



# DOWLEX™ 2045.11S Polyethylene Resin

## Overview

- 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.

## Additive

- Antiblock: 3000 ppm
- Slip: 1200 ppm
- Processing Aid: No

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.922 g/cm <sup>3</sup>	0.922 g/cm <sup>3</sup>	ASTM D792
Base Density <sup>1</sup>	0.920 g/cm <sup>3</sup>	0.920 g/cm <sup>3</sup>	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	Dow Method
Film Puncture Energy	11.0 in·lb	1.24 J	Dow Method
Film Puncture Force	7.00 lbf	31.1 N	Dow Method
Film Puncture Resistance	75.0 ft·lb/in <sup>3</sup>	6.21 J/cm <sup>3</sup>	Dow Method
Film Toughness			ASTM D882
MD	1330 ft·lb/in <sup>3</sup>	110 J/cm <sup>3</sup>	
TD	1370 ft·lb/in <sup>3</sup>	114 J/cm <sup>3</sup>	
Secant Modulus			ASTM D882
1% Secant, MD	30600 psi	211 MPa	
2% Secant, MD	24900 psi	172 MPa	
1% Secant, TD	33900 psi	234 MPa	
2% Secant, TD	27400 psi	189 MPa	
Tensile Strength			ASTM D882
MD : Yield	1940 psi	13.4 MPa	
TD : Yield	2050 psi	14.1 MPa	
MD : Break	6690 psi	46.1 MPa	
TD : Break	5120 psi	35.3 MPa	
Tensile Elongation			ASTM D882
MD : Break	540 %	540 %	
TD : Break	660 %	660 %	
Dart Drop Impact	180 g	180 g	ASTM D1709A
Elmendorf Tear Strength			ASTM D1922
MD	440 g	440 g	
TD	630 g	630 g	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature	219 °F	104 °C	ASTM D1525
Melting Temperature (DSC)	252 °F	122 °C	Dow Method
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss (45°)	34	34	ASTM D2457
Haze	20 %	20 %	ASTM D1003
Extrusion	Nominal Value (English)	Nominal Value (SI)	
Melt Temperature	420 °F	216 °C	



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**Extrusion Notes**

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## 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**

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

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<sup>1</sup> 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/cm<sup>3</sup>. Base density is the estimated density of the polymer if it did not contain any antiblock.

