



DOWLEX™ 2021D Polyethylene Resin

Overview

- Linear Low Density Polyethylene
- Excellent tear strength, outstanding toughness
- Good processability at narrow die gaps
- Complies with U.S. FDA 21 CFR 177.1520(c) 3.1a.
- Complies with Canadian HPFB No Objection (With Limitations)
- Complies with EU, No 10/2011
- Consult the regulations for complete details.

Additive

- Antiblock: 3000 ppm
- Slip: No
- 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	0.920 g/cm ³	0.920 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 Thickness - Tested	1.0 mil	25 µm	
Film Puncture Energy	14.0 in·lb	1.58 J	
Film Puncture Force	8.00 lbf	35.6 N	
Film Puncture Resistance	93.0 ft·lb/in ³	7.69 J/cm ³	Dow Method
Film Toughness			ASTM D882
MD	976 ft·lb/in ³	80.8 J/cm ³	
TD	1100 ft·lb/in ³	90.7 J/cm ³	
Secant Modulus			ASTM D882
1% Secant, MD	32800 psi	226 MPa	
2% Secant, MD	29600 psi	204 MPa	
1% Secant, TD	37000 psi	255 MPa	
2% Secant, TD	32400 psi	223 MPa	
Tensile Strength			ASTM D882
MD : Yield	1780 psi	12.3 MPa	
TD : Yield	1850 psi	12.8 MPa	
MD : Break	5290 psi	36.5 MPa	
TD : Break	4240 psi	29.2 MPa	
Tensile Elongation			ASTM D882
MD : Break	450 %	450 %	
TD : Break	590 %	590 %	
Dart Drop Impact	180 g	180 g	ASTM D1709A
Elmendorf Tear Strength			ASTM D1922
MD	350 g	350 g	
TD	710 g	710 g	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature	228 °F	109 °C	ASTM D1525
Melting Temperature (DSC)	246 °F	119 °C	Dow Method
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss (45°)	26	26	ASTM D2457
Haze	25 %	25 %	ASTM D1003
Extrusion	Nominal Value (English)	Nominal Value (SI)	
Melt Temperature	413 °F	212 °C	



Extrusion Notes

Fabrication Conditions For Blown Film:

- Die Size: 8 in.
- Screw Type: DSB II
- Die Gap: 70 mil
- Melt Temperature: 413°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: 39 in.

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.

