

Product Data

General Purpose Flowable Silicone Adhesive Sealant TSE389

TSE389 is a one-component, oxime cure, flowable type of silicone adhesive sealant, which cures at room temperature with moisture in the air. TSE389 bonds to many materials, such as metals, plastics, ceramics and glass without the use of primers.

KEY FEATURES

- ◆ Primerless adhesion to many substrates
- ◆ Neutral cure: Little risk of corrosion (corrosion to copper and copper alloys)
- ◆ 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): TSE389-B, TSE389-C, TSE389-W
- ◆ Simple and easy-to-use, one-component system

APPLICATIONS

- ◆ Industrial sealing and coating
- ◆ Electric insulation
- ◆ Thin section potting of electrical components
- ◆ General adhesive for metals, glass, plastics, wood, etc

TYPICAL PROPERTY DATA

(JIS K 6249)

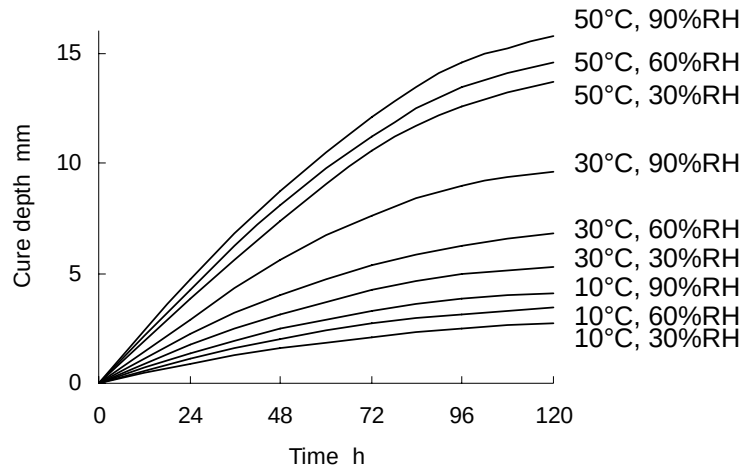
UNCURED PROPERTIES		
Appearance		Flowable paste
Viscosity (23°C)	Pa·s {P}	5.6 {56}
Tack-free time (23°C)	min	30
CURED PROPERTIES (7days @ 23°C / 50%RH)		
Appearance		Elastic rubber
Density (23°C)	g/cm ³	1.04
Hardness (Type A)		30
Tensile strength	MPa {kgf/cm ² }	2.0 {20}
Elongation	%	200
Adhesive strength ^{*1}	MPa {kgf/cm ² }	1.8 {18}
Thermal conductivity ^{*2}	W/(m·K) {cal/(cm·s·°C)}	0.18 {4.4×10 ⁻⁴ }
Volume resistivity	Ω·cm	1.0×10 ¹⁵

Dielectric strength	kV/mm	20
Dielectric constant (60Hz)		2.7
Dissipation factor (60Hz)		0.009

*1: Aluminum lap shear *2: In-house test method

Typical property data values should not be used as specifications.

CURING PROPERTIES



ADHESION PERFORMANCE

TSE389 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 substrates shows the quality of adherence of TSE389 used with ME121, ME123, YP9341, XP80-A5363 or without a primer.

SUBSTRATE	NO PRIMER	ME121	ME123	YP941/ XP80-A5363
Metals				
Copper	△ ^{*1}	○ ^{*1}		
Steel	○	○		
Mild steel	○	○		
Brass	△ ^{*1}	○ ^{*1}		
Stainless steel	△	○		
Aluminum	○	○		
Corrosion-resistant aluminum	○	○		
Galvanized sheet iron	○	○		
Tin plate	○	○		

Plastics				
Acrylic resin	○	○		
Phenolic resin	○	○		
Epoxy resin	○	○		
Polycarbonate	○ ^{*2}	○ ^{*2}		
Soft polyvinyl chloride	×	×	○	
Rigid polyvinyl chloride	○	○	○	
Polyester film	○	○	○	
Unsaturated polyester resin	○	○	○	
Polyimide	○	○	○	
Nylon 66	○		○	○ ^{*3}
PBT	△		○	×
PPS	△		○	○ ^{*3}
ABS resin	○	○	○	
Polypropylene	×	×	×	○ ^{*4}
Polyethylene	×	×	×	× ^{*4}
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: Corrosion may occur depending on the application

*2: Do not apply to Polycarbonate due to solvent crack.

*3: YP9341 *4: XP80-A5363

HANDLING AND SAFETY

- ◆ Wear eye protection and protective gloves as required while handling the product.
- ◆ Substrate surface should be thoroughly cleaned with a suitable solvent such as Alcohol, Xylene, Methyl ethyl ketone, etc.
- ◆ This product releases methyl ethyl ketoxime vapors as a by-product of cure. Adequate ventilation must be maintained in the work place at all times.

STORAGE

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

PACKAGING AND COLORS

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

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