



## ASTM A106 Grades B & C

### Scope

Covers seamless carbon steel Grades B & C pipe for high pressure and high temperature service. Pipe is suitable for bending, flanging, and similar forming operations and for welding.

### 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 A865

### Available Coatings

ASTM A106 seamless pipe is available in four different coatings:

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

### Chemical Requirements Composition, % Max

Carbon <sup>A</sup>	Manganese	Phosphorus	Sulfur
.30	0.29/1.06	.035	.035

Silicon	Copper <sup>B</sup>	Nickel <sup>B</sup>	Chromium <sup>B</sup>
0.10 Min	.40	.40	.40

Molybdenum <sup>B</sup>	Vanadium <sup>B</sup>
.15	.08

<sup>A</sup>For 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 1.65%

<sup>B</sup>The combination of these five elements shall not exceed 1.00%

### Tensile Requirements

Yield Strength, min	40,000 psi
Tensile Strength, min	70,000 psi
Elongation in 2"	30% 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 ASME ANSI B 36.10.

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.

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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  $\pm 1/64"$

NPS 2  $\pm 1/32"$

**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), "B & C" for Grades B & C, 2500 psi, length and heat number

**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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