

Royalite[®] R20



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.

TARGET MARKETS & 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.

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.

COLORS AND 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 calendered film, which provides exceptional color and gloss control, plus outstanding grain retention after forming.

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 width range is from 12" to 88". Widths and gauges outside the standard are available with some restrictions.

Sheet Size – maximum capped width is 54", uncapped is 88"

Gauges – 0.031" to 0.375"





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 and is suitable for use with aluminum and epoxy molds and fine-grain wood molds such as mahogany. This material is also good for pressure forming applications. Stock temperatures of approximately 340°F-390°F are recommended for proper forming. Please contact Royalite for data relating to a specific application or equipment.

TYPICAL PROPERTIES

PROPERTY	TEST METHOD	UNITS	DATA
Specific Gravity	D-792		1.02 – 01.08†
Tensile Strength, machine direction	D-638	(psi)	4,700
Flexural Strength	D-790	(psi)	7,000
Flexural Modulus	D-790	(10 ⁵ psi)	2.3
Impact Strength @72°F	D-256	(ft-lbs/in notch)	8.0
Notched Izod @-20°F		(ft-lbs/in notch)	5.0
Hardness	D-785	Rockwell Scale R	88
Heat Deflection @264 psi Temperature (annealed)	D-648	(°F)	205
Thermal Conductivity	C-177	(BTU/in/hr/ft ² /°F)	1.7 – 2.1
Coefficient of Thermal Expansion	D-696	(in/in/°F/x10 ⁻⁵)	4.2 – 5.6
Thermoforming Temperature Range	Machine	Low (°F) High (°F)	340 390
Mold Shrinkage		(in/in)	0.005 – 0.007

FLAMMABILITY RATING*

Motor Vehicle Standard	FMVSS 302	Passes
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† 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. They 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. We cannot anticipate all conditions under which this information and our products, or the products of other manufacturers in combination with our products, may be used. We accept no responsibility for results obtained by the application of this information or the safety and suitability of our products, either alone or in combination with other products. Users are advised to make their own test to determine the safety and suitability of each such product or product combination for their own purposes. We sell the products without warranty. Buyers and users assume all responsibility and liability for loss or damage arising from the handling and use of our products, whether used alone or in combination with other products.

For additional information, please contact Spartech Corporation at (888) 721-4242 or visit our web site at www.spartech.com.

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