DOW™ LDPE 501I

The Dow Chemical Company - Low Density Polyethylene Resin

Tuesday, November 5, 2019

General Information

Product Description

- 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.

General			
Material Status	• Commercial: Active		
Availability	• Latin America	• North America	
Additive	• Antiblock: No	• Processing Aid: No	• Slip: No
Agency Ratings	• DMF Unspecified Rating • EU No 10/2011	• FDA 21 CFR 177.1520(c) 2.1 • HPFB (Canada) No Objection [1]	
Forms	• Pellets		
Processing Method	• Blown Film		

ASTM & ISO Properties [2]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.923		ASTM D792
Melt Mass-Flow Rate (190°C/2.16 kg)	1.9	g/10 min	ASTM D1238
Films	**Nominal Value**	**Unit**	**Test Method**
Film Thickness - Tested	2	mil	
Film Puncture Resistance (2.0 mil)	51.0	ft·lb/in³	Internal Method
Film Toughness - MD (2.0 mil)	2680	ft·lb/in³	ASTM D882
Film Toughness - TD (2.0 mil)	2210	ft·lb/in³	ASTM D882
Tensile Strength - MD (Yield, 2.0 mil)	1760	psi	ASTM D882
Tensile Strength - TD (Yield, 2.0 mil)	1710	psi	ASTM D882
Tensile Strength - MD (Break, 2.0 mil)	3700	psi	ASTM D882
Tensile Strength - TD (Break, 2.0 mil)	2840	psi	ASTM D882
Tensile Elongation - MD (Break, 2.0 mil)	650	%	ASTM D882
Tensile Elongation - TD (Break, 2.0 mil)	730	%	ASTM D882
Dart Drop Impact (2.0 mil)	88	g	ASTM D1709A
Elmendorf Tear Strength - MD (2.0 mil)	440	g	ASTM D1922
Elmendorf Tear Strength - TD (2.0 mil)	480	g	ASTM D1922
Thermal	**Nominal Value**	**Unit**	**Test Method**
Vicat Softening Temperature	198	°F	ASTM D1525
Melting Temperature (DSC)	232	°F	Internal Method
Optical	**Nominal Value**	**Unit**	**Test Method**
Gloss (45°, 2.00 mil)	76		ASTM D2457
Haze (2.00 mil)	6.70	%	ASTM D1003

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Processing Information

Extrusion	Nominal Value	Unit
Melt Temperature	422	°F

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

[1] With limitations

[2] Typical properties: these are not to be construed as specifications.

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