Technical Information

DOWLEX™ 2078G
Polyethylene Resin

Overview

- Linear Low Density Polyethylene
- Good processability at narrow die gaps
- High strength in food applications

Complies with:

- U.S. FDA 21 CFR 177.1520 (c) 3.2a.
- Canadian HPFB No Objection (With Limitations)
- EU, No 10/2011

Consult the regulations for complete details.

Additive

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

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	0.920	g/cm³	0.920	g/cm³	ASTM D792
Base Density [1]	0.920	g/cm³	0.920	g/cm³	Dow Method
Melt Index (190°C/2.16 kg)	1.0	g/10 min	1.0	g/10 min	ASTM D1238
Films	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Film Thickness - Tested	0.80	mil	20	µm	
Film Puncture Resistance (0.80 mil (20 µm))	175	ft·lb/in³	14.5	J/cm³	Dow Method
Film Toughness					ASTM D882
MD : 0.80 mil (20 µm)	973	ft·lb/in³	80.5	J/cm³	
TD : 0.80 mil (20 µm)	1150	ft·lb/in³	95.5	J/cm³	
Secant Modulus					ASTM D882
2% Secant, MD : 0.80 mil (20 µm)	26200	psi	181	MPa	
2% Secant, TD : 0.80 mil (20 µm)	29500	psi	203	MPa	
Tensile Strength					ASTM D882
MD : Yield, 0.80 mil (20 µm)	1500	psi	10.3	MPa	
TD : Yield, 0.80 mil (20 µm)	1620	psi	11.2	MPa	
MD : Break, 0.80 mil (20 µm)	5720	psi	39.4	MPa	
TD : Break, 0.80 mil (20 µm)	4490	psi	31.0	MPa	
Tensile Elongation					ASTM D882
MD : Break, 0.80 mil (20 µm)	470	%	470	%	
TD : Break, 0.80 mil (20 µm)	660	%	660	%	
Dart Drop Impact (0.80 mil (20 µm))	160	g	160	g	ASTM D1709A
Elmendorf Tear Strength					ASTM D1922
MD : 0.80 mil (20 µm)	230	g	230	g	
TD : 0.80 mil (20 µm)	610	g	610	g	
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Vicat Softening Temperature	219	°F	104	°C	ASTM D1525
Melting Temperature (DSC)	252	°F	122	°C	Dow Method
Optical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Gloss (45°, 0.800 mil (20.3 µm))	58		58		ASTM D2457
Haze (0.800 mil (20.3 µm))	8.0	%	8.0	%	ASTM D1003

Extrusion	Nominal Value	(English)	Nominal Value	(SI)
Melt Temperature	425	°F	218	°C

Extrusion Notes

Fabrication Conditions For Blown Film:

- Screw Size: 2.5 in. (63.5 mm); 24:1 L/D
- Screw Type: MC-4 Barrier
- Die Gap: 40 mil (1 mm)
- Melt Temperature: 425°F (218°C)
- Output: 10 lb/hr/in. of die circumference
- Die Diameter: 6 in.
- Blow-Up Ratio: 2.5:1
- Screw Speed: 85 rpm
- Frost Line Height: 20 in. (508 mm)

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.