



Carbon Steel Tubes for General Structure

ท่อเหล็กกลม สำหรับงานโครงสร้าง

JIS G3444

Grade	% Chemical Composition (Max)					Mechanical Properties (Min)		
	C	Si	Mn	P	S	Yield Strength	Tensile Strength	Elongation
						MPa	MPa	%
STK400	0.25	-	-	0.040	0.040	235	400	23
STK490	0.18	0.55	1.65	0.035	0.035	315	490	23

Nominal Size	Outside Diameter	Thick-ness (t)	Weight	Cross Sectional Area	Geometrical Moment of Inertia	Modulus of Section	Radius of Gyration	Nominal Size	Outside Diameter	Thick-ness (t)	Weight (plain end)	Cross Sectional Area	Geometrical Moment of Inertia	Modulus of Section	Radius of Gyration
mm	mm	mm	kg/m	cm ²	cm ⁴	cm ³	cm	mm	mm	mm	kg/m	cm ²	cm ⁴	cm ³	cm
15	21.7	2.00	0.972	1.238	0.607	0.560	0.700	175	190.7	4.50	20.7	26.32	1140	120	6.59
20	27.2	2.00	1.24	1.583	1.26	0.930	0.890			5.30	24.2	30.87	1330	139	6.56
		2.30	1.41	1.799	1.41	1.03	0.880			6.00	27.3	34.82	1490	156	6.53
25	34.0	2.30	1.80	2.291	2.89	1.70	1.12			7.00	31.7	40.40	1710	179	6.50
32	42.7	2.30	2.29	2.919	5.97	2.80	1.43	8.20	36.9	47.01	1960	206	6.46		
		2.50	2.48	3.157	6.40	3.00	1.42	200	216.3	4.50	23.5	29.94	1680	155	7.49
40	48.6	2.30	2.63	3.345	8.99	3.70	1.64			5.80	30.1	38.36	2130	197	7.45
		2.50	2.84	3.621	9.65	3.97	1.63			6.00	31.1	39.64	2190	203	7.44
2.80	3.16	4.029	10.6	4.36	1.62	7.00	36.1			46.03	2520	233	7.40		
3.20	3.58	4.564	11.8	4.86	1.61	8.00	41.1	52.35	2840	263	7.37				
50	60.5	2.30	3.30	4.205	17.8	5.90	2.06	8.20	42.1	53.61	2910	269	7.36		
		3.20	4.52	5.760	23.7	7.84	2.03	250	267.4	6.00	38.7	49.27	4210	315	9.24
65	76.3	2.80	5.08	6.465	43.7	11.5	2.60			6.60	42.4	54.08	4600	344	9.22
		3.20	5.77	7.349	49.2	12.9	2.59			7.00	45.0	57.26	4860	363	9.21
4.00	7.13	9.085	59.5	15.6	2.58	8.00	51.2			65.19	5490	411	9.18		
80	89.1	2.80	5.96	7.591	70.7	15.9	3.05	9.00	57.3	73.06	6110	457	9.14		
		3.20	6.78	8.636	79.8	17.9	3.04	9.30	59.2	75.41	6290	470	9.13		
90	101.6	3.20	7.76	9.892	120	23.6	3.48	300	318.5	6.00	46.2	58.91	7190	452	11.1
		4.00	9.63	12.26	146	28.8	3.45			6.90	53.0	67.55	8200	515	11.0
5.00	11.9	15.17	177	34.9	3.42	8.00	61.3			78.04	9410	591	11.0		
100	114.3	3.20	8.77	11.17	172	30.2	3.93			9.00	68.7	87.51	10500	659	10.9
		3.50	9.56	12.18	187	32.7	3.92	10.30	78.3	99.73	11900	744	10.9		
		4.50	12.2	15.52	234	41.0	3.89	350	355.6	6.40	55.1	70.21	10700	602	12.3
125	139.8	3.60	12.1	15.40	357	51.1	4.82			7.90	67.7	86.29	13000	734	12.3
		4.00	13.4	17.07	394	56.3	4.80			9.00	76.9	98.00	14700	828	12.3
4.50	15.0	19.13	438	62.7	4.79	9.50	81.1			103.3	15500	871	12.2		
6.00	19.8	25.22	566	80.9	4.74	12.00	102	129.5	19100	1080	12.2				
150	165.2	4.50	17.8	22.72	734	88.9	5.68	12.70	107	136.8	20100	1130	12.1		
		5.00	19.8	25.16	808	97.8	5.67	400	406.4	7.90	77.6	98.90	19600	967	14.1
		6.00	23.6	30.01	952	115	5.63			9.00	88.2	112.4	22200	1090	14.1
		7.10	27.7	35.26	1100	134	5.60			9.50	93.0	118.5	23300	1150	14.0
12.00	117	148.7	28900	1420	14.0	12.00	117			148.7	28900	1420	14.0		
12.70	123	157.1	30500	1500	13.9	12.70	123	157.1	30500	1500	13.9				

Dimension Tolerances	Outside Diameter		Thickness	
	Class 1	: OD < 50 mm : OD ≥ 50 mm	: ±0.5 mm : ±1%	Class 1
Class 2	: OD < 50 mm : OD ≥ 50 mm	: ±0.25 mm : ± 0.5%	Class 2	t < 3.0 mm : ±0.3 mm 3.0 mm ≤ t < 12.0 mm : ±10% t ≥ 12.0 mm : -1.2 mm , +10%