Technical Data Sheet

DOW™ Ultra-Pure Polyethylene Resin

Description

DOW™ 2010 Ultra-Pure Polyethylene Resin is characterized by low melt index and intermediate crystallinity. This product, produced via a unique polymerization process, has outstanding flexibility and environmental stress crack resistance.

Features

Contains a mold release agent.

Applications

Injection molded parts used in medical, pharmaceutical, and personal care packaging.

Typical Properties

Physical	Nominal Value	Unit (SI)	Test Method(s)[1]	
Density	0.92	g/cm^3	ASTM D792	ISO 1183
Melt Flow Index (190°C/2.16 kg)	1.9	g/10 min	ASTM D1238	ISO 1133
Thermal	**Nominal Value**	**Unit (SI)**	**Test Method(s)**	
Melting Point (DSC)	109 (228.2)	°C (°F)	ASTM D3418	ISO 3146
Freezing Point (DSC)	96 (204.8)	°C (°F)	ASTM D3418	ISO 3146
Vicat Softening Point	96 (204.8)	°C (°F)	ASTM D1525	ISO 306

1. ASTM: American Society for Testing and Materials
   ISO: International Standardization Organization

Maximum Processing Temperature

310°C (590°F)

General Processing Information

DOW™ 2010 Ultra-Pure Polyethylene Resin is normally processed at melt temperatures ranging from 180–235°C (356–455°F). Actual processing temperatures will usually be determined by optimizing product appearance and production rates on individual production lines.

Unusual materials of construction are not required in the processing of this resin due to the non-corrosive nature of DOW™ 2010 Ultra-Pure Polyethylene Resin. For long equipment life, a wear-resistant extruder barrel is recommended. Nickel or chrome plating of the screw, adapter, and die parts is also recommended.

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Manufacturer website: https://www.dow.com/en-us/market/mkt-polyethylene.html

General Processing Information (Cont.)

General Processing Recommendations

Dry blending of DOW™ 2010 Ultra-Pure Polyethylene Resin with other polyethylene resins additive master batches is best done using resins with melt indexes similar to DOW™ 2010 Ultra-Pure Polyethylene Resin and a screw design that enhances mixing.

No special purging prior to shut down is necessary when processing only DOW™ 2010 Ultra-Pure Polyethylene Resin, but purging with a low melt index LDPE resin is recommended if pigment, additives, or other resins have been added during production runs. Shut down of the melt handling system on DOW™ 2010 Ultra-Pure Polyethylene Resin or some other low melt index LDPE resin.

FDA Status Information

DOW™ 2010 Ultra-Pure Polyethylene Resin complies with Food and Drug Administration Regulation 21 CFR 177.1520(c)2.2 — Olefin Polymers. This regulation describes polymers that may be used as articles or components of articles in contact with food, including articles used for packing or holding food during cooking, subject to the limitations and requirements therein.

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Regulatory Information

DOW™ 2010 Ultra-Pure Polyethylene Resin is specified in pharmaceutical packaging and is listed in FDA Drug Master File 1528 for packaging materials applications.

For information on regulatory compliance outside of the U.S.A., consult your local Dow representative.

Safety & Handling

For information on appropriate Handling & Storage of this polymeric resin, please refer to the material Safety Data Sheet.

A Product Safety Bulletin, material Safety Data Sheet, and/or more detailed information on extrusion processing and/or compounding of this polymeric resin for specific applications are available from your Dow representative.

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.

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Medical Applications Policy

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Medical Applications Policy (Cont.)

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Harmful Applications Policy

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