

Marlex® TRB-432 Polyethylene

High Density Polyethylene (HDPE)

DESCRIPTION

High performance PE 4710/PE 100 rated bimodal HDPE, ethylene-hexene copolymer tailored for demanding pressure pipe applications. It provides excellent long-term hoop strength, superb slow-crack-growth resistance, exceptional rapid-crack-propagation resistance and outstanding low-temperature toughness.

TYPICAL PROPERTY VALUES

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
PHYSICAL PROPERTIES			
Density	0.949	g/cm ³	ASTM D1505
Flow Rate (HLMI, 190 °C/21.6 kg)	8.0	g/10 min	ASTM D1238
Flexural Modulus, 2% Secant	965	MPa	ASTM D790
Tensile Strength at Yield	25.5	MPa	ASTM D638
Tensile Elongation at Break	>700	%	ASTM D638
PENT Slow Crack Growth	>10.000h	%	ASTM F1473
PIPE PROPERTIES			
Hydrostatic Design Basis, 23 °C	11.0	MPa	ASTM D2837
Hydrostatic Design Basis, 60 °C	6.9	MPa	ASTM D2837
Minimum Required Strength	10.0	MPa	ISO 9080
Full Scale Critical Pressure, PcFS, 0 °C	>46	bar	ISO 13478
Critical Pressure, PcS4, 0 °C	>12	bar	ISO 13477
Critical Temperature, Tc, 5 bar	<-17	°C	ISO 13477
Notched Pipe Test, 4.6 MPa, 80 °C	>500	h	ISO 13479

NOTES / TEST CONDITIONS

- (1) Nominal values are typical and not specification limits. Physical properties were determined on compression-molded specimens per ASTM D4703, Procedure C, Annex A1 or ASTM F1473.
- (2) Pipe properties were determined on pipe extruded from TRB-432 blended with an approved carbon black concentrate.

ADDITIONAL TEST NOTES

- (3) Natural and black TRB-432: MRS 1,450 psi / 10.0 MPa.
- (4) S4 data: 12-inch SDR 11 pipe; PcFS calculated using the standard ISO equation.
- (5) Critical temperature: S4 test on 2-inch SDR 11 pipe.

SOURCE NOTE

Revision date: March 2022.

TECHNICAL DATA SHEET

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TYPICAL APPLICATIONS

• Energy piping systems • Potable water pipe • Municipal pipe • Industrial pipe • Geothermal pipe

STANDARDS / CLASSIFICATIONS

STANDARD	CLASSIFICATION / STATUS
ASTM D3350	Cell Class PE445574C-CC3
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ASTM D3350-14	Chlorinated Water Classification CC3
NSF Standards 14 and 61	Potable water
PPI	PE 4710 HDPE and PE 100 HDPE
ASTM D4976	PE 235
NSF	3rd party D2513 certified
NSF	CSA B137.1 and B137.4 certified
NSF	358-1 certified

DISCLAIMER

Before use, the user must determine the safety and suitability of the product for the specific application and is responsible for ensuring the product and information are appropriate. Chevron Phillips Chemical Company LP disclaims warranties, including merchantability or fitness for a particular purpose, and the user assumes risk and liability associated with use.

INTELLECTUAL PROPERTY / LEGAL

Information is provided without reference to intellectual property issues or applicable federal, state or local laws. Such questions should be investigated by the user.

CONTACT

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