

SILCOSET 105 2-Part Potting Compound

Introduction

Silcoset 105 is a white, readily pourable 2 part silicone encapsulant.

Its qualities also give rise to it being an excellent replicating medium in engineering, giftware and forensic science establishment.

Key Features

- Remains flexible from -60°C to +200°C
- Excellent weathering resistance
- Resistance to oxidation
- Good electrical properties
- Resistance to many chemicals
- Excellent surface detail reproduction

Applications

Silcoset 105 is recommended for potting, embedding and encapsulating delicate electrical and electronic equipment; sealing and caulking and making moulds for surface reproduction

Use and Cure Information

Mixing

Silcoset 105 rubber must be mixed thoroughly with Silcoset 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 Silcoset 105 liquid being used. As a guide, 150g of Silcoset 105 can be de-aerated in 5-10 minutes at a pressure of 5-10 mm of mercury. Containers should be only two-thirds full to prevent overflow during the initial stages of de-aeration.

Curing

With Silcoset 105 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 to as long as 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 105 by weight.)

Bonding

In order to achieve satisfactory adhesion to most metals, plastics, glass etc. it is necessary to use 'Silcoset Primer' (see separate publication)

Property	Test Method	Value
Uncured Product		
Colour:		White
Appearance:		Viscous liquid
Viscosity:	Brookfield	10000 mPa.s
Pot life:		50 minutes *

* measured at 23+/-2°C and 65% relative humidity.

Cured Elastomer

(after 7 days at 23+/-2°C and 65% relative humidity)

Tensile Strength:	BS903 Part A2	1.10 MPa
Elongation at Break:	BS903 Part A2	175 %
Modulus at 100% Strain:	BS903 Part A2	0.83 MPa
Hardness:	ASTM D 2240-95	45° Shore A
Specific Gravity:	BS 903 Part A1	1.19
Linear Shrinkage:		0.45 %
Thermal Conductivity:		0.20 W/mK
Coefficient of Thermal Expansion:		
Volumetric		800 ppm / °C
Linear		267 ppm / °C
Min. Service Temperature:		-60°C
Max. Service Temperature:	AFS 1540B	220°C

Electrical Properties

Volume Resistivity:	ASTM D-257	$5.8 \times 10^{13} \Omega \cdot \text{cm}$
Dielectric Strength:	ASTM D-149	20 kV/mm
Dielectric Constant at 1MHz:	ASTM D-150	3.4
Power Factor at 1MHz:	BS903 Part C3	5×10^{-3}

All values are typical and should not be accepted as a specification.

Health and Safety – Material Safety Data Sheets available on request

Packages - Silcoset 105 is supplied in 1kg,5kg,25kg and 200kg containers

The catalyst CA28 is supplied with the kit in sufficient quantity to cure the base. IF extra is required it is available in 100ml bottles

Storage and Shelf Life – Expected to be 9 months in unopened containers, below 40°C.

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