

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	$\text{MPa} \{ \text{kgf}/\text{cm}^2 \}$	1.2 {12}
Elongation	%	360
Adhesive strength ^{*1}	$\text{MPa} \{ \text{kgf}/\text{cm}^2 \}$	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

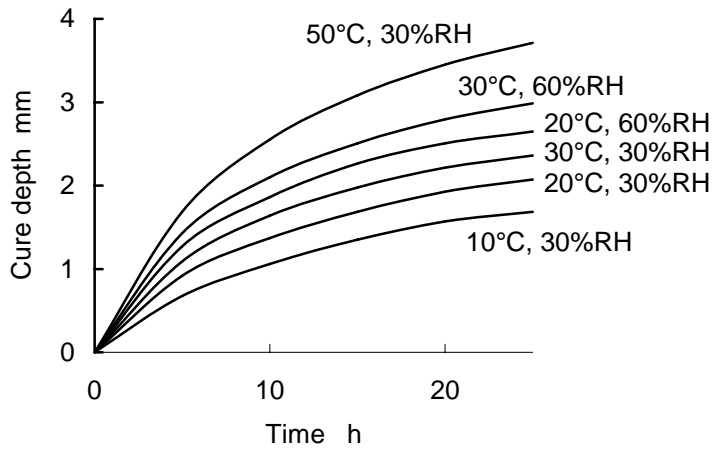
*1: Aluminum lap shear

*2: In-house test method

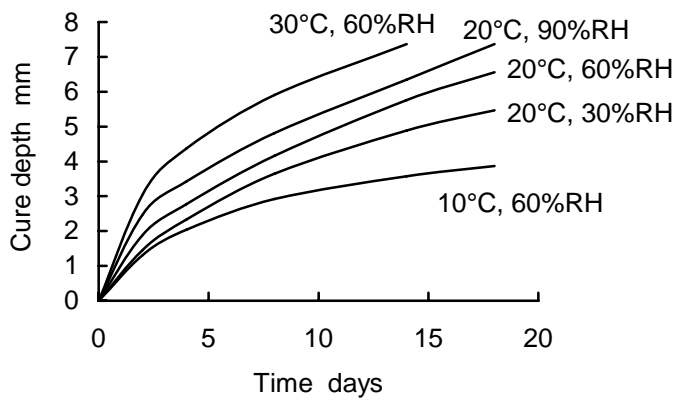
Typical property data values should not be used as specifications.

CURING PROPERTIES

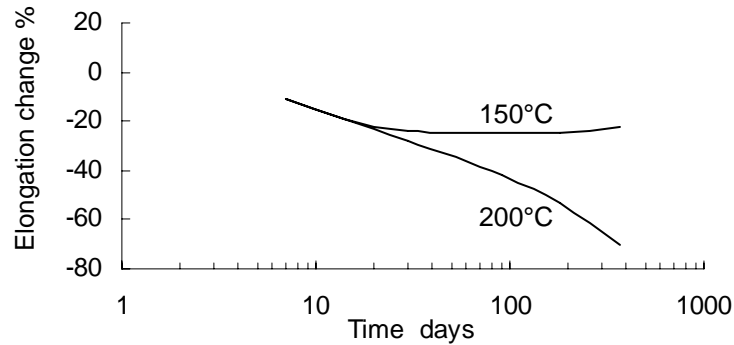
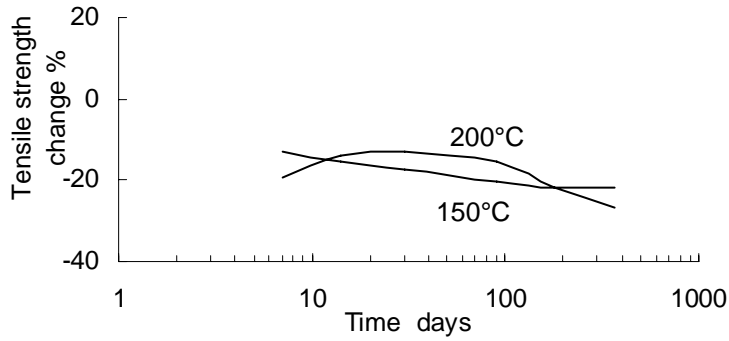
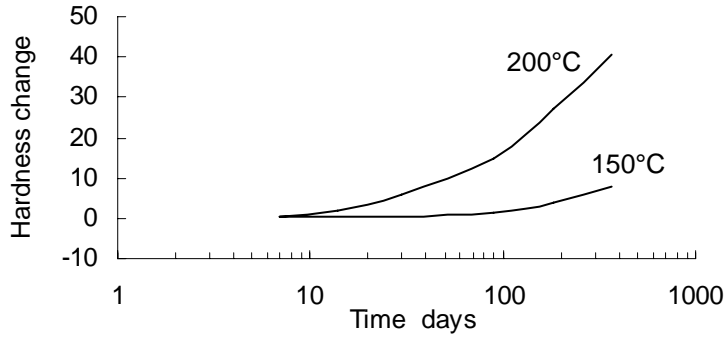
Short-term



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

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FOR INDUSTRIAL USE ONLY

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