

LUSTRAN[®] ABS 752 Q374

ABS

Extrusion Grade

Description

Lustran ABS 752 Q374 resin is a high-gloss, high-impact extrusion grade of ABS (Acrylonitrile Butadiene Styrene) with improved depth of image and gloss in extruded sheet and thermoformed parts. In its natural color (000000), Lustran ABS 752 Q374 meets FDA requirements for food contact.** It also provides a superior balance between rigidity and impact strength, as well as excellent melt strength for good thermoformability. It is easy to color with ABS color concentrates.

Applications

Lustran ABS 752 Q374 resin is used for extrusion applications that require high-impact toughness. Typical applications include various carrying cases, table tops, wall panels, and profiles. It is also used as a substrate under other specialty grades, such as Lustran ABS 556 low-gloss resin. As with any product, use of Lustran ABS 752 Q374 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 maximum moisture content of 0.03%. Typical drying conditions are 3–4 hours at 180°-200°F (82-93°C).

Processing

Extruder. To obtain an optimum balance of sheet gloss and mechanical properties, the extruder profile should be set to deliver polymers at a melt temperature between 420° and 480°F (215° and 249°C). A barrel temperature of 420°-465°F (215-240°C) is recommended.

Screw Design. Single- or two-stage screws can be used, although a two-stage screw is preferred. For two-stage screws, a first-stage compression ratio (feed depth to metering depth) of 2.5 – 2.7 and a pump ratio (second-stage metering to first-stage metering) of 1.5 – 2.0 are recommended.

Die. Die temperature settings for Lustran ABS normally range between 410° and 465°F (210° and 241°C). The die should be adjusted to provide uniform polymer melt at the lips.

Roll Stack. Suggested polishing roll settings for Lustran ABS using a standard S wrap are noted below. Specific settings are dependent on roll diameter, sheet gauge and linear speed.

Polishing Roll	Down Stack	Up Stack
Top	180°-220°F (82°-105°C)	180°-220°F (82-105°C)
Middle	145°-185°F (63°-85°C)	170°-210°F (77°-99°C)
Bottom	180°-220°F (82°-105°C)	160°-200°F (71°-93°C)

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

Regrind Information

Where end-use requirements permit, up to 40% Lustran ABS resin regrind may be used with virgin material, provided that the material is kept free of contamination and is properly dried (see section on Drying). Only compatible materials should be used for regrind. Some thermoplastics, such as polystyrene, polyethylene, and polypropylene, to mention a few, are not compatible, and mixing will result in appearance issues and property degradation.

Any regrind used must be generated from properly extruded and/or thermoformed parts and trim scrap. 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 properly discarded.

Improperly mixed and/or dried regrind may diminish the desired properties of Lustran 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, or 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 material 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.

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.

****Regulatory Compliance Information**

Some of the end uses of the products described in this publication must comply with applicable regulations, such as the FDA, NSF, USDA, CPSC and BfR. If you have any questions on the regulatory status of these products, contact your INEOS ABS representative or Regulatory Affairs Manager at INEOS ABS.

Health and Safety Information

Typical Properties* for Natural Resin	ASTM Test Method (Other)	Lustran® ABS 752 Q374 Resin **	
		U.S. Conventional	SI Metric
General			
Specific Gravity	D 792		1.04
Density	D 792	0.038 lb/in ³	1.04 g/cm ³
Specific Volume	D 792	26.6 in ³ /lb	0.96 cm ³ /lb
Melt Flow Rate	D 1238		1.7 g/10 min
230°C / 3.8-kg Load			90%
Gloss, 60°, Sheet	D 523		
Mechanical			
Tensile Stress at Yield	D 638	4,900 lb/in ²	33.8 MPa
Tensile Modulus	D 638	240,000 lb/in ²	1.65 GPa
Flexural Stress at Yield	D 790	7,500 lb/in ²	51.7 MPa
Flexural Modulus	D 790	290,000 lb/in ²	2.00 GPa
Impact Strength, Notched Izod:	D 256		
0.125-in (3.2-mm) Thickness			
73°F		8.5 ft·lb/in	454 J/m
-30°F		3.6 ft·lb/in	192 J/m
Rockwell Hardness, R Scale	D 785		94
Thermal***			
Deflection Temperature Under Load:	D 648		
Unannealed, 264 psi (1.82 MPa)		171°F	77°C
Unannealed, 66 psi (0.46 MPa)		194°F	90°C
Annealed, 264 psi (1.82 MPa)		214°F	101°C
Annealed, 66 psi (0.46 MPa)		219°F	104°C
Vicat Softening Temperature	D 1525		
5-kg; 120°C/h		203°F	95°C
Coefficient of Linear Thermal Expansion	D 696 (UL746B)	5.2 E-05 in/in/°F	9.4 E-05 mm/mm/°C
Relative Temperature Index:			
0.030-in (0.75-mm) Thickness			
Electrical		140°F	60°C
Mechanical with Impact		140°F	60°C
Mechanical without Impact		140°F	60°C
Flammability****			
UL94 Flame Class:	(UL94)		
1.5-mm Thickness			HB Rating ^a

* These items are provided as general information only. They are approximate values and are not part of the product specifications.

** Properties tested on 125-mil extruded sheet specimens unless otherwise noted.

*** Tested on injection molded specimens.

**** Tested on injection molded specimens. Flammability results are based on small-scale laboratory tests for purposes of relative comparison and are not intended to reflect the hazards presented by this or any other material under actual fire conditions.

^a All colors

Note: The information contained in this publication is current as of February 2014. 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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