



# Technical Data Sheet

## SC3001 Silicone Resin

### Product Description

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.

### Features

- Optically clear
- Low viscosity
- Excellent electrical properties
- Excellent flexibility
- Wide temperature range
- Excellent chemical and water resistance

<b>Approvals:</b>	RoHS Compliant	Yes
	UL Approval	No

### **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 12 months, part B
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) (Application and Geometry Dependent)	+250

Shore Hardness	A20
Flame Retardancy	Yes, meets UL94 HB
Tensile Strength (MPa)	1.27
Volume resistivity (ohm-cm)	$10^{14}$
Dielectric constant @ 50Hz	3.0
Dielectric dissipation factor @ 50 Hz	0.0026
Water absorption (9.7mm thick disk, 51mm diameter) 10 days @ 20°C / 1 hour @ 100°C	<0.1% / <0.1%
Elongation At Break	100%

## **Mixing Procedures**

### **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 also without introducing air. Containers of Part A (Resin) and Part B (Hardener) should be kept sealed at all times when not in use. Bulk material must be thoroughly mixed before use. Incomplete mixing will result in erratic or partial curing.

## **Additional Information**

### **Application**

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.

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