AFFINITY™ PF 1140G

The Dow Chemical Company - Polyolefin Plastomer

Monday, November 4, 2019

General Information

Product Description

- High performance blown film resin for flexible packaging
- Excellent abuse resistance
- Low temperature seal initiation
- Excellent optics
- Outstanding high oxygen transmission rates

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.

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	
Forms	• Pellets		
Processing Method	• Blown Film		

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.899		ASTM D792
Melt Mass-Flow Rate (190°C/2.16 kg)	1.6	g/10 min	ASTM D1238
Films	**Nominal Value**	**Unit**	**Test Method**
Film Thickness - Tested	2	mil	
Film Puncture Energy (2.0 mil)	72.4	in·lb	Internal Method
Film Puncture Force (2.0 mil)	18.8	lbf	Internal Method
Film Puncture Resistance (2.0 mil)	245	ft·lb/in³	Internal Method
Secant Modulus - 2% Secant, MD (2.0 mil)	10600	psi	ASTM D882
Secant Modulus - 2% Secant, TD (2.0 mil)	10600	psi	ASTM D882
Tensile Strength - MD (Yield, 2.0 mil)	840	psi	ASTM D882
Tensile Strength - TD (Yield, 2.0 mil)	920	psi	ASTM D882
Tensile Strength - MD (Break, 2.0 mil)	7290	psi	ASTM D882
Tensile Strength - TD (Break, 2.0 mil)	5730	psi	ASTM D882
Tensile Elongation - MD (Break, 2.0 mil)	690	%	ASTM D882
Tensile Elongation - TD (Break, 2.0 mil)	700	%	ASTM D882
Dart Drop Impact (2.0 mil)	> 850	g	ASTM D1709B

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Films	Nominal Value	Unit	Test Method
Elmendorf Tear Strength - MD [2] (2.0 mil)	470	g	ASTM D1922
Elmendorf Tear Strength - TD [2] (2.0 mil)	620	g	ASTM D1922
Seal Initiation Temperature [3] (2.0 mil)	178	°F	Internal Method
Thermal	**Nominal Value**	**Unit**	**Test Method**
Vicat Softening Temperature	170	°F	ASTM D1525
Melting Temperature (DSC)	205	°F	Internal Method
Optical	**Nominal Value**	**Unit**	**Test Method**
Gloss (20°, 2.00 mil)	134		ASTM D2457
Clarity (2.00 mil)	70.0		ASTM D1746
Haze (2.00 mil)	1.30	%	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: Single Flight Double Mix
- Die Gap: 70mil (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)

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).