Technical Data Sheet

DOWLEX™ NG 5056G Polyethylene Resin

Description

DOWLEX™ NG 5056G Polyethylene Resin is a next generation linear low density polyethylene resin designed for high quality blown film applications requiring a combination of excellent optical properties, tear strength and sealability, and a very good toughness/stiffness balance. DOWLEX™ NG 5056G Polyethylene Resin is also designed to offer a very low gel level, making it ideal for use in lamination films and other specialty packaging.

Applications

- High clarity tissue overwrap
- Produce bags
- Food packaging films
- Lamination film

Complies with

- EU, No 10/2011
- U.S. FDA 21 CFR 177.1520

Consult the regulations for complete details.

Additive

- Antiblock: No
- Processing aid: No
- Slip: No

Properties[1]

Physical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method[2]
Density[3]	0.919	g/cm^3	0.919	g/cm^3	ASTM D792
Melt Index[3] (190°C/2.16 kg)	1.1	g/10min	1.1	g/10min	ISO 1133
Films	**Nominal Value**	**Unit (English)**	**Nominal Value**	**Unit (SI)**	**Test Method**
Film Thickness – Tested	2.0	mil	50	µm	
Film Puncture Energy[4] (2.0 mil (50.0 µm))	31.0	in·lb	3.50	J	ASTM D5748
Film Puncture Force[4] (2.0 mil (50.0 µm))	12.1	lbf	54.0	N	ASTM D5748
Secant Modulus[4]					ISO 527-3
2% Secant, MD: 2.0 mil (50.0 µm)	28700	psi	198	MPa	
2% Secant, TD: 2.0 mil (50.0 µm)	34500	psi	238	MPa	
Tensile Stress[4]					ISO 527-3
MD: Yield, 2.0 mil (50.0 µm)	1090	psi	7.50	MPa	

1. Typical properties: these are not to be construed as specifications. Users should confirm results by their own tests.
2. ASTM: American Society for Testing and Materials
   ISO: International Standardization Organization
3. Compression Molded.
4. Blown film extruded at 235°C, 50 microns, 2.5 BUR, 1.55 mm die gap.

Properties (Cont.)

Films	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method
Tensile Stress[4]					ISO 527-3
MD: Yield, 2.0 mil (50.0 µm)	1090	psi	7.50	MPa	
TD: Yield, 2.0 mil (50.0 µm)	1160	psi	8.00	MPa	
MD: Break, 2.0 mil (50.0 µm)	5510	psi	38.0	MPa	
TD: Break, 2.0 mil (50.0 µm)	5370	psi	37.0	MPa	
Tensile Elongation[4]					ISO 527-3
MD: Break, 2.0 mil (50.0 µm)	810	%	830	%	
TD: Break, 2.0 mil (50.0 µm)	920	%	920	%	
Dart Drop Impact[4] (2.0 mil (50.0 µm))	450	g	450	g	ISO 7765-1/A
Elmendorf Tear Strength[4]					ASTM D1922
MD: 2.0 mil (50.0 µm)	890	g	890	g	
TD: 2.0 mil (50.0 µm)	1100	g	1100	g	
Thermal	**Nominal Value**	**Unit (English)**	**Nominal Value**	**Unit (SI)**	**Test Method**
Vicat Softening Temperature[3]	219	°F	104	°C	ASTM D1525
Optical	**Nominal Value**	**Unit (English)**	**Nominal Value**	**Unit (SI)**	**Test Method**
Gloss[4] (45°C, 1.97 mil (50.0 µm))	61		61		ASTM D2457
Haze[4] (1.97 mil (50.0 µm))	8.90	%	8.90	%	ISO 14782
Extrusion	**Nominal Value**	**Unit (English)**	**Nominal Value**	**Unit (SI)**	**Test Method**
Melt Temperature	374 to 464	°F	190 to 240	°C	
Extrusion Notes					

Fabrication Conditions for Tubular Film Extrusion:

- Melt Temperature: 190 to 240°C
- Blow-up Ratio Range: 1.5 to 3:1
- Recommended Gauge Range: 10 to 150 µm

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c. use as a critical component in medical devices that support or sustain human life;
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