

# ASTM A795 ERW Black & GI Steel Pipes

## A ) Dimensions, Weight & Test Pressure For Light-Weight Fire Protection Pipe-Schedule 10<sup>A</sup>

Size		Outside Diameter		Wall Thickness		Weight per Unit Length ( Plain End)		Schedule No.	Test Pressure	Pieces Per Bundle
NPS	DN	in	mm	in	mm	lb/ft	kg/m		(psi)	
4	100	4.500	114.30	0.120	3.05	5.62	8.37	10	1200	19
5	125	5.563	141.30	0.134	3.40	7.78	11.56	10	1200	14
6	150	6.625	168.30	0.134	3.40	9.30	13.83	10	1000	10
8	200	8.625	219.10	0.188	4.78C	16.96	25.26	---	800	4
10	250	10.750	273.10	0.188	4.78C	21.23	31.62	--	700	2

<sup>A</sup>- Schedule 10 corresponds to Schedule 10S as listed in ANSI B36.19 for NPS 4 through 6 [DN 100 through 150] only. C ) -Not Schedule 10.

## B ) Dimensions, Weight & Test Pressure For Standard-Weight Fire Protection Pipe-Schedule 30 and Schedule 40

Size		Outside Diameter		Wall Thickness		Weight per Unit Length ( Plain End)		Schedule No.	Test Pressure	Pieces Per Bundle
NPS	DN	in	mm	in	mm	lb/ft	kg/m		(psi)	
4	100	4.500	114.3	0.237	6.02	10.80	16.09	40	1200	10
5	125	5.563	141.3	0.258	6.55	14.63	21.79	40	1200	7
6	150	6.625	168.3	0.280	7.11	18.99	28.29	40	1200	7
8	200	8.625	219.1	0.277	7.04	24.72	36.82	30	1200	4
10	250	10.750	273.1	0.307	7.80	34.27	51.05	30	1000	2

### 1. Tolerances:

- a) Thickness : The minimum wall thickness at any point shall be not more than 12.5% under the specified wall thickness.
- b) Diameter : The outside diameter shall not vary more than  $\pm 1\%$  of OD.
- c) Weight : The weight of the pipe shall not more than  $\pm 5\%$  of the specified weight.

# ASTM A795 ERW Black & GI Steel Pipes

**2. Ends** : Each end of pipe shall be furnish plain end unless otherwise specified.

## 3. Testing:

**Chemical Composition (max %)** : GR.A : C -0.25%, Mn - 0.95%, S - 0.035%, P - 0.035%  
: GR.B : C - 0.30%, Mn - 1.20%, S - 0.035%, P - 0.035%

**Mechanical Testing (min)** : GR.A : Yield Strength-205 N/mm<sup>2</sup>,Tensile Strength-330 N/mm<sup>2</sup>,  
Elongation-25 to 30%  
: GR.B : Yield Strength-240 N/mm<sup>2</sup>,Tensile Strength-415 N/mm<sup>2</sup>,  
Elongation-25 to 30%

## Flattening Test

: Weld located 0 & 90 degree from line of direction of force.

Stage - 1 : For ductility of weld, no cracks or breaks on the inside or outside surface at the weld , flatten up to 2/3 of outside dia of pipe.

Stage - 2 : For ductility of steel,no cracks or breaks on the inside or outside surface away from the weld , flatten upto 1/3 of outside dia of pipe.

Stage - 3 : For soundness , full flattening for testing of laminated and unsound material.

## 4. Leak Tightness test

i) : Online NDT(Eddy Current)

ii) : Hydro testing at pressure as per above Table and holding time Min. 5 Second.

## 5. Heat Treatment

: The weld seam of the ERW Pipe in Grade B shall be heat treated after welding to a minimum temperature of 540° C, so that no untempered martensite remains.

# ASTM A795 ERW Black & GI Steel Pipe

## 6. Surface Protection

- i) Black Coating : Tubes are uniformly varnished externally over their full length.
- ii) Galvanizing : The average  $460 \text{ Gm/mm}^2$  but one side should not be less than  $400 \text{ Gm/mm}^2$  or specified by customer
- Free from bare spot, black spot, rough, over coating, peel off or any other surface defect.

7. Marking : Online stenciling as per the standard & customer requirement.

8. Packing : Hexagonal Type

