

Royalite R86

Acrylic (PMMA) + PVC

Spartech Plastics

Message:

ROYALITE® R86 thermoplastic sheet is a weatherable PVC/acrylic alloy that provides excellent impact, color and gloss retention under outdoor exposure conditions. Its weather resistance is superior to other materials in its class and is especially cost competitive because it is formulated to have a lower specific gravity. This reduces the weight per part, thus reducing the cost associated. The high impact and tensile strength, high stiffness, good formability and excellent weatherability allow for further cost reductions by supporting thinner-walled parts. ROYALITE® R86 is also superior to Korad® capped and painted ABS in impact retention and is cost competitive with these materials, providing the extra protection of flame retardancy. ROYALITE® R86 is offered as a capped product, providing through-and-through weatherability with excellent surface quality, gloss and color control or as a monolithic sheet for increased initial gloss. This allows much greater flexibility in matching custom colors in smaller runs than most of the competitive materials.

APPLICATIONS:

The combination of toughness, weatherability and fire retardancy makes ROYALITE® R86 the perfect choice for applications such as outdoor equipment housings, marine applications, RV, automotive, agricultural equipment and recreational applications, safety equipment, building products and signage.

General Information			
UL YellowCard	E52355-559645		
Features	Ultra-high impact resistance		
	Rigidity, high		
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	High strength		
	Gloss, Medium		
	Good flexibility		
	Good coloring		
	Good weather resistance		
	Good toughness		
	Excellent appearance		
Uses	Flame retardancy		
	Safety equipment		
	Thin wall parts		
	Ship application		
	Building materials		
	Agricultural application		
	Sheet		
	Application in Automobile Field		
	Outdoor application		
	Shell		
Forms	Particle		
Processing Method	Thermoforming		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.36	g/cm³	ASTM D792, ISO 1183

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)	97		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Stress			
Yield, 3.18mm	39.3	MPa	ISO 527-2
3.18 mm	39.3	MPa	ASTM D638
Flexural Modulus	2210	MPa	ASTM D790, ISO 178
Flexural Strength (3.18 mm)	62.1	MPa	ASTM D790, ISO 178
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (22°C, 3.18 mm)	800	J/m	ASTM D256
Dart Drop Impact (22°C, 3.18 mm)	36.2	J	ASTM D3029
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, annealed, 3.18mm	68.3	°C	ASTM D648
1.8 MPa, annealed	68.3	°C	ISO 75-2/A
Flammability	Nominal Value		Test Method
Flame Rating			UL 94
0.711 mm, All Colors	V-0		UL 94
2.16 mm, All Colors	5VA		UL 94
Additional Information			

Specific Gravity, ASTM D792: 1.33 to 1.38 g/cm³ Stock Temperature: 320 to 360 °F

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