



DOW™ LDPE 310E

Low Density Polyethylene Resin

Overview

DOW LDPE 310E is a fractional melt index low density polyethylene resin. DOW LDPE 310E has been specially designed for superior processability on blown film lines leading to significant output improvements. The resin offers additionally excellent draw down. It can be used pure or in blends with LLDPE resins.

Applications:

- lamination film, shrink film, and stretch film

Main Characteristics:

- Excellent processability and draw down
- Good physical properties in blends with LLDPE
- Can be readily extruded using conventional blown film techniques at melt temperatures between 160 and 195°C

Complies with:

- U.S. FDA 21 CFR 177.1520 (c)2.2
- EU, No 10/2011
- U.S. FDA-DMF
- Canadian HPFB No Objection

Consult the regulations for complete details.

Slip Additive: 0 ppm

Antiblock Additive: 0 ppm

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.924 g/cm ³	0.924 g/cm ³	ASTM D792
Melt Index (190°C/2.16 kg)	0.75 g/10 min	0.75 g/10 min	ASTM D1238
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Coefficient of Friction	0.50 to 0.70	0.50 to 0.70	ASTM D1894
Films	Nominal Value (English)	Nominal Value (SI)	Test Method
Film Thickness - Tested	2.0 mil	50 µm	
Film Puncture Energy (2.0 mil (50 µm))	15.9 in·lb	1.80 J	Dow Method
Film Puncture Force (2.0 mil (50 µm))	11.2 lbf	50.0 N	Dow Method
Film Puncture Resistance (2.0 mil (50 µm))	48.3 ft·lb/in ³	4.00 J/cm ³	Dow Method
Secant Modulus			ASTM D882
2% Secant, MD : 2.0 mil (50 µm), Blown Film	25400 psi	175 MPa	
2% Secant, TD : 2.0 mil (50 µm), Blown Film	26800 psi	185 MPa	
Tensile Strength			ASTM D882
MD : Yield, 2.0 mil (50 µm), Blown Film	1600 psi	11.0 MPa	
TD : Yield, 2.0 mil (50 µm), Blown Film	1600 psi	11.0 MPa	
MD : Break, 2.0 mil (50 µm), Blown Film	3630 psi	25.0 MPa	
TD : Break, 2.0 mil (50 µm), Blown Film	3340 psi	23.0 MPa	
Tensile Elongation			ASTM D882
MD : Break, 2.0 mil (50 µm), Blown Film	390 %	390 %	
TD : Break, 2.0 mil (50 µm), Blown Film	570 %	570 %	
Dart Drop Impact			ASTM D1709A
2.0 mil (50 µm), Blown Film	170 g	170 g	
Elmendorf Tear Strength			ASTM D1922 ¹
MD : 2.0 mil (50 µm), Blown Film	350 g	350 g	
TD : 2.0 mil (50 µm), Blown Film	260 g	260 g	
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss (45°, 1.97 mil (50.0 µm), Blown Film)	58	58	ASTM D2457
Haze (1.97 mil (50.0 µm), Blown Film)	9.2 %	9.2 %	ASTM D1003

Extrusion	Nominal Value (English)	Nominal Value (SI)
Melt Temperature	320 to 383 °F	160 to 195 °C

Extrusion Notes

Fabrication Conditions For Blown Film:

- Screw Type: Universal
- Output: 25 kg/hr
- Die Diameter: 150 mm.
- Blow-Up Ratio: 2.5
- Screw Speed: 77 rpm

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

¹ Method B

Product Stewardship

The Dow Chemical Company and its subsidiaries ("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 will not knowingly sell or sample any product or service ("Product") into any commercial or developmental application that is intended for:

- long-term or permanent contact with internal bodily fluids or tissues. "Long-term" is contact which exceeds 72 continuous hours;
- 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);
- use as a critical component in medical devices that support or sustain human life; or
- use specifically by pregnant women or in applications designed specifically to promote or interfere with human reproduction.

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.**

Disclaimer

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.

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

This document is intended for use within Europe

Published: 2008-06-17

© 2014 The Dow Chemical Company

