

STAR Technology

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ER3103

Two Part Epoxy Adhesive / Encapsulant For Rapid Heat Transfer

DESCRIPTION

ER3103 is a two-component, room temperature B-stage/heat cure epoxy adhesive and encapsulation compound characterized by slow cure rate and high thermal conductivity. Because of its slow reactivity at room temperature, ER3103 may be used in hand mix applications as well as meter mix applications. For best property results it is recommended to heat cure for 1 hour at 95°C plus 2 hours at 150°C.

Data contained herein are believed to be reliable. Fit-for-use testing should be conducted by each user.

TYPICAL PROPERTIES

| | <u>TEST METHOD</u> | <u>VALUE</u> |
|--|--------------------|---|
| Gel Time [100 Gram Mass at 72°F] (minutes): | ASTM D2471 | 185 |
| Maximum Exotherm at 100 Gram Mass (°C): | | 94 |
| Time to Maximum Exotherm in 100 Gram Mass (minutes): | | 190 |
| Shore D Hardness: | ASTM D2240 | 85 |
| Tensile Strength [Post Cured] (psi): | ASTM D638 | 1772 |
| Volume Resistivity: | | 2.7x10 ¹⁶ Ohms/cm ³ |
| Dielectric Strength: | | 373 Volts/mil |
| Thermal Conductivity: | | |
| BTU Foot/Hour/Ft ² /°F: | | 1.41 |
| Watts/Meter/°K: | | 2.45 |
| cal/sec/cm/°C: | | 0.005 |
| CTE (unit/unit/°C): | | 29.1 x 10 ⁻⁶ |
| Shrinkage (%): | | 0.08 |
| Tg (°C): | ASTM D3418 | 127 |
| 24 Hour Water Immersion (%): | ASTM D471 | |
| Change in Volume: | | 1.48 |
| Change in Mass: | | 0.095 |
| Part A: | | |
| Specific Gravity (g/cc): | ASTM D1475 | 2.20 |
| Viscosity (cps): | ASTM D2393 | 110000 |
| Color: | | Grey |
| Part B: | | |
| Specific Gravity (g/cc): | ASTM D1475 | 0.95 |
| Viscosity (cps): | ASTM D2393 | <1,000 |
| Color: | | Clear |
| Mixed Product: | | |
| Specific Gravity (g/cc): | ASTM D1475 | 2.06 |
| Viscosity (cps): | ASTM D2393 | 6400 |
| Color: | | Grey |
| Mix Ratio: | | |
| By Weight: | | 100: 8 |
| Shelf Life (months): | | |
| Part A: | | 12 |
| Part B: | | 12 |

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 ensure complete mixing.

For 1# and 2# kits, add all of Part B to Part A and mix thoroughly.

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

PRECAUTIONS

For industrial use only. Keep away from children.

Refer to the Material Safety Data Sheets (MSDS 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 AND HARDENER WARNING STATEMENT

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

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