

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.

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

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