INEOS ABS

LUSTRAN® ABS 288

ABS

Injection Molding Grade

Description/ Applications

Lustran ABS 288 is a very high-flow injection molding grade of ABS (acrylonitrile butadiene styrene) with good impact strength and high gloss. It is intended for use in a wide range of applications, particularly in thin-walled components for telecommunications, office equipment, consumer and other office products.

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.

Use minimum melt temperature with minimum barrel residence time, consistent with good part quality. 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 development of maximum gloss and strength, with the hotter end of this range preferred.

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

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

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 288
General		
Specific Gravity	D 792	1.05
Mold Shrinkage	D 955	0.004 – 0.006 in/in
Melt Flow Rate at 220°C/10-kg Load	D 1238 (ISO 1133)	30 g/10 min
60° Gloss	D 523	95%
Mechanical		
Tensile Stress	(ISO 527)	38 MPa
Tensile Modulus	(ISO 527)	2.8 GPa
Flexural Stress	(ISO 178)	66 MPa
Flexural Modulus	(ISO 178)	2.4 GPa
Notched Izod Impact	(ISO 180)	
4 mm, 23°C		24 KJ/m^2
4 mm, -30°C		13 KJ/m^2
Instrumented Impact (Total Energy)	D 3763	
23°C		40 J
-30°C		9 J
Thermal		
HDT, Unannealed	(ISO 75)	
4 mm, 1.8 MPa		76°C
4 mm, 0.45 MPa		85°C
Vicat Softening Temperature	(ISO 306)	
1 kg load, 120°C/Hour		104°C
5 kg load, 50°C/Hour		94°C
Flammability**		
UL 94 Flame Class:		
1.5-mm Thickness	(UL94)	HB Rating
3.0-mm Thickness	(UL94)	HB Rating

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

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

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