

TSE322SK

Description

TSE322SK is a one-component heat curable silicone adhesive which cures rapidly at elevated temperatures, and adheres to a variety of substrates without the use of primers. TSE322SK has high elongation which helps absorb stress.

Key Features and Typical Benefits

- One component product - no mixing required
- Fast cure at elevated temperature
- Primerless adhesion to many types of substrates
- High elongation
- Non-corrosive to metals and sensitive substrates
- Excellent dielectric properties

Typical Physical Properties

(JIS

K 6249)

<u>Property</u>	<u>Unit</u>	<u>Value</u>
Uncured Properties		
Appearance		Semi-flowable, white
Viscosity (23 °C)	Pa·s	220
Cured Properties (cured 1 hour at 150 °C)		
Density (23 °C)	g/cm ³	1.24
Hardness (Type A)		25
Elongation	%	440
Tensile Strength	MPa	3.2
Adhesion Strength ⁽¹⁾	MPa	1.8
Dielectric Strength	kV/mm	24
Dielectric Constant (60Hz)		2.9
Dissipation Factor (60Hz)		0.003
Volume Resistivity	Ω·cm	5.0 x 10 ¹⁵

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

(1)PPS Lap Shear

Adhesion Performance

Suitable substrates (Cured condition: 1h @150°C)

Metal: Aluminum, Copper, Brass, Ni plated steel, Stainless Steel

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

Rubber: Heat cured Silicone Rubber

Inorganics: Glass, Ceramics

Unsuitable substrates

Plastics: PP, PE, Fluorocarbon resin, Polyacetal

Rubber: RTV Silicone Rubber, Sulfur vulcanized rubber, Fluorocarbon Rubber

<Other cured condition>

Substrates	Cured condition		
	130°C 0.5h	100°C 1h	80°C 2h
Aluminum	○	○	○
Copper	○	○	○
Brass	○	○	○
Stainless steel	○	○	○
Iron	○	○	○
PPS	○	○	×
PBT	○	○	○
PET	○	○	○
Polycarbonate	○	○	○
Phenolic resin	○	○	○
Polyester Glass	○	○	○
Epoxy resin Glass	○	○	○
Noryl	○	○	○
ABS resin	○	○	○
6-Nylon	○	○	○
66-Nylon	○	○	○
Rigid polyvinyl chloride	○	○	○
Glass	○	○	○

○: Adhere completely (Cohesive failure), ×: Does not adhere

Note: Test data. Actual results may vary.

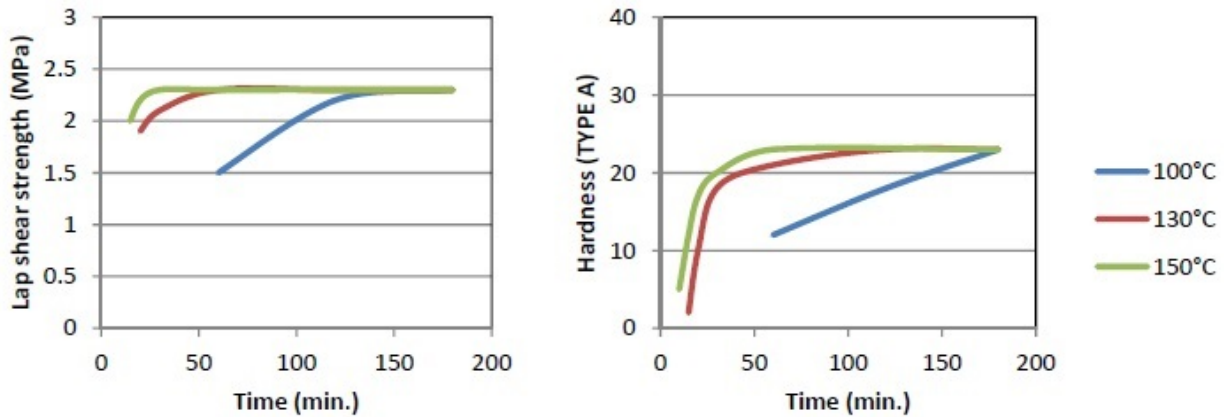
Cure Performance

Cure time (min.)		10	15	20	30	60	120	180
Aluminum lap shear strength MPa (Cohesion factor %)	100°C	NC	NC	NC	NC	1.5 (100)	2.2 (100)	2.3 (100)
	130°C	NC	NC	1.9 (100)	2.1 (100)	2.3 (100)	2.3 (100)	2.3 (100)
	150°C	NC	2 (100)	2.2 (100)	2.3 (100)	2.3 (100)	2.3 (100)	2.3 (100)
Hardness TYPE A	100°C	NC	NC	NC	NC	12	18	23
	130°C	NC	2	10	18	21	23	23
	150°C	5	12	17	20	23	23	23

NC : Non-cure

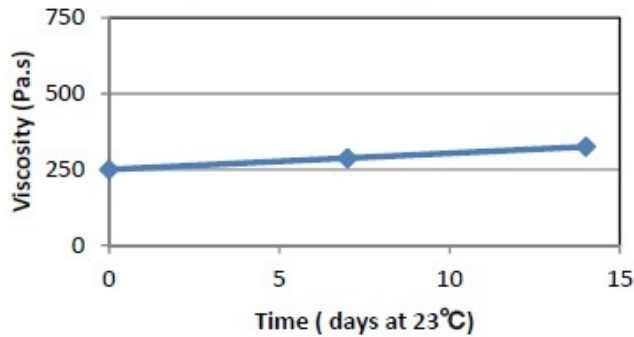
Note: Test data. Actual results may vary.

Lap Shear and Hardness



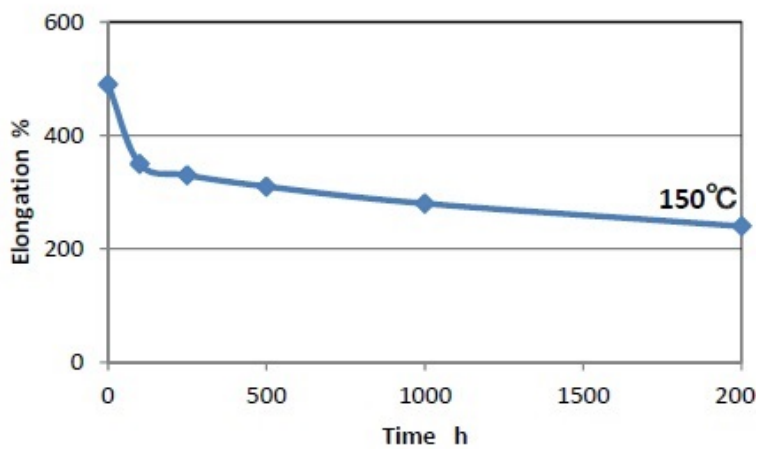
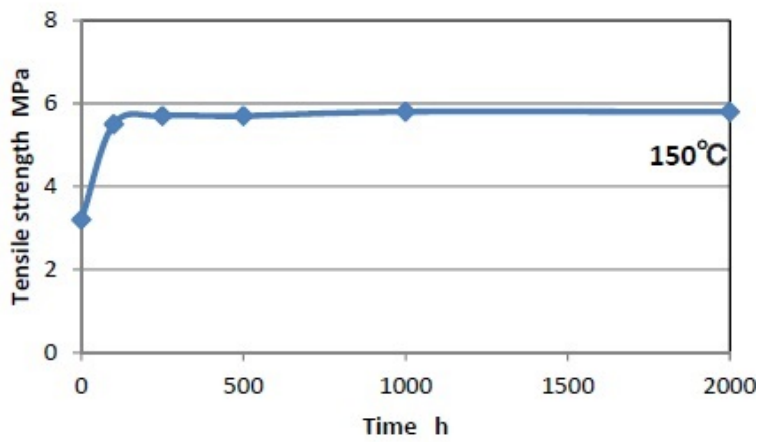
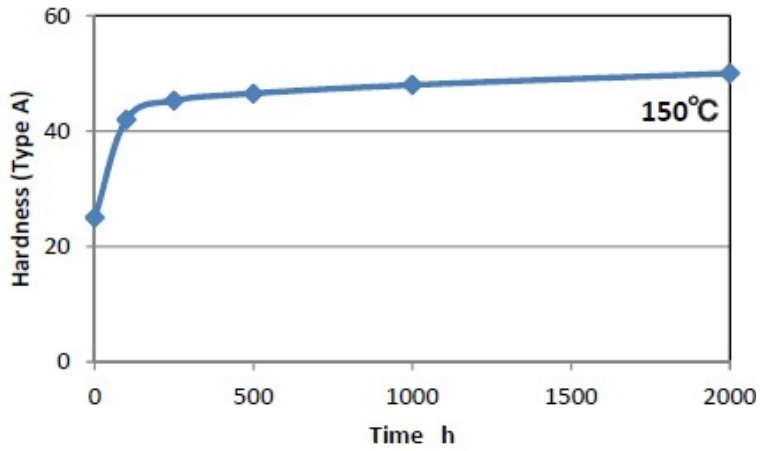
Note: Test results. Actual results may vary.

Viscosity Change at Room Temperature



Note: Test results. Actual results may vary.

Heat Resistance



Note: Test results. Actual results may vary.

Processing Recommendations Compatibility

TSE322SK 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 at the interface between the adhesive and the substrate to be bonded. It is recommended that a sample patch test be performed with TSE322SK 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 TSE322SK and minimize the potential for cure inhibition, all parts should be as clean and dry as possible prior to the application of the adhesive.

Packaging

- 1 kg can in cases of 10
- 333 ml cartridge

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.

Contact Information

Email

commercial.services@momentive.com

Telephone

Americas	Latin America	EMEAI- Europe, Middle East, Africa & India	ASIA PACIFIC
+1 800 295 2392	Brazil	Europe	China
Toll free*	+55 11 4534 9650	+390510924300	800 820 0202
+704 805 6946	Direct Number	Direct number	Toll free
Direct Number			+86 21 3860 4892
			Direct number
*All American countries	Mexico	India, Middle East & Africa	Japan
	+52 55 2169 7670	+ 91 44 71212207	+81 3 5544 3111
	Direct Number	Direct number*	Direct number
		*All Middle Eastern countries, Korea	
		Africa, India,	+82 2 6201 4600

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

DISCLAIMER:

THE MATERIALS, PRODUCTS AND SERVICES OF MOMENTIVE PERFORMANCE MATERIALS INC. AND ITS SUBSIDIARIES AND AFFILIATES (COLLECTIVELY “SUPPLIER”), ARE SOLD SUBJECT TO SUPPLIER’S STANDARD CONDITIONS OF SALE, WHICH ARE INCLUDED IN THE APPLICABLE DISTRIBUTOR OR OTHER SALES AGREEMENT, PRINTED ON THE BACK OF ORDER ACKNOWLEDGMENTS AND INVOICES, AND AVAILABLE UPON REQUEST. ALTHOUGH ANY INFORMATION, RECOMMENDATIONS, OR ADVICE CONTAINED HEREIN IS GIVEN IN GOOD FAITH, SUPPLIER MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, (i) THAT THE RESULTS DESCRIBED HEREIN WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN INCORPORATING ITS PRODUCTS, MATERIALS, SERVICES, RECOMMENDATIONS OR ADVICE. EXCEPT AS PROVIDED IN SUPPLIER’S STANDARD CONDITIONS OF SALE, SUPPLIER AND ITS REPRESENTATIVES SHALL IN NO EVENT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS OR SERVICES DESCRIBED HEREIN. Each user bears full responsibility for making its own determination as to the suitability of Supplier’s materials, services, recommendations, or advice for its own particular

use. Each user must identify and perform all tests and analyses necessary to assure that its finished parts incorporating Supplier's products, materials, or services will be safe and suitable for use under end-use conditions. Nothing in this or any other document, nor any oral recommendation or advice, shall be deemed to alter, vary, supersede, or waive any provision of Supplier's standard Conditions of Sale or this Disclaimer, unless any such modification is specifically agreed to in a writing signed by Supplier. No statement contained herein concerning a possible or suggested use of any material, product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Supplier covering such use or design, or as a recommendation for the use of such material, product, service or design in the infringement of any patent or other intellectual property right.

The use of the "™" symbol designates registered or unregistered trademarks of Momentive Performance Materials Inc. or its affiliated companies. Momentive and the Momentive logo are trademarks of Momentive Performance Materials Inc.