

## SilCool™ XE13-C1862PT

### Description

XE13-C1862PT is a one-component, heat curable silicone adhesive designed for thermally conductive applications. The product cures quickly with heat and adheres well to a variety of substrates without the use of a primer.

### Key Features and Typical Benefits

- Excellent thermal conductivity
- Low viscosity
- Higher elongation than conventional products
- Ready to use: one component
- Heat accelerated cure
- Excellent adhesive properties: Primerless adhesion to many types of substrates
- Non corrosive to metals

### Typical Physical Properties

(JIS K 6249)

| <u>Property</u>                        | <u>Unit</u>       | <u>Value</u>         |
|--|-------------------|----------------------|
| <b>UNCURED PROPERTIES</b>              |                   |                      |
| Appearance                             |                   | Gray, flowable paste |
| Viscosity (23 °C)                      | Pa·s              | 50                   |
| <b>CURED PROPERTIES (1h at 150 °C)</b> |                   |                      |
| Density (23 °C)                        | g/cm <sup>3</sup> | 2.87                 |
| Hardness (Type A)                      |                   | 64                   |
| Tensile strength                       | MPa               | 1.4                  |

|                                     |                     |                      |
|-------------------------------------|---------------------|----------------------|
| Elongation                          | %                   | 80                   |
| <u>Property</u>                     | <u>Unit</u>         | <u>Value</u>         |
| Adhesive strength <sup>(1)</sup>    | MPa                 | 0.9                  |
| Linear expansion <sup>(2)</sup>     | 1/K                 | 1.3×10 <sup>-4</sup> |
| Thermal Conductivity <sup>(3)</sup> | W/m·K               | 2.5                  |
| Thermal resistance <sup>(4)</sup>   | mm <sup>2</sup> K/W | 25                   |
| Glass transition point              | °C                  | -120                 |
| Volume resistivity                  | Ω·cm                | 5.0×10 <sup>14</sup> |

### Typical Physical Properties, continued

| <u>Property</u>                     | <u>Unit</u>     | <u>Value</u> |
|-------------------------------------|-----------------|--------------|
| Dielectric strength                 | kV/mm           | 20           |
| Ionic Impurities <sup>(5)</sup> ppm | Na <sup>+</sup> | <5           |
|                                     | K <sup>+</sup>  | <5           |
|                                     | Cl <sup>-</sup> | <5           |
| Water adsorption <sup>(2)</sup>     | %               | <0.6         |

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

(1) Aluminum lap shear (2) In-house test method (3) Hot wire

(4) Laser flash analysis on a Si-Si sandwiched material (5) Ion chromatography analysis

### Potential Applications

- Sealing and bonding for thermally conductive applications
- Heat generating elements, Regulators, Rectifier, Thyristor, etc.

### Processing Recommendations

- Materials such as water, sulfur, nitrogen compounds, organic metallic salts, phosphorus compounds, etc. contained in the surface of the substrate can inhibit

curing. A sample patch should always be conducted before proceeding to determine compatibility.

- All parts should be as clean and dry as possible prior to application
- Wear eye protection and protective gloves as required when handling this product.
- Maintain adequate ventilation in the work area at all times.

## **Packaging**

- 333ml cartridge available in cases of 10

## **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**

- Store at cool temperature (0~10 °C) to prevent a viscosity increase. When returning to room temperature, allow the contents to return to room temperature before opening the container to avoid condensation.
- Keep out of the reach of children.

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](http://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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