

TUBE	SIZE		OD SPECIFIED)		WALL THICKNESS (MM)	WEIGHT OF TUBE ( Kg/ Mtr)		PRESSURE BAR
	INCH	NB	MIN	MAX		BLACK	S/S	
T Y P E - L	1/2"	15	21.0	21.7	2.3	1.08	1.09	50
	3/4"	20	26.4	27.1	2.3	1.40	1.41	50
	1"	25	33.2	34.0	2.9	2.20	2.22	50
	1 1/4"	32	41.9	42.7	2.9	2.82	2.85	50
	1 1/2"	40	47.8	48.6	3.9	3.25	3.29	50
	2"	50	59.6	60.7	3.2	4.51	4.58	50
	2 1/2"	65	75.2	76.0	3.2	5.75	5.87	50
	3"	80	87.9	88.7	3.2	6.76	6.93	50
	3 1/2"	90	100.3	101.2	3.6	8.70	8.88	50
	4"	100	113.0	113.9	3.6	9.83	10.1	50
	5"	125	138.5	140.8	4.5	15.00	15.5	50
6"	150	163.9	166.5	4.5	17.80	18.4	50	
T Y P E - L1	1/2"	15	21.0	21.7	2.3	1.08	1.09	50
	3/4"	20	26.4	27.1	2.3	1.39	1.40	50
	1"	25	33.2	34.0	2.9	2.20	2.22	50
	1 1/4"	32	41.9	42.7	2.9	2.82	2.85	50
	1 1/2"	40	47.8	48.6	2.9	3.24	3.28	50
	2"	50	59.6	60.7	3.2	4.49	4.56	50
	2 1/2"	65	75.2	76.3	3.2	5.73	5.85	50
	3"	80	87.9	89.4	3.6	7.55	7.72	50
	4"	100	113.0	114.9	4.0	10.80	11.1	50
T Y P E - L2	1/2"	15	21.0	21.4	2.0	0.947	0.956	50
	3/4"	20	26.4	26.9	2.3	1.38	1.39	50
	1"	25	33.2	33.8	2.6	1.98	2.00	50
	1 1/4"	32	41.9	42.5	2.6	2.54	2.57	50
	1 1/2"	40	47.8	48.4	2.9	3.23	3.27	50
	2"	50	59.6	60.2	2.9	4.08	4.15	50
	2 1/2"	65	75.2	76.0	3.2	5.71	5.83	50
	3"	80	87.9	88.7	3.2	6.72	6.89	50
	4"	100	113.0	113.9	3.6	9.75	10.00	50
M E D I U M	1/2"	15	21.1	21.8	2.6	1.21	1.22	50
	3/4"	20	26.5	27.3	2.6	1.56	1.57	50
	1"	25	33.3	34.2	3.2	2.41	2.43	50
	1 1/4"	32	42.0	42.9	3.2	3.1	3.13	50
	1 1/2"	40	47.9	48.8	3.2	3.56	3.6	50
	2"	50	59.7	60.8	3.6	5.03	5.1	50
	2 1/2"	65	75.3	76.6	3.6	6.42	6.54	50
	3"	80	88.0	89.5	4.0	8.36	8.53	50
	4"	100	113.1	115.0	4.5	12.2	12.5	50
	5"	125	138.5	140.8	5.0	16.6	17.1	50
	6"	150	163.9	166.5	5.0	19.8	20.4	50
H E A V Y	1/2"	15	21.1	21.8	3.2	1.44	1.45	50
	3/4"	20	26.5	27.3	3.2	1.87	1.88	50
	1"	25	33.3	34.2	4.0	2.93	2.95	50
	1 1/4"	32	42.0	42.9	4.0	3.79	3.82	50
	1 1/2"	40	47.9	48.8	4.0	4.37	4.41	50
	2"	50	59.7	60.8	4.5	6.19	6.26	50
	2 1/2"	65	75.3	76.6	4.5	7.93	8.05	50
	3"	80	88.0	89.5	5.0	10.3	10.5	50
	4"	100	113.1	115.0	5.4	14.5	14.8	50
	5"	125	138.5	140.8	5.4	17.9	18.4	50
	6"	150	163.9	166.5	5.4	21.3	21.9	50

**TOLERANCES**

- 1.OUTSIDE DIAMETER.** : As per the above Table
- 2. STRAIGHTNESS** : Straightness shall not exceed 0.002 L.
- 3. MASS** : ± 7.5 % on bundles of 10 tons or more, for M and H series and Type L  
: +10% -8% on individual tubes for Types L1 and L2.
- 4.THICKNESS** : ± 10 % for M and H series & Type L  
: -8% with the plus tolerance limited by the mass tolerance, for Types L1 and L2.
- 5.ENDS** : Cut cleanly and nominally square with the axis of the tube and free from excessive burrs.
- 6.CHEMICAL COMPOSITION** : % Max: C - 0.20%, Mn - 1.40%, S - 0.03% & P - 0.035%
- 7.MECHANICAL PROPERTIES** : UTS - 320 to 520 N/mm<sup>2</sup>, YS - 195 N/mm<sup>2</sup> (minimum) & %EL- 20 (minimum).
- 8.FLATTENING TEST** : The flattening test shall be applied to bare tubes with specified outside diameter greater than 60.3mm. Welded tubes shall be flattened with the weld placed alternately at 0° or 90° to the direction of the Flattening force.  
: For Weld Test - Flatten up to 75% of original tube OD. No cracks in the weld.  
: For Material other than Weld-Flatten up to 60% of original tube OD. No cracks in the metal other than in the weld.
- 9.BEND TEST** : Bend test up to 60.3mm OD. Radius at the bottom of the groove of the former shall be as per below table.  
The tubes shall show no cracks visible without magnifying aids.

Diameter (D)	21.3	26.9	33.7	42.4	48.3	60.3
Bending Radius	65	85	100	150	170	220

- 10) LEAK TIGHTNESS TEST** a): On line NDT(Eddy Current)  
b): Hydro testing at pressure as per above table and holding time min. 5 Second.
- 11.ZINC COATING** : As per EN 10240A1
- 12.THREADING** : For 1/2" to 3/4" - 14 TPI and from 1" to 6" - 11 TPI  
Check with standard ring and plug gauges.
- 13.MARKING** : We can do on line stenciling as per this standard & as per customer needs at one meter interval
- 14. PACKING** : Hexagonal Type
- 15.COLOR CODING** : For Type L --- Green  
For Type L1 --- White  
For Type L2---- Brown  
For Medium---- Blue  
For Heavy---- Red
- 16. MILL TEST CERTIFICATE:-** We can issue a MTC, Certifying that the tubes supplied comply with this standard.