

SILCOSET® 101 2-Part Moulding Rubber

Introduction

Silcoset® 101 is a two-part, pourable, brick-red liquid silicone rubber which, with the addition of CA28, cures at room temperature to form a resilient, high temperature resistant silicone rubber.

Silcoset® 101 remains flexible over the temperature range -60°C to 250°C, with short periods up to 300°C; making it ideal for low melt metal alloy casting.

It possesses excellent weathering resistance, is resistant to oxidation and to many oils and chemicals and exhibits very good electrical properties.

Silcoset® 101 is approved under the UK Ministry of Defence Air Materials Specification DTD 900, for use in the following applications:

- Caulking and sealing of aircraft.
- Potting and encapsulating electrical and electronic components.
- General moulding and high temperature encapsulant / potting compound.

The approval reference numbers are DTD 900/4721 and AFS 1980.

Use and Cure Information

How to Use

Mixing

Silcoset® 101 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 Silcoset® 101 liquid being used. As a guide, 150g of Silcoset® 101 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® 101 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® 101 by weight.) Alternative bulked catalysts are available and details are given on the individual technical data sheets.

The information and recommendations in this publication are to the best of our knowledge reliable. However nothing herein is to be construed as a warranty or representation. Users should make their own tests to determine the applicability of such information or the suitability of any products for their own particular purposes. Statements concerning the use of the products described herein are not to be construed as recommending the infringement of any patent and no liability for infringement arising out of any such use is to be assumed.

Property	Test Method	Value
Uncured Product		
Colour:		Red
Appearance:		Viscous liquid
Viscosity:	Brookfield	40000 mPa.s
Pot Life:		60 minutes *
De-mould time		4 hours *
* measured at 23+/-2°C and 65% relative humidity.		
Cured Elastomer		
(after 7 days cure at 23+/-2°C and 65% relative humidity)		
Tensile Strength:	BS903 Part A2	4.77 MPa
Elongation at Break:	BS903 Part A2	131 %
Modulus at 100% Strain:	BS903 Part A2	4.18 MPa
Tear Strength:	BS903 Part A3	8.10 kN/m
Hardness:	BS903 Part A26	61 ° IRHD
Specific Gravity:	BS 903 Part A1	1.50
Linear Shrinkage:		0.41 %
Thermal Conductivity		0.37W/mK
Coefficient of Thermal Expansion:		
Volumetric		708 ppm / °C
Linear		236 ppm / °C
Min. Service Temperature:		-60 °C
Max. Service Temperature:	AFS 1540B	250 °C

Electrical Properties

Volume Resistivity:	BS903 Part C2	1.51x10 ¹⁴ Ω.cm
Electrical Strength	BS903 Part C4	20 kV/mm
Power Factor at 1MHz:	BS903 Part C3	2.5x10 ⁻³
Permittivity	BS903 Part C3	3.1

Health and Safety - Material Safety Data Sheets available on request.

Packages – Silcoset® 101 is supplied in 1 kg, 5 kg, 25 kg and 200 kg bulk containers. CA28 is supplied with the kit in sufficient quantities to cure the base

Storage and Shelf Life – Silcoset® 101 is expected to be 7 months in original, unopened containers below 30°C. and CA28 is expected to be 24 months in original unopened containers below 30°C.

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