

Product Data

One Component Heat Curable Silicone Adhesive TSE322

TSE322 is a one-component, heat curable silicone adhesive designed for electrical and electronic applications. This product cures with heating in a short period of time to a tough silicone elastomer.

TSE322 is available in two colors:

TSE322: Light blue
TSE322-B: Black

KEY FEATURES

- ◆ Easy to use: one component system
- ◆ Fast heat cure system and heat accelerated cure
- ◆ Primerless adhesion to many substrates – Plastics, Metals, Ceramics and Glass
- ◆ Non-corrosive to metals
- ◆ Excellent high and low temperature resistance: from -55°C to + 200°C
- ◆ UL94 HB recognized (File No: E56745): TSE322

TYPICAL APPLICATIONS

- ◆ Sealing and adhesive between plastics and metals/ceramics in various electronic parts
– Semiconductor modules, automotive electronics units, home appliance assemblies
- ◆ Adhesive for heat cured silicone elastomers

TYPICAL PROPERTY DATA

(JIS K 6249)

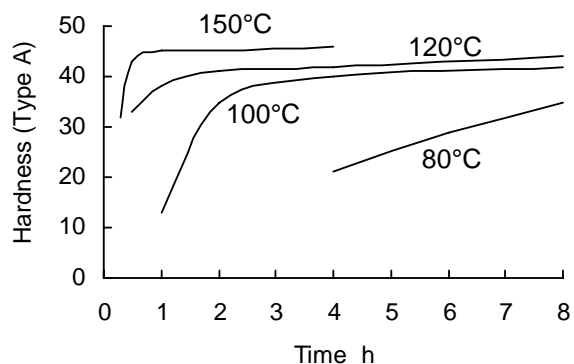
UNCURED PROPERTIES		
Appearance		Flowable
Viscosity (23°C)	Pa·s {P}	110 {1,100}
CURED PROPERTIES (1h @ 150°C)		
Density (23°C)	g/cm ³	1.27
Hardness (Type A)		45
Tensile strength	MPa {kgf/cm ² }	3.4 {35}
Elongation	%	230
Adhesion strength ^{*1}	MPa {kgf/cm ² }	2.5 {25}
Volume resistivity	{Ω·cm}	2.0x10 ¹⁵
Dielectric strength	kV/mm	20
Dielectric constant (60Hz)		3.1
Dissipation factor (60Hz)		0.006

Linear expansion ^{*2}	1/K	1.9×10^{-4}
Thermal conductivity ^{*2}	W/(m·K) {cal/(cm·s·°C)}	0.29 { 6.9×10^{-4} }

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

Typical property data values should not be used as specifications.

CURE PROPERTIES

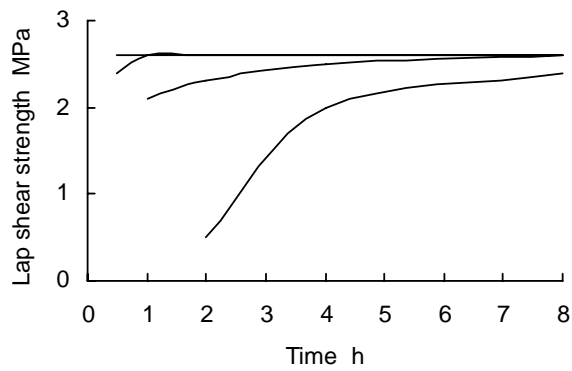


ADHESION PROPERTIES

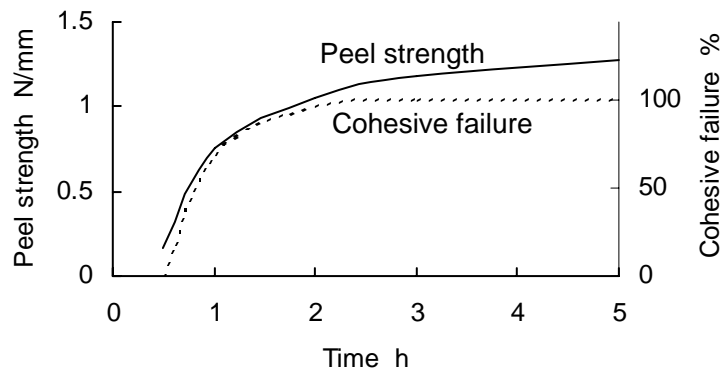
SUBSTRATE	ADHESIVENESS
Aluminum	○
Copper	○
Brass	○
Stainless steel	○
Nickel plate	○
PPS	○
PBT	○
Epoxy resin	○
Polyester	○
Glass	○
Ceramics	○
Peroxide cured silicone rubber	○
Fluorocarbon resin	×
PE	×
PP	×
Polyacetal	×

○: Cohesive failure ×: Adhesive failure

LAP SHEAR STRENGTH vs. CURE TEMPERATURE



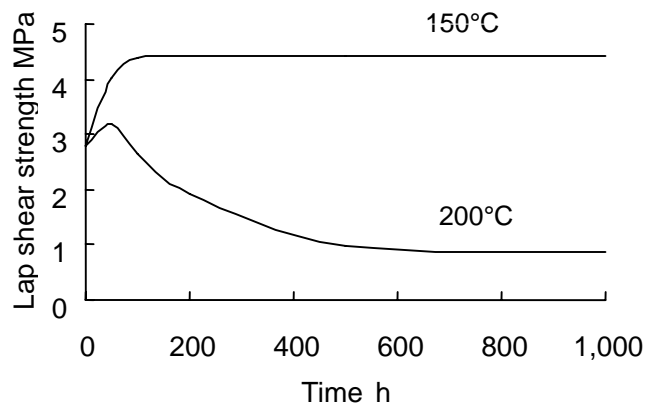
PEEL STRENGTH AND COHESIVE FAILURE RATE AT 100°C



Substrate: Aluminum/
Glass cloth
Peel angle: 180°

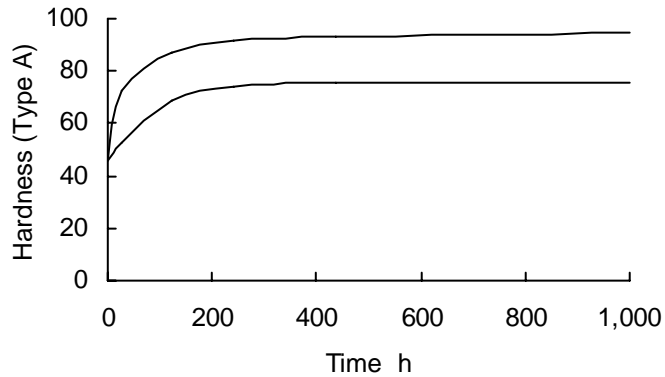
HEAT RESISTANCE

1. LAP SHEAR STRENGTH

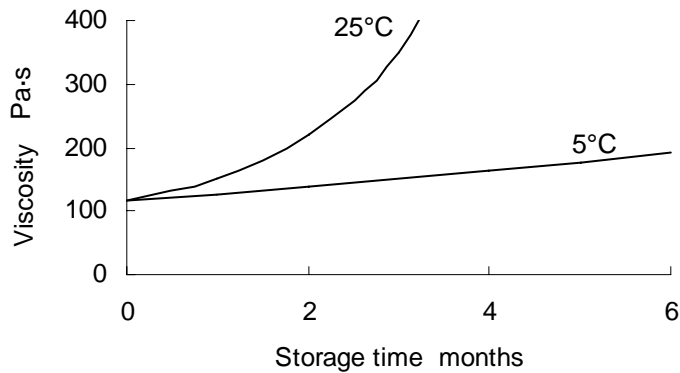


Substrate: aluminum

2. HARDNESS



STORAGE STABILITY



GENERAL INSTRUCTIONS FOR USE

- ◆ All parts should be as clean and dry as possible prior to application.
- ◆ Materials such as water, sulfur, nitrogen compounds, organic metallic salts, phosphorus compounds, etc., contained in the surface of the substrate may cause cure inhibition. A sample patch should always be conducted before proceeding to determine compatibility. Particular care should be taken with organic rubbers, flux, amine cured epoxy resins, various waxes, and condensation type silicone rubbers.
- ◆ Wear eye protection and protective gloves at all times when working with this product.
- ◆ Maintain adequate ventilation in the work area at all times.
- ◆ When returning to room temperature, allow the contents to return to room temperature before opening the container to avoid condensation.

STORAGE

- ◆ Store at cold temperature (0~10°C) to prevent a viscosity increase.
- ◆ Keep out of the reach of children.

PACKAGING

- ◆ 100g tube available in cases of 20
- ◆ 333ml cartridge available in cases of 10
- ◆ 1kg can available in cases of 10
- ◆ 20kg pail available

Issued Apr. 2000/2nd revised May 2007

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