Technical Information

DOWLEX™ NG 5045.11P
Polyethylene Resin

Overview

DOWLEX™ NG 5045.11P is a blown film extrusion linear low density polyethylene resin grade suitable for high toughness film applications.

Main Characteristics:

- Linear Low Density Polyethylene/Octene Copolymer
- For film applications that require high toughness and optical properties or improved bubble stability

Complies with:

- U.S. FDA FCN 424
- 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	0.919	g/cm³	0.919	g/cm³	ASTM D792
Base Density [1]	0.917	g/cm³	0.917	g/cm³	Dow Method
Melt Index (190°C/2.16 kg)	0.80	g/10 min	0.80	g/10 min	ASTM D1238
Films	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Film Thickness - Tested	1	mil	25	µm	
Film Puncture Energy	21.0	in·lb	2.37	J	
Film Puncture Force	9.00	lbf	40.0	N	
Film Puncture Resistance	134	ft·lb/in³	11.1	J/cm³	
Film Toughness					ASTM D882
MD	1010	ft·lb/in³	83.6	J/cm³	
TD	1110	ft·lb/in³	91.8	J/cm³	
Secant Modulus					ASTM D882
1% Secant, MD	30600	psi	211	MPa	
2% Secant, MD	26400	psi	182	MPa	
1% Secant, TD	33600	psi	232	MPa	
2% Secant, TD	27800	psi	192	MPa	
Tensile Strength					ASTM D882
MD : Yield	1680	psi	11.6	MPa	
TD : Yield	1690	psi	11.7	MPa	
MD : Break	6180	psi	42.6	MPa	
TD : Break	5340	psi	36.8	MPa	
Tensile Elongation					ASTM D882
MD : Break	450	%	450	%	
TD : Break	560	%	560	%	
Dart Drop Impact	560	g	560	g	ASTM D1709A
Elmendorf Tear Strength					ASTM D1922
MD	410	g	410	g	
TD	640	g	640	g	
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Melting Temperature (DSC)	244	°F	118	°C	Dow Method
Optical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Gloss (45°)	62		62		ASTM D2457
Haze	9.10	%	9.10	%	ASTM D1003

Extrusion Notes

Fabrication Conditions For Blown Film:

- Die Size: 8 in.
- Screw Type: DSB II
- Die Gap: 70mil (1.8 mm)
- Melt Temperature: 425°F
- Output: 12 lb/hr/in. of die circumference
- Die Diameter: 8 in.
- Blow-Up Ratio: 2.5 to 1
- Screw Speed: 44.1 rpm
- Frost Line Height: 40 in.

Notes

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

[1] 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/cm³. Base density is the estimated density of the polymer if it did not contain any antiblock.