HK:+852-69575415 China GuangDong:+13538586433 ShangHai:+18816996168

INEOS ABS

LUSTRAN® ABS 1152

ABS

Extrusion Grade

Description

Lustran ABS 1152 resin is a very high-impact extrusion grade of ABS (acrylonitrile butadiene styrene) with a balance of properties not offered by other grades of ABS. It offers superior toughness, particularly for low-temperature applications, and good thermoformability. It is easy to color with ABS color concentrates.

Applications

Lustran ABS 1152 resin is used in extrusion applications where super toughness is a prime consideration. Typical applications include vehicle instrument panels, luggage shells, agricultural equipment, and construction equipment. It is also used as a substrate under other specialty grade, such as Lustran ABS 556 low gloss resin and Centrex® weatherable polymers. As with any product, use of Lustran ABS 1152 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 polymer 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 resin 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.

HK:+852-69575415 China GuangDong:+13538586433 ShangHai:+18816996168

Typical Properties* for Natural Resin	ASTM Test Method (Other)	Lustran® ABS 1152 Resin** U.S. Conventional	SI Metric
General			
Specific Gravity	D 792	1.03	
Density	D 792	0.037 lb/in³	1.03 g/cm³
Specific Volume	D 792	26.9 in³/lb	0.97 cm³/g
Water Absorption, Immersion at 73°F (23°C):	D 570		
24 Hours		0.4[m]%	
Melt Flow Rate at 230°C/10-kg Load	D 1238	7.3 g/10 min	
Gloss, 60°, Sheet	D 523	80%	
Mechanical			
Tensile Stress at Yield:	D 638		
160°F (71°C)		2,800 lb/in²	19.3 MPa
73°F (23°C)		4,500 lb/in²	31.0 MPa
0°F (-18°C)		5,900 lb/in²	40.7 MPa
Tensile Modulus:	D 638		
160°F (71°C)		180,000 lb/in²	1.2 GPa
73°F (23°C)		220,000 lb/in²	1.5 GPa
0°F (-18°C)		320,000 lb/in²	2.2 GPa
Flexural Stress at Yield:	D 790		
160°F (71°C)		4,700 lb/in²	32.4 MPa
73°F (23°C)		7,000 lb/in²	48.3 MPa
-40°F (-40°C)		11,700 lb/in²	80.7 MPa
Flexural Modulus:	D 790		
160°F (71°C)		200,000 lb/in²	1.4 GPa
73°F (23°C)		260,000 lb/in²	1.8 GPa
-40°F (-40°C)		290,000 lb/in²	2.0 GPa
Impact Strength, Notched Izod:	D 256		
0.125-in (3.2-mm) Thickness			
73°F (23°C)		9.2 ft·lb/in	491 J/m
0°F (-18°C)		6.5 ft·lb/in	347 J/m
-40°F (-40°C)		4.2 ft·lb/in	224 J/m
Instrumented Impact:[a]	D 3763		
Peak Energy			
73°F (23°C)		22 ft·lb	30 J
0°F (-18°C)		25 ft·lb	34 J
-40°F (-40°C)		23 ft·lb	31 J
Total Energy			
73°F (23°C)		37 ft·lb	50 J
0°F (-18°C)		35 ft·lb	47 J
-40°F (-40°C)		26 ft·lb	35 J
Rockwell Hardness, R Scale	D 785	93	
Thermal			
Deflection Temperature Under Load:	D 648		
Unannealed, 264 psi (1.82 MPa)		180°F	82°C
Unannealed, 66 psi (0.46 MPa)		193°F	89°C
Annealed, 264 psi (1.82 MPa)		195°F	91°C
Annealed, 66 psi (0.46 MPa)		206°F	97°C
Coefficient of Linear Thermal Expansion	D 696	5.8 E-05 in/in/°F	10.4 E-05 mm/mm/°C
Relative Temperature Index:	(UL746B)		
1.5-mm (0.059-in) 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 (0.059-in) Thickness		HB Rating	
Burn Rate:	D 635		
3.2-mm (0.125-in) Thickness		1.4[m] in/min	35.6[m] mm/min

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

*** Properties tested in transverse direction (worst case) on 125-mil extruded sheet specimens with less than 10% orientation unless otherwise noted.*

**** 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] 0.5-in dart, 3-in clamp, 7.6 mph.

[m] Tested on injection molded specimen.

INEOS ABS

INEOS ABS (USA) Corporation