



DOW™ LDPE 5005
Low Density Polyethylene Resin

Overview Polyethylene 5005 Low Density is used for fresh milk cartons, liquid/juice containers, dry foods packaging, snack foods packaging, moist foods packaging, and medical packaging. DOW LDPE extrusion coating resins provide optimal neck-in and draw-down performance with minimal taste/odor contribution.

Main Characteristics:

- A low melt index coating resin for demanding packaging applications

Complies with:

- U.S. FDA 21 CFR 177.1520(c)2.2
- Consult the regulations for complete details.

Additive • Antiblock: No • Slip: No • Processing Aid: No

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.922 g/cm ³	0.922 g/cm ³	ASTM D792
Base Density ¹	0.922 g/cm ³	0.922 g/cm ³	Dow Method
Melt Index (190°C/2.16 kg)	5.7 g/10 min	5.7 g/10 min	ASTM D1238
Films	Nominal Value (English)	Nominal Value (SI)	Test Method
Seal Initiation Temperature ²	221 °F	105 °C	Dow Method
Water Vapor Transmission Rate ³	1.5 g·mil/100in ² /atm/24 hr	0.59 g·mm/m ² /atm/24 hr	ASTM F1249
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature	207 °F	97.2 °C	ASTM D1525
Melting Temperature (DSC)	231 °F	111 °C	Dow Method
Extrusion	Nominal Value (English)	Nominal Value (SI)	Test Method
Melt Temperature	600 to 630 °F	316 to 332 °C	
Maximum Line Speed	25.0 ft/sec	7.6 m/sec	Dow Method
Minimum Coating Thickness	0.30 mil	7.6 µm	Dow Method
Minimum Coating Weight	4.4 lb/ream	7.2 g/m ²	Dow Method
Neck-in (610°F (321°C), 1.0 mil (25.4 µm))	2.1 in	53.3 mm	Dow Method

Extrusion Notes

Fabrication Conditions For Extrusion Coating Film:

- Screw Size: 3.5 in. (89 mm); 30:1 L/D/Size
- Screw Type: Single Flight with Maddock Mixer
- Die Gap: 20 mil (0.508 mm)
- Melt Temperature: 625°F (329°C)
- Output: 250 lb/hr
- Screw Speed: 90 rpm

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.

² Temperature at which 1 lb/in (4.4 N/25.4 mm) heat seal strength is achieved. Heat Seal Strengths, Topwave HT Tester 0.5 s dwell, 40 psi bar pressure, pull speed 10 in/min.

³ 1.0 mil (25 µm) coating onto 50 lb Kraft paper

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Additional Information

North America		Europe/Middle East	+800-3694-6367
U.S. & Canada:	1-800-441-4369		+31-11567-2626
	1-989-832-1426	Italy:	+800-783-825
Mexico:	+1-800-441-4369		
Latin America		South Africa	+800-99-5078
Argentina:	+54-11-4319-0100		
Brazil:	+55-11-5188-9000		
Colombia:	+57-1-219-6000	Asia Pacific	+800-7776-7776
Mexico:	+52-55-5201-4700		+603-7965-5392

www.dowplastics.com

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