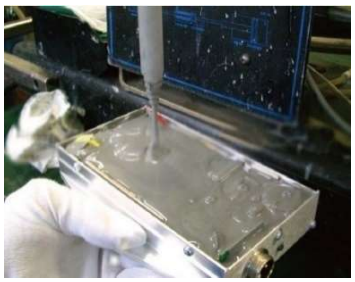
ZIITEK ELECTRONIC MATERIAL ＆TECHNOLOGY CO.,LTD

TIS™ 680-12AB Series
High Thermal Conductive Two Component Potting Silicone

REV04



TIS™ 680-12AB Series is a two-part silicone potting adhesive with high thermal conductivity, room temperature curable, long working time and fire resistance.It is especially suitable for capacitor, small electronic equipment sealing. Its flexible, elastic characteristics enable it to provide cushioning for the materials it is coated with. The lower viscosity allows the thermal potting adhesive to cover the surface more fully, greatly increasing the efficiency of heat transfer from the heating device or the entire PCB to the metal case or diffusion plate, thus improving the efficiency and service life of the electronic

Features

》Good thermal conductive: 1.2 W/mK
》Good insulation performance
》Good elasticity
》Lower shrinkage
》Low viscosity, easy gas emissions
》Good solvent resistance and waterproof performance
》longer working hours》
》Excellent high and low temperature resistance
》No odor release during the curing process

Application

》Industrial control, transformer, coil, amplifier, high voltage package, relay, high current junction box, etc.;
》Heat sink assembly, thermal sensor potting, thermal conductive product potting;
》Heat conduction between the battery cell and the cold tube;
》LED and power drive potting;

Typical Properties of TISTM 680-12AB Series

Material Properties (Before Curing)		
	TIS680-12A	TIS680-12B
Color	White	Gray
Viscosity @25℃ (mPa•s)	3,000	3,000
Shelf life	6 months @25℃ in sealed container	

Mix Ratio (By weight)	A : B =100 : 100
Mix Color	Gray
Operational Time	30 mins
Conditions for Complete Curing	@25℃ 24 H
	@70℃ 2 H
	@100℃ 1 H

Material Properties (After Curing)	
Hardness (Shore A)	65
Density (g/cc)	1.7
Operating temperature (℃)	- 40~160
Elongation (%)	120
CLTE (1/℃)	3.0×10^{-5}
Fire resistance UL94	V-0
Water Absorption Rate (wt%)	< 0.1
Thermal Conductivity (W/mK)	1.2
Thermal Impedance @1mm (℃-in²/W)	0.48
Dielectric Breakdown Voltage (V/mm)	6,000
Dielectric Constant @1MHz	4.2
Volume resistivity @25℃ (ohm-cm)	3.0×10^{13}

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Instruction For Use

Application considerations

Please read the safety and health information carefully before use, and pay attention to the instructions on the product label or safety manual.

In order to ensure a good long-term quality performance of the electronic package assembly, the component surface should be thoroughly cleaned before each package to remove dust, water, salt and grease from the surface. These substances can cause short circuit, poor adhesion, corrosion and other poor quality problems.

The following substances will cause the glue to not cure properly! Please make sure that the area to be filled is not contaminated by the following substances:

① Substances containing nitrogen, phosphorus, sulfur and heavy metals

② Amine (such as amine curing agent in epoxy resin)

③ Contact with unsaturated hydrocarbon plastics (such as unsaturated double bonds in PVC)

④ The antirust oil on the mold and the sweat grease on the workers' hands will affect the solidification of liquid silicone

Storage

Store the product in the original unopened container, please use it as soon as possible after opening.

Store in a cool and dry place (≤ 25 ° C, 50±20%RH) to avoid direct sunlight, inappropriate storage methods and temperatures may affect the shelf life.

Security & Protection

These products should be handled with good hygiene and safety practices. Wear glasses and chemical-resistant clothing at work to avoid direct contact. Consult the product safety manual about engineering control, personal protection equipment and first treatment measures.

Mixing

The product will have normal precipitation during transportation or storage, so it should be stirred well before use.

Weigh A and B accurately and mix into clean containers in the recommended proportions. Weighing equipment requires a certain degree of precision.

After mixing, stir in the container with a stirring tool for 2-3 minutes, taking care to scrape the bottom of the container and the surrounding gel to ensure that the product is mixed evenly. If possible, stir with a high-speed mixer for 2-3 minutes, but avoid heat generated by high-speed stirring and affect the working time of the compound.

It is recommended to mix and stir below 25℃, and keep the compound temperature below 30℃ during the stirring process, as excessive temperatures will shorten the operable time of the compounding after mixing.

De-airing

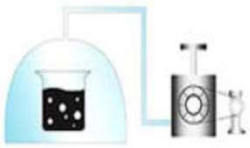
In order to eliminate as much as possible the bubbles produced during the stirring process, it is necessary to vacuum the glue, which usually takes 5-6 minutes.. During vacuuming, the air bubbles will continuously expand and rise to the surface, taking care not to allow the compound to spill out of the container.

Application

Inject the compound into the mold as soon as possible. In more demanding applications, it can be evacuated again, allowing the compound to be better encapsulated around the coil or component.Curing can be performed according to the recommended curing procedure for better results.

The curing procedure can also be changed according to the actual situation.

Mixing



De-airing

Application

Automation

TIS680-12AB series can also be used to develop fully automatic potting solutions

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