

Marlex® 9010 Polyethylene

HIGH DENSITY POLYETHYLENE (HDPE)

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

- Good flow performance
- High impact strength
- Excellent stiffness

This resin meets these specifications:

- ASTM D4976 - PE 233
- FDA 21 CFR 177.1520(c) 3.2a, use conditions B through H per 21 CFR 176.170(c)

Typical injection molded applications for 9010 include items such as:

- Caps and Closures
- Lids
- Containers and Carts

Nominal Resin Properties ⁽¹⁾	English	SI	Method
Density	----	0.945 g/cm ³	ASTM D1505
Flow Rate (MI, 190 °C/2.16 kg)	----	10 g/10 min	ASTM D1238
Nominal Physical Properties ⁽¹⁾	English	SI	Method
Tensile Strength at Yield, 2 in/min, Type IV bar	3,100 psi	21 MPa	ASTM D638
Elongation at Break, 2 in/min, Type IV bar	800 %	800 %	ASTM D638
Flexural Modulus, Tangent, 16:1 span:depth, 0.5 in/min	154,000 psi	1,060 MPa	ASTM D790
Flexural Modulus, 1 % Secant, 16:1 span:depth, 0.5 in/min	142,000 psi	980 MPa	ASTM D790
Durometer Hardness, Type D (Shore D)	61	61	ASTM D2240
Notched Izod Impact, 74 °F Test Temperature	1.0 ft•lbf/in	54 J/m	ASTM D256
Vicat Softening Temperature, Loading 1, Rate A	247 °F	120 °C	ASTM D1525
Heat Deflection Temperature, 66 psi, Method A	158 °F	70 °C	ASTM D648
Heat Deflection Temperature, 264 psi, Method A	114 °F	46 °C	ASTM D648
ESCR, Condition B (100 % Igepal), F ₅₀	43 h	43 h	ASTM D1693
ESCR, Condition B (10 % Igepal), F ₅₀	20 h	20 h	ASTM D1693
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.