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/cm³	0.921	g/cm³	ASTM D792
Base Density [1]	0.921	g/cm³	0.921	g/cm³	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/in³	4.22	J/cm³	Dow Method
Film Toughness					ASTM D882
MD : 2.0 mil (51 µm)	2680	ft·lb/in³	221	J/cm³	
TD : 2.0 mil (51 µm)	2210	ft·lb/in³	183	J/cm³	
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	

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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.

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Additional Information

North America		**Europe/Middle East**	+800-3694-6367
U.S. & Canada:	1-800-441-4369		+31-11567-2626
	1-989-832-1426	Italy:	+800-783-825
Mexico:	+1-800-441-4369		
Latin America		**South Africa**	+800-99-5078
Argentina:	+54-11-4319-0100		
Brazil:	+55-11-5188-9000		
Colombia:	+57-1-219-6000	**Asia Pacific**	+800-7776-7776
Mexico:	+52-55-5201-4700		+603-7965-5392

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