

AGILITY™ 1021 Performance LDPE

Low Density Polyethylene Resin
The Dow Chemical Company

Message:

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 Information			
Agency Ratings	FDA 21 CFR 177.1520(c) 2.2		
	HPFB (Canada) No Objection		
	Europe No 10/2011		
Forms	Particle		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.919	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	1.9	g/10 min	ASTM D1238
Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	51	µm	
Film Puncture Resistance (51 µm)	4.87	J/cm³	Internal method
Film strength			ASTM D882
MD : 51 µm	45.8	J/cm³	ASTM D882
TD : 51 µm	60.1	J/cm³	ASTM D882
secant modulus			ASTM D882
2% secant, MD: 51 µm	168	MPa	ASTM D882
2% secant, TD: 51 µm	185	MPa	ASTM D882
Tensile Strength			ASTM D882
MD: Yield, 51 µm	10.9	MPa	ASTM D882
TD: Yield, 51 µm	10.8	MPa	ASTM D882
MD: Fracture, 51 µm	21.6	MPa	ASTM D882
TD: Fracture, 51 µm	16.4	MPa	ASTM D882
Tensile Elongation			ASTM D882
MD: Fracture, 51 µm	260	%	ASTM D882
TD: Fracture, 51 µm	540	%	ASTM D882
Dart Drop Impact (51 µm)	100	g	ASTM D1709A

Elmendorf Tear Strength			ASTM D1922
MD : 51 μm	460	g	ASTM D1922
TD : 51 μm	250	g	ASTM D1922
Thermal	Nominal Value	Unit	Test Method
Melting Temperature (DSC)	108	$^{\circ}\text{C}$	Internal method
Optical	Nominal Value	Unit	Test Method
Gloss (45°, 50.8 μm)	60		ASTM D2457
Haze (50.8 μm)	9.0	%	ASTM D1003
Extrusion instructions			

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

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