

SureThread™

ASTM A53 Type F Grade A—Submittal Data Sheet



Scope

Covers black and hot-dip galvanized continuous weld Grade A 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 for NPS sizes 1-4 for fire sprinkler applications, and FM Approved for NPS sizes ½ and ¾. Pipe is not intended for flanging. Produced to ASTM A53/A53M (latest revision). All Wheatland black and galvanized pipe (½-6 NPS) is approved for drinking water usage.

Hot-dip Galvanized

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 zinc coating to stretch or compress beyond the limit of elasticity, some flaking of the coating may occur.

HYDROSTATIC TESTING

Hydrostatic testing pressures for plain-end pipe are listed below.

| NPS | STANDARD WEIGHT—PSI | EXTRA-STRONG WEIGHT—PSI |
|-------|---------------------|-------------------------|
| ½-1 | 1,500 | 1,500 |
| 1¼-1½ | 2,000 | 2,000 |
| 2-3 | 2,500 | 2,500 |
| 3½-4 | 2,800 | 2,800 |

End Finish

Plain End:

NPS 1½ and smaller: Unless otherwise specified on order, end finish shall be at the option of the manufacturer.

NPS 2 and larger: For STD and Schedule 80 weights, ends should be beveled to angle of 30°, +5°, -0° with a root face of ¼" ± ½".

Threaded: to ANSI Standard B 1.20.1

Couplings: to ASTM Standard A865

CHEMICAL REQUIREMENTS

Composition, maximum percentage.

| CARBON | MANGANESE | PHOSPHORUS | SULFUR | |
|--------|-----------|------------|------------|----------|
| 0.30 | 1.20 | 0.05 | 0.045 | |
| COPPER | NICKEL | CHROMIUM | MOLYBDENUM | VANADIUM |
| 0.40 | 0.40 | 0.40 | 0.15 | 0.08 |

Tensile Requirements

The combination of these five elements shall not exceed 1%.

| | |
|------------------------|---|
| Tensile Strength, min. | 48,000 psi |
| Yield Strength, min. | 30,000 psi |
| Elongation in 2" | Refer to A53 Table x 4.1 (latest revision—ASTM A53/A53M) |

BENDING TEST (COLD)—NPS 2 & UNDER

| | DEGREE OF BEND | DIAMETER OF MANDREL |
|---------------|----------------|-------------------------------|
| Standard | 90° | 12 x outside of pipe diameter |
| Close Coiling | 90° | 8 x outside of pipe diameter |

FLATTENING TEST—NPS 2½ AND GREATER

As a test for quality of the weld, position the weld at 90° from the direction of force and flatten until the OD is ¾ of the original outside diameter. No cracks shall occur along the inside or outside surface of the weld.

DIMENSIONS & WEIGHTS: BLACK PLAIN END

| NOMINAL SIZE | OD INCHES | Sch. 40 | | Sch. 80 | |
|--------------|-----------|-------------|----------------|-------------|----------------|
| | | WALL INCHES | WEIGHT LB./FT. | WALL INCHES | WEIGHT LB./FT. |
| ½ | 0.840 | 0.109 | 0.85 | 0.147 | 1.09 |
| ¾ | 1.050 | 0.113 | 1.13 | 0.154 | 1.48 |
| 1 | 1.315 | 0.133 | 1.68 | 0.179 | 2.17 |
| 1¼ | 1.660 | 0.140 | 2.27 | 0.191 | 3.00 |
| 1½ | 1.900 | 0.145 | 2.72 | 0.200 | 3.63 |
| 2 | 2.375 | 0.154 | 3.66 | 0.218 | 5.03 |
| 2½ | 2.875 | 0.203 | 5.80 | 0.276 | 7.67 |
| 3 | 3.500 | 0.216 | 7.58 | 0.300 | 10.26 |
| 3½ | 4.000 | 0.226 | 9.12 | 0.318 | 12.52 |
| 4 | 4.500 | 0.237 | 10.80 | 0.337 | 15.00 |

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

| | | |
|-----|--------------|----------|
| NPS | 1½ and under | ± 0.016" |
| NPS | 2 and over | ± 1% |

Permissible Variations in Weight per Foot

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

Product Marking

Each length of pipe NPS ½ and larger is continuously stenciled to show the manufacturer, the grade of pipe (ASTM A53), the kind of pipe (F for continuous weld, A for Grade A), the size (Schedule 80 for extra strong) and length. Stencil markings indicate UL Listing and FM Approval for sizes NPS 1-4 for use in fire sprinkler pipe applications. Bar coding is acceptable as a supplementary identification method. Wheatland stencils "SureThread" on the pipe to ensure that you are receiving our SureThread product.

SUBMITTAL INFORMATION

PROJECT: _____

CONTRACTOR: _____

DATE: _____


ENGINEER: _____

SPECIFICATION REFERENCE: _____

SYSTEM TYPE: _____

LOCATIONS: _____

COMMENTS: _____

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