



TIFLEX™ 4050G Polyethylene Resin

Description

TIFLEX™ 4050G Polyethylene Resin is a linear low-density polyethylene (m-LLDPE-like) designed for high quality blown film requiring a balance of excellent optics, mechanics, and toughness. A versatile solution for a wide range of blown film applications from food to industrial packaging. Offers low gel level, making it ideal for use in lamination films and other specialty packaging.

Main Characteristics

- Excellent toughness properties
- Excellent optical properties
- Good sealing performance

Complies with

- U.S. FDA FCN 1539
- Europe Commission Regulation (EU) No 10/2011

Consult the regulations for complete details.

Additive

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

Typical Properties

Physical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method ¹
Density	0.917	g/cm ³	0.917	g/cm ³	ASTM D792
Melt Index (190°C/2.16 kg)	1.0	g/10 min	1.0	g/10 min	ASTM D1238
Melting Temperature (DSC)	233	°F	112	°C	Internal Method
Films	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method
Film Thickness — Tested	2	mil	51	µm	Internal Method
Film Puncture Energy	56	in-lb	6.3	J	Internal Method
Film Puncture Force	18	lbt	80	N	Internal Method
Film Toughness					ASTM D882
MD	1290	ft-lb/in ³	106.7	J/cm ³	
TD	1305	ft-lb/in ³	106.3	J/cm ³	
Secant Modulus					ASTM D882
1% Secant, MD	30500	psi	210	MPa	
2% Secant, MD	26700	psi	184	MPa	
1% Secant, TD	31100	psi	214	MPa	
2% Secant, TD	27000	psi	186	MPa	

1. ASTM: American Society for Testing and Materials

Typical properties: these are not to be construed as specifications. Users should confirm results by their own tests.



Typical Properties (Cont.)

Films	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method
Tensile Strength					ASTM D882
MD: Yield	1390	psi	9.5	MPa	
TD: Yield	1400	psi	9.6	MPa	
MD: Break	7200	psi	49.6	MPa	
TD: Break	7100	psi	48.9	MPa	
Tensile Elongation					ASTM D882
MD: Break	570	%	570	%	
TD: Break	590	%	590	%	
Dart Drop Impact	1500	g	1500	g	ASTM D1709A
Elmendorf Tear Strength					ASTM D1922
MD	630	g	630	g	
TD	690	g	690	g	
Optical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method
Haze	11	%	11	%	ASTM D1003
Gloss (45°)	61	%	61		ASTM D2457

Additional Information

Fabrication Conditions for Blown Film:

- Screw Size: 3.5 in.
- Screw Type: DSB II
- Die Gap: 70 mil (1.8 mm)
- Melt Temperature: 450°F
- Output: 9.9 lb/hr/in. of die circumference
- Die Diameter: 8 in.
- Blow-Up Ratio: 2.5:1
- Screw Speed: 35 rpm
- Frost Line Height: 35 in.

