



AGILITY™ 1021 Performance LDPE

The Dow Chemical Company - Low Density Polyethylene Resin

Tuesday, November 5, 2019

General Information

Product Description

AGILITY™ 1021 Performance LDPE is a high pressure LDPE resin designed to run at faster output rates on blown film lines in LLDPE rich blends while maintaining optics.

Main Characteristics:

- Faster processing LDPE resin
- Designed for higher output rates in blends with LLDPE resins at 20-30% loading - Optimized molecular structure gives improved optics in blends with LLDPE resins

Complies with:

- EU No 10/2011
- U.S.FDA 21 CFR 177.1520 (c) 2.2
- Canadian HPFB No Objection

Consult the regulations for complete details

General

Material Status	• Commercial: Active
Availability	• North America
Additive	• Antiblock: No • Processing Aid: No • Slip: No
Agency Ratings	• EU No 10/2011 • FDA 21 CFR 177.1520(c) 2.1 • HPFB (Canada) No Objection
Forms	• Pellets

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.921		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)	58.9	ft-lb/in ³	Internal Method
Film Toughness - MD (2.0 mil)	553	ft-lb/in ³	ASTM D882
Film Toughness - TD (2.0 mil)	727	ft-lb/in ³	ASTM D882
Secant Modulus - 2% Secant, MD (2.0 mil)	24400	psi	ASTM D882
Secant Modulus - 2% Secant, TD (2.0 mil)	26800	psi	ASTM D882
Tensile Strength - MD (Yield, 2.0 mil)	1580	psi	ASTM D882
Tensile Strength - TD (Yield, 2.0 mil)	1560	psi	ASTM D882
Tensile Strength - MD (Break, 2.0 mil)	3130	psi	ASTM D882
Tensile Strength - TD (Break, 2.0 mil)	2380	psi	ASTM D882
Tensile Elongation - MD (Break, 2.0 mil)	260	%	ASTM D882
Tensile Elongation - TD (Break, 2.0 mil)	540	%	ASTM D882
Dart Drop Impact (2.0 mil)	100	g	ASTM D1709A
Elmendorf Tear Strength - MD (2.0 mil)	460	g	ASTM D1922
Elmendorf Tear Strength - TD (2.0 mil)	250	g	ASTM D1922
Thermal	Nominal Value	Unit	Test Method
Melting Temperature (DSC)	226	°F	Internal Method

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Optical	Nominal Value	Unit	Test Method
Gloss (45°, 2.00 mil)	60		ASTM D2457
Haze (2.00 mil)	9.00	%	ASTM D1003

Processing Information

Extrusion Notes

Fabrication Conditions For Blown Film:

- Screw Size: 3.5 in.; 30:1 ratio L/D
- Screw Type: DSB II
- Die Gap: 70 mil (1.78 mm)
- Melt Temperature: 404°F (206°C)
- Output: 16 lb/hr/in. of die circumference
- Die Diameter: 8 in.
- Blow-Up Ratio: 2.5 to 1
- Screw Speed: 50 rpm
- Frost Line Height: 42 in. (1067 mm)
- IBC

Notes

¹ Typical properties: these are not to be construed as specifications.