



TIFLEX™ 4052G Polyethylene Resin

Description

TIFLEX™ 4052G 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. TIFLEX™ 4052G Polyethylene Resin offers a slip and antiblock additive package of TIFLEX™ 4050G Polyethylene Resin.

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: 5500 ppm
- Slip: 990 ppm
- Processing aid: Yes

Typical Properties

Physical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method ¹
Density	0.921	g/cm ³	0.921	g/cm ³	ASTM D792
Base Density	0.917	g/cm ³	0.917	g/cm ³	Internal Method
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	25	in·lb	2.8	J	Internal Method
Film Puncture Force	12	lbf	53	N	Internal Method
Film Toughness					ASTM D882
MD	1420	ft·lb/in ³	105.4	J/cm ³	
TD	1355	ft·lb/in ³	105.7	J/cm ³	

1. ASTM: American Society for Testing and Materials.

These are typical properties only and 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
Secant Modulus					ASTM D882
1% Secant, MD	31100	psi	214	MPa	
2% Secant, MD	26900	psi	185	MPa	
1% Secant, TD	30500	psi	210	MPa	
2% Secant, TD	26600	psi	183	MPa	
Tensile Strength					ASTM D882
MD: Yield	1420	psi	9.7	MPa	
TD: Yield	1400	psi	9.6	MPa	
MD: Break	7750	psi	53.4	MPa	
TD: Break	7250	psi	49.9	MPa	
Tensile Elongation					ASTM D882
MD: Break	600	%	600	%	
TD: Break	600	%	600	%	
Dart Drop Impact	1450	g	1450	g	ASTM D1709A
Elmendorf Tear Strength					ASTM D1922
MD	660	g	660	g	
TD	710	g	710	g	
Optical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method
Haze	17	%	17	%	ASTM D1003
Gloss (45°)	56	%	56	%	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.

