



Technical Data Sheet

DOW™ LDPE 450E REN Low Density Polyethylene Resin

Description

DOW™ LDPE 450E REN Low Density Polyethylene Resin has been designed with an optimum balance of melt strength and drawability to give excellent performance in cast film, foam, blown film and bubble film extrusion.

When properly fabricated, DOW™ LDPE 450E REN Low Density Polyethylene Resin displays: excellent processability; low neck-down (cast film); very good toughness and impact properties; and good tear strength. In foam extrusion, DOW™ LDPE 450E REN Low Density Polyethylene Resin gives an ideal balance between cell growth and stabilization to allow the production of very low density products without voids.

Sustainability Attribute:



Main Characteristics

- Cast film
- Foam
- Bubble film
- General purpose blown film

Complies with

- EU, No 10/2011
- U.S. FDA 21 CFR 177.1520(c)2.2
- U.S. FDA-DMF
- Canadian HPFB No Objection (with limitations)
- ISCC PLUS certification for bio-circular plastics

Consult the regulations for complete details.

Properties¹

Physical	Nominal Value	Unit	Test Method ²
Density	0.923	g/cm ³	ASTM D792
Melt Index (190°C/2.16kg)	2.0	g/cm ³	ASTM D1238
Films			
Film Thickness - Tested	50	µm	
Tensile Strength			ASTM D882
MD: Yield, 2.0 mil (50 µm)	10.3	MPa	
TD: Yield, 2.0 mil (50 µm)	12.2	MPa	
MD: Break, 2.0 mil (50 µm)	20.9	MPa	
TD: Break, 2.0 mil (50 µm)	18.1	MPa	

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



Properties (Cont.)

Films	Nominal Value	Unit	Test Method
Tensile Elongation			ASTM D882
MD Break: 2.0 mil (50 µm)	400	%	
TD Break: 2.0 mil (50 µm)	550	%	
Dart Drop Impact (2.0 mil (50 µm))	110	g	ASTM D1709A
Elmendorf Tear Strength			ASTM D1922
MD: 2.0 mil (50 µm)	430	g	
TD: 2.0 mil (50 µm)	370	g	
Thermal			
Vicat Softening Temperature	99.0	°C	ASTM D1525
Optical			
Gloss (20°, 1.97 mil (50 µm))	66		ASTM D2457
Haze (1.97 mil (50 µm))	7.50	%	ASTM D1003
Extrusion			
Melt Temperature	193	°C	
Extrusion Notes			
Fabrication Conditions for Blown Film:			
- Melt Temperature: 193°C - Blow-Up Ratio: 1:2.5			

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:

- long-term or permanent contact with internal bodily fluids or tissues. "Long-term" is contact which exceeds 29 calendar days;
- 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;
- use specifically by pregnant women or in applications designed specifically to promote or interfere with human reproduction; or
- use as an ingredient of a pharmaceutical injectable application.



Medical Applications Policy (Cont.)

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.**

