



AFFINITY™ PL 1880G

The Dow Chemical Company - Polyolefin Plastomer

Monday, November 4, 2019

General Information

Product 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.

- 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 lastics Association

Consult the regulations for complete details.

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific • Europe	• Latin America • North America	
Additive	• Antiblock: No	• Processing Aid: No	• Slip: No
Agency Ratings	• DMF Unspecified Rating • EU No 10/2011	• FDA FCN 424 • HPFB (Canada) No Objection	• JHOSPA Unspecified Rating • USP 23
Forms	• Pellets		
Processing Method	• Blown Film		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.904		ASTM D792
Melt Mass-Flow Rate (190°C/2.16 kg)	1.0	g/10 min	ASTM D1238
Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	2	mil	
Film Puncture Energy (2.0 mil)	78.0	in-lb	Internal Method
Film Puncture Force (2.0 mil)	20.8	lbf	Internal Method
Film Puncture Resistance (2.0 mil)	270	ft-lb/in ³	Internal Method
Secant Modulus - 2% Secant, MD (2.0 mil)	13300	psi	ASTM D882
Secant Modulus - 2% Secant, TD (2.0 mil)	13400	psi	ASTM D882
Tensile Strength - MD (Yield, 2.0 mil)	1050	psi	ASTM D882
Tensile Strength - TD (Yield, 2.0 mil)	1000	psi	ASTM D882
Tensile Strength - MD (Break, 2.0 mil)	8500	psi	ASTM D882
Tensile Strength - TD (Break, 2.0 mil)	6480	psi	ASTM D882
Tensile Elongation - MD (Break, 2.0 mil)	620	%	ASTM D882
Tensile Elongation - TD (Break, 2.0 mil)	630	%	ASTM D882
Dart Drop Impact (2.0 mil)	> 830	g	ASTM D1709B

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Films	Nominal Value	Unit	Test Method
Elmendorf Tear Strength - MD ² (2.0 mil)	550	g	ASTM D1922
Elmendorf Tear Strength - TD ² (2.0 mil)	720	g	ASTM D1922
Seal Initiation Temperature ³ (2.0 mil)	185	°F	Internal Method
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	187	°F	ASTM D1525
Melting Temperature (DSC)	210	°F	Internal Method
Optical	Nominal Value	Unit	Test Method
Gloss (20°, 2.00 mil)	141		ASTM D2457
Clarity (2.00 mil)	83.0		ASTM D1746
Haze (2.00 mil)	1.10	%	ASTM D1003

Processing Information

Extrusion	Nominal Value	Unit
Melt Temperature	408	°F

Extrusion Notes

Fabrication Conditions For Blown Film:

- Screw Size: 2.5 in. (63.5 mm); 24:1 L/D
- Screw Type: SFDM
- Die Gap: 70 mil (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

Notes

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

² Modified rectangular test specimen.

³ 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).