

Product Data

Fast Cure Non-corrosive Silicone Adhesive Sealant TSE397

TSE397 is a one-component, fast cure, non-corrosive silicone adhesive sealant that cures on exposure to atmospheric moisture to form an elastic silicone rubber. TSE397 has a pourable consistency and excellent corrosion-free adhesion to metals, including copper, plastics, ceramics, glass, etc without the use of primers.

KEY FEATURES

- ◆ Non-corrosive to metals: meets MIL-A-46146B corrosion test
- ◆ Fast cure
- ◆ Low odor: releases an alcohol vapor during cure
- ◆ Primerless adhesion to many substrates
- ◆ Excellent high and low temperature resistance: from -55°C to 200°C
- ◆ Excellent weatherability, ozone, and chemical resistance
- ◆ Excellent electrical insulation properties
- ◆ UL94 HB recognized (File No: E56745): TSE397-B, TSE397-C, TSE397-W
- ◆ Simple and easy-to-use one-component system

APPLICATIONS

- ◆ Insulating adhesive seal and coating for electrical and electronic parts
- ◆ Waterproof sealant for electrical, electronic and communication equipment
- ◆ General adhesive for metals, glass, plastics, etc

TYPICAL PROPERTY DATA

(JIS K 6249)

UNCURED PROPERTIES		
Appearance		Flowable paste
Viscosity (23°C),	Pa·s {P}	50 {500}
Tack-free Time (23°C)	min.	10
Corrosion (MIL-A-46146B)		None
CURED PROPERTIES (7days @ 23°C / 50%RH)		
Appearance		Elastic rubber
Density (23°C)	g/cm ³	1.04
Hardness (Type A)		13
Tensile strength	MPa {kgf/cm ² }	1.2 {12}
Elongation	%	360
Adhesive strength ^{*1}	MPa {kgf/cm ² }	1.0 {10}

Thermal conductivity ^{*2}	W/(m·K) {cal/(cm·s·°C)}	0.18 {4.4×10 ⁻⁴ }
Volume resistivity	MΩ·m {Ω·cm}	2.0×10 ⁷ {2.0×10 ¹⁵ }
Dielectric strength	kV/mm	22
Dielectric constant (60Hz)		2.9
Dielectric loss (60Hz)		0.005

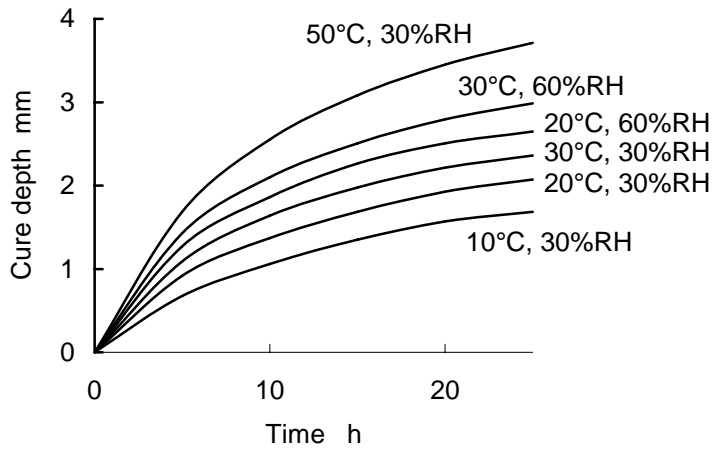
*1: Aluminum lap shear

*2: In-house test method

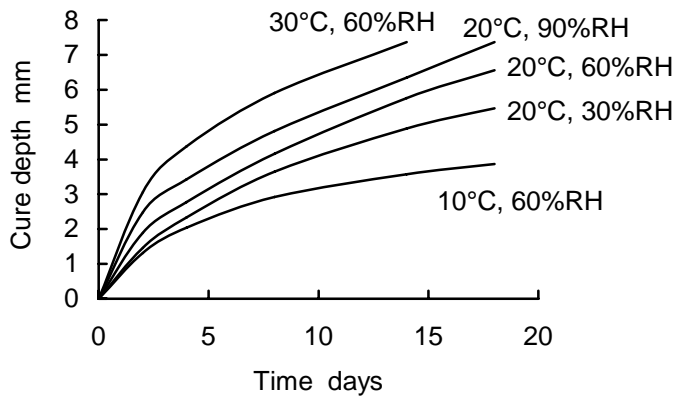
Typical property data values should not be used as specifications.

CURING PROPERTIES

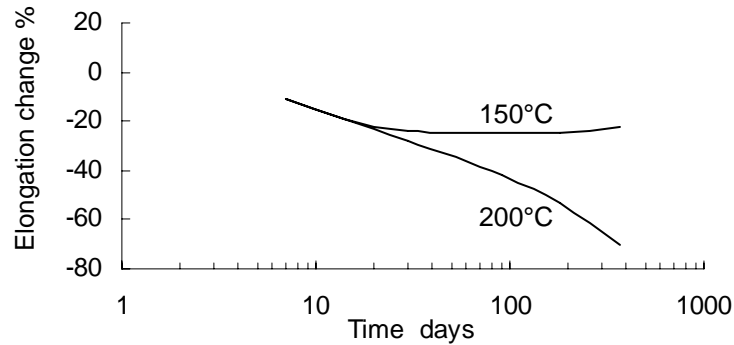
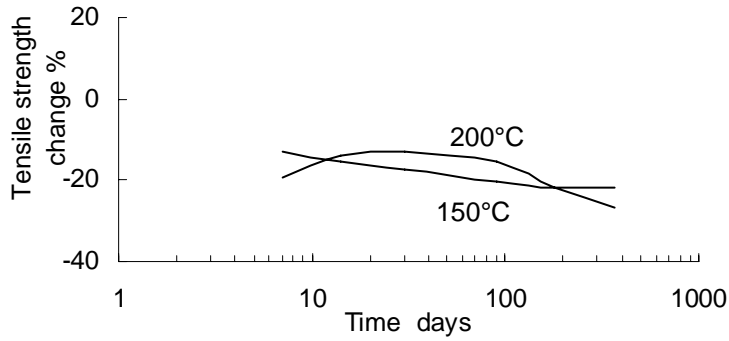
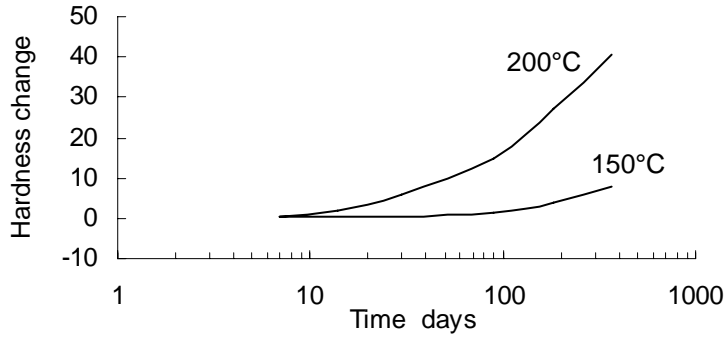
Short-term



Long-term



HEAT RESISTANCE



ADHESION PERFORMANCE

TSE397 has excellent bonding properties and adheres to many materials without primers. However, for significantly better adhesion on difficult-to-bond substrates, use of a primer is suggested. The following list of materials shows the quality of adherence of TSE397 used with ME121, ME123, YP3941, XP80-A5363 or without a primer.

SUBSTRATE	NO PRIMER	ME121	ME123	YP9341/ XP80-A5363
Metals				
Copper	○	○		
Steel	○	○		
Mild steel	○	○		
Brass	○	○		

Stainless steel	○	○		
Pure aluminum	○	○		
Corrosion-resistant aluminum	○	○		
Galvanized sheet iron	○	○		
Tin plate	○	○		
Plastics				
Acrylic resin	○		○	
Phenolic resin	○		○	
Epoxy resin	○		○	
Polycarbonate	○ ^{*1}		○ ^{*1}	
Soft polyvinyl chloride	○		○	
Rigid polyvinyl chloride	○		○	
Polyester film	○		○	
Melamine resin	○		○	
Polystyrene	△		○	
Polyacetal	×		○	
PPE	○		○	
Unsaturated polyester resin	○		○	
Polyimide	○		○	
Nylon66	○		○	○ ^{*2}
PBT	○		○	×
PPS	○		○	○ ^{*2}
ABS resin	○		○	
Polypropylene	×		×	○ ^{*3}
Polyethylene	×		×	△ ^{*3}
Polytetrafluoroethylene	×		×	×
Silicone varnish laminate	○		○	
Silicone varnish coated glass cloth	○		○	
Rubbers				
Chloroprene	△		○	
Nitril	△		○	
Styrene butadiene	△		○	
Ethylene propylene	△		○	
Silicone	○		○	
Others				
Glass	○	○		
Ceramics	○	○		
Wood	○~△	○~△		

Note

○: Excellent (Cohesive failure, 100%) △: Not sufficient ×: Poor (Cohesive failure, 0%)

*1: It shows good adhesion but solvent crack may occur depending on the application. A preliminary adhesion test is recommended to confirm.

*2: YP9341 *3: XP80-A5363

HANDLING AND SAFETY

- ◆ Wear eye protection and protective gloves as required while handling the product.
- ◆ Maintain adequate ventilation in the work place at all times

STORAGE

- ◆ Store in a cool, dry place out of direct sunlight.
- ◆ Keep out of the reach of children.

PACKAGING AND COLORS

COLOR SUFFIX	COLOR	PACKAGING
-B	Black	100g tube available in case of 20 333ml cartridge available in case of 10 1kg can available in case of 10 18kg pail available
-C	Clear	100g tube available in case of 20 333ml cartridge available in case of 10 1kg can available in case of 10 18kg pail available
-W	White	100g tube available in case of 20 333ml cartridge available in case of 10 18kg pail available

Issued Feb. 2000/3rd revised Jan. 2005, TSE397 E

FOR INDUSTRIAL USE ONLY

It is the responsibility of the user to determine the suitability of any Momentive Performance Materials Japan product for any intended application. NEVER USE ANY MOMENTIVE PERFORMANCE MATERIALS JAPAN PRODUCT FOR IMPLANTATION OR INJECTION INTO THE HUMAN BODY. Specifications are available by contacting Momentive Performance Materials Japan. Typical property data values should not be used as specifications. Inasmuch as Momentive Performance Materials Japan LLC has no control over the use to which others may put the material, it does not guarantee that the same results as those described herein will be obtained. Each user of the material should make his own tests to determine the suitability of the material for his own particular use. Statements concerning possible or suggested uses of the materials described herein are not to be construed as constituting a license under any Momentive Performance Materials Japan patent covering use or as recommendations for use of such materials in the infringement of any patent. Material Safety Data Sheets are available upon request from Momentive Performance Materials Japan. The contents of this catalog are subject to change without notice. No part of this data may be reproduced without the prior approval of Momentive Performance Materials Japan.



Momentive Performance Materials Japan LLC

<http://www.momentive.com>

Technical Answer Center (Japan): Phone: +81-276-20-6182 FAX: +81-276-31-6259
Tokyo Head Office: Phone: +81-3-5544-3111 FAX: +81-3-5544-3122