

DOW™ LDPE 505I

Low Density Polyethylene Resin

The Dow Chemical Company

Message:

DOW LDPE 505I Resin is a barefoot grade for general purpose blown film applications.

Main Characteristics:

Blown film extrusion

Pellet form

Complies with:

U.S. FDA, 21 CFR 177.1520(c)3.2a

Europe EU No. 10/2011

Consult the regulations for complete details.

General Information			
Agency Ratings	FDA 21 CFR 177.1520(c) 3.1a Europe No 10/2011		
Forms	Particle		
Processing Method	Blow film		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.924	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	2.1	g/10 min	ASTM D1238
Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	51	µm	
Film Puncture Energy	1.40	J	Internal method
Film Puncture Resistance	3.60	J/cm³	Internal method
Film strength			ASTM D882
MD	48.0	J/cm³	ASTM D882
TD	53.0	J/cm³	ASTM D882
secant modulus			ASTM D882
2% secant, MD	177	MPa	ASTM D882
2% secant, TD	210	MPa	ASTM D882
Tensile Strength			ASTM D882
MD: Yield	10.5	MPa	ASTM D882
TD: Yield	10.5	MPa	ASTM D882
MD: Fracture	21.0	MPa	ASTM D882
TD: Fracture	14.6	MPa	ASTM D882
Tensile Elongation			ASTM D882
MD: Fracture	280	%	ASTM D882
TD: Fracture	500	%	ASTM D882
Dart Drop Impact	100	g	ASTM D1709A
Elmendorf Tear Strength ¹			ASTM D1922

MD	460	g	ASTM D1922
TD	320	g	ASTM D1922
Thermal	Nominal Value	Unit	Test Method
Melting Temperature (DSC)	109	°C	Internal method
Optical	Nominal Value	Unit	Test Method
Gloss (45°)	78		ASTM D2457
Haze	5.9	%	ASTM D1003

Extrusion instructions

Fabrication Conditions For Blown Film:
 Screw Size: 3.5 in. (88.9 mm), 30:1 L/D
 Die Gap: 70 mil (1.78mm)
 Melt Temperature: 387°F (197°C)
 Output: 12 lb/hr/in. of die circumference
 Die Diameter: 8 in.
 Blow-Up Ratio: 2.5 to 1
 Screw Speed: 50.5 rpm
 Frost Line Height: 38 in. (965 mm)

NOTE

1. Method B

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