

LUSTRAN[®] ABS LGA

ABS (SAE J1685: ABS0111)

Automotive Grade

Description

Lustran ABS LGA resin is a low-gloss grade of ABS (acrylonitrile butadiene styrene). This automotive injection molding grade offers an excellent balance of rigidity, impact strength, and abuse resistance. The resin is available in natural and black colors only. The consistent, clean, natural color of LGA makes it ideally suitable for use with color concentrates.

Applications

Lustran ABS LGA resin is designed to meet stringent physical property and appearance requirements for low-loss automotive interior trim applications. Typical uses are pillar posts, consoles, scuff plates, map pockets, and interior quarter trim panels. As with any product, use of Lustran ABS LGA resin in a given application must be tested (including but not limited to field testing) in advance by the user to determine suitability.

Drying

Drying prior to processing is recommended in a desiccant dehumidifying hopper dryer. An inlet air dew point of -20°F (-29°C) or below is recommended to achieve a moisture content ≤0.1%. Typical drying conditions are 2 hours at 180°-190°F (82°-88°C). Drying for 4 hours at 160°-170°F (71°-77°C) is also adequate.

Processing

A reciprocating screw injection molding machine is preferred. A general purpose screw with a 2.5:1 compression ratio is suggested. A minimum L/D ratio of 20:1 will ensure melt homogeneity.

Lustran ABS LGA resin can be molded over a wide range of melt temperatures and maintain its low-gloss performance. For best part quality, use the lower range of the recommended melt temperature with minimum barrel residence time. To avoid excessive residence time in the barrel, volume and weight of the shot should be balanced against barrel capacity and injection stroke. A shot weight-to-machine capacity ratio of 0.5–0.75 is recommended.

A mold temperature of 110°–150°F (45–65°C) is recommended for minimum gloss development, with the lower end of this range preferred for smooth tools. A higher mold temperature is preferred for replication of the tool surface in textured tools.

Typical processing parameters are noted below. Actual processing conditions will depend on machine size, mold design, material residence time, shot size, etc.

Typical Injection Molding Conditions	
Barrel Temperatures:	
Rear.....	455° – 480°F (235° – 250°C)
Middle.....	465° – 490°F (240° – 255°C)
Front.....	475° – 500°F (245° – 260°C)
Nozzle.....	475° – 500°F (245° – 260°C)
Melt Temperature.....	475° – 510°F (245° – 265°C)
Mold Temperature.....	110° – 150°F (45° – 65°C)
Injection Pressure.....	10,000 – 16,000 psi
Hold Pressure.....	.50 – 75% of Injection Pressure
Back Pressure.....	.50 – 100 psi
Screw Speed.....	Moderate
Injection Speed.....	High
Cushion	1/4 in max
Clamp.....	.2 – 4 ton/in ²

Achieving uniform surface appearance on a molded part requires proper tool design, properly prepared and conditioned tool cavity surfaces, and preventive maintenance. Tool design should include adequate, properly sized, and properly designed vents. Preventive maintenance for tooling requires, but is not limited to, periodic inspection and cleaning of tool surfaces, actual cavity surfaces, and cavity vents.

Additional information on processing may be obtained by contacting an INEOS ABS technical service representative.

Regrind Information

Where end-use requirements permit, up to 20% Lustran ABS resin regrind may be used with virgin material, during injection molding, provided that the material is kept free of contamination and is properly dried (see section on Drying). Any regrind used must be generated from properly molded parts, sprues, and/or runners. All regrind used must be clean, uncontaminated, and thoroughly blended with virgin resin prior to drying and processing. Under no circumstances should degraded, discolored, or contaminated material be used for regrind. Material of this type should be discarded.

Improperly mixed and/or dried resin may diminish the desired properties of Lustran ABS resin. It is critical that you test finished parts produced with any amount of regrind to ensure that your end-use performance requirements are fully met. Regulatory or testing organizations (e.g., UL) may have specific requirements limiting the allowable amount of regrind. Because third party regrind generally does not have a traceable heat history, nor offer any assurance that proper temperatures, conditions, and/or materials were used in processing, extreme caution must be exercised in buying and using regrind from third parties.

The use of regrind materials should be avoided entirely in those applications where resin properties equivalent to virgin material are required, including but not limited to color quality, impact strength, resin purity, and/or load-bearing performance.

Federal Motor Vehicle Safety Standard 302

The Federal Motor Vehicle Safety Standard (FMVSS) 302 applies to automotive components and not materials. INEOS ABS does not certify against this standard since it is a component test and test results are dependent on part geometry as well as material. However, INEOS ABS does test its materials according to the flammability test procedure SAE J369 set forth by the Society of Automotive Engineers Standard SAE J1685. This test is for materials and relates to FMVSS 302. Flammability testing of actual parts and components manufactured with INEOS ABS materials must be performed by the part fabricator/ assembler and the OEM.

Health and Safety Information

Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling the INEOS ABS products mentioned in this publication. For materials mentioned which are not INEOS ABS products, appropriate industrial hygiene and other safety precautions recommended by their manufacturers should be followed. Before working with any of these products, you must read and become familiar with the available information on their hazards, proper use, and handling. This cannot be overemphasized. Information is available in several forms, e.g., *material safety data sheets and product labels*. Consult your INEOS ABS representative or contact the Product Safety and Regulatory Affairs Department at INEOS ABS.

Note: The information contained in this publication is current as of April 2009. Please contact INEOS ABS to determine whether this publication has been revised.

The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by us. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with patents covering any material or its use. No license is implied or in fact granted under the claims of any patent.

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