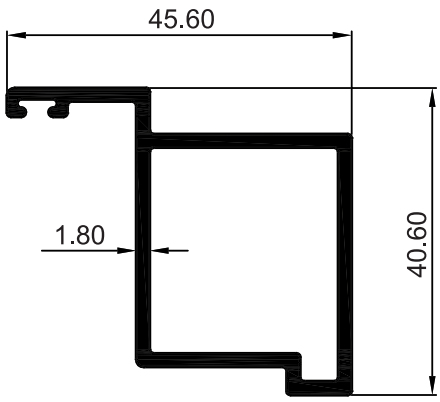
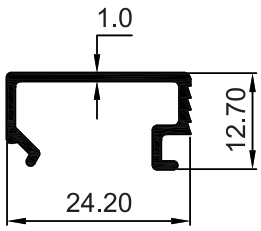


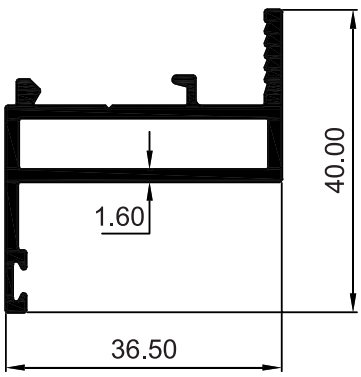
5398 F
WT : 0.492 Kg./m.



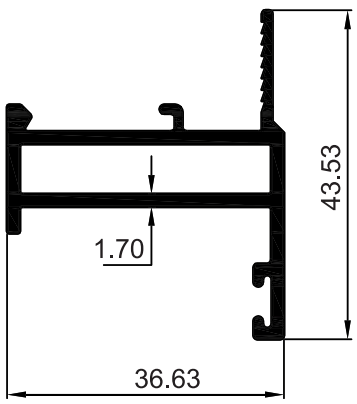
50048
WT : 0.709 Kg./m.



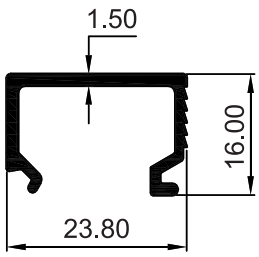
5023
WT : 0.154 Kg./m.



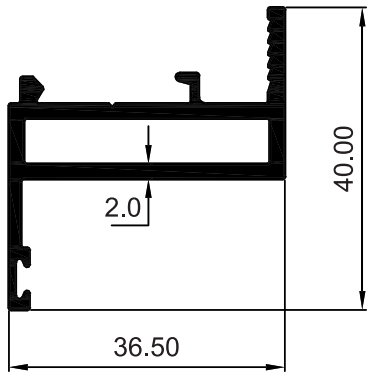
5025 F
WT : 0.567 Kg./m.



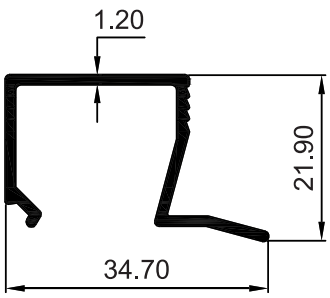
5497
WT : 0.616 Kg./m.



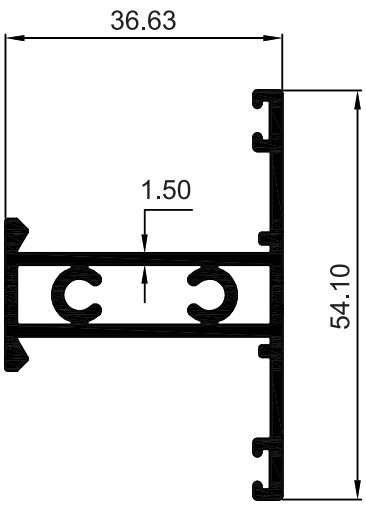
5453
WT : 0.222 Kg./m.



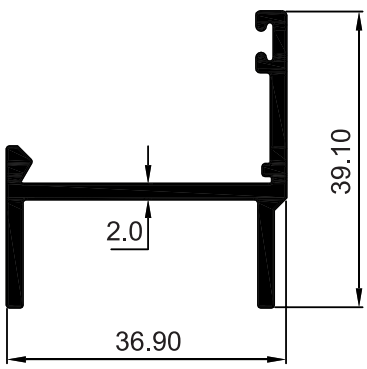
5188 F
WT : 0.648 Kg./m.



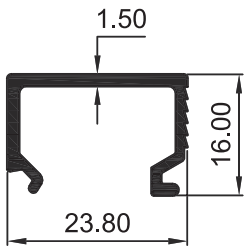
5008
WT : 0.257 Kg./m.



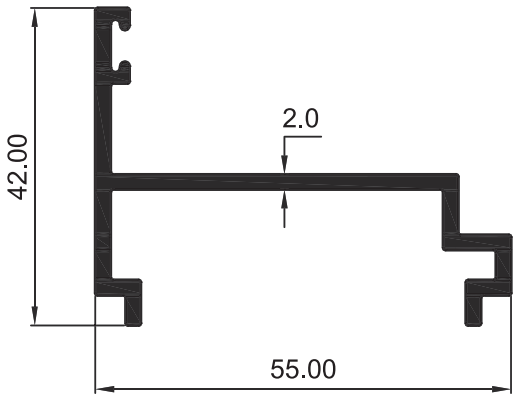
5499
WT : 0.771 Kg./m.



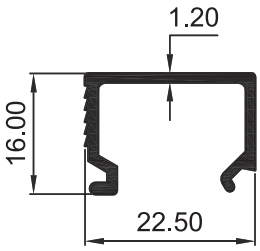
51009
WT : 0.532 Kg./m.



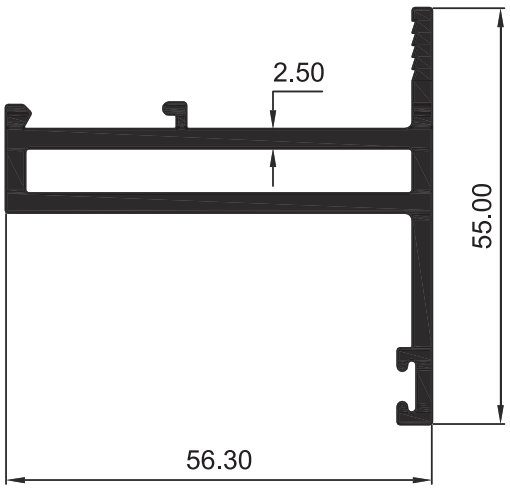
5453
WT : 0.222 Kg./m.



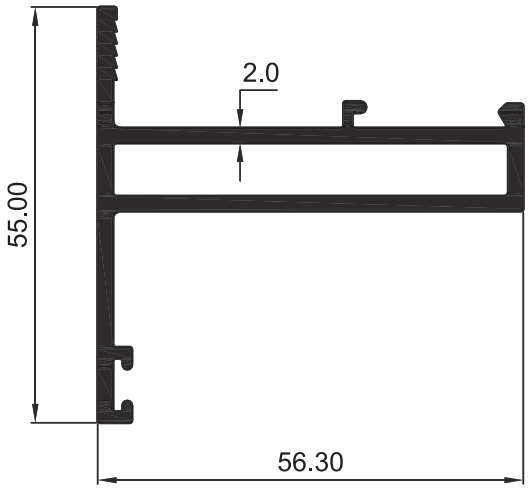
5077
WT : 0.685 Kg./m.



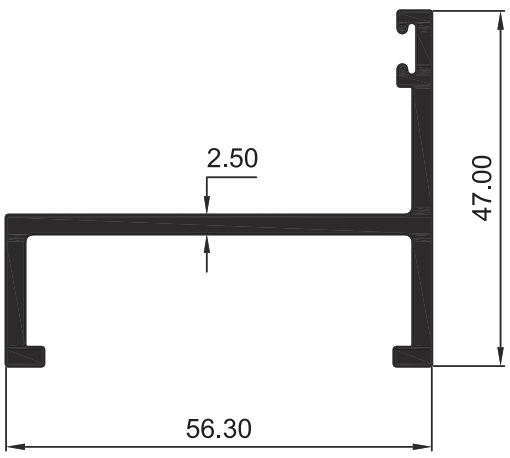
5079
WT : 0.196 Kg./m.



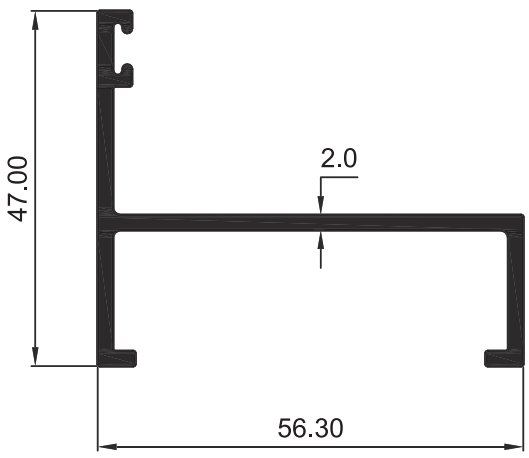
5452
WT : 1.196 Kg./m.



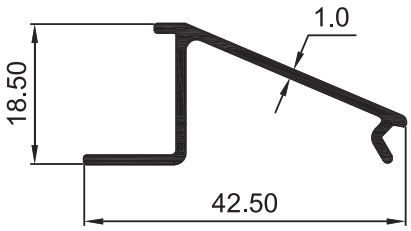
5078
WT : 1.003 Kg./m.



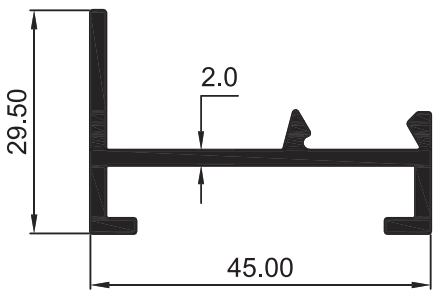
5451
WT : 0.853 Kg./m.



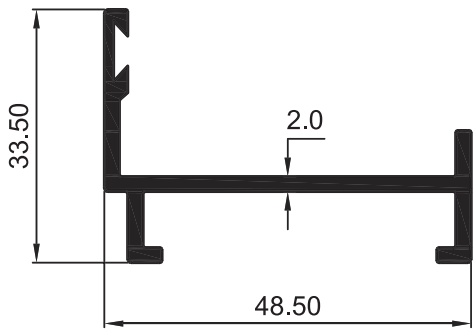
5063
WT : 0.709 Kg./m.



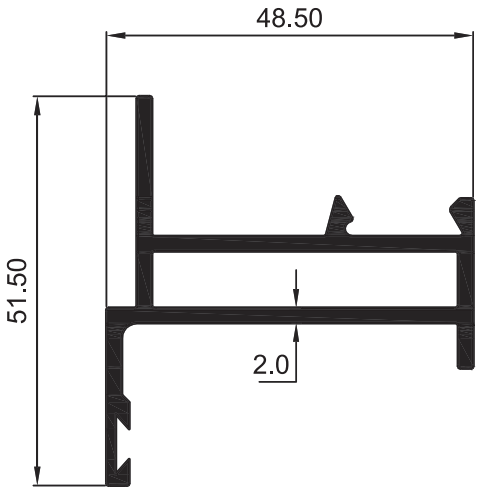
5246
WT : 0.217 Kg./m.



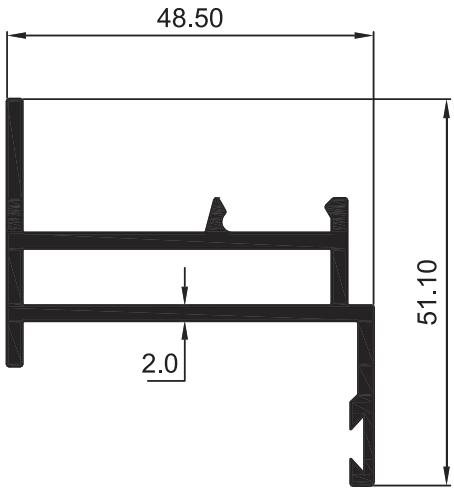
5094
WT : 0.544 Kg./m.



5029
WT : 0.548 Kg./m.



5093
WT : 0.898 Kg./m.

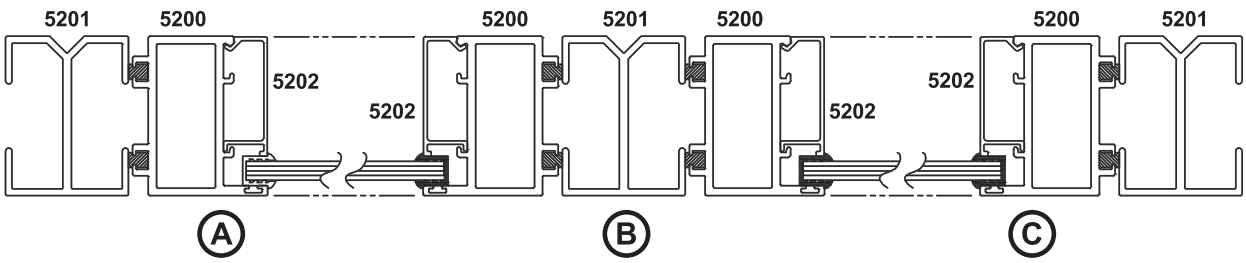


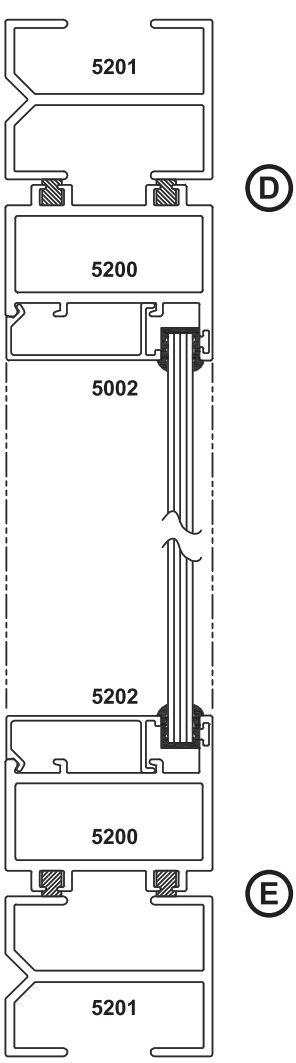
5028
WT : 0.885 Kg./m.

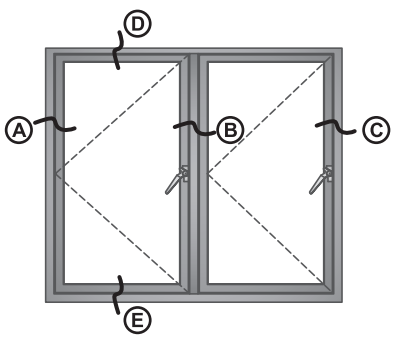
CASEMENT WINDOWS & DOORS

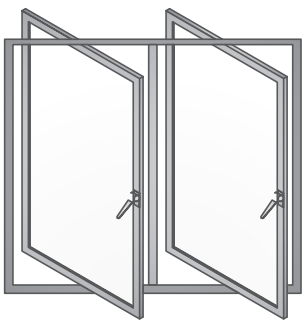
ชุดบานกระทุ้งประตู - หน้าต่าง

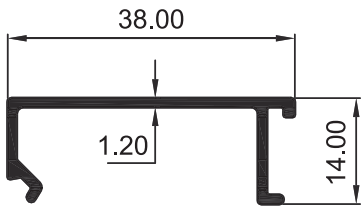
MUANGTHONG ALUMINIUM



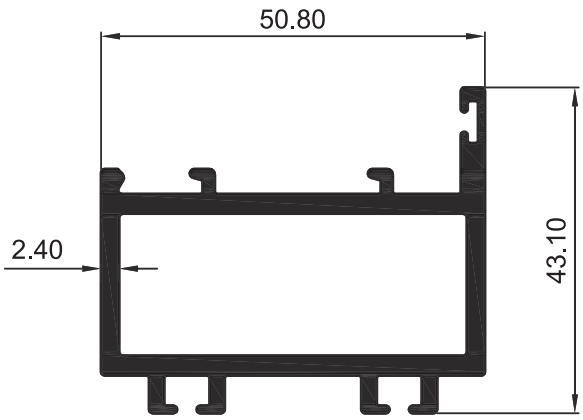




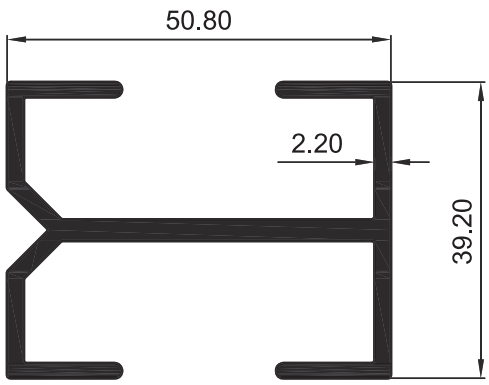




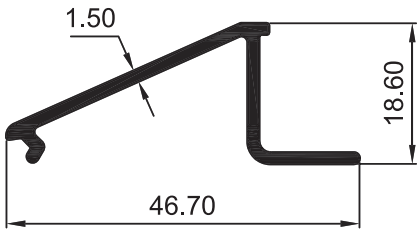
5202
WT : 0.228 Kg./m.



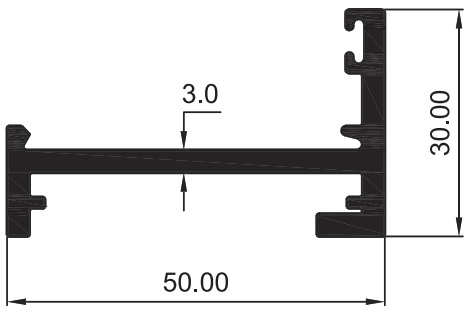
5200
WT : 1.243 Kg./m.



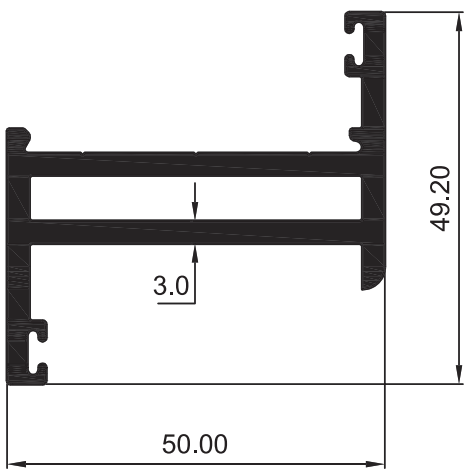
5201
WT : 1.083 Kg./m.



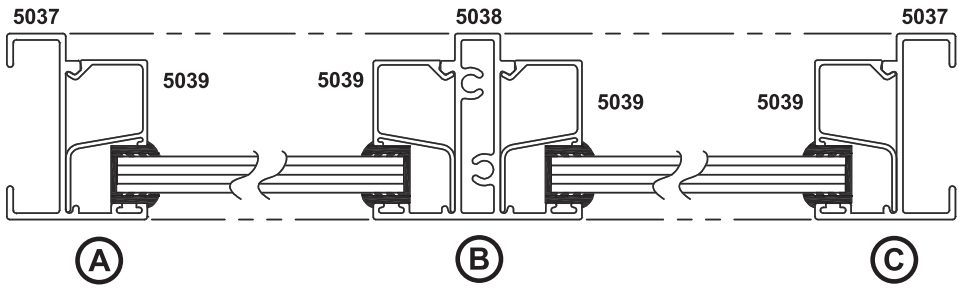
5022
WT : 0.294 Kg./m.



5020
WT : 0.891 Kg./m.



5021
WT : 1.325 Kg./m.


5037
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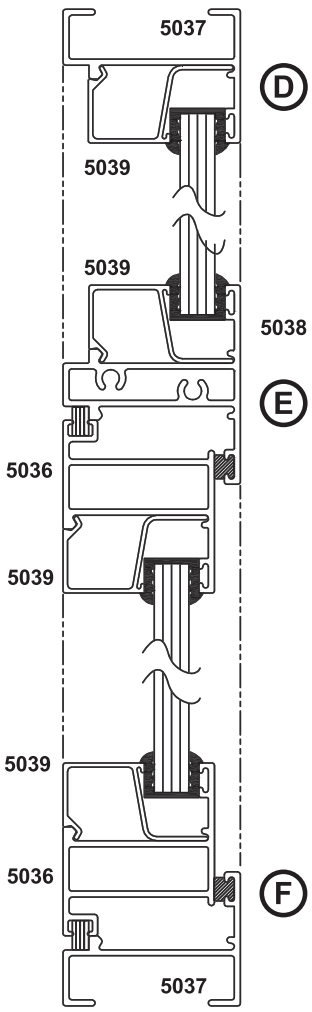
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5036
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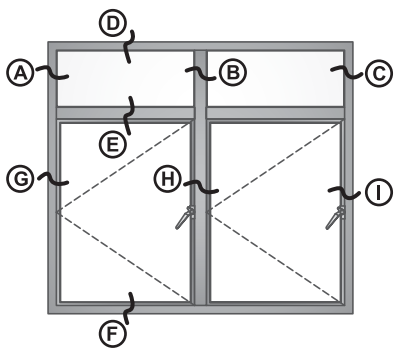
5037


D
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C
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G
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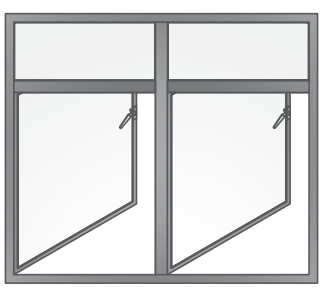

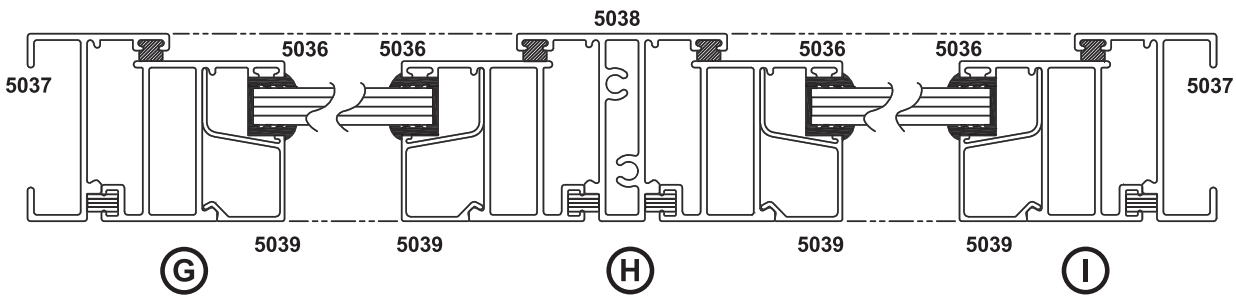
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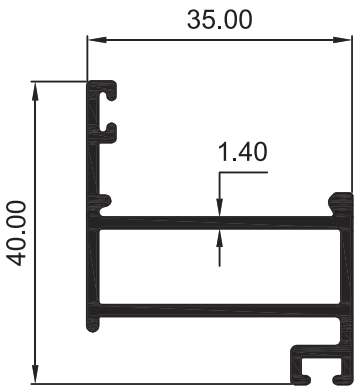
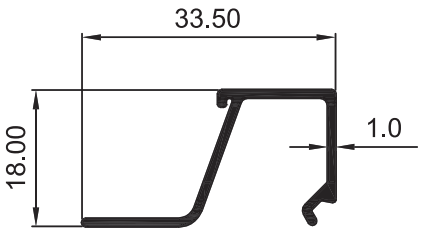
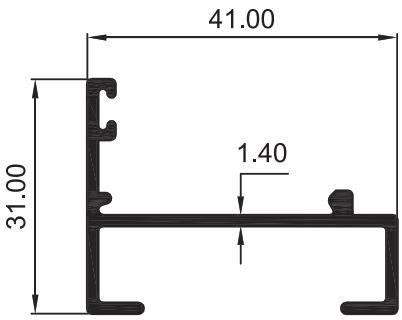


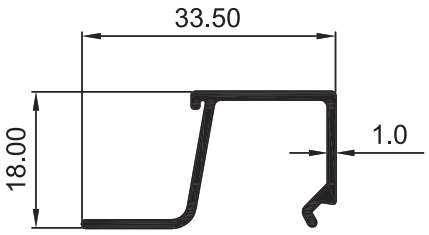
5036
WT : 0.544 Kg./m.



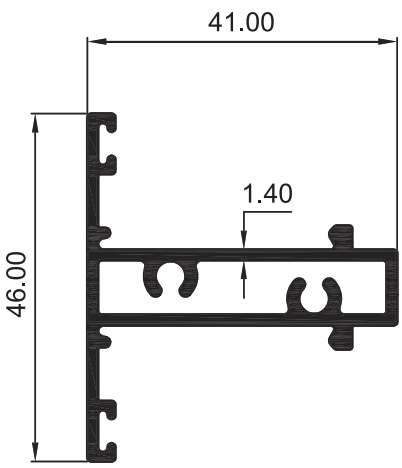
5069
WT : 0.187 Kg./m.



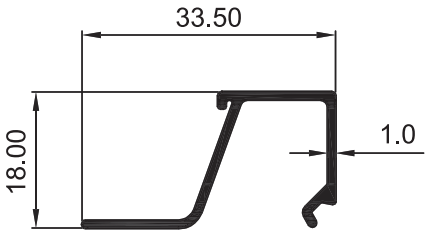
5037
WT : 0.407 Kg./m.



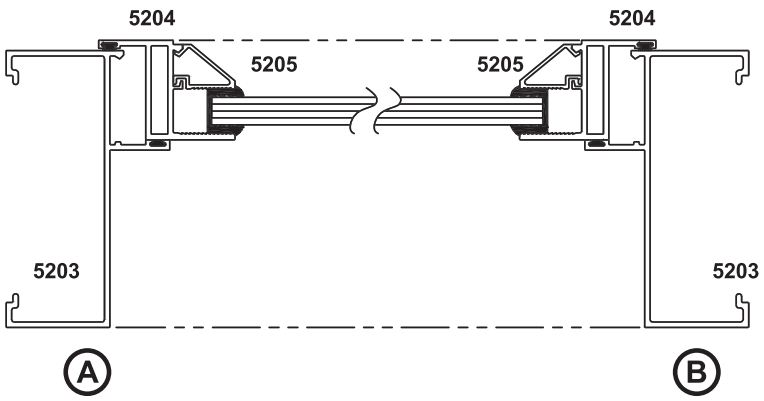
5039
WT : 0.192 Kg./m.



5038
WT : 0.691 Kg./m.



5069
WT : 0.187 Kg./m.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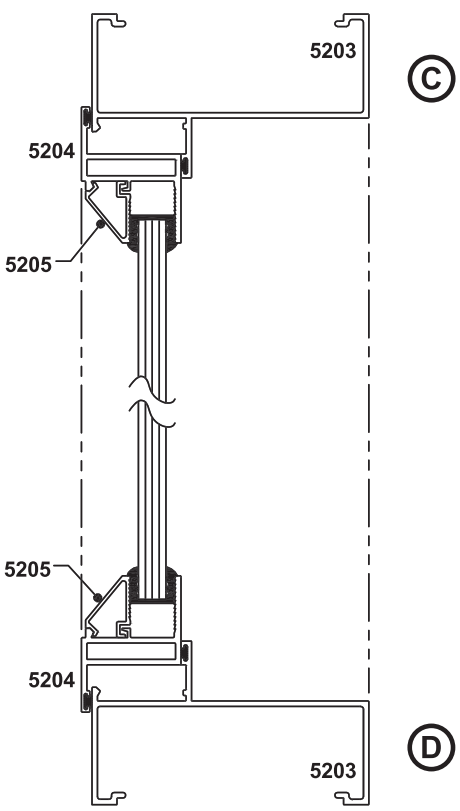
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5204
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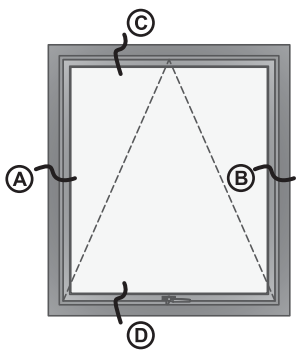
C
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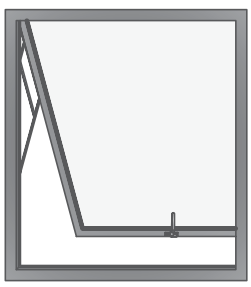
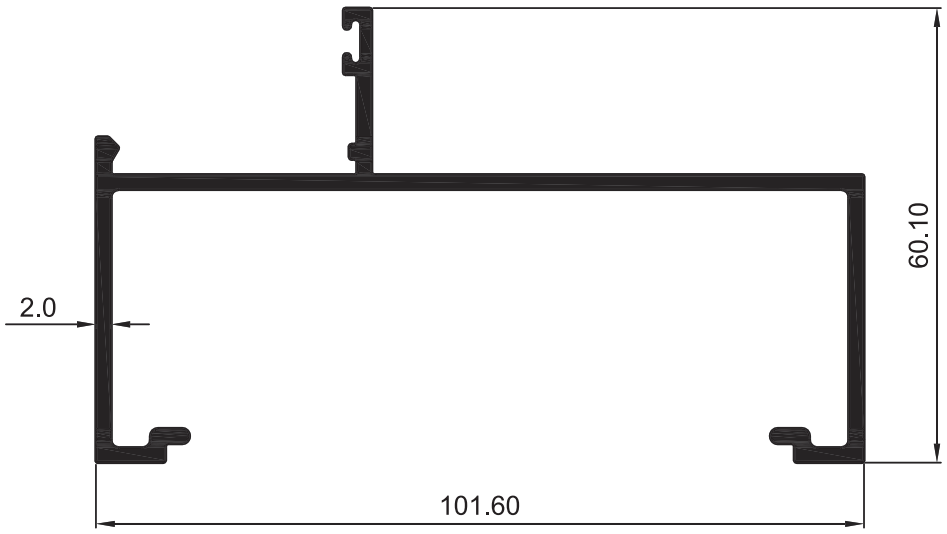
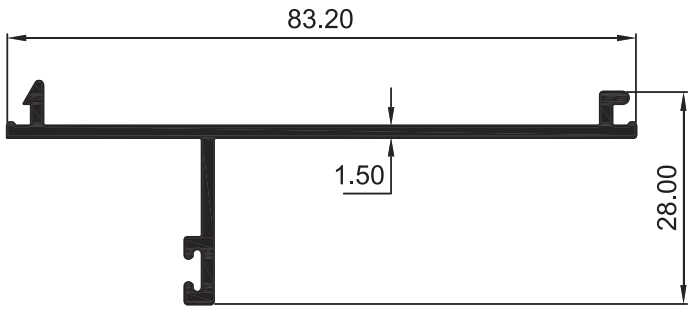
D

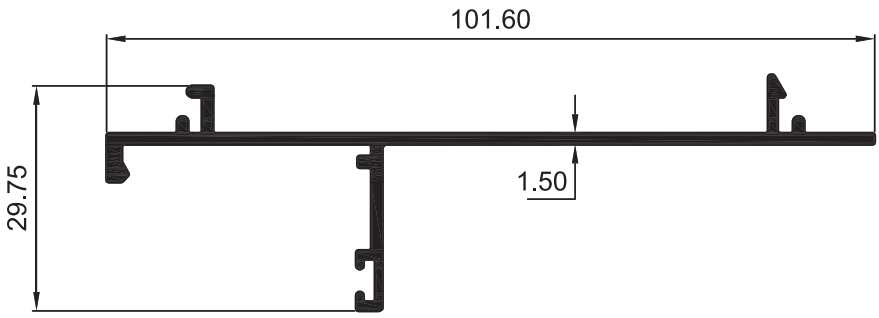




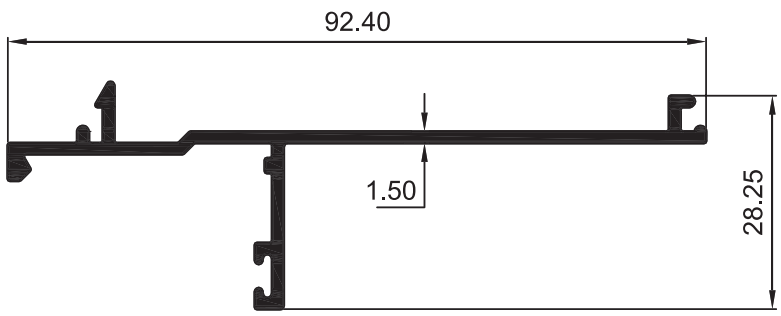
5203
WT : 1.252 Kg./m.



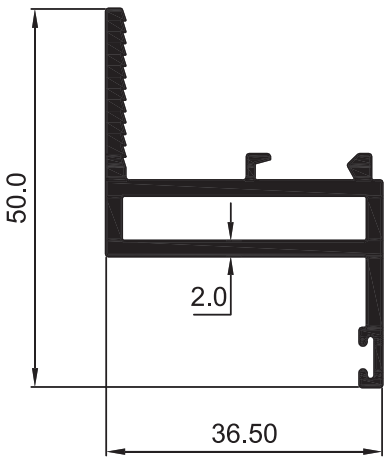
5214
WT : 0.507 Kg./m.



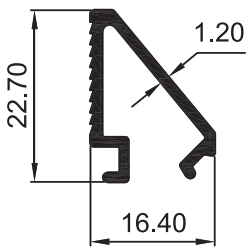
51062
WT : 0.633 Kg./m.



5216
WT : 0.595 Kg./m.



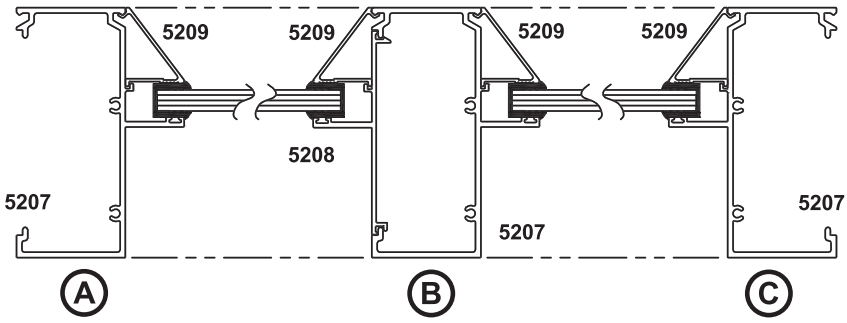
5204
WT : 0.728 Kg./m.

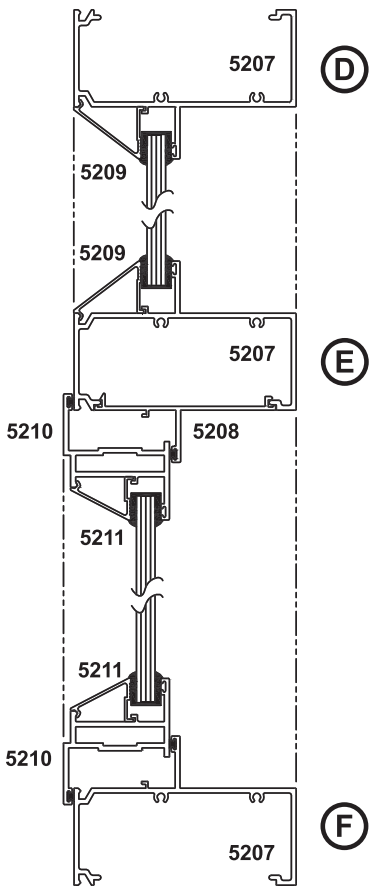


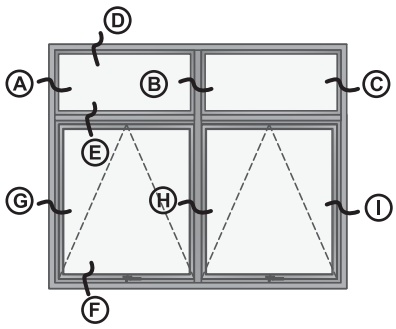
5205
WT : 0.195 Kg./m.

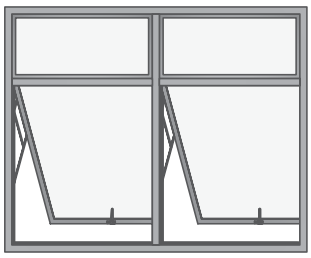
CASEMENT WINDOWS & DOORS

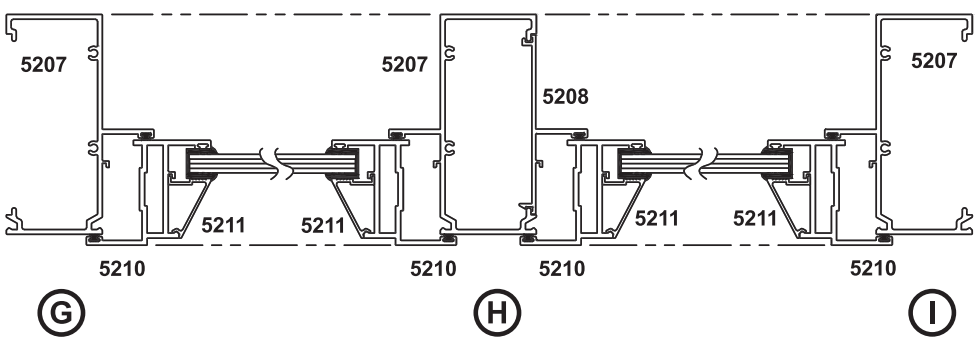
ชุดบานกระทุ้งประตู - หน้าต่าง

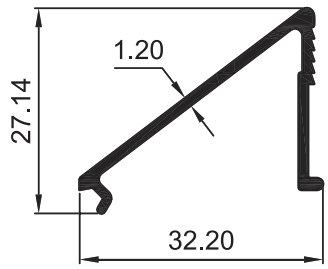












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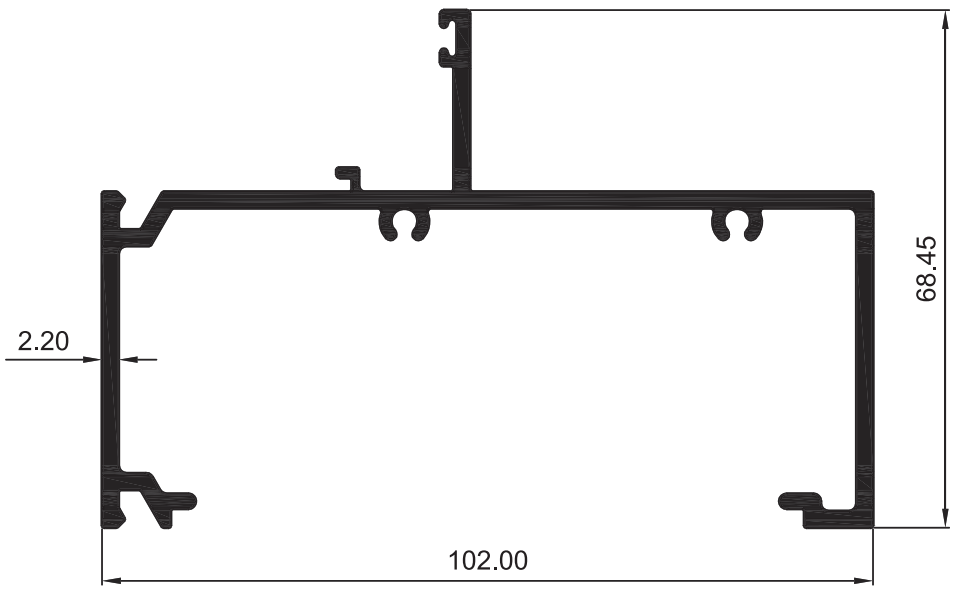

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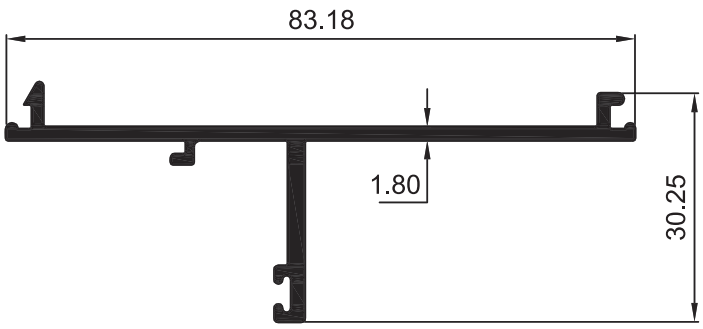

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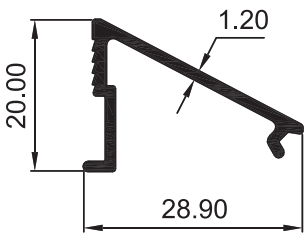

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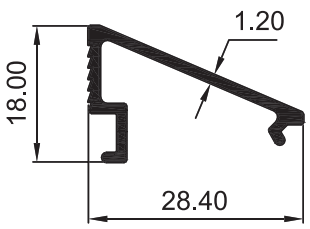

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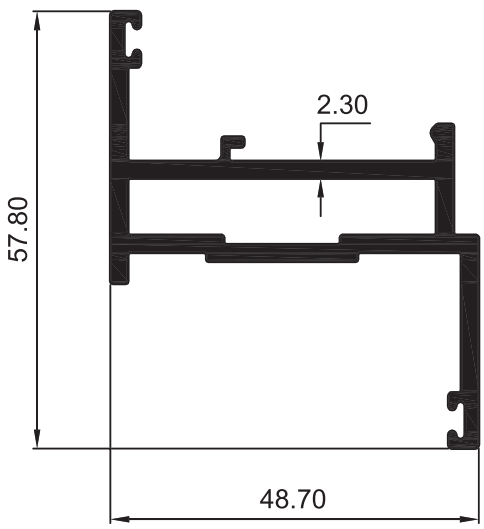

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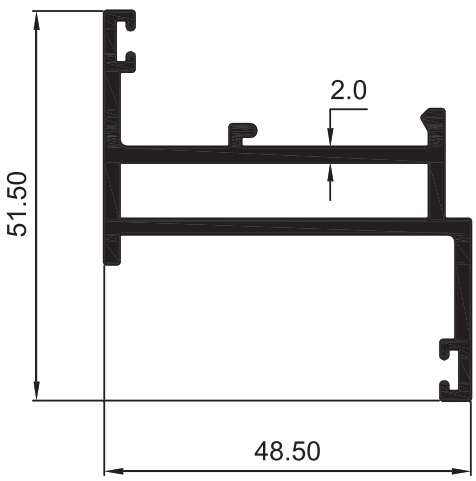

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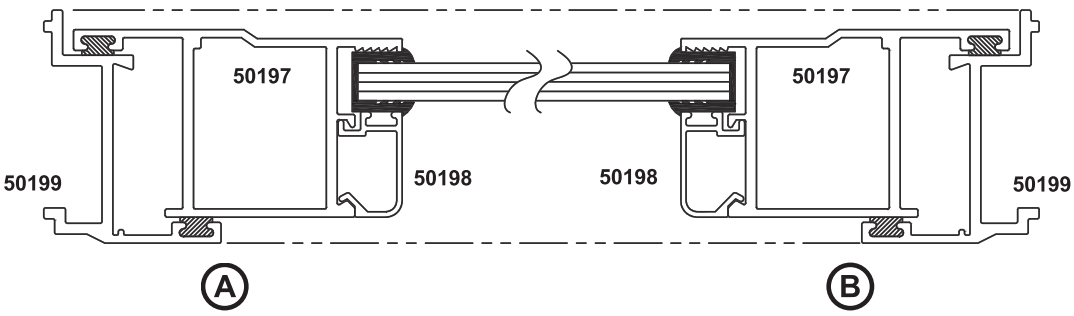
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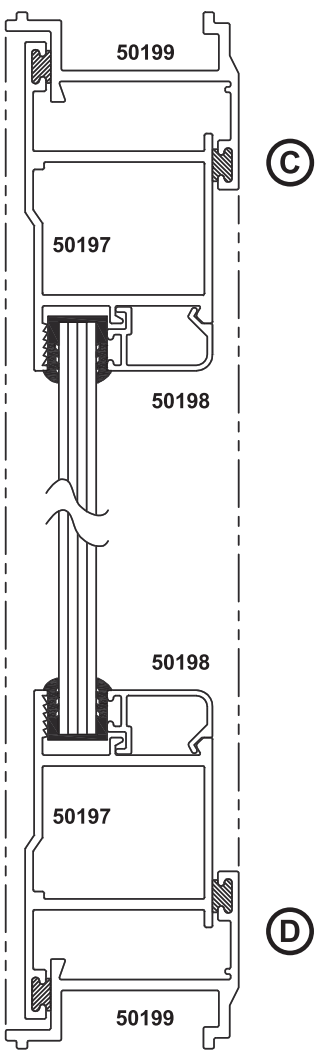
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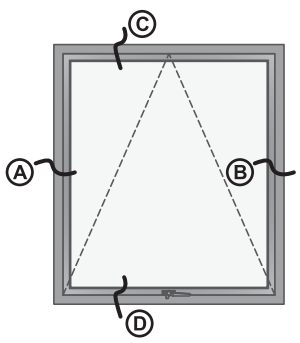
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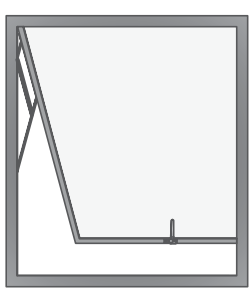

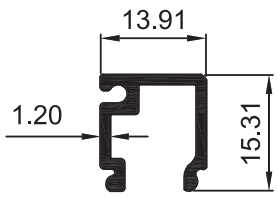

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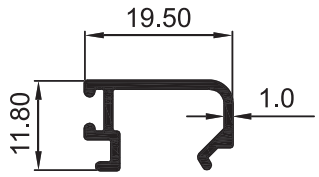

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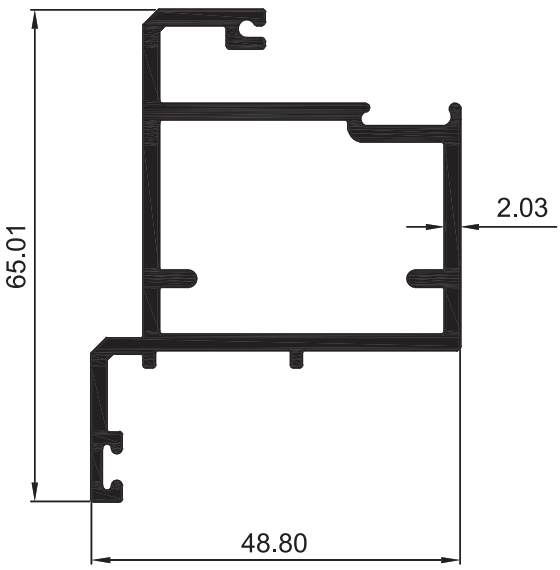

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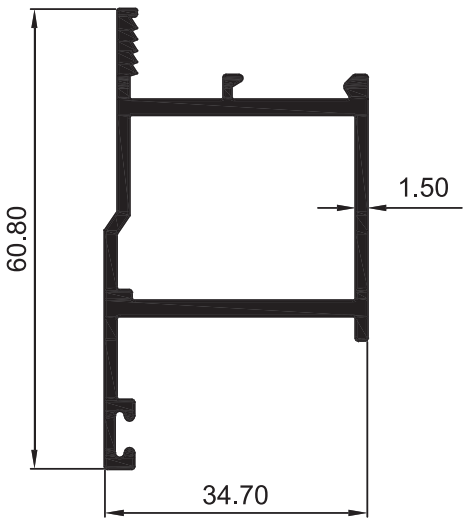

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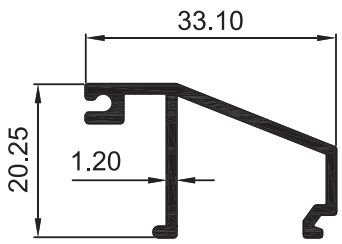

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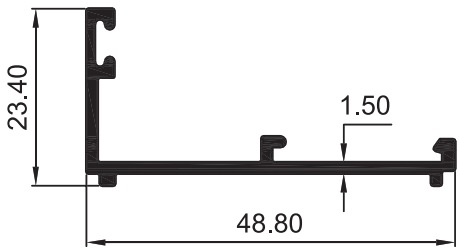

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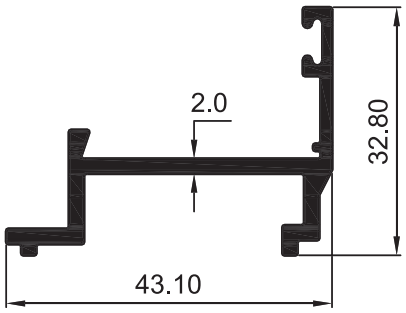

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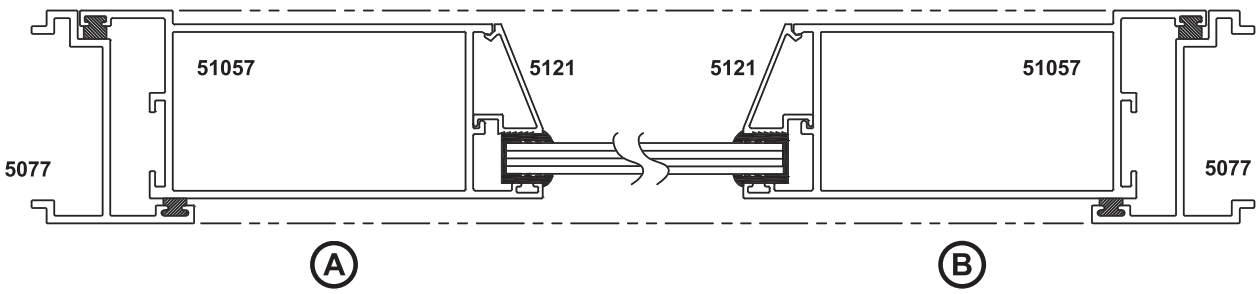
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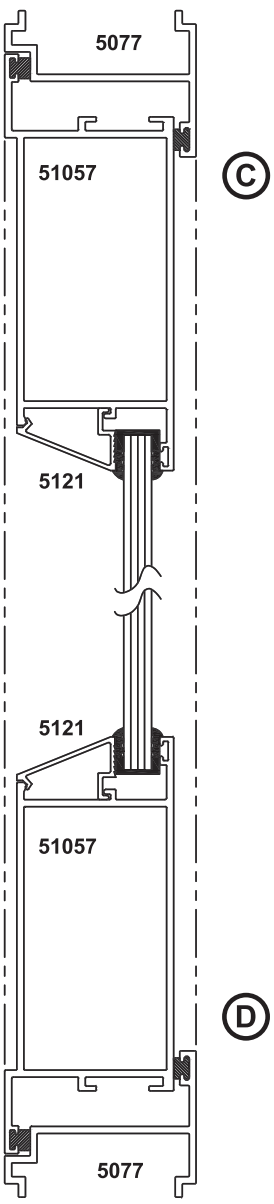
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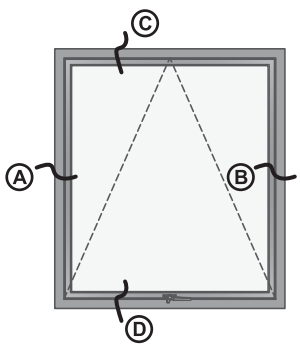
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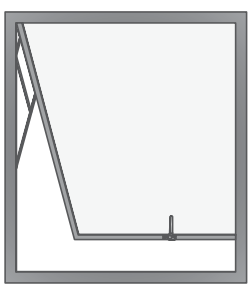

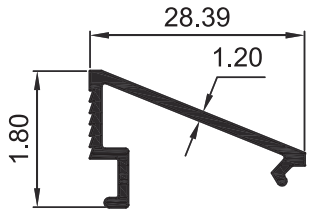

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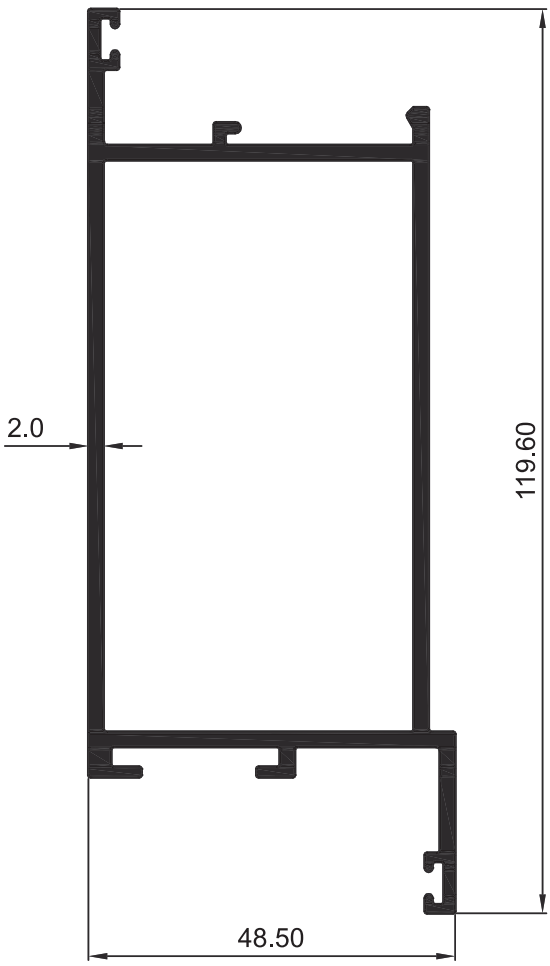

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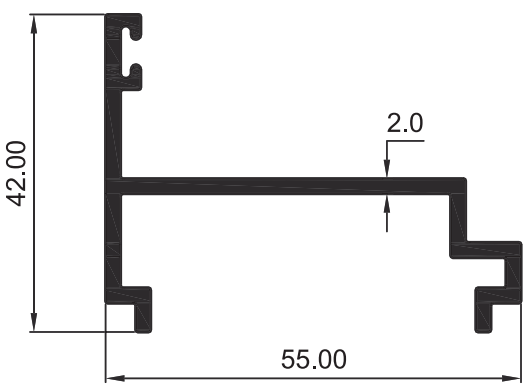

5077
WT : 0.685 Kg./m.

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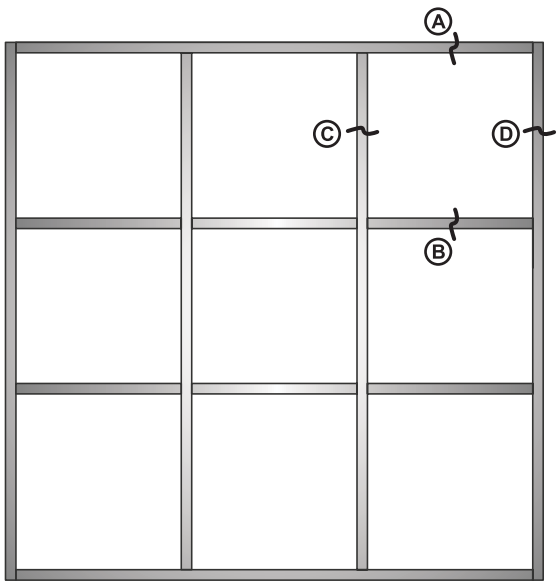
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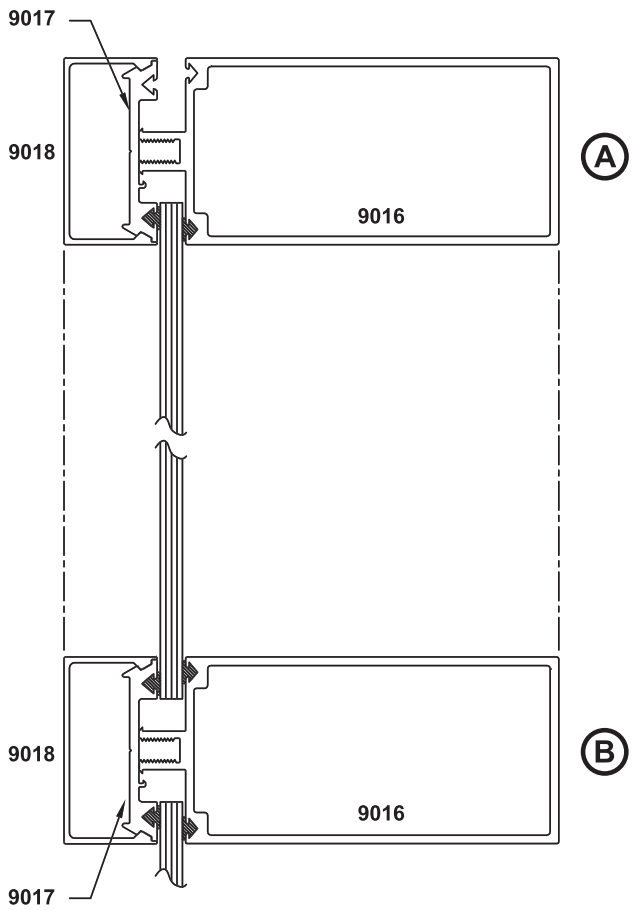
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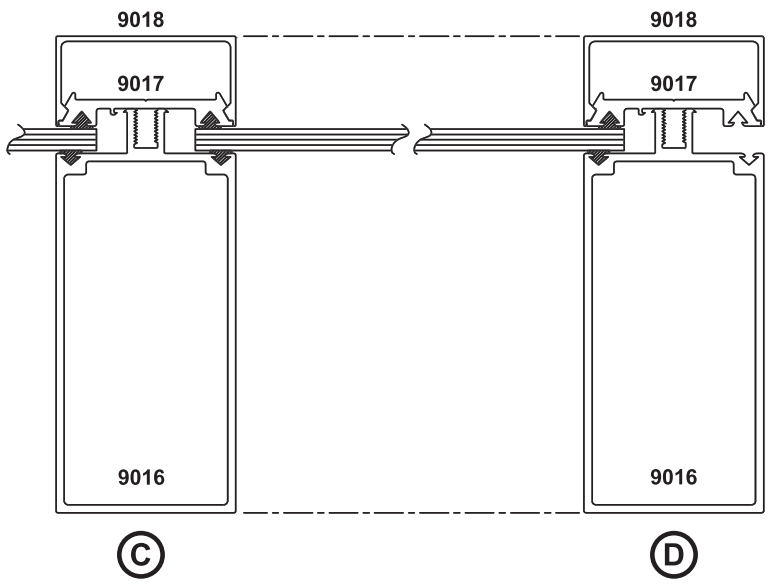
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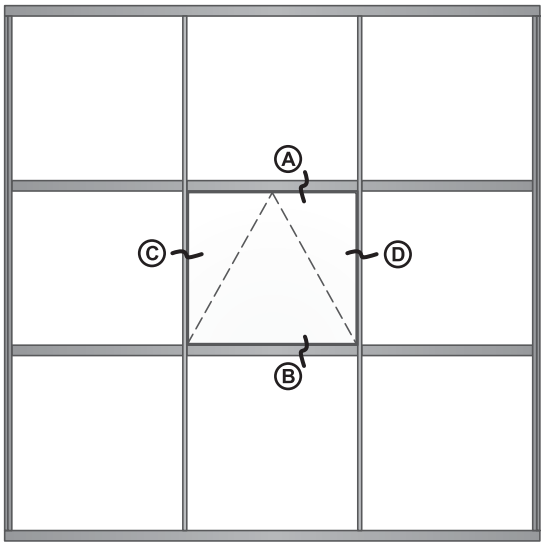

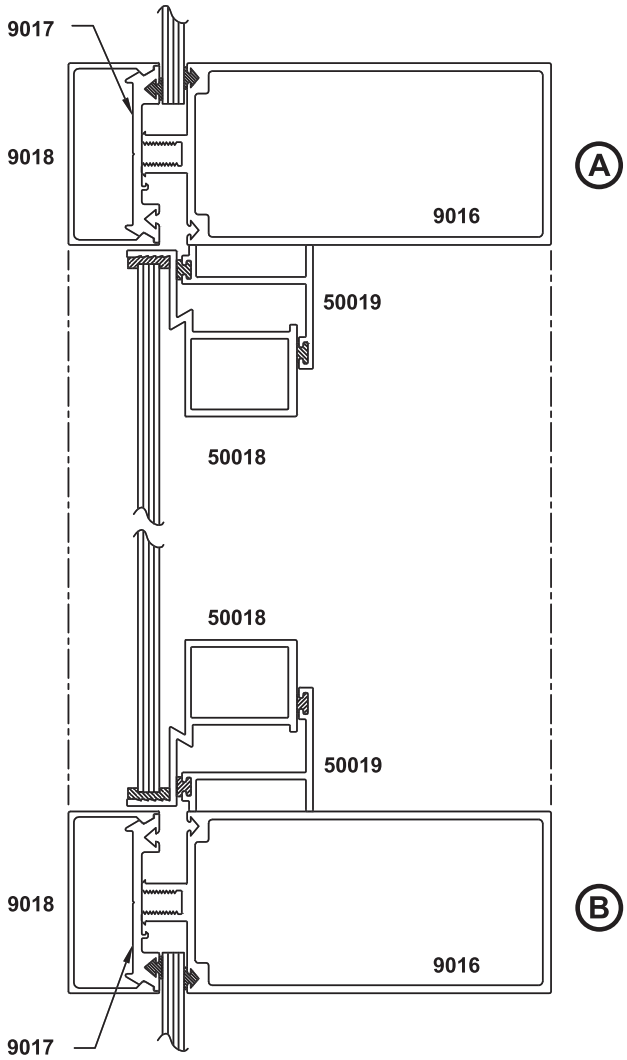

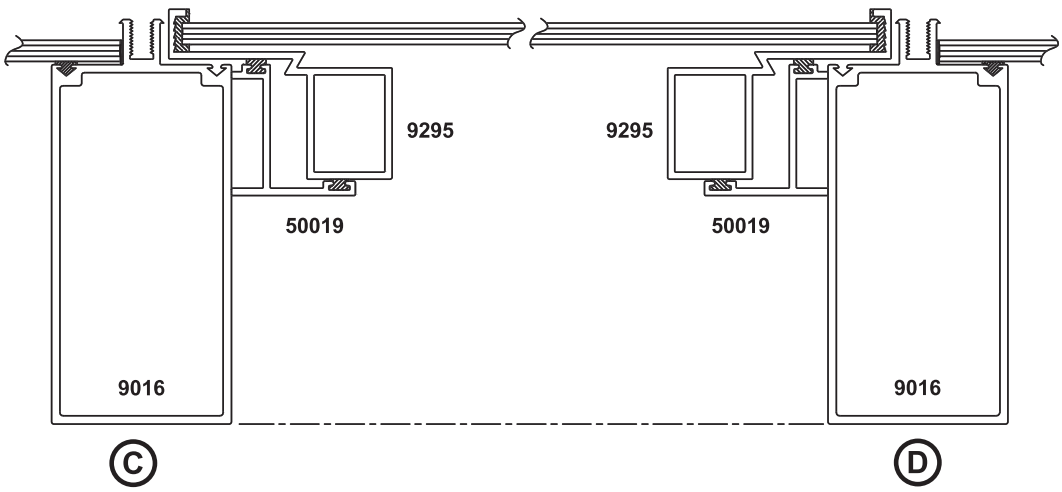

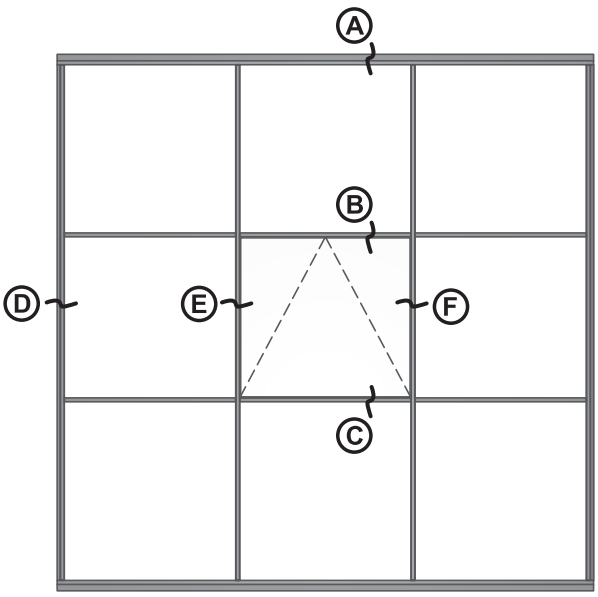
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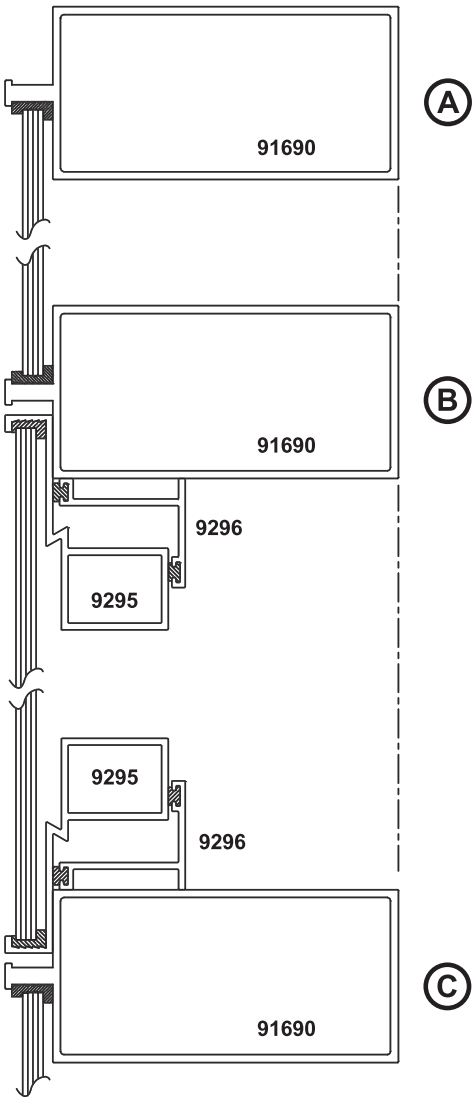
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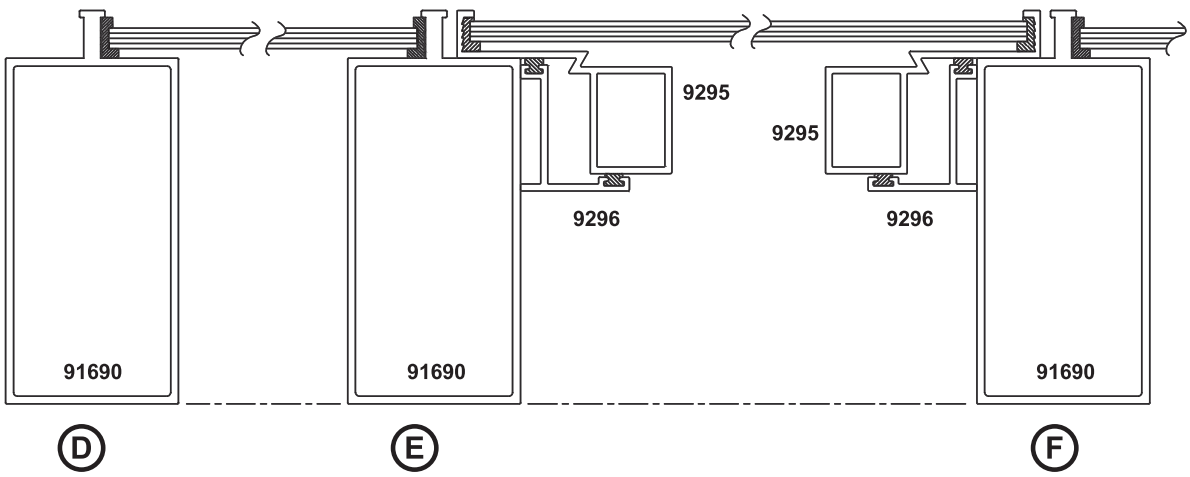
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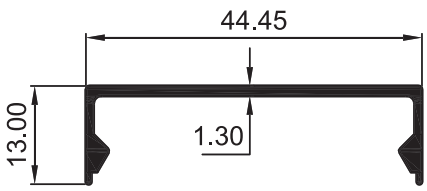

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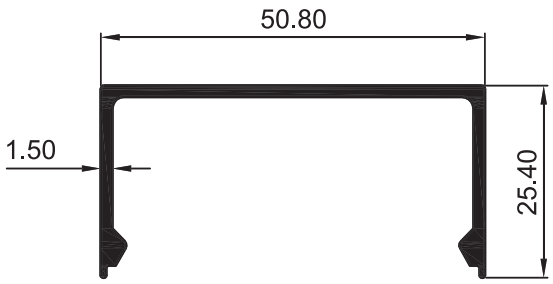

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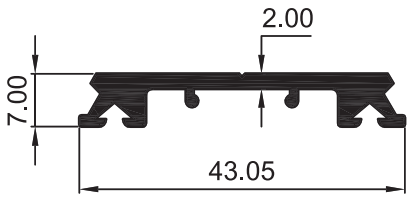

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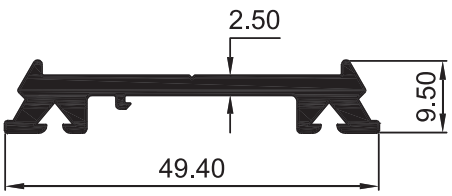

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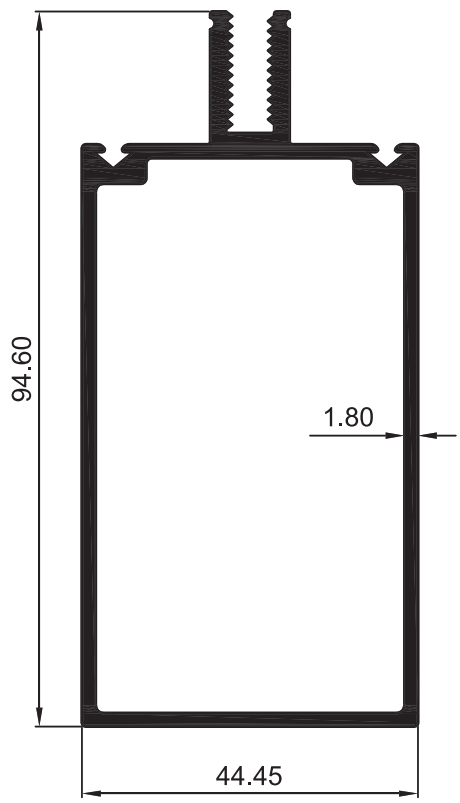

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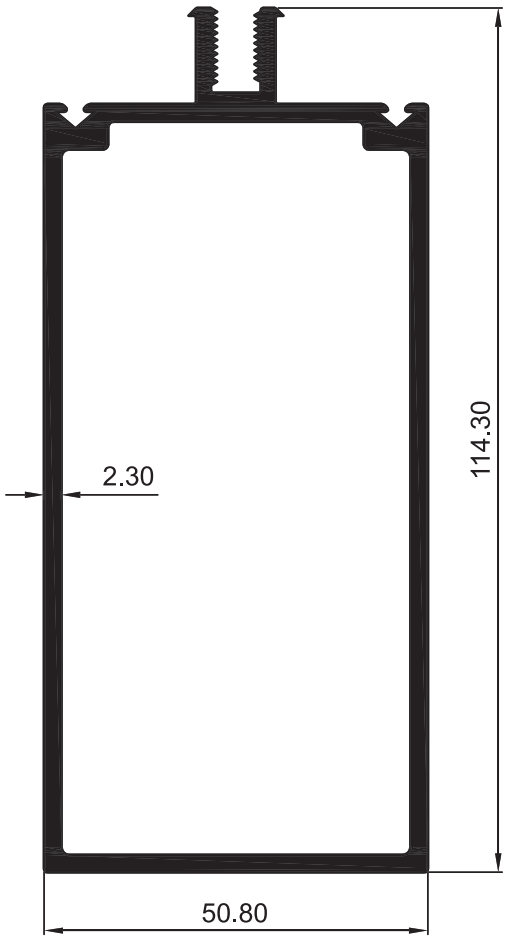

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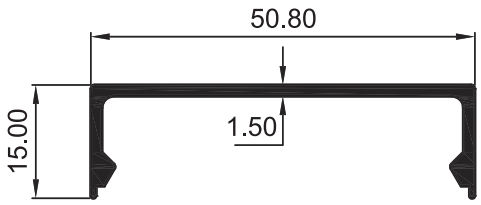

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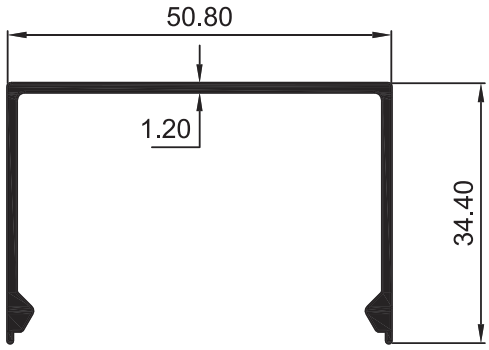

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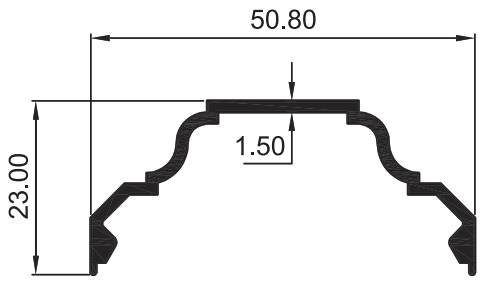

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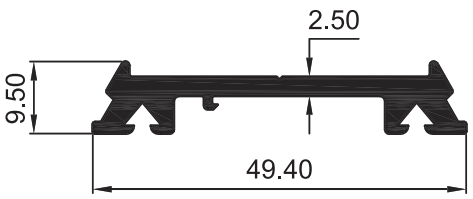

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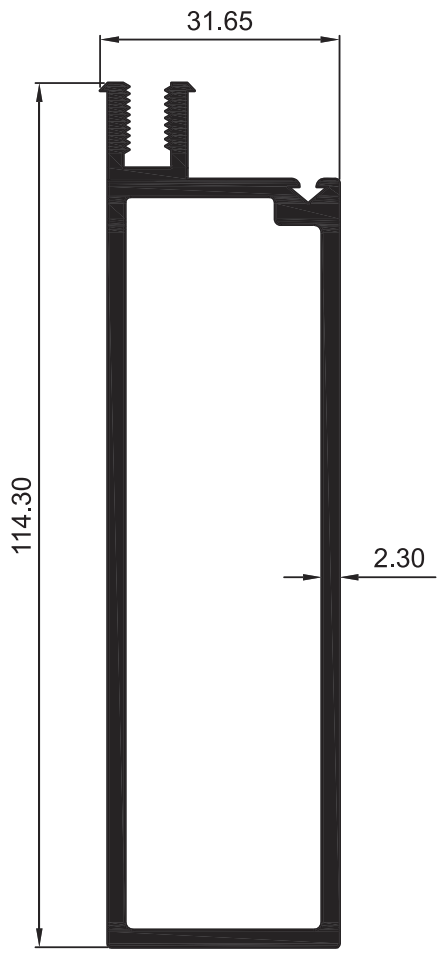

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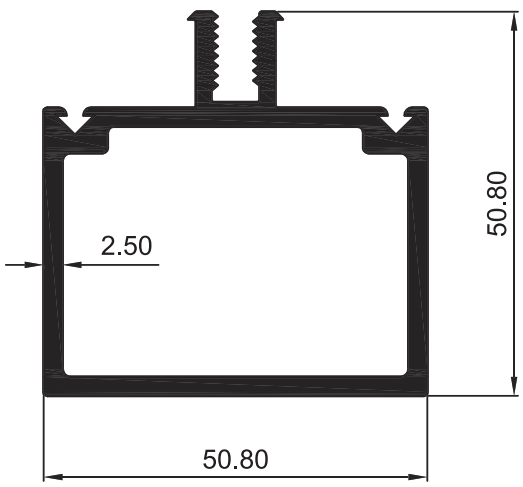

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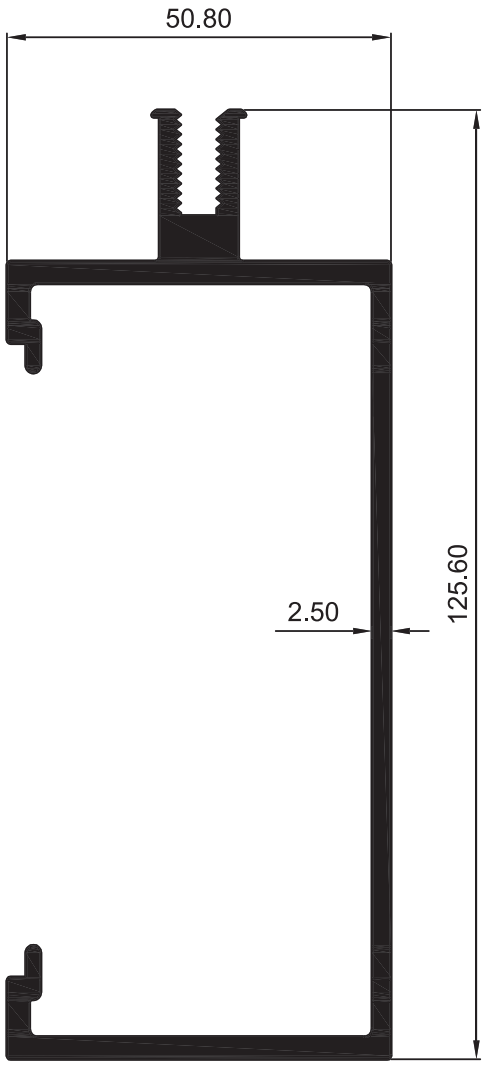

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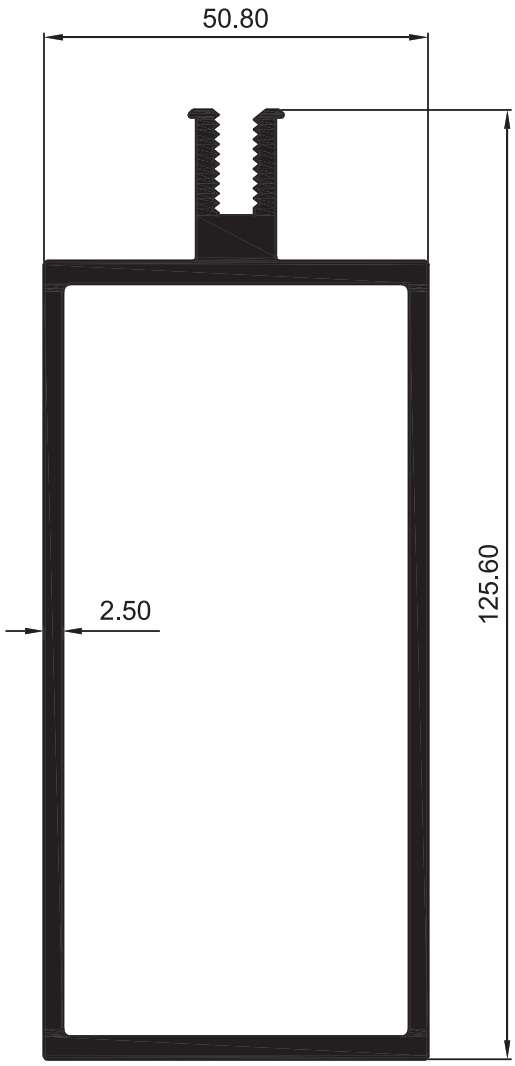

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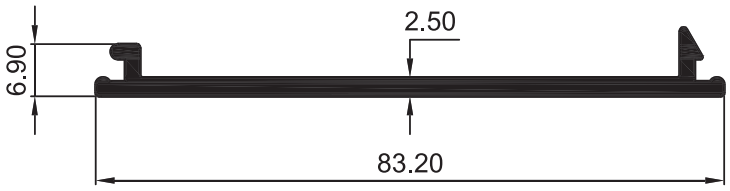

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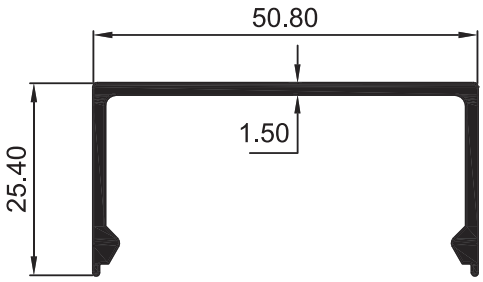

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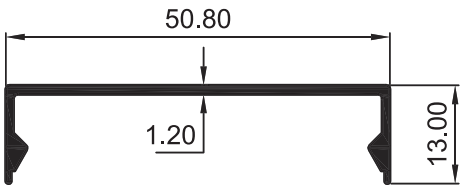

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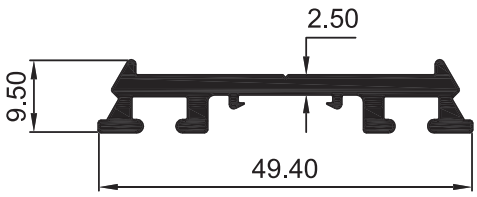
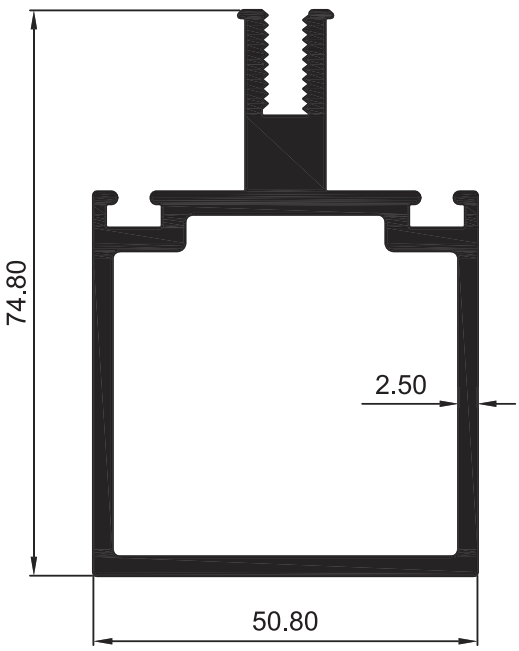
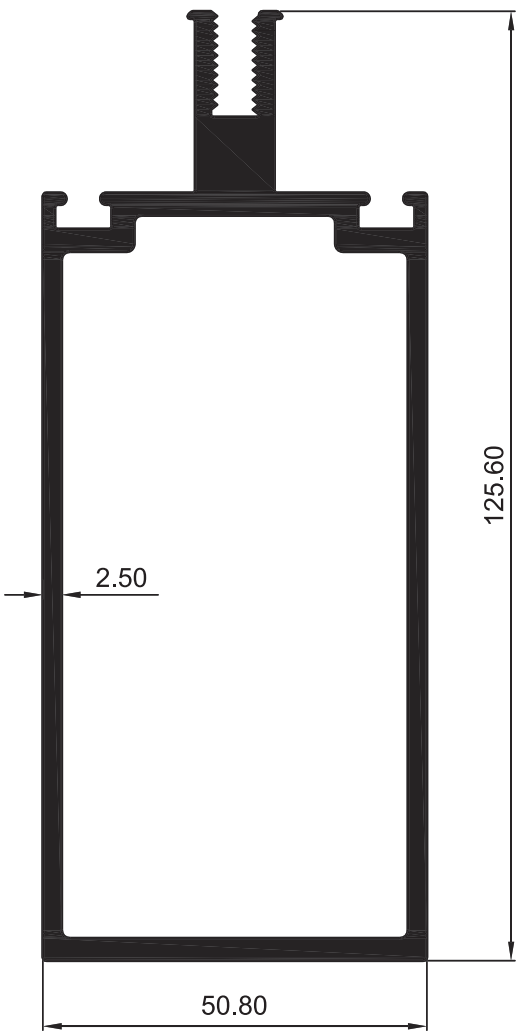
WT : 0.253 Kg./m.



9063
WT : 0.507 Kg./m.



9064
WT : 1.924 Kg./m.



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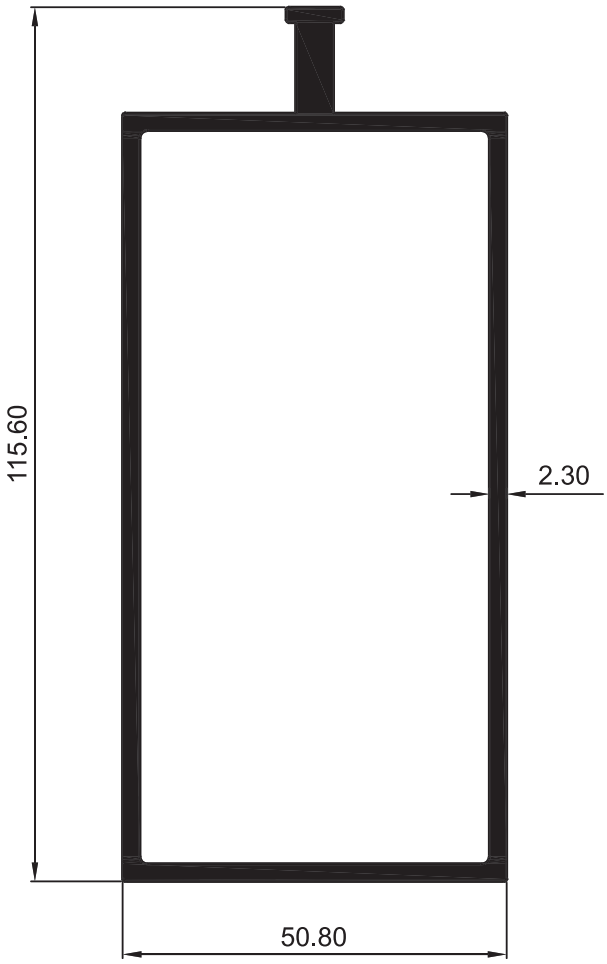
WT : 2.674 Kg./m.



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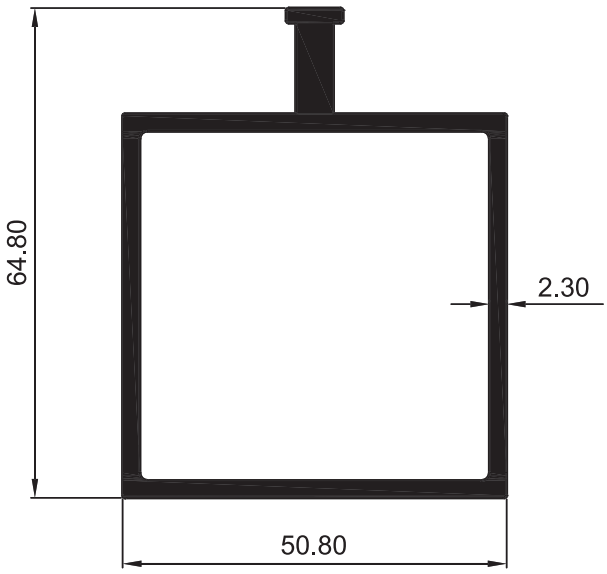
WT : 2.047 Kg./m.



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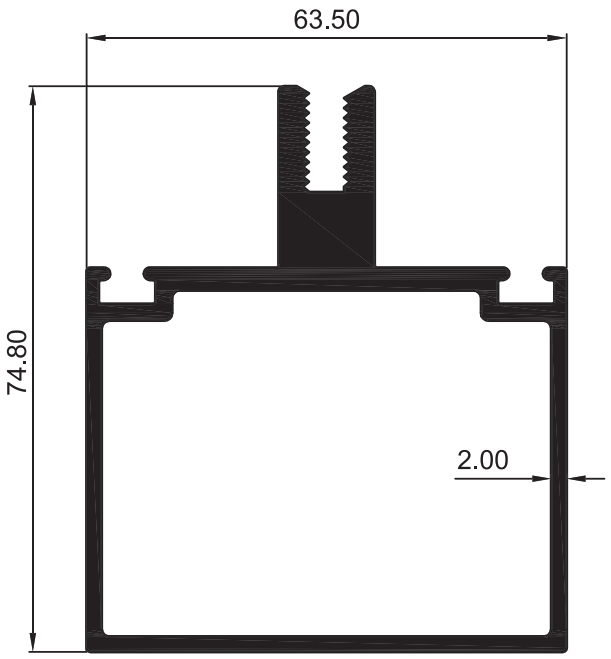

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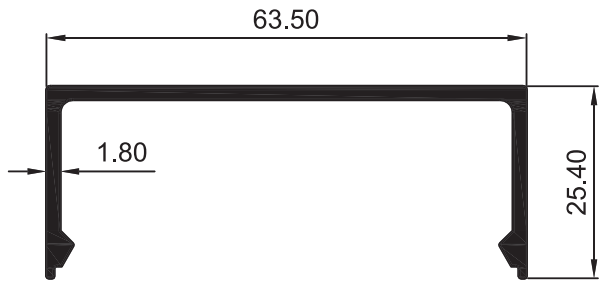

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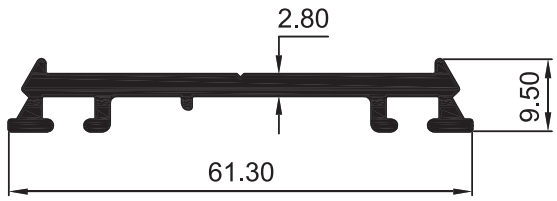

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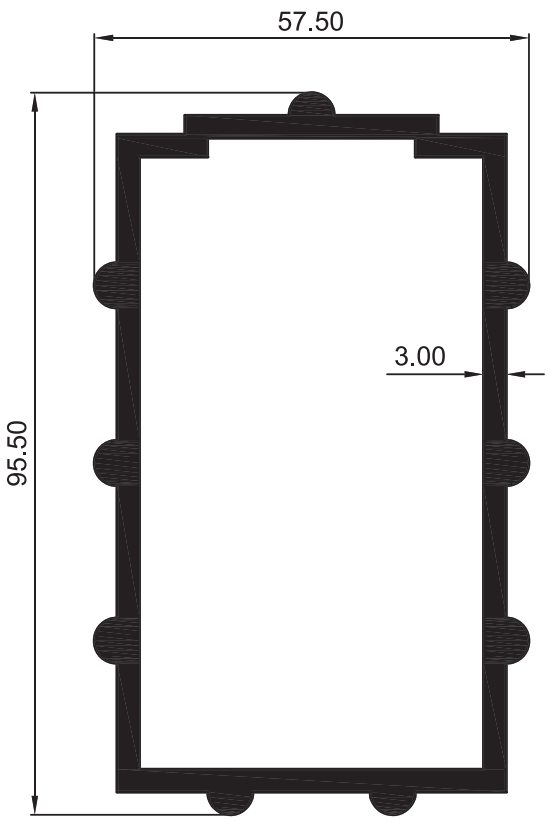

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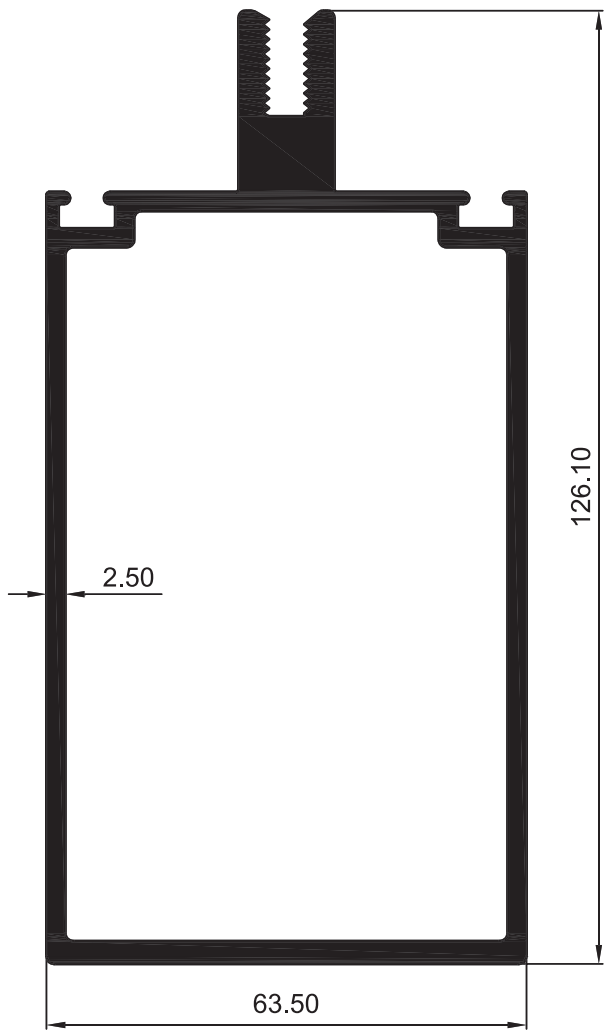

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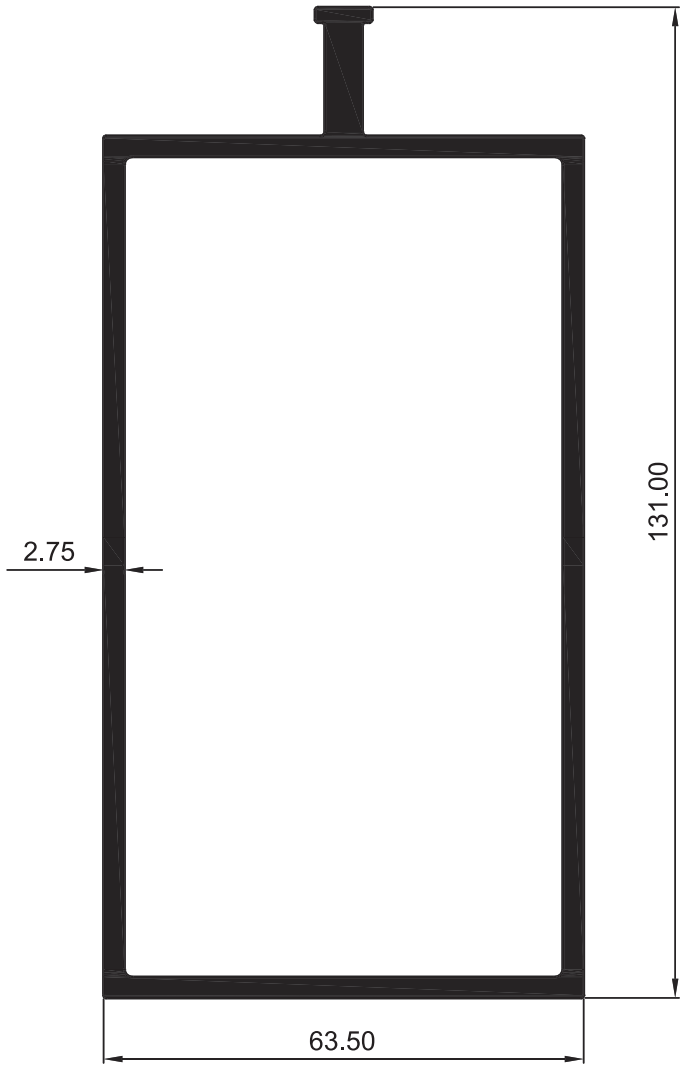

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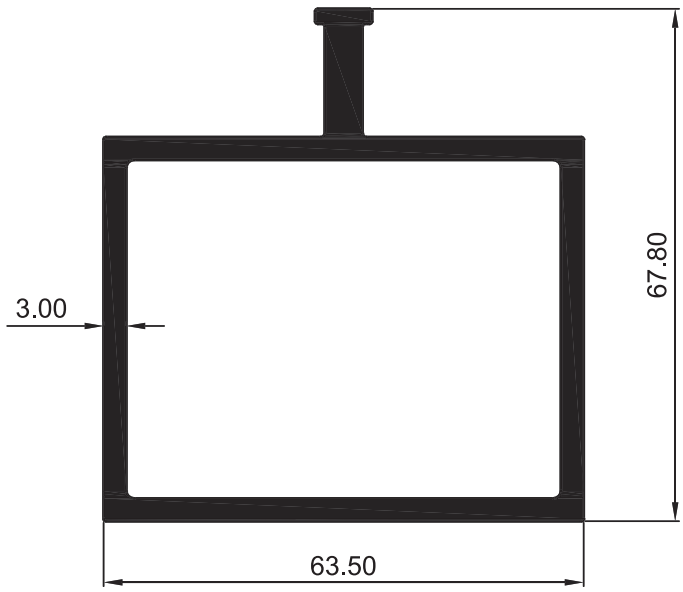

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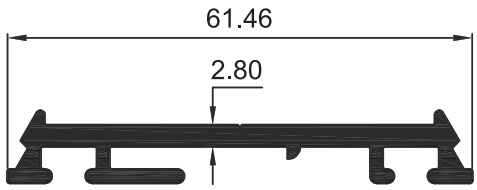

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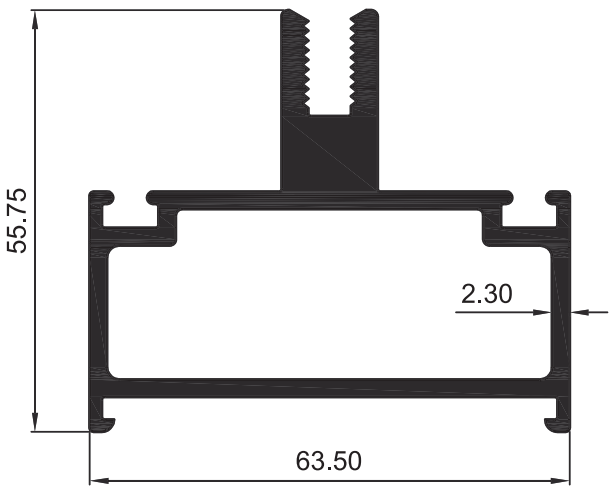

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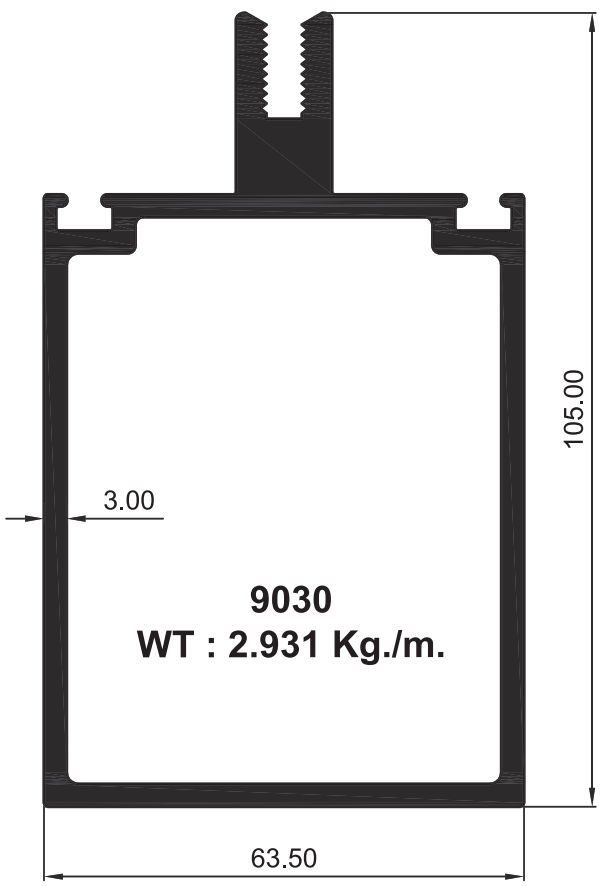

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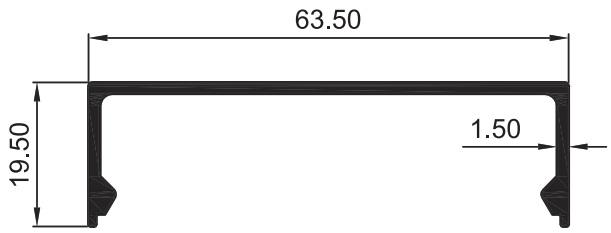

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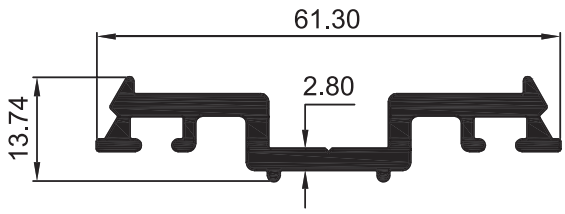

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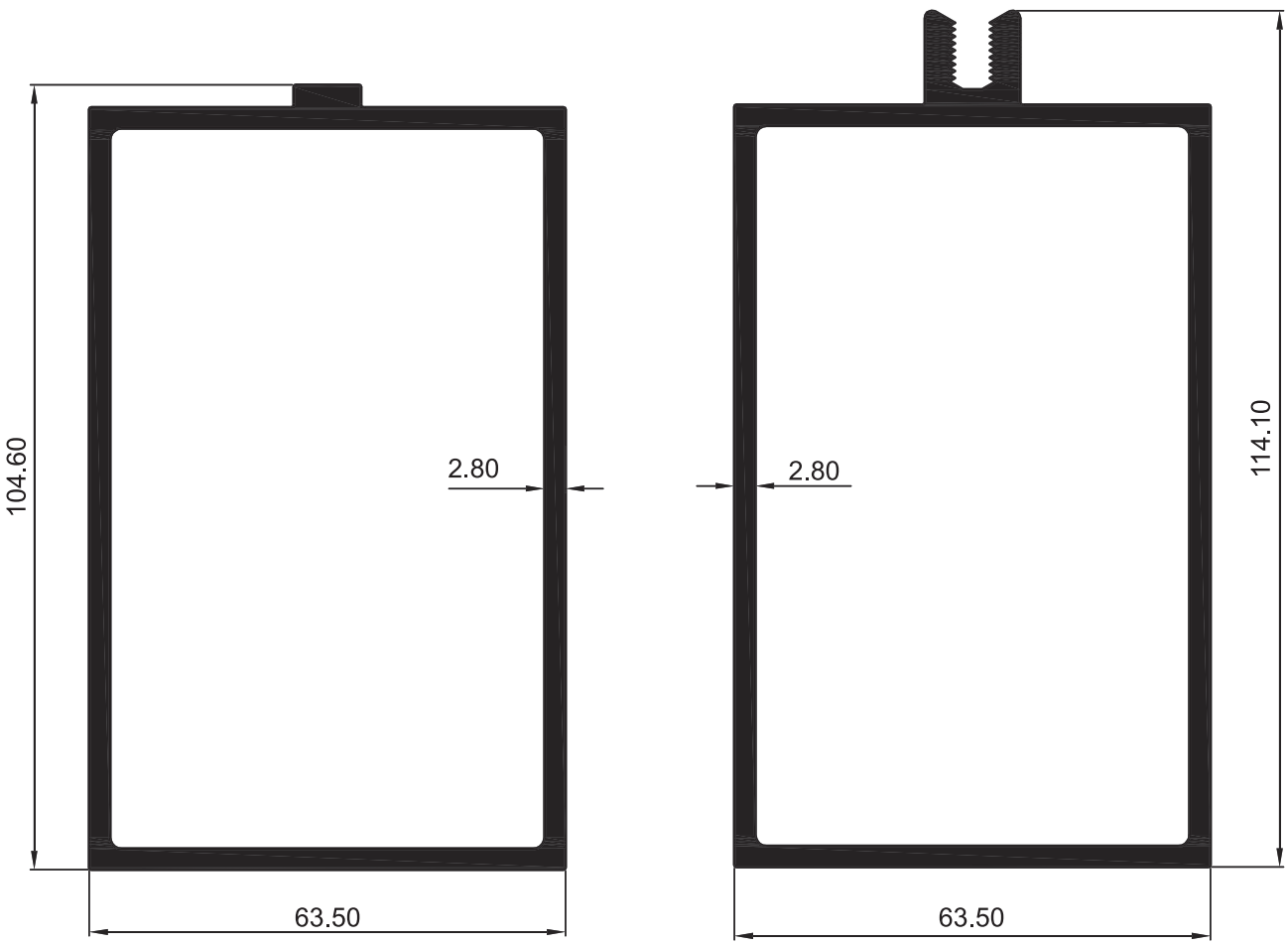

9229
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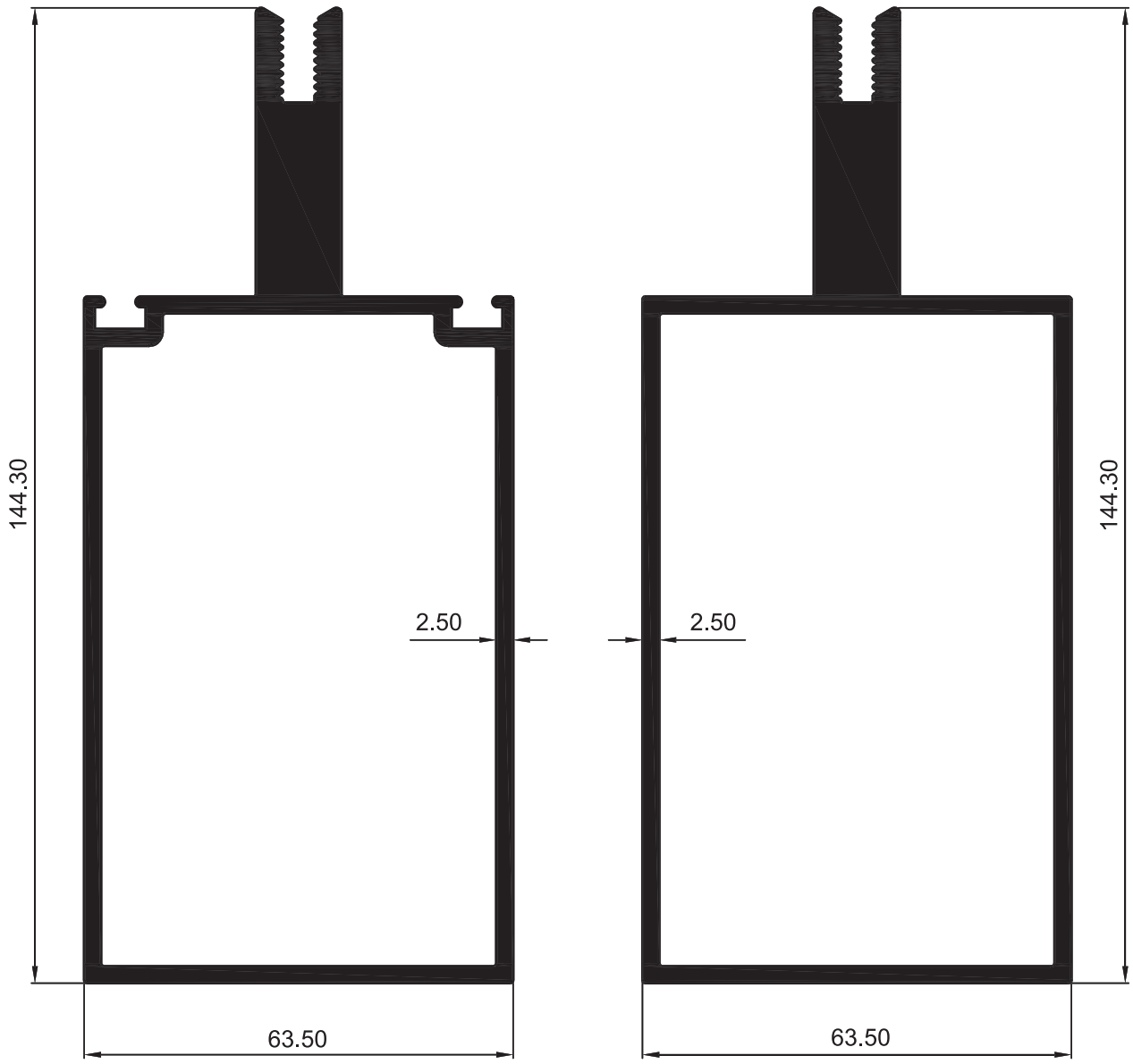
9228
WT : 2.393 Kg./m.



90796
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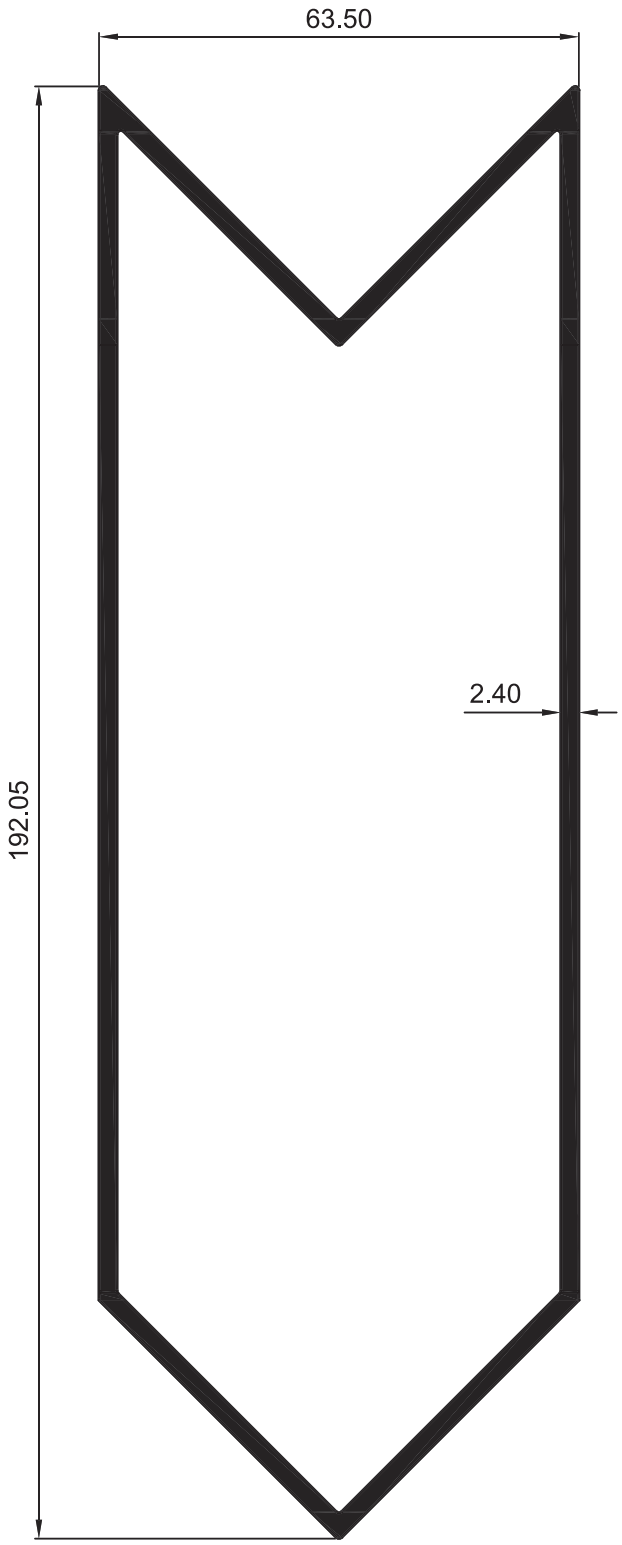
91551
WT : 3.426 Kg./m.



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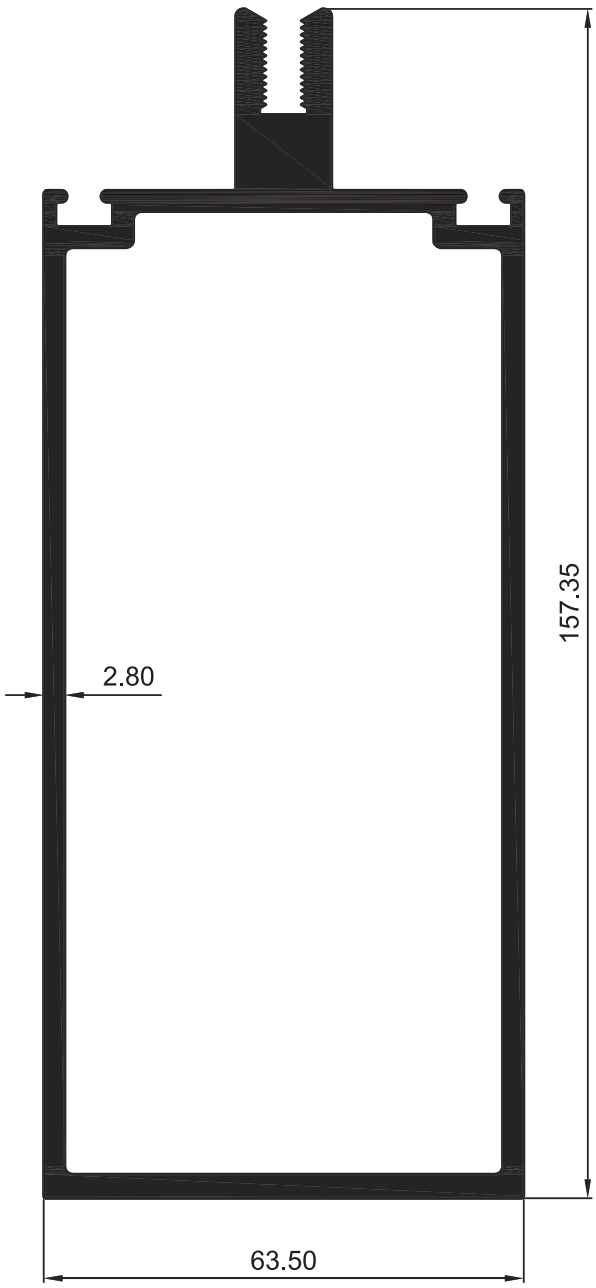

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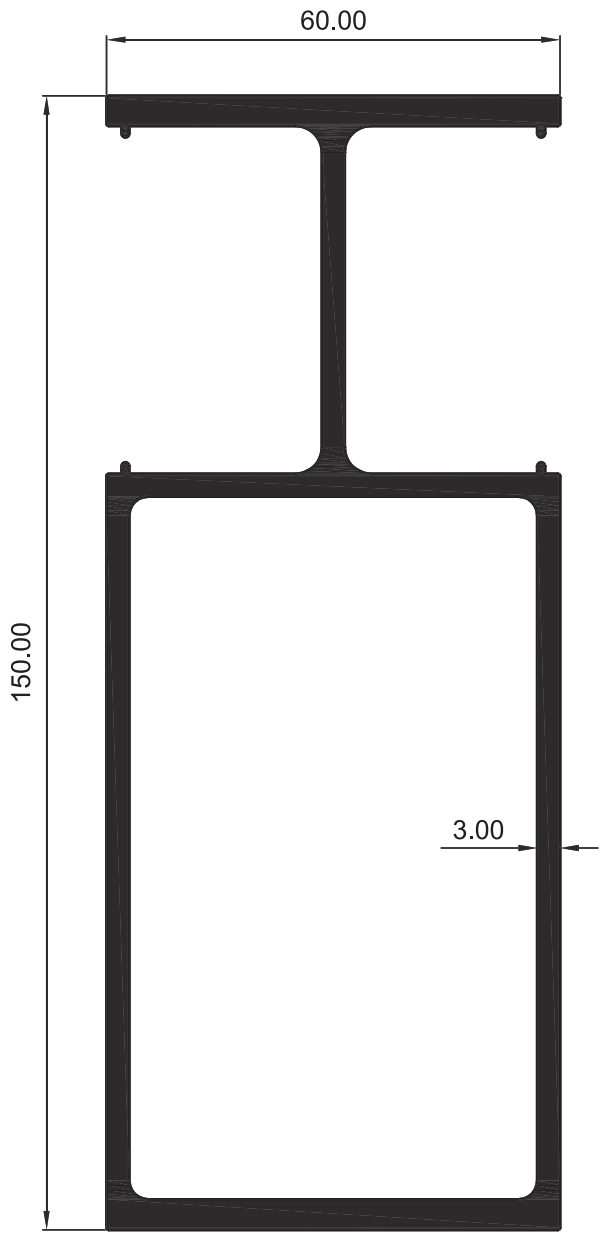

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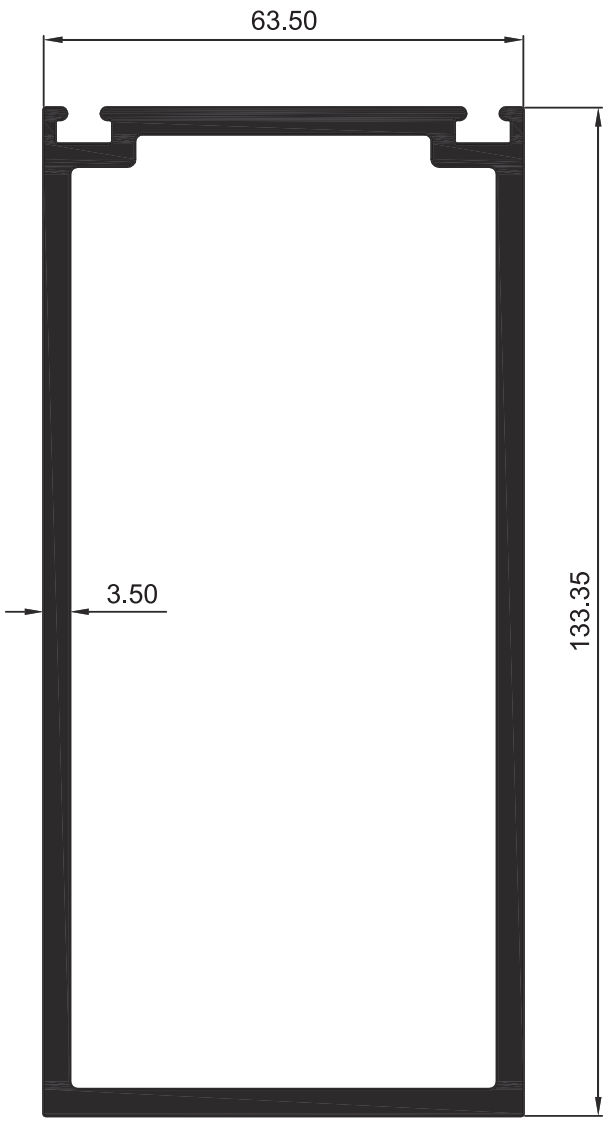

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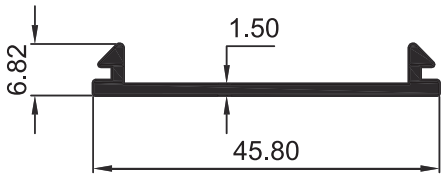

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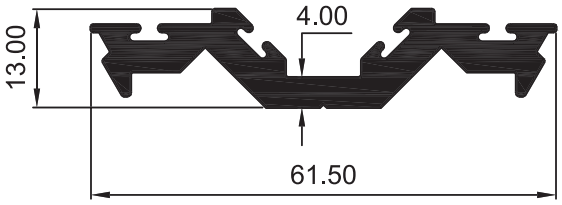

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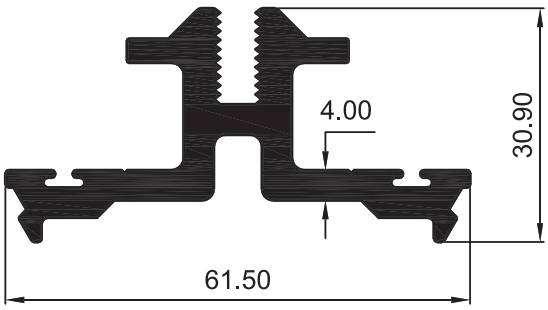

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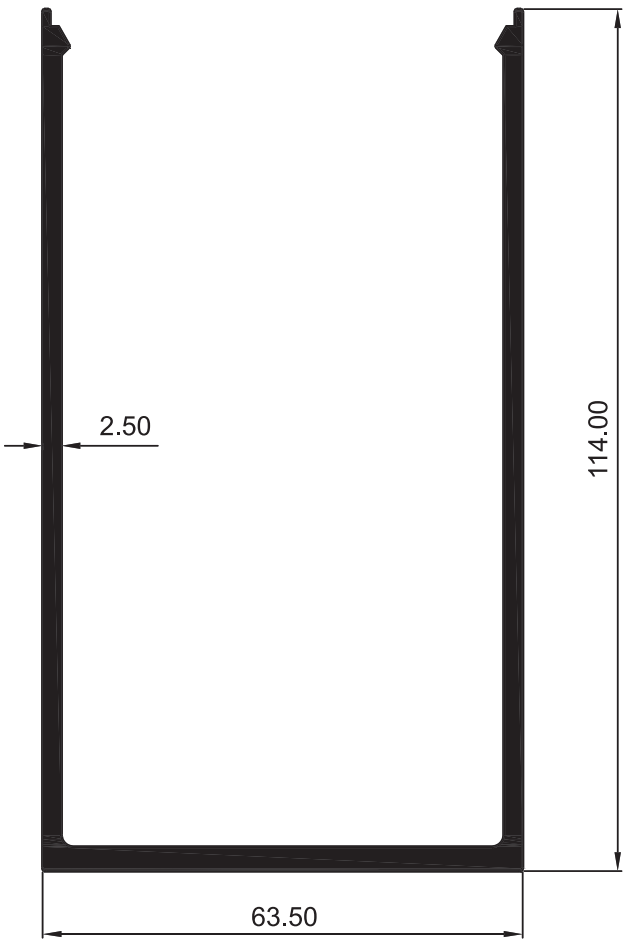

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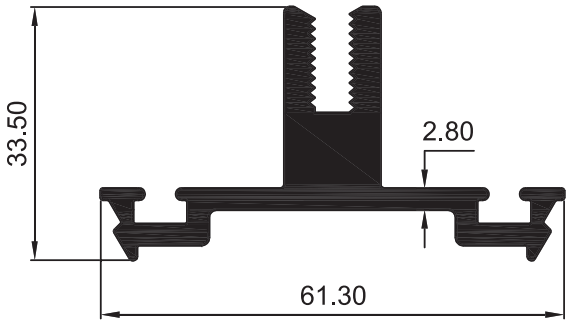

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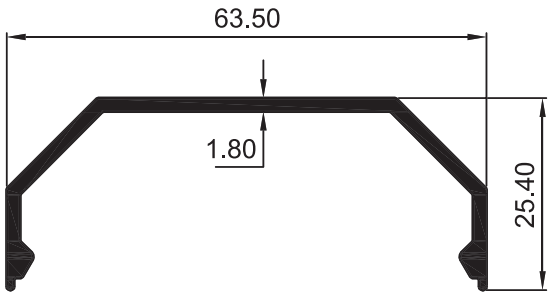

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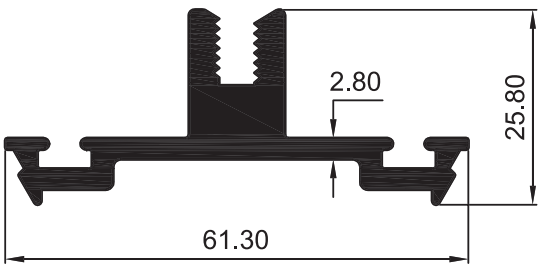

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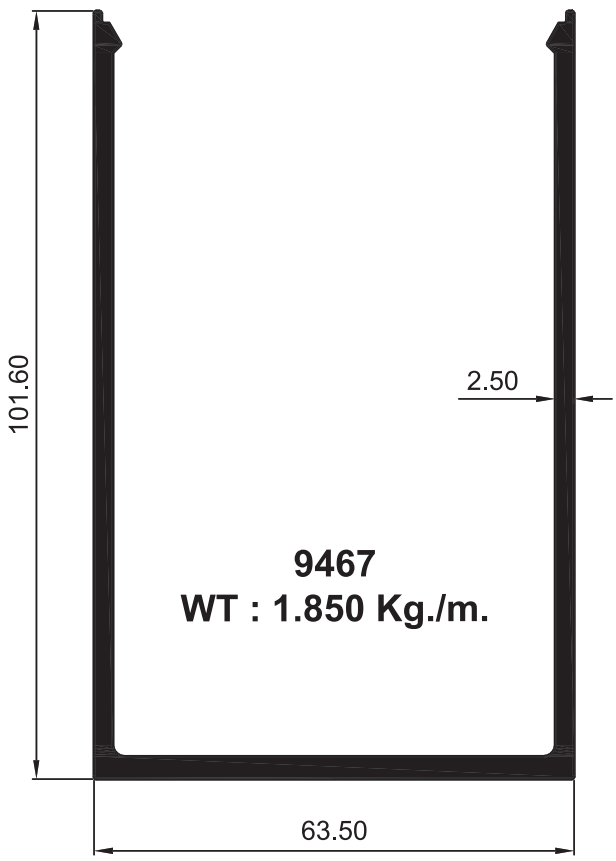

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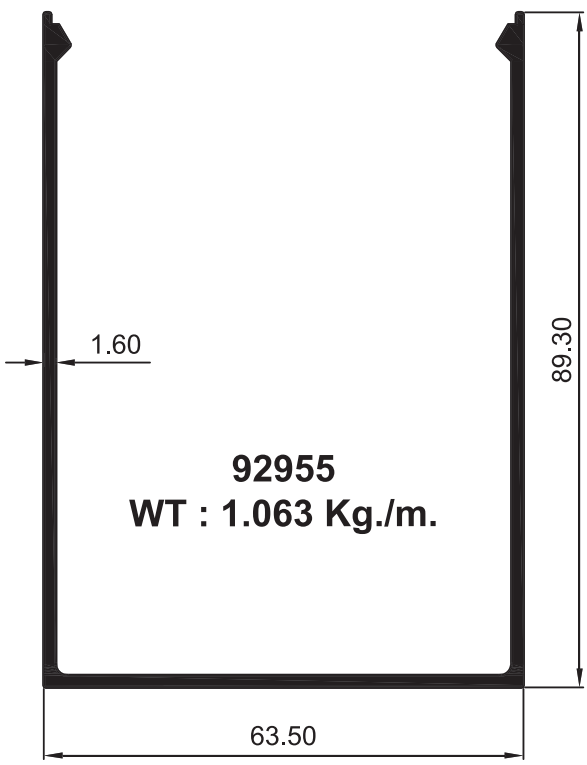

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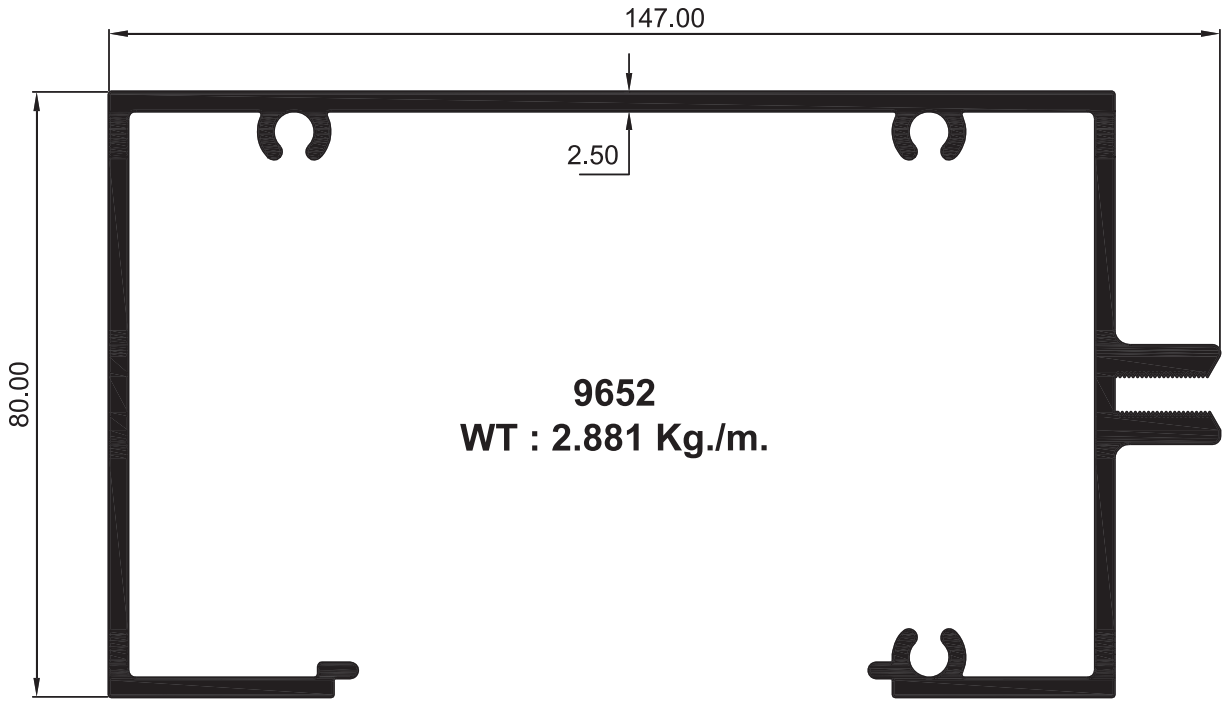

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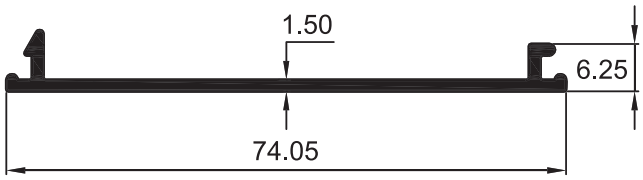

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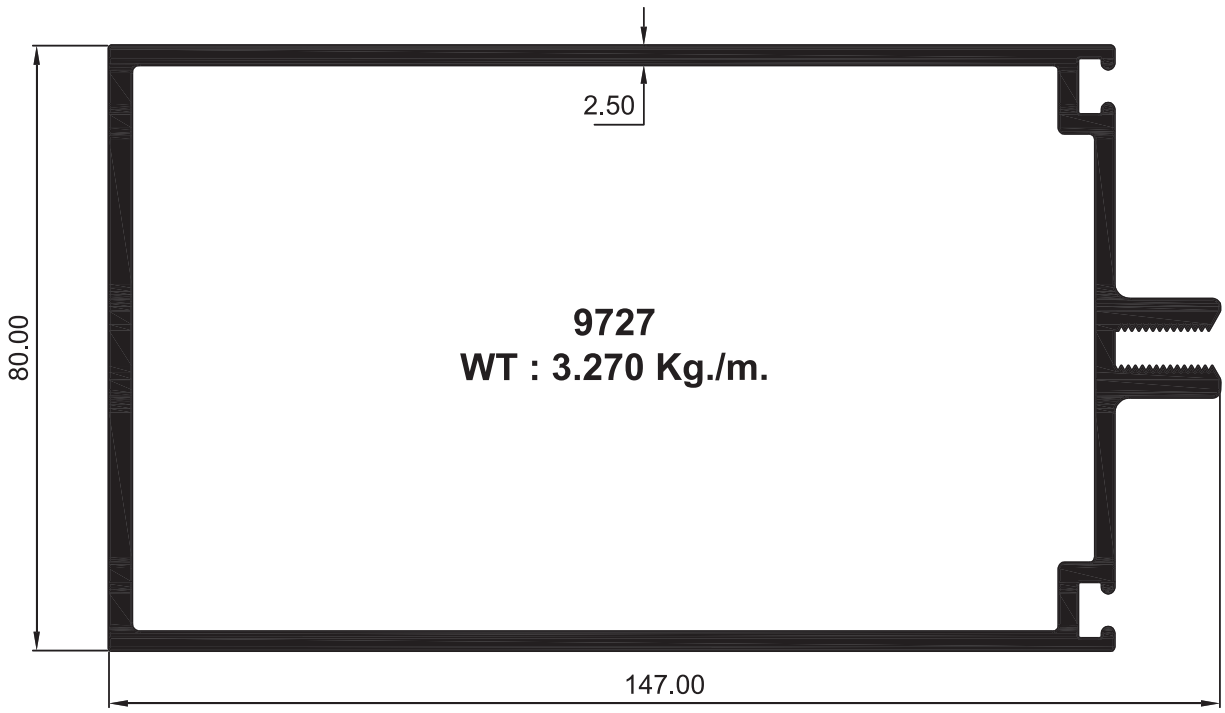

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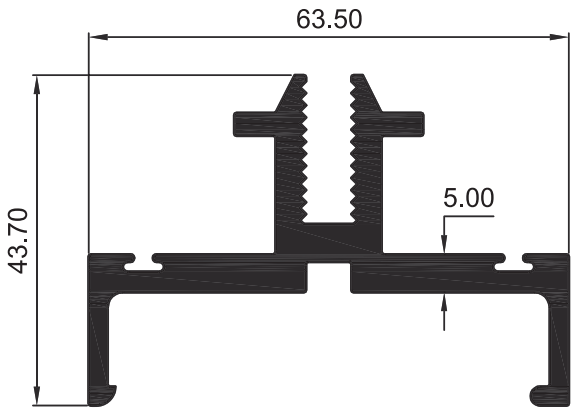

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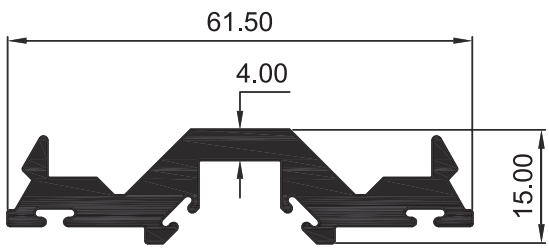

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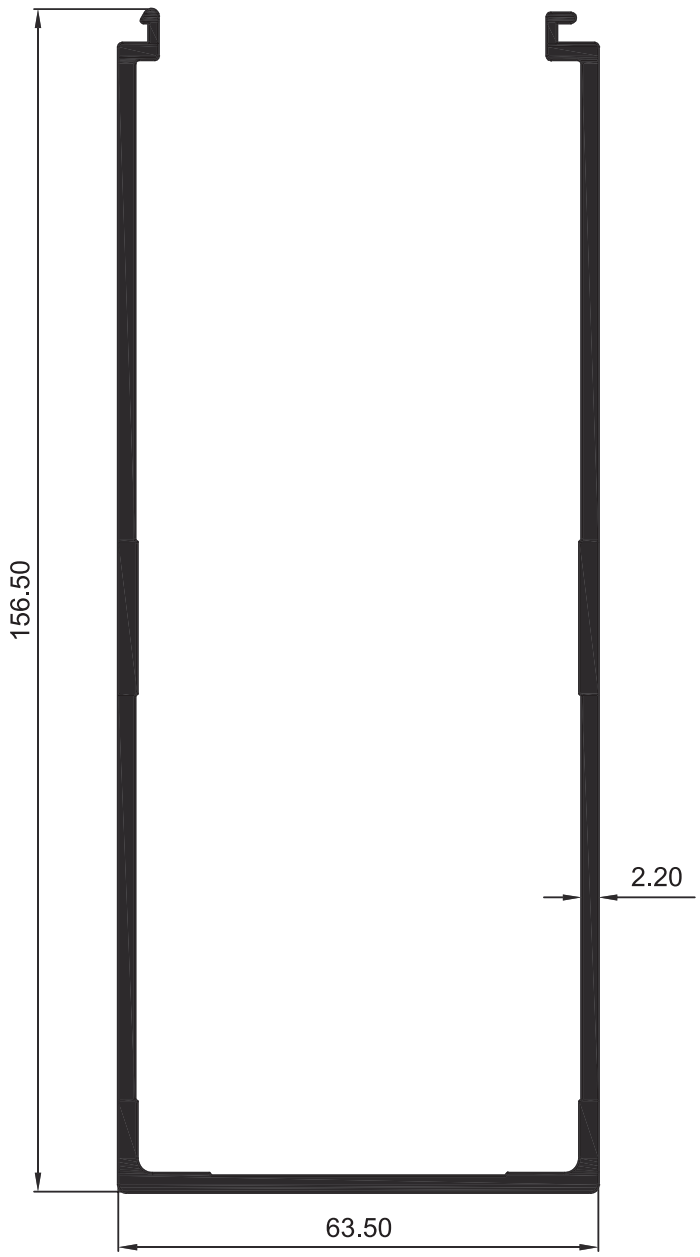

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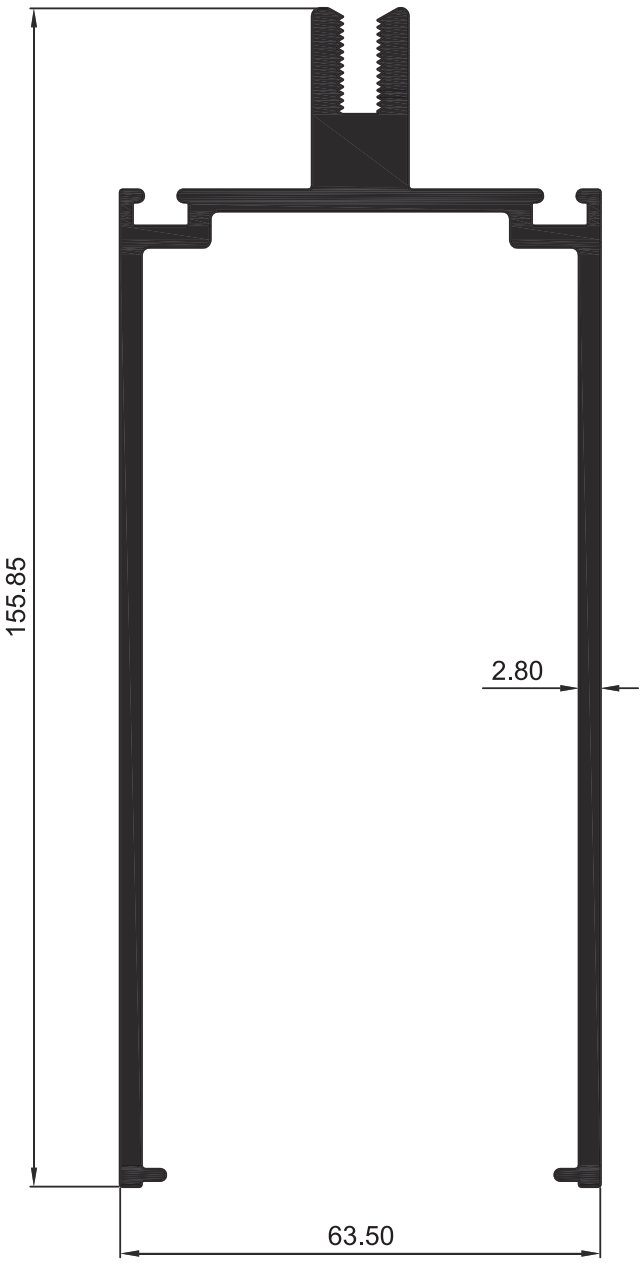

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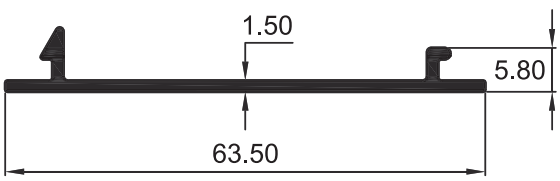

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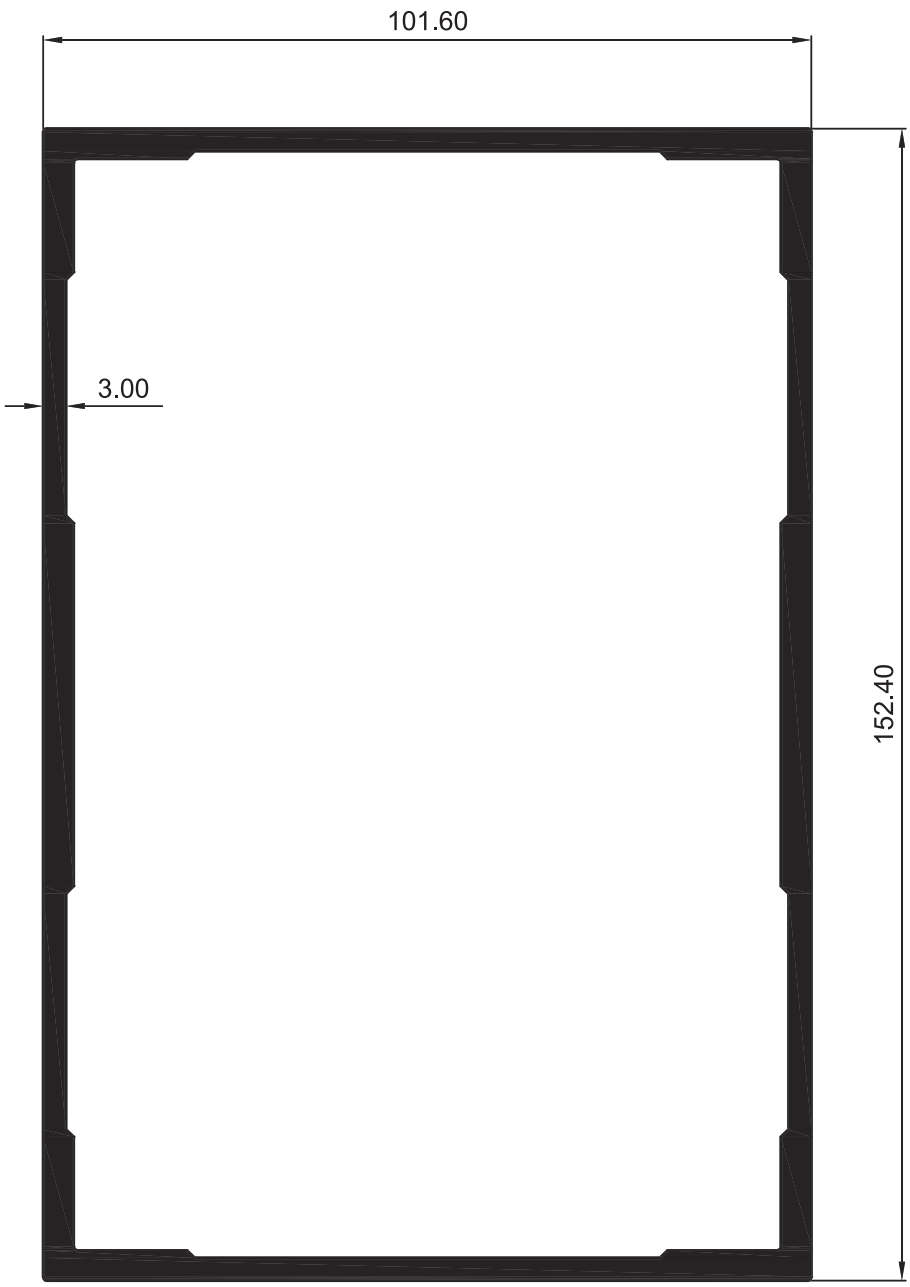

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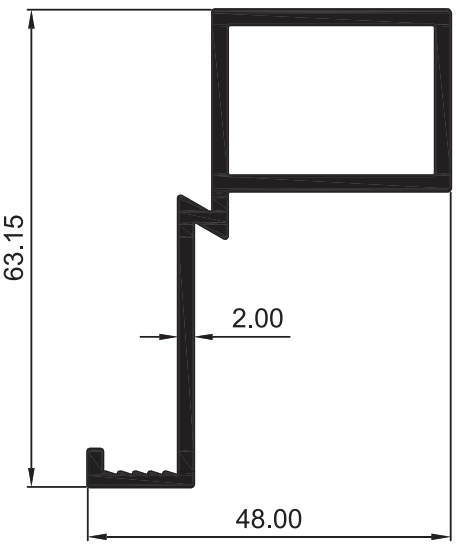

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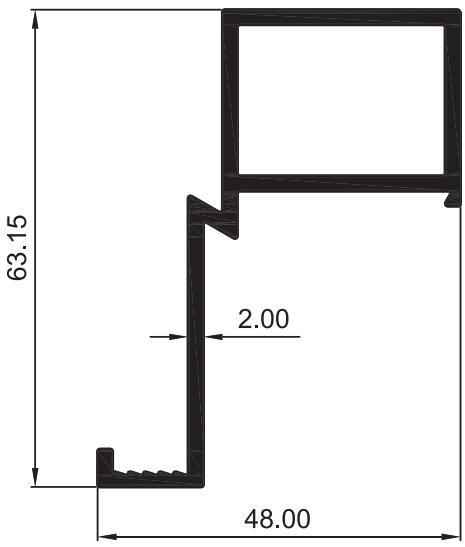

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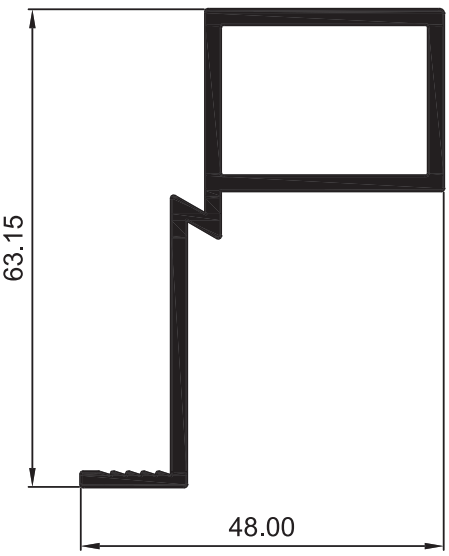

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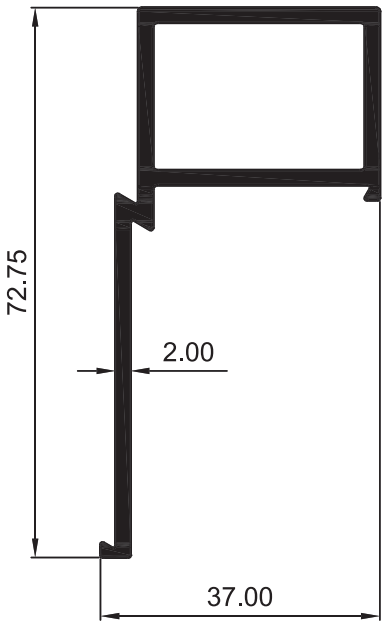

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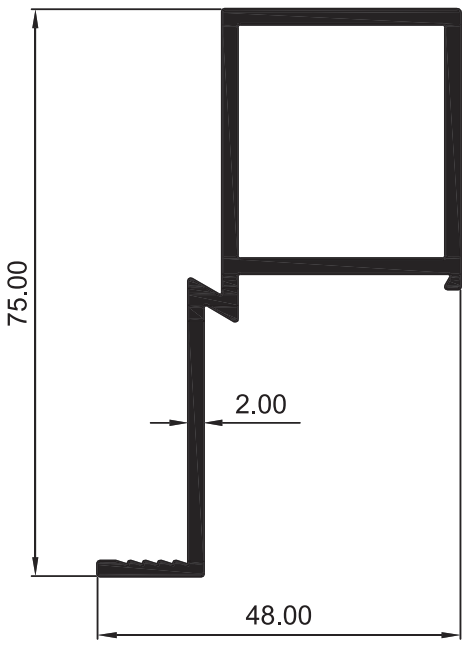

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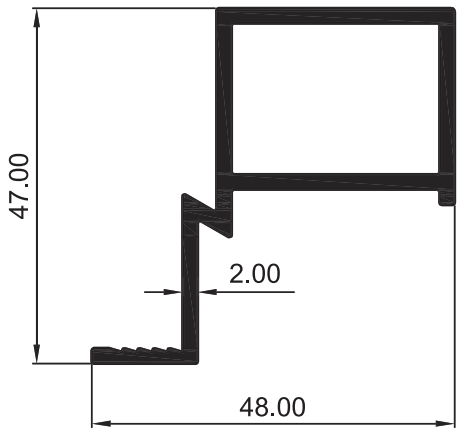

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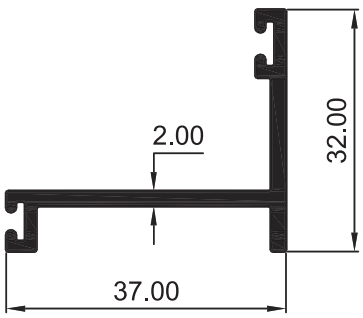

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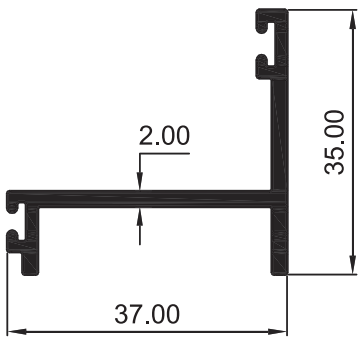

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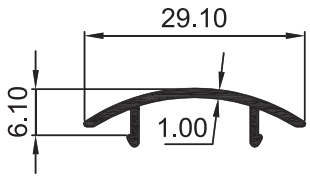

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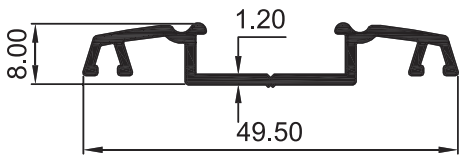

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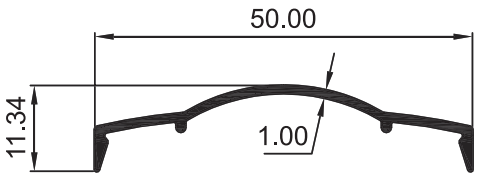

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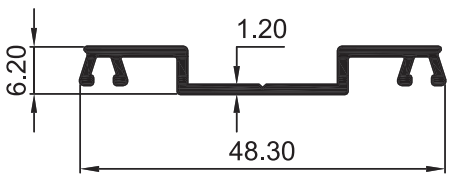

91399
WT : 0.233 Kg./m.

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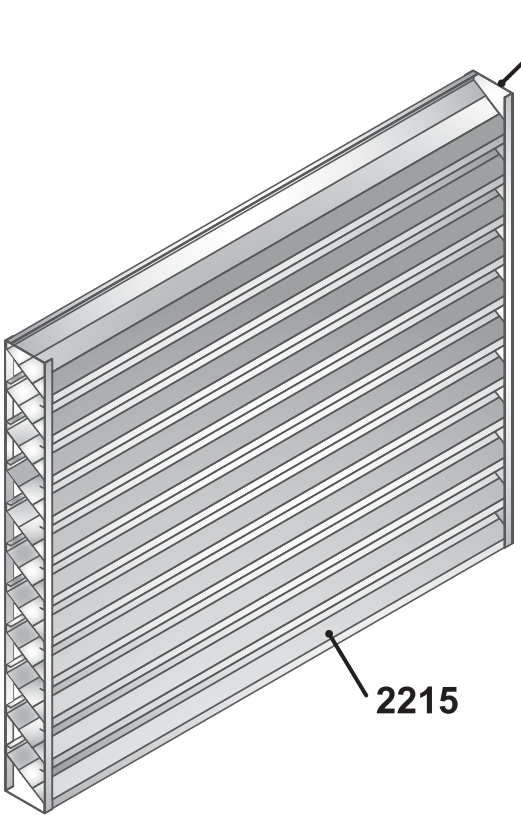
MUANGTHONG ALUMINIUM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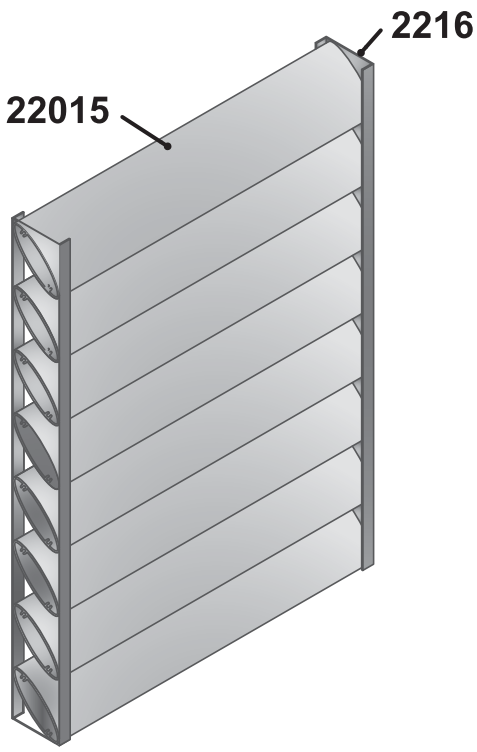
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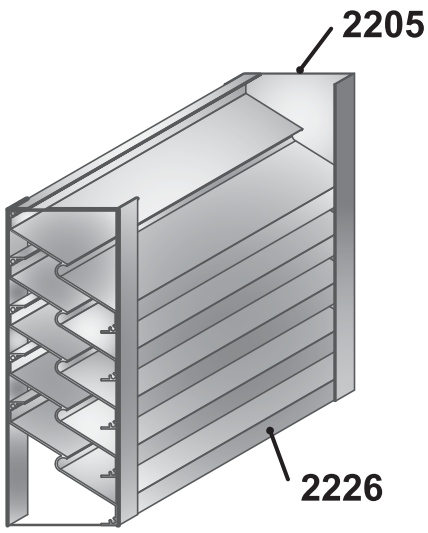
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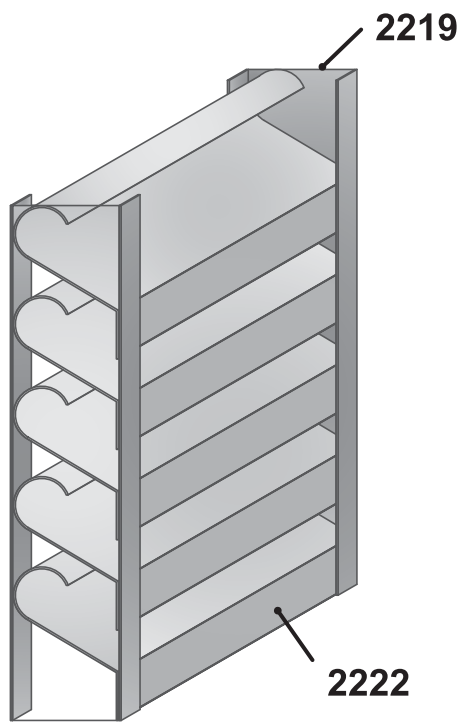
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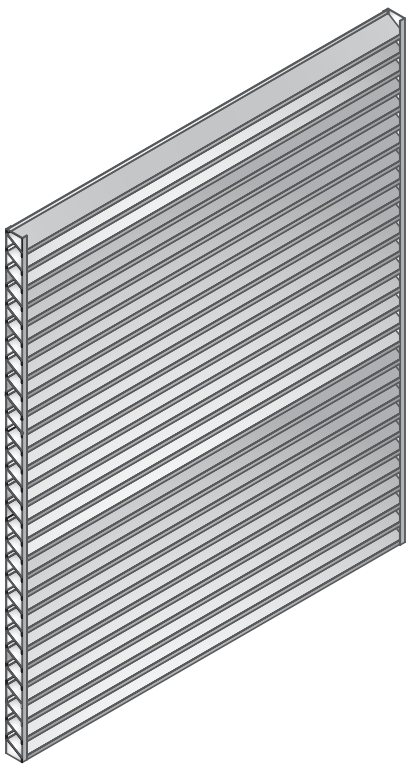

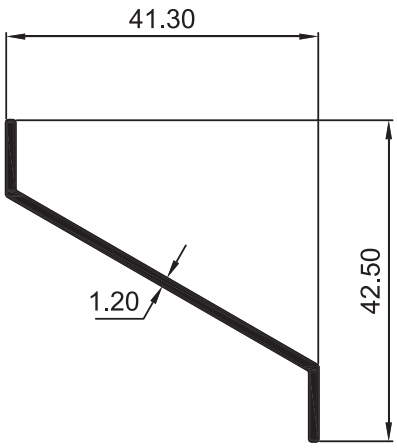

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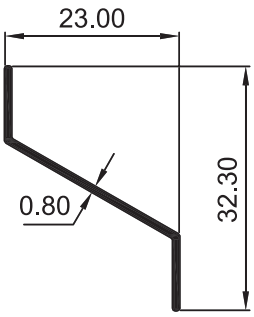

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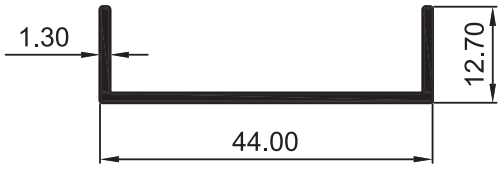

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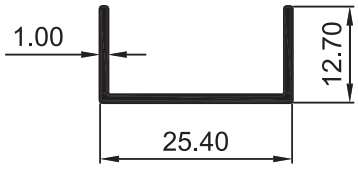

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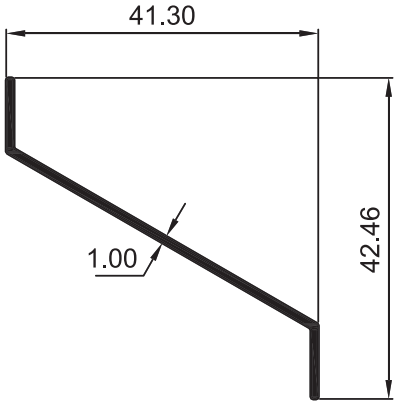

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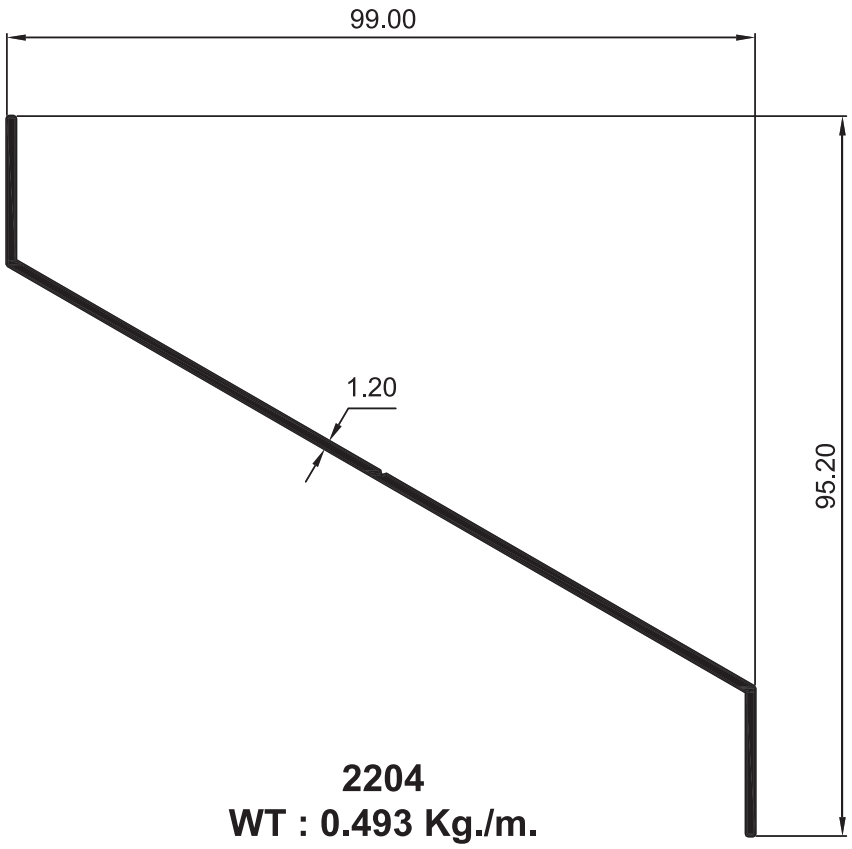

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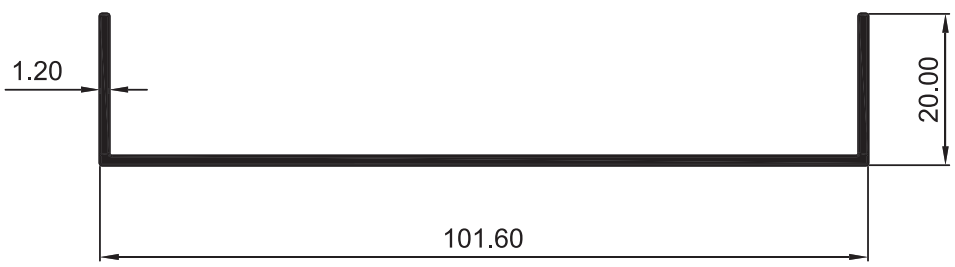

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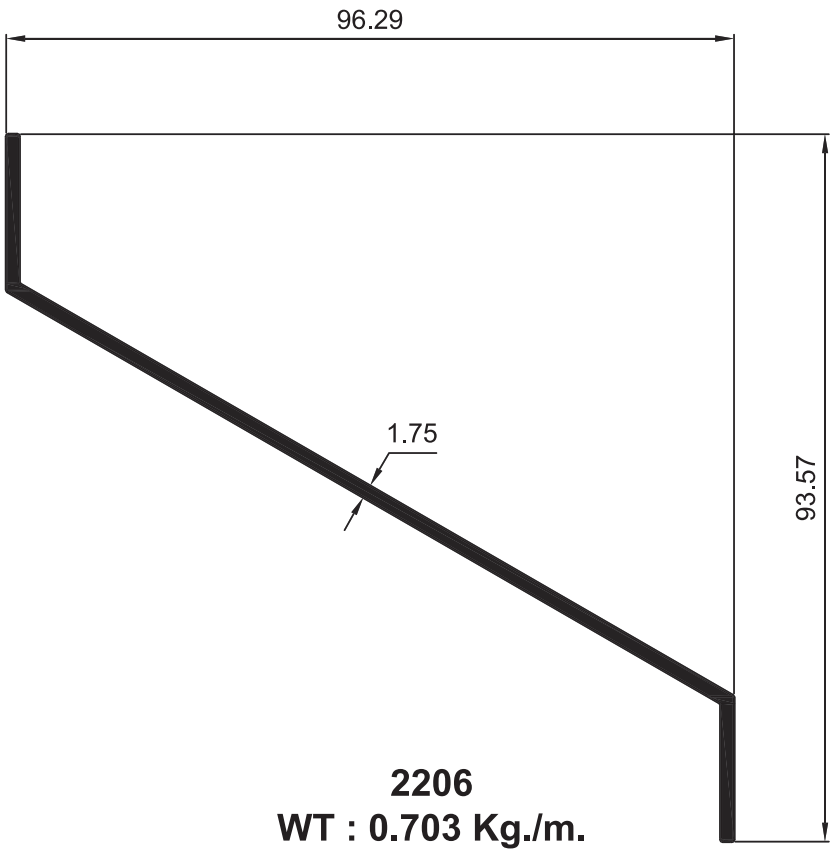

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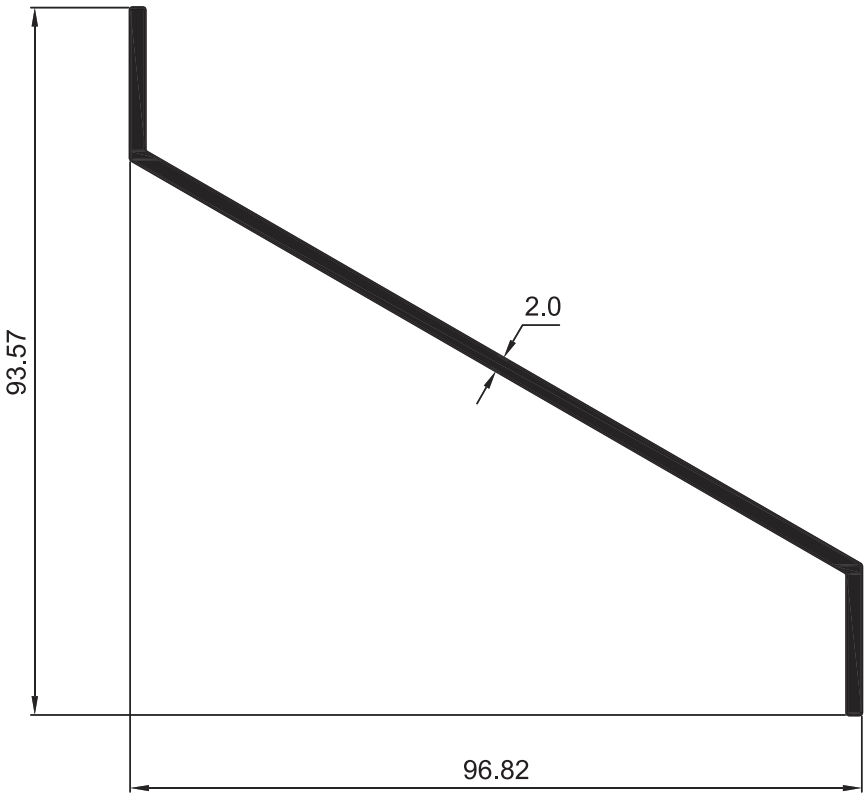

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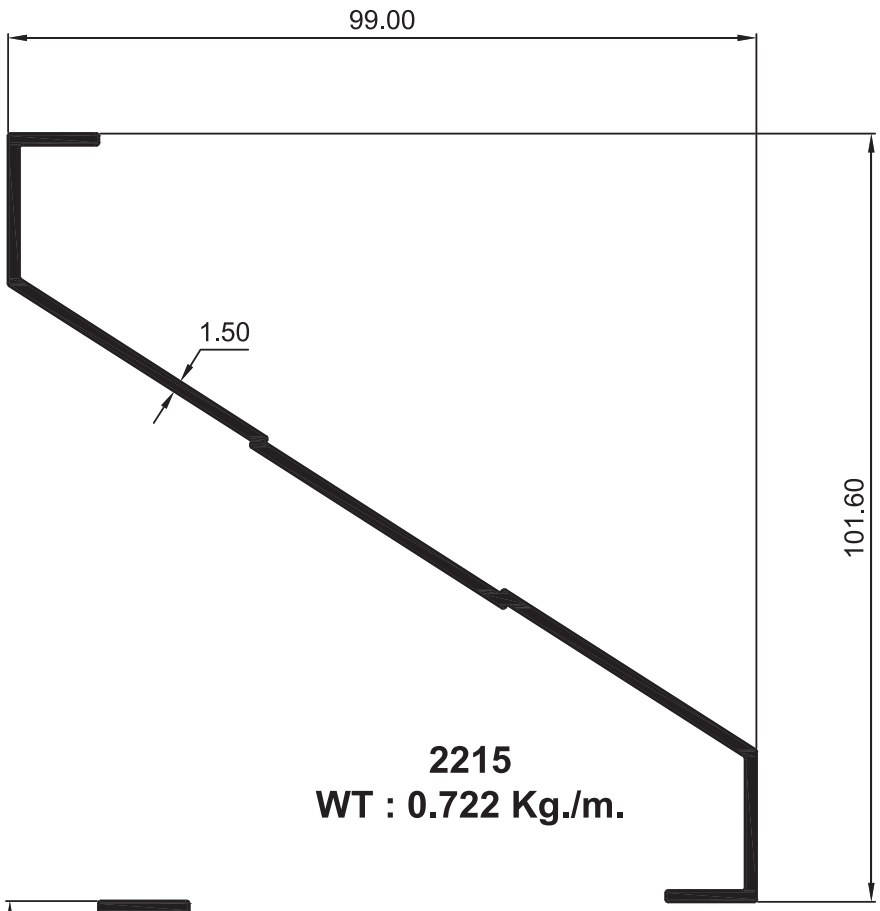

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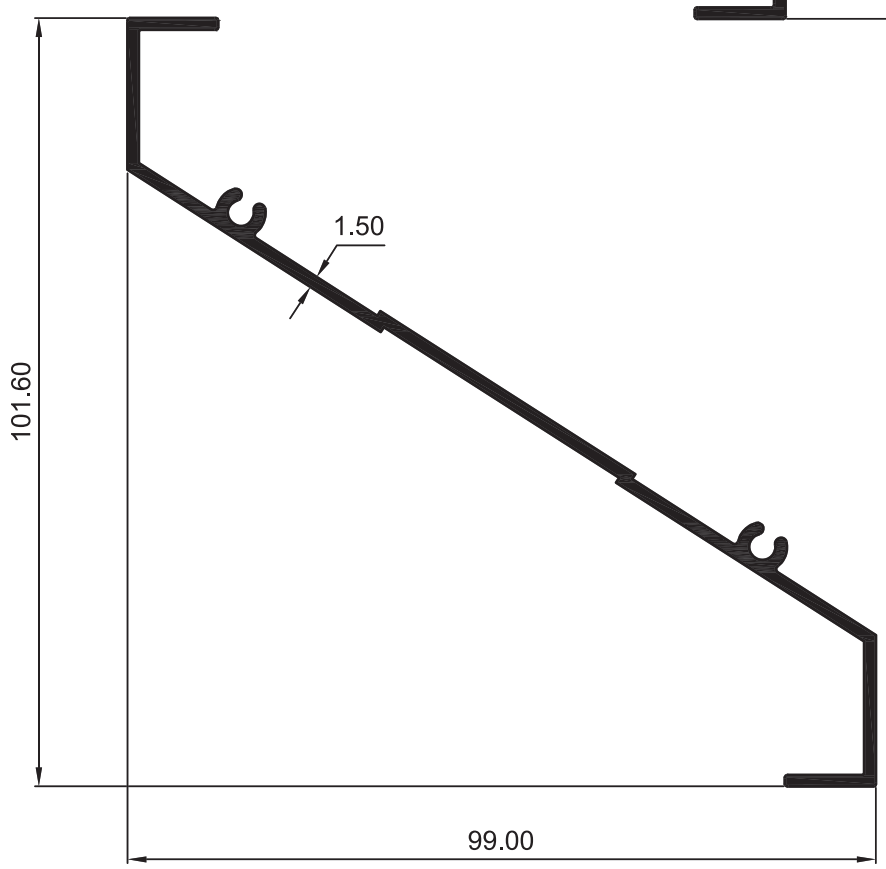

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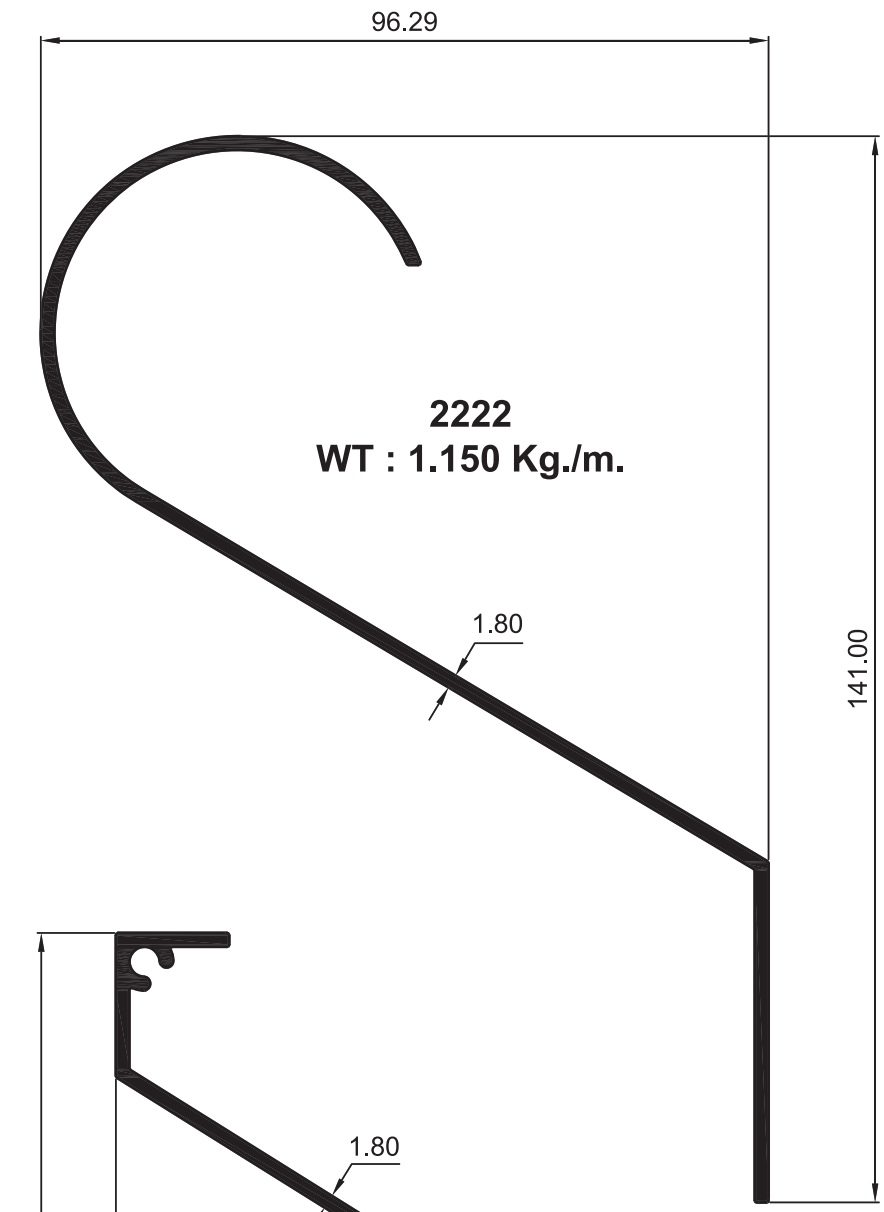
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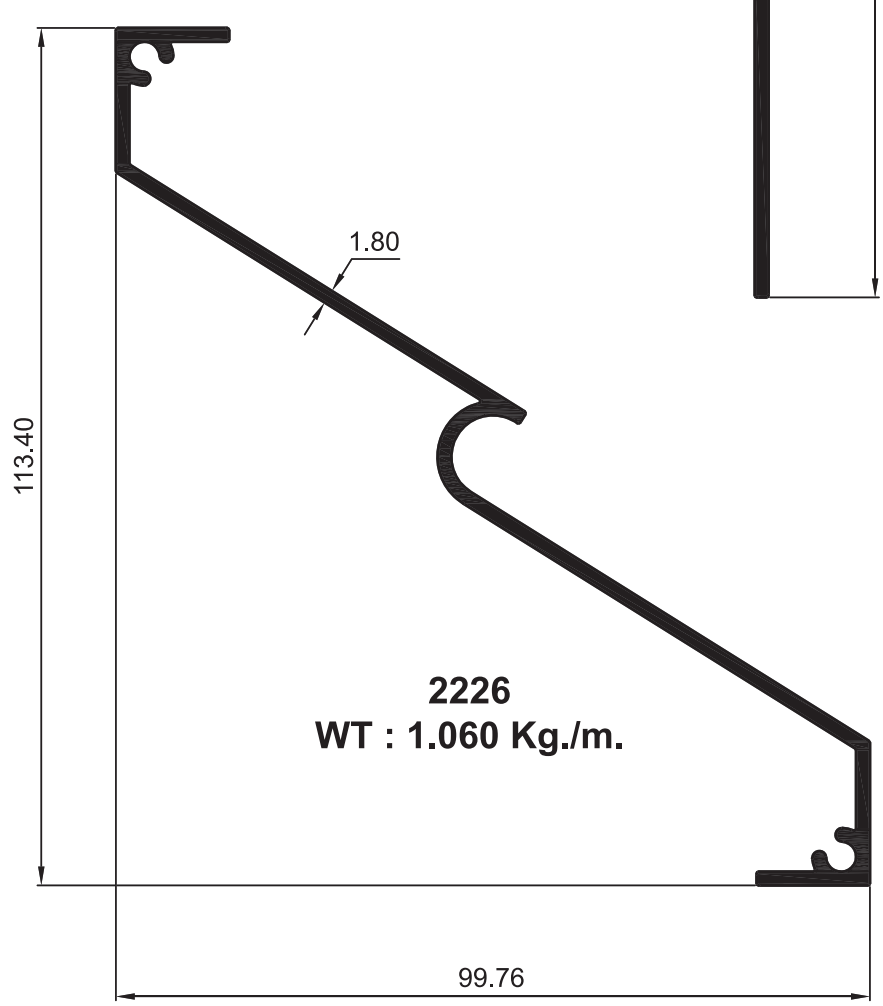
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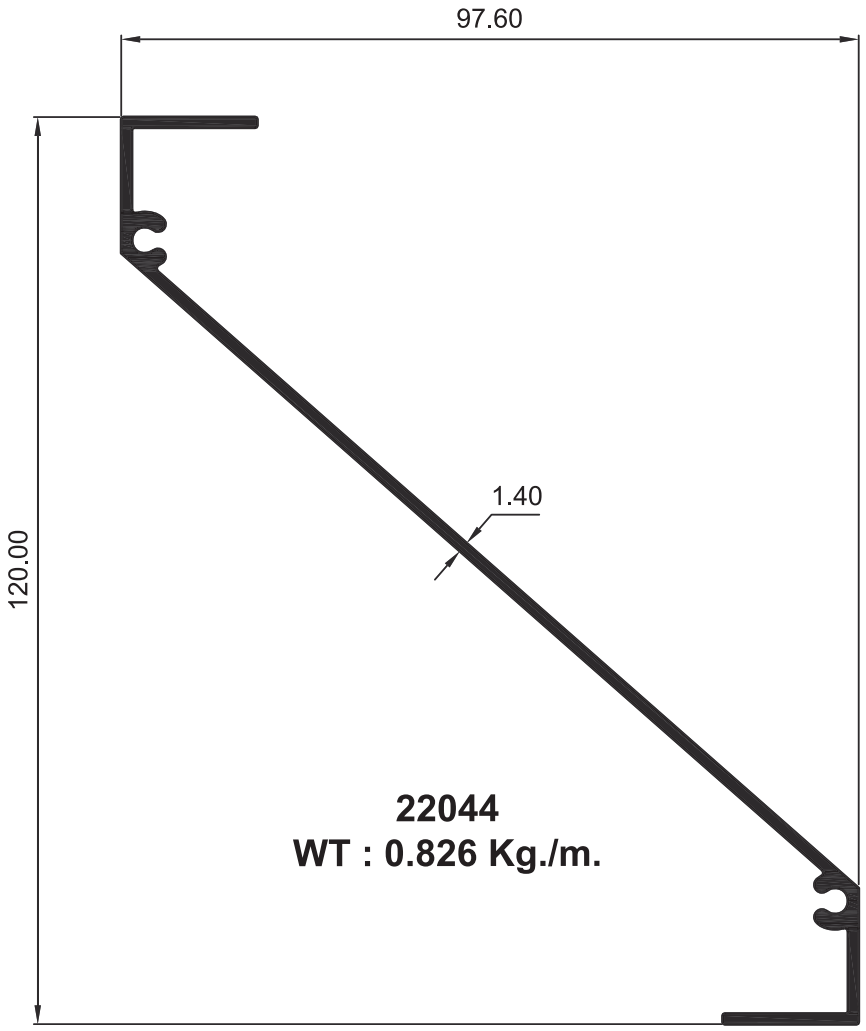

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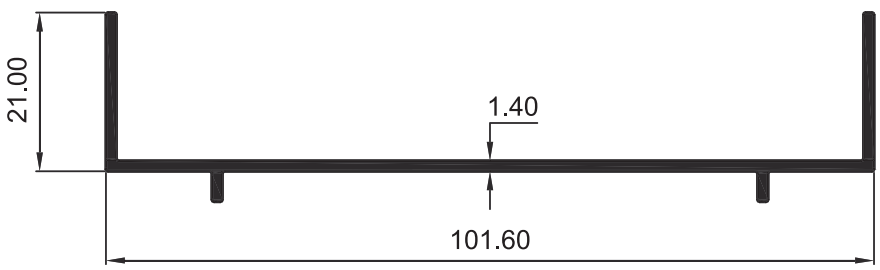

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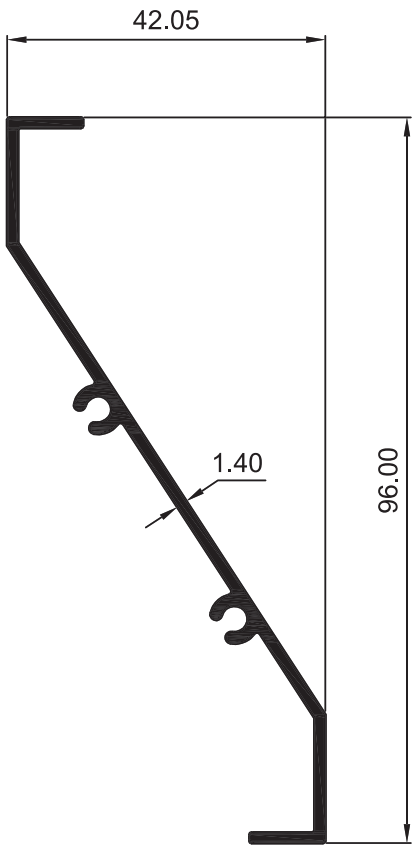

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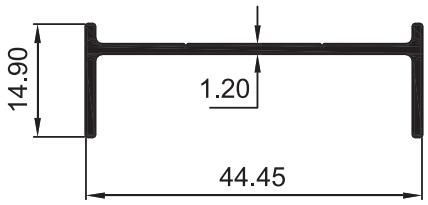

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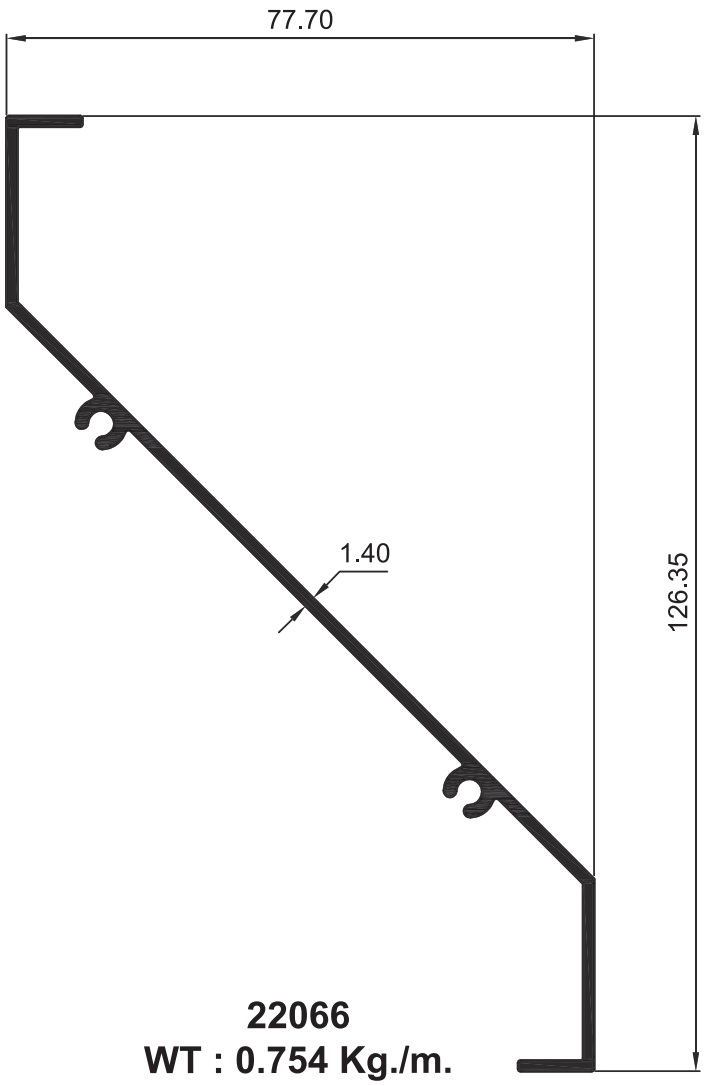

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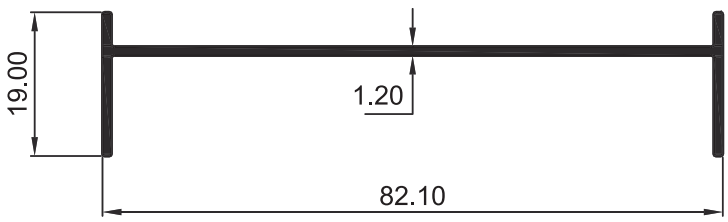

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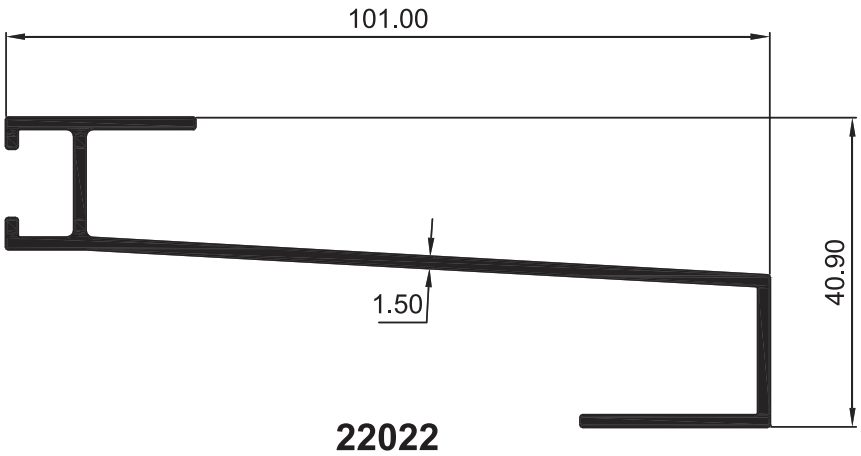

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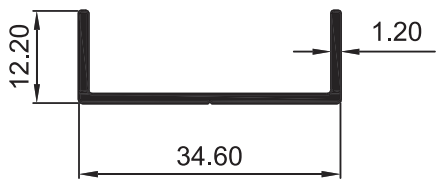

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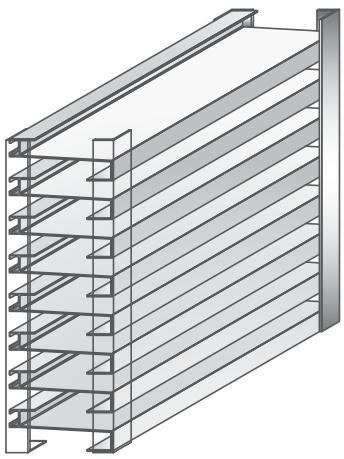

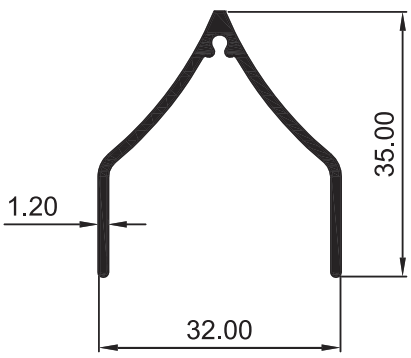

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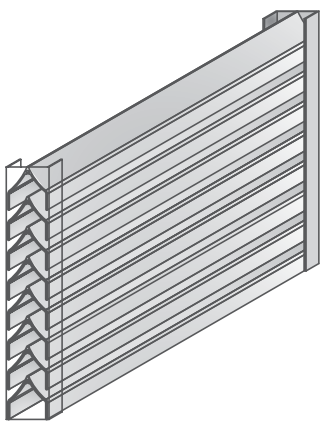

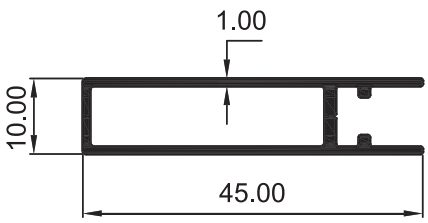

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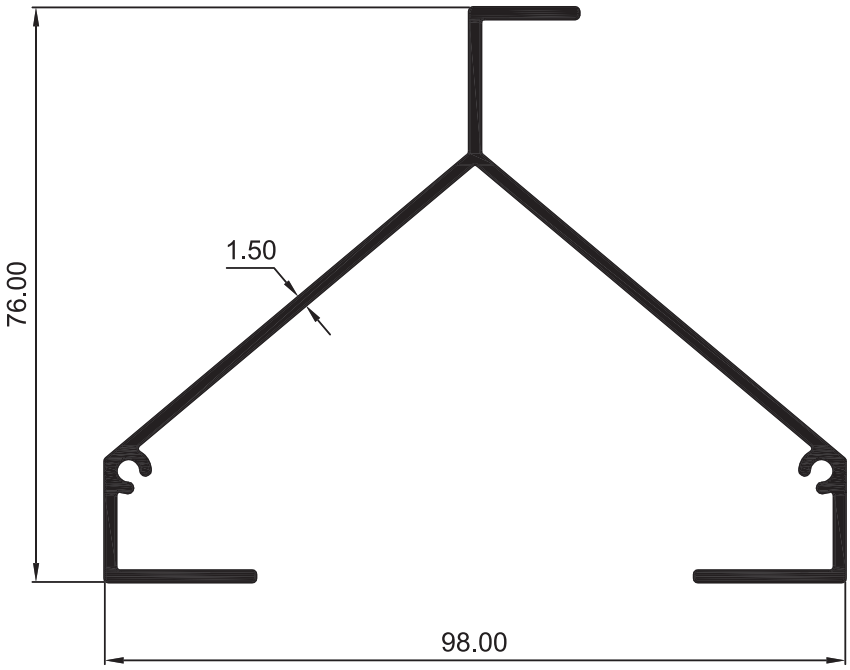

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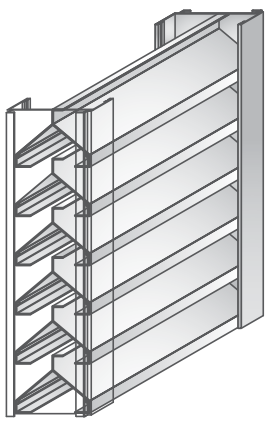

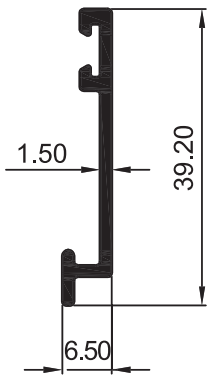

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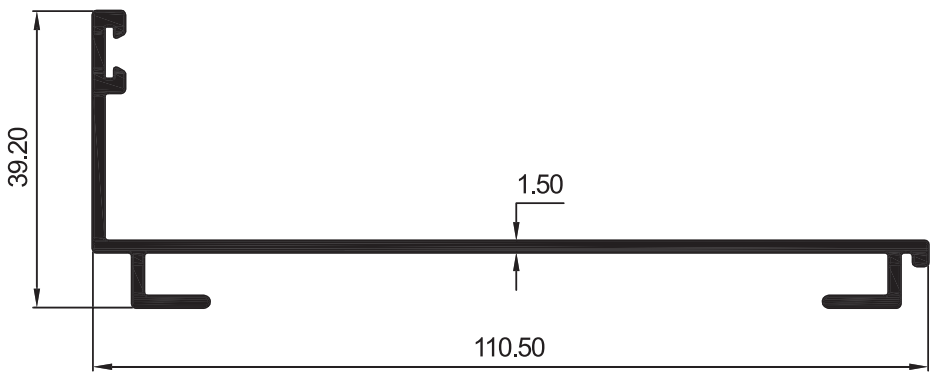

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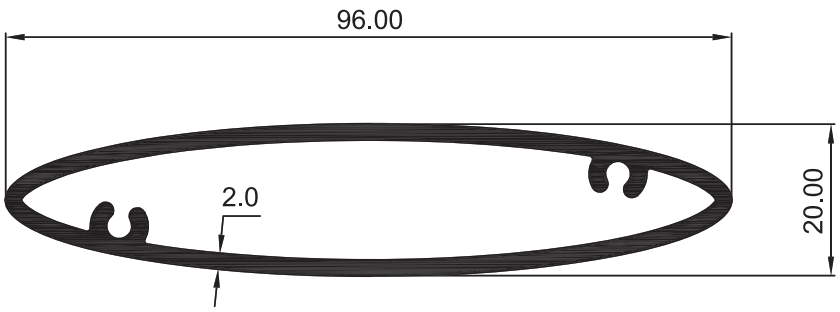

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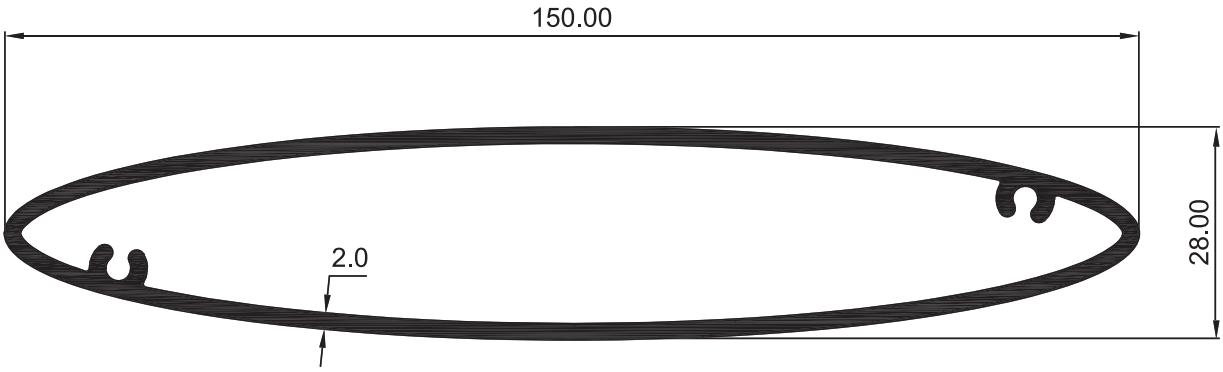

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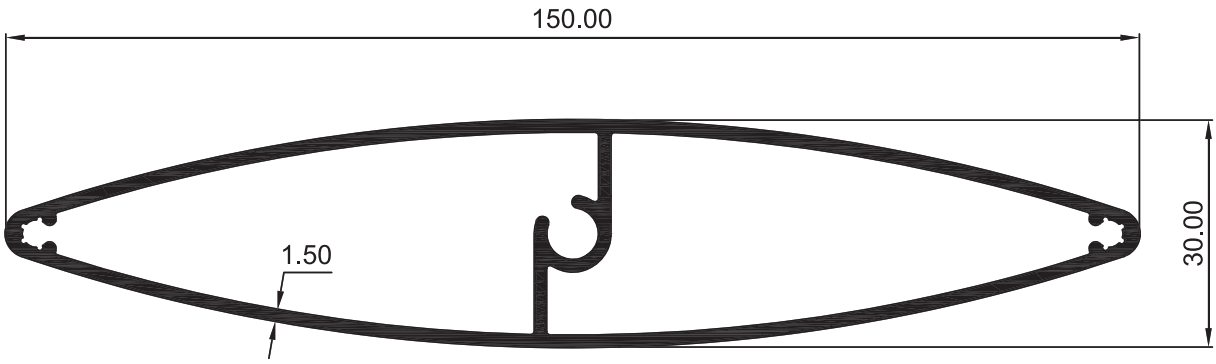

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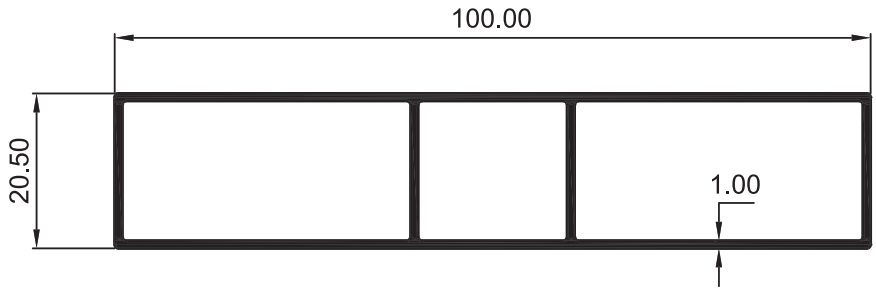

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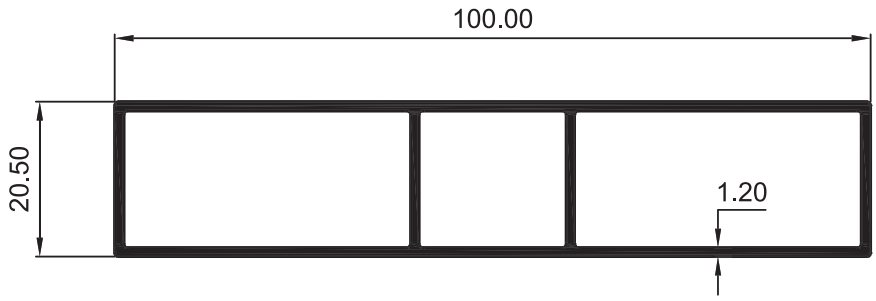

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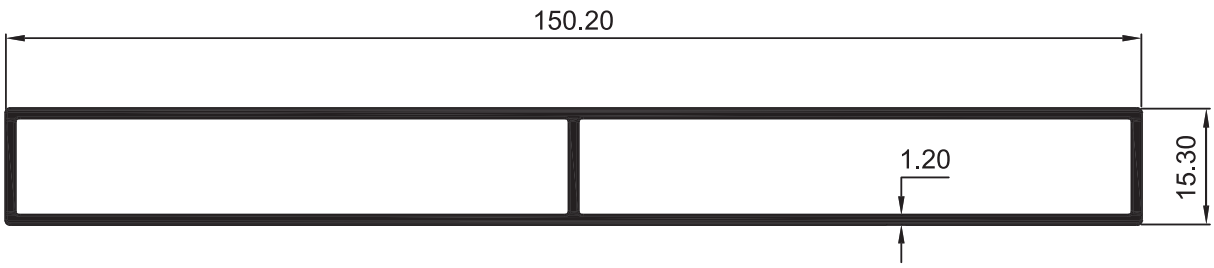

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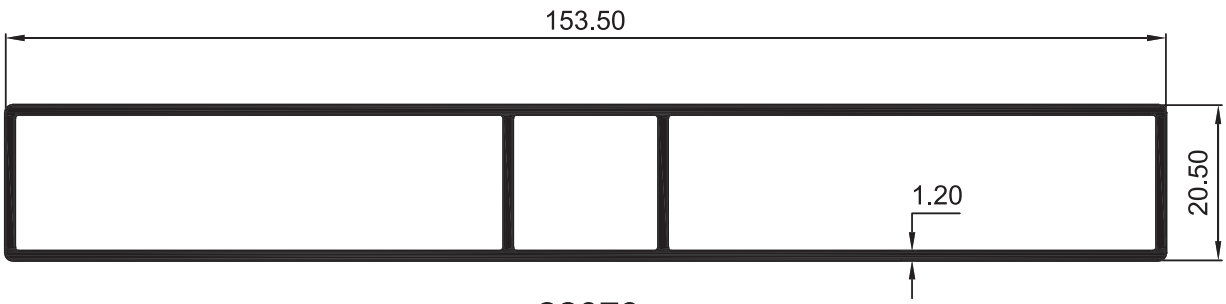

22079
WT : 1.233 Kg./m.

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MUANGTHONG ALUMINIUM

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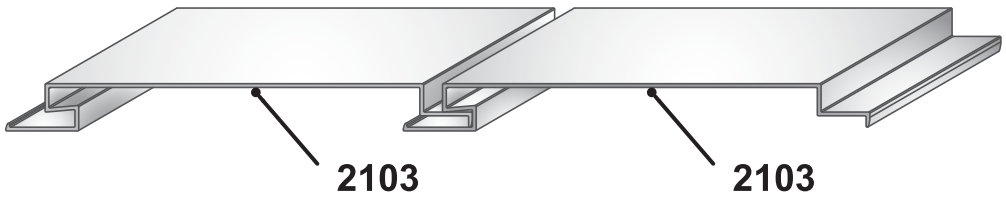

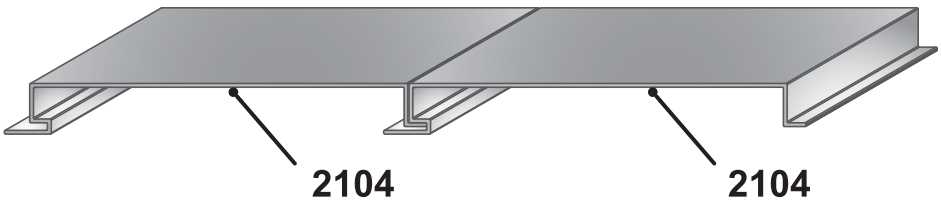

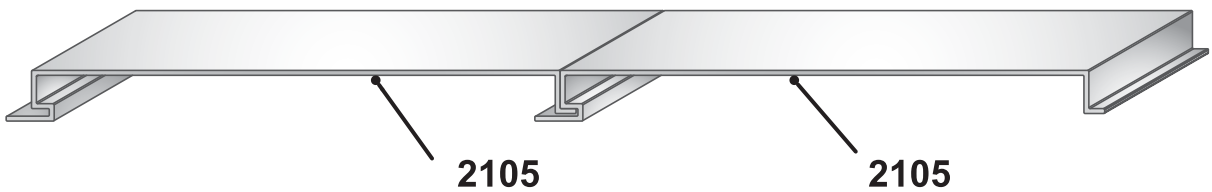

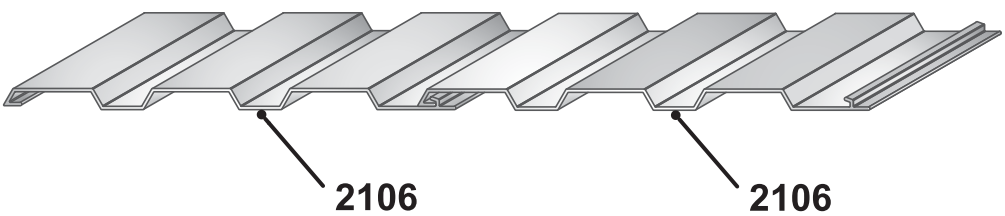

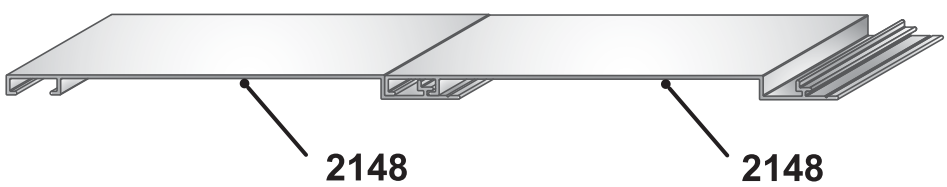

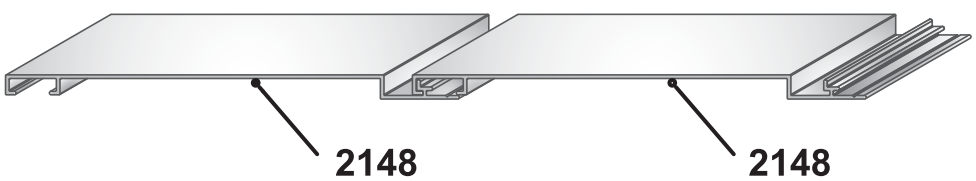

SPANDRELS
ชุดลูกฟูก

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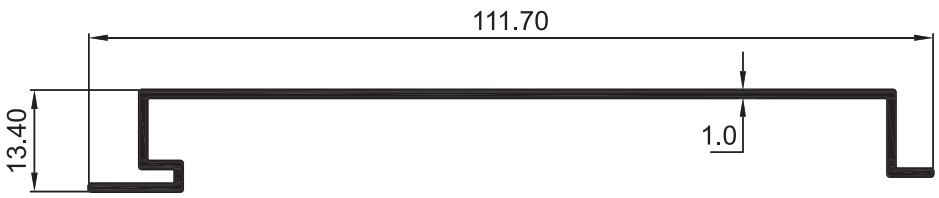

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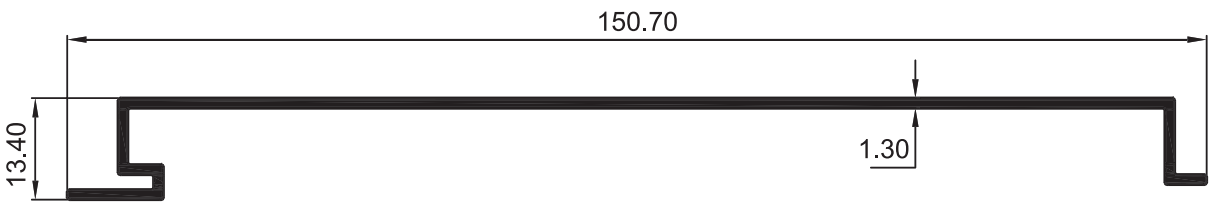

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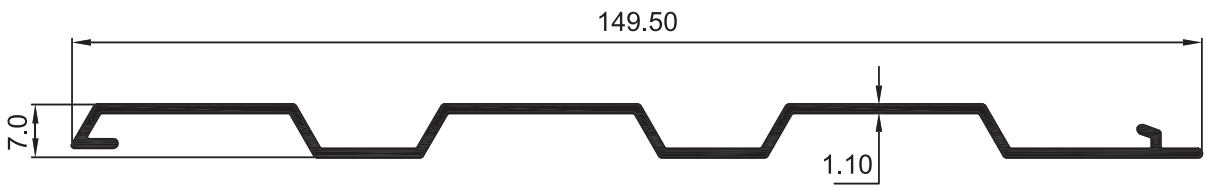

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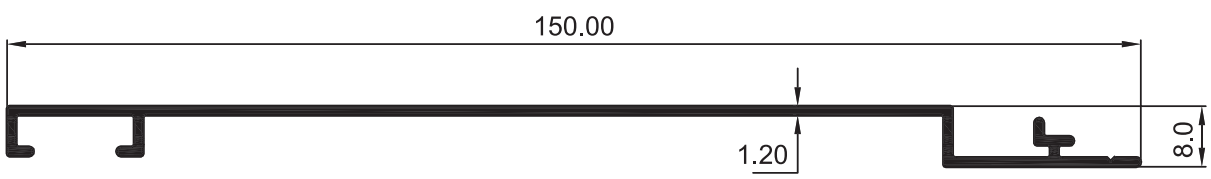

2148
WT : 0.587 Kg./m.

FLY SCREENS
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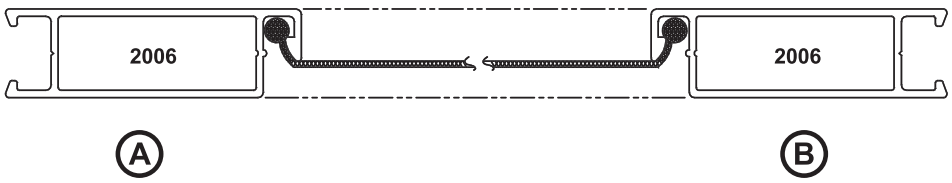
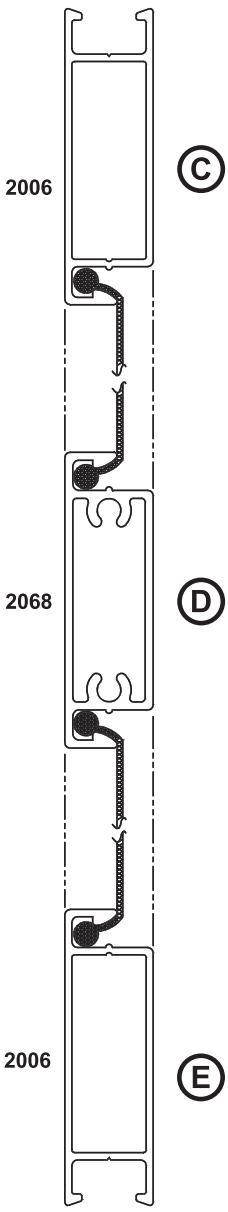
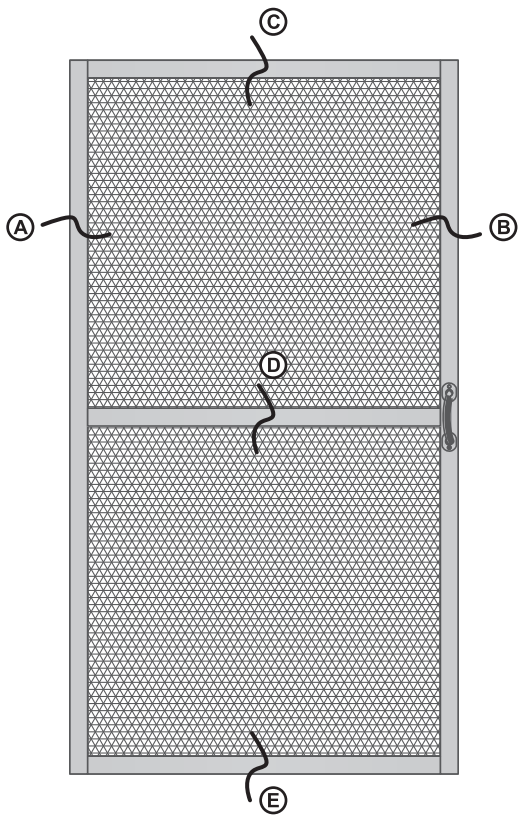
FLY SCREENS

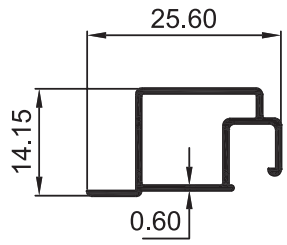
MUANGTHONG ALUMINIUM


2006
2006
A
B


2006
C
2068
D
2006
E


C
A
B
D
E

FLY SCREENS
ชุดมุ้งลวด



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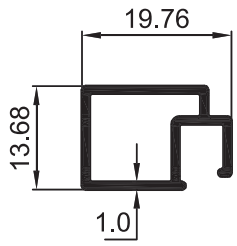

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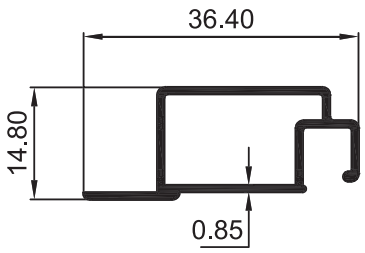

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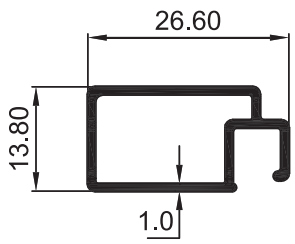

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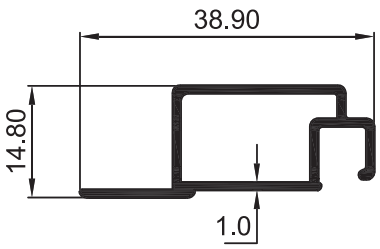
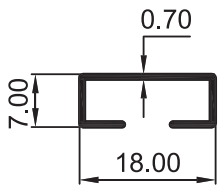
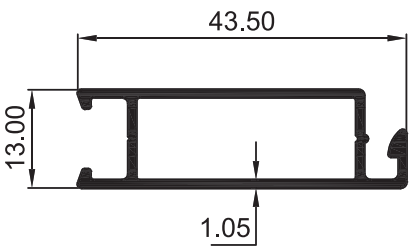


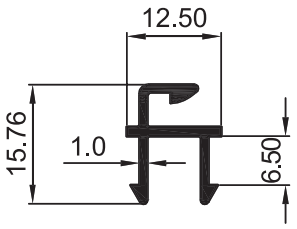
2046
WT : 0.258 Kg./m.



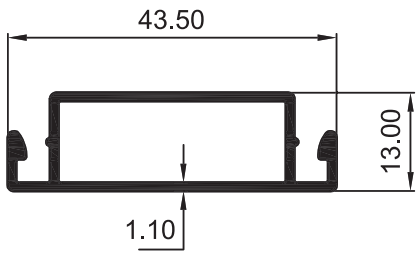
2005
WT : 0.077 Kg./m.



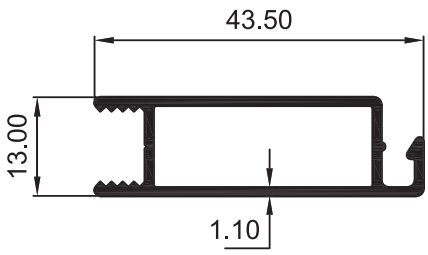
2006
WT : 0.331 Kg./m.



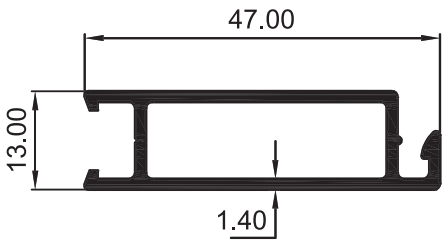
2044
WT : 0.136 Kg./m.



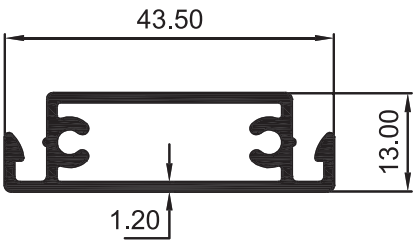
2007
WT : 0.350 Kg./m.



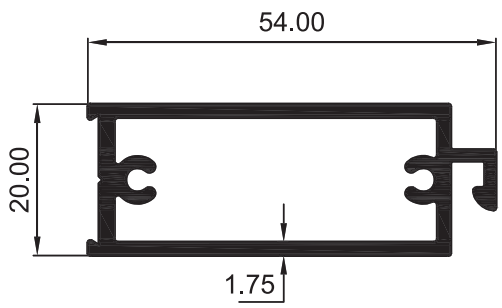
2008
WT : 0.343 Kg./m.



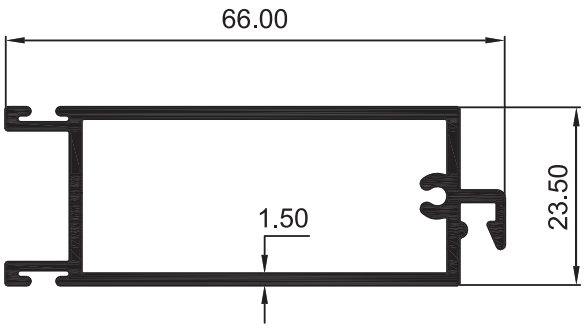
2067
WT : 0.450 Kg./m.



2068
WT : 0.447 Kg./m.



2050
WT : 0.771 Kg./m.



2054
WT : 0.747 Kg./m.

TOLERANCE DATA
ตารางค่าพิกัดความคลาดเคลื่อนมาตรฐาน

GROUP
TD

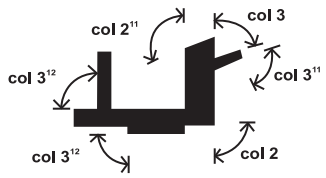
MUANGTHONG PAGE 247 - 274

Standard Tolerances – Solid Shapes

Definition

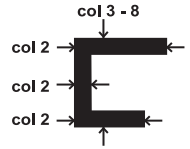
Solid Shape An extruded section whose geometry does not form a void and which is long in relation to its cross-sectional dimensions.

Table 2 : Angularity Tolerances[9,10] – Rod, Bar and Solid Shapes (except – 0 Temper)



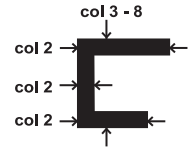
Minimum Specified Leg Thickness(mm)		TOLERANCE (±deg)	
		Allowable Deviation from Specified Angle	
		Ratio : Leg or Surface Length/Leg or Metal Thickness[11, 12]	
over	up to	Ratio 1 and less	Ratio over 1
Col. 1		Col. 2	Col. 3
	5.00	1	2
5.00	20.00	1	1½
20.00		1	1

Table 3 : Cross - Sectional Dimensional Tolerance[1] - Rod, Bar and Solid Shapes (Other than Machining Rod and Hexagonal Bar) All Alloys Except 2000 and 5000 Series



Specified Dimension (mm)		TOLERANCE (±mm)[2,3]						
		Metal Dimensions (Allowable Deviation from Specified Dimension where 75% or more of the Dimension is Metal[4,5])	**Space Dimensions** (Allowable Deviation from Specified Dimension where more than 25% of the Dimension is Space[6]) (For examples see Page No. 5)					
over	up to		At Dimension Points Over 6 to 16 mm from base of legs	At Dimension Points Over 16 to 30 mm from base of legs	At Dimension Points Over 30 to 60 mm from base of legs	At Dimension Points Over 60 to 100 mm from base of legs	At Dimension Points Over 100 to 150 mm from base of legs	At Dimension Points Over 150 to 200 mm from base of legs
	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8
Circumscribing Circle Size less than 250 mm dia[7]								
	3.00	0.15	0.25	0.31				
3.00	6.00	0.18	0.31	0.36	0.41			
6.00	12.00	0.20	0.36	0.41	0.46	0.51		
12.00	20.00	0.23	0.41	0.46	0.51	0.56		
20.00	25.00	0.25	0.46	0.51	0.56	0.64	0.76	
25.00	40.00	0.31	0.53	0.58	0.66	0.76	0.89	
40.00	50.00	0.36	0.61	0.66	0.79	0.91	1.07	1.27
50.00	100.00	0.61	0.86	0.97	1.22	1.45	1.73	2.03
100.00	150.00	0.86	1.12	1.27	1.63	1.98	2.39	2.79
150.00	200.00	1.12	1.37	1.57	2.08	2.51	3.05	3.56
200.00	250.00	1.37	1.63	1.88	2.54	3.05	3.68	4.32
Circumscribing Circle Size greater than 250 mm dia[7]								
	3.00	0.36	0.46	0.51				
3.00	6.00	0.38	0.48	0.56	0.71			
6.00	12.00	0.41	0.51	0.61	0.76	1.27		
12.00	20.00	0.43	0.56	0.69	1.02	1.52		
20.00	25.00	0.46	0.58	0.76	1.27	1.78	2.29	
25.00	40.00	0.48	0.61	0.86	1.52	2.03	2.54	
40.00	50.00	0.61	0.86	1.12	1.78	2.29	2.79	4.32
50.00	100.00	0.86	1.12	1.37	2.03	2.54	3.05	4.57
100.00	150.00	1.12	1.37	1.63	2.29	2.79	3.30	4.83
150.00	200.00	1.37	1.63	1.88	2.54	3.05	3.56	5.08
200.00	250.00	1.63	1.88	2.13	2.79	3.30	3.81	5.33
250.00	300.00	1.88	2.13	2.39	3.05	3.56	4.06	5.59
300.00	350.00	2.13	2.39	2.64	3.30	3.81	4.32	5.84
350.00	400.00	2.39	2.64	2.90	3.56	4.06	4.57	6.10

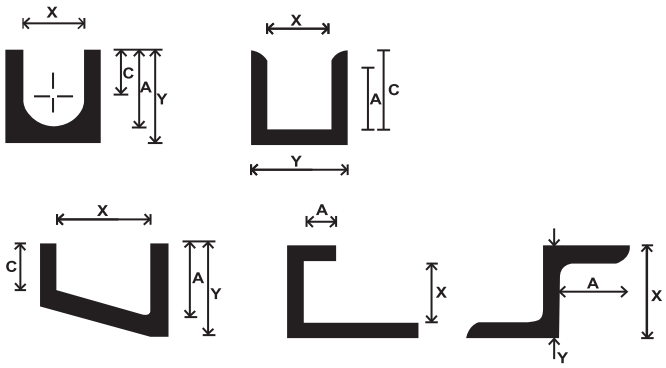
Table 4 : Cross - Sectional Dimensional Tolerance[1] - Rod, Bar and Solid Shapes (Other than Machining Rod and Hexagonal Bar) 2000 and 5000 Series Alloys only



Specified Dimension (mm)		TOLERANCE (±mm)[2,3]						
		Metal Dimensions (Allowable Deviation from Specified Dimension where 75% or more of the Dimension is Metal[4,5]	**Space Dimensions** (Allowable Deviation from Specified Dimension where more than 25% of the Dimension is Space[6])					
over	up to		At Dimension Points Over 6 to 16 mm from base of legs	At Dimension Points Over 16 to 30 mm from base of legs	At Dimension Points Over 30 to 60 mm from base of legs	At Dimension Points Over 60 to 100 mm from base of legs	At Dimension Points Over 100 to 150 mm from base of legs	At Dimension Points Over 150 to 200 mm from base of legs
	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8
Circumscribing Circle Size less than 250 mm dia[7]								
	3.00	0.23	0.33	0.38				
3.00	6.00	0.29	0.41	0.46	0.51			
6.00	12.00	0.31	0.46	0.51	0.56	0.61		
12.00	20.00	0.36	0.53	0.58	0.64	0.69		
20.00	25.00	0.38	0.58	0.64	0.69	0.76	0.89	
25.00	40.00	0.46	0.69	0.74	0.81	0.91	1.04	
40.00	50.00	0.53	0.79	0.84	0.97	1.09	1.24	1.45
50.00	100.00	0.91	1.17	1.27	1.52	1.75	2.03	2.34
100.00	150.00	1.30	1.55	1.70	2.06	2.41	2.82	3.23
150.00	200.00	1.68	1.93	2.30	2.64	3.07	3.61	4.11
200.00	250.00	2.06	2.31	2.57	3.23	3.73	4.37	5.00
Circumscribing Circle Size greater than 250 mm dia[7]								
	3.00	0.53	0.64	0.69				
3.00	6.00	0.56	0.66	0.74	0.89			
6.00	12.00	0.61	0.71	0.81	0.97	1.47		
12.00	20.00	0.64	0.76	0.89	1.24	1.73		
20.00	25.00	0.69	0.79	0.99	1.45	2.01	2.51	
25.00	40.00	0.71	0.84	1.09	1.75	2.24	2.77	
40.00	50.00	0.91	1.17	1.42	2.08	2.59	3.10	4.62
50.00	100.00	1.30	1.55	1.80	2.46	2.97	3.48	5.00
100.00	150.00	1.68	1.93	2.18	2.84	3.35	3.86	5.38
150.00	200.00	2.06	2.31	2.57	3.23	3.73	4.24	5.77
200.00	250.00	2.44	2.69	2.95	3.61	4.11	4.62	6.15
250.00	300.00	2.82	3.07	3.33	3.99	4.50	5.00	6.53
300.00	350.00	3.20	3.45	3.71	4.37	4.88	3.38	6.91
350.00	400.00	3.58	3.84	4.90	4.75	5.26	5.77	7.29

Examples Illustrating Use of Tables 3 and 4

Open - Space Dimensions

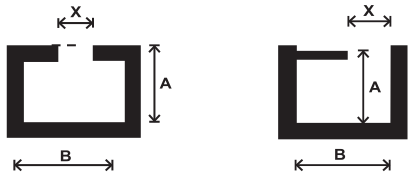


Tolerances applicable to dimensions “X” are determined as follows :

1. Locate dimension “X” in Col 1
2. Determine which of Cols 3-8 is applicable, dependent on distance “A”
3. Locate proper tolerance in Col 3, 4, 5, 6, 7, or 8 in the same line as dimension “X”

Dimensions “Y” are **Metal dimensions**, tolerances are determined from Col 2

Distances “C” are shown merely to indicate incorrect values for determining which of Cols 3-8 apply

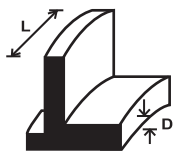


Tolerances applicable to dimensions “X” are determined as follows :

1. Locate dimension “B” in Col 1
2. Determine which of Cols 3-8 is applicable, dependent on distance “A”
3. Locate proper tolerance in Col 3, 4, 5, 6, 7, or 8 in the same line as value chosen in Col 1

Tolerances applicable to dimension “X” are not determined from this table; tolerances are determined by standard tolerances applicable to angles “A”

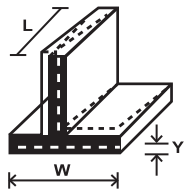
Table 5 : Straightness Tolerances - Rod, Bar and Solid Shapes



Alloy	Product	Specified Dia (Rod) Width (Bar) or Circumscribing Circle Dia (Shapes)[7] (mm) over	up to	Specified Thickness (Rectangles); Min Thickness (Shapes) (mm) over	up to	TOLERANCE (mm)[8,9] Allowable Deviation, D, from Straight: In any 300 mm Length or Less	In total Length L *
1000 Series 4000 Series B6101 B6063 D6463	Rod, Square, Hexagonal & Octagonal Bar	All				0.33	1.1 x L
	Rectangular		40.00		2.50	1.29	4.3 x L
	Bar and			2.50		0.33	1.1 x L
	Sqilid Shapes	40.00		All		0.33	1.1 x L
2000 Series 5000 Series A6061 B6351	All		40.00		2.50	1.29	4.3 x L
				2.50		0.65	2.2 x L
		40.00		All		0.66	2.2 x L

*Where L = Length in metres

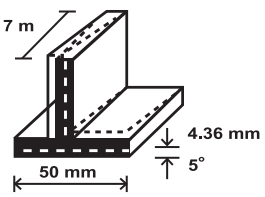
Table 6 : Twist Tolerances[1,8,13] Bar and Solid Shapes



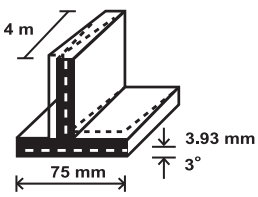
Specified Width (Bar) or Cirumscribing Diameter (Shapes)[7] (mm)		Specified Thickness (Rectangles); or Min Thickness (Shapes) (mm)	TOLERANCE (degress)	
			Maximum Allowable Twist, Y.	
over	up to		In any 300 mm Length or less	
	40.00	All	1	3.3 x L; 7 deg max
40.00	75.00	All	½	1.7 x L; 5 deg max
75.00	175.00	All	¼	0.8 x L; 3 deg max
175.00	250.00	All	½	1.7 x L; 5 deg max
250.00		All	1	3.3 x L; 7 deg max

*L = Length in metres

Table 7 : Deflection Due to Twist Bar and Solid Shapes



Circumscribing Circle
Dia over 40 mm 75 mm

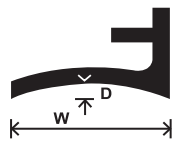


Circumscribing Circle
Dia over 75 mm

This conversion table shows linear deflection equivalents for angular twist, and may be used in conjunction with Table 6

	Distance Outer Edge Raised (mm) for Specified Section Width											
Twist (degrees)	25.0 mm	50.0 mm	75.0 mm	100.0 mm	125.0 mm	150.0 mm	175.0 mm	200.0 mm	225.0 mm	250.0 mm	275.0 mm	300.0 mm
¼	0.11	0.22	0.33	0.44	0.55	0.65	0.76	0.87	0.98	1.09	1.20	1.31
½	0.22	0.44	0.65	0.87	0.09	1.31	1.53	1.75	1.96	2.18	2.40	2.62
¾	0.33	0.65	0.98	1.31	1.64	1.96	2.29	2.62	2.95	3.27	3.60	3.93
1	0.44	0.87	1.31	1.75	2.18	2.62	3.05	3.49	3.93	4.36	4.80	5.24
1¼	0.55	1.09	1.64	2.18	2.73	3.27	3.82	4.36	4.91	5.45	6.00	6.54
1½	0.65	1.31	1.96	2.62	3.27	3.93	4.58	5.24	5.89	6.55	7.20	7.85
1¾	0.76	1.53	2.29	3.05	3.82	4.58	5.34	6.11	6.87	7.64	8.40	9.16
2	0.87	1.75	2.62	3.49	4.36	5.24	6.11	6.98	7.85	8.73	9.60	10.47
2¼	0.98	1.96	2.94	3.93	4.91	5.89	6.87	7.85	8.83	9.82	10.80	11.47
2½	1.09	2.18	3.27	4.36	5.45	6.54	7.62	8.72	9.81	10.91	12.00	13.09
2¾	1.20	2.40	3.60	4.80	6.00	7.20	8.40	9.60	10.80	12.00	13.19	14.39
3	1.31	2.62	3.93	5.23	6.54	7.85	9.16	10.47	11.78	13.09	14.39	15.70
3½	1.53	3.05	4.58	6.11	7.63	9.16	10.68	12.21	13.74	15.26	16.79	18.92
4	1.74	3.49	5.23	6.98	8.72	10.46	12.21	13.95	15.70	17.44	19.18	20.93
4½	1.96	3.92	5.88	7.85	9.81	11.77	13.73	15.69	17.65	19.61	21.58	23.54
5	2.18	4.36	6.54	8.72	10.90	13.07	15.25	17.43	19.61	21.79	23.97	26.15
6	2.61	5.23	7.84	10.45	13.07	15.68	18.29	20.91	23.52	26.13	28.75	31.36
7	3.05	6.09	9.14	12.19	15.23	18.28	21.33	24.37	27.42	30.47	33.51	36.56

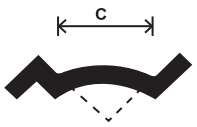
Table 8 : Flatness(Flat Surfaces) Tolerances[9] – Bar and Solid Shapes (Except for 0 Temper)



Surface over	Width (mm) up to	TOLERANCE (mm) Maximum Allowable Deviation, D
0	25	0.1
25		0.004 x w*
In any 25 mm of width		0.1

W* = width in millimetres

Table 9 : Contour Tolerances[8] – Solid Shapes (Except for 0 Temper)



Allowable deviation from specified contour : 0.13 mm par 25 mm of chord length (c) : 0.13 mm minimum[14]

Examples of Contour

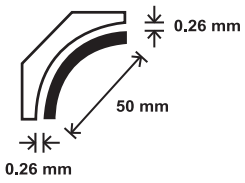
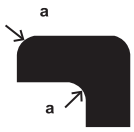


Table 10 : Tolerances for Squareness of Cut Ends – Rod, Bar and Solid Shapes

Allowable deviation from square : 1 degree

Table 11 : Corner and Fillet Radii Tolerances– Bar and Solid Shapes



Specified Radius (mm)		TOLERANCE (mm)
over	up to	Allowable Deviation of Actual Radius, a, from Specified Radius
Sharp corners		±0.40
	5.00	±0.40
5.00		±10%

Table 12 : Length Tolerances - Rod, Bar and Solid Shapes[1]

Specified Dia (Road) : Width (Bar) : or Circumscrbing Circle Dia (Shapes)[7] (mm)		TOLERANCE(+mm) Allowable Deviation from Specified Length Specified Length Straight				Coiled			
over	up to	Up to 4 metres	over 4 to 10 metres	over 10 to 15 metres	over 15 metres	Up to 30 metres	over 30 to 75 metres	over 75 to 150 metres	over 150 metres
	30	3	6	10	25	+5% – 0%	±10%	±15%	±20%
30	75	3	6	10	25				
75	200	5	8	11	25				
200		6	10	13	25				

Table 13 : Surface Finish Definitions – Rod, Bar and Solid Shapes

Finish	Definition
Structural*	This finish is not controled for appearance
Architectural**	A controlled finish of substantially uniform appearance, buffing will not produce a die line-free finish unless a preliminary grinding or sanding operation is employed
Trim***	A special finish designed for subsequent polishing : buffing will normally produce a surface substantially free from die lines

Notes

* Rod, bar, and solid shapes are supplied in this finish unless otherwise specified.

** This finish is normally satisfactory for exposed surfaces of any architectural application other than feature components, and is applied to those surfaces of such shape nominated by the purchaser.

*** This finish is normally satisfactory after polishing for cirtical applications such as domestic applicances and auto trim. It is available only over a maximum width of any unbroken surface of 40 mm (ie, broken by a lower grade of finish, a change of direction does not break surface).

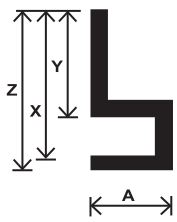
Footnotes

1. These standard tolerances are applicable to the average shope; wider tolerances may be required for more complex shapes and closer tolerances may be possible for others.

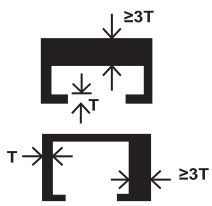
2. The tolerances applicable to a dimension composed of two or more component dimension is the sum of the tolerances of the component dimension if all of the component dimensions are included.

3. When a dimension tolerance is specified other than as an equal bilateral tolerance, the value of the stand tolerance is that which would apply to the mean of the maximum and minimum dimensions permissible under the tolerance.

4. These tolerances do not apply to space dimension such as dimensions "X" and "Z" of the example (right) even when "Y" is 75% or more of "X". For the tolerance applicable to dimensions "X" and "Z" use Col 3, 4, 5, 6, 7, or 8 depending on distance "A"



5. Tolerance applicable to the wall thickness partially enclosing the re-entrant portion of solid shapes shall be as agreed between purchaser and supplier when the nominal thickness of one wall is equal to or greater than 3 times that of the opposite wall.



6. At points 6.0 mm and less from base of leg the tolerances in Col. 2 are applicable.
7. The circumscribing circle diameter is the diameter of the smallers circle which will completely enclose the cross-section of the extruded product.
8. No guarantee of shape and straightness or freedom from twist or localkinks is given for material in the 0 Temper.
9. When mass of piece is supported on flat surface.
10. Angless are messured with protractors or with gauges. As illustrated, a four-point contact system is used, two contact points being as closed to the angle vertex as practicable, and the others near the ends of the respective surfaces forming the angle. Between these points of measurement, surface flatness is the controlling tolerance.

11. When the space between the surfaces forming an angle is all metal, values in Col 2 apply if the larger surface length to metal thickness ratio is 1 or less.
12. When two legs are involved, the one having the larger ratio determines the applicable column.
13 Twist is normally measured by placing the extruded section on a flat surface and measuring the maximum distance at any point along the length between the bottom surface of the section and the flat surface. From this measurement, the deviation from true straightness of the section is subtracted. The remainder is the twist. To convert the standard twist tolerance(degree) to an equivalent linear value, the sine of the standard tolerance is multiplied by the width of the surface of the section that is on the flat surface.
14. As measured with a contour gauge whose surface is limited to a maximum subtended angle of 90 deg. Extruded curved surfaces comprising more than a 90 deg subtened angle are checked by sliding the gauge across the surface, thus checking two or more 90 deg portions of the surface. Extruded shape surfaces comprised of arcs formed by two ormore radii require the use of a separate contour gauge for each portion of the surface formed by an individual radius.

Standard Tolerances – Class A Hollow Shapes

Definition

Class A Hollow Extruded Shape : A single void hollw extruded shape, having no internal or external protrusions, with a void greater than 15 mm in diameter or 177 sq. mm in area. The void must be round, square or rectangular provided that the width to depth ratio is less than 5 : 1./ Wall thickness must be uniform except that a non-uniform wall is allowed at radiused corners only, for internal and/or external radii up to 7.5 mm.

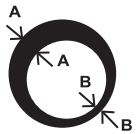
Table 14 : Diameter and Ovality Tolerances[1] – Class A Hollow Shapes – Round Tube

Specified Diameter[2],(mm)		TOLERANCE (±mm)[3]			
		Diameter (Allowable Deviation of Mean Diameter[4], ½ (AA+BB), from Specified Diameter)		**Ovality** (Allowable Deviation of Diameter at any point, AA, from Specified Diameter[5])	
over	**up to**	5000 Series	Other Alloys	5000 Series	Other Alloys
15.00	25.00	0.38	0.25	0.76	0.51
25.00	50.00	0.46	0.30	0.96	0.64
50.00	100.00	0.58	0.38	1.14	0.76
100.00	150.00	0.96	0.64	1.90	1.27
150.00	200.00	1.35	0.89	2.87	1.90
200.00	250.00	1.73	1.14	3.81	2.54
250.00	300.00	2.11	1.40	4.78	3.18
300.00	350.00	2.49	1.65	5.72	3.81
350.00	400.00	2.87	1.90	6.68	4.44

Table 15 : Length Tolerances – Class A Hollow Shapes

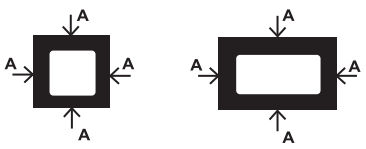
Outside Diameter or Width (mm)		TOLERANCE (+mm) Allowable Deviation from Specified Length			
		Specified Length			
over	up to	Up to 4 metres	over 4 to 10 metres	over 10 to 15 metres	over 15 metres
	75.00	3.00	7.00	10.00	25.00
75.00	200.00	5.00	8.00	11.00	25.00
200.00		7.00	10.00	13.00	25.00

Table 16 : Wall Thickness and Eccentricity Tolerances – Class A Hollow Shapes – Round Tube



Specified Wall Thickness[6] (mm) over	up to	TOLERANCE (±mm)[2,3] Wall Thickness (Allowable Deviation of Mean Wall Thickness[7] ½ (AA + BB), from Specified Wall Thickness) Outside Diameter over 15 mm up to 30 mm 5000 Series Alloys	Other Alloys	over 30 mm up to 75 mm 5000 Series Alloys	Other Alloys	over 75 mm up to 125 mm 5000 Series Alloys	Other Alloys	over 125 mm 5000 Series Alloys	Other Alloys	Eccentricity (allowable Deviation of Wall Thickness at any point, AA, from Mean Wall Thickness[7])
	1.00	0.23	0.15							±10% mean wall thickness
1.00	1.50	0.28	0.18	0.31	0.20	0.31	0.20	0.38	0.25	±1.5 mm max
1.50	2.00	0.31	0.20	0.31	0.20	0.36	0.23	0.46	0.31	
2.00	3.00	0.36	0.23	0.36	0.23	0.38	0.25	0.58	0.38	
3.00	6.00	0.36	0.23	0.36	0.23	0.51	0.33	0.76	0.51	±0.25 mm min
6.00	10.00	0.43	0.28	0.43	0.28	0.61	0.41	0.97	0.64	
10.00	12.00			0.58	0.38	0.81	0.53	1.35	0.89	
12.00	20.00			0.76	0.51	1.07	0.71	1.73	1.14	
20.00	25.00					1.35	0.89	2.11	1.40	
25.00	40.00					1.73	1.14	2.49	1.65	
40.00	50.00							2.87	1.91	
50.00	60.00							3.25	2.16	±0.30 mm
60.00	75.00							3.63	2.41	
75.00	90.00							4.01	2.67	
90.00	100.00							4.39	2.92	

Table 17 : Width and Depth Tolerances[1] – Class A Hollow Shapes – Other than Round Tube



Specified Width or Depth[2] (mm)		TOLERANCE (±mm)[3]				
		Allowable Deviation of Width or Depth, AA, at **Corners** from Specified Width or Depth		Allowable Deviation of Width or Depth, AA, **not at Corners** from Specified Width or Depth[5]		
		Square and Rectangular		Square		Rectangular
		5000 Series Alloys	Other Alloys	5000 Series Alloys	Other Alloys	
over	up to	Col. 1	Col. 2	Col. 3	Col. 4	
12.00	20.00	0.46	0.31	0.76	0.51	The tolerance for the width is the value in Col. 3 or 4 for the appropriate alloy group for a dimension equal to the depth. The tolerance for depth is the value in Col. 3 or 4 for a dimension equal to the width. In no case is the tolerance less than at the comers.
20.00	25.00	0.53	0.36	0.97	0.64	
25.00	50.00	0.69	0.47	0.97	0.64	
50.00	100.00	0.97	0.64	1.35	0.89	
100.00	125.00	1.35	0.89	1.73	1.14	
125.00	150.00	1.73	1.14	2.11	1.40	
150.00	180.00	2.11	1.40	2.49	1.65	
180.00	200.00	2.49	1.65	2.74	1.90	
200.00	220.00	2.87	1.90	3.12	2.16	
230.00	250.00	3.25	2.16	3.63	2.41	**Example** : The width tolerance of 23 mm wide x 75 mm deep A6061 rectangular tube is ±89 mm and the depth tolerance ±0.51.
250.00	280.00	3.63	2.41	4.01	2.67	
280.00	330.00	4.01	2.70	4.39	2.92	

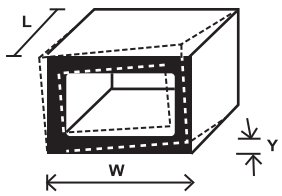
Table 18 : Wall Thickness and Eccentricity Tolerances – Class A Hollow Shapes – Other than Round Tube

Specified Width Thickness[6] (mm)		TOLERANCE (±mm)[2,3]					
		Wall Thickness (Allowable Deviation of Mean Wall Thickness, ½(AA+BB) from Specified Wall Thickness[7]				**Eccentricity** (Allowable Deviaito not Wall Thickness, AA, from Mean Wall Thickness[7]	
		Circumscribing Circle Diameter[8] up to 125 mm.		over 125 mm		Circumscribing Circle Diameter[8] up to 125 mm.	over 125 mm
over	up to	5000 Series Alloys	Other Alloys	5000 Series Alloys	Other Alloys	All Alloys	All Alloys
-	1.20	0.20	0.13	0.30	0.20	0.13	±10% mean well thickness ±1.52 mm. max ±0.25 mm min
1.20	1.50	0.23	0.15	0.35	0.23	0.18	
1.50	3.00	0.28	0.18	0.38	0.25	0.25	
3.00	6.00	0.31	0.20	0.58	0.38	0.38	
6.00	10.00	0.43	0.28	0.76	0.50	0.64	
10.00	13.00	0.53	0.36	1.10	0.76	0.76	
13.00	20.00	0.97	0.64	1.50	1.00	1.02	
20.00	25.00	1.35	0.89	2.00	1.25	1.27	
25.00	40.00	1.73	1.14	2.30	1.50	1.52	
40.00	50.00			2.60	1.75		

Table 19 : Tolerance for Squareness of Cut Ends – Class A Hollow Shapes

Allowable Deviation from Square : 1 degree

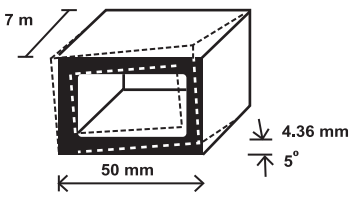
Table 20 : Twist Tolerances[9,10] – Class A Hollow Shapes – Other than Round Tube



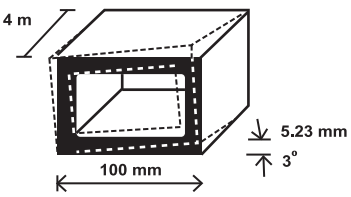
Specified Width (mm) over	up to	Specified Thickness (mm)	TOLERANCE (deg) Maximum Allowable Twist, Y In any 300 mm Lengh or Less	In Total Length L*
	40.00	All	1 deg	3.3 x L 7 deg max
40.00	75.00	All	½ deg	1.7 x L 5 deg max
75.00	125.00	All	¼ deg	0.8 x L 3 deg max

L* = Length in metres

Table 21 : Deflection Due to Twist – Class A Hollow Shapes – Other than Round Tube



Specified Width over 40 mm-75 mm



Specified Width over 75 mm

This conversion table shows linear deflection equivalents for angular twist, and may be used in conjunction with Table 20

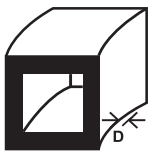
Twist (degrees)	Distance Outer Edge Raised (mm) for Specified Section Width 25.0 mm	50.0 mm	75.0 mm	100.0 mm	125.0 mm	150.0 mm	175.0 mm	200.0 mm	225.0 mm	250.0 mm	275.0 mm	300.0 mm
¼	0.11	0.22	0.33	0.44	0.55	0.65	0.76	0.87	0.98	1.09	1.20	1.31
½	0.22	0.44	0.65	0.87	1.09	1.31	1.53	1.75	1.96	2.18	2.40	2.62
¾	0.33	0.65	0.98	1.31	1.64	1.96	2.29	2.62	2.95	3.27	3.60	3.93
1	0.44	0.87	1.31	1.75	2.18	2.62	3.05	3.49	3.93	4.36	4.80	5.24
1¼	0.55	1.09	1.64	2.18	2.73	3.27	3.82	4.36	4.91	5.45	6.00	6.54
1½	0.65	1.31	1.96	2.62	3.27	3.93	4.58	5.24	5.89	6.55	7.20	7.85
1¾	0.76	1.53	2.29	3.05	3.82	4.58	5.34	6.11	6.87	7.64	8.40	9.16
2	0.87	1.75	2.62	3.49	4.36	5.24	6.11	6.98	7.85	8.73	9.60	10.47
2¼	0.98	1.96	2.94	3.93	4.91	5.89	6.87	7.85	8.83	9.82	10.80	11.78
2½	1.09	2.18	3.27	4.36	5.45	6.54	7.62	8.72	9.81	10.91	12.00	13.09
2¾	1.20	2.40	3.60	4.80	6.00	7.20	8.40	9.60	10.80	12.00	13.19	14.39
3	1.31	2.62	3.93	5.23	6.54	7.85	9.16	10.47	11.78	13.09	14.39	15.70
3½	1.53	3.05	4.58	6.11	7.63	9.16	10.68	12.21	13.74	15.26	16.79	18.32
4	1.74	3.49	5.23	6.98	8.72	10.46	12.21	13.95	15.70	17.44	19.18	20.93
4½	1.96	3.92	5.88	7.85	9.81	11.77	13.73	15.69	17.65	19.61	21.58	23.54
5	2.18	4.36	6.54	8.72	10.90	13.07	15.25	17.43	19.61	21.79	23.97	26.15
6	2.61	5.23	7.84	10.45	13.07	15.68	18.29	20.91	23.52	26.13	28.75	31.36
7	3.05	6.09	9.14	12.19	15.23	18.28	21.33	24.37	27.42	30.47	33.51	36.56

Table 22 : Surface Finish Definitions – Class A Hollow Shapes

Finish	Definition
Structural	This finish is not controlled for uniformity of appearance
Architectural	A controled finish of substantially unform apppearance : buffing will not produce a die line-free finish unless a preliminary grinding or sanding operation is employed

Note : Alloys B6063 and D6463 are available in architectural finish. Other alloys are supplied in structural finish unless otherwise specified.

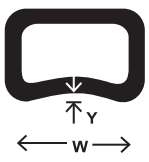
Table 23 : Straightness Tolerances – Class A Hollow Shapes



Alloy	Product	Specified Dimension or Cirumscribing Dia[8] (mm) over	up to	Specified Thickness (mm) over	up to	TOLERANCE (mm)[10, 12] Allowable Deviation, D, from Straight In any 30 mm Length or less	In Total Length L*
All except A6061, B6351	Round Tube	12.0	150.0			0.33	1.1 x L
		150.0				0.66	2.2 x L
A6061, B6351		All				0.66	2.2 x L
1000 Series 4000 Series B6101, B6063	Other than Round tube		40.0		2.50	1.29	4.3 x L
				2.50		0.33	1.1 x L
		40.0		All		0.33	1.1 x L
5000 Series A6061, B6351			40.0		2.50	1.29	4.3 x L
				2.50		0.66	2.2 x L
		40.0		All		0.66	2.2 x L

* L = length in metres

Table 24 : Flatness (Flat Surfaces) Tolerances[1] – Class A Hollow Shapes, Except for 0 Temper[10] – Other than Round Tube



Minimum Thickness of Metal Forming the Surface (mm) over	up to	TOLERANCE (mm) Allowable Deviation, Y, from Plans Surface for Specified width, w* up to and incl. 25 mm or any 25 mm increment of wider surface	over 25 mm
	5.00	0.15	0.006 x w*
5.00		0.10	0.004 x w*

*w = width in millimetres

Table 25 : Corner all Fillet Radii Tolerances – Class A Hollow Shapes – Other than Round Tube

Specified Radius(mm) over	up to	TOLERANCE (mm) Allowable Deviation of Radius, a, from Specified Radius
Sharp Corners		+0.4
	5	±0.4
5		±10%

Table 26 : Angularity Tolerances[11] – Class A Hollow Shapes – Other than Round Tube

Allowable Deviation from Specified Angle : ±2 degress

Footnotes

[1]These standard tolerances may not be applicable to certain shapes having thin walls or low rigidity in which case wider tolerances may be necessary.

[2]When outside diameters, inside diameter, and wall thickness (or their equivalent dimensions in other than round tube) are all specified, standard toleances are applicable to any two of these dimensions but not to all three. When both outside and inside diameters are specified, tolerances applicable to the OD dimension shall apply to both OD and ID.

[3]When a dimension toterances is specified other than as an equal bilateral tolerance, the value of the standard tolerance is that which would apply to the mean of the maximum and minimum dimension permissable under the tolerance.

[4]Mean diameter is the average of two diameter measurements taken at rignt angles to each other at the same point at any position along the length.

[5]Not applicable in the annealed(0) temper or if wall thickness is less than 2½% of the outside diameter or equivalent round diameter. The equivalent round diameter is the diameter of a circle having a circumference equal to the perimeter of the tube.

[6]When dimensions specified are outside and inside, rather than wall thickness itself, allowable deviation at any point(eccentricity) applied to mean wall thickness.

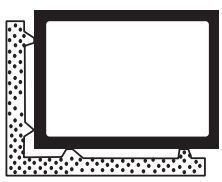
[7]The mean wall thickness of round tube is the average of two measurements taken opposite each other. The mean wall thickness of other than round tube is the average of two measurements taken opposite each other at approximate centre line of tube and perpendicular to the longitudinal axis of the cross-section.

[8]The circumscribing circle diameter is the diameter of the smallest circle that will completely enclose the cross-section of the extruded product.

[9]Twist is normally measured by a placing the extruded section on a flat surface and measuring the maximum distance at any point along the length between the bottom surface of the section and the flat surface. From this measurement, the deviation from true straightness of the section is subtracted. The remainder is the twist. To convert the standard twist tolerance (degrees) to an equivalent linear value, the sine of the standard tolerrance is multiplied by the width of the surface of the section that is on the flat surface.

[10]No guarantee of shape and straightness or freedom from twist of local kinks is given for material in the 0 temper.

[11]Angles are measured with proteactors or with gauges. As illustrated, a four-point contact system is used, two contact points being as close to the angle vertex as practical, and the others near the ends of the respective surfaces forming the angle. Between these points of measurement surface flatness is the controlling tolerance.



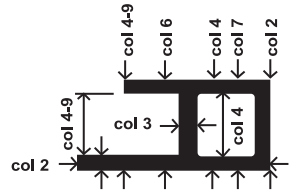
[12]When mass of piece is supported on flat surface in such a way as to minimise deviation.

Standard Tolerances – Class B Hollow Shapes

Definition

Class B Hollow Extruded Shapes : A single void hollow extruded shape other than Class A OR a solid shape incorporating a single semi hollow area classified as a hollow according to Table 1

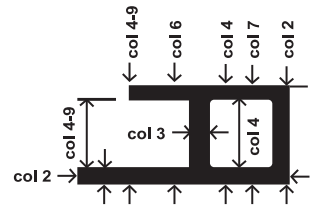
Table 27 : Cross – Sectional Dimension Tolerances[1] – Class B Hollow Shapes – All Alloys Except 2000 and 5000 Series



(See Examples, Page No.8)

		TOLERANCE (±mm)[2,3]							
		Metal Dimensions (Allowable Deviation from Specified Dimension where 75% or more of the Dimension is metal[4,5])		**Space Dimension** (Allowable Deviation from Specified Dimension where more than 25% or the Dimension is Space[6,7])					
Specified over	**Dimension(mm) up to**	All except those covered by Col. 3	Wall Thickness Completely Enclosing Space 70 sq mm and over (Eccentricity)[8]	At Dimensionned Points 6 to 16 mm from Bass of leg	At Dimensionned Points 16 to 30 mm from Bass of leg	At Dimensionned Points 30 to 60 mm from Bass of leg	At Dimensionned Points 60 to 100 mm from Bass of leg	At Dimensionned Points 100 to 150 mm from Bass of leg	At Dimensionned Points 150 to 200 mm from Bass of leg
Col. 1		Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9
Circumscribing Circles Sizes up to 250 mm dia[9]									
	3.00	0.15	±10% of specified	0.25	0.31				
3.00	6.00	0.18	dimension	0.31	0.36	0.41			
6.00	12.00	0.20	±1.52 max	0.36	0.41	0.46	0.51		
12.00	20.00	0.23		0.41	0.46	0.51	0.56		
20.00	25.00	0.25	±0.25 min	0.46	0.51	0.56	0.64	0.76	
25.00	40.00	0.31	±10% of specified	0.53	0.58	0.66	0.76	0.89	
40.00	50.00	0.36	dimension	0.61	0.66	0.79	0.91	1.07	1.27
50.00	100.00	0.61	±1.52 max	0.86	0.97	1.22	1.45	1.73	2.03
100.00	150.00	0.86		1.12	1.27	1.62	1.98	2.39	2.79
150.00	200.00	1.12	±0.25 min	1.37	1.57	2.08	2.51	3.05	3.56
200.00	250.00	1.37		1.63	1.88	2.54	3.05	3.68	4.32
Circumscribing Circles Sizes up to 250 mm dia[9]									
	3.00	0.36	±15% of specified	0.46	0.51				
3.00	6.00	0.38	dimension	0.48	0.56	0.71			
6.00	12.00	0.41		0.51	0.61	0.76	1.27		
12.00	20.00	0.43	±0.29 max	0.56	0.69	1.02	1.52		
20.00	25.00	0.46	±0.38 min	0.58	0.76	1.27	1.78	2.29	
25.00	40.00	0.48	±15% of specified	0.61	0.86	1.52	2.03	2.54	
40.00	50.00	0.61	dimension	0.86	1.12	1.78	2.29	2.79	4.32
50.00	100.00	0.86		1.12	1.37	2.03	2.54	3.05	4.57
100.00	150.00	1.12	±2.29 max	1.37	1.63	2.29	2.79	3.30	4.83
150.00	200.00	1.37	±0.38 min	1.63	1.88	2.54	3.05	3.56	5.08
200.00	250.00	1.63	±15% of specified	1.88	2.13	2.79	3.30	3.81	5.33
250.00	300.00	1.88	dimension	2.13	2.39	3.05	3.56	4.06	5.59
300.00	350.00	2.13	±2.29 max	2.39	2.64	3.30	3.81	4.32	5.84
350.00	400.00	2.39	±0.38 min	2.64	2.90	3.56	4.06	4.57	6.10

Table 28 : Cross – Sectional Dimension Tolerances[1] – Class B Hollow Shapes – 2000 and 5000 Series Alloys Only

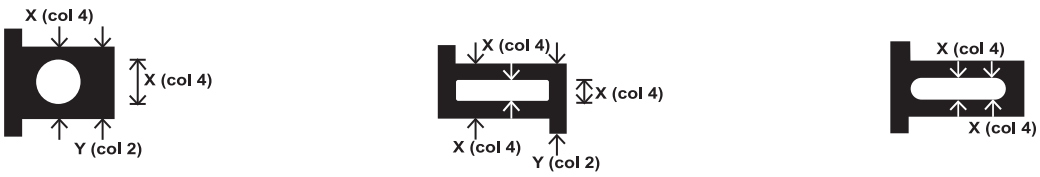


(See Examples, Page No.18)

Specified Dimension(mm) over	up to	TOLERANCE (±mm)[2,3] **Metal Dimensions** (Allowable Deviation from Specified Dimension where 75% or more of the Dimension is metal[4,5]) All except those covered by Col. 3	Wall Thickness Completely Enclosing Spece 70 sq mm and over (Eccentricity)[8]	**Space Dimension** (Allowable Deviation from Specified Dimension where more than 25% or the Dimension is Space[6,7]) At Dimensionwed Points 6 to 16 mm from Base of leg	At Dimensionwed Points 16 to 30 mm from Base of leg	At Dimensionwed Points 30 to 60 mm from Base of leg	At Dimensionwed Points 60 to 100 mm from Base of leg	At Dimensionwed Points 100 to 150 mm from Base of leg	At Dimensionwed Points 150 to 200 mm from Base of leg
Col. 1		Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9
Circumscribing Circles Sizes up to 250 mm dia[9]									
	3.00	0.23	±15% of specified	0.33	0.38				
3.00	6.00	0.28	dimension	0.41	0.46	0.51			
6.00	12.00	0.31	±2.29 max	0.46	0.51	0.56	0.61		
12.00	20.00	0.36	±0.38 min	0.53	0.58	0.64	0.69		
20.00	25.00	0.38		0.58	0.64	0.69	0.76	0.89	
25.00	40.00	0.46	±15% of specified	0.69	0.74	0.81	0.91	1.04	
40.00	50.00	0.53	dimension	0.79	0.84	0.97	1.09	1.24	1.45
50.00	100.00	0.91	±2.29 max	1.17	1.27	1.52	1.75	2.03	2.34
100.00	150.00	1.30	±0.38 min	1.55	1.70	2.06	2.41	2.82	3.23
150.00	200.00	1.68		1.93	2.13	2.64	3.07	3.61	4.11
200.00	250.00	2.06		2.31	2.57	3.23	3.73	4.37	5.00
Circumscribing Circles Sizes up to 250 mm dia[9]									
	3.00	0.53	±15% of specified	0.64	0.69				
3.00	6.00	0.56	dimension	0.66	0.74	0.89			
6.00	12.00	0.61		0.71	0.81	0.97	1.47		
12.00	20.00	0.64	±2.29 max	0.76	0.89	1.24	1.73		
20.00	25.00	0.69	±0.64 min	0.79	0.99	1.45	2.01	2.51	
25.00	40.00	0.71	±15% of specified	0.84	1.09	1.75	2.24	2.77	
40.00	50.00	0.91	dimension	0.17	1.42	2.08	2.59	3.10	4.62
50.00	100.00	1.30		1.55	1.80	2.46	2.97	3.48	5.00
100.00	150.00	1.68	±2.29 max	1.93	2.18	2.84	3.35	3.86	5.38
150.00	200.00	2.06	±0.64 min	2.31	2.57	3.23	3.73	4.24	5.77
200.00	250.00	2.44	±15% of specified	2.69	2.95	3.61	4.11	4.62	6.15
250.00	300.00	2.82	dimension	3.07	3.33	3.99	4.50	5.00	6.53
300.00	350.00	3.20	±2.29 max	3.45	3.71	4.37	4.88	5.38	6.91
350.00	400.00	3.58	±0.64 min	3.84	4.09	4.75	5.26	5.77	7.29

Examples Illustrating Use of Table 27 and 28

Closed Space Dimensions

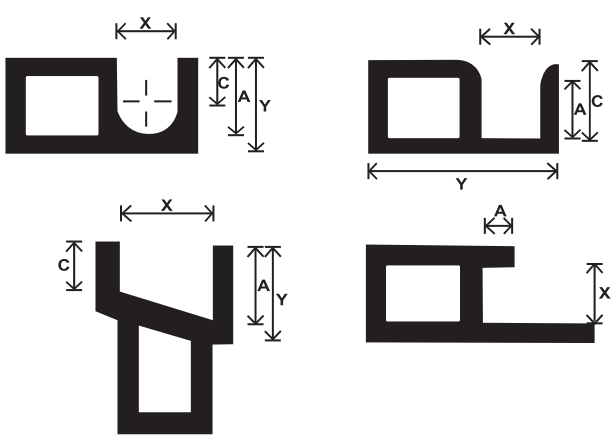


All dimensions designated “Y” are classed as “metal dimensions” and tolerances are determined from Col 2

Dimensions designated “X” are calssed as “space dimensions through an enclosed void” and the tolerances applicable are determned from Col 4 unless 75% or more of the dimension is metal, in which case Col 2 applies

(See also footnote 7, page No. 23)

Open-Space Dimensions

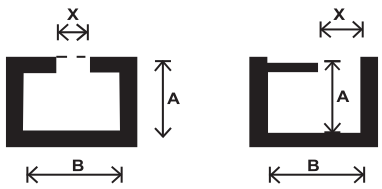


Tolerances applicable to dimensions “X” are determined as follows:

1. Locate distance “B” in Col 1
2. Determine which of Cols 4-9 is applicable, dependent on distance “A”
3. Locate proper tolerance in Col 4, 5, 6, 7, 8, or 9 in the same line as dimension “X”

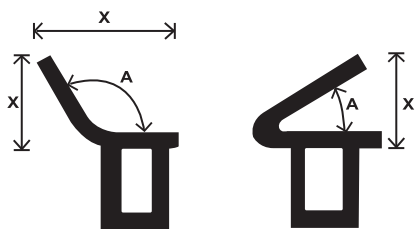
Dimension “Y” are metal dimensions, tolerances are determined from Col 2

Distances “C” are shown merely to indicate incorrect values for determining which of Cols 4-9 apply



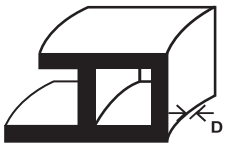
Tolerances applicable to dimensions “X” are determined as follows:

1. Locate distance “B” in Col 1
2. Determine which of Cols 4-9 is applicable, dependent on distance “A”
3. Locate proper tolerance in Col 4, 5, 6, 7, 8, or 9 in the same line as value chosen in Col 1



Tolerances applicable to dimensions “X” are not determined from these tables: tolerances are determined by standard tolerance applicable to angles “A”

Table 29 : Straightness Tolerances – Class B Hollow Shapes



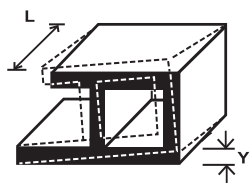
Alloy	Circumscribing Dia[9] (mm) over	up to	Minimum Thuckness (mm) over	up to	TOLERANCE (±mm)[10, 11] Allowable Deviation, In any 300 mm Length or Less	D, from Straight In Total Length L*
1000 Series 4000 Series B6101, B6063/ D6463		40.0		2.50	1.29	4.3 x L
			2.50		0.33	1.1 x L
	40.0		All	0.33	0.33	1.1 x L
2000 Series 5000 Series B6061, B6351		40.0		2.50	1.29	4.3 x L
			2.50		0.66	2.2 x L
	40.0		All		0.66	2.2 x L

*L = length in metres

Table 30 : LengthTolerances – Class B Hollow Shapes

Circumscribing Circle Dimeter[9] (mm) over	up to	TOLERANCE (±mm) Allowable Deviation from Specified Length Specified Length up to 4 metres	over 4 to 10 metres	over 10 to 15 metres	over 15 metres
	75.00	3.00	7.00	10.00	25.00
75.00	200.00	5.00	8.00	11.00	25.00
200.00		7.00	10.00	13.00	25.00

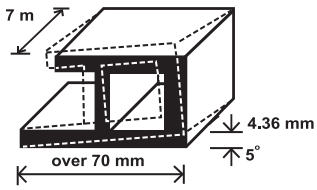
Table 31 : Twist Tolerances[1,10,12] – Class B Hollow Shapes



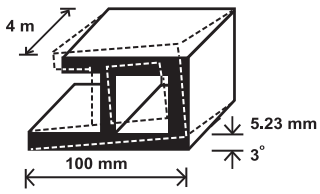
Circumscribing Circle Diameter[9] (mm) over	up to	Minimum Thuckness (mm)	TOLERANCE (deg) Maximum Allowable Twist, Y In any 300 mm Length or Less	In Total Length L*
	40.0	All	1	3.3 x L, 7 Deg max
40.0	75.0	All	½	1.7 x L, 5
75.0	175.0	All	¼	0.8 x L, 3 Deg max
175.0	250.0	All	⅓	1.7 x L, 5 Deg max
250.0			1	3.3 x L,7 Deg max

*L = length in metres

Table 32 : Deflection Due to Twist – Class B Hollow Shapes



Circumscribling Circle over 40 mm – 75 mm

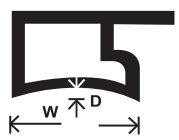


Circumscribling Circle over 75 mm

This conversion table shows linear deflection equivalents for angular twist and may be used in conjunction with Table 31

	Distance Outer Edge Raised (mm) for Specified Section Width											
Twist (degrees)	25.0 mm	50.0 mm	75.0 mm	100.0 mm	125.0 mm	150.0 mm	175.0 mm	200.0 mm	225.0 mm	250.0 mm	275.0 mm	300.0 mm
¼	0.11	0.22	0.33	0.44	0.55	0.65	0.76	0.87	0.98	1.09	1.20	1.31
½	0.22	0.44	0.65	0.87	1.09	1.31	1.53	1.75	1.96	2.18	2.40	2.62
¾	0.33	0.65	0.98	1.31	1.64	1.96	2.29	2.62	2.95	3.27	3.60	3.93
1	0.44	0.87	1.31	1.75	2.18	2.62	3.05	3.49	3.93	4.36	4.80	5.24
1¼	0.55	1.09	1.64	2.18	2.73	3.27	3.82	4.36	4.91	5.45	6.00	6.54
1½	0.65	1.31	1.96	2.62	3.27	3.93	4.58	5.24	5.89	6.55	7.20	7.85
1¾	0.76	1.53	2.29	3.05	3.82	4.58	5.34	6.11	6.87	7.64	8.40	9.16
2	0.87	1.75	2.62	3.49	4.36	5.24	6.11	6.98	7.85	8.73	9.60	10.47
2¼	0.98	1.96	2.94	3.93	4.91	5.89	6.87	7.85	8.83	9.82	10.80	11.78
2½	1.09	2.18	3.27	4.36	5.45	6.54	7.62	8.72	9.81	10.91	12.00	13.09
2¾	1.20	2.40	3.60	4.80	6.00	7.20	8.40	9.60	10.80	12.00	13.19	14.39
3	1.31	2.62	3.93	5.23	6.54	7.85	9.16	10.47	11.78	13.09	13.49	15.70
3½	1.53	3.05	4.58	6.11	7.63	9.16	10.68	12.21	13.74	15.26	16.79	18.32
4	1.74	3.49	5.23	6.98	8.72	10.46	12.21	13.95	15.70	17.44	19.18	20.93
4½	1.96	3.92	5.88	7.85	9.81	11.77	13.73	15.69	17.65	19.61	21.58	23.54
5	2.18	4.36	6.54	8.72	10.90	13.07	15.25	17.43	19.61	21.79	23.97	26.15
6	2.61	5.23	7.84	10.45	13.07	15.68	18.29	20.91	23.52	26.13	28.75	31.36
7	3.05	6.09	9.14	12.19	15.23	18.28	21.33	24.37	27.42	30.47	33.51	36.56

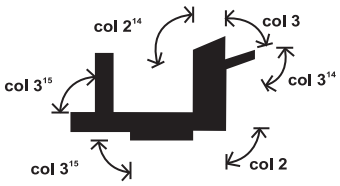
Table 33 : Flatness (Flat Surfaces) Tolerances[10] – Class B Hollow Shapes



Minimum Thickness of Metal Forming the Surface (mm)		TOLERANCE (mm)	
		Allowable Deviation, D, for Specified Width, w*	
over	up to	up to and incl 25 mm or any 25 mm increment of wider surface	over 25 mm
	5.00	0.15	0.006 x w*
5.00		0.10	0.004 x w*

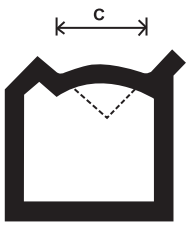
* w = width in millimetres

Table 34 : Angularity Tolerances[10, 13] – Class B Hollow Shapes



Minimum Specified Leg Thickness(mm)		TOLERANCE (±deg) Allowable Deviation from Specified Angle	
		Ratio : Leg or Surface Language/Leg or Metal Thickness[14, 15]	
over Col. 1	up to	Ratio 1 and Less Col. 2	Ratio Over 1 Col 3
	5.00	1	2
5.00	20.00	1	1½
20.00		1	1

Table 35 : Contour (Curved Surfaces) Tolerances[10] – Class B Hollow Shapes



Allowable Deviation From Specified Contour : 0.13 mm per 25 mm of chord length: 0.13 mm minimum[16]

Examples of Contour

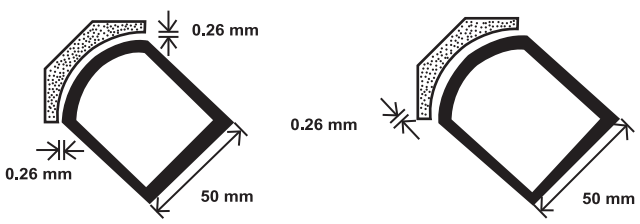
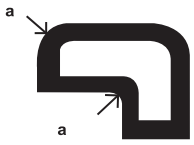


Table 36 : Tolerances for Squareness of Cut Ends – Class B Hollow Shapes

Allowable Deviation From Square : 1 degree

Table 37 : Corner and Fillet Radius Tolerances – Class B Hollow Shapes



Specified Radius (mm)		TOLERANCE (mm)
over	up to	Allowable Deviation of Actual Radius, a, from Specified Radius
Sharp corners		±0.04
	5.00	±0.04
5.00		10%

Table 38 : Surface Finish Definitions – Class B Hollow Shapes

Finish	Definition
Structural*	This finish is not controlled for uniformity of appearance
Architectural**	A controlled finish of substantially uniform appearance, buffing will not product a die line-free finish unless a preliminary grinding or sanding operation is employed

Notes *Class B Hollow Shapes are supplied in this finish unless other wish specified.
**This finish is normally satisfactory for exposed surfaces of any architectural application other than teature components, and is applied to those surfaces of each shape nominated by the purchaser.

Table 39 : Eccentricity Tolerances – Rectangular Tube Only

		TOLERANCE (±mm)[2,3]	
		Eccentricity (Allowable Deviation of Wall Thickness. AA. from Mean Wall Thickness[7])	
		Circumscribing Circle Diameter[8]	
Specified Wall Thickness[6] (mm)		up to 125 mm	over 125 mm
over	**up to**	All Alloys	All Alloys
	1.20	0.13	±10% mean wall thickness
1.20	1.50	0.18	±1.52 mm max
3.00	6.00	0.25	±0.25 mm min
6.00	10.00	0.38	
		0.64	
10.00	13.00		
13.00	20.00	0.76	
20.00	25.00	1.02	
25.00	40.00	1.27	
40.00	50.00	1.52	

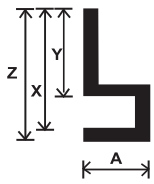
Footnotes

[1]These standard tolerances are applicable to the average shape; wider tolerances may be required for more complex shapes and closer tolerances may be possible for others.

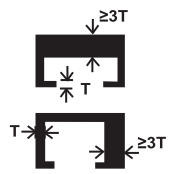
[2]The tolerances applicable to a dimension composed of two or more component dimensions is the sum of the tolerances of the component dimensions if all of the component dimensions are indicated.

[3]When a dimension tolerance is specified other than as an equal bilateral tolerance, the value of the standard tolerance is that which would apply to the mean of the maximum and minimum dimensions permissible under the tolerance.

[4]These tolerances do not apply to space dimensions such as dimensions "X" and "Z" of the example (right) even when "Y" is 75% or more of "X" For the tolerance applicable to dimensions "X" and "Z" use Col 4, 5, 6 7, 8, or 9, depending on distance "A".

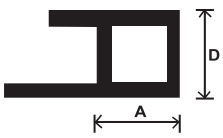


[5]Tolerance applicable to the wall thickness enclosing or partially enclosing the void of hollow and semi-hollow shapes shall be as agreed between purchaser and supplier when the nominal thickness of one wall is equal to or grater than 3 times that of the opposite wall.



[6]At points 6.0 mm and less from base of leg the tolerances in Col 2 are applicable.

[7]The following tolerances apply where the space is completely enclosed (hollow shapes):
For the width (A) the tolerance is the value shown in Col 4 for the depth (D):
For the depth (D) the tolerance is the value shown in Col 4 for the width (A)



In no case is the tolerance of either width or depth less than at the corners (Col 2, metal dimensions).
Example: Alloy A6061 hollow shape having 25 mm wide x 75 mm deep rectangular outside dimensions: Width tolerance is ±0.64 mm and depth tolerance ±0.86 mm (Tolerance at corners, Col 2, metal dimensions, are ±0.61 mm for the width and ±0.25 mm for the depth). Note that the Col 4 tolerance of 0.46 mm must be adjusted to 0.61 mm so that it is not less than the Col 2 tolerance.

[8]Where dimensions specified are outside and inside. rather than wall thickness itself, the allowable deviation (eccentricity) given in Col 3 applies to mean wall thickness. Mean wall thickness is the average of two wall thickness measurements taken at opposite sides of the void.

[9]The circumscribing circle diameter is the diameter of the smallest circle which will completely enclose the cross-section of the extruded product.

[10]No guarantee of shape and straightness or freedom from twist or local kinks is given for meterial in the 0 temper.

[11]When mass of piece is supported on flat surface in such a way as to minimise deviation.

[12]Twist is normally measured by placing the extruded section on a flat surface and measuring the maximum distance at any point along the length between the bottom surface of the section and the flat surface. From this measurement the deviation from true straightness of the section is subtracted. The remainder is the twist. To convert the standard twist tolerance (degree) to an equivalent linear value, the sine of the standard tolerance is multiplied by the width of the surface of the section that is on the flat surface.

[13]Angles are measured with protractors or with gauges. As illustrated, a four-point contact system is used two contact points beign as close to the angle verlex as practicalbe, and the other near the ends of the respective surfaces forming the angle. Between these points of measurement surface flatness is the controlling tolerance.

[14]When the space between the surfaces forming an angle is all metal, values in Col 2 apply if the larger surface length to metal thickness radio is 1 of less.

[15]When two legs are involved the one having the larger ratio determines the applicable column.

[16]As measured with a contour gauge whose surface is limited to a maximum subtended angle of 90 deg. Extruded curved surfaces comprising more than a 90 deg subtended angle are checked by sliding the gauge across the surface, thus checking two or more 90 deg pontions of the surface. Extruded shape surfaces comprised of ares formed by two or more radii require the use of separate contour gauge for each portion of the surface formed by an individual radius.

Standard Tolerances – Class C and Class D Hollow Shapes

Definition

Class C Hollow Extruded Shape : A multiple void hollow extruded shape with two or more fully enclosed voids (multi hollows incorporating any semi hollow area classified as hollow according to Table 1 will be classified as CLASS D hollow).

Class D Hollow Extruded Shape : Any hollow extruded shape which incorporates a semi hollow area OR any solid extruded shape incorporating multiple semi hollow areas classified as hollows according to T able.

Because of the inherent complexity of heir shapes, specific tolerances for classes C and D hollow shapes have not been included in this standard. Tolerances for these classes of hollow shapes will be as agreed between customer and supplier.

TECHNICAL PROPERTIES

Typical values for powder coating on degreased, cold rolled steel. Values will very with colour, gloss, return etc.

	Standard	epoxy	epoxy / polyester	polyester
Filmthickness, microns	ASTM D 2794	60	60	60
Impact resistance-front (lbs/inch)	5/8" ball	60 - 160	60 - 160	60 - 160
Erichsen test (MM)	DIN 1520 ISO 1520	5 - 10	5 - 10	5 - 10
Bend test (MM)	DIN 53152 ISO 1519	3 - 12	3 - 12	3 - 12
Pencihardness		HB-5H	HB-5H	HB-5H
Hardness a Buchhoiz	DIN 53153 ISO 2815	70 - 100+	70 - 90	70 - 90
Adhesion	DIN 53151-2 mmGT O-no loss of ISO 2409-2 mm adhesion		Gt O-no loss of adhesion	Gt O-no loss of adhesion
Weather resistance		Poor (chalking)	Little or no. (Chalking)	Excellent
Heat resistance		Poor, yellowing of light colours.	Good.	Excellent
Corrosion protection (Zine phosphated steel)	Salt spray 1000 hours ASTM B117 - 73	Excellent	Excellent	Excellent
UV-resistance (Colour-and gloss-stability),		Poor	Little or no.	Excellent
Density (kg/dm^3)		1.2 - 1.7	1.2 - 1.7	1.2 - 1.7

WHICH POWDER COATING FOR YOUR TYPE OF PRODUCT?

- Polyester powder coating, curing agent TGIC (trigiycidylisocyanurate)

- Expoxy-polyester coating. The polyester being cured with epoxy resin.

- Epoxy coatings. Curing agent may for example be dicyandiamide (DICY) or based on special phenolic curing agents.

Powder coating products	Epoxy	Epoxy/ polyester	Polyester	Excellent Polyester (See seperate pamphet)
Wire works	●	●		
Household applicances	●	●		
Metal furniture, exterior			●	
Metal furniture, interior	●	●		
Agricultural equipment			●	
Metal facades, profiles doors and windows				●
Tools	●			
Machings and parts	●	●		
Shelving	●	●		
Lighting equipment		●	●	
Automobile parts-external			●	
Automobile under bonet	●			
Rain gutters, brackets etc.			●	
Values, pumping equipment	●			
Pipelines	●			
Steel reinforcement bars	●			
Tractor cabs			●	
Mail boxes			●	
Lawnmowers			●	
Ricycles			●	
Cupboards and tilling cabinets	●	●		
Transtormers	●		●	

TOLERANCE DATA
ตารางค่าพิกัดความคลาดเคลื่อนมาตรฐาน

ALLOY AND TEMPER	SPECIFIC THICKNESS IN	AREA IN^2	TENSILE STRENGTH				ELONGATION PERCENT MIN IN 2 IN
			ULTIMATE		YIELD		
			MIN	MAX	MIN	MAX	
		6061					
6061-0	ALL	ALL	-	22.0	-	16.0	16
6061-T1	Up thru 0.625	ALL	26.0	-	14.0	-	16
6061-T4, T4510 ⑤ ⑦ and T4511 ⑤ ⑦	ALL	ALL	26.0	-	16.0	-	16
6061-T42 ④ ⑧	ALL	ALL	26.0	-	12.0	-	16
6061-T51	Up thru 0.625	ALL	35.0	-	30.0	-	8
6061-T6, T62 ④ ⑧ and T4510 ⑤	Up thru 0.249	ALL	38.0	-	35.0	-	8
and T6511 ⑤	0.25 and over	ALL	38.0	-	35.0	-	10
		6063					
6063-0	ALL	ALL	-	22.0	-	-	18
6063-T1	Up thru 0.500	ALL	17.0	-	9.0	-	12
	0.501-1.000	ALL	16.0	-	8.0	-	12
6063-T4 and T42 ④ ⑧	Up thru 0.500	ALL	19.0	-	10.0	-	14
	0.501-1.000	ALL	18.0	-	9.0	-	14
6063-T5	Up thru 0.500	ALL	22.0	-	16.0	-	8
	0.501-1.000	ALL	21.0	-	15.0	-	8

F As fabricated : i.e., there is no special control over the temper of such material and it is normally in the as-extruded condition. No, mechanical property limts are specified.

T1 Air-cooled from the extrusion temperature and naturally aged to a substantially stable condition.

T3 Solution heat-treated and cold worked to improve strength.

T4 Solution heat-treated and naturally aged to a substantially stable condition. These products are normally water quenched at the press or separately solution heat-treated in a salt bath.

T5 Air-cooled from the extrusion temperature and artifically aged to improve mechacal properties.

T591 A varaition of the T5 temper designed to combine good bending properties with strengh intermediate Between T1 and T5

T593 The air quenched and aged temper for Ally 7005

T595 A forming quality temper of 6060, capable of being flared, flattened or bent, yet giving a resonable level of typical Mechanical Porperties.

T6 Solution heat-treated and artifically aged.

T61-T64 Varaition of the T6 temper giving controlled comdinations of mechanical properties and electrical conductivity in alloy 6101

T8 Solution heat-treated, cold drawn and artifically aged.

T81-T84 Solution heat-treated, cold drawn and artifically aged./ the amount of cold work and therefore the strength of the increasing through T81 and T84. Special purpose variabions of these tempers e.g. T891.T893 etc. are available for some drawn products.

T9 Solution heat-treated, artifically aged and then cold drawn.

0 Annealed, The softest condition for the alloy.

	PVDF AAMA 2605-98 Specification	Powder AAMA 2604-98 Specification
Dry Flim Thickness	Minimum 30 microns	Minimum 30 microns
Specular Gloss ASTM D 523	Medium	High
Pencil Hardness (Turquoise) ASTM D 3363	Minimum F hardness	Minimum F hardness
Crosshatch adhesion (100%)	Dry, wet & boiling no loss of adhesion	Dry, wet & boiling no loss of adhesion
Impact Resistance (Gardner)	0.1 inch deformation minor crack / no pick off	0.1 inch deformation minor crack / no pick off
HCl Resistance	15 minutes spot test no blister, visual change	15 minutes spot test no blister, visual change
Mortar Resistance	24 hours surface contact at 100%RH, 38 Deg C no loss of adhesion, visual change & residue	24 hours surface contact at 100%RH, 38 Deg C no loss of adhesion, visual change & residue
Nitic Acid Resistance ASTM D 2244	30 minutes exposure maximum 5 delta E color change	30 minutes exposure maximum 5 delta E color change
Detergent Resistance (3%)	72 hours immersion at 38 deg C no loss of adhesion, blistering & visul change	72 hours immersion at 38 deg C no loss of adhesion, blistering & visual change
Window Cleaner Resistance	24 hours spot test no blistering & visual change & removal of film	24 hours spot test no blistering & visual change & removal of film

Color Delivery	Better Flexibility & speed	Poor Flexibility & speed
Abrasion Resistance (L/mil) ASTM D 968	Maximum 40	Maximum 20
Humility Resistance ASTM D 2247 or D 4585	4,0000 hours at 100% humility, 38 deg C maximum “Few” blister Size No. 8	3,000 hours at 100% humility, 38 deg C maximum “Few” blister Size No. 8
Salt Spray Resistance ASTM B 117	4,000 hours at 5% solution, 38 deg C maximum 7 on scride, 8 on field	3,000 hours at 5% solution, 38 deg C maximum 7 on scride, 8 on field
Color Retention ASTM D 2244 (Section 6.3)	10 years South Florida Exposure maximum 5 delta E color change	10 years South Florida Exposure maximum 5 delta E color change
Chalk Resistance ASTM D 4214 (Method A)	10 years South Florida EXposure maximum No. 8 for color & NO. 6 for white	10 years South Florida Exposure maximum No. 8
Gloss Retention ASTM D 523	10 years South Florida Exposure maximum 50% gloss retention	10 years South Florida Exposure maximum 30% gloss retention
Resistance to Erosion ASTM B 244	10 years South Floreda Exposure maximum 10% film loss	10 years South Florida Exposure maximum 10% film loss

THE MANUFARER OF ALL KIND'S OF ALUMINIUM EXTRUSION ALLOY 6063TS
FOR ARCHITECTURAL AND INDUSTRIAL USAGE IN VARIOUS COLOURS
AND INTERNATIONAL STANDARD QUALITY

ALLOY 6063 Heat - Treatable Al-Mg-Si Wrought Alloy

Machanical Properties

Commodity and temper	Gauge mm	0.2% Proof Stress Kg/mm^2	Ult. Tensile Strength Kg/mm^2	Eiongation 8 $\%^{10}$	Brinell Hardness Kg/mm^2	Ult. Shear Strength Kg/mm^2	Fatlgue Strength Kg/mm^2
Extrusions							
F22		16(-)	22(-)	10(-)	70(-)		
Heat treatmet							
Quenching at thedie						Ageing	

Emerging temp.°C	Quenching to 200.°C	Temp.°C	Time h
minimum 495	at a min.rate of 70 °C/min	185+S	5

LIST OF SECTION SHOWING THICKNESS OF ANODIZED ALUMINIUM'S FILM SURFACE

FINISH	10 MICRONS	15 MICRONS	18 MICRONS	25 MICRONS
E & A	●	●	●	●
MT 512	●	●	●	●
MT 514		●	●	●
MT 517		●	●	●
MT 519			●	●

NOTE

- THE THICKNESS OF ANODIZED FILM 10 MICRONS (0.004) FITS FOR INTERIOR USAGE.
- THE THICKNESS OF ANODIZED FILM 15 MICRONS (0.007) FITS FOR BOTH INTERIOR AND OUTDOOR BUILDINGS IN NORMAL ENVIRONMENT.
- THE THICKNESS (.001) FITS FOR INTERIOR AND OUTDOOR BUILDING IN HARSH CONDITION OR JOBS WHICH NEED NATURAL DEPRECIATION OR EXTRA ENDURANCE.

PROJECT Reference


NDIA New Doha International Airport, Phase II Qatar


Boat Lift U.S.

Paradise Park Bangkok


Gaysorn Plaza Bangkok

Louis Vuitton Showroom Hongkong


King Power Complex Bangkok


Siam Paragon Bangkok


Bangkok University Bangkok


Suvarnabhumi Airport Bangkok

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ISO/TS 16949 SYSTEM CERTIFICATION SGS

ISO 9001 SYSTEM CERTIFICATION SGS

THAILAND QMS 001