

SilSo SE2014 2 part encapsulation and potting silicone

Description

This is a 2-component, silicone elastomer system specially designed for electronic potting and encapsulation applications. It offers good protection against chemicals, environmental contamination, mechanical shock, vibration and impact damage. It can be employed in areas where low flammability is a prerequisite. The cured elastomer can be repaired. The component parts have relatively low viscosities and are readily mixed either by hand or machine.

Key Features

- Light weight and low density
- Long pot life
- UL recognised in file number E334038
- Very high dielectric strength

Application

Coating for the umbilical cable ROV underwater remotely operated vehicles

Use and Cure Information

IMPORTANT:

The 'A' part of the product contains the platinum catalyst, great care should be taken when using automatic dispensing equipment. Please ensure that it is not contaminated by residual hydride containing rubber in the dispensing equipment, as curing will result. If in doubt, it's advised to thoroughly purge the equipment with a suitable hydrocarbon solvent or silicone fluid.

Mixing

Both the 'A' and 'B' parts should be well stirred to ensure the material is uniform and any settled the fillers have been remixed.

Place the required amount of 'A' and 'B' parts by weight at the mix ratio shown opposite, in a clean plastic or metal container of approximately 3 times their volume, and mix until the colour of the mixture is uniform. For best results, we recommend degassing. Degas by intermittent evacuation, the larger volume of the mixing vessel helps prevent overflow during this operation. In the case of automatic dispensing with static mixing head, the two components should be degassed before processing. Recommended vacuum conditions are 30-50 mbar intermittently over 5-10 minutes. Cast the mixture either by gravity or pressure injection.

Inhibition of Cure

Great care must be taken when handling and mixing all addition cured silicone elastomer systems, ensuring that all the mixing tools (vessels and spatulas) are clean and constructed in materials which do not interfere with the curing mechanism. The cure of the rubber can be inhibited by the presence of compounds of nitrogen, sulphur, phosphorus and arsenic; organotin catalysts and PVC stabilizers; epoxy resin catalysts and even contact with materials containing certain of these substances e.g. moulding clays, sulphur vulcanised rubbers, condensation cure silicone rubbers, onion and garlic.

Curing Conditions

The data offers a guide to the rate of cure at various temperatures, mixing of the components at temperatures between 15 and 25°C is recommended to ensure adequate pot life for degassing and handling. The pot life can be extended to several hours by chilling the components before mixing.

It is important to check the compatibility in preliminary tests if unknown substrates are used.

Health & Safety

Property

Uncured Product

Appearance
Color A
Color B
Cure Profile
Cure Type
Density A
Density B
Mix Ratio By Weight
Pot Life hrs at 23°C/73°F
Rheology
Self Bonding
Specific Gravity A
Viscosity A
Viscosity B
Viscosity Mixed

Test Method

BS ISO 2781
BS ISO 2781

Brookfield
Brookfield
Brookfield

Value

Viscous liquid
Off white
Green
>23°C
Addition
0.79
0.77
1:1
6 hours
Liquid
No
0.73
12200 cP
7200 cP
10000 cP

Cured Product

177°C for 17 minutes

Color
Density
Elongation at Break
Hardness Shore A
Linear Coefficient of Thermal Expansion (ppm/°C)
Max Working Temp
Min Working Temp
Tensile Strength
Thermal Conductivity
Volume Coefficient of Thermal Expansion (ppm/°C)

BS ISO 2781
ISO 37
ASTM D 2240-95

ISO 40

Green
0.73 g/cm3
54 %
67

218 ppm/°C
200 °C / 392 °F
-55 °C / -67 °F
2.7 N/mm2 / 392 psi
0.14 W/mK
818 ppm/°C

Electrical Properties

Dielectric Constant
Dielectric Strength kV/mm
Dissipation Factor
Volume Resistivity (Ohms cm)

ASTM D-150
ASTM D-149
ASTM D-150
ASTM D-257

2.29
32.1 kV/mm / 816 V/mil
0.00174
1E+15 ohms cm

Storage

Max Storage Temperature
Shelf Life

30 °C / 86 °F
12 mths

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The CHT technical service department is available to offer further information and advice and should it be needed to look at modifying current products or custom formulate a new one to meet your specific requirements. Please contact the technical service department.

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Health and Safety

Safety Data Sheets available on request.

Packaging

CHT Encapsulants are available in a variety packaging including bulk containers. Please contact our sales department for more information.

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