



Experimental XUS 59999.02 Low Density Polyethylene Resin

Overview

XUS 59999.02 Enhanced Polyethylene Resin is a copolymer produced via INSITE technology from Dow. It is designed for stretch hooder application and offers a unique combination of holding force, elastic recovery, optics and toughness.

Main Characteristics:

- Excellent elastic recovery and holding force
- Very high impact resistance and tear properties
- Ease of processing

Slip Additive: None

Antiblock Additive: None

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.905 g/cm ³	0.905 g/cm ³	ASTM D792
Melt Index (190°C/2.16 kg)	0.80 g/10 min	0.80 g/10 min	ASTM D1238
Films	Nominal Value (English)	Nominal Value (SI)	Test Method
Film Thickness - Tested	1.0 mil	25 µm	
Film Puncture Energy (1.0 mil (25 µm))	47.7 in-lb	5.39 J	Dow Method
Film Puncture Force (1.0 mil (25 µm))	13.1 lbf	58.3 N	Dow Method
Film Puncture Resistance (1.0 mil (25 µm))	317 ft-lb/in ³	26.2 J/cm ³	Dow Method
Film Toughness			ASTM D882
MD: 1.0 mil (25 µm)	1180 ft-lb/in ³	97.6 J/cm ³	
TD: 1.0 mil (25 µm)	1780 ft-lb/in ³	148 J/cm ³	
Secant Modulus			ASTM D882
1% Secant, MD: 1.0 mil (25 µm)	11800 psi	81.0 MPa	
2% Secant, MD: 1.0 mil (25 µm)	11100 psi	76.6 MPa	
1% Secant, TD: 1.0 mil (25 µm)	11900 psi	82.0 MPa	
2% Secant, TD: 1.0 mil (25 µm)	10900 psi	75.4 MPa	
Tensile Strength			ASTM D882
MD: Yield, 1.0 mil (25 µm)	1440 psi	9.89 MPa	
TD: Yield, 1.0 mil (25 µm)	1430 psi	9.83 MPa	
MD: Break, 1.0 mil (25 µm)	9180 psi	63.3 MPa	
TD: Break, 1.0 mil (25 µm)	11000 psi	75.9 MPa	
Tensile Elongation			ASTM D882
MD: Break, 1.0 mil (25 µm)	400 %	400 %	
TD: Break, 1.0 mil (25 µm)	610 %	610 %	
Dart Drop Impact			
1.0 mil (25 µm)	> 850 g	> 850 g	ASTM D1709A
1.0 mil (25 µm)	600 g	600 g	ASTM D1709B
Elmendorf Tear Strength			ASTM D1922 ¹
MD: 1.0 mil (25 µm)	230 g	230 g	
TD: 1.0 mil (25 µm)	380 g	380 g	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Melting Temperature (DSC)	212 °F	100 °C	Dow Method
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss (20°, 1.00 mil (25.4 µm))	27	27	ASTM D2457
Haze (1.00 mil (25.4 µm))	12 %	12 %	ASTM D1003
Extrusion	Nominal Value (English)	Nominal Value (SI)	
Melt Temperature	430 °F	221 °C	

Extrusion Notes

Fabrication Conditions For Blown Film:

- 7-layer co-ex line
- Screw Size: 50 mm , 30:1ratio L/D
- Screw Type: DSBII
- Die Gap: 2.0 mm
- Melt Temperature: 430°F
- Output: 12.9 lb/hr/in. of die circumference
- Die Diameter: 250 mm
- Blow-Up Ratio: 3.0 to 1
- IBC

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

¹ Method B

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