

Royalite[®] R59



ROYALITE[®] R59 thermoplastic sheet provides a unique ABS/PVC product that meets many industry flammability standards. It is recognized under the component program of Underwriters Laboratories, Inc. with a classification of 94V-1 at 0.058", 94V-0 at 0.085" and 94-5VA at 0.085". It combines very high impact strength with excellent ductility and formability.

FEATURES AND BENEFITS

- UL Listed Flame Rated
- Very High Impact Strength
- Passes Federal Motor Vehicle Safety Standard 302

- High Flexural Modulus
- Controlled Color Match Surface

TARGET MARKETS & APPLICATIONS

Because of its fire rating*, **ROYALITE[®] R59** sheet has won acceptance in a variety of applications from rapid transit vehicle interiors to computer and electronic data processing terminals. High rigidity in thin gauges coupled with consistent high quality color, texture and gloss makes **ROYALITE[®] R59** sheet ideal for such varied applications as computer side panels and airport seating. Royalite R59 is a great choice for a wide range of applications and market segments that require a material to be recognized by Underwriter Laboratories, Inc. for flame rating.

- **Bus & Rail** – for seating, interior window trim, lavatory components and light housings
- **Medical** – for imaging equipment housings, hospital beds, medication carts, and exam tables
- **Construction Equipment** – for engine covers, light housings, and interior canopies
- **Electronic Appliance** – for data processing terminals, hand held monitors, and GPS tracking housings

COLORS & TEXTURES

ROYALITE[®] R59 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 calendered film, which provides exceptional color and gloss control, plus outstanding grain retention after forming.

Available Textures - Smooth, Matte, Level Haircell, Suede, Coarse Suede, Falmouth and Saddle #2.

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

A range of standard colors of **ROYALITE[®] R59** ABS/ PVC sheet is available from our warehouse, with a Level Haircell grain in a 54" x 94" blank size in gauges ranging from 0.062" to 0.250". Specific blank sizes can be cut to order for an extra charge. For a specific listing of our warehouse offerings, please contact us or our nearest distributor. Warehouse material can normally ship within 72 hours of receipt of the order.

Other standard and custom colors, grain textures, gauges and blank sizes are available subject to normal production scheduling. Widths and gauges outside the standard are available with some restrictions.

Sheet Sizes – maximum width 78" uncapped, 54" capped

Gauges – 0.031 – 0.312

Minimum Order – 500 lbs.

* 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.

Page 1 of 2

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PROCESSING

ROYALITE[®] R59 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. This material is also excellent for pressure forming applications. Care must be taken in forming so as not to overheat the sheet since ROYALITE[®] R59 is an ABS/PVC alloy. Stock temperatures of approximately 325°F-400°F are recommended for proper forming. Please contact Royalite for data relating to a specific application or equipment.

TYPICAL PROPERTIES

PROPERTY	TEST METHOD	UNITS	DATA
Specific Gravity	D-792		1.18-1.25†
Tensile Strength machine direction	D-638	(psi)	5,000
Flexural Strength	D-790	(psi)	7,800
Flexural Modulus	D-790	(10 ⁵ psi)	2.8
Impact Strength Notched Izod @ 72°F @ -20°F	D-256	(ft-lb/in notch)	8.0
		(ft-lb/in notch)	1.8
Hardness	D-785	Rockwell Scale R	93
Heat Deflection Temperature (annealed) @ 264 psi	D-648	(°F)	175
Coefficient of Thermal Expansion	D-696	(in/in/°Fx10 ⁻⁵)	4.6-5.5
Thermoforming Temperature Range	Machine	Low (°F)	325
		High (°F)	400
Mold Shrinkage		(in/in)	0.005-0.007

FLAMMABILITY RATING*:

Motor Vehicle Standard	FMVSS 302	Passes
Underwriters Labs	UL 94 V-0	Listed ⁽¹⁾
Underwriters Labs	UL 94 5VA	Listed ⁽¹⁾
Radiant Panel (Flame Spread Index)	UL 94 RP-50	Listed

RELATIVE THERMAL INDEX (RTI)

Electrical	UL 746	85°C
Mech. w/impact	UL 746	70°C
Mech. w/o impact	UL 746	85°C

† Color Dependent ⁽¹⁾ At 0.085"

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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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Page 2 of 2

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