

## SC2003 Silicone Resin

SC2003 is a two-part, thixotropic potting and encapsulating compound designed for the protection of electronic devices. It has exceptional high temperature properties, suitable for use in applications where the operating temperature will be up to 200°C.

- Thixotropic resin; ideal for applications requiring high viscosity systems
- High thermal conductivity; ideal for applications requiring efficient heat dissipation
- Simple 1:1 mix ratio; aids ease of processing
- Exceptionally wide temperature range; ideal for applications reaching very high temperatures

### Approvals

**RoHS-2 Compliant (2011/65/EU):**  
**UL Approval:**

**Yes**  
**Meets UL94 V-0**

### Typical Properties

#### Liquid Properties:

Base material	Silicone
Appearance Part A	Black liquid
Appearance Part B	White liquid
Density Part A (g/ml)	1.6
Density Part B (g/ml)	1.6
Viscosity, Part A (mPa s @ 23°C)	30 000
Viscosity, Part B (mPa s @ 23°C)	30 000
Viscosity, Mixed System (mPa s @ 23°C)	30 000
Mix Ratio (Weight)	1:1
Mix Ratio (Volume)	1:1
Usable Life (20°C)	40 minutes
Cure Time (23°C)	24 hours
Cure Time (70°C)	25 minutes
Cure Time (100°C)	10 minutes
Storage Conditions	Above 15°C, Below 30°C
Shelf Life	24 months

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All information is given in good faith but without warranty. Properties are given as a guide only and should not be taken as a specification.

Electrolube cannot be held responsible for the performance of its products within any application determined by the customer, who must satisfy themselves as to the suitability of the product.

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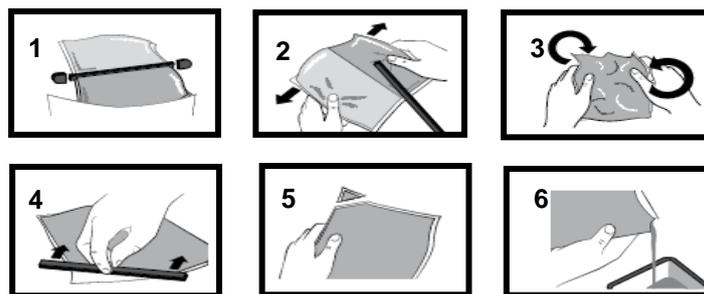
BS EN ISO 9001:2008  
 Certificate No. FM 32082

Cured System:	Colour (Mixed System)	Dark grey
	Cured Density (g/ml)	1.6
	Temperature Range (°C)	-60 to 200
	Max Temperature Range (Short Term (°C)/30 Mins) (Application and Geometry Dependent)	+225
	Shore Hardness	A50
	Thermal Conductivity (W/m.K)	0.8
	Flame retardancy	Yes, meets UL94 V-0
	Dielectric Strength (kV/mm)	20
	Permittivity (50 kHz)	3.2
	Loss Tangent (50 kHz)	0.002

## **Mixing Procedures**

### **Resin Packs**

When in Resin pack form, the resin and hardener are mixed by removing the clip and moving the contents around inside the pack until thoroughly mixed. To remove the clip, remove both end caps, grip each end of the pack and pull apart gently. By using the removed clip, take special care to push unmixed material from the corners of the pack. Mixing normally takes from two to four minutes depending on the skill of the operator and the size of the pack. Both the resin and hardener are evacuated prior to packing so the system is ready for use immediately after mixing. The corner may be cut from the pack so that it may be used as a simple dispenser.



### **Bulk Mixing**

When mixing, care must be taken to avoid the introduction of excessive amounts of air. Automatic mixing equipment is available which will not only mix both the resin and hardener accurately in the correct ratio but do this without introducing air. Containers of Part A (Resin) and Part B (Hardener) should be kept sealed at all times when not in use to prevent the ingress of moisture. Bulk material must be thoroughly mixed before use. Incomplete mixing will result in erratic or partial curing.

### **General**

Sedimentation of the resin has been minimised by careful attention to the formulation. However, any sediment which may have occurred over long periods of time must be dispersed before removing any material from the container. This dispersion can be carried out (if necessary) by stirring with a broad bladed spatula or gently rolling the can. Take care not to introduce excessive amounts of air during this operation or it may be necessary to re-evacuate the resin. Sedimentation will be accelerated by storage at high temperatures. Sedimentation found in resin packs forms no problem since the sediment is re-mixed when the pack is used.

### **Additional Information**

- Cleaning:** It is far easier for machines & containers to be cleaned before the resin has been allowed to cure. Electrolube's RRS is suitable for cleaning machines and containers and cured resin may be slowly softened and removed by soaking in our RRS. All surfaces must be clean before resin is applied. Certain materials, chemicals, curing agents and plasticizers can inhibit the cure of silicone encapsulants. Most notable of these include:
- Organotin and other organometallic compounds
  - Silicone rubber containing organotin catalyst
  - Sulphur, polysulphides, polysulphones or other sulphur containing materials
  - Amines, urethanes or amine-containing materials
  - Unsaturated hydrocarbon plasticisers
  - Some solder flux residues
- Curing:** Do not heat cure large volumes immediately. Allow these to gel at room temperature and post-cure at high temperature if required (refer to liquid properties for details). Small volumes (250ml) may be heat cured immediately.
- Storage:** When storing under very cold conditions, the hardener may crystallise. If this occurs, simply warm (40°C) the container gently until all crystals have re-melted.
- Health & Safety:** Always refer to the Health & Safety data sheet before use. These can be downloaded from [www.electrolube.com](http://www.electrolube.com)

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