

ELITE™ 5110G

Enhanced Polyethylene Resin

Overview

- For industrial and consumer film applications
- Excellent impact resistance
- High modulus and low blocking tendencies for handling and convertibility
- Complies with U.S. FDA 21 CFR 177.1520 (c) 3.2a.
- Consult the regulations for complete details.

ELITE™ 5110G Enhanced Polyethylene Resin is a copolymer produced via INSITE™ Technology from Dow Plastics. It offers a unique combination of high modulus and excellent impact strength, allowing for downgauging in bag applications. ELITE 5110 resin has excellent tensile strength and good tear properties. It complies U.S. FDA regulation 21 CFR 177.1520 (c) 3.2a when used unmodified and processed according to good manufacturing practices. Please contact your nearest Dow office regarding food contact compliance statements.

Additive

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

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.926 g/cm ³	0.926 g/cm ³	ASTM D792
Base Density ¹	0.926 g/cm ³	0.926 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	2.0 mil	51 µm	
Film Puncture Energy (2.0 mil (51 µm))	61.2 in·lb	6.91 J	Dow Method
Film Puncture Force (2.0 mil (51 µm))	21.8 lbf	97.0 N	Dow Method
Secant Modulus			ASTM D882
2% Secant, MD : 2.0 mil (51 µm)	40200 psi	277 MPa	
2% Secant, TD : 2.0 mil (51 µm)	47900 psi	330 MPa	
Tensile Strength			ASTM D882
MD : Yield, 2.0 mil (51 µm)	2020 psi	13.9 MPa	
TD : Yield, 2.0 mil (51 µm)	2120 psi	14.6 MPa	
MD : Break, 2.0 mil (51 µm)	8340 psi	57.5 MPa	
TD : Break, 2.0 mil (51 µm)	7530 psi	51.9 MPa	
Tensile Elongation			ASTM D882
MD : Break, 2.0 mil (51 µm)	600 %	600 %	
TD : Break, 2.0 mil (51 µm)	660 %	660 %	
Dart Drop Impact (2.0 mil (51 µm))	410 g	410 g	ASTM D1709B
Elmendorf Tear Strength			ASTM D1922
MD : 2.0 mil (51 µm)	560 g	560 g	
TD : 2.0 mil (51 µm)	1100 g	1100 g	
Seal Initiation Temperature ²			Dow Method
2.0 mil (51 µm)	248 °F	120 °C	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature	232 °F	111 °C	ASTM D1525
Melting Temperature (DSC)	253 °F	123 °C	Dow Method
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss (45°, 2.00 mil (50.8 µm))	60	60	ASTM D2457
Haze (2.00 mil (50.8 µm))	13 %	13 %	ASTM D1003
Extrusion	Nominal Value (English)	Nominal Value (SI)	
Melt Temperature	420 °F	216 °C	



Extrusion Notes

Fabrication Conditions For Blown Film:

- Screw Size: 2.5 in. (63.5 mm); 24:1 L/D
- Screw Type: Barrier screw
- Die Gap: 70 mil (1.8 mm)
- Melt Temperature: 420°F (216°C)
- Output: 6 lb/hr/in. of die circumference
- Die Diameter: 6 in.
- Blow-Up Ratio: 2.5:1
- Screw Speed: 45 rpm
- Frost Line Height: 25 in. (635mm)

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

J&B Automatic Heat Seal and Hot Tack Tester 0.5 S dwell, 40 psi bar pressure, Instron pull speed 1.0 in./min.

