



Technical Data Sheet

DOWLEX™ 2042NC Polyethylene Resin

Description

DOWLEX™ 2042NC 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
- Processing Aid: No
- Slip: No

Properties¹

Physical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method ²
Density	0.930	g/cm ³	0.930	g/cm ³	ASTM D792
Base Density ³	0.930	g/cm ³	0.930	g/cm ³	Internal Method
Melt Index (190°C/2.16 kg)	1.0	g/10 min	1.0	g/10 min	ASTM D1238
Films					
Film Thickness - Tested	0.98	mil	25	µm	
Film Puncture Energy (0.98 mil (25 µm))	8.85	in·lb	1.0	J	Internal Method
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

1. Typical properties: these are not to be construed as specifications. Users should confirm the results by their own tests.
2. ASTM: American Society for Testing and Materials.
3. 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.



Properties (Cont.)

Films	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method
Elmendorf Tear Strength ⁴					ASTM D1922
MD: 0.98 mil (25 µm)	100	g	100	g	
TD: 0.98 mil (25 µm)	620	g	620	g	
Mechanical					
Tensile Modulus – 2% Secant (Compression Molded)	49300	psi	340	MPa	ASTM D638
Thermal					
Vicat Softening Temperature	244	°F	118	°C	ASTM D1525
Optical					
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:					
<ul style="list-style-type: none">Melt Temperature: 374 to 464°F (190 to 240°C)Blow-up Ratio: 1.5 to 1					

4. Method B

