



MAGNUM 555

ABS Resin

Overview

MAGNUM* 555 ABS resin provides the same flow and gloss as MAGNUM 800 ABS resin with a slightly higher base resin color and a sheet Izod impact strength of 6.6 ft-lb/in. MAGNUM ABS resins are thermoplastic materials that provide an excellent balance of processability, impact resistance, and heat resistance as imparted by the various polymer compositions. MAGNUM ABS resins are available in a wide range of melt flow rates, impact strengths, and heat resistances for both high and low gloss applications manufactured by injection molding, sheet or profile extrusion, and thermoforming. The sheet and thermoforming grades of MAGNUM ABS resins provide excellent high and low gloss aesthetics, good thermal color stability, heat and impact resistance, and stiffness. MAGNUM ABS resins can fill a variety of needs by offering ranges in melt flow rates from 1.0 to 4.0, sheet Izod impacts from 2.5 to 10.5 ft-lb/in and sheet flexural modulus from 285,000 to 300,000 psi.

Applications

- Burial vault liners
- Luggage
- Tool cases
- Signs
- Recreational vehicles

Physical Properties ⁽¹⁾	Test Method	English Units	SI Units
Specific Gravity	ASTM D 792	1.04	1.04
Melt Flow Rate 230°C/3.8kg	ASTM D 1238	2.4 g/10 min	2.4 g/10 min
Mold Shrinkage	ASTM D 955	0.004-0.007 in/in	0.004-0.007 mm/mm
Mechanical Properties ⁽²⁾			
Tensile Strength at Yield	ASTM D 638	6,300 psi	43 MPa
Tensile Modulus, 1 mm/min	ASTM D 638	340,000 psi	2340 MPa
Tensile Strength at Break	ASTM D 638	5,100 psi	35 MPa
Flexural Strength, 3-points, 2 mm/min	ASTM D 790	11,300 psi	78 MPa
Flexural Modulus, 3-points, 2 mm/min	ASTM D 790	370,000 psi	2550 MPa
Notched Izod Impact 73°F (23°C)	ASTM D 256	8 ft-lb/in	430 J/m
0°F (-18°C)		2.7 ft-lb/in	140 J/m
Thermal Properties			
Vicat Softening Point 120°C/hr, 10N	ASTM D 1525	227°F	108°C
Flammability ⁽³⁾			
UL Classification at 0.06 (1.47 mm)	UL94	HB	HB
Optical Properties			
Gardner Gloss, 60°	ASTM D 523	85 %	85 %

Notes

1. Typical properties; not to be construed as sales specifications. Fabrication conditions, part design, additives, processing aids, finishing materials, and use conditions can all affect the integrity, performance, and regulatory status of finished goods.
2. Tests conducted on 0.125 inch (3.2 mm) injection molded specimen, unannealed, unless noted.
3. This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.

Safety and Handling Considerations

Material Safety Data (MSD) sheets are available for all resins from Dow Plastics, a business group of The Dow Chemical Company and its subsidiaries. MSD sheets are updated regularly and are available on www.dow.com or can be requested through the Dow Customer Information Group. Always review the most current MSD sheet before handling or using any product. The following comments are general and apply only to all engineering plastics resins as supplied by Dow plastics. Various additives and processing aids used in fabrication and other materials used in finishing steps have their own safe use profile and must be investigated separately.

Hazards and Handling Precautions

Engineering plastics 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 these resins. Good housekeeping and controlling of dust are necessary for safe handling. Workers should be protected from the possibility of contact with molten resin.

Handling of engineering plastic resins can result in the generation of vapors and dust including small particles of glass fibers when dealing with glass filled resins. Dust resulting from sawing, filing, and sanding in post-molding operations may cause irritation of eyes and upper respiratory tract. Use an approved dust respirator in dusty atmospheres. Slight itching and irritation may result from skin contact of glass filled resins. Repeated exposure to particles generated by grinding glass fiber-reinforced materials may result in implantation of particles in the skin.

Processing may release fumes which can be irritating. Good general ventilation should be sufficient for most conditions. In addition, local exhaust ventilation may be necessary for some operations. For high heat ABS resins, local exhaust ventilation above the dies and vent ports of processing equipment such as injection molding and extrusion machines is necessary to keep airborne dust levels below the exposure guidelines.

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 eye discomfort, use a full-face respirator. Use gloves with insulation for thermal protection, when needed. Processing fumes will condense in the air extraction system and can deposit on equipment surfaces close to the emission points. Fume deposits of high heat ABS resins can cause skin irritation and skin damage. Wear chemical resistant gloves when in contact with surfaces contaminated with these deposits and when cleaning the deposits.

To accelerate cooling of large polymer masses of ignition resistant resins, RETAIN* post consumer recycle content plastic resins and high heat ABS resins, quench purge patties in water. If quenching is not possible, move the purge patties from the working area to a well-ventilated area to cool. Do not purge the processing equipment with these materials

Combustibility

Although engineering plastics resins may contain ignition resistant chemical additives, they will, once ignited, burn rapidly under the right conditions. Do not permit dust to accumulate. Dust layers can be ignited by spontaneous combustion or other ignition sources. When suspended in air, dust can also pose an explosion hazard. Dense black smoke and toxic fumes are produced when product burns. Water fog or fine spray is the preferred extinguishing media. Carbon dioxide or dry chemicals may also be used.

Disposal

Do not dump into any sewers, on the ground, or into any body of water. All disposal methods must be in compliance with Federal, State/Provincial, and local laws and regulations. The Dow Customer Information Group can provide lists of companies, which recycle, reprocess, or manage plastics waste.

Environment

Generally speaking, pellets lost in the environment are not a problem since they are inert and benign in terms of their physical environmental impact. However, when they enter the marine environment and are 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.

Medical Applications Policy

DOW PLASTICS MAKES NO WARRANTIES, EXPRESS OR IMPLIED, CONCERNING THE SUITABILITY OF ANY DOW PLASTICS PRODUCT FOR USE IN MEDICAL APPLICATIONS. It is the responsibility of the medical device or pharmaceutical manufacturer to determine that the Dow Plastics product is safe, lawful, and technically suitable for the intended use.

Dow Engineering Plastics will not knowingly sell or sample any products into any commercial or developmental application intended for:

- Long term contact with internal body fluids or internal body tissues. (Long term is a use which exceeds 72 continuous hours, or 30 days for PELLETHANE[®] thermoplastic polyurethane elastomers);
- 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 to promote or interfere with human reproduction.

In addition, new business opportunities require a business assessment prior to sale or sampling.

This engineering plastics medical policy applies to all engineering plastics resins from Dow Plastics. Authorized distributors and resellers will also adhere to this policy.

For additional information contact the Dow Customer Information Group:
Asia/Pacific: 800-7776-7776
China: 10-800-600-0015
Brazil: 55-11-5188-9373
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