

# Royalite R24

Acrylonitrile Butadiene Styrene

Spartech Plastics

## Message:

ROYALITE® R24 is proprietary Fire Rated ABS thermoplastic sheet product. R-24 is UL listed 94HB@ .060 and above in all colors. In addition R-24 is in conformance with MVSS 302 at .050 and above.

R24 combines high impact strength and stiffness with excellent formability. It also has an enhanced heat deflection temperature of 210 degrees F. Manufactured utilizing our proprietary cap sheet technology, R24 provides outstanding color and gloss control and superior grain retention after thermoforming.

**APPLICATIONS:**

The combination of flame rating, toughness and durability makes Royalite® R24 the perfect choice for applications when a ULHB rated material is called for. Its excellent balance of properties makes it suitable for wide variety of applications such as business machine housing, medical equipment, and electronics enclosures. The superior forming characteristics of R24 also make it a great material for the complex configurations.

**PROCESSING:**

You can process R-24 rigid thermoplastic sheet 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. Stock temperatures of approximately 340-390°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 Spartech for data relating to your specific application and equipment.

**COLORS & TEXTURES:**

Royalite® R24 sheet can be supplied in a variety of colors and over 16 different grain patterns to meet specific aesthetic requirements. This Royalite product is normally capped with calendered film, which provides exceptional color and gloss control, plus outstanding grain retention after forming.

**FINISHING:**

You can machine, saw, drill, rout and grind this rigid sheet with conventional plastics fabricating equipment. It can be punched and die-cut, sanded and polished easily. So long as proper procedures are followed, you can join it to itself, or other materials, by adhesive bonding, ultrasonic welding, and by mechanical fasteners. Please contact Spartech for specific recommendations.

**AVAILABILITY:**

Royalite® R24 is available in various custom colors, grain textures, gauges, and blank sizes subject to normal product scheduling. Maximum width available is 60". The available gauge range is 0.047" - 0.250". Some restrictions apply to widths greater than 55".

General Information	
UL YellowCard	E52355-242595
Features	Ultra-high impact resistance
	Ultrasonic weldable
	Rigidity, high
	High tensile strength
	Machinable
	Adhesiveness
	Good adhesion
	Low temperature resistance
	Heat resistance, high
	Durability
	Good toughness
	Flame retardancy
Uses	Electrical/Electronic Applications
	Business equipment
	Shell

Appearance	Available colors		
Forms	Particle		
Processing Method	Thermoforming		
Physical	Nominal Value	Unit	Test Method
Specific Gravity <sup>1</sup>	1.02 - 1.08	g/cm <sup>3</sup>	ASTM D792
Molding Shrinkage - Flow (3.18 mm)	0.50 - 0.70	%	ASTM D955
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale, 3.18 mm)	98		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength (Yield, 3.18 mm)	34.5	MPa	ASTM D638
Flexural Modulus (3.18 mm)	1930	MPa	ASTM D790
Flexural Strength (3.18 mm)	53.8	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C, 3.18 mm)	400	J/m	ASTM D256
Dart Drop Impact (23°C, 3.18 mm)	36.2	J	ASTM D5420
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Annealed, 3.18 mm)	98.9	°C	ASTM D648
Flammability	Nominal Value		Test Method
Flame Rating (1.52 mm)	HB		UL 94
Flammability (3.18 mm)	Passes		FMVSS 302
Thermoforming Molding Temperature	171 - 202	°C	
NOTE			

1. Color Dependent

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#### Recommended distributors for this material

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