

Welded Steel Pipes

MS 863
BS 1387 - 1985

CLASS	Nominal		Outside Diameter		Wall	Calculated Weight						Number	Socket		Test Pressure	
	Size		Maximum	Minimum	Thickness	Plain Ends			Threads and Coupling			Of Threads per inch	Outer	Min.		
	mm	in	mm	mm		kg/m	kg/ft	lb/ft	kg/m	kg/ft	lb/ft		Diameter	Length	Bar	Psi
LIGHT (A)	15	1/2	21.4	21.0	2.0	0.947	0.291	0.642	0.956	0.956	0.291	14	27.8	38.1	50	725
	20	3/4	26.9	26.4	2.3	1.38	0.421	0.928	1.39	0.424	0.935	14	34.1	41.3	50	725
	25	1	33.8	33.2	2.6	1.98	0.604	1.33	2.00	0.61	1.34	11	42.1	47.6	50	725
	32	1 1/4	42.5	41.9	2.6	2.54	0.774	1.71	2.57	0.78	1.73	11	51.6	54.0	50	725
	40	1 1/2	48.4	47.8	2.9	3.23	0.985	2.17	3.27	1.00	2.20	11	57.9	57.2	50	725
	50	2	60.2	59.6	2.9	4.08	1.24	2.73	4.15	1.26	2.78	11	70.6	63.5	50	725
	65	2 1/2	76.0	75.2	3.2	5.71	1.74	3.83	5.83	1.78	3.92	11	87.3	69.9	50	725
	80	3	88.7	87.9	3.2	6.72	2.05	4.52	6.89	2.10	4.63	11	101.6	76.2	50	725
	100	4	113.9	113.0	3.6	9.75	2.97	6.55	10.00	3.05	6.72	11	128.6	88.9	50	725
MEDIUM (B)	15	1/2	21.7	21.1	2.6	1.21	0.369	0.814	1.22	0.372	0.82	14	27.8	38.1	50	725
	20	3/4	27.2	26.6	2.6	1.56	0.475	1.05	1.57	0.479	1.06	14	34.1	41.3	50	725
	25	1	34.2	33.4	3.2	2.41	0.735	1.62	2.43	0.741	1.63	11	42.1	47.6	50	725
	32	1 1/4	42.9	42.1	3.2	3.1	0.945	2.08	3.13	0.954	2.10	11	51.6	54	50	725
	40	1 1/2	48.8	48	3.2	3.57	1.09	2.40	3.61	1.10	2.43	11	57.9	57.2	50	725
	50	2	60.8	59.8	3.6	5.03	1.53	3.37	5.10	1.55	3.42	11	70.6	63.5	50	725
	65	2 1/2	76.6	75.4	3.6	6.43	1.96	4.32	6.55	2.00	4.41	11	87.3	69.9	50	725
	80	3	89.5	88.1	4.0	8.37	2.55	5.62	8.54	2.60	5.73	11	101.6	76.2	50	725
	100	4	114.9	113.3	4.5	12.2	3.72	8.2	12.5	3.81	8.40	11	128.6	88.9	50	725
	125	5	140.6	138.7	5.0	16.6	5.06	11.2	17.1	5.21	11.5	11	155.6	95.3	50	725
	150	6	166.1	164.1	5.0	19.7	6.00	13.2	20.3	6.19	13.6	11	184.2	95.3	50	725
HEAVY (C)	15	1/2	21.7	21.1	3.2	1.44	0.439	0.968	1.45	0.442	0.974	14	27.8	38.1	50	725
	20	3/4	27.2	26.6	3.2	1.87	0.57	1.257	1.88	0.573	1.263	14	34.1	41.3	50	725
	25	1	34.2	33.4	4.0	2.94	0.896	1.98	2.96	0.902	1.99	11	42.1	47.6	50	725
	32	1 1/4	42.9	42.1	4.0	3.80	1.16	2.56	3.83	1.17	2.58	11	51.6	54	50	725
	40	1 1/2	48.8	48.0	4.0	4.38	1.34	2.95	4.42	1.35	2.98	11	57.9	57.2	50	725
	50	2	60.8	59.8	4.5	6.19	1.89	4.17	6.26	1.91	4.21	11	70.6	63.5	50	725
	65	2 1/2	76.6	75.4	4.5	7.93	2.42	5.34	8.05	2.45	5.40	11	87.3	69.9	50	725
	80	3	89.5	88.1	5.0	10.3	3.14	6.92	10.5	3.20	7.05	11	101.6	76.2	50	725
	100	4	114.9	113.3	5.4	14.5	4.42	9.71	14.8	4.51	9.94	11	128.6	88.9	50	725
	125	5	140.6	138.7	5.4	17.9	5.46	12.0	18.4	5.61	12.4	11	155.6	95.3	50	725
	150	6	166.1	164.1	5.4	21.3	6.49	14.3	21.9	6.68	14.7	11	184.2	95.3	50	725

Tolerance: Wall thickness: Light (A) - 8%
Medium (B) and heavy (C) - 10%

Length: Plus 50mm or minus zero (Manufacturer Standard)

Mass: The mean consignment mass for quantities of 150mm and cover of one size shall not deviate by more than $\pm 4\%$ from the mass of consignment calculated from the mass given in the above Table as appropriate. No single tube shall deviate by more than +10%, -8% from the mass given in the above Table as appropriate.

Technical Specification References

Classification	Specification	Designation of Grade	Mechanical Properties			Chemical Composition %					Bend Test (N2)		Flattening Test H
			Tensile Strength Min.	Yield Strength Min.	Elongation Min.	C	Si	Mn	P	S	Bending Angle	Bending Radius	
			N/mm ²	N/mm ²	%	Max	Max	Max	Max	Max			
Welded Steel Tubes - Light, Medium & Heavy	BS 1387 : 1985	-	320 to 460	195	20 (N3)	0.20	-	1.20	0.045	0.045	180°	6D	3/5 D
Carbon Steel Pipes For Ordinary Piping	JIS G 3452	SGP	290min.	-	(N1) Test Piece No. 11 & 12 - 30min. (N1) Test Piece No. 5 - 25min.	-	-	-	0.040	0.040	90°	6D	2/3 D
ASTM Standard Welded Steel Pipes	ASTM A53	Grade A	330min.	205min.	As specified in A-53 specification	0.25	-	0.95	0.050	0.060	90°	12D	1/3 D
		Grade B	415min.	240min.		0.30	-	1.20	0.050	0.060			
ERW Steel Tubes for Cement Lined Pipes	BS 3601	ERW 320	320 - 460	195 min.	25 (N3)	0.16	-	0.30 - 0.70	0.040	0.040	-	-	As specified in BS 3601 Specification
		ERW 430	430 - 570	275 min.	22 (N3)	0.21	0.35	0.40 - 1.20	0.040	0.040			
Alpine Manufacturer Standard Welded Steel Pipes	APM S 002	(A) (AA)	270min.	170min.	20 (N3)	0.20	-	1.20	0.045	0.045	90°	6D	1/3 D

NOTES : (N1) - When the tensile test is carried out on No. 12 or No. 15 test piece for the pipe under 8mm in wall thickness the minimum value of elongation shall be obtained by subtracting 1.5% from the thickness values of elongation given in Table above for each 1mm decrease in wall thickness, and rounding off to an integer in accordance with JIS Z 8401

(N1) - The values of elongation given in Table above shall not applied to the pipe whose nominal size is 32mm or smaller

(N2) - Bend test in table above only applied to pipes of nominal size 2" (50mm) or smaller.

(N3) Gauge length $L_0 = 5.65\sqrt{S_0}$ (%)

H - Distance between the plates

D - Outside diameter of the pipe

APM S 002 - Manufacturer Standard