

ELITE™ 5101G

Enhanced Polyethylene Resin

Overview

- For high performance film applications
- Complies with U.S. FDA 21 CFR 177.1520 (c) 3.2a.
- Consult the regulations for complete details.

ELITE™ 5101G Enhanced Polyethylene Resin is a copolymer produced via INSIT™ Technology from Dow Plastics. It offers extremely high impact resistance, combined with good tear and tensile properties. In addition, this resin exhibits higher hot tack strength than LLDPE for automated packaging applications.

Additive

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

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.922 g/cm ³	0.922 g/cm ³	ASTM D792
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	2.0 mil	51 µm	
Film Puncture Energy (2.0 mil (51 µm))	38.0 in·lb	4.29 J	Dow Method
Film Puncture Force (2.0 mil (51 µm))	16.0 lbf	71.2 N	Dow Method
Film Puncture Resistance (2.0 mil (51 µm))	133 ft·lb/in ³	11.0 J/cm ³	Dow Method
Secant Modulus			ASTM D882
2% Secant, MD : 2.0 mil (51 µm)	31700 psi	219 MPa	
2% Secant, TD : 2.0 mil (51 µm)	36000 psi	248 MPa	
Tensile Strength			ASTM D882
MD : Yield, 2.0 mil (51 µm)	1420 psi	9.79 MPa	
TD : Yield, 2.0 mil (51 µm)	1600 psi	11.0 MPa	
MD : Break, 2.0 mil (51 µm)	5920 psi	40.8 MPa	
TD : Break, 2.0 mil (51 µm)	5570 psi	38.4 MPa	
Tensile Elongation			ASTM D882
MD : Break, 2.0 mil (51 µm)	590 %	590 %	
TD : Break, 2.0 mil (51 µm)	620 %	620 %	
Dart Drop Impact (2.0 mil (51 µm))	> 850 g	> 850 g	ASTM D1709B
Elmendorf Tear Strength			ASTM D1922
MD : 2.0 mil (51 µm)	720 g	720 g	
TD : 2.0 mil (51 µm)	1000 g	1000 g	
Seal Initiation Temperature ¹			Dow Method
2.0 mil (51 µm)	223 °F	106 °C	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature	221 °F	105 °C	ASTM D1525
Melting Temperature (DSC)	250 °F	121 °C	Dow Method
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss (45°, 2.00 mil (50.8 µm))	58	58	ASTM D2457
Haze (2.00 mil (50.8 µm))	15 %	15 %	ASTM D1003
Extrusion	Nominal Value (English)	Nominal Value (SI)	
Melt Temperature	450 °F	232 °C	



Extrusion Notes

Fabrication Conditions For Blown Film:

- Screw Size: 2.5 in. (63.5 mm); 24:1 L/D
- Screw Type: Single Flight Double Mix
- Die Gap: 70 mil (1.8 mm)
- Melt Temperature: 450°F (232°C)
- Output: 6 lb/hr/in. of die circumference
- Die Diameter: 6 in.
- Blow-Up Ratio: 2.5:1
- Screw Speed: 78 rpm
- Frost Line Height: 25 in. (635 mm)

Notes

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

¹ Temperature at which 2 lb/in. (8.8 N/25.4 mm) heat seal strength is achieved.

Heat Seal Strengths, Topwave HT Tester 0.5 S dwell, 40 psi bar pressure, pull speed 10 in./min. (250 mm/sec).

