



AFFINITY™ PF 1146G

The Dow Chemical Company - Polyolefin Plastomer

Monday, November 4, 2019

General Information

Product Description

AFFINITY* PF 1146 Polyolefin Plastomer (POP) is produced via INSITE* Technology. It is designed for high speed packaging applications requiring low seal initiation temperature and good machinability (low consistent coefficient of friction and low block force). This resin is designed to give a COF of < 0.2 for an ~1.0 mil sealant layer in a coextruded film, and to run fast and trouble-free on most extrusion equipment, including blown film dies equipped with narrow die gaps.

- For use as a sealant layer in multilayer films
- For fresh-cut produce, dry foods and other high speed VFFS (Vertical Form-Fill-Seal) applications

Complies with:

- U.S. FDA FCN 424
- EU, No 10/2011

Consult the regulations for complete details.

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Latin America	• North America
Additive	• Antiblock: 6000 ppm	• Processing Aid: Yes	• Slip: 3500 ppm
Agency Ratings	• EU No 10/2011	• FDA FCN 424	
Forms	• Pellets		
Processing Method	• Blown Film		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.901		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)	31.5	in-lb	Internal Method
Film Puncture Force (2.0 mil)	11.0	lbf	Internal Method
Film Puncture Resistance (2.0 mil)	116	ft-lb/in ³	Internal Method
Secant Modulus - 2% Secant, MD (2.0 mil)	7420	psi	ASTM D882
Secant Modulus - 2% Secant, TD (2.0 mil)	7970	psi	ASTM D882
Tensile Strength - MD (Yield, 2.0 mil)	933	psi	ASTM D882
Tensile Strength - TD (Yield, 2.0 mil)	868	psi	ASTM D882
Tensile Strength - MD (Break, 2.0 mil)	5410	psi	ASTM D882
Tensile Strength - TD (Break, 2.0 mil)	6110	psi	ASTM D882
Tensile Elongation - MD (Break, 2.0 mil)	550	%	ASTM D882
Tensile Elongation - TD (Break, 2.0 mil)	600	%	ASTM D882
Elmendorf Tear Strength - MD (2.0 mil)	380	g	ASTM D1922
Elmendorf Tear Strength - TD (2.0 mil)	460	g	ASTM D1922
Seal Initiation Temperature ² (2.0 mil)	167	°F	Internal Method
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	172	°F	ASTM D1525
Melting Temperature (DSC)	203	°F	Internal Method

AFFINITY™ PF 1146G

The Dow Chemical Company - Polyolefin Plastomer

Optical	Nominal Value	Unit	Test Method
Gloss (45°, 2.00 mil)	77		ASTM D2457
Clarity ³ (2.00 mil)	90.0		ASTM D1746
Haze (2.00 mil)	5.50	%	ASTM D1003

Processing Information

Extrusion	Nominal Value	Unit
Melt Temperature	430 to 450	°F

Extrusion Notes

Fabrication Conditions For Blown Film:

- Screw Type: Modified LDPE or moderate-work barrier
- Die Gap: 70 mil (1.8 mm)
- Melt Temperature: 430-450°F (221-232°C)
- Blow-Up Ratio: 2.5:1

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.
Heat Seal Strengths, Topwave HT Tester 0.5 S dwell, 40 psi bar pressure. Pulled on Instron tensiometer at 10 in./min (250 mm/sec).

³ ASTM Method under development. BYK-Gardner-Hazeguard utilized.