



DOWLEX™ 2045

The Dow Chemical Company - Polyethylene Resin

Tuesday, November 5, 2019

General Information

Product Description

- Linear Low Density Polyethylene
- For heavy duty film applications
- 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.

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Latin America	• North America
Additive	• Antiblock: No	• Processing Aid: No	• Slip: No
Agency Ratings	• EU No 10/2011	• FDA 21 CFR 177.1520(c) 3.2a	• HPFB (Canada) No Objection ¹
Forms	• Pellets		
Processing Method	• Blown Film	• Cast Film	

ASTM & ISO Properties ²

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 Puncture Resistance			Internal Method
0.80 mil	268	ft·lb/in ³	
2.0 mil	235	ft·lb/in ³	
Film Toughness - MD			ASTM D882
0.80 mil	3860	ft·lb/in ³	
2.0 mil	4180	ft·lb/in ³	
Film Toughness - TD			ASTM D882
0.80 mil	4300	ft·lb/in ³	
2.0 mil	4240	ft·lb/in ³	
Secant Modulus - 2% Secant, MD			ASTM D882
0.80 mil	30500	psi	
2.0 mil	28200	psi	
Secant Modulus - 2% Secant, TD			ASTM D882
0.80 mil	33700	psi	
2.0 mil	33700	psi	
Tensile Strength - MD			ASTM D882
Yield, 0.80 mil	1710	psi	
Yield, 2.0 mil	1580	psi	
Tensile Strength - TD			ASTM D882
Yield, 0.80 mil	1750	psi	
Yield, 2.0 mil	1780	psi	

DOWLEX™ 2045

The Dow Chemical Company - Polyethylene Resin

Films	Nominal Value	Unit	Test Method
Tensile Strength - MD			ASTM D882
Break, 0.80 mil	9310	psi	
Break, 2.0 mil	7990	psi	
Tensile Strength - TD			ASTM D882
Break, 0.80 mil	7650	psi	
Break, 2.0 mil	7220	psi	
Tensile Elongation - MD			ASTM D882
Break, 0.80 mil	640	%	
Break, 2.0 mil	830	%	
Tensile Elongation - TD			ASTM D882
Break, 0.80 mil	880	%	
Break, 2.0 mil	890	%	
Dart Drop Impact			ASTM D1709A
0.80 mil	150	g	
2.0 mil	290	g	
Elmendorf Tear Strength - MD			ASTM D1922
0.80 mil	230	g	
2.0 mil	900	g	
Elmendorf Tear Strength - TD			ASTM D1922
0.80 mil	520	g	
2.0 mil	1200	g	
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	226	°F	ASTM D1525
Melting Temperature (DSC)	252	°F	Internal Method
Optical	Nominal Value	Unit	Test Method
Gloss			ASTM D2457
45°, 0.800 mil	63		
45°, 2.00 mil	60		
Haze			ASTM D1003
0.800 mil	9.00	%	
2.00 mil	10.0	%	

Processing Information

Extrusion Notes

Fabrication Conditions For Blown Film:

- Screw Size: 2.5 in. (63.5 mm); 30:1 L/D
- Screw Type: DSBII
- Die Gap: 70 mil (1.8 mm)
- Melt Temperature: 450°F (232°C)
- Output: 10 lb/hr/in. of die circumference
- Die Diameter: 6 in.
- Blow-Up Ratio: 2.5:1
- Screw Speed: 83 rpm

Notes

¹ With limitations

² Typical properties: these are not to be construed as specifications.