

Royalite R522

Acrylic (PMMA) + PVC

Spartech Plastics

Message:

ROYALITE® R522 is a fire rated proprietary thermoplastic sheet product that is engineered to meet the requirements of the FAR 25.853a flammability test. R522 combines very high impact strength and stiffness with excellent formability. It has a high resistance to normal food and environmental stains and its cleanability with common cleaners is outstanding. Manufactured utilizing our proprietary cap sheet technology, R522 provides outstanding color and gloss control and superior grain retention after thermoforming.

APPLICATIONS:

The combination of toughness, durability, and fire retardancy makes Royalite® R522 the perfect choice for a wide variety of aircraft cabin applications. Its excellent chemical and abrasion resistance makes it suitable for all seating components, such as tray tables, end bays, and arm rests. The superior forming characteristics of R522 also make it a great material for the complex configurations of galley structures and lavatory interiors.

PROCESSING

You can process this rigid thermoplastic sheet on virtually all thermoforming equipment from high-volume, multi-station rotary machines to hand-operated presses. It is readily handformed for prototyping, and is suitable for use with aluminum and epoxy molds and fine-grain wood molds such as mahogany. Because Royalite® R522 is a PVC alloy, care must be taken in forming so as not to overheat the sheet. Stock temperatures of approximately 320-390°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® R522 sheet can be supplied in a variety of colors and over 24 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.

CHEMICAL & STAIN RESISTANCE, CLEANABILITY:

Royalite® R522 is resistant to a wide range of concentrated chemicals, and also exhibits very good stain resistance to common staining agents. Therefore, it is easily and safely cleaned with mild detergents or common cleansers. As with all plastics, extreme care should be taken when selecting a cleaning agent; some solutions may leave a residue or discolor the material. Mild soap and water are recommended; any other solution should be used with extreme caution as it may cause discoloration or degrade the material. Contact Spartech for suggested guidelines.

AVAILABILITY:

Royalite® R522 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 0.031" - 0.375". Some restrictions apply to widths greater than 55".

General Information	
Features	Ultra-high impact resistance
	Ultra high toughness
	Rigidity, high
	High tensile strength
	stain resistance
	Sprayable
	Machinable
	Cleanable
	Good coloring
	Good wear resistance
	Good chemical resistance
	Heat resistance, high
	Durability
	Flame retardancy

Uses	Airplane trim Bracket tray Seat		
Agency Ratings	FAR 25-25853A		
Appearance	Available colors		
Forms	Particle		
Processing Method	Thermoforming		
Physical	Nominal Value	Unit	Test Method
Specific Gravity ¹	1.27 - 1.30	g/cm ³	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)	100		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength - Flow (Yield, 3.18 mm)	40.7	MPa	ASTM D638
Flexural Modulus (3.18 mm)	2480	MPa	ASTM D790
Flexural Strength (3.18 mm)	66.2	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C, 3.18 mm)	800	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)	75.0	°C	ASTM D648
Flammability	Nominal Value		
Flammability ² (787.4 µm)	Passes		
Thermoforming Molding Temperature	160 - 199	°C	
NOTE			
1.	Color Dependent		
2.	FAR/JAR 60s Vertical Burn, All Colors, Appendix F		

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Recommended distributors for this material

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