



Ideal Blue IPS Specification

High Density Polyethylene for Potable Water Pipe Services, Transmissions Infrastructure



A. Ideal Blue

Ideal Blue is a high density polyethylene (HDPE) pipe with an engineered co-extruded liner for potable water services and transmissions where oxidative environments are present from chlorines and chlorides. Produced from PE 4710 materials, it is currently manufactured with nominal diameters from 4 inch through 18 inch in Iron Pipe Sizes (IPS). Ideal Blue conforms to AWWA C906, ASTM F714, and ASTM D3035 standards. Ideal Blue is a pressure rated product in accordance to Plastics Pipe Institute (PPI) utilizing TR-3 policies and procedures. Ideal Blue pipe is NSF approved for potable water applications. This product is designed for Municipal Water pipe and transmission systems. Ideal blue is an excellent choice for water rehabilitation and new installations with service life expectancies >100 years.

B. Oxidative Resistant Pipe

Designed to resist aggressive oxidative degradation in environments where water temperatures are increased or higher disinfection levels are required. These affects typically occur in shallow burial applications with 5 feet or less of top cover. Ideal Blue with its engineered, co-extruded white interior liner resists oxidative degradation from chlorides and chlorines. This product is categorized having the highest oxidative resistance value of CC3 at 90C (194F) at 450psi for >7400hrs with zero failures tested in accordance with ASTM F2263. The categorization is in accordance to ASTM D3350-14 Section 6.8. The white liner not only has a pleasant, clean appearance for water usage, but also enhances video inspection, if required, and lateral tap locating.

Working Pressure Classes for Ideal Blue IPS						
IPS Size	Average OD (inches)	Pressure Class SDR	PC250 9	PC200 11	PC 150 13.5	PC100 21
4	4.50	Min. Wall	0.500	0.409	0.333	0.214
		Avg. ID	3.440	3.633	3.793	4.046
		lbs/ft	2.720	2.275	1.887	1.247
6	6.625	Min. Wall	0.736	0.602	0.491	0.315
		Avg. ID	5.064	5.348	5.585	5.956
		lbs/ft	5.894	4.930	4.095	2.703
8	8.625	Min. Wall	0.958	0.784	0.639	0.411
		Avg. ID	6.593	6.963	7.271	7.754
		lbs/ft	9.988	8.359	6.939	4.591
10	10.750	Min. Wall	1.194	0.977	0.796	0.512
		Avg. ID	8.218	8.678	9.062	9.665
		lbs/ft	15.515	12.983	10.774	7.128
12	12.750	Min. Wall	1.417	1.159	0.944	0.607
		Avg. ID	9.747	10.293	10.748	11.463
		lbs/ft	21.837	18.267	15.155	10.023
14	14	Min. Wall	1.556	1.273	1.037	0.667
		Avg ID	10.702	11.302	11.801	12.587
		lb/ft	26.329	22.030	18.279	12.093
16	16	Min. Wall	1.778	1.455	1.185	0.762
		Avg ID	12.231	12.916	13.487	14.385
		lb/ft	34.384	28.777	23.872	15.789
18	18.00	Min. Wall	2.000	1.636	1.333	0.857
		Avg ID	13.760	14.531	15.173	16.183
		lb/ft	43.513	36.403	30.210	19.977

Note: For evaluated temperatures greater than 73 F refer to WL 118



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C. Pipe Material:

Ideal Blue pipe is produced from the highest rated HDPE pipe materials. Ideal Blue HDPE materials are listed as a 1600psi HDB @ 73F and 1000psi HDB @ 140F in the Plastics Pipe Institute's (PPI) Technical Report 4 (TR-4*)(WL Plastics E3)

(ref: plasticpipe.org/Publications/technical-reports.html)

Ideal Blue is classified under ASTM D3350 as a Type III, Class PE445574C/E (E = white liner), Grade PE47

Ideal Blue is also classified under ASTM D1248 as a Type III, Class D, Category 5, Grade E10 or E11.

D. Ideal Blue Advantages:

- Leak Free Piping
- Chemical Resistance
- Corrosion Resistance
- Durable
- Fatigue Free
- Video Surveillance Enhancement
- UV protected
- Lateral Tap Locating
- Impact Resistant
- Does NOT support Biological Growth
- Environmentally friendly
- Flexible
- Fusible Pipe
- Excellent for Trenchless Piping System installations
- Fusion Condition Compatibility
- Surge resistant

Ideal Blue ASTM D3350 cell classification of PE445574C/E

	Property	Standard	Typical Value
Class	Cell Classification	ASTM D3350	445574C/E (Black/Gray)
4	Density	ASTM D1505	0.960 g/cc (Black/Gray)
4	Melt Index	ASTM D1238	0.1 g/10m
5	Flexural Modulus	ASTM D790	>110,000 <160,000 psi
5	Tensile Strength	ASTM D638	>3500 psi
7	SCG (PENT)	ASTM F1473	>500 hours
4	HDB @73F	ASTM D2837	1600 psi
C/E	Color; UV Stabilizer	ASTM D3350	Carbon Black/Color w/ UV Stabilizer
CC3	Oxidative Resistance Classification	ASTM D3350	450 psi @90C >7400hrs

Note: PPI TR-4 Hydrostatic Design Stress (HDS), Strength Design Basis (SDB), Pressure Design Basis (PDB) and Minimum Required Strength (MRS) Ratings for Thermoplastic Piping Materials or Pipe

E. Pipe Fusion:

Ideal Blue is a HDPE fusible plastic pipe product and is compatible with all HDPE piping products. It is recommended that HDPE pipe be fused in accordance to ASTM F2620, PPI TR-33, and pipe and fittings manufacturer recommendations (Ref: WL 101).

Mechanical joining procedures supplied by fittings manufacture(s).

Ideal Blue is manufactured to ASTM D3035 which contains tighter OD tolerances than ASTM F714 for improved electro-fusion compatibilities. It also meets or exceeds ASTM F714 requirements.

F. Pipe Installation:

Installations follow manufacturing recommendations and applicable ASTM D2774, D2657, F2620, D2683, D3261, F1055, AWWA C906, AWWA M55, and/or WL 101 and WL113.

WL Plastics Corp. is a HDPE Pipe Manufacturer that manufacturer's high performance High Density Polyethylene (HDPE) pipe and related products for the oil, gas, mining, industrial and municipal water markets which is a long lasting pipe with a predicted service life >100 years. With U.S. and Canadian locations WL Plastics is one of the largest manufacturers of polyethylene pipe in North America.

Technical Contact: wtechnical@wlplastics.com | Sales Contact: wlsales@wlplastics.com | Literature Reference: www.wlplastics.com

