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/cm³	0.918	g/cm³	ASTM D792
Base Density [1]	0.917	g/cm³	0.917	g/cm³	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/in³	9.10	J/cm³	Dow Method
Film Toughness					ASTM D882
MD	850	ft·lb/in³	70.3	J/cm³	
TD	800	ft·lb/in³	66.2	J/cm³	
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

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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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