



Marlex® 9006

Chevron Phillips Chemical Company LLC - High Density Polyethylene

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General Information

Product Description

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

- Moderate flow
- Excellent impact strength
- Good stiffness
- Durability

Typical injection molded applications for 9006 include:

- Industrial pails (five-gallon)
- Pail lids
- Automotive applications
- Foamed 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)

General

Material Status	• Commercial: Active		
Regional Availability	• Europe	• Latin America	• North America
Features	• Copolymer • Durable • Food Contact Acceptable	• Good Stiffness • Hexene Comonomer • High Density	• High Impact Resistance • Medium Flow • Recyclable Material
Uses	• Automotive Applications • Foam	• Lids • Pails	
Agency Ratings	• ASTM D4976-PE233	• FDA 21 CFR 176.170(c) ¹	• FDA 21 CFR 177.1520(c) 3.2a
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties²

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density	0.953 g/cm ³	0.953 g/cm ³	ASTM D1505
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	6.6 g/10 min	6.6 g/10 min	ASTM D1238
Environmental Stress-Cracking Resistance (ESCR)			ASTM D1693B
100% Igepal, F50	20.0 hr	20.0 hr	
Mechanical	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Strength ³ (Yield)	4060 psi	28.0 MPa	ASTM D638
Tensile Elongation ³ (Break)	950 %	950 %	ASTM D638
Flexural Modulus - Tangent ⁴	184000 psi	1270 MPa	ASTM D790
Hardness	Typical Value (English)	Typical Value (SI)	Test Method
Durometer Hardness (Shore D)	62	62	ASTM D2240

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Thermal	Typical Value (English)	Typical Value (SI)	Test Method
Brittleness Temperature ⁵	< -103 °F	< -75.0 °C	ASTM D746A
Vicat Softening Temperature	257 °F	125 °C	ASTM D1525 ⁶

Notes

¹ use conditions B through H

² Typical properties: these are not to be construed as specifications.

³ Type IV, 2.0 in/min (51 mm/min)

⁴ 0.50 in/min (13 mm/min)

⁵ Type I specimen

⁶ Rate A (50°C/h), Loading 1 (10 N)