Technical Information

AFFINITY™ PF 1146G
Polyolefin Plastomer

Overview

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.

Additive

- Antiblock: 6000 ppm
- Slip: 3500 ppm
- Processing Aid: Yes

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	0.899	g/cm³	0.899	g/cm³	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	2.0	mil	51	µm	
Film Puncture Energy (2.0 mil (51 µm))	31.5	in·lb	3.56	J	Dow Method
Film Puncture Force (2.0 mil (51 µm))	11.0	lbf	48.9	N	Dow Method
Film Puncture Resistance (2.0 mil (51 µm))	116	ft·lb/in³	9.60	J/cm³	Dow Method
Secant Modulus					ASTM D882
2% Secant, MD : 2.0 mil (51 µm)	7420	psi	51.2	MPa	
2% Secant, TD : 2.0 mil (51 µm)	7970	psi	55.0	MPa	
Tensile Strength					ASTM D882
MD : Yield, 2.0 mil (51 µm)	933	psi	6.43	MPa	
TD : Yield, 2.0 mil (51 µm)	868	psi	5.98	MPa	
MD : Break, 2.0 mil (51 µm)	5410	psi	37.3	MPa	
TD : Break, 2.0 mil (51 µm)	6110	psi	42.1	MPa	
Tensile Elongation					ASTM D882
MD : Break, 2.0 mil (51 µm)	550	%	550	%	
TD : Break, 2.0 mil (51 µm)	600	%	600	%	
Elmendorf Tear Strength					ASTM D1922
MD : 2.0 mil (51 µm)	380	g	380	g	
TD : 2.0 mil (51 µm)	460	g	460	g	
Seal Initiation Temperature [1]					Dow Method
2.0 mil (51 µm)	167	°F	75.0	°C	
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Vicat Softening Temperature	172	°F	78.0	°C	ASTM D1525
Melting Temperature (DSC)	203	°F	95.0	°C	Dow Method
Optical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Gloss (45°, 2.00 mil (50.8 µm))	77		77		ASTM D2457
Clarity [2] (2.00 mil (50.8 µm))	90.0		90.0		ASTM D1746
Haze (2.00 mil (50.8 µm))	5.5	%	5.5	%	ASTM D1003

Extrusion	Nominal Value	(English)	Nominal Value	(SI)	
Melt Temperature	430 to 450	°F	221 to 232	°C	

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

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

[1] 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).

[2] ASTM Method under development. BYK-Gardner-Hazeguard utilized.