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Marlex® Polyethylene

PREMIUM EXTRUSION AND RIGID PACKAGING RESINS

Marlex® TRB-437LS Polyethylene

HIGH DENSITY POLYETHYLENE (HDPE)

This high performance PE 4710/PE 100 rated bimodal HDPE, ethylene-hexene copolymer is tailored for the demanding requirements of pressure pipe applications that require:

- Excellent long-term hoop strength
- Excellent melt strength
- Superb resistance to slow crack & rapid crack growth
- Outstanding low-temperature toughness

Typical pipe applications for TRB-437LS include the following end-use segments:

- Municipal
- Industrial
- Energy
- Mining
- Potable water

When blended with an approved black concentrate the material meets or exceeds these standards/classifications:

- ASTM D3350, Cell Class PE445574C-CC3
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- NSF Standards 14 and 61
- PPI designations PE 4710 HDPE and PE 100 HDPE
- ASTM D4976 – PE 235
- NSF 3rd party ASTM D2513 certified
- NSF CSA B137.1 and B137.4 certified

NOMINAL PHYSICAL PROPERTIES(1)	English	SI	Method
Density	---	0.949 g/cm^3	ASTM D1505
Flow Rate (HLMI, 190 °C/21.6 kg)	---	9.0 g/10 min	ASTM D1238
Flexural Modulus, 2 % Secant - 16:1 span:depth, 0.5 in/min	140,000 psi	965 MPa	ASTM D790
Tensile Strength at Yield, 2 in/min, Type IV bar	3,500 psi	24 MPa	ASTM D638
Tensile Elongation at Break, 2 in/min, Type IV bar	700 %	700 %	ASTM D638
PENT, Slow Crack Growth Resistance	> 10,000 h	> 10,000 h	ASTM F1473

NOMINAL PIPE PROPERTIES Properties(2), (3), (4)	English	SI	Method
Hydrostatic Design Basis, 73 °F (23 °C)	1,600 psi	11.0 MPa	ASTM D2837
Hydrostatic Design Basis, 140 °F (60 °C)	1,000 psi	6.9 MPa	ASTM D2837
Minimum Required Strength	1,450 psi	10.0 MPa	ISO 9080
Resistance to Rapid Crack Propagation:			
Full Scale Critical Pressure, P_cFS, 0 °C (32 °F)(3)	> 667 psi	> 46.0 bar	ISO 13478
Critical Pressure, P_cS4, 0 °C (32 °F)(3)	> 174 psi	> 12.0 bar	ISO 13477
Critical Temperature, T_c, 5 bar (73 psi)(4)	< 14 °F	< -10 °C	ISO 13477

1. The nominal properties reported herein are typical of the product when blended with an approved color concentrate, except the density value which is representative of the natural resin, but do not reflect normal testing variance and therefore should not be used for specification purposes. Values are rounded. The physical properties were determined on compression-molded specimens that were prepared in accordance with Procedure C of ASTM D4703, Annex A1 or ASTM F1473.
2. The nominal properties were determined on pipe extruded from a pellet blend of TRB-437LS and an approved carbon black concentrate.
3. Data is based on S4 tests conducted on 12-inch SDR 11 pipe. Full Scale Critical Pressure is a calculated value, based on standard ISO equation.
4. Critical Temperature was determined from S4 test conducted on 2-inch SDR 11 pipe.

Revision Date: August, 2021

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Before using this product, the user is advised and cautioned to make its own determination and assessment of the safety and suitability of the product for the specific use in question and is further advised against relying on the information contained herein as it may relate to any specific use or application. It is the ultimate responsibility of the user to ensure that the product is suited and the information is applicable to the user's specific application. Chevron Phillips Chemical Company LP does not make, and expressly disclaims, all warranties, including warranties of merchantability or fitness for a particular purpose, regardless of whether oral or written, express or implied, or allegedly arising from any usage of any trade or from any course of dealing in connection with the use of the information contained herein or the product itself. The user expressly assumes all risk and liability, whether based in contract, tort or otherwise, in connection with the use of the information contained herein or the product itself. Further, information contained herein is given without reference to any intellectual property issues, as well as federal, state or local laws which may be encountered in the use thereof. Such questions should be investigated by the user.