

Product Specification

Material of Grade	Chemical Composition (%)					Mechanical Properties			
	C Max	Si Max	Mn Max	P Max	S Max	Yield Strength N/mm ²	Tensile Strength N/mm ²		Elongation %
							t < 3mm	3 mm ≤ t ≤ 40mm	
S235JRH	0.170	-	1.400	0.045	0.045	235	360-510	360-510	24
S275J0H	0.200	-	1.500	0.040	0.040	275	430-580	410-560	20
S275J2H	0.200	-	1.500	0.035	0.035	275	430-580	410-560	20
S355J0H	0.220	0.550	1.600	0.040	0.040	355	510-680	470-630	20
S355J2H	0.220	0.550	1.600	0.035	0.035	355	510-680	470-630	20

Nominal Size	Thickness	Weight	Cross Sectional Area	Geometrical Moment of Inertia	Modulus of Section	Radius of Gyration	
				I _x I _y	Z _x Z _y	i _x i _y	
mm	mm	kg/m	cm ²	cm ⁴	cm ³	cm	
20 x 20	2.00	1.05	1.34	0.692	0.692	0.720	
	25 x 25	2.00	1.36	1.74	1.48	1.19	0.924
		2.50	1.64	2.09	1.69	1.35	0.899
30 x 30	3.00	1.89	2.41	1.84	1.47	0.874	
	30 x 30	2.00	1.68	2.14	2.72	1.81	1.13
		2.50	2.03	2.59	3.16	2.10	1.10
3.00		2.36	3.01	3.50	2.34	1.08	
40 x 40	2.00	2.31	2.94	6.94	3.47	1.54	
	2.50	2.82	3.59	8.22	4.11	1.51	
	3.00	3.30	4.21	9.32	4.66	1.49	
	4.00	4.20	5.35	11.1	5.54	1.44	
50 x 50	2.00	2.93	3.74	14.1	5.66	1.95	
	2.50	3.60	4.59	16.9	6.78	1.92	
	3.00	4.25	5.41	19.5	7.79	1.90	
	4.00	5.45	6.95	23.7	9.49	1.85	
	5.00	6.56	8.36	27.0	10.8	1.80	
60 x 60	2.00	3.56	4.54	25.1	8.38	2.35	
	2.50	4.39	5.59	30.3	10.1	2.33	
	3.00	5.19	6.61	35.1	11.7	2.31	
	4.00	6.71	8.55	43.6	14.5	2.26	
	5.00	8.13	10.4	50.5	16.8	2.21	
	6.00	9.45	12.0	56.1	18.7	2.16	
	6.30	9.55	12.2	54.4	18.1	2.11	
70 x 70	2.50	5.17	6.59	49.4	14.1	2.74	
	3.00	6.13	7.81	57.5	16.4	2.71	
	4.00	7.97	10.1	72.1	20.6	2.67	
	5.00	9.70	12.4	84.6	24.2	2.62	
	6.00	11.30	14.4	95.2	27.2	2.57	
	6.30	11.50	14.7	93.8	26.8	2.53	

Product Specification

Nominal Size	Thickness	Weight	Cross Sectional Area	Geometrical Moment of Inertia	Modulus of Section	Radius of Gyration
				I_{xly}	Z_{xZy}	i_{xly}
mm	mm	kg/m	cm ²	cm ⁴	cm ³	cm
80 x 80	3.00	7.07	9.01	87.8	22.0	3.12
	4.00	9.22	11.7	111	27.8	3.07
	5.00	11.30	14.4	131	32.9	3.03
	6.00	13.20	16.8	149	37.3	2.98
	6.30	13.50	17.2	149	37.1	2.94
	8.00	16.40	20.8	168	42.1	2.84
90 x 90	3.00	8.01	10.2	127	28.3	3.53
	4.00	10.50	13.3	162	36.0	3.48
	5.00	12.80	16.4	193	42.9	3.43
	6.00	15.10	19.2	220	49.0	3.39
	6.30	15.50	19.7	221	49.1	3.35
	8.00	18.90	24.0	255	56.6	3.25
100 x 100	3.00	8.96	11.4	177	35.4	3.94
	4.00	11.70	14.9	226	45.3	3.89
	5.00	14.40	18.4	271	54.2	3.84
	6.00	17.00	21.6	311	65.3	3.79
	6.30	17.50	22.2	314	62.8	3.76
	8.00	21.40	27.2	366	73.2	3.67
	10.00	25.60	32.6	411	82.2	3.55
	12.00	28.30	36.1	408	81.6	3.36
	12.50	29.10	37.0	410	82.1	3.33
120 x 120	3.00	10.80	13.8	312	52.1	4.76
	4.00	14.20	18.1	402	67.0	4.71
	5.00	17.50	22.4	485	80.9	4.66
	6.00	20.70	26.4	562	93.7	4.61
	6.30	21.40	27.3	572	95.3	4.58
	8.00	26.40	33.6	677	113	4.49
	10.00	31.80	40.6	777	129	4.38
	12.00	35.80	45.7	806	134	4.20
	12.50	36.90	47.0	817	136	4.17

Dimension Tolerances

Outside Diameter ; ≤ 50 mm. : ± 0.5 mm.

> 50 mm. : ± 1%

≥ 100 mm. : ± 0.8%

Thickness ; ≤ 5.0 mm. : ± 10%

> 5.0 mm. : ± 0.5 mm.

Weight ; ± 6%



Product Specification

Material of Grade	Chemical Composition (%)					Mechanical Properties			
	C Max	Si Max	Mn Max	P Max	S Max	Yield Strength N/mm ²	Tensile Strength N/mm ²		Elongation %
							t < 3mm	3 mm ≤ t ≤ 40mm	
S235JRH	0.170	-	1.400	0.045	0.045	235	360-510	360-510	24
S275J0H	0.200	-	1.500	0.040	0.040	275	430-580	410-560	20
S275J2H	0.200	-	1.500	0.035	0.035	275	430-580	410-560	20
S355J0H	0.220	0.550	1.600	0.040	0.040	355	510-680	470-630	20
S355J2H	0.220	0.550	1.600	0.035	0.035	355	510-680	470-630	20

Nominal Size mm	Thickness mm	Weight kg/m	Cross Sectional Area cm ²	Geometrical Moment of Inertia cm ⁴		Modulus of Section cm ³		Radius of Gyration cm	
				I _x	I _y	Z _x	Z _y	i _x	i _y
40 x 20	2.00	1.68	2.14	4.05	1.34	2.02	1.34	1.38	0.793
	2.50	2.03	2.59	4.69	1.54	2.35	1.54	1.35	0.770
	3.00	2.36	3.01	5.21	1.68	2.60	1.68	1.32	0.748
50 x 30	2.00	2.31	2.94	9.54	4.29	3.81	2.86	1.80	1.21
	2.50	2.82	3.59	11.3	5.05	4.52	3.37	1.77	1.19
	3.00	3.30	4.21	12.8	5.70	5.13	3.80	1.75	1.16
	4.00	4.20	5.35	15.3	6.69	6.10	4.46	1.69	1.12
60 x 40	2.00	2.93	3.74	18.4	9.83	6.14	4.92	2.22	1.62
	2.50	3.60	4.59	22.1	11.7	7.36	5.87	2.19	1.60
	3.00	4.25	5.41	25.4	13.4	8.46	6.72	2.17	1.58
	4.00	5.45	6.95	31.0	16.3	10.3	8.14	2.11	1.53
	5.00	6.56	8.36	35.3	18.4	11.8	9.21	2.06	1.48
70 x 50	2.00	3.56	4.54	31.5	18.8	8.99	7.50	2.63	2.03
	2.50	4.39	5.59	38.0	22.6	10.9	9.04	2.61	2.01
	3.00	5.19	6.61	44.1	26.1	12.6	10.4	2.58	1.99
	4.00	6.71	8.55	54.7	32.2	15.6	12.9	2.53	1.94
	5.00	8.13	10.4	63.5	37.2	18.1	14.9	2.48	1.90
80 x 40	2.00	3.56	4.54	37.4	12.7	9.34	6.36	2.87	1.67
	2.50	4.39	5.59	45.1	15.3	11.3	7.63	2.84	1.65
	3.00	5.19	6.61	52.3	17.6	13.1	8.78	2.81	1.63
	4.00	6.71	8.55	64.8	21.5	16.2	10.7	2.75	1.59
	5.00	8.13	10.4	75.1	24.6	18.8	12.3	2.69	1.54
80 x 60	2.00	4.19	5.34	49.5	31.9	12.4	10.6	3.05	2.44
	2.50	5.17	6.59	60.1	38.6	15.0	12.9	3.02	2.42
	3.00	6.13	7.81	70.0	44.9	17.5	15.0	3.00	2.40
	4.00	7.97	10.1	87.9	56.1	22.0	18.7	2.94	2.35
	5.00	9.70	12.4	103	65.7	25.8	21.9	2.89	2.31
90 x 50	2.00	4.19	5.34	57.9	23.4	12.9	9.35	3.29	2.09
	2.50	5.17	6.59	70.3	28.2	15.6	11.3	3.27	2.07
	3.00	6.13	7.81	81.9	32.7	18.2	13.1	3.24	2.05
	4.00	7.97	10.1	103	40.7	22.8	16.3	3.18	2.00
	5.00	9.70	12.4	121	47.4	26.8	18.9	3.12	1.96

Product Specification

Nominal Size	Thickness	Weight	Cross Sectional Area	Geometrical Moment of Inertia		Modulus of Section		Radius of Gyration	
				I_x	I_y	Z_x	Z_y	i_x	i_y
mm	mm	kg/m	cm ²	cm ⁴	cm ⁴	cm ³	cm ³	cm	cm
100 x 40	2.50	5.17	6.59	79.3	18.8	15.9	9.39	3.47	1.69
	3.00	6.13	7.81	92.3	21.7	18.5	10.8	3.44	1.67
	4.00	7.97	10.1	116	26.7	23.1	13.3	3.38	1.62
	5.00	9.70	12.4	136	30.8	27.1	15.4	3.31	1.58
100 x 50	2.50	5.56	7.09	91.2	31.1	18.2	12.4	3.59	2.09
	3.00	6.60	8.41	106	36.1	21.3	14.4	3.56	2.07
	4.00	8.59	10.9	134	44.9	26.8	18.0	3.50	2.03
	5.00	10.50	13.4	158	52.5	31.6	21.0	3.44	1.98
	6.00	12.30	15.6	179	58.7	35.8	23.5	3.38	1.94
	6.30	12.50	15.9	176	58.2	35.1	23.3	3.32	1.91
100 x 60	2.50	5.96	7.59	103	46.9	20.6	15.6	3.69	2.49
	3.00	7.07	9.01	121	54.6	24.1	18.2	3.66	2.46
	4.00	9.22	11.7	153	68.7	30.5	22.9	3.60	2.42
	5.00	11.30	14.4	181	80.8	36.2	26.9	3.55	2.37
	6.00	13.20	16.8	205	91.2	41.1	30.4	3.49	2.33
	6.30	13.50	17.2	203	90.9	40.7	30.3	3.44	2.30
100 x 80	2.50	6.74	8.59	127	90.2	25.4	22.5	3.84	3.24
	3.00	8.01	10.2	149	106	29.8	26.4	3.82	3.22
	4.00	10.50	13.3	189	134	37.9	33.5	3.77	3.17
	5.00	12.80	16.4	226	160	45.2	39.9	3.72	3.12
	6.00	15.10	19.2	258	182	51.7	45.5	3.67	3.08
	6.30	15.50	19.7	259	183	51.8	45.7	3.62	3.04
120 x 60	2.50	6.74	8.59	161	55.2	26.9	18.4	4.33	2.53
	3.00	8.01	10.2	189	64.4	31.5	21.5	4.30	2.51
	4.00	10.50	13.3	241	81.2	40.1	27.1	4.25	2.47
	5.00	12.80	16.4	287	96.0	47.8	32.0	4.19	2.42
	6.00	15.10	19.2	328	109	54.7	36.3	4.13	2.38
	6.30	15.50	19.7	327	109	54.5	36.4	4.07	2.35
	8.00	18.90	24.0	375	124	62.6	41.3	3.95	2.27
	120 x 80	3.00	8.96	11.4	230	123	38.4	30.9	4.49
	4.00	11.70	14.9	295	157	49.1	39.3	4.44	3.24
	5.00	14.40	18.4	353	188	58.9	46.9	4.39	3.20
	6.00	17.00	21.6	406	215	67.7	53.8	4.33	3.15
	6.30	17.50	22.2	408	217	68.1	54.3	4.28	3.12
	8.00	21.40	27.2	476	252	79.3	62.9	4.18	3.04
140 x 80	4.00	13.00	16.5	430	180	61.4	45.1	5.10	3.30
	5.00	16.00	20.4	517	216	73.9	54.0	5.04	3.26
	6.00	18.90	24.0	597	248	85.3	62.0	4.98	3.21
	6.30	19.40	24.8	603	251	86.1	62.9	4.93	3.19
	8.00	23.90	30.4	708	293	101	73.3	4.82	3.10

Dimension Tolerances

Outside Diameter	;	≤ 50 mm. : ± 0.5 mm.
		> 50 mm. : ± 1%
		≥ 100 mm. : ± 0.8%
Thickness	;	≤ 5.0 mm. : ± 10%
		> 5.0 mm. : ± 0.5 mm.
Weight	;	± 6%



Product Specification

Material of Grade	Chemical Composition (%)					Mechanical Properties			
	C Max	Si Max	Mn Max	P Max	S Max	Yield Strength N/mm ²	Tensile Strength N/mm ²		Elongation %
							t < 3mm	3 mm ≤ t ≤ 40mm	
S235JRH	0.170	-	1.400	0.045	0.045	235	360-510	360-510	24
S275J0H	0.200	-	1.500	0.040	0.040	275	430-580	410-560	20
S275J2H	0.200	-	1.500	0.035	0.035	275	430-580	410-560	20
S355J0H	0.220	0.550	1.600	0.040	0.040	355	510-680	470-630	20
S355J2H	0.220	0.550	1.600	0.035	0.035	355	510-680	470-630	20

Nominal Size	Outside Diameter	Thickness	Weight	Cross Sectional Area	Geometrical Moment of Inertia	Modulus of Section	Radius of Gyration
In	mm	mm	kg/m	cm ²	cm ⁴	cm ³	cm
1/2"	21.3	2.00	0.95	1.21	0.571	0.536	0.686
		2.50	1.16	1.48	0.664	0.623	0.671
		3.00	1.35	1.72	0.741	0.696	0.656
3/4"	26.9	2.00	1.23	1.56	1.22	0.907	0.883
		2.50	1.50	1.92	1.44	1.07	0.867
		3.00	1.77	2.25	1.63	1.21	0.852
1"	33.7	2.00	1.56	1.99	2.51	1.49	1.12
		2.50	1.92	2.45	3.00	1.78	1.11
		3.00	2.27	2.89	3.44	2.04	1.09
1-1/4"	42.4	2.00	1.99	2.54	5.19	2.45	1.43
		2.50	2.46	3.13	6.26	2.95	1.41
		3.00	2.91	3.71	7.25	3.42	1.40
		4.00	3.79	4.83	8.99	4.24	1.36
1-1/2"	48.3	2.00	2.28	2.91	7.81	3.23	1.64
		2.50	2.82	3.60	9.46	3.92	1.62
		3.00	3.35	4.27	11.0	4.55	1.61
		4.00	4.37	5.57	13.8	5.70	1.57
		5.00	5.34	6.80	16.2	6.69	1.54
2"	60.3	2.00	2.88	3.66	15.6	5.17	2.06
		2.50	3.56	4.54	19.0	6.30	2.05
		3.00	4.24	5.40	22.2	7.37	2.03
		4.00	5.55	7.07	28.2	9.34	2.00
		5.00	6.82	8.69	33.5	11.1	1.96
2-1/2"	76.1	2.00	3.65	4.66	32.0	8.40	2.62
		2.50	4.54	5.78	39.2	10.3	2.60
		3.00	5.41	6.89	46.1	12.1	2.59
		4.00	7.11	9.06	59.1	15.5	2.55
		5.00	8.77	11.2	70.9	18.6	2.52
		6.00	10.40	13.2	81.8	21.5	2.49
		6.30	10.80	13.8	84.8	22.3	2.48

Product Specification

Nominal Size	Outside Diameter	Thickness	Weight	Cross Sectional Area	Geometrical Moment of Inertia	Modulus of Section	Radius of Gyration
In	mm	mm	kg/m	cm ²	cm ⁴	cm ³	cm
3"	88.9	2.00	4.29	5.46	51.6	11.6	3.07
		2.50	5.33	6.79	63.4	14.3	3.06
		3.00	6.36	8.10	74.8	16.8	3.04
		4.00	8.38	10.7	96.3	21.7	3.00
		5.00	10.30	13.2	116	26.2	2.97
		6.00	12.30	15.6	135	30.4	2.94
		6.30	12.80	16.3	140	31.5	2.93
3-1/2"	101.6	2.00	4.91	6.26	77.6	15.3	3.52
		2.50	6.11	7.78	95.6	18.8	3.50
		3.00	7.29	9.29	113	22.3	3.49
		4.00	9.63	12.3	146	28.8	3.45
		5.00	11.90	15.2	177	34.9	3.42
		6.00	14.10	18.0	207	40.7	3.39
		6.30	14.80	18.9	215	42.3	3.38
4"	114.3	2.50	6.89	8.78	137	24.0	3.95
		3.00	8.23	10.5	163	28.4	3.94
		4.00	10.90	13.9	211	36.9	3.90
		5.00	13.50	17.2	257	45.0	3.87
		6.00	16.00	20.4	300	52.5	3.83
		6.30	16.80	21.4	313	54.7	3.82
		8.00	21.00	26.7	379	66.4	3.77
5"	139.7	3.00	10.10	12.9	301	43.1	4.83
		4.00	13.40	17.1	393	56.2	4.80
		5.00	16.60	21.2	481	68.8	4.77
		6.00	19.80	25.2	564	80.8	4.73
		6.30	20.70	26.4	589	84.3	4.72
		8.00	26.00	33.1	720	103	4.66
		10.00	32.00	40.7	862	123	4.60
6"	168.3	3.00	12.20	15.6	532	63.3	5.85
		4.00	16.20	20.6	697	82.8	5.81
		5.00	20.10	25.7	856	102	5.78
		6.00	24.00	30.6	1009	120	5.74
		6.30	25.20	32.1	1053	125	5.73
		8.00	31.60	40.3	1297	154	5.67
		10.00	39.00	49.7	1564	186	5.61

Dimension Tolerances

Outside Diameter	; ≤ 50 mm. : ± 0.5 mm.
	> 50 mm. : ± 1%
Thickness	; ≤ 5.0 mm. : ± 10%
	> 5.0 mm. : ± 0.5 mm.
Weight	; ± 6%

