

DOW™ Butene 1221P Linear Low Density Polyethylene Resin

Overview

Polyethylene Resin 1221P is a butene Linear Low Density Polyethylene for general cast extrusion film applications.

Main Characteristics:

- · Used in Industrial, Food & Specialty Packaging
- · Better optics and processability
- · Better color stability

Complies with:

- U.S. FDA 21 177.1520 (c) 3.2a .
- EU. No 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	0.918	g/cm³	0.918	g/cm³	ASTM D792
Base Density	0.918	g/cm³	0.918	g/cm³	Dow Method ¹
Melt Index (190°C/2.16 kg)	2.0	g/10 min	2.0	g/10 min	ASTM D1238
Films	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Film Thickness - Tested	1.0	mil	25	μm	
Film Puncture Force (1.0 mil (25 µm))	11.0	lbf	48.9	N	Dow Method
Film Puncture Resistance (1.0 mil (25 µm))	109	ft·lb/in³	9.02	J/cm³	Dow Method
Secant Modulus					ASTM D882
2% Secant, MD: 1.0 mil (25 μm)	21600	psi	149	MPa	
2% Secant, TD: 1.0 mil (25 μm)	21300	psi	147	MPa	
Tensile Strength					ASTM D882
MD: Yield, 1.0 mil (25 μm)	1550	psi	10.7	MPa	
TD: Yield, 1.0 mil (25 µm)	1300	psi	8.94	MPa	
MD: Break, 1.0 mil (25 μm)	5740	psi	39.6	MPa	
TD: Break, 1.0 mil (25 µm)	2990	psi	20.6	MPa	
Tensile Elongation					ASTM D882
MD: Break, 1.0 mil (25 μm)	450	%	450	%	
TD: Break, 1.0 mil (25 µm)	680	%	680	%	
Dart Drop Impact (1.0 mil (25 µm))	66	g	66	g	ASTM D1709A
Elmendorf Tear Strength					ASTM D1922
MD: 1.0 mil (25 μm)	37	g	37	g	
TD: 1.0 mil (25 µm)	370	g	370	g	
Film Stretch Performace - Max Elongation					Dow Method ³
1.0 mil (25.4 µm)	230	%	230	%	
Thermal	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Vicat Softening Temperature	205	°F	96.1	°C	ASTM D1525
Melting Temperature (DSC)	241	°F	116	°C	Dow Method
Optical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Gloss (20°, 1.00 mil (25.4 µm))	151		151		ASTM D2457
Haze (1.00 mil (25.4 µm))	0.56	%	0.56	%	ASTM D1003

Extrusion Notes

Fabrication Conditions For Cast Film:

- Melt Temperature: 520°F (271°C)
- Die Gap: 20 mil (0.5 mm)
- Line Speed: 600 fpm (183 m/min)
- Air Gap: 3.0 in. (7.6 mm)

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Notes

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

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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; Modified Rectangular Test Specimen

³ On-Pallet testing

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