

Technical Information



DOW™ LDPE 609A

Low Density Polyethylene Resin

Overview

- A formulated, high strength clarity film resin for optical packaging
- Used in produce and bakery applications

Complies with:

- U.S. FDA 21 CFR 177.1520 (c) 2.2.
- Canadian HPFB No Objections (With Limitations)
- European Commission Regulation (EU) No 10/2011

Consult the regulations for complete details.

Additive

- Antiblock: 1245 ppm
- Slip: 800 ppm
- Processing Aid: No

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.924 g/cm ³	0.924 g/cm ³	ASTM D792
Base Density ¹	0.923 g/cm ³	0.923 g/cm ³	Dow Method
Melt Index (190°C/2.16 kg)	0.88 g/10 min	0.88 g/10 min	ASTM D1238
Films	Nominal Value (English)	Nominal Value (SI)	Test Method
Secant Modulus			ASTM D882
2% Secant, MD : 1.0 mil (25 µm)	29300 psi	202 MPa	
2% Secant, MD : 2.0 mil (51 µm)	29300 psi	202 MPa	
2% Secant, TD : 1.0 mil (25 µm)	33500 psi	231 MPa	
2% Secant, TD : 2.0 mil (51 µm)	33100 psi	228 MPa	
Tensile Strength			ASTM D882
MD : Yield, 1.0 mil (25 µm)	1690 psi	11.7 MPa	
MD : Yield, 2.0 mil (51 µm)	1690 psi	11.7 MPa	
TD : Yield, 1.0 mil (25 µm)	1780 psi	12.3 MPa	
TD : Yield, 2.0 mil (51 µm)	1770 psi	12.2 MPa	
MD : Break, 1.0 mil (25 µm)	3880 psi	26.7 MPa	
MD : Break, 2.0 mil (51 µm)	3120 psi	21.5 MPa	
TD : Break, 1.0 mil (25 µm)	2510 psi	17.3 MPa	
TD : Break, 2.0 mil (51 µm)	2600 psi	17.9 MPa	
Tensile Elongation			ASTM D882
MD : Break, 1.0 mil (25 µm)	270 %	270 %	
MD : Break, 2.0 mil (51 µm)	370 %	370 %	
TD : Break, 1.0 mil (25 µm)	540 %	540 %	
TD : Break, 2.0 mil (51 µm)	570 %	570 %	
Dart Drop Impact			ASTM D1709A
1.0 mil (25 µm)	77 g	77 g	
2.0 mil (51 µm)	120 g	120 g	
Elmendorf Tear Strength			ASTM D1922
MD : 1.0 mil (25 µm)	210 g	210 g	
MD : 2.0 mil (51 µm)	430 g	430 g	
TD : 1.0 mil (25 µm)	200 g	200 g	
TD : 2.0 mil (51 µm)	480 g	480 g	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature	207 °F	97.2 °C	ASTM D1525
Melting Temperature (DSC)	234 °F	112 °C	Dow Method



Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss			ASTM D2457
45°, 1.00 mil (25.4 µm)	71	71	
45°, 2.00 mil (50.8 µm)	76	76	
Haze			ASTM D1003
1.00 mil (25.4 µm)	6.00 %	6.00 %	
2.00 mil (50.8 µm)	7.00 %	7.00 %	
Extrusion	Nominal Value (English)	Nominal Value (SI)	
Melt Temperature	416 °F	213 °C	

Extrusion Notes

Fabrication Conditions For Blown Film:

- Screw Type: Single Flight
- Die Gap: 40 mil (1.02 mm)
- Melt Temperature: 416°F (213°C)
- Output: 10 lb/hr/in. of die circumference
- Die Diameter: 6 in.
- Blow-Up Ratio: 2.5:1
- Screw Speed: 130 rpm
- Frost Line Height: 28 in. (711 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.



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PETROMALL INDUSTRY & TRADING CO

Additional Information

www.dow.com

North America

U.S. & Canada:

1-800-441-4369

1-989-832-1426

Mexico:

+1-800-441-4369

Latin America

Argentina:

+54-11-4319-0100

Brazil:

+55-11-5188-9000

Colombia:

+57-1-219-6000

Mexico:

+52-55-5201-4700

Europe/Middle East

+800-3694-6367

+31-11567-2626

Italy:

+800-783-825

South Africa

+800-99-5078

Asia Pacific

+800-7776-7776

+603-7965-5392

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petromall.net



info@petromall.ps



+970 599 2020 64



Hebron - Palestine

فلسطين - الخليل

+972 2 2233840

