



# AFFINITY™ PF 1140G Polyolefin Plastomer

- Overview**
- High performance blown film resin for flexible packaging
  - Excellent abuse resistance
  - Low temperature seal initiation
  - Excellent optics
  - Outstanding high oxygen transmission rates
- Complies with:
- U.S. FDA FCN 424
  - Canadian HPFP No Objections
  - Europe EU-Directive 2002/72/EC
  - U.S. FDA-DMF
- Consult the regulations for complete details.

AFFINITY\* PF 1140G Polyolefin Plastomer (POP) is produced via INSITE\* Technology. It is an ethylene alpha-olefin resin designed to be used in a variety of demanding applications including form-fill-seal packaging and fresh produce bags. This resin has excellent compatibility with other polyolefins, allowing efficient blending and coextrusion.

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.897 g/cm <sup>3</sup>	0.897 g/cm <sup>3</sup>	ASTM D792
Melt Index (190°C/2.16 kg)	1.6 g/10 min	1.6 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))	72.4 in-lb	8.18 J	Dow Method
Film Puncture Force (2.00 mil (50.8 µm))	18.8 lbf	83.6 N	Dow Method
Film Puncture Resistance			Dow Method
2.00 mil (50.8 µm)	245 ft-lb/in <sup>3</sup>	20.3 J/cm <sup>3</sup>	
Secant Modulus			ASTM D882
2% Secant, MD: 2.00 mil (50.8 µm)	10600 psi	72.8 MPa	
2% Secant, TD: 2.00 mil (50.8 µm)	10600 psi	73.2 MPa	
Tensile Strength			ASTM D882
MD: Yield, 2.00 mil (50.8 µm)	840 psi	5.79 MPa	
TD: Yield, 2.00 mil (50.8 µm)	920 psi	6.34 MPa	
MD: Break, 2.00 mil (50.8 µm)	7290 psi	50.3 MPa	
TD: Break, 2.00 mil (50.8 µm)	5730 psi	39.5 MPa	
Tensile Elongation			ASTM D882
MD: Break, 2.00 mil (50.8 µm)	690 %	690 %	
TD: Break, 2.00 mil (50.8 µm)	700 %	700 %	
Dart Drop Impact (2.00 mil (50.8 µm))	> 850 g	> 850 g	ASTM D1709B
Elmendorf Tear Strength			ASTM D1922 <sup>1</sup>
MD: 2.00 mil (50.8 µm)	470 g	470 g	
TD: 2.00 mil (50.8 µm)	620 g	620 g	
Seal Initiation Temperature			Dow Method <sup>2</sup>
2.00 mil (50.8 µm)	178 °F	81.1 °C	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature	170 °F	76.7 °C	ASTM D1525
Melting Temperature (DSC)	205 °F	96.1 °C	Dow Method
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss (20°, 2.00 mil (50.8 µm))	134	134	ASTM D2457
Clarity (2.00 mil (50.8 µm))	70.0	70.0	ASTM D1746
Haze (2.00 mil (50.8 µm))	1.3 %	1.3 %	ASTM D1003
Extrusion	Nominal Value (English)	Nominal Value (SI)	
Melt Temperature	408 °F	209 °C	

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## Extrusion Notes

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### 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: 70mil (1.8 mm)
- Melt Temperature: 408°F (209°C)
- Output: 6 lb/hr/in. of die circumference
- Die Diameter: 6 in.
- Blow-Up Ratio: 2.5:1
- Screw Speed: 50 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.

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<sup>1</sup> Modified rectangular test specimen.

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<sup>2</sup> 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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Published: 2004-03-25

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