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Marlex® Polyethylene

PREMIUM EXTRUSION AND RIGID PACKAGING RESINS

Marlex® 9118 Polyethylene

MEDIUM DENSITY POLYETHYLENE (MDPE)

This medium density polyethylene is an ethylene-hexene copolymer tailored for injection molding applications that require:

- Excellent **cold temperature** impact strength
- Moderate stiffness
- Good flow

Typical injection molding applications for 9118 include:

- Containers
- Totes
- Carts

This resin meets these specifications:

- ASTM D4976 – PE 222
- FDA 21 CFR 177.1520(c) 3.2a, use conditions B through H per 21 CFR 176.170(c)

Nominal Physical Properties (1)	English	SI	Method
Density	----	0.933 g/cm^3	ASTM D1505
Flow Rate (MI, 190 °C/2.16 kg)	----	18.0 g/10 min	ASTM D1238
Flexural Modulus, 1 % Secant, 16:1 span:depth, 0.5 in/min	99,000 psi	683 MPa	ASTM D790
Flexural Modulus, Tangent (Young's), 16:1 span:depth, 0.5 in/min	110,000 psi	758 MPa	ASTM D790
Tensile Strength at Yield, 2 in/min, Type IV bar	2,400 psi	17 MPa	ASTM D638
Tensile Elongation at Yield, 2 in/min, Type IV bar	10 %	10 %	ASTM D638
Tensile Elongation at Break, 2 in/min, Type IV bar	420 %	420 %	ASTM D638
High Speed Impact Peak Energy, 21.6 ft/sec, **- 40 °F**, 0.125 in	13 ft·lbf	23 J	ASTM D3763
High Speed Impact Total Energy, 21.6 ft/sec, **- 40 °F**, 0.125 in	21 ft·lbf	47 J	ASTM D3763
Durometer Hardness, Type D (Shore D)	60	60	ASTM D2240
Vicat Softening Temperature, Loading 1, Rate A	216 °F	102 °C	ASTM D1525
Heat Deflection Temperature, 66 psi, Method A	135 °F	57 °C	ASTM D648
Heat Deflection Temperature, 264 psi, Method A	104 °F	40 °C	ASTM D648
Brittleness Temperature, Type A, Type I specimen	< -103 °F	< -75 °C	ASTM D746

(1) The nominal properties reported herein are typical of the product, 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.

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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.