Technical Specification References

Classification	Specification	Designation of Grade	Mechanical Properties					Chemical Composition %									Impact Properties	
			Tensile Strength N/mm²		Yield Strength Min.	Elongation Min.		C	Si	Mn	P	S	Mo	Al	CEV	Cu	Test Temperature	Min average absorbed energy for standard test piece
			t< 3mm	3mm ≤ t ≤ 40mm	N/mm²	CHS	RHS or SHS	Max	Max	Max	Max	Max	Max	Max	Max		°C	J
Cold formed welded structural hollow sections of non-alloy and fine grain steels	BS EN 10219	S235JRH	360-510	360-510	235	24		0.17	-	1.40	0.045	0.045	-	-	0.35	-	-20	27
		S275J0H	430-580	410-560	275	20		0.20	-	1.50	0.040	0.040	-	-	0.40	-	0	27
		S275J2H	430-580	410-560	275	20		0.20	-	1.50	0.035	0.035	-	-	0.40	-	-20	27
		S355J0H	510-680	470-630	355	20		0.22	0.55	1.60	0.040	0.040	-	-	0.45	-	0	27
		S355J2H	510-680	470-630	355	20		0.22	0.55	1.60	0.035	0.035	-	-	0.45	-	-20	27
Structural Steel Hollow Sections for Australian Standard	AS 1163	C 250	320		250	22	18	0.12	0.05	0.50	0.040	0.030	0.10	0.10	0.25	-	-	-
		C 250 L0	320		250	22	18	0.12	0.05	0.50	0.040	0.030	0.10	0.10	0.25	-	0	27
		C 350	430		350	20	16	0.20	0.25	1.60	0.040	0.030	0.10	0.10	0.39	-	-	-
		C 350 L0	430		350	20	16	0.20	0.25	1.60	0.040	0.030	0.10	0.10	0.39	-	0	27
		C 450	500		450	16	14	0.20	0.45	1.60	0.040	0.030	0.35	0.10	0.39	-	-	-
		C 450 L0	500		450	16	14	0.20	0.45	1.60	0.040	0.030	0.35	0.10	0.39	-	0	27
Carbon Steel Square Pipes for General Structural Purposes	JIS G 3466	STKR 400	400		245	-	23 (N1)	0.25	-	-	0.04	0.04	-	-	-	-	-	-
		STKR 490	490		325	-	23 (N1)	0.18	0.55	1.50	0.04	0.04	-	-	-	-	-	-
Carbon Steel Tubes For General	JIS G 3444	STK 290	290		-	30 (N1) 20 (N2)	-	-	-	-	0.050	0.050	-	-	-	-	-	-
		STK 400	400		235	23 (N2) 18 (N2)	-	0.250	-	-	0.040	0.040	-	-	-	-	-	-
		STK 500	500		355	15 (N1) 10 (N2)	-	0.300 to 1.00	0.300	0.350	0.040	0.040	-	-	-	-	-	-
		STK 540	540		390	20 (N1) 16 (N2)	-	0.230	1.500	0.550	0.040	0.040	-	-	-	-	-	-
Cold-Formed Welded Carbon Steel Structural SHS & RHS	ASTM A-500	Grade A	310		270	As specified in ASTM A500 Specification		0.30	-	1.40	0.045	0.045	-	-	-	0.18 min	-	-
		Grade B	400		315			0.30	-	1.40	0.045	0.045	-	-	-	0.18 min	-	-
		Grade C	425		345			0.27	-	1.35	0.045	0.045	-	-	-	0.18 min	-	-
		Grade D	400		250			0.30	-	1.40	0.045	0.045	-	-	-	0.18 min	-	-
Cold-Formed Welded Carbon Steel Structural CHS		Grade A	310		230			0.30	-	1.40	0.045	0.045	-	-	-	0.18 min	-	-
		Grade B	400		290			0.30	-	1.40	0.045	0.045	-	-	-	0.18 min	-	-
		Grade C	425		315			0.27	-	1.35	0.045	0.045	-	-	-	0.18 min	-	-
		Grade D	400		250			0.30	-	1.40	0.045	0.045	-	-	-	0.18 min	-	-
Lipped Channels & Plain Channels	JIS G 3350	SSC 400	400-540		245	21 (N2)		0.25	-	-	0.05	0.05	-	-	-		-	-
High Tensile C Purlin	Equivalent to ASTM A446 Gr. B				450	345		12	0.40	-	-	0.20	0.04	-	-		-	-

NOTES :

a) The impact properties of steel qualities JR and J0 are verified by laboratory testing only when specified at at the time of the inquiry and order.

b) The steel qualities J0 and J2 can be produced upon request with extra cost.

c) (N1) Test piece No. 11 and 12

d) (N2) Test piece No. 5

- When the tensile test is carried out on No. 5 and 12 test piece for the tube under 8mm in wall thickness, the minimum elongation value shall be determined by reducing 1.5% per 1mm of decrease in wall thickness from the values given in the Table above and rounding off the value obtained to integer in accordance with JIS Z 8401.

e) t - thickness
CHS - Circular Hollow Sections
RHS - Rectangular Hollow Sections
SHS - Square Hollow Sections