

XE11-B5320

Description

XE11-B5320 is a one-component, low volatile paste, alkoxy cure, thermally conductive silicone adhesive sealant. This product cures at room temperature by reacting with moisture in the air to form an elastic silicone rubber. XE11-B5320 silicone adhesive offers primerless adhesion to many substrates such as most metals, plastics, ceramics and glass without the use of a primer. XE11-B5320 silicone adhesive is non-corrosive to metals and may be suitable for electrical/electronic applications. Typical applications for XE11-B5320 silicone adhesive include sealing and bonding for thermally conductive applications such as heat generating elements, regulators and rectifiers.

Key Features and Typical Benefits

- Excellent thermal conductivity
- Low volatility; reduced low-molecular siloxane content One-component; ready to use
- Room temperature cure
- Neutral cure; non-corrosive to metals
- Low odor cure; releases an alcohol vapor during cure Excellent adhesion to most substrates

Typical Physical Properties

(JIS K 6249)

| <u>Property</u> | <u>Unit</u> | <u>Value</u> |
|---------------------------|-------------|--------------|
| Uncured Properties | | |
| Appearance | | White, paste |
| Tack Free Time (23 °C) | min | 5 |

| Cured Properties (7 days at 23 °C/50%RH) | | |
|---|-------|-----------------------|
| Appearance | | White, elastic rubber |
| Specific Gravity (23 °C) | | 2.59 |
| Hardness (Type A) | | 83 |
| Tensile Strength | MPa | 3.6 |
| Elongation | % | 40 |
| Adhesive Strength ⁽¹⁾ | MPa | 1.3 |
| Thermal Conductivity | W/m·K | 1.3 |
| Low Molecular Siloxane (D ₄ ~D ₁₀) | wt % | 0.01 |

⁽¹⁾Aluminum lap shear

Typical Physical Properties, continued

| <u>Property</u> | <u>Unit</u> | <u>Value</u> |
|----------------------------|-------------|------------------------|
| Volume Resistivity | Ω·cm | 2.0 x 10 ¹⁵ |
| Dielectric Strength | kV/mm | 17 |
| Dielectric Constant (60Hz) | | 2.6 |
| Dissipation Factor (60Hz) | | 0.005 |

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

Processing Recommendations Surface Preparation

Insure that surfaces to be sealed, coated, or bonded are clean and free of grease, lubricating oils, release agents and dirt. To optimize fast cure and good adhesion, substrates must be clean and dry before applying the RTV. Wipe away excess uncured material with a clean cloth. After curing, removal of material is more difficult.

Curing

This product cures at room temperature by reacting with atmospheric moisture. Whenever possible, a minimum of 25°C (77°F) and 50% relative humidity should be provided. Higher temperature and humidity will cause faster cures while lower temperatures and lower humidity will slow the cure considerably. This product cures from the outside (outer skin) inward, therefore, cure rate is also dependent on thickness of the material. It is not recommended to apply material thicker than 6 mm (1/4").

Bonding

This product offers primerless adhesion to many substrates. Maximum adhesion may

take up to a week to develop.

General Considerations for Use

While the typical operating temperature for silicone materials ranges from -45°C to 200°C, the long-term maintenance of its initial properties is dependent upon design related stress considerations, substrate materials, frequency of thermal cycles, and other factors.

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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