



ELITE™ 5110G

The Dow Chemical Company - Enhanced Polyethylene Resin

Tuesday, November 5, 2019

General Information

Product Description

- 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.

General

Material Status	• Commercial: Active
Availability	• Asia Pacific • Europe • Latin America • North America
Additive	• Antiblock: No • Processing Aid: No • Slip: No
Agency Ratings	• FDA 21 CFR 177.1520(c) 3.2a
Forms	• Pellets
Processing Method	• Blown Film

ASTM & ISO Properties¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.928		ASTM D792
Melt Mass-Flow Rate (190°C/2.16 kg)	0.85	g/10 min	ASTM D1238
Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	2	mil	
Film Puncture Energy (2.0 mil)	61.2	in-lb	Internal Method
Film Puncture Force (2.0 mil)	21.8	lbf	Internal Method
Secant Modulus - 2% Secant, MD (2.0 mil)	40200	psi	ASTM D882
Secant Modulus - 2% Secant, TD (2.0 mil)	47900	psi	ASTM D882
Tensile Strength - MD (Yield, 2.0 mil)	2020	psi	ASTM D882
Tensile Strength - TD (Yield, 2.0 mil)	2120	psi	ASTM D882
Tensile Strength - MD (Break, 2.0 mil)	8340	psi	ASTM D882
Tensile Strength - TD (Break, 2.0 mil)	7530	psi	ASTM D882
Tensile Elongation - MD (Break, 2.0 mil)	600	%	ASTM D882
Tensile Elongation - TD (Break, 2.0 mil)	660	%	ASTM D882
Dart Drop Impact (2.0 mil)	410	g	ASTM D1709B
Elmendorf Tear Strength - MD (2.0 mil)	560	g	ASTM D1922
Elmendorf Tear Strength - TD (2.0 mil)	1100	g	ASTM D1922
Seal Initiation Temperature ² (2.0 mil)	248	°F	Internal Method
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	232	°F	ASTM D1525
Melting Temperature (DSC)	253	°F	Internal Method

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Optical	Nominal Value	Unit	Test Method
Gloss (45°, 2.00 mil)	60		ASTM D2457
Haze (2.00 mil)	13.0	%	ASTM D1003

Processing Information

Extrusion	Nominal Value	Unit
Melt Temperature	420	°F

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

¹ Typical properties: these are not to be construed as specifications.

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.