

ULTEM^{*} R16SG00 Sheet

Product Datasheet

Description

ULTEM^{*} R16SG00 sheet is an extruded polyetherimide (PEI) alloy sheet material used for rail interior applications. It is also an amorphous thermoplastic which offers outstanding high heat resistance, high strength, modulus, and broad chemical resistance. ULTEM R16SG00 sheet is inherently flame resistant with low smoke emission. ULTEM R16SG00 sheet meets United States Federal Rail Administration (FRA 49 CFR Part 238, Appendix B) flammability and smoke emission characteristics for passenger cars and locomotive cabs. In addition, ULTEM R16SG00 sheet complies with toxicity standard Bombardier SMP 800-C. The material may be thermoformed, pressure formed, twin sheet formed, or used in flat or cold formed applications. ULTEM sheet has excellent chemical resistance. Painting of parts made of ULTEM sheet is recommended for applications where long term color stability is critical. Information on stain and chemical resistance, color stability, processing, and secondary operations are available upon request.

Typical property Values *

Property	Test Method	Units	Value
Physical			
Specific Gravity (Color Dependent)	ASTM D792	--	1.26 – 1.33
Water Absorption, Equilibrium, 24 hrs.	ASTM D570	%	.70
Mechanical			
Tensile Strength	ASTM D638	psi @ yield	13,100
Ultimate			11,000
Tensile Modulus	ASTM D638	psi	335,000
Tensile Elongation	ASTM D638	% Ultimate	35
Flexural Strength (Gauge Dependent)**	ASTM D790	psi	20,400
Flexural Modulus (Gauge Dependent)**	ASTM D790	psi	460,000
Dynatup Impact Strength, 1/2" Diameter			
Dart (Gauge Dependent)**	ASTM D3763	ft-lbs @75°F	50
Izod Impact Strength (Gauge Dependent)**	ASTM D256A	ft-lbs/in	
Notched @ 75°F			1.4
Unnotched @ 75°F			No Break
Gardner Impact Strength, Round Top			
(Gauge Dependent)**	ASTM D3029	in-lbs @ 75°F	>320
Rockwell Hardness	ASTM D785		123
Thermal			
Coefficient of Thermal Expansion	ASTM D696	in/in/°F	2.75 x 10 ⁻⁵
Heat Deflection Temperature	ASTM D648	°F	
@ 264 psi			373
@ 66 psi			395
Flammability			
FRA 49 CFR Part 238, Appendix B			
Flame Spread Index, Is (<35 max)***	ASTM E-162		Pass. Is = <5
Smoke Density			
Ds – 1.5mins. (<100Max)***	ASTM E-662		Pass, ds, 1.5 = 1
Ds – 4.0mins. (<200 max)***			Pass, Ds, 4 = 7
Heat & Visible Smoke Release Rate	ASTM E-1354/ ISO-5660		TBD
Average Heat of Combustion		MJ/kg	30.96
Average Extinction Area		m ² /kg	85.10

* These are typical properties and are not intended for specification purposes. If minimum certifiable properties are required, please contact your local local GE Advance Materials, Specialty Film & Sheet representative or the GE Advance Materials, Specialty Film & Sheet Quality Services Department.

** Reported Values are Based on 0.125" Thickness.

*** FRA Performance Criteria.



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