



AFFINITY™ PL 1860G

Polyolefin Plastomer

Overview

AFFINITY™ PL 1860G Polyolefin Plastomer is a high-performance sealant resin produced via INSITE™ technology from Dow. It is designed to offer low seal initiation temperature, high packaging speeds and very good hot-tack strength as well as providing excellent optical properties.

Main Characteristics:

- Low seal initiation temperature
- Very good hot-tack strength
- High packaging line speeds

Complies with:

- EU, 10/2011

Consult the regulations for complete details.

Additive

- Antiblock: No
- Slip: No
- Processing Aid: No

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.905 g/cm ³	0.905 g/cm ³	ASTM D792
Base Density ¹	0.905 g/cm ³	0.905 g/cm ³	Dow Method
Melt Index (190°C/2.16 kg)	0.80 g/10 min	0.80 g/10 min	ASTM D1238
Films	Nominal Value (English)	Nominal Value (SI)	Test Method
Film Thickness - Tested	1 mil	25 µm	
Film Puncture Energy	50.0 in·lb	5.65 J	Dow Method
Film Puncture Force	13.0 lbf	57.8 N	Dow Method
Film Puncture Resistance	350 ft·lb/in ³	29.0 J/cm ³	Dow Method
Secant Modulus			ASTM D882
2% Secant, MD	12000 psi	82.7 MPa	
2% Secant, TD	12000 psi	82.7 MPa	
Tensile Strength			ASTM D882
MD : Yield	850 psi	5.86 MPa	
TD : Yield	800 psi	5.52 MPa	
MD : Break	6500 psi	44.8 MPa	
TD : Break	5500 psi	37.9 MPa	
Tensile Elongation			ASTM D882
MD : Break	390 %	390 %	
TD : Break	500 %	500 %	
Dart Drop Impact	800 g	800 g	ASTM D1709B
Elmendorf Tear Strength ²			ASTM D1922
MD	200 g	200 g	
TD	360 g	360 g	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature	203 °F	95.0 °C	ASTM D1525
Melting Temperature (DSC)	214 °F	101 °C	Dow Method
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss (45°)	75	75	ASTM D2457
Haze	4.00 %	4.00 %	ASTM D1003
Additional Information	Nominal Value (English)	Nominal Value (SI)	
Sealing Initial Temperature ³	196 °F	91 °C	

Extrusion Notes

Fabrication Conditions For 1mil Blown Film

- Screw Size: 3.5 in.
- Screw Type: DSBII
- Die Gap: 70 mil
- Melt Temperature: 421°F
- Output: 12 lb/hr/in. of die circumference
- Die Diameter: 8 in.
- Blow-Up Ratio: 2.5 to 1
- Screw Speed: 38 rpm
- Frost Line Height: 58 in.

Notes

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

¹ Base density is estimated using the assumption that every 1000 ppm of antiblock in the finished product raises the density of the polymer by 0.0006 g/cm³. Base density is the estimated density of the polymer if it did not contain any antiblock.

² Method B

³ Temperature at which 2 lb/inch (8.8 N/25mm) seal strength is achieved - PET12//PE50 laminate with 10µm seal layer of AFFINITY PL1860G + 20% LDPE blend. Flat seal, 5 bar pressure, 0.5s dwell time, 4 in/min (100mm/min) pull speed.

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