

Royalite[®] R60



Royalite[®] R60 is a rigid, fire-rated, proprietary thermoplastic sheet specifically formulated to meet the requirements of the FAR 25.853a flammability* test. It provides outstanding color, gloss and grain control while virtually eliminating grain and gloss retention problems after forming that are often found in other fire-rated materials. Royalite[®] R60 combines very high impact strength and stiffness with excellent formability in deep draws. It has high resistance to normal food and environmental stains, and its cleanability with common cleaners is simply outstanding.

TARGET MARKETS & APPLICATIONS

Currently, Royalite[®] R60 is being used in aircraft interiors that must meet FAR 25.853a. However, it is also ideal for a wide range of applications, such as computers, electronic instrumentation and business machine housings where rigidity in thin gauges, good flammability rating, high impact strength and excellent color, gloss and grain control are required.

COLORS AND TEXTURES

Royalite[®] R60 is offered in a tremendous range of colors with a multitude of textures ranging from smooth to deep-textured. This Royalite product is normally capped with calendared film, which provides exceptional color and gloss control, plus outstanding grain retention after forming.

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, and paints can be applied by spray, silk screen or roller coating. For optimum performance, paints formulated for plastics must be used. 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 recommendations.

AVAILABILITY

Royalite[®] R60 rigid PVC/acrylic sheet is available in a wide variety of economy, standard and custom colors, grain textures, gauges and blank sizes subject to normal production scheduling.

Sheet Size – maximum width is 54"

Gauges – 0.028 - 0.312

Widths and gauges outside the standard are available with some restrictions.



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PROCESSING

Royalite[®] R60 thermoplastic sheet can be processed on virtually all thermoforming equipment from high-volume, multi-station rotary machines to hand-operated presses. It is readily hand-formed for prototyping and is suitable for use with aluminum and epoxy molds and fine-grain wood molds such as mahogany. Care must be taken in forming so as not to overheat the sheet since Royalite[®] R60 is a PVC/acrylic alloy. Stock temperatures of approximately 330°F-380°F are recommended for proper forming. 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	D-792		1.30 – 01.38†
Tensile Strength, machine direction	D-638	(psi)	5,900
Flexural Strength	D-790	(psi)	9,600
Flexural Modulus	D-790	(10 ⁵ psi)	3.3
Impact Strength @72°F Notched Izod @-20°F	D-256	(ft-lbs/in notch) (ft-lbs/in notch)	14.0 1.0
Hardness	D-785	Rockwell Scale R	100
Heat Deflection @264 psi Temperature (annealed)	D-648	(°F)	155
Thermoforming Temperature Range	Machine	Low (°F) High (°F)	330 380
Mold Shrinkage		(in/in)	0.005 – 0.007

FLAMMABILITY RATING*

Motor Vehicle Standard	Passes	FMVSS 302
FAA 60s vert burn	Passes ⁽¹⁾	FAR 25.853a

† Color Dependent

⁽¹⁾ FAR Part 25, Appendix F, Part I, Section (a)(1)(i)

* 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.

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