MITTAL

Mittal Canada Pipe Mill

SUBMITTAL DATA

ASTM A53 Type E, Grade B Pipe

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. Pipes is suitable for welding, threading, grooving and bending. Pipe is not intended for flanging. Produced to latest revisions of ASTM A53/A 53M, and ASME B36.10M

MANUFACTURE

The weld seam of electric-resistance welded pipe in Grade B shall be heat treated after welding to a minimum of 1000°F (540°C) so that no untempered martensite remains, or 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 TESTING and NONDESTRUCTIVE ELECTRIC TESTING

Hydrostatic test pressures for plain-end pipe are indicated below. (in PSI). Test pressures shall be maintained for a minimum of 5 seconds.

NPS	S40
2	2500
2 1/2	2500
3	2500
3 1/2	2370
4	2210
5	1950
6	1780

Nondestructive electric testing of the weld seam is required on each length of ERW pipe NPS 2 and larger.

END FINISH

Plain end: NPS 2 and larger: ends are beveled top a angle of 30°, + 5° – 0° with a root face of 1/16 ± 1/32
Threaded: To ANSI Standard B1.20.1
Couplings: To ASTM Standard A865

CHEMICAL REQUIREMENTS

Composition, max %
Carbon: 0.30, Manganese: 1.20, Phosphorus: .05, Sulfur: .045, *Copper: .40, *Nickel: .40
*Chromium: .40, *Molybdenum: .15, *Vanadium .08
*The combination of these five elements shall not exceed 1.00%

TENSILE REQUIREMENTS

Tensile Strength: 60000 psi minimum
Yield Strength: 35000 psi minimum
Elongation: Refer to ASTM A53 table X4.1

FLATTENING TEST

NPS 2 and greater: As a test for quality of the weld, position of the weld at 90° from the direction of force and flatten until the OD is 2/3 of the original outside diameter. No cracks shall occur along the inside or outside surface of the weld.

DIMENSIONS AND WEIGHTS (Black plain end)

NPS	OD inches	S40 wall inches	S40 weight Lb/Ft
2	2.375	.154	3.66
2 ½	2.875	.203	5.80
3	3.500	.216	7.58
3 ½	4.000	.226	9.12
4	4.500	.237	10.80
5	5.563	.258	14.63
6	6.625	.280	18.99

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 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 2 NPS and larger 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 (S40 for nominal), length, heat number and lot number. Bar coding is acceptable as a supplementary identification number.

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Arcelor Mittal P&T Canada Inc. **SUBMITTAL DATA**

ASTM A53 Type E, Grade A Pipe

SCOPE

Covers black and hot-dipped galvanized electric-resistance welded Grade A pipe. Pipe is intended for mechanical and pressure applications and is acceptable for ordinary uses in steam, water, gas and air lines. Mittal's ASTM A53 is FM approved, sizes 2" to 4" nominal, for use in Fire Sprinkler Pipe applications. Pipes is suitable for welding, threading, grooving and bending. Pipe is not intended for flanging. Produced to latest revisions of ASTM A53/A 53M, and ASME B36.10M

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 TESTING and NONDESTRUCTIVE ELECTRIC TESTING

Hydrostatic test pressures for plain-end pipe are indicated below. (in PSI). Test pressures shall be maintained for a minimum of 5 seconds.

NPS	S40
2	2300
2 1/2	2500
3	2220
3 1/2	2030
4	1900
5	1670
6	1520

Nondestructive electric testing of the weld seam is required on each length of ERW pipe NPS 2 and larger.

END FINISH

Plain end:

NPS 2 and larger: ends are beveled top a angle of 30°, + 5° – 0° with a root face of 1/16 ± 1/32

Threaded: To ANSI Standard B1.20.1

Couplings: To ASTM Standard A865

CHEMICAL REQUIREMENTS

Composition, max %

Carbon: 0.25, Manganese: 0.95, Phosphorus: .05, Sulfur: .045, *Copper: .40, *Nickel: .40

*Chromium: .40, *Molybdenum: .15, *Vanadium .08

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

TENSILE REQUIREMENTS

Tensile Strength: 48000 psi minimum

Yield Strength: 30000 psi minimum

Elongation: Refer to ASTM A53 table X4.1

FLATTENING TEST

NPS 2 and greater: As a test for quality of the weld, position of the weld at 90° from the direction of force and flatten until the OD is 2/3 of the original outside diameter. No cracks shall occur along the inside or outside surface of the weld.

DIMENSIONS AND WEIGHTS (Black plain end)

NPS	OD inches	S40 wall inches	S40 weight Lb/Ft
2	2.375	.154	3.66
2 ½	2.875	.203	5.80
3	3.500	.216	7.58
3 ½	4.000	.226	9.12
4	4.500	.237	10.80
5	5.563	.258	14.63
6	6.625	.280	18.99

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 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 2 NPS and larger is continuously stenciled to show the manufacturer, the grade of pipe (ASTM A53), the kind of pipe (E for electric-resistance welded, A for Grade A), the size (S40 for nominal), length, and lot number. Stencil markings indicate FM approved for sizes 2 inch to 4 inch for use in Fire Sprinkler Pipe applications. Bar coding is acceptable as a supplementary identification number.

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MITTAL

Mittal Canada Pipe Mill

SUBMITTAL DATA

ASTM A795 Type F, Grade A Pipe

SCOPE

Covers black and hot-dipped galvanized furnace-butt welded (Continuous welded) Grade A pipe. Pipe is intended for use in fire protection systems. Mittal's ASTM A795 is UL,ULC listed and FM approved, sizes 1 1/4 and 1 1/2" S10, for use in Fire Sprinkler Pipe applications. Light-weight pipe is suitable for joining by welding and by rolled grooving, while the standard-weight pipe is suitable cut or rolled groove, threading, and welding. Produced to latest revisions of ASTM A795/A 795M, and ASME B36.10M

HOT-DIPPED GALVANIZED

The average weight of zinc coating shall be not less than 1.5 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 TESTING and NONDESTRUCTIVE ELECTRIC TESTING

Hydrostatic test pressures for plain-end pipe are indicated below. (in PSI). The hydrostatic test shall de applied, without leakage through the pipe wall, to each length of pipe.

NPS	S10
1 ¼	700
1 1/2	700

As an alternative to the hydrostatic test, each length of ERW pipe can be tested with a nondestructive electric test .

END FINISH

Plain end:

NPS 1 ¼ and 1 1/2: ends are beveled to a angle of 30°, + 5° – 0° with a root face of 1/16 ± 1/32

Rolled groove: To the roll groove specifications of Victaulic

CHEMICAL REQUIREMENTS

Composition, max %

Carbon: 0.25, Manganese: 0.95, Phosphorus: .035, Sulfur: .035

TENSILE REQUIREMENTS

Not required

FLATTENING TEST

As a test for quality of the weld, position of the weld at 90° from the direction of force and flatten until the OD is 3/4 of the original outside diameter. No cracks shall occur along the inside or outside surface of the weld.

DIMENSIONS AND WEIGHTS (Black plain end)

NPS	OD inches	S10 wall inches	S10 weight Lb/Ft
1 ¼	1.660	.109	1.81
1 ½	1.900	.109	2.09

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 1 ½ and under: + .016 / –.030 inch

PERMISSIBLE VARIATIONS IN WEIGHT PER FOOT

Pipe shall not vary more than ± 5% from the standard specified

PRODUCT MARKING

Each length of pipe is continuously stenciled to show the manufacturer, the grade of pipe (ASTM A795), the kind of pipe (F for Continuous welded, A for Grade A), the size (S10 for light wall), length, the letters " NH " if not hydrostatically tested, and lot number. Stencil markings indicate UL, ULC listing and FM approved for sizes 1 ¼ and 1 1/2 inch for use in Fire Sprinkler Pipe applications. Bar coding is acceptable as a supplementary identification number.

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