



Marlex® 9006

Chevron Phillips Chemical Company LLC - High Density Polyethylene

Thursday, December 21, 2023

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	

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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
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)

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