



DOWLEX™ 2070G

Polyethylene Resin

Overview

- Linear Low Density Polyethylene
- High strength in food packaging applications
- Good processability at narrow die gaps

Complies with:

- U.S. FDA 21 CFR 177.1520 (c) 3.2a
- Canadian HPFB No Objection (With Limitations)
- EU, No 10/2011

Consult the regulations for complete details.

Additive

- Antiblock: 2500 ppm
- Slip: 1000 ppm
- Processing Aid: Yes

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.922 g/cm ³	0.922 g/cm ³	ASTM D792
Base Density ¹	0.921 g/cm ³	0.921 g/cm ³	Dow Method
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
0.80 mil (20 µm)	105 ft·lb/in ³	8.69 J/cm ³	
2.0 mil (51 µm)	70.0 ft·lb/in ³	5.79 J/cm ³	
Film Toughness			ASTM D882
MD : 0.80 mil (20 µm)	923 ft·lb/in ³	76.4 J/cm ³	
MD : 2.0 mil (51 µm)	1200 ft·lb/in ³	99.0 J/cm ³	
TD : 0.80 mil (20 µm)	1090 ft·lb/in ³	89.9 J/cm ³	
TD : 2.0 mil (51 µm)	1170 ft·lb/in ³	97.1 J/cm ³	
Secant Modulus			ASTM D882
2% Secant, MD : 0.80 mil (20 µm)	26600 psi	183 MPa	
2% Secant, MD : 2.0 mil (51 µm)	27900 psi	192 MPa	
2% Secant, TD : 0.80 mil (20 µm)	30600 psi	211 MPa	
2% Secant, TD : 2.0 mil (51 µm)	33100 psi	228 MPa	
Tensile Strength			ASTM D882
MD : Yield, 0.80 mil (20 µm)	1550 psi	10.7 MPa	
MD : Yield, 2.0 mil (51 µm)	1520 psi	10.5 MPa	
TD : Yield, 0.80 mil (20 µm)	1650 psi	11.4 MPa	
TD : Yield, 2.0 mil (51 µm)	1690 psi	11.6 MPa	
MD : Break, 0.80 mil (20 µm)	5510 psi	38.0 MPa	
MD : Break, 2.0 mil (51 µm)	5170 psi	35.6 MPa	
TD : Break, 0.80 mil (20 µm)	4060 psi	28.0 MPa	
TD : Break, 2.0 mil (51 µm)	4220 psi	29.1 MPa	
Tensile Elongation			ASTM D882
MD : Break, 0.80 mil (20 µm)	440 %	440 %	
MD : Break, 2.0 mil (51 µm)	620 %	620 %	
TD : Break, 0.80 mil (20 µm)	650 %	650 %	
TD : Break, 2.0 mil (51 µm)	680 %	680 %	
Dart Drop Impact			ASTM D1709A
0.80 mil (20 µm)	150 g	150 g	
2.0 mil (51 µm)	310 g	310 g	

Films	Nominal Value (English)	Nominal Value (SI)	Test Method
Elmendorf Tear Strength			ASTM D1922
MD : 0.80 mil (20 µm)	250 g	250 g	
MD : 2.0 mil (51 µm)	810 g	810 g	
TD : 0.80 mil (20 µm)	690 g	690 g	
TD : 2.0 mil (51 µm)	1200 g	1200 g	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature	219 °F	104 °C	ASTM D1525
Melting Temperature (DSC)	253 °F	123 °C	Dow Method
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss			ASTM D2457
45°, 0.800 mil (20.3 µm)	56	56	
45°, 2.00 mil (50.8 µm)	65	65	
Haze			ASTM D1003
0.800 mil (20.3 µm)	11.0 %	11.0 %	
2.00 mil (50.8 µm)	12.0 %	12.0 %	
Extrusion	Nominal Value (English)	Nominal Value (SI)	
Melt Temperature	425 °F	218 °C	

Extrusion Notes

Fabrication Conditions For Blown Film:

- Screw Size: 2.5 in. (63.5 mm); 24:1 L/D
- Screw Type: MC-4 Barrier
- Die Gap: 40 mil (1 mm)
- Melt Temperature: 425°F (218°C)
- Output: 10 lb/hr/in. of die circumference
- Die Diameter: 6 in.
- Blow-Up Ratio: 2.5:1
- Screw Speed: 85 rpm
- Frost Line Height: 20 in. (508 mm)
- Haul Off Speed: 190 fpm for 0.8 mil, 80 fpm for 2.0 mil

Notes

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

¹ Base density is estimated using the assumption that every 1000 ppm of antiblock in the finished product raises the density of the polymer by 0.0006 g/cm³. Base density is the estimated density of the polymer if it did not contain any antiblock.

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Published: 2000-12-10

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