



## Structural Properties of DMSL Z Purlin

Depth in mm	Thickness in mm	Weight Kgs/mtr	Area in Cm <sup>2</sup>	I <sub>y</sub> in Cm <sup>4</sup>	I <sub>z</sub> in Cm <sup>4</sup>	W <sub>u+</sub> in Cm <sup>3</sup>	W <sub>v+</sub> in Cm <sup>3</sup>
80.00	1.60	2.86	3.52	39.289	41.582	10.277	2.994
80.00	2.00	3.56	4.39	48.567	51.979	12.752	3.752
80.00	2.50	4.42	5.44	59.349	63.732	15.655	4.604
165.00	1.60	3.92	4.88	205.110	41.585	23.674	3.978
165.00	2.00	4.89	6.09	254.956	51.985	29.454	4.985
165.00	2.50	6.09	7.57	314.119	63.743	36.340	6.129
200.00	1.60	4.36	5.44	321.830	41.586	30.877	4.180
200.00	2.00	5.44	6.79	400.407	51.987	38.442	5.238
200.00	2.50	6.77	8.44	494.091	63.748	47.480	6.442
220.00	1.60	4.61	5.76	403.268	41.587	35.332	4.275
220.00	2.00	5.75	7.19	501.925	51.988	44.003	5.358
220.00	2.50	7.16	8.94	619.800	63.750	54.377	6.589
220.00	3.00	8.34	10.45	708.930	69.320	60.163	7.315
240.00	1.60	4.86	6.08	496.226	41.588	40.018	4.359
240.00	2.00	6.06	7.59	617.827	51.990	49.853	5.463
240.00	2.50	7.55	9.44	763.390	63.753	61.636	6.719
240.00	3.00	8.71	10.92	856.234	68.833	67.065	7.338
260.00	1.60	5.11	6.40	601.344	41.589	44.928	4.435
260.00	2.00	6.38	7.99	748.914	51.991	55.983	5.558
260.00	2.50	7.95	9.94	925.863	63.756	69.247	6.836
260.00	3.00	9.19	11.52	1040.80	68.85	75.63	7.46

**Symbols:** I<sub>y</sub> : Inertia moment about centroidal Y1-axis parallel with Y-axis in cm<sup>4</sup>.

I<sub>z</sub> : Inertia moment about centroidal Z1-axis parallel with Z-axis in cm<sup>4</sup>.

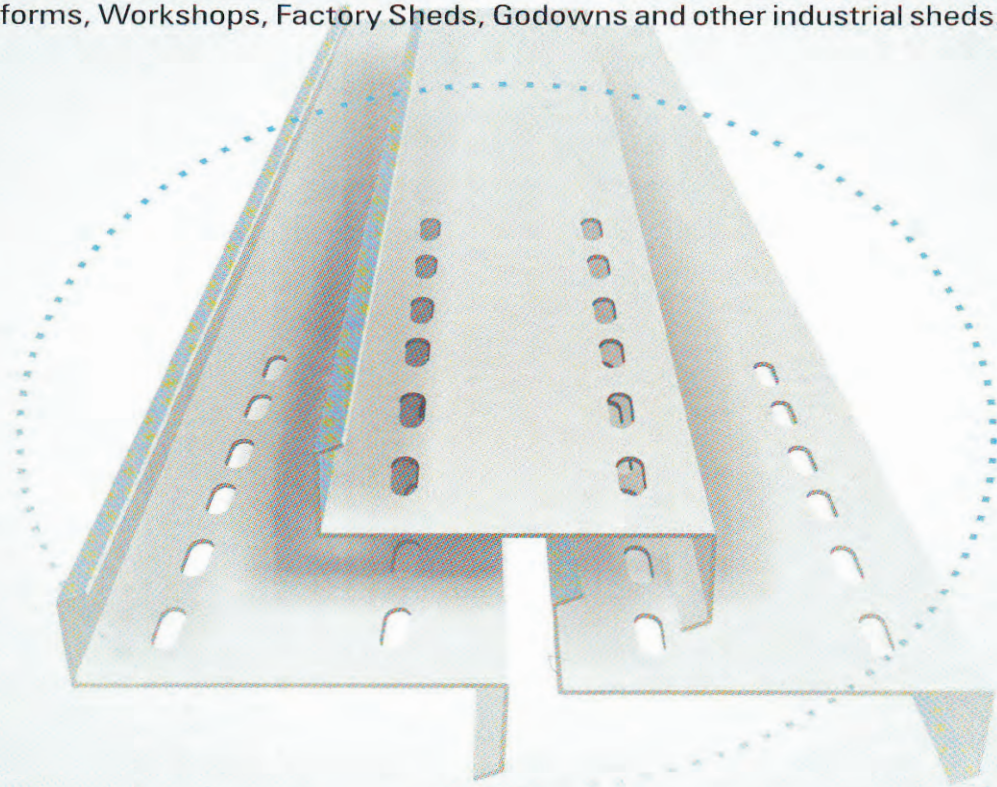
W<sub>u+</sub> : Maximum resisting moment about U-axis in cm<sup>3</sup>.

W<sub>v+</sub> : Maximum resisting moment about V-axis in cm<sup>3</sup>.



## **D M S ' Z ' P U R L I N S**

Z-Purlins, the latest in purlin technology now replaces customary tubes and angles used in roofing. Having established itself at various technological segments in the west, Z-Purlins are fast gaining popularity in India also. The most outstanding feature is their versatility. Applicable in roofing and side cladding, they fulfill the needs of diverse establishments requiring large sized roofing such as Railway Platforms, Workshops, Factory Sheds, Godowns and other industrial sheds.



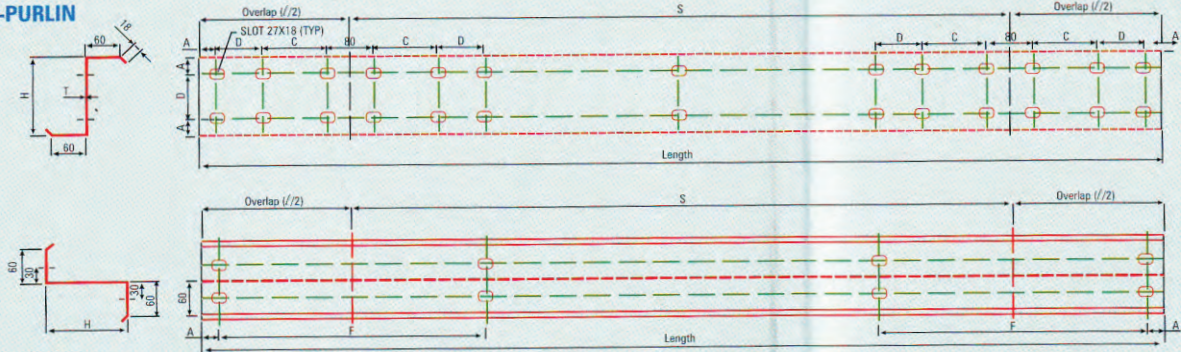
## **M a i n A d v a n t a g e s o f ' Z ' P u r l i n s**

- Save upto 50% in structural steel and 30% in cost against hot rolled angles.
- Save upto 40% in weight and 15% in cost against tubular purlins.
- Truss spacing can be increased.
- Economy in transportation and erection
- Reduce dead load carried from purlins to trusses.
- Less time and cost in fabrication and erection.
- Lip size developed to give a better grip for sheet fixing crook bolts.
- Safety against wind loads.
- Phosphated and suitably painted surface to withstand corrosion.
- Best strength to weight ratio.
- Wide range of sections offered.
- Catering to different spans as per requirement of the customers.
- Combination of Cleat and Purlin for stronger and easier erection.

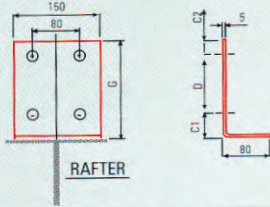
**Stronger | Economical | More Durable | 40% Saving in Steel**



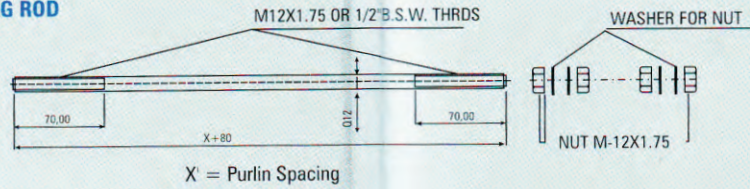
**Z-PURLIN**



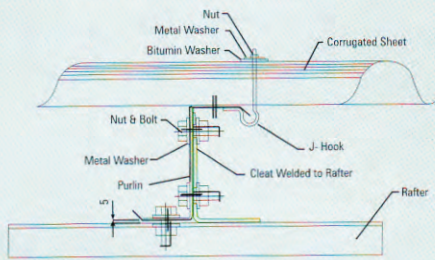
**CLEAT**



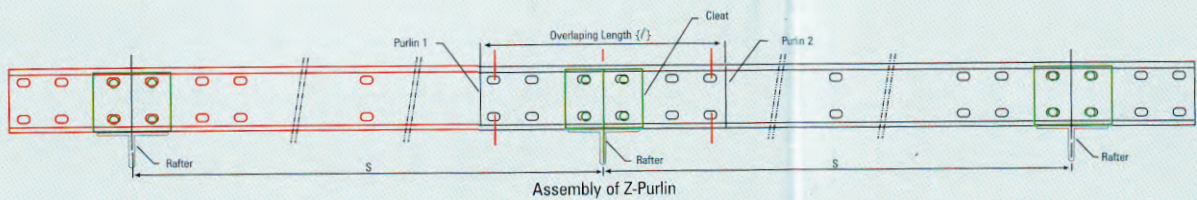
**SAG ROD**



Fixing detail of Sheet & Purlin with Crook Bolt



Fixing arrangement of Z-Purlin with Cleat



**Table for Z-Purlin and cleat**

	Purlin Depth (H) in mm	Overlapping Length (l) in mm	Purlin Length (l) in mm	(A) in mm	(D) in mm	(C) in mm	(F) in mm	(C1) in mm	(C2) in mm	(G) in mm
	80	400	S+400	20	40	100	360	25	15	80
	165	570	S+570	30	105	110	510	35	25	165
	200	640	S+640	40	120	120	560	46	25	190
	220	680	S+680	40	140	120	600	46	25	210
	240	720	S+720	40	160	120	640	46	25	230
	260	760	S+760	40	180	120	680	46	25	260

Note : 'S' - Span of Truss



Load carrying capacity of Z Purlins [ Excluding Self weight at  $\theta = 15^\circ$  ] in Kgs/m<sup>2</sup>

Span in mtr	Purlin size		Weight Kgs/mtr	Spacing of Purlin 1.2 M			Spacing of Purlin 1.4 M			Spacing of Purlin 1.6 M		
	Depth in mm	Thk. In mm		No sag rod	One sag rod	Two sag rod	No sag rod	One sag rod	Two sag rod	No sag rod	One sag rod	Two sag rod
4.0	80.0	1.60	2.86	76.67	121.67	-	65.71	104.29	-	57.50	91.25	-
	80.0	2.00	3.56	95.00	149.17	-	81.43	127.86	-	71.25	111.88	-
	80.0	2.50	4.42	115.83	182.50	-	99.29	156.43	-	86.88	136.88	-
4.5	80.0	1.60	2.86	44.17	86.67	92.50	37.86	74.29	79.29	33.13	65.00	69.38
	80.0	2.00	3.56	54.17	106.67	114.17	46.43	91.43	97.86	40.63	80.00	85.63
	80.0	2.50	4.42	66.67	130.83	140.00	57.14	112.14	120.00	50.00	98.13	105.00
	165.0	1.60	3.92	122.50	-	-	105.00	-	-	91.88	-	-
5.0	80.0	1.60	2.86	26.67	64.17	72.50	22.86	55.00	62.14	20.00	48.13	54.38
	80.0	2.00	3.56	32.50	79.17	89.17	27.86	67.86	76.43	24.38	59.38	66.88
	80.0	2.50	4.42	40.00	96.67	109.17	34.29	82.86	93.57	30.00	72.50	81.88
	165.0	1.60	3.92	72.50	179.17	-	62.14	153.57	-	54.38	134.38	-
5.5	165.0	1.60	3.92	45.00	130.00	146.67	38.57	111.43	125.71	33.75	97.50	110.00
	165.0	2.00	4.89	55.83	161.67	181.67	47.86	138.57	155.71	41.88	121.25	136.25
	200.0	1.60	4.36	60.00	154.17	-	51.43	132.14	-	45.00	115.63	-
	200.0	2.00	5.44	75.00	191.67	-	64.29	164.29	-	56.25	143.75	-
6.0	165.0	1.60	3.92	-	95.83	118.33	-	82.14	101.43	-	71.88	88.75
	165.0	2.00	4.89	-	118.33	146.67	-	101.43	125.71	-	88.75	110.00
	165.0	2.50	6.09	-	145.83	181.67	-	125.00	155.71	-	109.38	136.25
	200.0	1.60	4.36	-	124.17	-	-	106.43	-	-	93.13	-
	200.0	2.00	5.44	-	153.33	-	-	131.43	-	-	115.00	-
6.5	200.0	1.60	4.36	-	90.83	100.83	-	77.86	86.43	-	68.13	75.63
	200.0	2.00	5.44	-	112.50	125.83	-	96.43	107.86	-	84.38	94.38
	200.0	2.50	6.77	-	139.17	155.83	-	119.29	133.57	-	104.38	116.88
	220.0	1.60	4.61	-	103.33	103.33	-	88.57	88.57	-	77.50	77.50
	220.0	2.00	5.75	-	127.50	128.33	-	109.29	110.00	-	95.63	96.25
	220.0	2.50	7.16	-	157.50	157.50	-	135.00	135.00	-	118.13	118.13
7.0	220.0	1.60	4.61	-	73.33	85.83	-	62.86	73.57	-	55.00	64.38
	220.0	2.00	5.75	-	91.67	107.50	-	78.57	92.14	-	68.75	80.63
	220.0	2.50	7.16	-	112.50	132.50	-	96.43	113.57	-	84.38	99.38
	240.0	1.60	4.86	-	82.50	88.33	-	70.71	75.71	-	61.88	66.25
	240.0	2.00	6.06	-	101.67	109.17	-	87.14	93.57	-	76.25	81.88
	240.0	2.50	7.55	-	125.83	135.00	-	107.86	115.71	-	94.38	101.25
7.5	220.0	2.50	7.16	-	81.67	111.67	-	70.00	95.71	-	61.25	83.75
	220.0	3.00	8.34	-	96.67	132.50	-	82.86	113.57	-	72.50	99.38
	240.0	2.00	6.06	-	74.17	91.67	-	63.57	78.57	-	55.63	68.75
	240.0	2.50	7.55	-	90.83	114.17	-	77.86	97.86	-	68.13	85.63
	240.0	3.00	8.71	-	108.33	135.00	-	92.86	115.71	-	81.25	101.25
	260.0	1.60	5.11	-	66.67	75.83	-	57.14	65.00	-	50.00	56.88
	260.0	2.00	6.38	-	82.50	94.17	-	70.71	80.71	-	61.88	70.63
	260.0	2.50	7.95	-	101.67	116.67	-	87.14	100.00	-	76.25	87.50
8.0	220.0	2.50	7.16	-	60.00	95.00	-	51.43	81.43	-	45.00	71.25
	220.0	3.00	8.34	-	71.67	113.33	-	61.43	97.14	-	53.75	85.00
	240.0	2.50	7.55	-	67.50	96.67	-	57.86	82.86	-	50.63	72.50
	240.0	3.00	8.71	-	79.17	115.00	-	67.86	98.57	-	59.38	86.25
	260.0	2.50	7.95	-	75.00	98.33	-	64.29	84.29	-	56.25	73.75
	260.0	3.00	9.19	-	88.33	116.67	-	75.71	100.00	-	66.25	87.50