

# Fast Cure, Non-corrosive Silicone Adhesive Sealant

# TSE399

**TSE399** is a one-component, fast cure, non-corrosive silicone adhesive sealant that cures on exposure to atmospheric moisture to form an elastic silicone rubber. TSE399 is easily pourable and has 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  $-55^{\circ}\text{C}$  to  $200^{\circ}\text{C}$
- ◆ Excellent weatherability, ozone, and chemical resistance
- ◆ Excellent electrical insulation properties
- ◆ Simple and easy-to-use one-component system

## TYPICAL PRODUCT DATA

TYPICAL UNCURED PROPERTIES		
Appearance		Flowable liquid, translucent; white; black
Viscosity (23°C),	Pa·s {P}	2.0 {20}
Tack-free Time (23°C)	min.	10
Corrosion	MIL-A-46146B	None
TYPICAL CURED PROPERTIES (7days @20°C / 60%RH)		
Appearance		Elastic rubber
Specific gravity		1.04
Hardness (Type A)		25
Tensile strength	MPa {kgf/cm <sup>2</sup> }	1.3 {13}
Elongation	%	140
Adhesive strength	MPa {kgf/cm <sup>2</sup> }	0.3 {3}
Thermal conductivity	W/m·K {cal/cm·s·°C}	0.18 {4.4×10 <sup>-4</sup> }
ELECTRICAL PROPERTIES (CURED)		
Volume resistivity	MΩ·m {Ω·cm}	2×10 <sup>7</sup> {2×10 <sup>15</sup> }
Dielectric strength	kV/mm	20
Dielectric constant (60Hz)		2.9
Dielectric loss (60Hz)		0.005

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**ADHESION PERFORMANCE**

TSE399 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 TSE399 used with ME121, ME123, YP3941 or without a primer.

SUBSTRATE	NO PRIMER	ME121	ME123 or YP3941
<b>Metals</b>			
Copper	○	○	
Mild steel	○	○	
Brass	○	○	
Stainless steel	○	○	
Aluminum	○	○	
Galvanized sheet iron	○	○	
Tin plate	○	○	
<b>Plastics</b>			
Acrylic resin	○		○
Phenolic resin	○		○
Epoxy resin	○		○
Polycarbonate	○*		—
Rigid polyvinyl chloride	○		○
Polyester	○		○
ABS resin	○		○
Polyethylene	×		×
Melamine resin	○		○
Polystyrene	○		○
Nylon	○		○
Polybutyleneterephthalate (PBT)	○		○
Polyacetal	×		○
Polyphenyleneether (PPO)	○		○
Polyphenylenesulfide (PPS)	○		○
Polytetrafluoroethylene	×		×
<b>Inorganic materials</b>			
Glass	○	○	
Ceramics	○	○	

## Note

- : Excellent (Cohesive failure 100%)
- △ : Not sufficient
- ×
- \* : It shows good adhesion but solvent crack may occur depending on the application.  
A preliminary adhesion test is recommended to confirm.

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## HANDLING AND SAFETY

- ◆ Wear eye protection when handling uncured sealant as it can irritate eyes.
- ◆ In case of eye contact, immediately flush eyes well with water and contact a physician.
- ◆ Extended contact with the skin may cause irritation and should be avoided.

## STORAGE

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

## PACKAGING AND COLORS

- ◆ 100g tube available in case of 20 ••• Clear / White / Black
- ◆ 333ml cartridge available in case of 50 (5 boxes of 10 cartridge) ••• Clear / White / Black
- ◆ 1kg can available in case of 10 ••• Clear / White / Black
- ◆ 18kg pail ••• Clear / White / Black

TSE399E  
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***GE Toshiba Silicones Co., Ltd.***

**CHINA AUTHORIZED DISTRIBUTOR**

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