

Technical Information



ELITE™ 5401G Enhanced Polyethylene Resin

Overview

ELITE™ 5401G Enhanced Polyethylene Resin is a copolymer produced via INSITE™ Technology from Dow. It offers a unique combination of low seal initiation, moderate stiffness and low blocking for excellent performance on automated packaging equipment.

- For food and specialty packaging films
- Superior impact resistance and tear properties

Complies with:

- U.S. FDA FCN 424
- Canadian HPFB No Objection
- EU, No 10/2011
- Consult the regulations for complete details.

Additive

- Antiblock: 2500 ppm
- Slip: 1000 ppm
- Processing Aid: No

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.918 g/cm ³	0.918 g/cm ³	ASTM D792
Base Density ¹	0.917 g/cm ³	0.917 g/cm ³	Dow Method
Melt Index (190°C/2.16 kg)	1.0 g/10 min	1.0 g/10 min	ASTM D1238
Films	Nominal Value (English)	Nominal Value (SI)	Test Method
Film Thickness - Tested	1 mil	25 µm	
Film Puncture Energy	15.0 in·lb	1.69 J	Dow Method
Film Puncture Force	8.00 lbf	35.6 N	Dow Method
Film Puncture Resistance	110 ft·lb/in ³	9.10 J/cm ³	Dow Method
Film Toughness			ASTM D882
MD	850 ft·lb/in ³	70.3 J/cm ³	
TD	800 ft·lb/in ³	66.2 J/cm ³	
Secant Modulus			ASTM D882
1% Secant, MD	26000 psi	179 MPa	
2% Secant, MD	23000 psi	159 MPa	
1% Secant, TD	29000 psi	200 MPa	
2% Secant, TD	24000 psi	165 MPa	
Tensile Strength			ASTM D882
MD : Yield	1700 psi	11.7 MPa	
TD : Yield	1600 psi	11.0 MPa	
MD : Break	4900 psi	33.8 MPa	
TD : Break	4000 psi	27.6 MPa	
Tensile Elongation			ASTM D882
MD : Break	400 %	400 %	
TD : Break	450 %	450 %	
Dart Drop Impact	450 g	450 g	ASTM D1709A
Elmendorf Tear Strength			ASTM D1922
MD	250 g	250 g	
TD	550 g	550 g	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature	212 °F	100 °C	ASTM D1525
Melting Temperature (DSC)	253 °F	123 °C	Dow Method
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss (45°)	33	33	ASTM D2457
Haze	22.0 %	22.0 %	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: 410°F
- Output: 12 lb/hr/in. of die circumference
- Die Diameter: 8 in.
- Blow-Up Ratio: 2.5:1
- Screw Speed: 40 rpm
- Frost Line Height: 47 in.

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.

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