

## SC3001 Silicone Resin

SC3001 is an optically clear, flexible, two part encapsulating compound. SC3001 is ideal for use in the LED industry where optical clarity is vital. It is particularly suited to applications where thin films are required due to its moisture cure nature.

- Optically clear; ideal for LED applications
- Excellent resistance to yellowing; good resistance to UV light
- Low viscosity and low hardness; can be cut or 'dug out' for rework
- Exceptionally wide temperature range; ideal for applications reaching very high temperatures

|                   |                                       |            |
|-------------------|---------------------------------------|------------|
| <b>Approvals:</b> | <b>RoHS-2 Compliant (2011/65/EU):</b> | <b>Yes</b> |
|                   | <b>UL Approval</b>                    | <b>No</b>  |

### Typical Properties

|                    |                                       |  |
|--------------------|---------------------------------------|--|
| Liquid Properties: | Base Material                         | Silicone                               |
|                    | Solids content                        | 100%                                   |
|                    | Appearance Part A                     | Clear liquid                           |
|                    | Appearance Part B                     | Clear liquid                           |
|                    | Density Part A (g/ml)                 | 1.05                                   |
|                    | Density Part B (g/ml)                 | 0.98                                   |
|                    | Viscosity Part A (mPa s @ 23°C)       | 2000                                   |
|                    | Viscosity Part B (mPa s @ 23°C)       | 20                                     |
|                    | Mixed System Viscosity (mPa s @ 23°C) | 1800                                   |
|                    | Mix Ratio (Weight)                    | 13:1                                   |
|                    | Mix Ratio (Volume)                    | 12:1                                   |
|                    | Usable Life (20°C)                    | 30 mins, humidity dependant            |
|                    | Gel Time (23°C)                       | 2-4 hours, humidity dependant          |
|                    | Cure Time (23°C)                      | 24 hours, humidity dependant           |
|                    | Storage Conditions                    | Above 15°C, Below 30°C                 |
|                    | Shelf Life                            | 24 Months, part A<br>12 months, part B |

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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

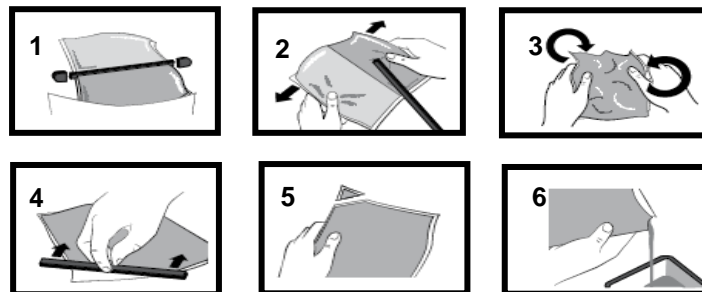
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|-------------------|---|--------------------|
| Cured Properties: | Colour (Mixed System)   | Water White        |
|                   | Cured Density (g/ml)  | 1.04               |
|                   | Temperature Range (°C)  | -60 to +200        |
|                   | Max Temperature Range (Short Term (°C)/30 Mins) (Application and Geometry Dependent)  | +250               |
|                   | Shore Hardness  | A20                |
|                   | Flame Retardancy  | Yes, meets UL94 HB |
|                   | Tensile Strength (MPa)  | 1.27               |
|                   | Volume resistivity (ohm-cm)   | 10 <sup>14</sup>   |
|                   | Dielectric constant @ 50Hz  | 3.0                |
|                   | Dielectric dissipation factor @ 50 Hz   | 0.0026             |
|                   | Water absorption (9.7mm thick disk, 51mm diameter)<br>10 days @ 20°C / 1 hour @ 100°C | <0.1% / <0.1%      |
|                   | Elongation At Break   | 100%               |

## **Mixing Procedures**

All surfaces must be clean before resin is applied. Due to its moisture cure nature, the speed of the cure is dependent on humidity and the thickness of the layer applied, hence thinner films will cure relatively quickly. At a depth of greater than 3cm, SC3001 may take up to 7 days to achieve full cure properties.

### **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.

### **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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