

DOW™ LLDPE 1647C Linear Low Density Polyethylene Resin

Overview

DOW™ LLDPE 1647C linear low density polyethylene is an ethylene-alpha olefin copolymer designed for blown film applications.

Main Characteristics:

- · Blown film extrusion
- · Pellet form

Complies with:

- U.S. FDA, 21 CFR 177.1520(c)3.2a
- Canadian HPFB No Objection
- 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	0.924	g/cm³	0.924	g/cm³	ASTM D792
Base Density ¹	0.924	g/cm³	0.924	g/cm³	Dow Method
Melt Index (190°C/2.16 kg)	1.3	g/10 min	1.3	g/10 min	ASTM D1238
Films	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Film Thickness - Tested	1.0	mil	25	μm	
Film Toughness					ASTM D882
MD	1180	ft·lb/in³	97.2	J/cm³	
TD	1210	ft·lb/in³	100	J/cm³	
Secant Modulus					ASTM D882
1% Secant, MD	40100	psi	276	MPa	
2% Secant, MD	34500	psi	238	MPa	
1% Secant, TD	48100	psi	332	MPa	
2% Secant, TD	39800	psi	274	MPa	
Tensile Strength					ASTM D882
MD : Yield	1180	psi	8.10	MPa	
TD : Yield	1930	psi	13.3	MPa	
MD : Break	6210	psi	42.8	MPa	
TD : Break	4590	psi	31.6	MPa	
Tensile Elongation					ASTM D882
MD : Break	470	%	470	%	
TD : Break	620	%	620	%	
Dart Drop Impact	100	g	100	g	ASTM D1709
Elmendorf Tear Strength ²					ASTM D1922
MD	220	g	220	g	
TD	540	· ·	540	J	
Thermal	Nominal Value		Nominal Value		Test Method
Vicat Softening Temperature		<u> </u>			
	228	°F	109	°C	ASTM D1525
	102	°F	38.9	°C	ISO 306
Melting Temperature (DSC)	252	°F	122	°C	ISO 3146
Optical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Gloss (45°)	24		24		ASTM D2457
Haze	26	%	26	%	ASTM D1003

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Extrusion	Nominal Value (English)	Nominal Value (SI)	
Melt Temperature	410 °F	210 °C	

Extrusion Notes

Fabrication Conditions For Blown Film:

• Screw Size: 3.5in.; 30:1ratio L/D

Screw Type: DSB IIDie Gap: 70mil (1.8 mm)Melt Temperature: 410°F

• Output: 10 lb/hr/in. of die circumference

Die Diameter: 8 in.Blow-Up Ratio: 2.5 to 1Screw Speed: 45.2 rpmFrost Line Height: 42 in.

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

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