



## Technical Data Sheet

### AFFINITY™ PL 1880G Polyolefin Plastomer

#### Description

AFFINITY™ PL 1880G Polyolefin Plastomer (POP) is produced via INSITE™ Technology. It is an ethylene alpha-olefin resin designed for use in a variety of demanding packaging applications, including high-speed, form-fill-seal packaging. This resin offers excellent ultimate hot tack strength and low temperature seal initiation, even through contamination in the package.

#### Sustainability Attribute:



#### Typical Applications

- Low seal initiation temperature
- Excellent hot tack strength
- High performance sealant layer in flexible packaging

#### Complies with

- U.S. FDA FCN 424
- U.S. FDA-DMF
- U.S. USP 23
- HPFB No Objection (with limitations)
- EU, No 10/2011
- Japan Hygienic Olefin and Styrene Plastics Association

Consult the regulations for complete details.

#### Additive

- Antiblock: No
- Slip: No
- Processing aid: No

#### Properties<sup>1</sup>

Physical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method <sup>2</sup>
Density	0.902	g/cm <sup>3</sup>	0.902	g/cm <sup>3</sup>	ASTM D792
Melt Index (190°C/2.16 kg)	1.0	g/10 min	1.0	g/10 min	ASTM D1238
<b>Films</b>					
Film Thickness - Tested	2.0	mil	51	µm	
Film Puncture Energy (2.0 mil (51 µm))	78.0	in·lb	8.81	J	Internal Method
Film Puncture Force (2.0 mil (51 µm))	20.8	lbf	92.5	N	Internal Method
Film Puncture Resistance (2.0 mil (51 µm))	270	ft·lb/in <sup>3</sup>	22.3	J/cm <sup>3</sup>	Internal Method
Secant Modulus					ASTM D882
2% Secant, MD: 2.0 mil (51 µm)	13300	psi	91.7	MPa	
2% Secant, TD: 2.0 mil (51 µm)	13400	psi	92.4	MPa	

1. Typical properties: these are not to be construed as specifications. Users should confirm results by their own tests.
2. ASTM: American Society for Testing and Materials

## Properties (Cont.)

Films	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method
Tensile Strength					ASTM D882
MD: Yield, 2.0 mil (51 µm)	1050	psi	7.24	MPa	
TD: Yield, 2.0 mil (51 µm)	1000	psi	6.89	MPa	
MD: Break, 2.0 mil (51 µm)	8500	psi	58.6	MPa	
TD: Break, 2.0 mil (51 µm)	6480	psi	44.7	MPa	
Tensile Elongation					ASTM D882
MD: Break, 2.0 mil (51 µm)	620	%	620	%	
TD: Break, 2.0 mil (51 µm)	630	%	630	%	
Dart Drop Impact (2.0 mil (51 µm))	> 830	g	> 830	g	ASTM D1709B
Elmendorf Tear Strength <sup>3</sup>					ASTM D1922
MD: 2.0 mil (51 µm)	550	g	550	g	
TD: 2.0 mil (51 µm)	720	g	720	g	
Seal Initiation Temperature <sup>4</sup> (2.0 mil (51 µm))	185	°F	85.0	°C	Internal Method
<b>Thermal</b>					
Vicat Softening Temperature	187	°F	86.0	°C	ASTM D1525
Melting Temperature (DSC)	210	°F	99.0	°C	Internal Method
<b>Optical</b>					
Gloss (20°, 2.00 mil (50.8 µm))	141		141		ASTM D2457
Clarity (2.00 mil (50.8 µm))	83.0		83.0		ASTM D1746
Haze (2.00 mil (50.8 µm))	1.10	%	1.10	%	ASTM D1003
<b>Extrusion</b>					
Melt Temperature	408	°F	209	°C	
<b>Extrusion Notes</b>					
Fabrication Conditions for Blown Film:					
<ul style="list-style-type: none"> <li>Screw Size: 2.5 in. (63.5 mm); 24:1 L/D</li> <li>Screw Type: SFDM</li> <li>Die Gap: 70 mil (1.8 mm)</li> <li>Melt Temperature: 408°F (209°C)</li> <li>Output: 6 lb/hr/in. of die circumference</li> <li>Die Diameter: 6 in.</li> <li>Blow-Up Ratio: 2.5:1</li> <li>Screw Speed: 50 rpm</li> </ul>					

3. Modified rectangular test specimen.

4. 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, pill speed 10 in./min (250 mm/sec).

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