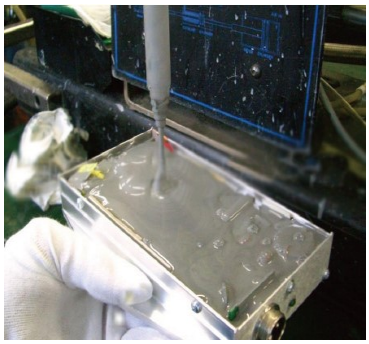
TIG®680-40AB Series
High Thermal Conductive Two Component Potting Silicone



TIG®680-40AB Series is a two-component high thermal conductivity silicone sealant with room temperature curing, long working time, and flame retardant properties. This product is particularly suitable for sealing capacitors and small electronic devices. Its excellent flexibility properties enable it to provide excellent cushioning protection for coating materials. The low viscosity characteristic enables the thermal conductive sealant to cover the surface more comprehensively, greatly improving the heat transfer efficiency of the heating element or the entire printed circuit board to the metal shell or heat dissipation plate, thereby improving the performance and service life of electronic components.

Features

- 》Good thermal conductive
- 》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 TIG®680-40AB Series

Material Properties (Before Curing)		
PROPERTY	**NUMERICAL**	**TEST METHOD**
Color/Part A	White	Visual
Color/Part B	Gray	Visual
Part A Viscosity (mPa·s)	16000	GB/T 10247
Part B Viscosity (mPa·s)	23000	GB/T 10247
Mix Ratio	1:1	Ziitek Test Method
Shelf Life	6 months (Unopened)	Ziitek Test Method
Cure Schedule		
Pot Life @25℃	30~45 mins	Ziitek Test Method
Cure @70℃	20~30 mins	Ziitek Test Method
Cure Material Properties		
Color	Gray	Visual
Hardness (Shore A)	25	ASTM D2240
Density (g/cm^3)	3.15	ASTM D792
Recommended Operating Temp (℃)	-45~200	-
Flame Rating	V-0	UL 94
Thermal Conductivity (W/m·K)	4.0	ASTM D5470
Breakdown Voltage (V/mm)	≥10000	ASTM D149
Dielectric Constant @1MHz	6.0~8.0	ASTM D150
Volume Resistivity (Ohm·cm)	3.0×10^{13}	ASTM D257

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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
⑤ The flux surrounding the solder joints

Storage

1. Store the potting compound in the original unopened container;
2. Store in a cool and dry place to ensure the proper 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.

Instruction For Use

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° C**, and keep the compound temperature below **30° C** during the stirring process, as excessive temperatures will shorten the operable time of the compounding after mixing.

De-airing

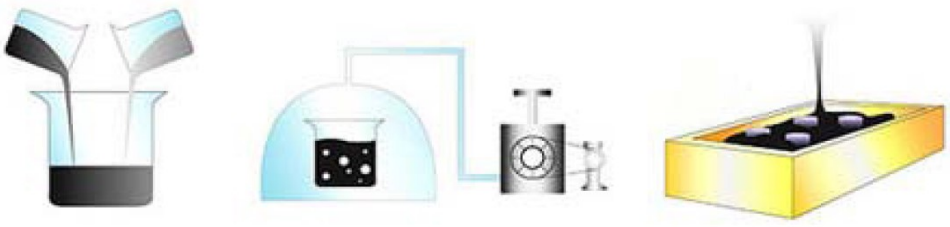
In order to eliminate as much as possible the bubbles produced during the stirring process, it is necessary to vacuum the glue, which usually takes **5~6** minutes.. During vacuuming, the air bubbles will continuously expand and rise to the surface, taking care not to allow the compound to spill out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

Automation

TIG®680-40AB series can also be used to develop fully automatic potting solutions.



Mixing De-airing Application

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