



Spartech Plastics - Extruded Sheet & Rollstock

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PERFORMANCE-AT-A-GLANCE

	Very High	High	Average	Low
Tensile Strength	◆			
Impact Strength			◆	
High Temperature Performance			◆	
Low Temperature Performance			◆	
Stiffness	◆			
Formability	◆			

ROYALITE®

R66

Dmax SMOKE-RATED*
FIRE-RATED*
RIGID PVC/ACRYLIC

ROYALITE® R66 thermoplastic sheet is specifically formulated to meet the stringent smoke and fire specifications by the Federal Transit Administration. R66 meets the guidelines for flammability and smoke emission as measured by ASTM e-162 and ASTM E-662 at thickness' of .060 and above. Additionally, R66 carries a Dmax smoke density rating of less than 200 at .090.

APPLICATIONS:

The unique formulation of Royalite® R66 not only allows it to meet the FTA guidelines, but gives specifiers, engineers, and thermoformers a material that surpasses all others in its class in processability and durability. It offers a superior range of physical and mechanical properties over other related materials, and its ease in thermoforming and machining make it the new material of choice for such rail and bus components as seat backs, overhead storage bins, trays, side panels, and window surrounds.

COLORS & TEXTURES:

Royalite® R66 sheet can be supplied in a variety of colors and various grain patterns from matte to a deep textured finish, in order to meet your specific aesthetic requirements. Royalite R-66 is capped with calendered film, which provides exceptional color and gloss control, plus outstanding grain retention after forming.

PROCESSING:

Royalite® R66 thermoplastic sheet can be processed on most standard thermoforming equipment using conventional forming methods. For some complex shapes and deep draw parts, it may be necessary to use pre-draw boxes and/or plug assists. It is suitable for use with aluminum and epoxy molds, and fine-grain wood molds such as mahogany. Temperature-controlled molds are recommended with the temperature maintained between 140-160°F. Because Royalite® R66 is a PVC/acrylic alloy, care must be taken in forming so as not to overheat the sheet. Stock temperatures of approximately 330 - 380°F (IR measured) are recommended for proper forming. Best results are achieved by "soaking" the sheet with heat, utilizing lower power settings and longer cycle times. 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.

CHEMICAL & STAIN RESISTANCE, CLEANABILITY:

Royalite® R66 is resistant to a wide range of chemicals, and also exhibits very good stain resistance to common staining agents. It is safely cleaned with mild soap and water. As with all plastics, extreme care should be taken when selecting a cleaning agent; as some solutions may leave a residue, or discolor the material. Contact your Spartech representative for suggested guidelines.

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 mechanical fasteners.

AVAILABILITY:

Royalite® R66 is available in various custom colors, grain textures, gauges, and blank sizes subject to normal product scheduling. Maximum width available is 60" in gauges .060" - 0.250.

SUMMARY OF PROPERTIES:

Royalite® R66 thermoplastic sheet is a rigid, Dmax smoke-rated*, fire-rated* product designed to meet the recommended guidelines of the Federal Transit Administration as they related to plastic materials for passenger compartment use.

PHYSICAL PROPERTIES	Average Values‡	Average Values‡	TEST METHODS
	SI Units	I-P Units	
Specific Gravity†	1.35-1.45 g/cm ³	1.35-1.45	ISO 1183 / ASTM D792
Tensile Strength	40 MPa	5900 psi	ISO 527 / ASTM D638
Flexural Strength	65 MPa	9500 psi	ISO 178 / ASTM D790
Flexural Modules	2200 MPa	320 kpsi	ISO 178 / ASTM D790
Impact Strength Notched Izod @ 73°F	200 J/m	3.0 ft-lb/in	ASTM D256
Impact Strength			
Gardner Drop Weight @ 73°F	35 J	320 in-lb	ASTM D5420
Hardness Rockwell Scale R		95	ASTM D785
Heat Deflection Temperature @ 264 psi (1.8 MPa) (annealed)	75°C	170 °F	ISO 175/A / ASTM D648
Radiant Panel Flame Spread Index		Less than 35	ASTM E-162
Flammability*: MVSS 302	Pass	Pass	MVSS 302
NBS Smoke Chamber:			
0.060		1.5 min < 50 4 min < 120 Dmax < 150	ASTM E-662
.090		1.5 min < 30 4 min < 130 Dmax < 200	
.125		1.5 min < 10 4 min < 80 Dmax < 240	

‡ All values based on 0.125" thickness unless otherwise noted

† 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, 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. Customers should undertake sufficient verification to confirm acceptability of the product for the specific application for which it is being purchased. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE