INEOS ABS

LUSTRAN® Guardian ™ ABS 620

ABS

Extrusion Grade

Product Description

Lustran Guardian ABS 620 is a high modulus, HFC 134a and HCFC 22 resistant extrusion grade resin designed for refrigerator door and food liners. Lustran ABS 620 offers good melt strength and deep draw formability for superior material distribution in large complex parts.

Typical Properties*	ASTM Test Method (Other)[a]	Lustran® 620 ABS Resin U.S. Conventional	SI Metric
General			
Specific Gravity	D 792	1.10	
Gardner Gloss, 60°		98	
Critical Strain (50/50 CO/OA), 73℉	(Stolki)	0.62%	
Mechanical			
Tensile Stress at Yield, 73℉	D 638	5,600 lb/in^2	38.6 MPa
Tensile Stress at Fail, 73℉	D 638	4,600 lb/in^2	31.7 MPa
Tensile Modulus, 73℉	D 638	380,000 lb/in^2	2.62 GPa
Elongation at Fail, 73℉	D 638	45%	
Flexural Stress at Yield, 73℉	D 790	10,200 lb/in^2	70.4 MPa
Flexural Modulus, 73℉	D 790	350,000 lb/in^2	2.42 GPa
Impact Strength:	D 256		
73℉			
0.125-in Thickness		5.1 ft-lbs/in	28.7 kJ/m^2
0℉			
0.125-in Thickness		1.7 ft-lbs/in	9.6 kJ/m^2
Multiaxial Impact, Driven Dart (0.5-in dart, 1.5" ring)	(Ceast)		
73℉			
E_{max}		25 ft-lbs$_f$	34 J
E_{tot}		35 ft-lbs$_f$	47 J
0℉			
E_{max}		10 ft-lbs$_f$	14 J
E_{tot}		11 ft-lbs$_f$	15 J
Thermal			
Heat Deflection Temperature, Annealed	D 648		
264 psi		208℉	98℃
Flammability**			
Flame Class Rating	(UL94)		
1.0 mm		HB	

** These items are provided as general information only. They are approximate values and are not part of the product specifications. Data obtained on extruded sheet specimens, prepared and evaluated at the same time, using the same test procedures, at 73°F and 50% RH, 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.*

Suggested Processing Conditions

Dryer
Lustran ABS can be successfully extruded into quality sheet when the total moisture by weight is 0.03% maximum. Suggested drying conditions are 3 to 4 hours at 180°-200°F (82°-90°C) dew point air.

Extruder
To obtain optimum sheet mechanical properties, the extruder profile should be set to deliver polymer with a stock temperature between 460° and 500°F (238° to 260°C). Maintaining constant regrind level and particle size to the extruder feedstock will provide optimum extrusion consistency at a given extrusion profile.

Screw Design
Single- or two-stage screws can be used to extrude these products although a two-stage screw with a vacuum vent is the preferred setup. For two-stage screws, a first-stage compression ratio of 2.5 to 2.7 and a pump ratio of 1.5 to 2.0 are recommended.

Die
Die temperature settings for Lustran Guardian ABS normally range between 410°-485°F (210°-250°C). The die should be adjusted to provide uniform polymer melt at the lips. Maintaining constant regrind level to the extruder feedstock will improve gauge consistency at a given temperature profile.

Roll Stack
Suggested polishing roll settings for Lustran Guardian ABS, for a standard down stack setup are: Top - 200°F (93°C); middle - 165°F (74°C); and bottom - 200°F (93°C). Specific settings will change depending on sheet gauge and linear speed.

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