



# Experimental XUS 59999.31

## Experimental Polyethylene Resin

### Overview

XUS 59999.31 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. It also offers great melt strength for high throughput rates and delivers good processability.

Main Characteristics:

- Excellent elastic recovery and holding force
- Very high impact resistance and tear properties
- Ease of processing
- Great melt strengths for high throughput rates

Complies with:

- U.S. FDA 21 CFR 175.105(c)(5)
- EU, 10/2011

Consult the regulations for complete details.

Additive	• Antiblock: No			• Slip: No			• Processing Aid: No		
	Physical	Nominal Value (English)	Nominal Value (SI)	Test Method					
Density	0.905 g/cm <sup>3</sup>	0.905 g/cm <sup>3</sup>	ASTM D792						
Base Density <sup>1</sup>	0.905 g/cm <sup>3</sup>	0.905 g/cm <sup>3</sup>	Dow Method						
Melt Index (190°C/2.16 kg)	0.50 g/10 min	0.50 g/10 min	ASTM D1238						
Films	Nominal Value (English)	Nominal Value (SI)	Test Method						
Film Thickness - Tested	1.0 mil	25 µm							
Film Puncture Force	18.0 lbf	80.1 N	Dow Method						
Film Toughness			ASTM D882						
MD	870 ft·lb/in <sup>3</sup>	72.0 J/cm <sup>3</sup>							
TD	1120 ft·lb/in <sup>3</sup>	92.7 J/cm <sup>3</sup>							
Secant Modulus			ASTM D882						
1% Secant, MD	13400 psi	92.4 MPa							
2% Secant, MD	12300 psi	84.8 MPa							
1% Secant, TD	13900 psi	95.8 MPa							
2% Secant, TD	12600 psi	86.9 MPa							
Tensile Strength			ASTM D882						
MD : Yield	1100 psi	7.58 MPa							
TD : Yield	900 psi	6.21 MPa							
MD : Break	7200 psi	49.6 MPa							
TD : Break	6800 psi	46.9 MPa							
Tensile Elongation			ASTM D882						
MD : Break	380 %	380 %							
TD : Break	600 %	600 %							
Dart Drop Impact	920 g	920 g	ASTM D1709B						
Elmendorf Tear Strength <sup>2</sup>			ASTM D1922						
MD	190 g	190 g							
TD	360 g	360 g							
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method						
Vicat Softening Temperature	205 °F	96.1 °C	ASTM D1525						
Melting Temperature (DSC)	215 °F	102 °C	Dow Method						
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method						
Gloss (45°)	76	76	ASTM D2457						
Haze	3.00 %	3.00 %	ASTM D1003						



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**Extrusion Notes**

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## Fabrication Conditions For Blown Film

- Screw Size: 3.5 in.
- Screw Type: DSBII
- Die Gap: 70 mil
- Melt Temperature: 432°F
- Output: 14 lb/hr/in. of die circumference
- Die Diameter: 8 in.
- Blow-Up Ratio: 2.5 to 1
- Screw Speed: 38 rpm
- Frost Line Height: 35 in.

**Notes**

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

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<sup>1</sup> Base density is estimated using the assumption that every 1000 ppm of antiblock in the finished product raises the density of the polymer by 0.0006 g/cm<sup>3</sup>. Base density is the estimated density of the polymer if it did not contain any antiblock.

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<sup>2</sup> Method B



## Additional Information

### North America

U.S. & Canada:

1-800-441-4369

1-989-832-1426

Mexico:

+1-800-441-4369

### Latin America

Argentina:

+54-11-4319-0100

Brazil:

+55-11-5188-9000

Colombia:

+57-1-219-6000

Mexico:

+52-55-5201-4700

### Europe/Middle East

+800-3694-6367

+31-11567-2626

Italy:

+800-783-825

### South Africa

+800-99-5078

### Asia Pacific

+800-7776-7776

+603-7965-5392

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