

ELITE™ 5100G

Enhanced Polyethylene Resin



Overview

- For industrial and consumer film applications
- Extremely high impact strength
- Low blocking tendencies for improved handling and convertibility

Complies with:

- U.S. FDA 21 CFR 177.1520 (c) 3.2a.
- Canadian HPFB No Objection
- Consult the regulations for complete details.

ELITE™ 5100G Enhanced Polyethylene Resin is a copolymer produced via INSITE™ Technology from Dow Plastics. It offers excellent impact strength, good tensile and puncture properties for thick and thin gauge industrial and consumer blown film applications. This resin exhibits higher hot tack strengths than LLDPE, making it ideal for automated packaging applications.

Additive

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

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.920 g/cm ³	0.920 g/cm ³	ASTM D792
Base Density ¹	0.920 g/cm ³	0.920 g/cm ³	Dow Method
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	51.0 in·lb	5.76 J	Dow Method
Film Puncture Force	14.5 lbf	64.5 N	Dow Method
Film Puncture Resistance	342 ft·lb/in ³	28.3 J/cm ³	Dow Method
Film Toughness			ASTM D882
MD	1190 ft·lb/in ³	98.5 J/cm ³	
TD	1190 ft·lb/in ³	98.5 J/cm ³	
Secant Modulus			ASTM D882
1% Secant, MD	39400 psi	272 MPa	
2% Secant, MD	33500 psi	231 MPa	
1% Secant, TD	44900 psi	309 MPa	
2% Secant, TD	37200 psi	256 MPa	
Tensile Strength			ASTM D882
MD : Yield	1720 psi	11.9 MPa	
TD : Yield	1800 psi	12.4 MPa	
MD : Break	6330 psi	43.6 MPa	
TD : Break	5220 psi	36.0 MPa	
Tensile Elongation			ASTM D882
MD : Break	480 %	480 %	
TD : Break	620 %	620 %	
Dart Drop Impact	540 g	540 g	ASTM D1709A
Elmendorf Tear Strength			ASTM D1922
MD	260 g	260 g	
TD	670 g	670 g	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature	223 °F	106 °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	20 %	20 %	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: 413°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: 37 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.

