

HOLLOW STRUCTURAL SECTIONS



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Chemical Composition

Mechanical Properties

	STK 400 Max	STK 490 Max		STK 400 Min	STK 490 Min
Carbon	0.25	0.18	Tensile	400 MPa	490 MPa
Silicon	-	0.55	Yield	235 MPa	315 MPa
Manganese	-	1.65	Elongation	12-23%	12-23%
Phosphorus	0.04	0.035			
Sulphur	0.04	0.035			

JIS G3444: CARBON STEEL TUBES FOR GENERAL STRUCTURE - ROUND TUBES

Nominal Size (mm)		Outside diameter (mm)			Thickness	Weight	Area	Moment of Inertia	Section Modulus	Radius of Gyration
inch	mm	mean	min	max	mm	kg/m	cm ²	cm ⁴	cm ³	cm
1/2"	15	21.7	21.2	22.2	2.0	0.972	1.24	0.607	0.56	0.70
3/4"	20	27.2	26.7	27.7	2.0	1.24	1.58	1.26	0.93	0.89
					2.3	1.41	1.80	1.41	1.03	0.88
1"	25	34	33.5	34.5	2.3	1.80	2.29	2.89	1.70	1.12
					2.5	2.29	2.92	5.97	2.80	1.43
1-1/4"	32	42.7	42.2	43.2	2.3	2.49	3.16	6.40	3.00	1.42
					2.5	2.76	3.51	7.02	3.29	1.41
					2.8	2.63	3.35	8.99	3.70	1.64
1-1/2"	40	48.6	48.1	49.1	2.3	2.84	3.62	9.65	3.97	1.63
					2.5	3.16	4.03	10.60	4.36	1.62
					2.8	3.58	4.56	11.80	4.86	1.61
					3.2	3.30	4.21	17.80	5.90	2.06
2"	50	60.5	59.9	61.11	3.2	4.52	5.76	23.70	7.84	2.03
					4.0	5.57	7.10	28.50	9.41	2.00
					2.8	5.08	6.47	43.70	11.50	2.60
2-1/2"	65	76.3	75.54	77.06	3.2	5.77	7.35	49.20	12.90	2.59
					4.0	7.13	9.09	59.50	15.60	2.56
					2.8	5.96	7.59	70.70	15.90	3.05
3"	80	89.1	88.21	89.99	3.2	6.78	8.64	79.80	17.90	3.04
					4.0	8.39	10.69	97.00	21.80	3.01
					3.2	7.76	9.89	120	23.60	3.48
3-1/2"	90	101.6	100.58	102.62	4.0	9.63	12.26	146	28.80	3.45
					5.0	11.90	15.17	177	34.90	3.42
					3.2	8.77	11.17	172	30.20	3.93
4"	100	114.3	113.16	115.44	3.6	9.83	12.52	192	33.60	3.92
					4.5	12.20	15.52	234	41.00	3.89
					5.6	15.00	19.12	283	49.60	3.85
					3.6	12.10	15.40	357	51.10	4.82
5"	125	139.8	138.4	141.2	4.0	13.40	17.07	394	56.30	4.80
					4.5	15.00	19.13	438	62.70	4.79
					6.0	19.80	25.22	566	80.90	4.74
					4.5	17.80	22.72	734	88.90	5.68
6"	150	165.2	163.55	166.85	5.0	19.80	25.16	808	97.80	5.67
					6.0	23.60	30.01	952	115	5.63
					7.1	27.70	35.26	1100	134	5.60
					4.5	17.80	22.72	734	88.90	5.68

TOLERANCE

CLASS 1	OD < 50 mm: ± 0.5 mm
	OD ≥ 50 mm: ± 1%
CLASS 2	OD < 50 mm: ± 0.25 mm
	OD ≥ 50 mm: ± 0.5%

CLASS 1	t < 4.0 mm: - 0.5 mm, +0.6 mm
	4.0 mm ≤ t < 12 mm: -12.5% , +15%
	t > 12.0 mm: - 1.5 mm, +15%

CLASS 2	t < 3.0 mm: ± 0.3 mm
	3.0 mm ≤ t < 12 mm: ±10%
	t ≥ 12.0 mm: - 1.2 mm, +10%