

DOW™ Butene 1221P

Linear Low Density Polyethylene Resin

The Dow Chemical Company

Message:

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.

General Information			
Agency Ratings	FDA 21 CFR 177.1520(c) 3.2a		
	Europe No 10/2011		
Forms	Particle		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.918	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	2.0	g/10 min	ASTM D1238
Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	25	µm	
Film Puncture Force (25 µm)	48.9	N	Internal method
Film Puncture Resistance (25 µm)	9.02	J/cm ³	Internal method
secant modulus			ASTM D882
2% secant, MD: 25 µm	149	MPa	ASTM D882
2% secant, TD: 25 µm	147	MPa	ASTM D882
Tensile Strength			ASTM D882
MD: Yield, 25 µm	10.7	MPa	ASTM D882
TD: Yield, 25 µm	8.94	MPa	ASTM D882
MD: Break, 25 µm	39.6	MPa	ASTM D882
TD: Break, 25 µm	20.6	MPa	ASTM D882
Tensile Elongation			ASTM D882
MD: Break, 25 µm	450	%	ASTM D882
TD: Break, 25 µm	680	%	ASTM D882
Dart Drop Impact (25 µm)	66	g	ASTM D1709A
Elmendorf Tear Strength ¹			ASTM D1922
MD : 25 µm	37	g	ASTM D1922
TD : 25 µm	370	g	ASTM D1922

Film Tensile Properties-Maximum			
Elongation ² (25.4 μm)	230	%	Internal method
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	96.1	°C	ASTM D1525
Melting Temperature (DSC)	116	°C	Internal method
Optical	Nominal Value	Unit	Test Method
Gloss (20°, 25.4 μm)	151		ASTM D2457
Haze (25.4 μm)	0.56	%	ASTM D1003
Extrusion instructions			
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)			
NOTE			
1.	Method B; Modified Rectangular Test Specimen		
2.	Test on pallet		

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