



XUS 89770.03 Experimental Linear Low Density Polyethylene

Description

XUS 89770.03 Experimental Linear Low Density Polyethylene is a high-performance polyethylene house abuse resin for a wide variety of blown film applications requiring excellent dart, puncture, and optics. Applications include protein, pet food, frozen food, fresh produce, cheese, industrial films, heavy duty shipping sacks, shrink, construction, and agricultural.

Main Characteristics

- Excellent toughness properties.
- Excellent optical properties.
- Good sealing performance.

Complies with

- U.S. FDA FCN 1539

Consult the regulations for complete details.

Additive

- Antiblock: No
- Processing Aid: Yes
- Slip: No

Properties¹

Physical	Nominal Value	Unit (English)	Test Method ²
Density	0.917	g/cm ³	ASTM D792
Melt Index (190°C/2.16 kg)	1.0	g/10 min	ASTM D1238
Melting Temperature (DSC)	233	°F	Internal Method
Films			
Film Thickness-Tested	2	mil	Internal Method
Film Puncture Energy	56	in·lb	Internal Method
Film Puncture Force	18	lbt	Internal Method
Film Toughness			ASTM D882
MD	1290	ft·lb/in ³	
TD	1305	ft·lb/in ³	
Secant Modulus			ASTM D882
1% Secant, MD	30500	psi	
2% Secant, MD	26700	psi	
1% Secant, TD	31100	psi	
2% Secant, TD	27000	psi	

1. Typical properties: these are not to be construed as specifications. Users should confirm results by their own tests.
2. ASTM: American Society for Testing and Materials

Properties (Cont.)

Films	Nominal Value	Unit (English)	Test Method
Tensile Strength			ASTM D882
MD: Yield	1390	psi	
TD: Yield	1400	psi	
MD: Break	7200	psi	
TD: Break	7100	psi	
Tensile Elongation			ASTM D882
MD: Break	570	%	
TD: Break	590	%	
Dart Drop Impact	1500	g	ASTM D1709A
Elmendorf Tear Strength			ASTM D1922
MD	630	g	
TD	690	g	
Optical			
Haze	11	%	ASTM D1003
Gloss (45°)	61	%	ASTM D2457

Additional Information

Fabrication Conditions for Blown Film:

- Screw Size: 3.5 in.
- Screw Type: DSB II
- Die Gap: 70 mil (1.8 mm)
- Melt Temperature: 450°F
- Output: 9.9 lb/hr/in. of die circumference
- Die Diameter: 8 in.
- Blow-Up Ratio: 2.5:1
- Screw Speed: 35 rpm
- Frost Line Height: 35 in.

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