



PULSE* 2100LG

Engineering Resin

Property ¹	ASTM Test Method	Units	Value
PHYSICAL PROPERTIES			
Specific Gravity	D 792	g/cc	1.13
Water Absorption @ 73°F (23°C), 24 hr	D 570	%	0.15
Mold Shrinkage	D 955	in/in(mm/mm)	0.006
MECHANICAL PROPERTIES			
Tensile Modulus	D 638	psi/(MPa)	320,000 (2220)
Tensile Yield Strength	D 638	psi/(MPa)	7700 (53)
Ultimate Tensile Strength	D 638	psi/(MPa)	7800 (54)
Elongation at Yield	D 638	%	5
Elongation at Break	D 638	%	125
Flexural Modulus	D 790	psi/(MPa)	340,000 (2300)
Flexural Strength	D 790	psi/(MPa)	11,700 (81)
Notched Izod Impact Strength			
@ 73°F (23°C)	D 256	ft-lb/in (J/m)	12 (650)
@ -20°F (-29°C)	D 256	ft-lb/in (J/m)	10 (530)
Instrumented Dart Impact Energy (Total Energy)			
@ 73°F (23°C)	D 3763	in-lb (J)	500 (57)
@ -20°F (-29°C)	D 3763	in-lb (J)	550 (62)
THERMAL PROPERTIES			
DTUL @ 66 psi (0.45 MPa) - unannealed	D 648	°F (°C)	265 (130)
DTUL @ 264 psi (1.8 MPa) - unannealed	D 648	°F (°C)	225 (107)
Vicat Softening Temperature	D 1525	°F (°C)	290 (143)
Coefficient of Linear Thermal Expansion			
-40°F to 180°F	D 696	in/in °F	4.10E-05
(-40°C to 82°C)	D 696	(mm/mm/°C)	(7.4E-05)
RHEOLOGICAL PROPERTIES			
Melt Flow Rate (MFR) 260°C 3.8 kg	D 1238	g/10 min	4.5
OPTICAL PROPERTIES			
Gardner Gloss, 60° smooth	D542	%	25
GMCP88 - Light Stipple	D542	%	6.5
Monticello	D542	%	3.3

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¹Typical properties, not to be construed as sales specifications.

Safety And Handling Considerations

Material Safety Data (MSD) sheets for PULSE™ engineering resins are available from Dow Plastics, a business group of The Dow Chemical Company. MSD sheets are provided to help customers satisfy their own handling, safety and disposal needs, and those that may be required by OSHA and other applicable laws. MSD sheets are updated regularly, therefore, please request and review the most common MSD sheet before handling or using any product.

The following comments are general and apply only to PULSE engineering resins as supplied:

Various additives and processing aids used in fabrication and other materials used in finishing steps have their own safe use profiles and must be investigated separately.

Hazards And Handling Precautions

PULSE engineering resins have a very low degree of toxicity and under normal conditions of use should pose no unusual problems from ingestion, eye or skin contact.

However, caution is advised when handling, storing, using or disposing of these resins and good housekeeping and controlling of dusts are necessary for safe handling of product. Workers should be protected from the possibility of contact with molten resin during fabrication.

Handling and fabrication of plastic resins can result in the generation of dusts and vapors. Dusts resulting from sawing, filing, and sanding of plastic parts in post-molding operations can cause irritation to eyes and the upper respiratory tract. In dusty atmospheres, use an approved dust respirator.

Pellets or beads may present a slipping hazard.

Processing improperly dried resin can result in the production of bisphenol A. Good general ventilation of the processing area is recommended.

Processing may release fumes which may include polymer fragments and other decomposition products. Fumes can be irritating. At temperatures exceeding melt temperature, polymer fragments can occur. Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

Use safety glasses. If there is a potential for exposure to particles which could cause mechanical injury to the eye, wear chemical goggles. If vapor exposure causes discomfort, use a full-face respirator. No other precautions other than clean body-covering clothing should be needed for handling PULSE engineering resins. Use gloves with insulation for thermal protection, when needed.

Combustibility

PULSE engineering resins will burn, and once ignited, may burn rapidly under the right conditions of heat and oxygen supply. Do not permit dust to accumulate. Dust layers can be ignited by spontaneous combustion or other ignition sources. When suspended in air, dust can pose an explosion hazard. Dense black smoke is produced when product burns. Toxic fumes are released in fire situations.

Fire fighters should wear positive-pressure, self-contained breathing apparatus and full protective equipment. Water and water fog are the preferred extinguishing media. Foam, alcohol resistant foam, carbon dioxide, or dry chemicals may also be used. Soak thoroughly with water to cool and prevent re-ignition.

Disposal

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. For unused or uncontaminated material, the preferred options include sending to a licensed recycler, reclaimer, incinerator or other thermal destruction device. For used or contaminated material, the disposal options remain the same although additional evaluation is required (use, for example, 40CFR, Part 261, "Identification and Listing of Hazardous Waste"). All disposal methods must be in compliance with Federal, State/Provincial and local laws and regulations.

As a service to its customers, Dow can provide lists of companies which recycle, reprocess or manage chemicals or plastics, and companies that manage used drums. Telephone the Dow Customer Information Center at 800/441-4DOW (4369) for further details. In Mexico, call 95-800-441-4369.

Environment

Generally speaking, in the environment lost pellets are not a problem except under unusual circumstances – when they enter the marine environment. They are inert and benign in terms of their physical environmental impact, but if ingested by waterfowl or aquatic life, they may mechanically cause adverse effects. Spills should be minimized and they should be cleaned up when they happen. Plastics should not be discarded into the ocean or any other body of water.

Product Stewardship

The Dow Chemical Company 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 health and environmental information on our products and then take appropriate steps to protect employee and public health and the environment. Our Product Stewardship program rests with every individual involved with Dow products from initial concept and research to the manufacture, sale, distribution, use, and disposal of each product.

Customer Notice

Dow encourages its customers and potential users of Dow products to review their applications for such products from the standpoint of human health and environmental quality. To help ensure that Dow products are not used in ways for which they were not intended or tested, Dow personnel will assist customers in dealing with ecological and product safety considerations. Your Dow sales representative can arrange for the proper contacts. Dow literature, including Material Safety Data sheets, should be consulted prior to use of Dow products. These may be obtained from your Dow sales representative, by writing The Dow Chemical Company, or by calling 1-800-441-4DOW (4369). In Mexico, call 95-800-441-4369.



Dow Automotive

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