

TSE326

Description

TSE326 is a one-component, heat curing silicone adhesive which offers extended performance at temperatures exceeding 200 °C. A flowable material with primerless adhesion to many substrates, it is an excellent candidate to consider for assembly and gasketing where a flowable consistency is required.

Key Features and Typical Benefits

- One component product-no mixing required
- Fast cure at elevated temperatures
- Primerless adhesion to many types of substrates
- Low linear shrinkage
- Excellent heat resistance
- Outstanding dielectric properties

Typical Physical Properties

(JIS K 6249)

<u>Property</u>	<u>Unit</u>	<u>Value</u>
Uncured Properties		
Color		Reddish brown
Viscosity	Pa•s	28
Cured Properties (cured 1 hour at 150 °C)		
Specific Gravity		1.45
Hardness (Type A)		43
Tensile Strength	MPa	3.4
Elongation	%	170
Adhesion Strength ⁽¹⁾	MPa	2.0

Dielectric Strength	kV/mm	22
Dielectric Constant (60 Hz)		3.3
Dissipation Factor (60 Hz)		0.02
Volume Resistivity	$\Omega \cdot \text{cm}$	2.0×10^{15}
Linear Expansion	1/K	1.7×10^{-4}

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

⁽¹⁾Aluminum lap shear

CAUTION

Uncured TSE326 silicone adhesive can generate flammable hydrogen gas upon contact with acidic, basic, or oxidizing materials. Such contact should be avoided.

Processing Recommendations

Compatibility

TSE326 silicone adhesive will cure in contact with most clean, dry surfaces. However, certain materials, such as butyl and chlorinated rubber, sulfur-containing materials, amines, and certain metal soap cured RTV silicone rubber compounds can cause cure inhibition. Cure inhibition is characterized by a gummy appearance of the TSE326 silicone adhesive at the interface between the adhesive and the substrate to be bonded. It is recommended that a patch test be performed with the TSE326 silicone adhesive to determine substrate compatibility.

Surface Preparation

The adhesive performance of any polymer system is highly dependent upon proper surface preparation. In order to maximize the adhesion of TSE326 silicone adhesive and minimize the potential for cure inhibition, all parts should be as clean and dry as possible prior to the application of the adhesive.

Bonding

TSE326 silicone adhesive offers outstanding adhesion characteristics to a wide variety

of different substrates without the need of a primer.

For difficult-to-bond substrates, or where more aggressive chemical adhesion is desired, the adhesion may be enhanced by using SS4155 silicone primer, available from Momentive Performance Materials. To apply the primer, first thoroughly clean the surface and let dry. Then apply a uniform film (0.01-0.02 mm/ 0.5-1.0 mil) of SS4155 silicone primer and allow the primer to air dry for one hour or more. For more details on priming and adhesion, please refer to the Momentive Performance Materials product data sheet on silicone primers (#1873).

Curing

TSE326 silicone adhesive requires the use of elevated temperatures in order to achieve full cure. Typical cure times and temperatures are as follows:

Temperature	TSE326 Silicone Adhesive
100 °C	4 hours
125 °C	2 hours
150 °C	1 hour

Note: Test data. Actual results may vary.

The actual cure time is affected by such things as cross-sectional thickness of the TSE326 silicones adhesive, heat capacity of the overall assembly and efficiency and type of oven used (i.e. convection, infrared). If an oven is used, it should be well ventilated.

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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