TSE322

Description

TSE322 silicone adhesives are one-component heat curable silicone adhesive sealants which will bond to many substrates without a primer and which will cure rapidly at elevated temperatures. These products have a very long working time at room temperature but will not cure completely until exposed to elevated temeperatures.

TSE322 - is a light blue, flowable material with self-loving properties.
TSE322-B - is a black, flowable material with self-leveling properties

Key Features and Typical Benefits

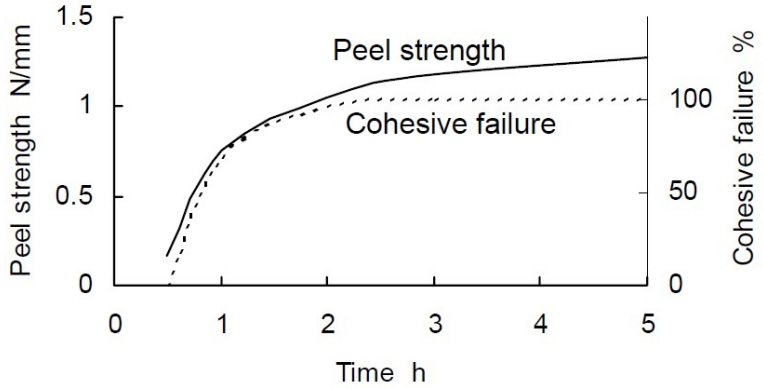
- One component products - no mixing required
- Fast cure at elevated temperature
- Primerless adhesion to many substrates
- Non-corrosive to metals and sensitive substrates
- Excellent dielectric properties
- Outstanding performance over a wide thermal range

Typical Physical Properties (JIS K6249)

Property	Unit	Value	
Uncured Properties		**TSE322**	**TSE322-B**
Color		Lt Blue	Black
Viscosity	Pa·s	110	110
Specific Gravity		1.27	1.27
Cured Properties (cured 1 hour at 150 ºC)			
Hardness (Type A)		45	45
Elongation	%	230	230
Tensile Strength	MPa	3.4	3.4
Adhesion (al to al)	MPa	2.5	2.5
Dielectric Strength	kV/mm	20	20
Dielectric constant (60Hz)		3.1	3.1
Dissipation Factor (60Hz)		0.006	0.006
Volume Resistivity	Ω·cm	1.0×10^{15}	1.0×10^{15}

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

PEEL STRENGTH AND COHESIVE FAILURE RATE AT 100°C

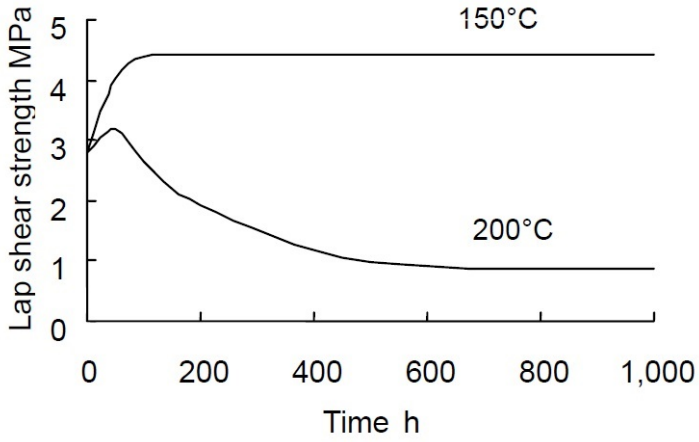


Substrate: Aluminum/ Glass cloth
Peel angle: 180°

Note: Test results. Actual results may vary.

HEAT RESISTANCE

1. LAP SHEAR STRENGTH



Substrate: aluminum

Note: Test results. Actual results may vary.

Processing Recommendations

Compatibility

TSE322 silicone adhesives 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 TSE322 silicone adhesives at the interface between the adhesive and the substrate to be bonded. It is recommended that a sample patch test be performed with the TSE322 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 TSE322 silicone adhesives 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

TSE322 silicone adhesives offer outstanding adhesion characteristics to a wide variety of different substrates without the need of a primer.

SUBSTRATE	ADHESIVENESS
Aluminum	○
Copper	○
Brass	○
Stainless steel	○
Nickel plate	○
PPS	○
PBT	○
Epoxy resin	○
Polyester	○
Glass	○
Ceramics	○
Peroxide cured silicone rubber	○
Fluorocarbon resin	×
PE	×
PP	×
Polyacetal	×

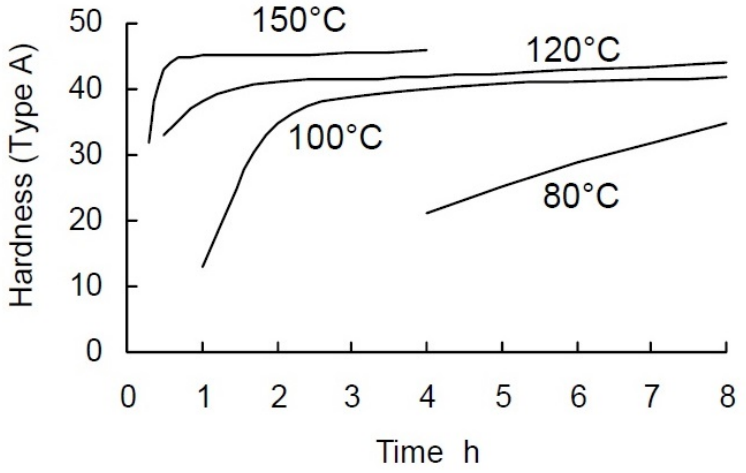
○: Cohesive failure ×: Adhesive failure

Note: Test data. Actual results may vary.

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 / 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 Momentive Performance Materials product data sheet on silicone primers.

Curing

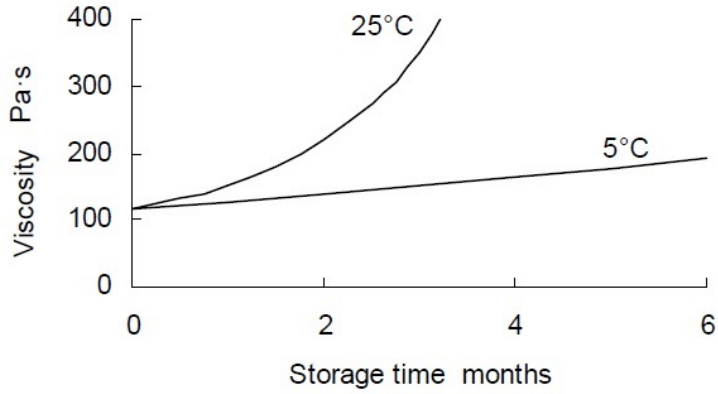
TSE322 silicone adhesives requires the use of elevated temperatures in order to achieve full cure. Typical cure times and temperatures are as follows:



Note: Test results. Actual results may vary.

The actual cure time is affected by such things as cross-sectional thickness of TSE322 silicone adhesives, heat capacity of the overall assembly and efficiency and type of oven used (i.e. convection, infrared)

STORAGE STABILITY



Note: Test results. Actual results may vary.

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.

Contact Information

For product prices, availability, or order placement, contact our customer service at Momentive.com/CustomerService/

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

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