



DOWLEX™ 2045G

The Dow Chemical Company - Polyethylene Resin

Tuesday, November 5, 2019

General Information

Product Description

- Linear Low Density Polyethylene
- For heavy duty applications
- Complies with U.S. FDA 21 CFR 177.1520 (c) 3.2a.
- Consult the regulations for complete details.

DOWLEX™ 2045G Polyethylene Resin is designed for the production of a wide variety of industrial and consumer films. Films made from this resin exhibit a combination of excellent toughness and tear resistance. The product also delivers very good processability on conventional LLDPE machinery.

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific • Europe	• Latin America • North America	
Additive	• Antiblock: No	• Processing Aid: No	• Slip: No
Agency Ratings	• FDA 21 CFR 177.1520(c) 3.2a		
Forms	• Pellets		
Processing Method	• Blown Film		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.922		ASTM D792
Melt Mass-Flow Rate (190°C/2.16 kg)	1.0	g/10 min	ASTM D1238
Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	1	mil	
Film Puncture Energy	47.0	in-lb	Internal Method
Film Puncture Force	14.0	lbf	Internal Method
Film Puncture Resistance	315	ft-lb/in ³	Internal Method
Film Toughness - MD	1430	ft-lb/in ³	ASTM D882
Film Toughness - TD	1560	ft-lb/in ³	ASTM D882
Secant Modulus			ASTM D882
1% Secant, MD	34400	psi	
2% Secant, MD	29800	psi	
Secant Modulus			ASTM D882
1% Secant, TD	39900	psi	
2% Secant, TD	33600	psi	
Tensile Strength - MD (Yield)	1650	psi	ASTM D882
Tensile Strength - TD (Yield)	1730	psi	ASTM D882
Tensile Strength - MD (Break)	6870	psi	ASTM D882
Tensile Strength - TD (Break)	5890	psi	ASTM D882
Tensile Elongation - MD (Break)	600	%	ASTM D882
Tensile Elongation - TD (Break)	740	%	ASTM D882
Dart Drop Impact	220	g	ASTM D1709A
Elmendorf Tear Strength - MD ²	370	g	ASTM D1922
Elmendorf Tear Strength - TD ²	630	g	ASTM D1922

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Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	223	°F	ASTM D1525
Melting Temperature (DSC)	246	°F	Internal Method
Optical	Nominal Value	Unit	Test Method
Gloss	60		ASTM D2457
Haze	10.0	%	ASTM D1003

Processing Information

Extrusion Notes

Fabrication Conditions For Blown Film:

- Screw Size: 3.5 in.; 30:1 L/D
- Screw Type: DSB II
- Die Gap: 70 mil (1.8 mm)
- Melt Temperature: 418°F
- Output: 12 lb/hr/in. of die circumference
- Die Diameter: 8 in.
- Blow-Up Ratio: 2.5:1
- Screw Speed: 41 rpm
- Frost Line Height: 43 in.

Notes

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

² Method B