



DOWLEX™ 2045.11G

Polyethylene Resin

Overview

- For high speed, thin film applications
- Additional thermal stability
- Complies with U.S. FDA 21 CFR 177.1520 (c) 3.2a.
- Complies with Canadian HPFB No Objection (With Limitations)
- Complies with Europe EU-Directive 2002/72/EC (See Notes)
- Consult the regulations for complete details.

Slip Additive: 1200 ppm
 Antiblock Additive: 3000 ppm

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.922 g/cm ³	0.922 g/cm ³	ASTM D792
Melt Index (190°C/2.16 kg)	1.0 g/10 min	1.0 g/10 min	ASTM D1238
Films	Nominal Value (English)	Nominal Value (SI)	Test Method
Film Puncture Resistance			Dow Method
2.00 mil (50.8 µm)	118 ft-lb/in ³	9.76 J/cm ³	
0.800 mil (20.3 µm)	138 ft-lb/in ³	11.4 J/cm ³	
Film Toughness			ASTM D882
MD: 2.00 mil (50.8 µm)	3300 ft-lb/in ³	273 J/cm ³	
MD: 0.800 mil (20.3 µm)	2910 ft-lb/in ³	240 J/cm ³	
TD: 2.00 mil (50.8 µm)	3530 ft-lb/in ³	292 J/cm ³	
TD: 0.800 mil (20.3 µm)	3670 ft-lb/in ³	304 J/cm ³	
Secant Modulus			ASTM D882
2% Secant, MD: 2.00 mil (50.8 µm)	28400 psi	196 MPa	
MD: 0.800 mil (20.3 µm)	32900 psi	227 MPa	
2% Secant, TD: 2.00 mil (50.8 µm)	34000 psi	234 MPa	
TD: 0.800 mil (20.3 µm)	35800 psi	247 MPa	
Tensile Strength			ASTM D882
MD: Yield, 2.00 mil (50.8 µm)	1710 psi	11.8 MPa	
MD: Yield, 0.800 mil (20.3 µm)	1850 psi	12.7 MPa	
TD: Yield, 2.00 mil (50.8 µm)	1830 psi	12.6 MPa	
TD: Yield, 0.800 mil (20.3 µm)	1900 psi	13.1 MPa	
MD: Break, 2.00 mil (50.8 µm)	7530 psi	51.9 MPa	
MD: Break, 0.800 mil (20.3 µm)	8760 psi	60.4 MPa	
TD: Break, 2.00 mil (50.8 µm)	6420 psi	44.3 MPa	
TD: Break, 0.800 mil (20.3 µm)	7130 psi	49.2 MPa	
Tensile Elongation			ASTM D882
MD: Break, 2.00 mil (50.8 µm)	670 %	670 %	
MD: Break, 0.800 mil (20.3 µm)	480 %	480 %	
TD: Break, 2.00 mil (50.8 µm)	770 %	770 %	
TD: Break, 0.800 mil (20.3 µm)	750 %	750 %	
Dart Drop Impact			ASTM D1709A
2.00 mil (50.8 µm)	280 g	280 g	
0.800 mil (20.3 µm)	130 g	130 g	
Elmendorf Tear Strength			ASTM D1922
MD: 2.00 mil (50.8 µm)	740 g	740 g	
MD: 0.800 mil (20.3 µm)	440 g	440 g	
TD: 2.00 mil (50.8 µm)	1200 g	1200 g	
TD: 0.800 mil (20.3 µm)	580 g	580 g	

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature	219 °F	104 °C	ASTM D1525
Melting Temperature (DSC)	252 °F	122 °C	Dow Method
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss			ASTM D2457
45°, 0.800 mil (20.3 µm)	70	70	
45°, 2.00 mil (50.8 µm)	67	67	
Haze			ASTM D1003
0.800 mil (20.3 µm)	7.0 %	7.0 %	
2.00 mil (50.8 µm)	10 %	10 %	
Extrusion	Nominal Value (English)	Nominal Value (SI)	
Melt Temperature	430 to 450 °F	221 to 232 °C	

Extrusion Notes

Fabrication Conditions For Blown Film:

- Screw Size: 2.5 in. (63.5 mm); 24:1 L/D
- Screw Type: DSB II
- Die Gap: 70 mil (1.8 mm)
- Melt Temperature: 430-450°F (221-232°C)
- Output: 10 lb/hr/in. of die circumference
- Die Diameter: 6 in.
- Blow-Up Ratio: 2.5:1

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

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