

Royalite R20

Acrylonitrile Butadiene Styrene

Spartech Plastics

Message:

ROYALITE® R20 thermoplastic sheet is a rigid ABS product with a combination of properties that makes it ideal for the widest range of applications. It has very high impact strength and stiffness, excellent high and low temperature performance and outstanding formability.

APPLICATIONS:

In addition to its superior mechanical properties, ROYALITE® R20 sheet lends itself to dielectric welding, resists thermal distortion and also resists many chemicals and plasticizers. It is the material of choice for applications ranging from water softener housings to auto instrument panels, as well as luggage and musical instrument cases.

PROCESSING:

ROYALITE® R20 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. It is also 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. Stock temperatures of approximately 340°F-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 Royalite for data relating to a specific application or equipment.

COLORS & TEXTURES:

ROYALITE® R20 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 a calendered film, which gives 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® R20 is available from our warehouse with standard dimensions of 54" x 94" in a variety of colors and grain textures in gauges ranging from 0.031" to 0.250". Specific blank sizes can be cut to order for an extra charge. For a specific listing of warehouse offerings, please contact us or our nearest distributor. Warehouse material can normally ship within 72 hours of receipt of the order.

Other standard and custom colors, grain textures, gauges and blank sizes are available subject to normal production scheduling. Available gauge range is from 0.031" to 0.375". Available width range is from 12" to 88". Maximum capped width available is 54". Maximum uncapped width available is 88".

Widths and gauges outside the standard are available with some restrictions.

General Information	
Features	Ultrasonic weldable
	Rigidity, high
	Rigid, good
	Impact resistance, high
	Weldable
	Sprayable
	Machinable
	Adhesiveness
	Good adhesion
	Low temperature resistance
	Heat resistance, medium
Uses	Leather case
	Car dashboard
	Thermoformed container
	Shell

Appearance	Available colors		
Forms	Sheet		
Processing Method	Thermoforming		
Physical	Nominal Value	Unit	Test Method
Specific Gravity ¹	1.02 - 1.08	g/cm ³	ASTM D792
Molding Shrinkage - Flow	0.50 - 0.70	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	88		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength - Flow (Yield)	32.4	MPa	ASTM D638
Flexural Modulus	1590	MPa	ASTM D790
Flexural Strength	48.3	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			ASTM D256
-29°C	270	J/m	ASTM D256
22°C	430	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	96.1	°C	ASTM D648
CLTE - Flow	7.6E-5 - 1.0E-4	cm/cm/°C	ASTM D696
Thermal Conductivity	0.25 - 0.30	W/m/K	ASTM C177
Flammability	Nominal Value		Test Method
Flammability	Passes		FMVSS 302
Thermoforming Molding Temperature - Machine	171 - 199	°C	
NOTE			
1.	Color dependent		

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China



WECHAT