



AFFINITY™ PL 1840G Polyolefin Plastomer

Overview AFFINITY* PL 1840G Polyolefin Plastomer (POP) is produced via INSITE* Technology. It is an ethylene alpha-olefin resin designed to provide blown film with low temperature sealability, good puncture resistance, optics and organoleptic properties. It also has excellent compatibility with other polyolefins, allowing efficient blending and coextrusion.

- Outstanding low temperature sealability and toughness
- Suitable as a sealant in liquid & dry food pouch applications

Complies with:

- U.S. FDA FCN 424
- Canadian HPFB No Objection
- Europe EU-Directive 2002/72/EC
- U.S. FDA-DMF

Consult the regulations for complete details.

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.909 g/cm ³	0.909 g/cm ³	ASTM D792
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	2.00 mil	50.8 µm	
Film Puncture Energy (2.00 mil (50.8 µm))	81.1 in-lb	9.16 J	Dow Method
Film Puncture Force (2.00 mil (50.8 µm))	20.9 lbf	93.0 N	Dow Method
Film Puncture Resistance			Dow Method
2.00 mil (50.8 µm)	304 ft-lb/in ³	25.2 J/cm ³	
Secant Modulus			ASTM D882
2% Secant, MD: 2.00 mil (50.8 µm)	17800 psi	123 MPa	
2% Secant, TD: 2.00 mil (50.8 µm)	17900 psi	123 MPa	
Tensile Strength			ASTM D882
MD: Yield, 2.00 mil (50.8 µm)	1270 psi	8.76 MPa	
TD: Yield, 2.00 mil (50.8 µm)	1170 psi	8.07 MPa	
MD: Break, 2.00 mil (50.8 µm)	6930 psi	47.8 MPa	
TD: Break, 2.00 mil (50.8 µm)	6580 psi	45.4 MPa	
Tensile Elongation			ASTM D882
MD: Break, 2.00 mil (50.8 µm)	620 %	620 %	
TD: Break, 2.00 mil (50.8 µm)	580 %	580 %	
Dart Drop Impact (2.00 mil (50.8 µm))	> 830 g	> 830 g	ASTM D1709B
Elmendorf Tear Strength			ASTM D1922 ¹
MD: 2.00 mil (50.8 µm)	560 g	560 g	
TD: 2.00 mil (50.8 µm)	840 g	840 g	
Seal Initiation Temperature			Dow Method ²
2.00 mil (50.8 µm)	199 °F	92.8 °C	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature	203 °F	95.0 °C	ASTM D1525
Melting Temperature (DSC)	222 °F	106 °C	Dow Method
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss (20°, 2.00 mil (50.8 µm))	128	128	ASTM D2457
Clarity (2.00 mil (50.8 µm))	63.0	63.0	ASTM D1746
Haze (2.00 mil (50.8 µm))	2.5 %	2.5 %	ASTM D1003
Extrusion	Nominal Value (English)	Nominal Value (SI)	
Melt Temperature	429 °F	221 °C	

Extrusion Notes

Fabrication Conditions For Blown Film:

- Screw Size: 2.5 in. (63.5 mm); 24:1 L/D
- Screw Type: DSB11
- Die Gap: 70 mil (1.8 mm)
- Melt Temperature: 429°F (220°C)
- Output: 6 lb/hr/in. of die circumference
- Die Diameter: 6 in.
- Blow-Up Ratio: 2.5:1
- Screw Speed: 40 rpm

Notes

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

¹ Modified rectangular test specimen.

² 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)

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