Technical Data Sheet

DOW™ LDPE 5005 Low Density Polyethylene Resin

Description

DOW™ LDPE 5005 Low Density Polyethylene Resin 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.

Min Characteristics

- A low melt index coating resin for demanding packaging applications

Complies with

- U.S. FDA 21 CFR 177.1520(c)2.2
- Packaging Drug Master File (DMF)

Consult the regulations for complete details.

Additives

- Antiblock: No
- Slip: No
- Processing aid: No

Properties[1]

Physical	Nominal Value	Unit	Test Method[2]
Density	0.922	g/cm^3	ASTM D792
Base Density[3]	0.922	g/cm^3	Internal Method
Melt Index (190°C/2.16kg)	5.7	g/cm^3	ASTM D1238
Films	**Nominal Value**	**Unit**	**Test Method**
Seal Initiation Temperature[4]	105	ºC	Internal Method
Water Vapor Transmission Rate[5]	0.59	g·mm/m^2/atm/24 hr	ASTM F1249
Thermal	**Nominal Value**	**Unit**	**Test Method**
Vicat Softening Temperature	97.2	°C	ASTM D1525
Melting Temperature (DSC)	111	°C	Internal Method
Extrusion	**Nominal Value**	**Unit**	**Test Method**
Melt Temperature	316 to 332	°C	
Maximum Line Speed	7.6	m/sec	Internal Method

1. Typical properties: these are not to be construed as specifications. Users should confirm results by their own tests.
2. ASTM: American Society for Testing and Materials
3. 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/cm^3. Base density is the estimated density of the polymer if it did not contain any antiblock.
4. 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.
5. 1.0 mil (25 µm) coating onto 50 lb Kraft paper.

Properties (Cont.)

Extrusion	Nominal Value	Unit	Test Method
Minimum Coating Thickness	7.6	µm	Internal Method
Minimum Coating Weight	7.2	g/m^2	Internal Method
Neck-in (610°F (321°C), 1.0 mil (25.4 µm))	53.3	mm	Internal 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

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products — from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

Medical Applications Policy

NOTICE REGARDING MEDICAL APPLICATION RESTRICTIONS: Dow does not support or intend for its products to be used in:

a. long-term or permanent contact with internal bodily fluids or tissues. “Long-term” is contact which exceeds 29 calendar days;
b. use in cardiac prosthetic devices regardless of the length of time involved (“cardiac prosthetic devices” include, but are not limited to, pacemaker leads and devices, artificial hearts, heart valves, intra-aortic balloons and control systems, and ventricular bypass-assisted devices);
c. use as a critical component in medical devices that support or sustain human life;
d. use specifically by pregnant women or in applications designed specifically to promote or interfere with human reproduction; or
e. use as an ingredient of a pharmaceutical injectable application.

Dow requests that customers considering use of Dow products in medical applications notify Dow so that appropriate assessments may be conducted. Dow does not endorse or claim suitability of its products for specific medical applications. It is the responsibility of the medical device or pharmaceutical manufacturer to determine that the Dow product is safe, lawful, and technically suitable for the intended use. **DOW MAKES NO WARRANTIES, EXPRESS OR IMPLIED, CONCERNING THE SUITABILITY OF ANY DOW PRODUCT FOR USE IN MEDICAL APPLICATIONS.**

Contact:
www.dow.com/contact

NOTICE: No freedom from infringement of any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, the Customer is responsible for determining whether products and the information in this document are appropriate for the Customer's use and for ensuring that the Customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Dow assumes no obligation or liability for the information in this document. **NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.**

NOTICE: If products are described as "experimental" or "developmental": (1) product specifications may not be fully determined; (2) analysis of hazards and caution in handling and use are required; (3) there is greater potential for Dow to change specifications and/or discontinue production; and (4) although Dow may from time to time provide samples of such products, Dow is not obligated to supply or otherwise commercialize such products for any use or application whatsoever.

NOTICE: This data is based on information Dow believes to be reliable, as demonstrated in controlled laboratory testing. They are offered in good faith, but without guarantee, as conditions and method of use of Dow products are beyond Dow's control. Dow recommends that the prospective user determine the suitability of these materials and suggestions before adopting them on a commercial scale.

To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication, however we do not assume any liability for the accuracy and completeness of such information.

For additional information, not covered by the content of this document, contact us via our website http://www.dow.com/products_services/.

This document is intended for use within Asia Pacific, Europe, and North America.