

Royalite[®] R85/21



Royalite[®] R85/21 thermoplastic sheet is a unique composite of Royalite[®] R85 low gloss weatherable cap sheet over Royalite[®] R21 high impact ABS substrate. It is ideal for rugged outdoor applications requiring high impact strength and stiffness. R85/21 is available in a variety of standard colors, and custom color matches also are available.

TARGET MARKETS & APPLICATIONS

Royalite[®] R85/21 sheet is currently used for applications in the marine, RV, automotive, agricultural equipment and recreational industries. It can be fabricated into consoles, interior and exterior trim parts, shrouds and many other parts. To assure proper weatherable coverage after forming, R84 cap can be ordered in a variety of thicknesses.

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.

COLORS AND TEXTURES

Royalite[®] 85/21 is offered in a tremendous range of standard and custom low-gloss colors with a multitude of textures ranging from smooth to deep textured.

AVAILABILITY

Royalite[®] R85/21 rigid, weather-resistant sheet is available from our warehouse in black with a Level Haircell texture or white with a Matte texture in 54" x 94" blanks; gauges range from 0.062" to 0.156". Specific blank sizes can be cut to your order for an extra charge. For a specific listing of our warehouse offerings, please contact us or our nearest distributor. We can normally ship warehouse material 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 Size – maximum capped width is 54"

Gauges – 0.060" to 0.375"



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PROCESSING

Royalite[®] R85/21 rigid, weather-resistant thermoplastic sheet can be processed on virtually all thermoforming equipment from high-volume, multistation rotary machines to hand-operated presses. It is readily hand-formed for prototyping. It is also 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. Stock temperatures of approximately 320°F-360°F face side and 340°F-380°F back side 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. Also, it is recommended that 15 mils of R85 weatherable surface remain after forming. Please contact Royalite for data relating to your specific application and equipment.

TYPICAL PROPERTIES

PROPERTY	TEST METHOD	UNITS	DATA
Specific Gravity	D-792		1.01 – 01.06†
Tensile Strength, machine direction	D-638	(psi)	4,600
Impact Strength @72°F Notched Izod @-20°F	D-256	(ft-lbs/in notch) (ft-lbs/in notch)	7.0 2.0
Flexural Strength	D-790	(psi)	7,500
Flexural Modulus	D-790	(10 ⁵ psi)	2.7
Hardness	D-785	Rockwell Scale R	91
Heat Deflection @264 psi fiber stress Temperature (annealed)	D-648	(°F)	205
Thermoforming Temperature Range	Machine	Face Side (°F) Back Side (°F)	320-360 340-380
Mold Shrinkage		(in/in)	0.005 – 0.007

FLAMMABILITY RATING*

Motor Vehicle Standard	FMVSS 302	Passes
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† Color Dependent

* 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.

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

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