



DOWLEX™ 2045.11S

The Dow Chemical Company - Polyethylene Resin

Tuesday, November 5, 2019

General Information

Product Description

- 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 EU, No 10/2011
- Consult the regulations for complete details.

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Latin America	• North America
Additive	• Antiblock: 3000 ppm	• Processing Aid: No	• Slip: 1200 ppm
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		

ASTM & ISO Properties ²

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.924		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 Thickness - Tested	1	mil	Internal Method
Film Puncture Energy	11.0	in-lb	Internal Method
Film Puncture Force	7.00	lbf	Internal Method
Film Puncture Resistance	75.0	ft-lb/in ³	Internal Method
Film Toughness - MD	1330	ft-lb/in ³	ASTM D882
Film Toughness - TD	1370	ft-lb/in ³	ASTM D882
Secant Modulus			ASTM D882
1% Secant, MD	30600	psi	
2% Secant, MD	24900	psi	
Secant Modulus			ASTM D882
1% Secant, TD	33900	psi	
2% Secant, TD	27400	psi	
Tensile Strength - MD (Yield)	1940	psi	ASTM D882
Tensile Strength - TD (Yield)	2050	psi	ASTM D882
Tensile Strength - MD (Break)	6690	psi	ASTM D882
Tensile Strength - TD (Break)	5120	psi	ASTM D882
Tensile Elongation - MD (Break)	540	%	ASTM D882
Tensile Elongation - TD (Break)	660	%	ASTM D882
Dart Drop Impact	180	g	ASTM D1709A
Elmendorf Tear Strength - MD	440	g	ASTM D1922
Elmendorf Tear Strength - TD	630	g	ASTM D1922
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	219	°F	ASTM D1525

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Thermal	Nominal Value	Unit	Test Method
Melting Temperature (DSC)	252	°F	Internal Method
Optical	Nominal Value	Unit	Test Method
Gloss (45°)	34		ASTM D2457
Haze	20.0	%	ASTM D1003

Processing Information

Extrusion	Nominal Value	Unit
Melt Temperature	420	°F

Extrusion Notes

Fabrication Conditions For Blown Film:

- Screw Size: 3.5 in.
- Screw Type: DSB II
- Die Gap: 70 mil (1.8 mm)
- Melt Temperature: 420°F
- Output: 12 lb/hr/in. of die circumference
- Die Diameter: 8 in.
- Blow-Up Ratio: 2.5:1
- Screw Speed 43.6 rpm
- Frost Line Height: 39 in.

Notes

¹ With limitations

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