Technical Information

DOWLEX™ 2042N
Polyethylene Resin

Overview

DOWLEX™ 2042N Polyethylene Resin is an ethylene/octene-1 copolymer suitable for the production of blown film requiring good tear strength and outstanding toughness with good stiffness and temperature resistance.

Main Characteristics:
- Blown film extrusion
- Pellet form

Complies with:
- U.S. FDA, 21 CFR 177.1520(c) 3.2a
- Canadian HPFB No Objection
- Consult the regulations for complete details.

Additive

- Antiblock: No
- Slip: No
- Processing Aid: No

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	0.930	g/cm³	0.930	g/cm³	ASTM D792
Base Density [1]	0.930	g/cm³	0.930	g/cm³	Dow Method
Melt Index (190°C/2.16 kg)	1.0	g/10 min	1.0	g/10 min	ASTM D1238
Mechanical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Modulus - 2% Secant (Compression Molded)	49300	psi	340	MPa	ASTM D638
Films	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Film Thickness - Tested	0.98	mil	25	µm	
Film Puncture Energy (0.98 mil (25 µm))	8.85	in·lb	1.00	J	
Tensile Strength					ASTM D882
MD : Yield, 0.98 mil (25 µm)	2030	psi	14.0	MPa	
TD : Yield, 0.98 mil (25 µm)	2470	psi	17.0	MPa	
MD : Break, 0.98 mil (25 µm)	6090	psi	42.0	MPa	
TD : Break, 0.98 mil (25 µm)	5950	psi	41.0	MPa	
Tensile Elongation					ASTM D882
MD : Break, 0.98 mil (25 µm)	830	%	830	%	
TD : Break, 0.98 mil (25 µm)	1100	%	1100	%	
Dart Drop Impact (0.98 mil (25 µm))	90	g	90	g	ASTM D1709A
Elmendorf Tear Strength [2]					ASTM D1922
MD : 0.98 mil (25 µm)	100	g	100	g	
TD : 0.98 mil (25 µm)	620	g	620	g	
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Vicat Softening Temperature	244	°F	118	°C	ASTM D1525
Optical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Gloss (20°, 0.980 mil (24.9 µm))	30		30		ASTM D2457
Haze (0.980 mil (24.9 µm))	12.0	%	12.0	%	ASTM D1003

Extrusion Notes

Fabrication Conditions For Blown Film:
- Melt Temperature: 374 to 464°F (190 to 240°C)
- Blow-Up Ratio: 1.5 to 1

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.

[2] Method B

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