

Structural Applications

IS 4923~ASTM A 500~AS 1163

TECHNICAL DATA OF STEEL TUBES & PIPES
CONFORMING TO IS 4923 : 2001
COLD FOLDED SQUARE HOLLOW SECTION

Depth (mm)	Width (mm)	Thickness (mm)	Moment of Inertia (cm ⁴)		Elastic Modulus (cm ³)		Plastic Modulus (cm ³)		Radius of Gyration (cm)		Area (cm ²)	Weight (kg/m)	Mtrs/M.T
			X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis			
25.0	25.0	1.80	1.38	1.38	1.11	1.11	1.35	1.35	0.93	0.93	1.59	1.25	802.80
25.0	25.0	2.00	1.48	1.48	1.19	1.19	1.47	1.47	0.92	0.92	1.74	1.36	733.47
25.0	25.0	2.30	1.61	1.61	1.29	1.29	1.62	1.62	0.91	0.91	1.95	1.53	652.63
25.0	25.0	2.60	1.72	1.72	1.38	1.38	1.76	1.76	0.89	0.89	2.16	1.69	591.08
25.0	25.0	3.00	1.84	1.84	1.47	1.47	1.91	1.91	0.87	0.87	2.41	1.89	529.07
25.0	25.0	3.20	1.89	1.89	1.51	1.51	1.98	1.98	0.86	0.86	2.53	1.98	504.27
25.0	25.0	3.60	1.96	1.96	1.56	1.56	2.10	2.10	0.84	0.84	2.75	2.16	463.70
32.0	32.0	1.80	3.11	3.11	1.95	1.95	2.33	2.33	1.22	1.22	2.09	1.64	609.28
32.0	32.0	2.00	3.36	3.36	2.10	2.10	2.54	2.54	1.21	1.21	2.30	1.80	554.63
32.0	32.0	2.30	3.71	3.71	2.32	2.32	2.84	2.84	1.20	1.20	2.60	2.04	490.73
32.0	32.0	2.60	4.02	4.02	2.51	2.51	3.11	3.11	1.18	1.18	2.88	2.26	441.83
32.0	32.0	3.00	4.38	4.38	2.74	2.74	3.44	3.44	1.16	1.16	3.25	2.55	392.23
32.0	32.0	3.20	4.54	4.54	2.83	2.83	3.59	3.59	1.15	1.15	3.42	2.69	372.24
32.0	32.0	3.60	4.81	4.81	3.00	3.00	3.87	3.87	1.13	1.13	3.76	2.95	339.23
38.0	38.0	1.80	5.42	5.42	2.85	2.85	3.39	3.39	1.47	1.47	2.52	1.98	504.95
38.0	38.0	2.00	5.88	5.88	3.10	3.10	3.70	3.70	1.46	1.46	2.78	2.18	458.76
38.0	38.0	2.30	6.54	6.54	3.44	3.44	4.15	4.15	1.44	1.44	3.15	2.47	404.68
38.0	38.0	2.60	7.13	7.13	3.76	3.76	4.57	4.57	1.43	1.43	3.51	2.75	363.22
38.0	38.0	3.00	7.85	7.85	4.13	4.13	5.10	5.10	1.41	1.41	3.97	3.11	321.06
38.0	38.0	3.20	8.18	8.18	4.30	4.30	5.34	5.34	1.40	1.40	4.19	3.29	304.01
38.0	38.0	3.60	8.76	8.76	4.61	4.61	5.80	5.80	1.38	1.38	4.62	3.63	275.78
49.5	49.5	1.80	12.54	12.54	5.07	5.07	5.94	5.94	1.93	1.93	3.35	2.63	380.17
49.5	49.5	2.00	13.70	13.70	5.54	5.54	6.52	6.52	1.93	1.93	3.70	2.90	344.59
49.5	49.5	2.30	15.36	15.36	6.20	6.20	7.36	7.36	1.91	1.91	4.21	3.30	302.88
49.5	49.5	2.60	16.91	16.91	6.83	6.83	8.16	8.16	1.90	1.90	4.70	3.69	270.86
49.5	49.5	3.00	18.84	18.84	7.61	7.61	9.18	9.18	1.88	1.88	5.35	4.20	238.21
49.5	49.5	3.20	19.74	19.74	7.97	7.97	9.67	9.67	1.87	1.87	5.66	4.44	224.98
49.5	49.5	3.60	21.42	21.42	8.65	8.65	10.60	10.60	1.85	1.85	6.28	4.93	203.00
60.0	60.0	2.50	30.34	30.34	10.11	10.11	11.93	11.93	2.33	2.33	5.59	4.39	227.94
60.0	60.0	2.60	31.33	31.33	10.44	10.44	12.34	12.34	2.33	2.33	5.80	4.55	219.82
60.0	60.0	2.90	34.21	34.21	11.40	11.40	13.56	13.56	2.31	2.31	6.41	5.03	198.84
60.0	60.0	3.00	35.13	35.13	11.71	11.71	13.95	13.95	2.31	2.31	6.61	5.19	192.79
60.0	60.0	3.20	36.94	36.94	12.31	12.31	14.73	14.73	2.30	2.30	7.01	5.50	181.82
60.0	60.0	3.60	40.36	40.36	13.45	13.45	16.22	16.22	2.28	2.28	7.79	6.11	163.59
60.0	60.0	4.00	43.55	43.55	14.52	14.52	17.64	17.64	2.26	2.26	8.55	6.71	149.04
60.0	60.0	4.30	45.78	45.78	15.26	15.26	18.66	18.66	2.24	2.24	9.10	7.15	139.94
60.0	60.0	4.50	47.20	47.20	15.73	15.73	19.31	19.31	2.23	2.23	9.47	7.43	134.55
60.0	60.0	4.80	49.21	49.21	16.40	16.40	20.27	20.27	2.22	2.22	10.00	7.85	127.34
60.0	60.0	5.00	50.49	50.49	16.83	16.83	20.88	20.88	2.21	2.21	10.36	8.13	123.02
72.0	72.0	2.50	53.99	53.99	15.00	15.00	17.55	17.55	2.82	2.82	6.79	5.33	187.65
72.0	72.0	2.60	55.82	55.82	15.51	15.51	18.17	18.17	2.82	2.82	7.04	5.53	180.87
72.0	72.0	2.90	61.18	61.18	16.99	16.99	20.01	20.01	2.80	2.80	7.80	6.12	163.35
72.0	72.0	3.00	62.91	62.91	17.48	17.48	20.62	20.62	2.80	2.80	8.05	6.32	158.29
72.0	72.0	3.20	66.32	66.32	18.42	18.42	21.80	21.80	2.79	2.79	8.54	6.71	149.13
72.0	72.0	3.60	72.85	72.85	20.24	20.24	24.11	24.11	2.77	2.77	9.52	7.47	133.88
72.0	72.0	4.00	79.02	79.02	21.95	21.95	26.32	26.32	2.75	2.75	10.47	8.22	121.70
72.0	72.0	4.30	83.41	83.41	23.17	23.17	27.92	27.92	2.73	2.73	11.17	8.77	114.07
72.0	72.0	4.50	86.23	86.23	23.95	23.95	28.96	28.96	2.72	2.72	11.63	9.13	109.56
72.0	72.0	4.80	90.30	90.30	25.08	25.08	30.48	30.48	2.71	2.71	12.31	9.66	103.50
72.0	72.0	5.00	92.91	92.91	25.81	25.81	31.47	31.47	2.70	2.70	12.76	10.01	99.87
80.0	80.0	2.50	75.14	75.14	18.79	18.79	21.89	21.89	3.15	3.15	7.59	5.96	167.86
80.0	80.0	2.60	77.74	77.74	19.44	19.44	22.68	22.68	3.14	3.14	7.88	6.18	161.76
80.0	80.0	2.90	85.36	85.36	21.34	21.34	25.01	25.01	3.13	3.13	8.73	6.85	145.98
80.0	80.0	3.00	87.84	87.84	21.96	21.96	25.78	25.78	3.12	3.12	9.01	7.07	141.42
80.0	80.0	3.20	92.71	92.71	23.18	23.18	27.29	27.29	3.11	3.11	9.57	7.51	133.17
80.0	80.0	3.60	102.10	102.10	25.53	25.53	30.23	30.23	3.09	3.09	10.67	8.37	119.42
80.0	80.0	4.00	111.04	111.04	27.76	27.76	33.07	33.07	3.07	3.07	11.75	9.22	108.44
80.0	80.0	4.30	117.44	117.44	29.36	29.36	35.13	35.13	3.06	3.06	12.54	9.85	101.56
80.0	80.0	4.50	121.57	121.57	30.39	30.39	36.48	36.48	3.05	3.05	13.07	10.26	97.48
80.0	80.0	4.80	127.57	127.57	31.89	31.89	38.45	38.45	3.04	3.04	13.84	10.87	92.02
80.0	80.0	5.00	131.43	131.43	32.86	32.86	39.73	39.73	3.03	3.03	14.36	11.27	88.74

Depth (mm)	Width (mm)	Thickness (mm)	Moment of Inertia (cm ⁴)		Elastic Modulus (cm ³)		Plastic Modulus (cm ³)		Radius of Gyration (cm)		Area (cm ²)	Weight (kg/m)	Mtrs/M.T
			X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis			
91.5	91.5	2.50	114.28	114.28	24.98	24.98	28.98	28.98	3.62	3.62	8.74	6.86	145.77
91.5	91.5	2.60	118.32	118.32	25.86	25.86	30.04	30.04	3.61	3.61	9.07	7.12	140.43
91.5	91.5	2.90	130.18	130.18	28.45	28.45	33.18	33.18	3.60	3.60	10.06	7.90	126.62
91.5	91.5	3.00	134.05	134.05	29.30	29.30	34.21	34.21	3.59	3.59	10.39	8.15	122.63
91.5	91.5	3.20	141.68	141.68	30.97	30.97	36.25	36.25	3.58	3.58	11.04	8.66	115.41
91.5	91.5	3.60	156.48	156.48	34.20	34.20	40.24	40.24	3.56	3.56	12.32	9.67	103.37
91.5	91.5	4.00	170.67	170.67	37.31	37.31	44.11	44.11	3.54	3.54	13.59	10.67	93.76
91.5	91.5	4.30	180.92	180.92	39.54	39.54	46.94	46.94	3.53	3.53	14.52	11.40	87.72
91.5	91.5	4.50	187.56	187.56	41.00	41.00	48.79	48.79	3.52	3.52	15.14	11.88	84.15
91.5	91.5	4.80	197.25	197.25	43.12	43.12	51.51	51.51	3.51	3.51	16.05	12.60	79.36
91.5	91.5	5.00	203.53	203.53	44.49	44.49	53.29	53.29	3.50	3.50	16.66	13.07	76.49
113.5	113.5	3.00	262.72	262.72	46.29	46.29	53.66	53.66	4.49	4.49	13.03	10.23	97.78
113.5	113.5	3.20	278.19	278.19	49.02	49.02	56.93	56.93	4.48	4.48	13.85	10.88	91.95
113.5	113.5	3.60	308.41	308.41	54.34	54.34	63.37	63.37	4.46	4.46	15.49	12.16	82.23
113.5	113.5	4.00	337.65	337.65	59.50	59.50	69.66	69.66	4.44	4.44	17.11	13.43	74.46
113.5	113.5	4.30	358.95	358.95	63.25	63.25	74.29	74.29	4.43	4.43	18.31	14.37	69.59
113.5	113.5	4.50	372.86	372.86	65.70	65.70	77.32	77.32	4.42	4.42	19.10	14.99	66.70
113.5	113.5	4.80	393.28	393.28	69.30	69.30	81.81	81.81	4.40	4.40	20.28	15.92	62.83
113.5	113.5	5.00	406.60	406.60	71.65	71.65	84.76	84.76	4.39	4.39	21.06	16.53	60.50
132.0	132.0	3.60	494.19	494.19	74.88	74.88	86.87	86.87	5.22	5.22	18.16	14.25	70.17
132.0	132.0	4.00	542.22	542.22	82.16	82.16	95.64	95.64	5.20	5.20	20.07	15.75	63.48
132.0	132.0	4.30	577.39	577.39	87.48	87.48	102.11	102.11	5.18	5.18	21.49	16.87	59.29
132.0	132.0	4.50	600.42	600.42	90.97	90.97	106.37	106.37	5.17	5.17	22.43	17.61	56.80
132.0	132.0	4.80	634.36	634.36	96.11	96.11	112.68	112.68	5.16	5.16	23.83	18.70	53.46
132.0	132.0	5.00	656.58	656.58	99.48	99.48	116.83	116.83	5.15	5.15	24.76	19.43	51.46
150.0	150.0	3.60	735.06	735.06	98.01	98.01	113.28	113.28	5.95	5.95	20.75	16.29	61.40
150.0	150.0	4.00	807.78	807.78	107.70	107.70	124.86	124.86	5.93	5.93	22.95	18.01	55.51
150.0	150.0	4.30	861.19	861.19	114.83	114.83	133.42	133.42	5.92	5.92	24.58	19.30	51.82
150.0	150.0	4.50	896.26	896.26	119.50	119.50	139.07	139.07	5.91	5.91	25.67	20.15	49.63
150.0	150.0	4.80	948.06	948.06	126.41	126.41	147.45	147.45	5.89	5.89	27.28	21.42	46.69
150.0	150.0	5.00	982.07	982.07	130.94	130.94	152.97	152.97	5.89	5.89	28.36	22.26	44.93
180.0	180.0	3.60	1291.25	1291.25	143.47	143.47	165.07	165.07	7.18	7.18	25.07	19.68	50.82
180.0	180.0	4.00	1421.69	1421.69	157.97	157.97	182.20	182.20	7.16	7.16	27.75	21.78	45.91
180.0	180.0	4.30	1517.87	1517.87	168.65	168.65	194.90	194.90	7.14	7.14	29.74	23.35	42.83
180.0	180.0	4.50	1581.20	1581.20	175.69	175.69	203.29	203.29	7.13	7.13	31.07	24.39	41.00
180.0	180.0	4.80	1675.02	1675.02	186.11	186.11	215.76	215.76	7.12	7.12	33.04	25.94	38.55
180.0	180.0	5.00	1736.79	1736.79	192.98	192.98	224.01	224.01	7.11	7.11	34.36	26.97	37.08
220.0	220.0	3.60	2392.83	2392.83	217.53	217.53	249.24	249.24	8.81	8.81	30.83	24.20	41.32
220.0	220.0	4.00	2639.06	2639.06	239.91	239.91	275.46	275.46	8.79	8.79	34.15	26.81	37.31
220.0	220.0	4.30	2821.21	2821.21	256.47	256.47	294.93	294.93	8.78	8.78	36.62	28.75	34.78
220.0	220.0	4.50	2941.45	2941.45	267.40	267.40	307.82	307.82	8.77	8.77	38.27	30.04	33.29
220.0	220.0	4.80	3120.03	3120.03	283.64	283.64	327.01	327.01	8.75	8.75	40.72	31.97	31.28
220.0	220.0	5.00	3237.90	3237.90	294.35	294.35	339.72	339.72	8.74	8.74	42.36	33.25	30.08

Tolerances:

Tolerance on Thickness : ± 10%

Tolerance on Outside Dimension : ± 1% of length of the side to be measured with a minimum of ± 0.5 mm

Tolerance on Mass : - 8%, + 10% (On individual length)

Tolerance on Mass : ± 7.5% (on 10 Tons load)