C-SECTION PROPERTIES AND ALLOWABLES

NMSS GROUP
Assuring Quality Material

Material: Grade: ASTM A653, Grade:50, EN-10147, S350, GD Z275, G90 (Fy=350 N/mm2)															
SECTION		C1421.5	C1422.0	1C1721.5	C1722.0	C2021.5	C2022.0	C2321.5	C2322.0	C2622.0	C2622.5	C3022.5	C3023.0	C3422.5	C3423.0
Depth	D mm	142	142	172	172	202	202	232	232	262	262	302	302	342	342
Thickness	t mm	1.5	2.0	1.5	2.0	1.5	2.0	1.5	2.0	2.0	2.5	2.5	2.5	2.5	3.0
Top Flange	W_{tf} mm	55	55	60	60	69	69	69	69	80	80	80	80	89	89
Bot.Flange	W_{bf}mm	55	55	60	60	69	69	69	69	80	80	80	80	89	89
Lip	L mm	15	15	15	15	15	15	15	15	15	15	15	15	18	18
Lip Angle	Deg	90	90	90	90	90	90	90	90	90	90	90	90	90	90
L Bend Radius	R mm	1.5	2.0	1.5	2.0	1.5	2.0	1.5	2.0	2.0	2.5	2.5	3.0	2.5	3.0
Weight	W kg/m	3.2	4.3	3.7	4.9	4.3	5.7	4.6	6.2	7.0	8.7	8.7	11.3	10.7	12.8
Area	A mm^2	414.00	548.00	474.00	628.00	546.00	724.00	591.00	784.00	888.00	1105.00	1205.00	1440.00	1365.00	1632.00
IXX	cm^4	118.43	161.92	192.22	261.14	288.42	392.16	386.19	545.96	776.37	981.79	1384.15	1716.55	2001.47	2459.51
Sxx (t)	cm^3	15.87	22.32	21.11	29.31	26.04	36.35	29.62	44.27	54.86	70.60	86.76	110.21	109.79	138.10
Sxx (b)	cm^3	17.58	23.31	23.75	31.50	31.61	41.66	38.00	50.23	64.44	79.87	97.16	117.38	125.32	150.06
Rx	cm	5.60	5.57	6.72	6.69	7.88	7.85	8.91	8.87	10.06	10.02	11.36	11.32	12.87	12.83
Iyy	cm^4	16.60	21.28	21.76	27.96	32.12	41.44	33.41	43.10	64.55	78.33	81.34	94.70	117.24	137.03
Syy (l)	cm^3	10.07	12.93	13.03	16.78	17.47	22.58	19.63	25.34	33.30	40.46	45.60	53.13	58.70	68.64
Syy (r)	cm^3	4.31	5.52	5.02	6.45	6.35	8.118	6.43	8.29	10.65	12.92	13.08	15.23	16.98	19.85
Ry	cm	2.02	1.99	2.16	2.13	2.44	2.41	2.39	2.36	2.71	2.68	2.62	2.59	2.95	2.92
Ultimate Shear	Vu KN	21.92	44.92	17.96	43.10	15.21	36.43	13.19	31.55	27.83	54.78	47.28	82.26	41.58	72.29
Ultimate BM*	M_{sg} KN-m	5.28	7.85	7.02	9.74	8.66	12.09	9.85	14.72	18.24	23.47	28.85	36.64	36.51	45.92
Ultimate BM**	M_{uwc} KN-m	4.91	7.31	6.53	9.07	8.06	11.25	9.17	13.71	16.98	21.85	26.86	34.11	33.99	42.75
Ultimate BM S	M_{uws} KN-m	3.51	5.22	5.22	6.48	5.76	8.04	6.55	9.79	12.13	15.61	19.18	24.37	24.28	30.53

***BM due to gravity loads (fully braced) **BM due to uplift continuous spans (fully braced) $ BM due to uplift for simple spans (fully braced)**