Standard Steel Pipe

ASTM A53 TYPE E GRADE B PIPE

Submittal Data Sheet

Scope

Covers black and hot-dipped galvanized electric-resistance welded Grade B pipe. Pipe is intended for mechanical and pressure applications and is acceptable for ordinary uses in steam, water, gas and air lines. Wheatland ASTM A53 is UL Listed and FM Approved, sizes 1" through 6" nominal, for use in Fire Sprinkler Pipe Applications. Pipe is suitable for welding, threading and grooving. Produced to the latest revision of ASTM A53/53M, Federal Specification WW-P404 and ASME B36.10M.

Manufacture

The weld seam shall be heat treated after welding to a minimum of 1400°F or be otherwise processed in such a manner that no untempered martensite remains.

Hot-dipped galvanized

The average weight of zinc coating shall be not less than 1.8 oz. per sq. ft. of surface (inside and outside). When galvanized pipe is bent or otherwise fabricated to a degree which causes zinc coating to stretch or compress beyond the limit of elasticity, some flaking of the coating may occur.

Hydrostatic and Nondestructive Electric testing

Hydrostatic inspection test pressures for plain-end pipe are listed in Table X 2.2 of the A53/A53M specification. Test pressures shall be maintained for a minimum of five seconds. Nondestructive electric testing of the weld seam is required on each length of ERW pipe NPS 2 and larger.

Chemical Requirements

Composition, max. %

Carbon	Manganese	Phosphorus	Sulfur	
.30	1.20	.05	.045	
Copper	**Nickel**	**Chromium**	**Molybdenum**	**Vanadium**
.40	.40	.40	.15	.08

*The combination of these five elements shall not exceed 1.00%.

Tensile Requirements

TENSILE STRENGTH, MIN.	YIELD STRENGTH, MIN.	ELONGATION IN 2"
60,000 psi	35,000 psi	Refer to A53 table x 4.1

Bending Test (Cold)

NPS	DEGREE OF BEND	DIAMETER OF MANDREL
2 and under	90°	12x pipe OD

Flattening Test

As a test for ductility of the weld for pipe 2½" NPS and larger, position the weld at 0° and alternately at 90° to the direction of force and flatten until the OD is ⅔ of the original outside diameter. No cracks shall occur along the inside or outside surface of the weld.

Frequency of Tests

Tensile tests are required on one length of pipe from each lot of 500 lengths or fraction thereof for each size. Refer to A53 specification for frequency of flattening tests.

End Finish

Plain End: NPS 2 and larger, STD and XS weights: ends beveled to angle of 30°, +5°, -0° with a root face of 1/16" ± 1/32"

Threaded: To ANSI Standard B 1.20.1
Couplings: To ASTM Standard A 865

Weights and Dimensions Charts

STANDARD (SCH. 40) BLACK PLAIN END

NOMINAL SIZE	O.D. INCHES	NOMINAL WALL	WEIGHT/ LB. FT.
2"	2.375	.154	3.66
2½"	2.875	.203	5.80
3"	3.500	.216	7.58
4"	4.500	.237	10.88
5"	5.563	.258	14.63
6"	6.625	.280	18.99
8"	8.625	.322	28.58

EXTRA STRONG (SCH. 80) BLACK PLAIN END

NOMINAL SIZE	O.D. INCHES	NOMINAL WALL	WEIGHT/ LB. FT.
2"	2.375	.218	5.03
2½"	2.875	.276	7.67
3"	3.500	.300	10.26
4"	4.500	.337	15.00

All information contained herein is accurate as known at the time of publication. Wheatland reserves the right to change product specifications without notice and without incurring obligations.

Permissible Variations in Wall Thickness

Minimum wall thickness at any point shall not be more than 12.5% under nominal wall thickness specified.

Permissible Variations in Outside Diameter

Pipe NPS 2 and larger shall not vary more than + 1% from the standard specified.

Permissible Variations in Weight per Foot

Pipe shall not vary more than + 10% from the standard specified.

Product Marking

Each length of pipe is continuously stenciled to show the manufacturer, the grade of pipe (ASTM A53), the kind of pipe E for Electric Resistance Welded, B for Grade B, the size, XS for extra strong, and length. Stencil markings indicate UL Listing and FM Approval for sizes 1" through 6" nominal for use in Fire Sprinkler Pipe Applications. Bar coding is acceptable as a supplementary identification method.

Nominal pipe size mm/ inch	OD mm	20	30	STD	40	60	XS	80	100	120	140	160	XXS	Shipping vol/CBM
15 / 1/2	21.3			2.77 1.27	2.77 1.27		3.73 1.62	3.73 1.62				4.78 1.95	7.47 2.55	0.0004
20 / 3/4	26.7			2.87 1.69	2.87 1.69		3.91 2.20	3.91 2.20				5.56 2.90	7.82 3.64	0.0007
25 / 1	33.4			3.38 2.50	3.38 2.50		4.55 3.24	4.55 3.24				6.35 4.24	9.09 5.45	0.0011
32 / 1 1/4	42.2			3.56 3.39	3.56 3.39		4.85 4.47	4.85 4.47				6.35 5.61	9.70 7.77	0.0017
40 / 1 1/2	48.3			3.68 4.05	3.68 4.05		5.08 5.41	5.08 5.41				7.14 7.25	10.15 9.56	0.023
50 / 2	60.3			3.91 5.44	3.91 5.44		5.54 7.48	5.54 7.48				8.74 11.11	11.07 13.44	0.036
65 / 2 1/2	73.0			5.16 8.63	5.16 8.63		7.01 11.41	7.01 11.41				9.53 14.92	14.02 20.39	0.0053
80 / 3	88.9			5.49 11.29	5.49 11.29		7.62 15.27	7.62 15.27				11.13 21.35	15.24 27.68	0.0079
90 / 3 1/2	101.6			5.74 13.57	5.74 13.57		8.08 18.63	8.08 18.63				- -	- -	0.0103
100 / 4	114.3			6.02 16.07	6.02 16.07		8.56 22.32	8.56 22.32		11.13 28.32		13.49 33.54	17.12 41.03	0.0130
125 / 5	141.3			6.55 21.77	6.55 21.77		9.53 30.97	9.53 30.97		12.70 40.28		15.88 49.11	19.05 57.43	0.0199
150 / 6	168.3			7.11 28.26	7.11 28.26		10.97 42.56	10.97 42.56		14.27 54.20		18.26 67.56	21.95 79.22	0.028
200 / 8	219.1	6.35 33.31	7.04 36.81	8.18 42.55	8.18 42.55	10.31 53.08	12.70 64.64	12.70 64.64	15.09 75.92	18.26 90.44	20.62 100.92	23.01 111.27	22.23 107.92	0.048
250 / 10	273.1	6.35 41.77	7.80 51.03	9.27 60.31	9.27 60.31	12.70 81.55	12.70 81.55	15.09 96.01	18.26 114.75	21.44 133.06	25.40 155.15	28.58 172.33	25.40 155.15	0.074
300 / 12	323.9	6.35 49.73	8.38 65.20	9.53 73.88	10.31 79.73	14.27 108.96	12.70 97.46	17.48 132.08	21.44 159.91	25.40 186.97	28.58 208.14	33.32 238.76	25.40 186.97	0.104
350 / 14	355.6	7.92 67.90	9.53 81.33	9.53 81.33	11.13 94.55	15.09 126.71	12.70 107.39	19.05 158.10	23.83 194.96	27.79 224.65	31.75 253.56	35.71 281.70		0.126
400 / 16	406.4	7.92 77.83	9.53 93.27	9.53 93.27	12.70 123.30	16.66 160.12	12.70 123.30	21.44 203.53	26.19 245.56	30.96 286.64	36.53 333.19	40.49 365.35		0.165
450 / 18	457.2	7.92 87.71	11.13 122.38	9.53 105.16	14.27 155.80	19.05 205.74	12.70 139.15	23.88 254.55	29.36 309.62	34.93 363.56	39.67 408.26	45.24 459.37		0.209
500 / 20	508.0	9.53 117.15	12.70 155.12	9.53 117.15	15.09 183.42	20.62 247.83	12.70 155.12	26.19 311.17	32.54 381.53	38.10 441.49	44.45 508.11	50.01 564.81		0.258
550 / 22	558.8	9.53 129.13	12.70 171.09	9.53 129.13	- -	22.23 294.25	12.70 171.09	28.58 373.83	34.93 451.42	41.28 527.02	47.63 600.63	53.98 672.26		0.312
600 / 24	609.6	9.53 141.12	14.27 209.64	9.53 141.12	17.48 255.41	24.61 355.26	12.70 187.06	30.96 442.08	38.89 547.71	46.02 640.03	52.37 720.15	59.54 808.22		0.372
650 / 26	660.4	12.70 202.72	- -	9.53 152.87	- -		12.70 202.72							0.436
700 / 28	711.2	12.70 218.69	15.88 271.21	9.53 164.85	- -		12.70 218.69							0.505
750 / 30	762.0	12.70 234.67	15.88 292.18	9.53 176.84	- -		12.70 234.67							0.580
800 / 32	812.8	12.70 250.64	15.88 312.15	9.53 188.82	17.48 342.91		12.70 250.64							0.660
850 / 34	863.6	12.70 266.61	15.88 332.12	9.53 200.31	17.48 364.90		12.70 266.61							0.745
900 / 36	914.4	12.70 282.27	15.88 351.70	9.53 212.56	19.05 420.42		12.70 282.27							0.836
950 / 38	965.2			9.53 224.54			12.70 298.24							0.931
1000 / 40	1016.0			9.53 236.53			12.70 314.22							1.032
1050 / 42	1066.8			9.53 248.52			12.70 330.19							1.138
1100 / 44	1117.8			9.53 260.50			12.70 346.16							1.249
1150 / 46	1168.4			9.53 272.25			12.70 351.82							1.365
1200 / 48	1219.2			9.53 284.24			12.70 377.79							1.486

SI Units (Metric)

OD = mm
Wall thickness = mm
Weight = kg/m (plain end mass)

*For our complete range of structural tubulars, please refer to our stock program: