

Product Data

Heat Resistant Silicone Adhesive Sealant TSE3877-B

TSE3877-B is a one-component, ready-to-use adhesive sealant, which cures to a flexible silicone rubber on exposure to atmospheric moisture at room temperature. This product has excellent heat resistant properties, retaining elastomeric and adhesive properties even at temperatures as high as 250°C, and provides superior electrical insulation and protection against moisture and dust contamination.

KEY FEATURES

- ◆ One-component, ready-to-use
- ◆ Room temperature cure
- ◆ Primerless adhesion to many types of substrates
- ◆ Flowability permits a smooth finished surface
- ◆ Superior heat resistant properties

APPLICATIONS

- ◆ Electrical insulation, fixing, moistureproof sealant for electric and electronic components and home appliances
- ◆ Insulation and waterproof sealant for in/outlet of motors and transformers
- ◆ Sealant for chimneys and smoke ducts
- ◆ Sealant around automotive and ship engines
- ◆ Tight waterproof and dustproof seal for instruments and gauges
- ◆ Adhesive for metals, glass, plastics, wood, etc.

TYPICAL PROPERTY DATA

(JIS K 6249)

UNCURED PROPERTIES		
Appearance		Black, Flowable
Viscosity (23°C)	Pas {P}	300 {3,000}
Tack-free time (23°C)	min	20
CURED PROPERTIES (7days @ 23°C / 50%RH)		
Appearance		Black, Elastic rubber
Density	g/cm ³	1.09
Hardness (Type A)		25
Tensile strength	MPa {kgf/cm ² }	2.0 {20}
Elongation	%	440

Adhesive strength ^{*1}	MPa {kgf/cm ² }	2.0 {20}
Linear expansion ^{*2}	1/K	2.1×10 ⁻⁴
Thermal conductivity ^{*2}	W/(m·K) {cal/(cm·s·°C)}	0.18 {4.4×10 ⁻⁴ }
Volume resistivity	Ω·cm	1×10 ¹⁵
Dielectric strength	kV/mm	20
Dielectric constant (60Hz)		3.5
Dissipation factor (60Hz)		0.01

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

Typical property data values should not be used as specifications.

HEAT RESISTANCE (250°C)

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PROPERTIES		3days	7days	30days
Hardness change (Type A)		-6	-4	+7
Tensile strength change	%	+28	+38	+62
Elongation change	%	+23	+7	-18
Adhesive strength change	%	+25	+65	+120

ADHESION PERFORMANCE

TSE3877-B 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 TSE3877-B used with ME121, ME123 or without a primer.

SUBSTRATE	NO PRIMER	ME121	ME123
Metals			
Copper	△ ^{*1}	○ ^{*1}	
Steel	○	○	
Mild steel	○	○	
Brass	△ ^{*1}	○ ^{*1}	
Stainless steel	△	○	
Pure aluminum	○	○	
Corrosion-resistant aluminum	○	○	
Galvanized sheet iron	○	○	
Tin plate	○	○	
Plastics			
Acrylic resin	○		○
Phenolic resin	○		○
Epoxy resin	○		○
Soft polyvinyl chloride	×		○
Rigid polyvinyl chloride	○		○
Polyester film	○		○
Unsaturated polyester resin	○		○

Polyimide	○		○
ABS resin	○		○
Polyethylene	×		×
Polypropylene	×		○ ^{*2}
Fluoride resin	×		×
Silicone varnish laminate	○		○
Silicone varnish coated glass cloth	○		○
Rubbers			
Chloroprene	×		○
Nitril	△		○
Styrene butadiene	△		○
Ethylene propylene	△		○
Silicone	○		○
Others			
Glass	○	○	
Ceramic	○	○	
Woods	△~○	△~○	

Note

- : Excellent (Cohesive failure 100%)
 - △: Not sufficient
 - ×: Poor (Cohesive failure 0%)
 - *1: Corrosion may occur depending on the application
 - *2: When using XP80-A5363 as a primer
- Do not apply to Polycarbonate due to solvent crack

HANDLING AND SAFETY

- ◆ Wear eye protection and protective gloves as required while handling the product.
- ◆ Use the product in a well ventilated area.

STORAGE

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

PACKAGING

- ◆ 100 g tube available in cases of 20
- ◆ 333 ml cartridge available in cases of 50 (5 boxes of 10 cartridge)
- ◆ 18 kg pail available

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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