MOMENTIVE

Technical Data Sheet

TSE322S

TSE322S

Description

TSE322S is a one-component, heat curable silicone adhesive sealant paste, which will bond to many substrates without a primer and which will cure rapidly at elevated temperatures. This product has a very long working time at room temperature.

Key Features and Benefits

- One component product - no mixing required
- Fast cure at elevated temperature
- Primerless adhesion to many types of substrates
- No cure by-products, low linear shrinkage
- Non-corrosive to metals and sensitive substrates
- Excellent dielectric properties
- Outstanding performance over a wide temperature range

Typical Physical Properties

Uncured Properties		**TSE322S**
Colour		Light Blue
Appearance		Thixotropic paste
Viscosity	Pa·s	70
Specific Gravity	g/cm^3	1.26
Cured Properties		**(cured 1 hour at 150°C)**
Durometer	Shore A	37
Elongation	%	230
Tensile Strength	MPa	3.6
Shear Strength (Al to Al)	MPa	2.5
Dielectric Strength	kV/mm	25
Dielectric Constant		3.1
Dissipation Factor		0.006
Volume Resistivity	Ohm·cm	1×10^{15}
Thermal Coefficient of Expansion	1/K	$21X10^{-5}$
Thermal Conductivity	W/m.K	0.29

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a 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

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.

CAUTION

TSE322S silicone adhesive can generate flammable hydrogen gas upon contact with acidic, basic, or oxidizing materials. Such contact should be avoided.

The shelf life will be indicated by the ' use before date' on the associated documents with a minimum of 4 months when stored in the original unopened containers between 0° and 10 °C

Customers should review the latest Material Safety Data Sheet (MSDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, and any special storage conditions required for safety. MSDS are available at www.momentive.com or, upon request, from any Momentive Performance Materials (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.

Processing Recommendations

Compatibility

TSE322S 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 TSE322S silicone adhesive at the interface between the adhesive and the substrate to be bonded. It is recommended that a sample patch test be performed with the TSE322S silicone adhesives 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 TSE322S 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

TSE322S silicone adhesive offers outstanding adhesion characteristics to a wide variety of different substrates without the need of a primer.

Suitable substrates

Metals : aluminum, copper, Ni plate, stainless steel

Plastics : PPS, PBT, Epoxy resin, Polyester, Phenolic resin

Inorganics : Glass, Ceramics

Rubbers : Silicone HCR

Not Suitable substrates

Plastics : PP, PE, Fluorocarbon resin

Rubbers : Silicone RTV, Sulfur vulcanized rubbers, Fluorocarbon rubber

For difficult-to-bond-to 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, 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

TSE322S silicone adhesive requires elevated temperatures in order to achieve full cure. Typical cure times and temperatures are as follows:

Temperature	TSE322S
100°C	3 hours

120°C	90 minutes
150°C	60 minutes

The actual cure time is affected by such things as cross-sectional thickness of the TSE322S silicone adhesive, heat capacity of the overall assembly and efficiency and type of oven used (i.e. convection, infrared)

Limitations

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

Specifications

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

Availability

TSE322S is available in 333 ml cartridges, 1kg cans and 20 kg pails.

From automotive to healthcare, from electronics to construction, products from Momentive Performance Materials Inc. are practically everywhere you look. We are a global leader in silicones and advanced materials with a 70+ year heritage of innovation and being first to market – with performance applications that improve everyday life. By knowing our customers' needs and creating custom technology platforms for them, we provide science based solutions to help customers increase performance, solve product development issues and engineer better manufacturing processes.

Contact Information For product prices, availability, or order placement, contact our customer service by visiting momentive.com/ContactSilicones.

For literature and technical assistance, visit our website at: www.momentive.com