UTP PIPE

ASTM A53 GR-A & GR-B

SCHEDULE - 80 FOR BLACK AND HOT DIP GALVANIZED STEEL PIPES

SIZE		OUTSIDE DIAMETER		WALL THICKNESS		Weight of Tube (Plain End)		PRESSURE GR-A	PRESSURE GR-B	Weight of tube (SS)		Pieces Per Bundle
INCH	NB (mm)	INCH	MM	INCH	MM	lb./Ft	Kg./Mtr.	PSI	PSI	lb./Ft	Kg./Mtr.	
1/2"	15	0.840	21.3	0.147	3.73	1.09	1.62	850	850	1.09	1.62	120
3/4"	20	1.050	26.7	0.154	3.91	1.48	2.20	850	850	1.48	2.21	84
1"	25	1.315	33.4	0.179	4.55	2.17	3.24	850	850	2.19	3.25	60
1 1/4"	32	1.660	42.2	0.191	4.85	3.00	4.47	1800	1900	3.03	4.49	42
1 1/2"	40	1.900	48.3	0.200	5.08	3.63	5.41	1800	1900	3.65	5.39	36
2"	50	2.375	60.3	0.218	5.54	5.03	7.48	2500	2500	5.08	7.55	26
2 1/2"	65	2.875	73.0	0.276	7.01	7.67	11.41	2500	2500	7.75	11.52	18
3"	80	3.500	88.9	0.300	7.62	10.26	15.27	2500	2500	10.35	15.39	14
4"	100	4.500	114.3	0.337	8.56	15.00	22.32	2700	2800	15.20	22.60	10
5"	125	5.563	141.3	0.375	9.52	20.80	30.94	2430	2800	21.04	31.42	7
6"	150	6.625	168.3	0.432	10.97	28.60	42.56	2350	2740	28.88	43.05	7
8"	200	8.625	219.1	0.500	12.70	43.43	64.64	2100	2430	44.00	65.41	4

1)TOLERANCES

a) On Thickness:- The minimum wall thickness at any point shall be not more than 12.5% under the specified wall thickness.

b) On Diameter For NPS 11/2" or smaller at any point shall not vary more than ± 0.4 mm. For NPS 2" or larger shall not vary more than ± 1% from the specified outside diameter.

c) On Weight The weight of the pipe shall not more than ±10 % of the specified weight.

2) ENDS

a) 1 1/2" or smaller size -End finish shall be at the option of manufacturer which is nominally square cut with the axis of tube and free from excessive burrs.

b) 2" or larger size - Beveled with ends beveled to an angle of 30, + 5 / -0 degree measured from a line perpendicular to the axis of the pipe with a root face of 1.6 mm ± 0.8 mm

3) INTERNAL DEBEADING : 2" or larger - Internal beads to be removed completely.

4) HEAT TREATMENTS : Weld seam of the ERW Pipe in Grade B shall be heat treated after welding to a mimimum temperature of 540^{O} C so that no untempered martensite remains.

5) CHEMICAL COMPOSITION (% MAX)

GR.A C-0.25%,Mn-0.95%,S-0.045%,P-0.050%,Cu-0.40%,Ni-0.40%,Cr-0.40%,Mo-0.15%& V-0.08% (Cu+Ni+Cr+Mo+V=1.0% max.)

GR.B C-0.30%,Mn-1.20%,S-0.045%,P-0.050%,Cu-0.40%,Ni-0.40%,Cr-0.40%,Mo-0.15%& V-0.08% (Cu+Ni+Cr+Mo+V=1.0% max.)

6) MECHANICAL PROPERTIES (Minimum)

GR.A Yield Strength-205 N/mm^2,Tensile Strength-330 N/mm^2,Elongation-24-36%Min.

GR.B Yield Strength-240 N/mm^2,Tensile Strength-415 N/mm^2,Elongation-19-30% Min.

7) BEND TEST : Applicable to tubes upto and including nominal size of 50 mm

(2" or smaller) a) : When ordered for close coiling bend up to 180 degrees around a cylindrical mandrel,The diameter of which is 8 times the OD of pipe.

b) : Bend up to 90 degree around a cylindrical mandrel, the diameter is 12 times the OD of pipe.

: No Crack at any portion and no open in the weld.

8) FLATTENING TEST : Applicable to tubes greater than nominal sizes of 50 mm &weld located 0/90 degree from line of direction of force.

(2" or larger) Stage-1 : For weld ductility until 2/3 of outside dia of specimen tube.

Stage-2 : For ductility of steel until 1/3 of outside dia of specimen tube.

Stage-3 : Full flattening for testing of laminated and unsound material.

9) LEAK TIGHTNESS TEST

a) : On line NDT(Eddy Current)

b) : Hydro testing at pressure as per above Table and holding time Min. 5 second.

10) BLACK VARNISH : Tubes are uniformly varnished externally over their full length.

11) ZINC COATING : Average 550 Gm/m^2 but one side should not be less than 490 Gm/m^2.

: Free from bare Spot,Black spot,rough,overcoating, Peel off or anyother surface defect.

12) THREADING : For 1/2" & 3/4" -14 TPI, 1" to 2" - 11.5 TPI and 2 1/2" to 6" - 8TPI. Check with standard ASTM 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) MILL TEST CERTIFICATE : We can issue a MTC,certifying that the tubes supplied comply with this ASTM A 53 Standard