

ASTM A 106 Seamless Pressure Pipe Grades A & B

Submittal Data

Scope

Covers seamless carbon steel Grades A & B pipe for high pressure and high temperature service. Pipe is suitable for bending, flanging, and similar forming operations and for welding. Applications include: Refineries, Power Plants, Boilers, Ship Building, and other specialized applications.

Heat Treatment

Hot-finished pipe need not be heat treated. Cold-drawn pipe shall be heat treated after the final cold draw pass at a temperature of 1200°F or higher.

Hydrostatic & Nondestructive Electric Testing

Hydrostatic inspection test pressure is 2500 psi for sizes NPS 2 and under. Test pressure shall be maintained for a minimum of 5 seconds.

When specified by the purchaser, pipe may be tested by the nondestructive electric test in lieu of the hydrostatic test.

End Finish

Plain End:

NPS 1-1/2 and smaller shall be either plain end square cut or plain end beveled at the option of the manufacturer. NPS 2 ends shall be beveled to angle 30° +5°, -0° with a root face of 1/16" ± 1/32".

Threaded Pipe:

Threads comply with ANSI Standard B 1.20.1

Couplings:

Couplings comply with ASTM Standard A 865

Available Coatings

ASTM A 106 seamless pipe is available in four different coatings:

- Exclusive Blue Diamond® Coating
- Hot-Dipped Galvanized
- Pickled and Oiled
- Bare

Chemical Requirements Composition, % Max

Carbon ^A	Manganese	Phosphorus	Sulfur
.25	0.27/0.93	.035	.035

Silicon	Copper ^B	Nickel ^B	Chromium ^B
0.10 Min	.40	.40	.15

Molybdenum ^B	Vanadium ^B
.15	.08

^AFor each reduction of 0.01% below the specified carbon maximum, an increase of 0.06% manganese above the specified maximum will be permitted up to a maximum of 1.35%

^BThe combination of these five elements shall not exceed 1.00%

Tensile Requirements

Yield Strength, min	35,000 psi
Tensile Strength, min	60,000 psi
Elongation in 2"	35% Minimum

Bending Test (Cold) For NPS 2 and under

	Degree Of Bend	Diameter of Mandrel
Standard	90°	12 X pipe O.D.
Close Coiling	180°	8 X pipe O.D.

Frequency of Tests

Tensile tests and flattening tests are required on one length of pipe from each lot of 400 lengths or fraction thereof for each size.

Dimensions and Weights

The dimensions and weights furnished under this specification are in agreement with the standardized dimensions and weights specified in ANSI B 36.10.

ASTM A 106 Seamless Pressure Pipe is sold by the following John Maneely companies:



Sharon Tube Company
134 Mill Street Sharon, PA 16146
Phone: 1-800-245-8115
Fax: (724) 983-1031



Wheatland Tube Company
1 Council Avenue P.O. Box 608
Wheatland, PA 16161-0608
Phone: 1-800-257-8182
Fax: (724)-346-7260

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Plain End Dimensions Schedules 40 & 80

Nominal Size	O.D. Inches	Schedule 40		Schedule 80	
		Wall	Weight, Lb/Ft	Wall	Weight, Lb/Ft
1/8	0.405	.068	0.24	.095	0.31
1/4	0.540	.088	0.43	.119	0.54
3/8	0.675	.091	0.57	.126	0.74
1/2	0.840	.109	0.85	.147	1.09
3/4	1.050	.113	1.13	.154	1.48
1	1.315	.133	1.68	.179	2.17
1-1/4	1.660	.140	2.27	.191	3.00
1-1/2	1.900	.145	2.72	.200	3.63
2	2.375	.154	3.66	.218	5.03

Plain End Dimensions Schedules 160 & XXS

Nominal Size	O.D. Inches	Schedule 160		Schedule XXS	
		Wall	Weight, Lb/Ft	Wall	Weight, Lb/Ft
1/8	0.405	N/A	N/A	N/A	N/A
1/4	0.540	N/A	N/A	N/A	N/A
3/8	0.675	N/A	N/A	N/A	N/A
1/2	0.840	.188	1.31	.294	1.72
3/4	1.050	.219	1.95	.308	2.44
1	1.315	.250	2.85	.358	3.66
1-1/4	1.660	.250	3.77	.382	5.22
1-1/2	1.900	.281	4.86	.400	6.41
2	2.375	N/A	N/A	N/A	N/A

Permissible Variations in Wall Thickness

Minimum wall thickness at any point shall not be more than 12.5% under nominal wall thickness specified. Maximum wall thickness at any point shall not be greater than 20.0% over nominal wall thickness.

Workmanship

Visual imperfections such as scabs, seams, laps or tears shall not exceed 5% of the nominal wall thickness.

Permissible Variations in Outside Diameter

NPS 1-1/2 and under ± 1/64"
NPS 2 ± 1/32"

Permissible Variations in Weight per Foot

Pipe shall not vary more than 10% over and 3.5% under the standard specified.

Product Marking

Each length of pipe is continuously stenciled to show the manufacturer, specification (A106), size (O.D. & wall), "A & B" for Grades A & B, 2500 psi, length and heat number

Manufacturing Location

All product furnished by Wheatland Tube Company and Sharon Tube Company are manufactured by Sharon Tube in Sharon, PA, USA.

Hot-Dipped Galvanized

Pipe is galvanized to the requirements of ASTM A 53. The average weight of zinc coating shall not be less than 1.8 ounces per square foot of surface (inside and outside).

When galvanized pipe is bent or otherwise fabricated to a degree that causes the zinc coating to stretch or compress beyond the limit of elasticity, some flaking of the coating may occur.

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