Marlex® 9006

Chevron Phillips Chemical Company LLC - High Density Polyethylene

Tuesday, January 28, 2020

General Information

Product Description

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

- Require moderate flow
- Require excellent impact strength
- Require good stiffness
- Are durable and recyclable for sustainability

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 Properties [2]

Physical	Typical Value (English)		Typical Value (SI)		Test Method
Density	0.953	g/cm³	0.953	g/cm³	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	< -103	°F	< -75.0	°C	ASTM D746A
Vicat Softening Temperature	257	°F	125	°C	ASTM D1525 [5]

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] Rate A (50°C/h), Loading 1 (10 N)

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