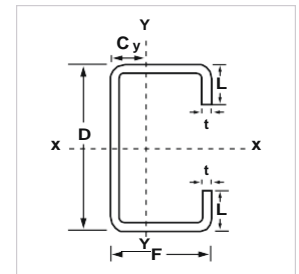


# STEEL PURLINS

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### 9a (i) C Purlins - High Tensile Sections

D x F x t						Mass Per Unit Length	Area						
		Flange F	Lipped L			M	A	I <sub>xx</sub>	I <sub>yy</sub>	Z <sub>x</sub>	Z <sub>y</sub>		
D x F x t						kg/m		10 <sup>6</sup> mm <sup>4</sup>	10 <sup>6</sup> mm <sup>4</sup>	10 <sup>3</sup> mm <sup>3</sup>	10 <sup>3</sup> mm <sup>3</sup>		
75 x 38 x 0.6	75	38		0.6	12.20	0.80	98	0.092	0.019	2.446	0.748		14.03
	x 0.7	75		0.7	12.20		114						
	x 0.8	75		0.8	12.20	1.06	129	0.120		3.211			
	x 1.0	75		1.0	12.20	1.31	160	0.148					
	x 1.2	75		1.2	12.20	1.57	191	0.175					13.70
	x 1.6	75		1.6	12.10	2.05	250		0.045		1.756		13.47
	102	51	16	1.6	17.64		352					40.70	19.10
	102	51	16	2.0	17.56	3.72	432	0.703	0.152				
	102	51	16	2.5	17.45	4.60	527		0.178				
	102	51	16	3.0	17.34	5.29							17.90
	125	51	14	1.6		3.10	409				4.440	50.11	
	125	51	14	2.0			510	1.270			5.240		
	127	51	16	1.6		3.20		0.971		15.479	4.027		
	127	51	16	2.0		3.94	482	1.176	0.164			49.40	
	127	51	16	2.5	15.74		590	1.412					
	127	51	16	3.0		5.90			0.215			48.40	17.60
	152	64	16	1.6			480					61.70	
	152	64	16	2.0		4.75	600				7.190		
	152	64	16	2.5		5.87		2.750	0.400				
	153	66	16	1.6		4.01		1.871		24.720			25.70
	153		16	2.0		4.92	614						25.40
	153	66	16	2.5	21.78	6.01	755		0.471				
	153	66	16	3.0		7.35					11.207		24.50
	175	71	16	1.6		4.27		2.551	0.344				25.40
	175	71	16	2.0					0.414				25.10
	175	71	16	2.5		6.67	810				9.977		24.70
	175	71	16	3.0			957	4.412					24.20
		71	16	1.6		4.70	578					79.00	
		71	16	2.0		5.74	714	4.412	0.434				
		71	16	2.5		7.13					10.142	78.10	24.20
		71	16	3.0	18.74	8.79	1041					77.60	
		74	16	1.6		4.70			0.420				
		74	16	2.0	21.50	5.90	726						27.70
		74	16	2.5		7.14			0.700				27.70
	225	78	18	1.6			642			44.100			
	225	78	18	2.0			794						
	225	78	18	2.5							12.700		
	225	78	18	3.0			1161						
	250	78	18	2.0			844	7.748					
	250	78	18	2.5			1042		0.731				
	250	78	18	3.0		10.20		11.100			14.712		
	300	96	25	2.0			1044		1.220				
		96	25	2.5		10.84		17.210	1.477			115.40	
		96	25	3.0		12.10			1.714				

#### Standard Specification or Manufacturer's Standard

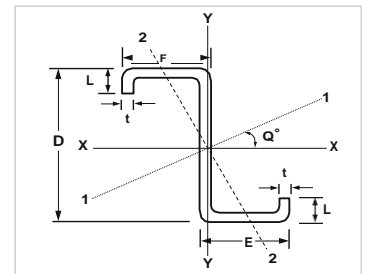
Base Material Thickness : 1.6mm, 2.0mm, 2.5mm and 3.0 mm  
 Steel Grade Available : High Tensile ASTM 446 Grade D/ASTM Grade E/ GALFAN ASTM A 875SQ50/ High Tensile A 653 (M) SQ/ JIS 3302:SGC 440 or SGC 57C  
 Yield Stress : 345 MPa minimum or 450 MPa minimum  
 Tensile Strength : 450 MPa minimum or 550 MPa minimum.  
 Coating Mass (g/m<sup>2</sup>) : Minimum 275 g/m<sup>2</sup> Coating mass.(both sides), for size: 75 x 38mm coating (120~275g/m<sup>2</sup>)

#### Standard Tolerances or Manufacturer's Standard

Tolerance for depth, flange width and length are measured in accordance to  $\pm 3$ mm and lips  $\pm 4$  mm.

# Purlins

## Dimensions and Properties



### 9a (ii) Z Purlins - High Tensile Sections

Z- Section Identification	Section Dimensions					Mass Per Unit	Area	Second Moment Of Area		Second Modulus		Radius Of Gyration		Form Factor	Column Properties	
	Depth	Broad Flange	Narrow Flange	Lipped	thickness	Length		$I_{xx}$	$I_{yy}$	$Z_x$	$Z_y$			Q	$I_w$	
						M									mm <sup>4</sup>	10 <sup>9</sup> mm <sup>6</sup>
D x E x t						kg/m	mm <sup>2</sup>	10 <sup>6</sup> mm <sup>4</sup>	10 <sup>6</sup> mm <sup>4</sup>	10 <sup>3</sup> mm <sup>3</sup>	10 <sup>3</sup> mm <sup>3</sup>					
102 x 57 x 1.6	102	57	51	16	1.6	3.05	362	0.606	0.266	11.753	4.952	40.930	27.113	0.868	322	0.418
x 2.0	102	57	51	16	2.0	3.72	444	0.732	0.316	14.256	5.939	40.609	26.696	0.942	624	0.504
x 2.5	102	57	51	16	2.5	4.60	542	0.876	0.371	17.134	7.029	40.188	26.152	0.996	1208	0.603
x 3.0	102	57	51	16	3.0	5.29	636	1.004	0.416	19.730	7.959	39.743	25.580	1.000	2070	0.692
127 x 57 x 1.6	127	57	51	16	1.6	3.20	402	1.007	0.266	15.691	4.938	50.086	25.733	0.781	356	0.674
x 2.0	127	57	51	16	2.0	3.94	494	1.222	0.317	19.083	5.922	49.733	25.314	0.853	691	0.816
x 2.5	127	57	51	16	2.5	4.89	605	1.469	0.371	23.020	7.009	49.273	24.770	0.936	1339	0.978
x 3.0	127	57	51	16	3.0	5.90	711	1.692	0.416	26.616	7.935	48.789	24.199	0.989	2295	1.125
153 x 68 x 1.6	153	68	62	16	1.6	4.01	497	1.865	0.549	24.137	7.762	61.281	33.233	0.712	437	1.966
x 2.0	153	68	62	16	2.0	4.92	613	2.277	0.659	29.528	9.381	60.946	32.798	0.793	849	2.394
x 2.5	153	68	62	16	2.5	6.01	754	2.760	0.783	35.900	11.223	60.514	32.238	0.869	1648	2.895
x 3.0	153	68	62	16	3.0	7.35	889	3.208	0.891	41.860	12.862	60.064	31.657	0.935	2831	3.360
175 x 74 x 1.6	175	74	68	16	1.6	4.27	532	2.544	0.549	28.778	7.751	69.153	32.118	0.666	467	2.653
x 2.0	175	74	68	16	2.0	5.26	657	3.109	0.660	35.244	9.367	68.794	31.684	0.740	908	3.233
x 2.5	175	74	68	16	2.5	6.67	809	3.776	0.783	42.914	11.206	68.332	31.125	0.810	1763	3.914
x 3.0	175	74	68	16	3.0	8.08	955	4.398	0.891	50.120	12.843	67.853	30.547	0.877	3029	4.548
203 x 74 x 1.6	203	74	68	16	1.6	4.70	577	3.594	0.549	35.063	7.739	78.945	30.848	0.616	505	3.693
x 2.0	203	74	68	16	2.0	5.74	713	4.400	0.660	42.993	9.352	78.557	30.417	0.683	983	4.505
x 2.5	203	74	68	16	2.5	7.13	879	5.354	0.784	52.432	11.188	78.058	29.863	0.745	1909	5.459
x 3.0	203	74	68	16	3.0	8.79	1039	6.249	0.892	61.341	12.822	77.542	29.290	0.807	3281	6.350
225 x 78 x 1.6	225	78	72	18	1.6	5.28	718	4.400	0.741	34.742	12.150	78.300	32.100	0.458	626	0.853
x 2.0	225	78	72	18	2.0	6.55	890	5.390	0.904	42.585	14.906	77.800	31.900	0.532	1219	1.007
x 2.5	225	78	72	18	2.5	8.16	1100	6.560	1.090	51.913	18.193	77.200	31.500	0.610	2370	1.172
x 3.0	225	78	72	18	3.0	9.80	1305	7.670	1.270	60.711	21.302	76.700	31.200	0.689	4077	1.305
250 x 78 x 2.0	250	78	72	20	2.0	6.69	840	7.651	0.859	60.829	11.495	95.440	31.981	0.618	1152	9.329
x 2.5	250	78	72	20	2.5	8.34	1042	9.400	1.053	74.882	14.184	94.963	31.782	0.673	2250	11.641
x 3.0	250	78	72	20	3.0	10.20	1236	11.020	1.207	87.941	16.368	94.426	31.250	0.723	3870	13.590
300 x 100 x 2.0	300	100	93	25	2.0	8.71	1046	14.060	1.875	93.128	19.442	115.950	42.343	0.563	1427	28.738
x 2.5	300	100	93	25	2.5	10.84	1295	17.260	2.265	114.492	23.608	115.456	41.827	0.635	2776	35.157
x 3.0	300	100	93	25	3.0	12.10	1539	20.330	2.625	135.084	27.496	114.952	41.301	0.681	4779	41.284

Standard Specifications and Tolerance or Manufacturer's Standard		Tolerances	
Base Material Thickness	: 1.6mm, 2.0mm and 2.5mm	Depth, D	: ± 1 mm
Steel Grade Available	: High Tensile ASTM 446 Grade D/ASTM Grade E/ GALFAN ASTM A 875SQ50	Flange Width, F	: ± 3 mm
Yield Stress	: 345 MPa minimum or 450 MPa minimum	Length	: ± 1mm
Tensile Strength	: 450 MPa minimum or 550 MPa minimum.	Holes Centres	: ± 1.5 mm
Coating Mass (g/m <sup>2</sup> )	: Minimum 275 g/m <sup>2</sup> Coating mass.(both sides)	Lips, L	: ± 4mm