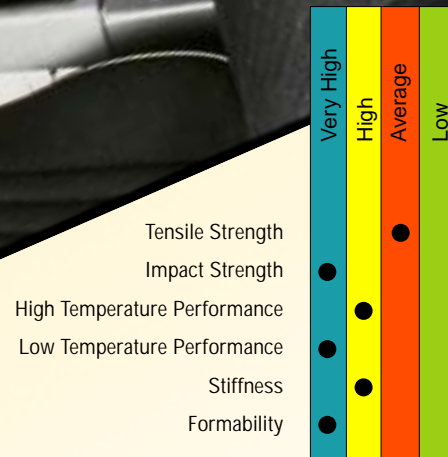


ROYALITE® R84/21

**RIGID
WEATHER-
RESISTANT
SHEET**



ROYALITE® R84/21 thermoplastic sheet is a unique composite of ROYALITE® R84 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. R84/21 is available in a variety of standard colors, and custom color matches also are available.

APPLICATIONS:

ROYALITE® R84/21 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.

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PROCESSING:

ROYALITE® R84/21 rigid, weather-resistant 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. 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 R84 weatherable surface remain after forming. Please contact Royalite for data relating to your specific application and equipment.

COLORS & TEXTURES:

ROYALITE® R84/21 is offered in a tremendous range of standard and custom low-gloss colors with a multitude of textures ranging from smooth to deep-textured.

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, the 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® R84/21 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. Maximum capped width available is 54". Maximum gauge is 0.375". Minimum gauge is 0.060". Widths and gauges outside the standard are available with some restrictions.

SUMMARY OF PROPERTIES:

ROYALITE® R84/21 thermoplastic sheet is a low-gloss, weather-resistant, rigid composite that combines very high impact strength and very good low temperature performance with excellent formability.

PHYSICAL PROPERTIES (units)	AVERAGE VALUES	TEST METHODS
Specific Gravity	1.01-1.06†	ASTM D-792
Tensile Strength, machine direction	(psi) 4600	ASTM D-638
Flexural Strength	(psi) 7500	ASTM D-790
Flexural Modulus	(10 ⁵ psi) 2.7	ASTM D-790
Impact Strength @ 72°F (ft-lb/in notch)	7.0	ASTM D-256
Notched Izod @ -20°F (ft-lb/in notch)	2.0	
Hardness	Rockwell Scale R 91	ASTM D-785
Heat Deflection Temperature (annealed) @ 264 psi fiber stress (°F)	205	ASTM D-648
Thermoforming Temperature Range	Face Side (°F) 320-360 Back Side (°F) 340-380	Machine
Mold Shrinkage	inch per inch 0.005-0.007	
Flammability Rating*: Motor Vehicle Standard	Passes	FMVSS 302

† 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.

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