



Spartech Plastics - Extruded Sheet & Rollstock
 3454 North Detroit Street, Warsaw, IN 46580
 Phone (574) 267-7127 Fax (574) 267-9711
 1-800-456-9402
 www.spartech.com

ROYALITE®

R522

**FIRE RATED*
 ACRYLIC/PVC
 SHEET**

<i>PERFORMANCE-AT-A-GLANCE</i>			
	Very High	High	Average
Tensile Strength	◆		
Impact Strength	◆		
High Temperature Performance		◆	
Low Temperature Performance			◆
Stiffness	◆		
Formability	◆		

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 hand-formed 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".

SUMMARY OF PROPERTIES:

Royalite® R522 thermoplastic sheet is a rigid, flame retardant* alloy that meets FAR 25.853a. R522 combines very high impact strength, tensile strength and stiffness with excellent formability.

PHYSICAL PROPERTIES (units)	AVERAGE VALUES‡	TEST METHODS
Specific Gravity†	1.27-1.30	ASTM D-792
Tensile Strength, MD (psi)	5900	ASTM D-638
Flexural Strength (psi)	9600	ASTM D-790
Flexural Modules (kpsi)	360	ASTM D-790
Impact Strength @ 73°F Notched Izod (ft-lb/in notch)	15.0	ASTM D-256
Impact Strength @ 73°F Gardner Drop Weight (in-lbs)	320	ASTM D-5420
Hardness Rockwell Scale R	100	ASTM D-785
Heat Deflection @ 264 psi (°F) Temperature (annealed)	167	ASTM D-648
Thermoforming Temperature Range (°F)	320 – 390	
Mold Shrinkage (in/in)	0.005-0.007	
Flammability*: FAR/JAR 60s Vertical Burn	Passes	FAR/JAR Appendix F

‡ All values based on 0.125" thickness unless otherwise noted

† Color Dependent

‡ All colors at 0.031" and above

* 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, are the latest available at the time of publication, and are reliable to the best knowledge of Spartech. The properties are listed solely to give general guidance and are not to be construed as a warranty or representation for which Spartech assumes responsibility.

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