



## Royalite™ R20

### Rigid High-Performance ABS

#### PRODUCT DESCRIPTION

Royalite™ R20 thermoplastic sheet is a rigid ABS with a balance of properties that make it ideal for a wide range of applications. It combines impact strength with stiffness, high heat performance and outstanding formability.

#### VALUE SOLUTION

##### **Strength and performance, even at higher temperatures**

With superior formability, Royalite R20 is notable for its high impact strength and stiffness. Coupled with the ability to maintain strength at elevated temperatures, it's a popular solution for many applications. And, the superior formability of this sheet, when capped with calendared film, provides exceptional color and gloss, plus excellent grain retention after forming.

#### KEY CHARACTERISTICS

- Very high impact strength
- Excellent formability
- Lends itself to dielectric welding
- Resists thermal distortion as well as many chemicals and plasticizers
- Offered in a wide range of colors and various textures ranging from smooth to deep-textured

#### TARGET MARKET AND APPLICATIONS

The formability of Royalite R20 makes it a fabricator's choice for a wide range of applications, from water softener housings to auto instrument panels to luggage and musical instrument cases.

It can be processed on virtually all thermoforming equipment, from high-volume rotary machines to hand-operated presses, or can be hand-formed for prototyping.



## TECHNICAL PROPERTIES

PROPERTY	TEST METHOD	UNITS	R15
Specific gravity	D-792		1.02-1.08 <sup>†</sup>
Tensile strength, machine direction	D-638	(psi)	4,700
Flexural strength	D-790	(psi)	7,000
Flexural modulus	D-790	(10 <sup>5</sup> 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 "R" scale	88
Heat deflection @ 264 psi temperature (annealed)	D-648	(°F)	205
Thermal conductivity	C-177	(BTU/in/hr/ft <sup>2</sup> /°F)	1.7-2.1
Coefficient of thermal expansion	D-696	(in/in/°F/x10 <sup>-5</sup> )	4.2-5.6
Thermoforming temperature range	Machine	Low (°F)	340
		High (°F)	390
Mold shrinkage		(in/in)	0.005-0.007

## FLAMMABILITY RATING\*

Motor Vehicle Standard		FMVSS 302	Passes
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<sup>†</sup> 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.

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