



DOWLEX™ 2645 Polyethylene Resin

Overview

DOWLEX™ 2645 Polyethylene Resin is designed for the production of a wide variety of industrial and consumer films (though it is not recommended for silage stretch film). Films made from this resin exhibit a combination of excellent toughness and tear resistance. The product also delivers very good processability on conventional LLDPE machinery.

Applications:

- Various industrial and consumer film applications

Complies with:

- EU, No 10/2011
- U.S. FDA FCN 741

Consult the regulations for complete details

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.918 g/cm ³	0.918 g/cm ³	ASTM D792
Melt Index (190°C/2.16 kg)	0.85 g/10 min	0.85 g/10 min	ISO 1133
Films	Nominal Value (English)	Nominal Value (SI)	Test Method
Film Thickness - Tested	2 mil	50 µm	
Film Puncture Energy (2.0 mil (50 µm))	51.3 in·lb	5.80 J	ASTM D5748
Film Puncture Force (2.0 mil (50 µm))	17.1 lbf	76.0 N	ASTM D5748
Tensile Modulus			ISO 527-3
2% Secant, MD : 2.0 mil (50 µm)	20200 psi	139 MPa	
2% Secant, TD : 2.0 mil (50 µm)	21300 psi	147 MPa	
Tensile Stress			ISO 527-3
MD : Yield, 2.0 mil (50 µm)	1090 psi	7.50 MPa	
TD : Yield, 2.0 mil (50 µm)	914 psi	6.30 MPa	
MD : Break, 2.0 mil (50 µm)	5660 psi	39.0 MPa	
TD : Break, 2.0 mil (50 µm)	5800 psi	40.0 MPa	
Tensile Elongation			ISO 527-3
MD : Break, 2.0 mil (50 µm)	560 %	560 %	
TD : Break, 2.0 mil (50 µm)	670 %	670 %	
Dart Drop Impact (2.0 mil (50 µm))	480 g	480 g	ISO 7765-1/A
Elmendorf Tear Strength			ASTM D1922
MD : 2.0 mil (50 µm)	560 g	560 g	
TD : 2.0 mil (50 µm)	910 g	910 g	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature ¹	225 °F	107 °C	ASTM D1525
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss (45°, 1.97 mil (50.0 µm))	59	59	ASTM D2457
Haze (1.97 mil (50.0 µm))	10.2 %	10.2 %	ISO 14782
Extrusion	Nominal Value (English)	Nominal Value (SI)	
Melt Temperature	374 to 464 °F	190 to 240 °C	

Extrusion Notes

Fabrication Conditions for Blown Film Resin:

- Die Gap: 1.5 - 2.5 mm
- Melt Temperature: 190 to 240 °C
- Blow-Up Ratio: 1.5 to 3.1
- Recommended Gauge Range: 10 to 150 µm

