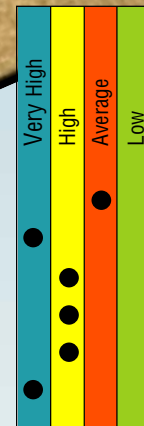


ROYALITE®

R20

RIGID ABS SHEET



Tensile Strength

Impact Strength

High Temperature Performance

Low Temperature Performance

Stiffness

Formability

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.

ROYALITE® R20

RIGID ABS
SHEET

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.

SUMMARY OF PROPERTIES:

ROYALITE® R20 thermoplastic sheet is a high-ductility, rigid ABS product. It has very high impact strength, good tensile strength and stiffness, excellent high and low temperature performance and outstanding formability.

PHYSICAL PROPERTIES (units)	AVERAGE VALUES	TEST METHODS
Specific Gravity	1.02-1.08 †	ASTM D-792
Tensile Strength, machine direction	(psi) 4700	ASTM D-638
Flexural Strength	(psi) 7000	ASTM D-790
Flexural Modulus	(10 ⁶ psi) 2.3	ASTM D-790
Impact Strength @ 72°F	(ft-lb/in notch) 8.0	ASTM D-256
Notched Izod @ -20°F	(ft-lb/in notch) 5.0	
Hardness	Rockwell Scale R 88	ASTM D-785
Heat Deflection Temperature (annealed) @ 264 psi	(°F) 205	ASTM D-648
Thermal Conductivity	(BTU/in/hr/ft ² /°F) 1.7-2.1	ASTM C-177
Coefficient of Thermal Expansion	(in/in/°F x 10 ⁻⁵) 4.2-5.6	ASTM D-696
Thermoforming Temperature Range	Low (°F) 340 High (°F) 390	Machine
Mold Shrinkage	(in/in) 0.005-0.007	
Flammability Rating*: Motor Vehicle Standard	Passes	FMVSS 302

† 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.

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