

Marlex® 9005 Polyethylene

HIGH DENSITY POLYETHYLENE (HDPE)

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

- Moderate flow
- Excellent impact strength
- Excellent ESCR
- Good warpage resistance
- Durability

Typical injection molded applications for 9005 include:

- Industrial parts
- Seats
- Food and household containers
- Agricultural parts

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)
- UL94HB yellow card per UL file E349283

Nominal Physical Properties ⁽¹⁾	English	SI	Method
Density	---	0.945 g/cm ³	ASTM D1505
Flow Rate (MI, 190 °C/2.16 kg)	---	6.0 g/10 min	ASTM D1238
Tensile Strength at Yield , 2 in/min, Type IV bar	3,400 psi	23 MPa	ASTM D638
Elongation at Break , 2 in/min, Type IV bar	1,000 %	1,000 %	ASTM D638
Flexural Modulus , Tangent - 16:1 span:depth, 0.5 in/min	155,000 psi	1,070 MPa	ASTM D790
ESCR , Condition B (100 % Igepal), F ₅₀	90 h	90 h	ASTM D1693
Durometer Hardness , Type D (Shore D)	62	62	ASTM D2240
Vicat Softening Temperature , Loading 1, Rate A	250 °F	121 °C	ASTM D1525
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.

