

Royalite R60

Acrylic (PMMA) + PVC

Spartech Plastics

Message:

ROYALITE® R60 is a rigid, fire-rated, proprietary thermoplastic sheet specifically formulated to meet the requirements of the FAR 25.853a flammability* test. It provides outstanding color, gloss and grain control while virtually eliminating grain and gloss retention problems after forming that are often found in other fire-rated materials. ROYALITE® R60 combines very high impact strength and stiffness with excellent formability in deep draws. It has high resistance to normal food and environmental stains, and its cleanability with common cleaners is simply outstanding.

APPLICATIONS:

Currently, ROYALITE® R60 is being used in aircraft interiors that must meet FAR 25.853a. However, it is also ideal for a wide range of applications, such as computers, electronic instrumentation and business machine housings where rigidity in thin gauges, good flammability rating, high impact strength and excellent color, gloss and grain control are required.

PROCESSING:

ROYALITE® R60 thermoplastic sheet can be processed 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 since ROYALITE® R60 is a PVC/acrylic alloy. Stock temperatures of approximately 330°F-380°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 Royalite for data relating to a specific application or equipment.

COLORS & TEXTURES:

ROYALITE® R60 is offered in a tremendous range of colors with a multitude of textures ranging from smooth to deep-textured. This Royalite product is normally capped with calendered film, which provides exceptional color and gloss control, plus outstanding grain retention after forming.

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, this 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® R60 rigid PVC/acrylic sheet is available in a wide variety of economy, standard and custom colors, grain textures, gauges and blank sizes subject to normal production scheduling. Maximum width available is 54". Gauges range from 0.028" to 0.312". Widths and gauges outside the standard are available with some restrictions.

General Information		
UL YellowCard	E52355-242606	E52355-242627
Features	Ultra-high impact resistance	
	Ultrasonic weldable	
	Rigidity, high	
	Rigidity, high	
	High tensile strength	
	stain resistance	
	Sprayable	
	Machinable	
	Cleanable	
	Adhesiveness	
	Good adhesion	
	Flame retardancy	
Uses	Computer components	
	Electrical/Electronic Applications	

Aircraft applications

Business equipment

Agency Ratings	FAR 25.853 a		
Appearance	Available colors		
Forms	Sheet		
Processing Method	Thermoforming		
Physical	Nominal Value	Unit	Test Method
Specific Gravity ¹	1.30 - 1.38	g/cm ³	ASTM D792
Molding Shrinkage - Flow	0.50 - 0.70	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	100		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength - Flow (Yield)	40.7	MPa	ASTM D638
Flexural Modulus	2280	MPa	ASTM D790
Flexural Strength	66.2	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			ASTM D256
-29°C	53	J/m	ASTM D256
23°C	750	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	68.3	°C	ASTM D648
Flammability	Nominal Value		Test Method
FAA Flammability ²	Passes		FAR 25.853
Flammability	Passes		FMVSS 302
Thermoforming Molding Temperature - Machine	166 - 193	°C	
NOTE			
1.	Color Dependent		
2.	60 sec vertical burn, FAR Part 25, Appendix F, Part I, Section (a)(1)(i)		

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