

STAR Technology

FORMULATING • INNOVATIVE • SOLUTIONS

603-01

EPOXY SURFACE COAT SYSTEM INTERMEDIATE HIGH TEMPERATURE USE

DESCRIPTION

STAR Technology 603-01 is a grey, heat resistant, aluminum filled surface coat. Its excellent thixotropy allows for non-sag on a vertical surface. 603-01 provides excellent reproductions of surface detail. It requires a heat cure for applications above 150°F. When cured according to the cure schedule, 603-01 can be used continuously at 275°F and intermittently up to 325°F. It is ideal for use with STAR Technology high temperature laminating systems, such as 610-01. When choosing any surface coat, consideration should be given to tool size, configuration, build method, and final use. Generally, high temperature tools dictate the thinnest surface coat practical for the application. Typical applications for 603-01 include high temperature tooling aids, bonding fixtures, RIM molds, foundry patterns, core boxes, and vacuum form molds.

BENEFITS

Excellent intermediate high temperature properties
Excellent dimensional stability

No sag on a vertical surface
Accurate reproduction of detail

TYPICAL PROPERTIES

		<u>TEST METHOD</u>	<u>VALUE</u>
Mix Ratio, Resin to Hardener	Parts by Weight		100:11
	Parts by Volume		100:16
Mixed Viscosity (centipoise)		ASTM 2393	56,000
Density (lbs./cu.in.)		ASTM 1475	.0528
(lbs./gal.)			12.19
Pot Life at 75°F (minutes)		ASTM 2471	30 to 40 minutes
Color			Grey
Cure Schedule:			
			24 hours @ 75°F + 2 hours @ 150°F +
			1 hour @ 200°F + 1 hour @ 250°F +
			1 hour @ 300°F + 2 hours @ 350°F
Shore Hardness (D)		ASTM 2240	86
Tensile Strength (psi)		ASTM D638	4,000
Flexural Strength (psi)		ASTM D790	7,100
Flexural Modulus (psi)		ASTM D790	685,000
Compressive Ultimate Strength (psi)		ASTM D695	14,500
Glass Transition Temperature (°F)		By DSC	250
Maximum Service Temperature (°F)			325

To the best of our knowledge, the information contained herein is accurate. However, STAR TECHNOLOGY, Inc., does not assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of the suitability of any material is the sole responsibility of the user. The information contained herein is considered typical properties and is not intended to be used as specifications for our products. This information is offered solely to assist purchaser in selecting the appropriate products for purchaser's own testing. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein and in the material safety data sheet, we cannot guarantee that these are the only hazards that exist. Repeated and prolonged exposure to epoxy resins can cause sensitization or other allergic responses.



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APPLICATION PROCEDURES

Carefully weigh out appropriate amounts of resin and hardener into a clean mixing container and thoroughly mix until all streaks and striations are gone. Scrape the sides and bottom frequently to insure complete mixing. Do not use a paint shaker.

NOTE: To obtain optimum service temperature follow the suggested curing schedule with thermocouple monitoring. Thermocouple monitoring is recommended on all post cured tools. High temperature tools must be post cured prior to use. High temperature tools should be cured 50°F beyond anticipated use temperature.

CAUTION: Unmixed compound from the sides or bottom of the container can cause soft spots or uncured areas in the complete casting. To prevent this, transfer the entire mixed contents to a second clean container and remix for a short time before using.

Additional Cure Schedule - If thermocouple monitoring equipment is not available then a longer step cure is a better choice, e.g.

*2 hours @ 150°F + 2 hours @ 200°F +
2 hours @ 250°F + 2 hours @ 300°F +
2 hours @ 350°F*

PRECAUTIONS

For industrial use only. Keep away from children.

Refer to the Safety Data Sheets (SDS forms) pertaining to this product before using.

Avoid contact with skin or eyes. In the event of an eye splash or contact, immediately flush with cold water for 15 minutes and contact a physician. If skin contact occurs, wash with mild soap and water. The wearing of safety glasses with side shields and impervious gloves is recommended.

RESIN WARNING STATEMENT

Warning! Causes irritation. May cause allergic skin reaction. Avoid all contact with skin, eyes, and clothing. Wash thoroughly after handling.

HARDENER WARNING STATEMENT

Danger! Corrosive. Causes burns to eye and skin. May cause allergic skin and/or respiratory reaction or sensitization. Do not get in eyes, on skin or clothing. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

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