



DOW™ LDPE 501I

Low Density Polyethylene Resin

Overview

- A resin for clarity and bakery film applications
- Optimum gauge range: 1.0 - 3.0 mil
- Complies with U.S. FDA 21 CFR 177.1520 (c) 2.1
- Complies with U.S. FDA - DMF
- Complies with EU, No 10/2011
- Complies with Canadian HPFB No Objection (With Limitations)
- 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/cm ³	0.921 g/cm ³	ASTM D792
Base Density ¹	0.921 g/cm ³	0.921 g/cm ³	Dow Method
Melt Index (190°C/2.16 kg)	1.9 g/10 min	1.9 g/10 min	ASTM D1238
Films	Nominal Value (English)	Nominal Value (SI)	Test Method
Film Thickness - Tested	2 mil	51 µm	
Film Puncture Resistance (2.0 mil (51 µm))	51.0 ft·lb/in ³	4.22 J/cm ³	Dow Method
Film Toughness			ASTM D882
MD : 2.0 mil (51 µm)	2680 ft·lb/in ³	221 J/cm ³	
TD : 2.0 mil (51 µm)	2210 ft·lb/in ³	183 J/cm ³	
Tensile Strength			ASTM D882
MD : Yield, 2.0 mil (51 µm)	1760 psi	12.2 MPa	
TD : Yield, 2.0 mil (51 µm)	1710 psi	11.8 MPa	
MD : Break, 2.0 mil (51 µm)	3700 psi	25.5 MPa	
TD : Break, 2.0 mil (51 µm)	2840 psi	19.6 MPa	
Tensile Elongation			ASTM D882
MD : Break, 2.0 mil (51 µm)	650 %	650 %	
TD : Break, 2.0 mil (51 µm)	730 %	730 %	
Dart Drop Impact (2.0 mil (51 µm))	88 g	88 g	ASTM D1709A
Elmendorf Tear Strength			ASTM D1922
MD : 2.0 mil (51 µm)	440 g	440 g	
TD : 2.0 mil (51 µm)	480 g	480 g	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature	198 °F	92.2 °C	ASTM D1525
Melting Temperature (DSC)	232 °F	111 °C	Dow Method
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss (45°, 2.00 mil (50.8 µm))	76	76	ASTM D2457
Haze (2.00 mil (50.8 µm))	6.70 %	6.70 %	ASTM D1003
Extrusion	Nominal Value (English)	Nominal Value (SI)	
Melt Temperature	422 °F	217 °C	



Extrusion Notes

Fabrication Conditions For Blown Film:

- Screw Size: 2.5 in. (63.5 mm) 30:1 L/D
- Screw Type: Single Flight Double Mix
- Die Gap: 40 mil (1.02 mm)
- Melt Temperature: 422°F (217°C)
- Output: 10 lb/hr/in. of die circumference
- Die Diameter: 6 in.
- Blow-Up Ratio: 2.5:1
- Screw Speed: 90 rpm
- Frost Line Height: 30 in. (762 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.

