For more information and technical assistance contact:

Chevron Phillips Chemical
P.O. Box 4910
The Woodlands, TX 77387-4910
800.231.1212

Marlex® Polyethylene

PREMIUM EXTRUSION AND RIGID PACKAGING RESINS

Marlex® 9012C Polyethylene

HIGH DENSITY POLYETHYLENE (HDPE)

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

- Good flow performance
- Slip agent with good organoleptics and high oxidative stability
- High impact strength
- Excellent stiffness

Typical injection molded applications for 9012C include items such as:

- Caps
- Closures
- Containers

This resin meets these specifications:

- ASTM D4976 - PE 232
- FDA 21 CFR 177.1520(c) 3.2a, use conditions B through H per 21 CFR 176.170(c)

Nominal Resin Properties (1)	English	SI	Method
Density	----	0.952 g/cm^3	ASTM D1505
Flow Rate (MI, 190 °C/2.16 kg)	----	11.5 g/10 min	ASTM D1238
Slip, ppm	1,500	1,500	---
Nominal Physical Properties (1)	**English**	**SI**	**Method**
Tensile Strength at Yield, 2 in/min, Type IV bar	3,500 psi	24 MPa	ASTM D638
Elongation at Break, 2 in/min, Type IV bar	600 %	600 %	ASTM D638
Flexural Modulus, Tangent, 16:1 span:depth, 0.5 in/min	181,000 psi	1250 MPa	ASTM D790
Flexural Modulus, 1 % Secant, 16:1 span:depth, 0.5 in/min	170,000 psi	1170 MPa	ASTM D790
Durometer Hardness, Type D (Shore D)	63	63	ASTM D2240
Notched Izod Impact, 74 °F Test Temperature	0.8 ft•lbf/in	45 J/m	ASTM D256
Vicat Softening Temperature, Loading 1, Rate A	247 °F	119 °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}	20 h	20 h	ASTM D1693
ESCR, Condition B (10 % Igepal), F_{50}	13 h	13 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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