

# Royalite R84/21

Acrylic (PMMA) + PVC

Spartech Plastics

## Message:

ROYALITE® R84/21 thermoplastic sheet is a unique composite of ROYALITE® R84 lowgloss 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.

### PROCESSING:

ROYALITE® R84/21 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 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.

General Information	
Features	Ultrasonic weldable
	Rigidity, high
	Rigidity, high
	Gloss, low
	Impact resistance, high
	Sprayable
	Machinable
	Adhesiveness
	Good adhesion
	Low temperature resistance
	Good weather resistance
	Heat resistance, high
Uses	Ship application
	Application in Automobile Field

Car interior equipment  
Car exterior decoration  
Outdoor application

Appearance	Available colors		
Forms	Sheet		
Processing Method	Thermoforming		
Physical	Nominal Value	Unit	Test Method
Specific Gravity <sup>1</sup>	1.01 - 1.06	g/cm <sup>3</sup>	ASTM D792
Molding Shrinkage - Flow	0.50 - 0.70	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	91		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength - Flow (Yield)	31.7	MPa	ASTM D638
Flexural Modulus	1860	MPa	ASTM D790
Flexural Strength	51.7	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			ASTM D256
-29°C	110	J/m	ASTM D256
23°C	370	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	96.1	°C	ASTM D648
Flammability	Nominal Value		Test Method
Flammability	Passes		FMVSS 302
Thermoforming Molding Temperature			
-- <sup>2</sup>	171 - 193	°C	
-- <sup>3</sup>	160 - 182	°C	
NOTE			
1.	Color Dependent		
2.	Back side, Machine		
3.	Face side, Machine		

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#### Recommended distributors for this material

### Susheng Import & Export Trading Co.,Ltd.

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WECHAT