

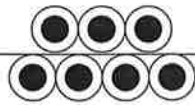
# TECHNICAL DATA OF BLACK AND HOT DIP GALVANIZED STEEL PIPES CONFORMING TO ASTM A 53 GRADE A & B SCH-40

NOMINAL PIPE SIZE INCH	OUTSIDE DIAMETER STANDARD MM	WALL THICKNESS STANDARD		WEIGHT OF BLACK PIPES			TEST PRESSURE				SOCKET DIMENSIONS				NO. OF PCS PER LIFT		
		INCH	MM	KG/MTR	MTR/TON	LB/FT	FT/TON	GRADE A PSI	GRADE A KPA	GRADE B PSI	GRADE B KPA	MIN OUTSIDE DIA INCH	MIN OUTSIDE DIA MM	MIN LENGTH INCH		MIN LENGTH MM	
1/2	0.840	21.3	0.109	2.77	1.27	787	0.85	2583	700	4800	700	4800	1.063	27.0	1.500	38.1	120
3/4	1.050	26.7	0.113	2.87	1.69	592	1.13	1941	700	4800	700	4800	1.313	33.4	1.563	39.7	84
1	1.315	33.4	0.133	3.38	2.50	400	1.68	1312	700	4800	700	4800	1.576	40.0	1.938	49.2	60
1,1/4	1.660	42.2	0.140	3.56	3.39	295	2.27	968	1200	8300	1300	9000	1.900	48.3	2.000	50.8	42
1,1/2	1.900	48.3	0.145	3.68	4.05	247	2.72	810	1200	8300	1300	9000	2.200	55.9	2.000	50.8	36
2	2.375	60.3	0.154	3.91	5.44	184	3.66	603	2300	15900	2500	17200	2.750	69.8	2.063	52.4	26
2,1/2	2.875	73.0	0.203	5.16	8.63	116	5.80	380	2500	17200	2500	17200	3.250	82.5	3.063	77.8	18
3	3.500	88.9	0.216	5.49	11.29	89	7.58	291	2220	15300	2500	17200	4.000	101.6	3.188	81.0	14
3,1/2	4.000	101.6	0.226	5.74	13.57	74	9.12	242	2030	14000	2370	16300	4.625	117.5	3.313	84.1	12
4	4.500	114.3	0.237	6.02	16.07	62	10.80	204	1900	13100	2210	15200	5.000	127.0	3.438	87.3	10
5	5.563	141.3	0.258	6.55	21.77	46	14.63	151	1670	11500	1950	13400	6.296	159.9	3.688	93.7	7
6	6.625	168.3	0.280	7.11	28.26	35	18.99	116	1520	10500	1780	12300	7.390	187.7	4.938	125.4	7
8	8.625	219.1	0.322	8.18	42.55	24	28.58	79	1340	9200	1570	10800	--	--	--	--	3

## CHEMICAL COMPOSITION (% MAX)

ELEMENT	Carbon C	Manganese Mn	Phosphorus P	Sulphur S	Copper Cu	Nickel Ni	Chromium Cr	Molybdenum Mo	Vanadium V
GRADE-A	0.25	0.95	0.05	0.045	0.40	0.40	0.40	0.15	0.08
GRADE-B	0.30	1.20	0.05	0.045	0.40	0.40	0.40	0.15	0.08

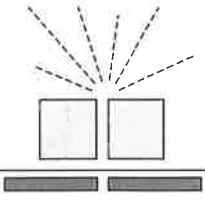
**HEAT TREATMENT** - Weld seam of the ERW pipe in Grade-B shall be heat treated after welding to a minimum temperature of 1000°F[540°C] so that no untempered martensite remains.



Strip Levelling



Square end cutting



Butt welding

## MECHANICAL PROPERTIES

Properties →	Tensile Strength		Yield Strength	
	psi	MPa	psi	MPa
Grade-A	48000	330	30000	205
Grade-B	60000	415	35000	240

Min Percentage Elongation in 2" [50mm] rounded to nearest 1/2

$$e = 625,000[1940] \times (A^{0.2}/U^{0.9})$$

A= cross sectional area of the tension specimen, rounded to the nearest 0.01 inch<sup>2</sup>[1mm<sup>2</sup>],

based on specified outside diameter. If the area is more than 0.75 inch<sup>2</sup> [500mm<sup>2</sup>], then

the value 0.75 inch<sup>2</sup> [500mm<sup>2</sup>] shall be used.

U= specified minimum tensile strength, psi[MPa].

## TOLERANCES

### OUTSIDE DIAMETER

SIZE FROM	SIZE TO	TOLERANCE INCH(MM)	
INCH (MM)	INCH (MM)	POSITIVE	NEGATIVE
1/2 (15)	1.1/2(40)	1/64 (0.40)	1/64 (0.40)
2 (50)	8 (200)	1% OF OD	1% OF OD

**THICKNESS** 12.5% max under the nominal wall thickness.

**WEIGHT** + / - 10% on calculated standard weight.

**END FINISH** Square Cut Ends for sizes less than or equal to 1.1/2" NPS  
Beveled Ends at 30° -0°/+5° for sizes 2" NPS and above.

**BEND TEST** Applicable for sizes 2" NPS and below  
90° bending radius should be 12 times of the tube diameter.

**FLATTENING TEST** Applicable for sizes 2" NPS and above in three stages.

**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.

### ZINC COATING

**MINIMUM** : 1.60 oz / ft<sup>2</sup> [490 Gm / Mtr<sup>2</sup>]

**AVERAGE** : 1.80 oz / ft<sup>2</sup> [550 Gm / Mtr<sup>2</sup>]

### MARKING

Each pipe is stenciled as "JAZEERA STEEL OMAN, ASTM A 53 GR A / B-ERW SCH 40 NPS-LENGTH-HEAT NO"