DOW™ LDPE 505I
Low Density Polyethylene Resin

Overview

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)2.1
- Europe 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	0.921	g/cm³	0.921	g/cm³	ASTM D792
Base Density [1]	0.922	g/cm³	0.922	g/cm³	Dow Method
Melt Index (190°C/2.16 kg)	2.1	g/10 min	2.1	g/10 min	ASTM D1238
Films	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Film Thickness - Tested	2.0	mil	51	µm	
Film Puncture Energy	12.4	in·lb	1.40	J	Dow Method
Film Puncture Resistance	43.5	ft·lb/in³	3.60	J/cm³	Dow Method
Film Toughness					ASTM D882
MD	580	ft·lb/in³	48.0	J/cm³	
TD	641	ft·lb/in³	53.0	J/cm³	
Secant Modulus					ASTM D882
2% Secant, MD	25700	psi	177	MPa	
2% Secant, TD	30500	psi	210	MPa	
Tensile Strength					ASTM D882
MD : Yield	1520	psi	10.5	MPa	
TD : Yield	1530	psi	10.5	MPa	
MD : Break	3050	psi	21.0	MPa	
TD : Break	2120	psi	14.6	MPa	
Tensile Elongation					ASTM D882
MD : Break	280	%	280	%	
TD : Break	500	%	500	%	
Dart Drop Impact	100	g	100	g	ASTM D1709A
Elmendorf Tear Strength [2]					ASTM D1922
MD	460	g	460	g	
TD	320	g	320	g	
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Melting Temperature (DSC)	228	°F	109	°C	Dow Method
Optical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Gloss (45°)	78		78		ASTM D2457
Haze	5.90	%	5.90	%	ASTM D1003

Extrusion Notes

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)

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