



AFFINITY™ PL 1888G

The Dow Chemical Company - Polyolefin Plastomer

Monday, November 4, 2019

General Information

Product Description

AFFINITY* PL 1888G Polyolefin Plastomer for Packaging films is used 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 run fast and trouble-free on most extrusion equipment, including blown film dies equipped with narrow die gaps.

- For use in monolayer films and as the sealant layer in multilayer films
- For fresh-cut produce, meat, cheese, and other high speed packaging applications requiring good machinability
- Fast processing on narrow die gaps

Complies with:

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

Consult the regulations for complete details.

General

Material Status	• Commercial: Active
Availability	• Latin America • North America
Additive	• Antiblock: 3000 ppm • Processing Aid: Yes • Slip: 1500 ppm
Agency Ratings	• EU No 10/2011 • FDA FCN 424
Forms	• Pellets
Processing Method	• Blown Film • Cast Film

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.906		ASTM D792
Melt Mass-Flow Rate (190°C/2.16 kg)	1.0	g/10 min	ASTM D1238
Mechanical	Nominal Value	Unit	Test Method
Coefficient of Friction (vs. Itself - Dynamic)	< 0.20		ASTM D1894
Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	2	mil	
Film Puncture Energy (2.0 mil)	53.0	in-lb	Internal Method
Film Puncture Force (2.0 mil)	15.1	lbf	Internal Method
Film Puncture Resistance (2.0 mil)	189	ft-lb/in ³	Internal Method
Secant Modulus - 2% Secant, MD (2.0 mil)	10200	psi	ASTM D882
Secant Modulus - 2% Secant, TD (2.0 mil)	9960	psi	ASTM D882
Tensile Strength - MD (Yield, 2.0 mil)	858	psi	ASTM D882
Tensile Strength - TD (Yield, 2.0 mil)	868	psi	ASTM D882
Tensile Strength - MD (Break, 2.0 mil)	7150	psi	ASTM D882
Tensile Strength - TD (Break, 2.0 mil)	5770	psi	ASTM D882
Tensile Elongation - MD (Break, 2.0 mil)	600	%	ASTM D882
Tensile Elongation - TD (Break, 2.0 mil)	570	%	ASTM D882
Dart Drop Impact (2.0 mil)	> 830	g	ASTM D1709B
Elmendorf Tear Strength - MD (2.0 mil)	430	g	ASTM D1922
Elmendorf Tear Strength - TD (2.0 mil)	720	g	ASTM D1922
Seal Initiation Temperature ² (2.0 mil)	176	°F	Internal Method

AFFINITY™ PL 1888G

The Dow Chemical Company - Polyolefin Plastomer

Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	185	°F	ASTM D1525
Melting Temperature (DSC)	208	°F	Internal Method
Optical	Nominal Value	Unit	Test Method
Gloss (45°, 2.00 mil)	81		ASTM D2457
Clarity ³ (2.00 mil)	95.0		ASTM D1746
Haze (2.00 mil)	3.40	%	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 at 10 in./min (250 mm/sec).

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