



ERW BLACK / GALVANISED STEEL TUBE BS 1387 / 1985



GENERAL

BS 1387 : 1985 welded steel tubes are produced by the high frequency electric-resistance-welding (ERW) tube mills. It can be classified according to the various thickness: EXTRA LIGHT, LIGHT, MEDIUM, HEAVY and available in black finish or hot-dipped galvanised in 6 metre length.

TENSILE STRENGTH

Tensile strength of between 33 kgf/mm² (21 tonf/inch²) and 47kgf/mm² (30 tonf/inch²) and an elongation on a gauge length of 5.65V so of not less that 20%.

PERMISSIBLE VARIATION IN WALL THICKNESS

The following manufacturing tolerance for wall thickness shall be permitted on the tubes:
Extra Light & Light welded tubes : - 8% + not limited
Medium and Heavy welded tubes : -10% + not limited

HYDRAULIC TEST PRESSURE

Every tubes shall be tested to a hydraulic test pressure of 700 lbf/inch² (50kgf/cm²).

HOT DIPPED GALVANISING

Every tube shall be galvanised according to BS 729 : 1971 and shall pass the four-dip copper sulphate test for testing the zinc coating on galvanised tubes and tubulars as prescribed in Appendix A of BS 1387: 1985.

BENDING TEST ON FINISHED TUBES

Bending test is carried out on tubes up to and including 2 inch. (50mm) nominal bore, with the weld at 90° to the plane of bending. Ungalvanised tubes shall be capable of being bend cold, without cracking, through 180° round a former having a radius at the bottom of the groove equal to six times the outside diameter of the tube whereas galvanised tubes shall be capable of being bent cold without cracking of the steel, through 90° round a former having a radius at the bottom of the groove equal to eight times the outside diameter of the tubes as given in table for class Extra Light, Light, Medium and Heavy.

FLATTENING TEST ON FINISHED TUBES

Flattening test is carried out on tubes above 2 inch.(50mm) nominal bore using rings not less than 1.1/2" (38mm) in length cut from the ends of selected tubes, shall be flattened between paralld plates with the weld if any at 90° (point of maximum bending). No opening shall occur by fracture in a weld until the distance between the plates is less than 75% of the original outside diameter of the tube and no cracks or breaks in the metal elsewhere than in a weld shall occur until the distance between the plates is less than 60% of the original outside diameter.

PIPE THREAD

Every pipe shall be threaded according to BS 21, 'Pipe Threads' and the threads of all tubes shall be effectively covered with a good quality of grease and each tube shall have a protecting ring (plastic stopper) affixed to the unsocketed screwed end and the other end shall be fitted with one taper-threaded malleable iron socket.

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Class Extra Light “A1”

Nominal Size		Outside Diameter				Wall Thickness		Calculated Weight	
		Maximum		Minimum				Plain Ends	Thread & Coupling
mm	inch	mm	inch	mm	inch	mm	inch	Kg/m	Kg/m
15	1/2	21.40	0.841	21.00	0.825	1.80	0.071	0.870	0.880
20	3/4	26.90	1.059	26.40	1.041	2.00	0.079	1.240	1.250
25	1	33.80	1.328	33.20	1.309	2.00	0.079	1.560	1.580
32	1.1/4	42.50	1.670	41.90	1.650	2.30	0.091	2.270	2.290
40	1.1/2	48.40	1.903	47.80	1.882	2.30	0.091	2.620	2.640
50	2	60.20	2.370	59.60	2.347	2.30	0.091	3.310	3.340
65	2.1/2	76.00	2.991	75.20	2.960	2.50	0.098	4.570	4.590
80	3	88.70	3.491	87.90	3.460	2.50	0.098	5.400	5.440
100	4	113.90	4.481	113.00	4.450	3.00	0.118	8.300	8.350
150	6	166.10	6.540	164.10	6.460	3.00	0.118	12.000	12.100

Note : Thickness / Length tolerance : ± 8%

Class Light “A”

Nominal	Size	Outside Diameter				Wall Thickness		Calculated Weight	
		Maximum		Minimum				Plain Ends	Thread & Coupling
mm	inch	mm	inch	mm	inch	mm	inch	Kg/m	Kg/m
15	1/2	21.40	0.841	21.00	0.825	2.00	0.079	0.947	0.956
20	3/4	26.90	1.059	26.40	1.041	2.30	0.091	1.380	1.390
25	1	33.80	1.328	33.20	1.309	2.60	0.102	1.980	2.000
32	1.1/4	42.50	1.670	41.90	1.650	2.60	0.102	2.540	2.570
40	1.1/2	48.40	1.903	47.80	1.882	2.90	0.114	3.230	3.270
50	2	60.20	2.370	59.60	2.347	2.90	0.114	4.080	4.150
65	2.1/2	76.00	2.991	75.20	2.960	3.20	0.126	5.710	5.830
80	3	88.70	3.491	87.90	3.460	3.20	0.126	6.720	6.890
100	4	113.90	4.481	113.00	4.450	3.60	0.142	9.750	10.000

Note : Thickness / Length tolerance : ± 8%

Class Medium “B”

Nominal Size		Outside Diameter				Wall Thickness		Calculated Weight	
		Maximum		Minimum				Plain Ends	Thread & Coupling
mm	inch	mm	inch	mm	inch	mm	inch	Kg/m	Kg/m
15	1/2	21.70	0.856	21.10	0.831	2.60	0.102	1.210	1.220
20	3/4	27.20	1.072	26.60	1.047	2.60	0.102	1.560	1.570
25	1	34.20	1.346	33.40	1.316	3.20	0.126	2.410	2.430
32	1.1/4	42.90	1.687	41.10	1.657	3.20	0.126	3.100	3.130
40	1.1/2	48.80	1.919	48.00	1.889	3.20	0.126	3.570	3.610
50	2	60.80	2.394	59.80	2.354	3.60	0.142	5.030	5.100
65	2.1/2	76.60	3.014	75.40	2.969	3.60	0.142	6.430	6.550
80	3	89.50	3.524	88.10	3.469	4.00	0.157	8.370	8.540
100	4	114.90	4.524	113.30	4.459	4.50	0.177	12.200	12.500
125	5	140.60	5.534	138.70	5.459	5.00	0.197	16.600	17.100
150	6	166.10	6.539	164.10	6.459	5.00	0.197	19.700	20.300
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200	8	218.00	8.583	214.60	8.449	5.80	0.230	30.100	-

Note : Thickness / Length tolerance : ± 10%

Class Heavy “C”

Nominal Size		Outside Diameter				Wall Thickness		Calculated Weight	
		Maximum		Minimum				Plain Ends	Thread & Coupling
mm	inch	mm	inch	mm	inch	mm	inch	Kg/m	Kg/m
15	1/2	21.70	0.854	21.10	0.831	3.20	0.126	1.440	1.450
20	3/4	27.20	1.072	26.60	1.047	3.20	0.126	1.870	1.880
25	1	34.20	1.346	33.40	1.316	4.00	0.157	2.940	2.960
32	1.1/4	42.90	1.687	41.10	1.657	4.00	0.157	3.800	3.830
40	1.1/2	48.80	1.919	48.00	1.889	4.00	0.157	4.380	4.420
50	2	60.80	2.394	59.80	2.354	4.50	0.177	6.190	6.260
65	2.1/2	76.60	3.014	75.40	2.969	4.50	0.177	7.930	8.050
80	3	89.50	3.524	88.10	3.469	5.00	0.197	10.300	10.500
100	4	114.90	4.524	113.30	4.459	5.40	0.213	14.500	14.800
125	5	140.60	5.535	138.70	5.459	5.40	0.213	17.900	18.400
150	6	166.10	6.539	164.10	6.459	5.40	0.213	21.300	21.900

Note : Thickness / Length tolerance : ± 10%



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