Technical Data Sheet

XUS 61528.104 Experimental Polyethylene Resin

Description

- XUS 61528.104 Experimental Polyethylene Resin is a linear low density resin for high-speed thick and thin gauge applications. It offers high strength combined with high output.

Main Characteristics

- For industrial and consumer film applications
- High tear and impact strength
- Excellent output and bubble stability

Compliance

- U.S. FDA 21 CFR 177.1520 (c) 3.2a.

Consult the regulations for complete details.

Additive

- Processing aid: Yes

Typical Properties

Physical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method
Density	0.917	g/cm^3	0.917	g/cm^3	ASTM[1] D792
Base Density[2]	0.917	g/cm^3	0.917	g/cm^3	Dow Method
Melt Index (190°C/2.16 kg)	0.50	g/10 min	0.50	g/10 min	ASTM D1238
Films	**Nominal Value**	**Unit (English)**	**Nominal Value**	**Unit (SI)**	**Test Method**
Film Thickness — Tested	1.0	mil	25	pm	
Film Puncture Energy	60.0	in•lb	6.78	J	
Film Puncture Force	15.0	lbf	66.7	N	
Film Puncture Resistance	350	ft-lb/in^3	29.0	J/cm^3	Dow Method
Film Toughness					ASTM D882
MD	900	ft-lb/in^3	74.5	J/cm^3	
TD	1200	ft-lb/in^3	99.3	J/cm^3	
Secant Modulus					ASTM D882
1% Secant, MD	26500	psi	183	MPa	
2% Secant, MD	23000	psi	159	MPa	
1% Secant, TD	29000	psi	200	MPa	
2% Secant, TD	25000	psi	172	MPa	
Tensile Strength					ASTM D882
MD: Yield	2500	psi	17.2	MPa	
TD: Yield	1700	psi	11.7	MPa	
MD: Break	7000	psi	48.3	MPa	
TD: Break	6500	psi	44.8	MPa	

1. ASTM: American Society for Testing and Materials
2. 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^3. Base density is the estimated density of the polymer if it did not contain any antiblock.

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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Typical Properties (Cont.)

Films	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method
Tensile Elongation					ASTM D882
MD: Break	350	%	350	%	
TD: Break	550	%	550	%	
Dart Drop Impact	750	g	750	g	ASTM D1709A
Elmendorf Tear Strength					ASTM D1922
MD	350	g	350	g	
TD	600	g	600	g	
Thermal	**Nominal Value**	**Unit (English)**	**Nominal Value**	**Unit (SI)**	**Test Method**
Vicat Softening Temperature	219	°F	104	°C	ASTM D1525
Melting Temperature (DSC)	246	°F	119	°C	ISO[3] 3146
Optical	**Nominal Value**	**Unit (English)**	**Nominal Value**	**Unit (SI)**	**Test Method**
Gloss (45°)	60		60		ASTM D2457
Haze	8.00	%	8.00	%	ASTM D1003

Extrusion Notes

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: 12 lb/hr/in. of die circumference
- Die Diameter: 8 in.
- Blow-Up Ratio: 2.5:1
- Screw Speed: 58 rpm
- Frost Line Height: 39 in.

3. ISO: International Standardization Organization

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