

WL129 PE4710 for GAS DISTRIBUTION



WL Plastics high performance bimodal high-density polyethylene (HDPE) pipe is an excellent choice for distribution of natural gas, LNG, or propane. WL Plastics PE 4710 gas pipe is manufactured from engineered high density bimodal polyethylene compounds that:

- meets or exceeds ASTM D3350 cell classifications PE445574C (black pipe) and PE234373E (yellow stripe)
- are stabilized against UV deterioration for 10 years or more with 2-3% carbon black content
- are listed by PPI in TR-4 and are stress rated with a Hydrostatic Design Basis (HDB) of 1600 psi @ 73°F and 1000psi at 140°F
- exceed PPI TR-3 and ASTM D3350 slow crack growth (SCG) resistance requirements with PENT > 5,000hrs
- have outstanding resistance to Rapid Crack Propagation (RCP) providing greater strength for higher pressures or at lower temperatures
- have design life of greater than 100 years

WL Plastics bimodal PE4710 gas pipe is manufactured with:

- compliance to ASTM D2513 with no rework (NR) material per 49CFR192. NR is included in the pipe print line.
- four to six co-extruded yellow stripes evenly spaced around the pipe for easy identification.
- heat indent print line meeting D2513 and ink jet print line showing the ASTM F2987 Tracking & Traceability bar code and alpha-numeric code.

Typical Physical Properties for WL Plastics PE4710 Pipe Materials

Physical Property	Test Method	Typical Value ⁽¹⁾
Cell classification (black compound)	ASTM D3350	PE445574C
Melt Index (190/2.16)	ASTM D1238	<0.1 g/10 min
High Load Melt Index ⁽²⁾ (190/21.6)	ASTM D1238	4 – 12 g/10 min
Density with 2% minimum carbon black (73°F/23°C)	ASTM D792	0.960 g/cm ³
Tensile strength at yield (2 in/min; 73°F/23°C)	ASTM D638	3500 < 4000 psi
Tensile elongation (2 in/min; 73°F/23°C)	ASTM D638	>500%
Flexural modulus (73°F/23°C)	ASTM D790	>150,000 psi
SCG Resistance, PENT (80°C, 2.4 MPa)	ASTM F1473	> 5000 h
Thermal stability	ASTM D3350	>428°F (> 220°C)
Brittleness temperature	ASTM D746	<-103°F (<-75°C)
Thermal expansion coefficient	ASTM D696	9 x 10 ⁻⁵ in/in/°F
HDB ⁽³⁾ at 73°F (23°C)	ASTM D2837/PPI TR-3	1600 psi (11.0 MPa)
HDB ⁽³⁾ at 140°F (60°C)	ASTM D2837/PPI TR-3	1000 psi (5.5 MPa)
RCP Resistance, Critical Pressure at 32°F (0°C)	ISO 13477	>174 psi (>1.2 MPa)
RCP Resistance, Critical Temp. at 72.5 psi (0.5 MPa)	ISO 13477	<2°F (<-17°C)

Contact WL Plastics Customer Service for availability. (1) Typical values determined from laboratory tests of samples of compounds (resins) prepared as plaque specimens in accordance with industry standard test methods. Values determined on samples prepared from pipe may vary. The typical values presented herein are for PE4710 polyethylene pipe compounds (resins) but do not constitute engineering properties for pipe. (2) Overall range of HLMI values for all compounds from all WL Plastics compound suppliers; HLMI variation for an individual compound will be well within the overall range. (3) Listed HDB and HDS ratings in accordance with ASTM D 2837 and PPI TR-3 are published in PPI TR-4 by the compound manufacturer (independent listing) and by WL Plastics (dependent listing). WL Plastics dependent listing compounds are identified by a compound code for the supplier: D (Dow); E (Lyondell Basell); S (Ineos).

This publication is intended for use as a piping system guide. It should not be used in place of a professional engineer's judgment or advice and it is not intended as installation instructions. The information in this publication does not constitute a guarantee or warranty for piping installations and cannot be guaranteed because the conditions of use are beyond our control. The user of this information assumes all risk associated with its use. WL Plastics Corporation has made every reasonable effort to ensure accuracy, but the information in this publication may not be complete, especially for special or unusual applications. Changes to this publication may occur from time to time without notice. Contact WL Plastics Corporation to determine if you have the most current edition. Publication duplication permitted.



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Commitment to Quality

- WL Plastics gas distribution piping is manufactured with unmatched quality assurance
- Closed loop handling of resin, frequent sampling and testing, elutriation and magnets in the resin transport stream, and wire mesh filters at the extruder screen pack ensure contaminant free pipe.
- Well maintained and state of the art mixing and extrusion equipment ensures even carbon black dispersion
- Drying of all resins with 140°F air eliminates possibility of void formation in pipe from water
- Gravimetric controlled extrusion lines with continuous in-line ultrasonic measurement and frequent quality assurance hand measurements ensure dimensional tolerances are met
- All WL Plastics manufacturing facilities are certified with the latest edition of ISO 9001 and equipped with state of the art laboratory equipment for testing resin and pipe
- All WL Plastics Quality Assurance Laboratories are calibrated to A2LA standards annually
- Engineering staff actively participate in the American Gas Association Piping Materials Committee and Gas Piping Technology Committee, Northeast Gas Association, Plastics Pipe Institute, American Society of Mechanical Engineers, American Petroleum Institute, and ASTM International to provide technical expertise and service to these organizations.

Availability & Packaging

- Sizes available in ½” CTS to 24” IPS in a variety of DR’s (see WL 102G)
- Special packaging available per customer requests (see WL108 for standard packaging)
- Seven (7) manufacturing facilities across the USA with several more planned for construction



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