

TSE3282-G

**PRODUCT DESCRIPTION**

**TSE3282-G** is a one-component, heat curable (addition cure) silicone adhesive designed for thermal conductive applications. TSE3282-G adheres well to a variety of substrates, such as metals, plastics, ceramics and glass without the use of a primer.

**Key Performance Properties**

- Ready to use - one component
- Excellent thermal conductivity
- Flowable
- Heat accelerated cure
- Excellent primerless adhesion to many substrates – plastics, metals, ceramics and glass
- Non-corrosive to metals

**Application**

Sealing and bonding for thermal conductive applications like bonding of regulators, rectifiers and thyristors.

**Typical Product Data**

Uncured Properties		TSE 3282-G
Appearance		Grey, flowable paste
Viscosity (@ 23°C)	Pa·s	20

Cured Properties		(1h @ 150°C)
Appearance		Elastic rubber
Density (@ 23°C)	g/cm <sup>3</sup>	2.70
Hardness	Shore A	80
Tensile strength	MPa	4.0
Elongation	%	50
Adhesive strength* <sup>1</sup>	MPa	2.5
Thermal expansion coefficient* <sup>2</sup>	1/K	1.4 · 10 <sup>-4</sup>
Thermal conductivity* <sup>3</sup>	W/m·K	2.0
Volume resistivity	ohm · cm	4.8 · 10 <sup>14</sup>
Dielectric strength	kV/mm	23
Dielectric constant (60Hz)		5.5
Dielectric loss (60Hz)		0.001
Useful Temperature Range, °C		-50 to 200

\*<sup>1</sup> Aluminium Lap shear

\*<sup>2</sup> GETOS standard test method

\*<sup>3</sup> Kyoto Electronics Manufacturing, Quick Thermal Conductivity Meter QTM-500

**Specifications**

Typical product data values should not be used as specification. Assistance and specifications are available by contacting Momentive performance materials Technical Service RTV1 and RTV2.

**Instructions for Use**

**Compatibility**

TSE3282-G thermal conductive 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 greasy appearance of the TSE3282-G adhesive at the interface between the adhesive and the substrate to be bonded. It is recommended that a sample patch test should be performed with the TSE3282-G 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 TSE3282-G 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**

TSE3282-G thermal conductive adhesive offers outstanding adhesion characteristics to a wide variety of different substrates without the need of a primer. For difficult-to-bond-to substrates, or where more aggressive chemical adhesion is desired, using SS4155 silicone primer, available from Momentive performance materials, may enhance the adhesion. To apply the primer, thoroughly clean the surface and let dry. Then apply a uniform film (0.01-0.02 mm) of SS4155 silicone primer and allow the primer to air-dry for one hour or more.

**Curing**

TSE3282-G thermal conductive adhesive requires the use of elevated temperatures in order to achieve full cure. Typical cure times and temperatures are as follows:

- 100°C – 90 minutes
- 125°C – 45 minutes
- 150°C – 30 minutes

The actual cure time is affected by such things as cross-sectional thickness of the TSE3282-G adhesive, heat capacity of the overall assembly and efficiency and type of oven used (i.e. convection, infrared).

**Handling and Safety**

Material Safety Data Sheets are available upon request from Momentive performance materials. Similar information for solvents and other chemicals used with the Momentive performance materials products should be obtained from your supplier. When solvents are used, proper safety precautions must be observed.

**Storage and Warranty Period**

The shelf life will be indicated by the use before date on the associated documents with a minimum of 3 months when stored in the original unopened containers between 2 and 10 C.

**Availability**

**TSE3282-G** is available in 200 g tubes and 1kg cans.



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