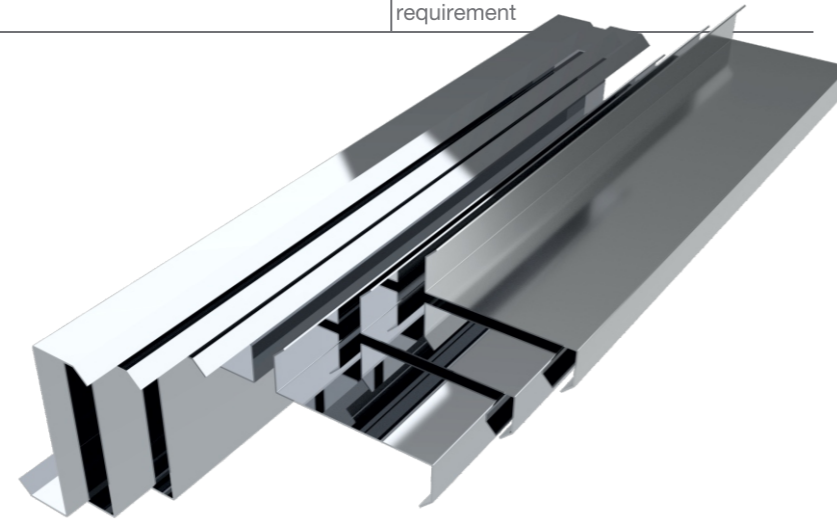


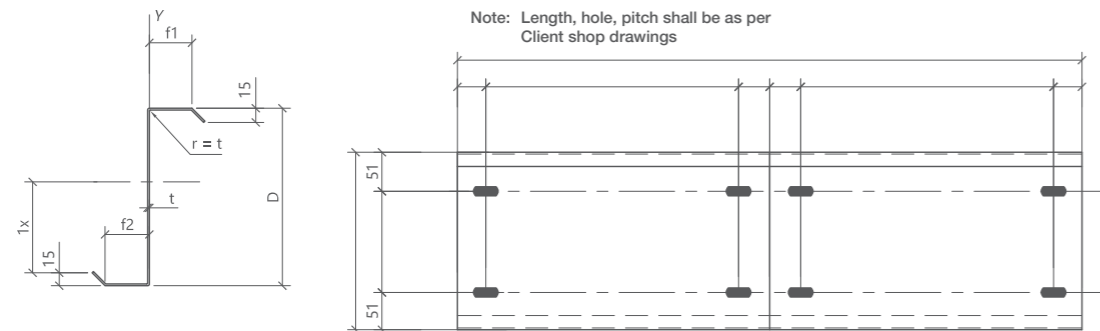
Specification

Thickness	Depth	Steel Grade	Coating
1.5 mm to 2.5 mm	142 mm to 302 mm	ASTM A653 Ss50 Class 1. Equivalent grade shall be provided as per Client project requirement.	Hot-dip galvanization of zinc coat 275 gsm (G90). Other equivalent coating shall be provided as per Client project requirement

AM Z 142-302®



Design Information



- D = depth of section (mm)
- f1 = flange width (mm)
- L = length of lip (mm)
- R = average bent radius (mm)
- t = steel thickness (mm)
- A = area of section (mm<sup>2</sup>)
- C.G = centre of gravity
- S.C = shear centre

- I<sub>xx</sub> = moment of inertia about X-X axis (mm<sup>4</sup>)
- S<sub>xx</sub> = elastic section modulus about X-X axis (mm<sup>3</sup>)
- R = radius of gyration about about X-X axis (mm)
- I<sub>yy</sub> = moment of inertia about Y-Y axis (mm<sup>4</sup>)
- S<sub>yy</sub> = elastic section modulus about Y-Y axis (mm<sup>3</sup>)
- r<sub>y</sub> = radius of gyration about about Y-Y axis (mm)
- r<sub>min</sub> = radius of gyration about about Z-Z axis (mm)
- teta = angle between Z-Z axis and Y-Y axis (radians)

Nominal units are in parenthesis

PURLIN SECTIONAL PROPERTIES AND ALLOWABLES

Section	142Z15	142Z20	172Z15	172Z20	202Z15	202Z20	202Z25	232Z15	
Description	Units								
Depth	D mm	142.0	142.0	172.0	172.0	202.0	202.0	202.0	232.0
thickness	t mm	1.5	2.0	1.5	2.0	1.5	2.0	2.5	1.5
Top Flange	f1 mm	50.0	50.0	65.0	65.0	65.0	65.0	65.0	75.0
Bottom Flange	f2mm	45.0	45.0	60.0	60.0	60.0	60.0	60.0	70.0
Lip	L mm	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Lip Angle	Deg	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
Bend Radius	R mm	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Weight	W Kg/m	3.3	4.4	3.8	5.1	4.1	5.5	6.9	4.8
Area	A mm <sup>2</sup>	421.8	558.2	481.8	638.2	526.8	698.2	865.3	601.8
I <sub>xx</sub> (t)	cm	135.3	177.3	221.9	291.6	322.8	424.7	521.6	487.1
S <sub>xx</sub> (t)	cm	19.4	25.4	26.2	26.2	32.4	42.7	52.4	42.7
S <sub>xx</sub> (b)	cm	18.7	24.5	25.4	25.4	31.5	41.5	50.9	41.3
R <sub>x</sub>	cm	5.7	5.6	6.8	6.8	7.8	7.8	7.8	9.0
I <sub>yy</sub>	cm	36.1	47.1	44.3	57.9	44.3	57.9	71.0	64.3
S <sub>yy</sub> (l)	cm	5.4	7.1	6.2	8.1	6.2	8.1	10.0	7.9
	cm	5.2	6.8	6.0	7.8	5.9	7.8	9.6	7.6
R <sub>y</sub>	cm	2.9	2.9	3.0	3.0	2.9	2.9	2.9	3.3
Allowable Shear	V <sub>a</sub> KN	14.9	29.9	12.2	29.2	10.3	24.6	46.7	8.9
Allowable BM*	Mag KN-m	3.4	4.7	4.5	6.1	5.5	7.6	10.3	6.3
Allowable BM**	Mawc KN-m	3.1	4.4	4.1	5.7	5.1	7.1	9.6	5.8
Allowable BM\$	Maws KN-m	2.2	3.1	3.0	4.0	3.6	5.1	6.9	4.2
Ultimate Shear	V <sub>u</sub> KN	22.4	44.9	18.3	43.9	15.5	37.0	70.2	13.4
Ultimate BM*	Mug KN-m	5.3	7.5	7.1	9.6	8.7	12.1	16.4	9.9
Ultimate BM**	Muwc KN-m	5.0	7.0	6.6	9.0	8.1	11.2	15.2	9.2
Ultimate BM\$	Muws KN-m	3.5	5.0	4.7	6.4	5.8	8.0	10.9	6.6

Section	232Z20	232Z25	250Z20	250Z25	262Z20	262Z25	302Z25	302Z30	
Description	Units								
Depth	D mm	232.0	232.0	250.0	250.0	262.0	262.0	302.0	302.0
thickness	t mm	2.0	2.5	2.0	2.5	2.0	2.5	2.5	3.0
Top Flange	f1 mm	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
Bottom Flange	f2mm	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
Lip	L mm	16.0	16.0	16.0	16.0	16.0	16.0	18.0	18.0
Lip Angle	Deg	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
Bend Radius	R mm	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Weight	W Kg/m	6.4	8.0	6.7	8.4	6.9	8.6	9.8	11.7
Area	A mm <sup>2</sup>	798.2	990.3	848.2	1,052.8	872.2	1,082.8	1,247.3	1,491.8
I <sub>xx</sub> (t)	cm	642.0	790.2	786.9	969.5	878.8	1,083.2	1,661.1	1,978.1
S <sub>xx</sub> (t)	cm	56.3	69.3	64.2	79.1	68.8	84.2	111.8	133.1
S <sub>xx</sub> (b)	cm	54.4	67.0	61.8	76.1	65.9	81.2	108.3	129.0
R <sub>x</sub>	cm	9.0	8.9	9.6	9.6	10.0	10.0	11.5	11.5
I <sub>yy</sub>	cm	84.4	103.7	95.3	117.1	95.3	117.2	171.1	292.5
S <sub>yy</sub> (l)	cm	10.4	12.9	11.3	14.0	11.4	14.0	18.0	21.4
	cm	10.0	12.3	10.8	13.3	10.8	13.3	17.1	20.3
R <sub>y</sub>	cm	3.3	3.2	3.4	3.3	3.3	3.3	3.7	3.7
Allowable Shear	V <sub>a</sub> KN	21.3	42.3	19.7	39.1	18.7	37.2	31.6	54.7
Allowable BM*	Mag KN-m	9.8	12.6	10.9	13.9	11.7	14.8	19.5	23.6
Allowable BM**	Mawc KN-m	9.1	11.7	10.2	12.9	10.9	13.8	18.1	22.0
Allowable BM\$	Maws KN-m	6.5	8.4	7.3	9.2	7.8	9.9	13.0	15.7
Ultimate Shear	V <sub>u</sub> KN	32.0	63.6	29.6	58.7	28.2	55.8	47.4	82.3
Ultimate BM*	Mug KN-m	15.5	16.9	17.3	22.0	18.5	23.6	30.9	37.5
Ultimate BM**	Muwc KN-m	14.4	18.5	16.2	20.5	17.2	21.9	28.8	34.9
Ultimate BM\$	Muws KN-m	10.3	13.2	11.5	14.7	12.3	15.7	20.6	24.9