



DOW™ LDPE 5005

The Dow Chemical Company - Low Density Polyethylene Resin

Tuesday, November 5, 2019

General Information

Product Description

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.

General

Material Status	• Commercial: Active
Availability	• North America
Additive	• Antiblock: No • Processing Aid: No • Slip: No
Agency Ratings	• FDA 21 CFR 177.1520(c) 2.2
Forms	• Pellets
Processing Method	• Extrusion Coating

ASTM & ISO Properties¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.924		ASTM D792
Melt Mass-Flow Rate (190°C/2.16 kg)	5.7	g/10 min	ASTM D1238
Films	Nominal Value	Unit	Test Method
Seal Initiation Temperature ²	221	°F	Internal Method
Water Vapor Transmission Rate ³	1.5	g·mil/100in ² /atm/24 hr	ASTM F1249
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	207	°F	ASTM D1525
Melting Temperature (DSC)	231	°F	Internal Method

Processing Information

Extrusion	Nominal Value	Unit	Test Method
Melt Temperature	600 to 630	°F	
Maximum Line Speed	25.0	ft/sec	Internal Method
Minimum Coating Thickness	0.30	mil	Internal Method
Minimum Coating Weight	4.4	lb/ream	Internal Method
Neck-in (610°F, 1.0 mil)	2.1	in	Internal Method

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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

¹ Typical properties: these are not to be construed as specifications.

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