INEOS ABS

LUSTRAN® ABS 256

ABS

Extrusion Blending Grade

Description

Lustran ABS 256 resin is a natural, medium-flow, medium-impact, low-gloss, low-gel extrusion grade of ABS (Acrylonitrile Butadiene Styrene). It is used for blending with other Lustran ABS virgin and regrind materials to optimize cost and performance. As with any product, use of Lustran ABS 256 resin in a given application must be tested (including field testing, etc.) 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 465°F (215° and 240°C).

Screw Design. Singe- 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 sheet gauge and linear speed.

Polishing Roll	Down Stack	Up Stack
Top	200°F (93°C)	200°F (93°C)
Middle	165°F (47°C)	190°F (88°C)
Bottom	200°F (93°C)	180°F (82°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® 256 ABS Resin		Blended ABS Resin** 256 and 752	
		U.S. Conventional Units	SI Metric Units	U.S. Conventional Units	SI Metric Units
General					
Specific Gravity	D 792	1.05			
Density	D 792	0.038 lb/in^3	1.05 g/cm^3		
Specific Volume	D 792	26.4 in^3/lb	0.95 cm^3/g		
Melt Flow Rate at 230°C/10-kg Load	D1238	14.0 g/10 min			
Gloss, 60°:	D 523				
Sheet		90%		85%	
Formed		25%		40%	
Mechanical					
Tensile Stress at Yield	D 638	5,800 lb/in^2	40 MPa	4,900 lb/in^2	34 MPa
Tensile Modulus	D 638	320,000 lb/in^2	2.2 GPa	285,000 lb/in^2	2.0 GPa
Flexural Stress at Yield	D 790	10,000 lb/in^2	69 MPa	8,800 lb/in^2	61 MPa
Flexural Modulus	D 790	350,000 lb/in^2	2.4 GPa	290,000 lb/in^2	2.0 GPa
Impact Strength, Notched Izod:	D 256				
0.125-in (3.2-mm) Thickness					
73°F (23°C)		3.0 ft·lb/in	160 J/m	5.6 ft·lb/in	299 J/m
0°F (-18°C)		1.6 ft·lb/in	85 J/m	3.0 ft·lb/in	160 J/m
-40°F (-40°C)		0.9 ft·lb/in	48 J/m	1.7 ft·lb/in	91 J/m
Instrumented Impact: [a]	D 3763				
Peak Energy					
73°F (23°C)		18 ft·lb	24 J	23 ft·lb	31 J
0°F (-18°C)		11 ft·lb	15 J	17 ft·lb	23 J
-40°F (-40°C)		9 ft·lb	12 J	13 ft·lb	18 J
Total Energy					
73°F (23°C)		22 ft·lb	30 J	32 ft·lb	43 J
0°F (-18°C)		12 ft·lb	16 J	19 ft·lb	26 J
-40°F (-40°C)		10 ft·lb	14 J	14 ft·lb	19 J
Thermal					
Deflection Temperature, Unannealed:	D 648				
264 psi (1.82 MPa) Load		188°F	87°C	185°F	85°C

** These items are provided as general information only. They are approximate values and are not part of the product specifications.*
***Data is based on a 50/50 pellet blend of Lustran 256 ABS and high-impact Lustran 752 ABS extruded into 125-mil sheet.*
[a] *0.5-in. dart, 3-in. clamp, 7.6 mph.*

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

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INEOS ABS (USA) Corporation