

TIA222G Thermally Conductive Silicone

Description

TIA222G thermally conductive silicone is a two-component material used for encapsulating, gap filling, and as a thermal path to heat sinks. The flowability of TIA222G silicone allows it to conform to complex three-dimensional shapes and cavities in potting applications. TIA222G silicone quickly cures to a soft rubber gel with exposure to heat, and will also cure at room temperatures.

Key Features and Typical Benefits

- Good thermal conductivity
- Fast cure with exposure to heat
- Easy to use 1:1 mixing ratio by weight or volume
- Flame Retardant: UL94 V-0 certified (File No. E56745)

Typical Physical Properties

| Criteria | Properties | |
|------------------------------------|------------|------------|
| | Part A | Part B |
| Color | Dark Gray | Light Gray |
| Mixing Ratio (by weight or volume) | 100:100 | |
| Viscosity (23 °C) (after mixing) | Pa.s | 20 |
| Pot Life | h | 4 |
| Cure Condition (with heat) | °C / h | 70 / 0.5 |
| Cure Condition (room temperature) | h | 24 |
| Post-Cure Properties | | |

| | | |
|--|-------------------|---------------------|
| Density (23 °C) | g/cm ³ | 2.81 |
| Thermal Conductivity ⁽¹⁾ | W/(m.K) | 2.2 |
| Hardness (type E) | | 45 |
| Volume Resistivity | MΩ.m | 4.8x10 ⁶ |
| Dielectric Strength | 20kV/mm | 20 |
| CTE | ppm/K | 140 |
| Low Volatile Siloxane (D ₃ -D ₁₀) | ppm | <200 |

(1) Hot wire method

Typical properties are average data and are not to be used as or to develop specifications.

Potential Applications

- Thermal encapsulating, gap filling, and potting.

General Considerations for Use

- Parts A and B should each be thoroughly stirred before mixing together, as filler sedimentation may occur during storage.
- De-aerate the mixture to remove air entrapped during mixing.
- Materials such as water, sulfur, nitrogen compounds, organic metallic salts, phosphorus compounds, etc. contained in the surface layer of the substrate can inhibit curing. It is recommended that a preliminary test be performed to determine compatibility.

Storage

- Store in a dark, cool place out of direct sunlight.
- TIA222G(B) silicone pail cans:

If after use there is TIA222G(B) material remaining inside the pail can, tie the can's inner bag into a knot to reduce the volume of air to which the TIA222G(B) material is exposed during storage, and securely fasten the lid to the can.

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

Product Safety, Handling and Storage

Customers should review the latest Safety Data Sheet (SDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, emergency service contact information, and any special storage conditions required for safety. Momentive Performance Materials (MPM) maintains an around-the-clock emergency service for its products. SDS are available at www.momentive.com or, upon request, from any MPM representative. For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

Limitations

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular applications.

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