

DOWLEX™ 2083G

Polyethylene Resin

The Dow Chemical Company

Message:

Linear Low Density Polyethylene

Excellent tear strength, outstanding toughness

Complies with:

U.S. FDA 21 CFR 177.1520 (c) 3.2a.

Canadian HPFB No Objection

Consult the regulations for complete details.

General Information			
Agency Ratings	FDA 21 CFR 177.1520(c) 3.2a		
	HPFB (Canada) No Objection		
Forms	Particle		
Processing Method	Blow film		
	cast film		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.925	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	2.0	g/10 min	ASTM D1238
Films	Nominal Value	Unit	Test Method
Film Puncture Resistance			
20 µm	21.7	J/cm ³	
51 µm	22.4	J/cm ³	
Film strength			ASTM D882
MD : 20 µm	88.5	J/cm ³	ASTM D882
MD : 51 µm	130	J/cm ³	ASTM D882
TD : 20 µm	142	J/cm ³	ASTM D882
TD : 51 µm	138	J/cm ³	ASTM D882
Tensile Strength			ASTM D882
MD: Yield, 20 µm	11.7	MPa	ASTM D882
MD: Yield, 51 µm	11.0	MPa	ASTM D882
TD: Yield, 20 µm	10.4	MPa	ASTM D882
TD: Yield, 51 µm	10.4	MPa	ASTM D882
MD: Break, 20 µm	50.2	MPa	ASTM D882
MD: Fracture, 51 µm	48.7	MPa	ASTM D882
TD: Break, 20 µm	40.5	MPa	ASTM D882
TD: Fracture, 51 µm	40.4	MPa	ASTM D882
Tensile Elongation			ASTM D882

MD: Break, 20 μm	420	%	ASTM D882
MD: Fracture, 51 μm	670	%	ASTM D882
TD: Break, 20 μm	800	%	ASTM D882
TD: Fracture, 51 μm	790	%	ASTM D882
Dart Drop Impact			ASTM D1709A
20 μm	94	g	ASTM D1709A
51 μm	180	g	ASTM D1709A
Elmendorf Tear Strength			ASTM D1922
MD : 20 μm	160	g	ASTM D1922
MD : 51 μm	650	g	ASTM D1922
TD : 20 μm	580	g	ASTM D1922
TD : 51 μm	960	g	ASTM D1922
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	108	°C	ASTM D1525
Melting Temperature (DSC)	124	°C	Internal method
Optical	Nominal Value	Unit	Test Method
Gloss			ASTM D2457
45°, 20.3 μm	93		ASTM D2457
45°, 50.8 μm	91		ASTM D2457
Haze			ASTM D1003
20.3 μm	1.2	%	ASTM D1003
50.8 μm	3.7	%	ASTM D1003
Extrusion instructions			

Fabrication Conditions For Cast Film:
 Screw Size: 2.0 in. (51 mm); 30:1 L/D
 Melt Temperature: 524°F (273°C)
 Screw Size: 2.5 in. (63.5 mm); 30:1 L/D
 Melt Temperature: 525°F (274°C)
 Chill Roll Temperature: 70°F (21°C)
 Screw Speed: 30 rpm
 Line Speed: 600 fpm (183 m/min)

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