



Technical Data Sheet

AFFINITY™ PL 1881G Polyolefin Plastomer

Overview

AFFINITY™ PL 1881G Polyolefin Plastomer (POP) is produced via INSITE™ Technology. It is designed for a variety of demanding packaging applications, including high-speed form-fill-seal products.

- Excellent ultimate hot tack strength
- Low temperature sealability
- Ability to seal through contamination
- Outstanding optics

Complies with:

- U.S. FDA FCN 424
- Canadian HPFB No Objection (with limitations)
- EU, No 10/2011

Consult the regulations for complete details.

Additive

- Antiblock: 2500 ppm
- Slip: 750 ppm

Physical Properties

Physical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method ¹
Density	0.904	g/cm ³	0.904	g/cm ³	ASTM D792
Melt Index (190°C/2.16 kg)	1.0	g/10 min	1.0	g/10 min	ASTM D1238
Mechanical					
Coefficient of Friction vs. Itself — Dynamic	0.15		0.15		ASTM D1894
Films					
Film Thickness — Tested	2	mil	51	µm	
Film Puncture Energy (2.0 mil (51 µm))	71.6	in·lb	8.09	J	Dow Method
Film Puncture Force (2.0 mil (51 µm))	18.5	lbf	82.3	N	Dow Method

Sustainability Attribute:



Physical Properties (Cont.)

Films	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method
Film Puncture Resistance (2.0 mil (51 µm))	265	ft-lb/in ³	21.9	J/cm ³	Dow Method
Secant Modulus					ASTM D882
2% Secant, MD: 2.0 mil (51 µm)	14100	psi	97.4	MPa	
2% Secant, TD: 2.0 mil (51 µm)	14100	psi	96.9	MPa	
Tensile Strength					ASTM D882
MD: Yield, 2.0 mil (51 µm)	1170	psi	8.07	MPa	
TD: Yield, 2.0 mil (51 µm)	1040	psi	7.17	MPa	
MD: Break, 2.0 mil (51 µm)	6580	psi	45.4	MPa	
TD: Break, 2.0 mil (51 µm)	6170	psi	42.5	MPa	
Tensile Elongation					ASTM D882
MD: Break, 2.0 mil (51 µm)	590	%	590	%	
TD: Break, 2.0 mil (51 µm)	630	%	630	%	
Dart Drop Impact (2.0 mil (51 µm))	> 830	g	> 830	g	ASTM D1709B
Elmendorf Tear Strength ²					ASTM D1922
MD: 2.0 mil (51 µm)	560	g	560	g	
TD: 2.0 mil (51 µm)	730	g	730	g	
Seal Initiation Temperature ³					Dow Method
2.0 mil (51 µm)	185	°F	85.0	°C	
Block Force	70	g	70	g	ASTM D3354-89
Thermal					
Vicat Softening Temperature	187	°F	86.0	°C	ASTM D1525
Melting Temperature (DSC)	212	°F	100	°C	Dow Method
Optical					
Gloss (20°, 2.00 mil (50.8 µm))	112		112		ASTM D2457
Clarity (2.00 mil (50.8 µm))	83.0		83.0		ASTM D1746
Haze (2.00 mil (50.8 µm))	3.20	%	3.20	%	ASTM D1003
Extrusion					
Melt Temperature	430	°F	221	°C	
Extrusion Notes					

Fabrication Conditions for Blown Film:

- Screw Size: 2.5 in. (63.5 mm); 24:1 L/D
- Screw Type: DSB II
- Die Gap: 70 mil (1.8 mm)
- Melt Temperature: 430°F (221°C)
- Output: 6 lb/hr/in. of die circumference
- Die Diameter: 6 in.
- Blow-Up Ratio: 2.5:1
- Screw Speed: 40 rpm

