Experimental XUS 59999.15
Enhanced Polyethylene Resin

Overview

XUS 59999.15 Experimental Polyethylene Resin is an enhanced ethylene-octene copolymer based on ELITE AT technology from Dow. This resin offers excellent ultimate hot tack strength, broad hot tack window, and low heat seal initiation temperature.

Main Characteristics
- High Hot Tack Strength
- Broad Hot Tack Window
- Low Heat Seal Initiation Temperature
- High Throughput Resin with excellent bubble stability

Complies with:
- U.S. FDA FCN 424

Consult the regulations for complete details.

Additive

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

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	0.907	g/cm³	0.907	g/cm³	ASTM D792
Base Density	0.907	g/cm³	0.907	g/cm³	Dow Method [1]
Melt Index (190°C/2.16 kg)	0.85	g/10 min	0.85	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))	34.0	in·lb	3.84	J	Dow Method
Film Puncture Force (1.0 mil (25 µm))	11.5	lbf	51.2	N	Dow Method
Film Puncture Resistance (1.0 mil (25 µm))	256	ft·lb/in³	21.2	J/cm³	Dow Method
Secant Modulus					ASTM D882
2% Secant, MD: 1.0 mil (25 µm)	14500	psi	100	MPa	
2% Secant, TD: 1.0 mil (25 µm)	16300	psi	112	MPa	
Tensile Strength					ASTM D882
MD: Yield, 1.0 mil (25 µm)	1160	psi	7.98	MPa	
TD: Yield, 1.0 mil (25 µm)	1030	psi	7.07	MPa	
MD: Break, 1.0 mil (25 µm)	6850	psi	47.2	MPa	
TD: Break, 1.0 mil (25 µm)	4920	psi	33.9	MPa	
Tensile Elongation					ASTM D882
MD: Break, 1.0 mil (25 µm)	390	%	390	%	
TD: Break, 1.0 mil (25 µm)	520	%	520	%	
Dart Drop Impact					
1.0 mil (25 µm)	> 850	g	> 850	g	ASTM D1709A
1.0 mil (25 µm)	960	g	960	g	ASTM D1709B
Elmendorf Tear Strength					ASTM D1922 [2]
MD: 1.0 mil (25 µm)	170	g	170	g	
TD: 1.0 mil (25 µm)	430	g	430	g	
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Melting Temperature (DSC)	222	°F	106	°C	Dow Method
Optical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Gloss (45°, 1.00 mil (25.4 µm))	62		62		ASTM D2457
Haze (1.00 mil (25.4 µm))	8.1	%	8.1	%	ASTM D1003
Additional Information	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
VFFS Hot Tack Window	45°F (205-250) or 25°C (96-121)		45°F (205-250) or 25°C (96-121)		Dow Method [3]

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Extrusion	Nominal Value (English)	Nominal Value (SI)
Melt Temperature	423 °F	217 °C

Extrusion Notes

Fabrication Conditions For Blown Film:

- Monolayer Film
- Screw Size: 3.5in. (88.9mm); 30:1ratio L/D
- Screw Type: DSBII
- Die Gap: 70mil (1.8 mm)
- Melt Temperature: 423°F (218°C)
- Output: 10.9 lb/hr/in. of die circumference
- Die Diameter: 8 in.
- Blow-Up Ratio: 2.5 to 1
- Frost Line Height: 31.4 in. (800 mm)

Notes

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

[1] 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/cm³. Base density is the estimated density of the polymer if it did not contain any antiblock.

[2] Method B

[3] 2 mil coex film, 20/60/20 with MDPE core, sealant layer formulated with 10% LDPE and slip and AB. Tested on VFFS machine with 4 lbs fill weight, 0.25 second dwell time.

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