



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

Sustainability Attribute:



Complies with:

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

Additive

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

Physical Properties

Physical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method ¹
Density	0.897	g/cm ³	0.897	g/cm ³	ASTM D792
Melt Index (190°C/2.16 kg)	1.6	g/10 min	1.6	g/10 min	ASTM D1238
Films					
Film Thickness — Tested	2	mil	51	µm	
Film Puncture Energy (2.0 mil (51 µm))	72.4	in·lb	8.18	J	Dow Method
Film Puncture Force (2.0 mil (51 µm))	18.8	lbf	83.6	N	Dow Method



Physical Properties (Cont.)

Films	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method
Film Puncture Resistance (2.0 mil (51 µm))	245	ft·lb/in ³	20.3	J/cm ³	Dow Method
Secant Modulus					ASTM D882
2% Secant, MD: 2.0 mil (51 µm)	10600	psi	72.8	MPa	
2% Secant, TD: 2.0 mil (51 µm)	10600	psi	73.2	MPa	
Tensile Strength					ASTM D882
MD: Yield, 2.0 mil (51 µm)	840	psi	5.79	MPa	
TD: Yield, 2.0 mil (51 µm)	920	psi	6.34	MPa	
MD: Break, 2.0 mil (51 µm)	7290	psi	50.3	MPa	
TD: Break, 2.0 mil (51 µm)	5730	psi	39.5	MPa	
Tensile Elongation					ASTM D882
MD: Break, 2.0 mil (51 µm)	690	%	690	%	
TD: Break, 2.0 mil (51 µm)	700	%	700	%	
Dart Drop Impact (2.0 mil (51 µm))	> 850	g	> 850	g	ASTM D1709B
Elmendorf Tear Strength ²					ASTM D1922
MD: 2.0 mil (51 µm)	470	g	470	g	
TD: 2.0 mil (51 µm)	620	g	620	g	
Seal Initiation Temperature ³					Dow Method
2.0 mil (51 µm)	178	°F	81.1	°C	
Thermal					
Vicat Softening Temperature	170	°F	76.7	°C	ASTM D1525
Melting Temperature (DSC)	205	°F	96.1	°C	Dow Method
Optical					
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))	1.30	%	1.30	%	ASTM D1003
Extrusion					
Melt Temperature	408	°F	209	°C	

Extrusion Notes

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: 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
- Frost Line Height: 25 in. (635 mm)

