

Silcoset 101 2 part encapsulation and potting silicone

Description

This is a two-part, pourable, liquid silicone rubber which; with the addition of a curing agent will cure at room temperature to form a resilient silicone rubber. It remains flexible over the temperature a wide temperature range. It possesses excellent weathering resistance, is resistant to oxidation and to many oils and chemicals and exhibits very good electrical properties. Silcoset® is approved under the UK Ministry of Defence Air Materials Specification DTD 900

Key Features

- UK MOD approved to DTD 900/4721 and AFS 1980
- High temperature resistance
- Aerospace approved Rolls Royce MSRR 9117
- Ideal for low melt alloy casting

Key Applications

- NATO Stock Reference : 8030-99-224-1395

Application

Ideal for low melt metal alloy casting

Use and Cure Information

Mixing

The base rubber must be mixed thoroughly with CA28 to produce a uniformly cured product. Mixing can be carried out mechanically or by hand, but care should be taken to avoid trapping air in the mixture since this can cause voids in the cured rubber.

De-aeration

For applications where such voids are undesirable the mixture should be de-aerated under reduced pressure before use. The time and pressure required for de-aeration depends on the quantity of the base liquid being used. As a guide, 150g of base can be de-aerated in 5-10 minutes at a pressure of 30 to 50 mbar. Containers should be only two-thirds full to prevent overflow during the initial stages of de-aeration.

Curing

The curing process begins, without exotherm, immediately the liquid and curing agent are mixed together. Depending on the amount and type of curing agent used, the cure times may vary from less than thirty minutes and up to 24 hours. There is no significant change in the physical properties of the final rubber when the curing agent concentration is varied within the recommended limits. (0.25 - 1 part of CA28 to 100 parts of Silcoset® by weight.) Alternative bulked catalysts are available and details are given on the individual technical data sheets.

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

Health & Safety

Health and Safety

Safety Data Sheets available on request.

Packaging

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

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Property

Uncured Product

Property	Test Method	Value
Cure Type		Condensation
De-mould Time / Full Cure at 23°C/73°F: hrs		4 hrs
Density A	BS ISO 2781	1.50
Density B	BS ISO 2781	1.10
Mix Ratio By Weight		100:1
Pot Life mins at 23°C/73°F		1 hr mins
Rheology		Liquid
Viscosity Mixed	Brookfield	40000 cP

Cured Product

7 days at 23+/-2°C and 50+/-5% humidity

100% Modulus (N/mm ²)		4.18 MPa / 606 psi
CTE Volumetric ppm/°C		708 ppm/°C
Color		Red
Density	BS ISO 2781	1.50 g/cm ³
Elongation at Break	ISO 37	131 %
Hardness IRHD	BS ISO 48	61
Linear Shrinkage (%)		0.41 %
Max Working Temp		250 °C / 482 °F
Min Working Temp		-60 °C / -76 °F
Tear Resistance (N/mm)	BS ISO 34-1	8.1 N/mm / 46 ppi
Tensile Strength	ISO 37	4.77 N/mm ² / 692 psi
Thermal Conductivity		0.37 W/mK

Electrical Properties

Dielectric Constant	ASTM D-150	3
Dielectric Strength (V/mil)		508 V/mil
Dielectric Strength kV/mm	ASTM D-149	16 kV/mm / 406 V/mil
Dissipation Factor	ASTM D-150	0.0025
Volume Resistivity (Ohms cm)	ASTM D-257	1.51E+14 ohms cm

Storage

Max Storage Temperature	30 °C / 86 °F
Shelf Life	7 mths

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