DOW™ LDPE 621I
Low Density Polyethylene Resin

Overview

DOW LDPE 621I Resin is a low density polyethylene resin intended for foam and blown film applications requiring high melt strength.

- Specialty resin designed for high melt strength applications
- Provides excellent bubble stability

Complies with:

- U.S. FDA 21 CFR 177.1520 (c) 2.1
- Canadian HPFB No Objection

Consult the regulations for complete details.

Additive

- Antiblock: No
- Slip: No
- Processing Aid: No

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	0.918	g/cm³	0.918	g/cm³	ASTM D792
Base Density [1]	0.918	g/cm³	0.918	g/cm³	Dow Method
Melt Index (190°C/2.16 kg)	2.3	g/10 min	2.3	g/10 min	ASTM D1238
Films	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Film Thickness - Tested	2	mil	51	µm	
Film Puncture Resistance (2.0 mil (51 µm))	43.0	ft·lb/in³	3.56	J/cm³	Dow Method
Film Toughness					ASTM D882
MD : 2.0 mil (51 µm)	1700	ft·lb/in³	140	J/cm³	
TD : 2.0 mil (51 µm)	1790	ft·lb/in³	148	J/cm³	
Secant Modulus					ASTM D882
2% Secant, MD : 2.0 mil (51 µm)	24100	psi	166	MPa	
2% Secant, TD : 2.0 mil (51 µm)	30200	psi	208	MPa	
Tensile Strength					ASTM D882
MD : Yield, 2.0 mil (51 µm)	1690	psi	11.6	MPa	
TD : Yield, 2.0 mil (51 µm)	1600	psi	11.0	MPa	
MD : Break, 2.0 mil (51 µm)	3160	psi	21.8	MPa	
TD : Break, 2.0 mil (51 µm)	2850	psi	19.6	MPa	
Tensile Elongation					ASTM D882
MD : Break, 2.0 mil (51 µm)	450	%	450	%	
TD : Break, 2.0 mil (51 µm)	620	%	620	%	
Dart Drop Impact (2.0 mil (51 µm))	96	g	96	g	ASTM D1709A
Elmendorf Tear Strength					ASTM D1922
MD : 2.0 mil (51 µm)	320	g	320	g	
TD : 2.0 mil (51 µm)	190	g	190	g	
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Vicat Softening Temperature	198	°F	92.2	°C	ASTM D1525
Melting Temperature (DSC)	226	°F	108	°C	Dow Method
Optical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Gloss (45°, 2.00 mil (50.8 µm))	40		40		ASTM D2457
Haze (2.00 mil (50.8 µm))	16.1	%	16.1	%	ASTM D1003

Extrusion	Nominal Value	(English)	Nominal Value	(SI)
Melt Temperature	425	°F	218	°C

Form No. 400-00071429en
Rev: 2011-03-22

Extrusion Notes

Fabrication Conditions For Blown Film:

- Screw Size: 2.5 in. (63.5 mm) 30:1 L/D
- Die Gap: 40 mil (1.0 mm)
- Melt Temperature: 425°F (218°C)
- Output: 10 lb/hr/in. of die circumference
- Die Diameter: 6 in.
- Blow-Up Ratio: 2.5:1
- Screw Speed: 89 rpm
- Frost Line Height: 30 in. (762mm)

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.

Form No. 400-00071429en
Rev: 2011-03-22

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:

a. long-term or permanent contact with internal bodily fluids or tissues. "Long-term" is contact which exceeds 72 continuous hours;
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; or
d. 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.

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.

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 North America

Published: 2003-10-30

Form No. 400-00071429en
Rev: 2011-03-22