

Royalite[®] R722



Royalite[®] R722 thermoplastic sheet is specifically formulated to meet the stringent requirements of FAR Part 25, Appendix F as it relates to plastics used in the interior of aircraft. It consistently meets FAA guidelines for flammability*, heat release* and smoke density* using methods set forth in FAR Part 25, Appendix F, Parts I, IV, and V, respectively, at thicknesses down to 0.040".

FEATURES AND BENEFIT

- Smoke-Rated*
- High Rigidity
- Fire-rated*
- Very high impact strength
- High tensile strength

TARGET MARKET & APPLICATIONS

The unique formulation of Royalite[®] R722 not only allows it to meet the FAA guidelines, but gives specifiers, engineers and thermoformers a material that surpasses all others in its class in processability and durability. This material offers a superior range of physical and mechanical properties over other related materials, and its ease in thermoforming and machining make it the components as interior walls, window surrounds, seats, trays partitions, galley and lavatory panels. Its high rigidity and toughness allows for weight reduction by supporting thinner-walled parts.

FINISHING

With conventional plastic fabricating tools, it is possible to machine, saw, drill, rout and grind this rigid Royalite[®] sheet. It can be punched and die-cut, sanded and polished easily. As long as proper procedures are followed, this material can be joined to other materials, or itself, by adhesive bonding, ultrasonic welding and by mechanical fasteners such as screws and rivets. Please contact Royalite[®] for specific guidelines.

COLORS & TEXTURES

Royalite[®] R722 is offered in a tremendous range of colors with a multitude of textures ranging from smooth to deep-textured. This Royalite product is capped with calendered film, which provides exceptional color and gloss control, plus outstanding grain retention after forming.

AVAILABILITY

Royalite[®] R722 is available in various custom colors, grain textures, gauges and blank sizes subject to normal production scheduling. Width and gauges outside the standard are available with some restrictions.

Sheets Size – maximum width 58"

Gauges – 0.040" – 0.250"

* This term and any corresponding data refer to typical performance in the specific tests indicated and should not be construed to imply this material's behavior under actual fire conditions.

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120 South Central Avenue, Suite 1700 Clayton, Missouri 63105-1705
888.721.4242 | www.spartech.com



PROCESSING

Royalite[®] R722 thermoplastic sheet can be processed on most standard thermoforming equipment using conventional forming methods. For some complex shapes and deep draw parts, it may be necessary to use predraw boxes and/ or plug assists. It is suitable for use with aluminum and epoxy molds and fine-grain wood molds such as mahogany. Temperature-controlled molds are recommended with the temperature maintained between 140° F-160°F. Care must be taken in forming so as not to overheat the sheet because Royalite[®] R722 is a PVC/acrylic alloy. Stock temperatures of approximately 325°F-355°F (IR measured) are recommended for proper forming. Best results are achieved by “soaking” the sheet with heat, utilizing lower power settings and longer cycle times. As with any thermoplastic material, care should be taken to account for the coefficient of thermal expansion when considering design parameters. Please contact Royalite[®] for data relating to a specific application or equipment.

TYPICAL PROPERTIES

PROPERTY	TEST METHOD	UNITS	DATA
Specific Gravity	ASTM D-792		1.49-1.55†
Tensile Strength, machine direction	ASTM D-638	(psi)	6000
Flexural Strength	ASTM D-790	(psi)	10000
Flexural Modulus	ASTM D-790	(10 ⁵ psi)	3.9
Specific Gravity	ASTM D-792		1.49-1.55†
Hardness	ASTM D-785	Rockwell Scale R	105
Heat Deflection Temp (annealed) @ 264 psi	ASTM D-648	(°F)	165
Taber Abrasion	Cs-10,1000g,1000 cycles	(grams)	0.03
Flammability Rating*:			
Federal Aviation	FAR 25.853a ¹		Passes @ 0.040"
Federal Aviation	FAR 25.853 ²		Passes @ 0.040"
Smoke Density*	ASTM F 814 ³		DS @ 4 min. 100 @ 0.125" 135 @ 0.040"
OSU Heat Release*			
Peak (kW/m ²) (0.125")	ASTM E-906		50
Peak (kW/m ²) (0.040")			35
2 min total (kW-min/m ²) (0.125")			45
2 min total (kW-min/m ²) (0.040")			50

† Color dependent - R57 sheet is not listed with UL

⁽¹⁾ At 0.085"

⁽²⁾ FAR Part 25, Appendix F, Part 1, Section (a)(1)(ii)

* This term and any corresponding data refer to typical performance in the specific tests indicated and should not be construed to imply this material's behavior under actual fire conditions.

NOTE: The data listed herein reflect typical sheet properties. They are the latest available at the time of publication and are reliable to the best knowledge of Royalite. The properties are listed solely to give general guidance and are not to be construed as a warranty or representation for which Royalite assumes responsibility. We cannot anticipate all conditions under which this information and our products, or the products of other manufacturers in combination with our products, may be used. We accept no responsibility for results obtained by the application of this information or the safety and suitability of our products, either alone or in combination with other products. Users are advised to make their own test to determine the safety and suitability of each such product or product combination for their own purposes. We sell the products without warranty. Buyers and users assume all responsibility and liability for loss or damage arising from the handling and use of our products, whether used alone or in combination with other products.

CONTACT INFORMATION

Spartech Plastics, Royalite Specialty Sheet, 3454 N. Detroit Street, P.O. Box 958, Warsaw, IN 46581-0958

For additional information, please contact Spartech Corporation at (888) 721-4242 or visit our web site at www.spartech.com.

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