

Silcoset 101 2-Part Moulding Rubber

Introduction

Ambersil 'Silcoset' 101 is a two-part, liquid silicone rubber which with the addition of 'Silcoset' Curing Agents - cures at room temperature to form a resilient, high temperature resistant silicone rubber.

Ambersil 'Silcoset' 101 is a pourable, brick-red liquid which gives a superior balance of physical properties when compared with most other silicones RTV 2-part rubbers.

Ambersil 'Silcoset' 101 remains flexible over the temperature range -60°C to 250°C, with short periods up to 300°C. It possesses excellent weathering resistance, is resistant to oxidation and to many oils and chemicals and exhibits very good electrical properties.

Ambersil '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 Silcoset Curing Agent A 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.

Property

Uncured Product

Property	Test Method	Value
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 %
Coefficient of Thermal Expansion:		
Volumetric Linear		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.

Curing Agent A is supplied in 30 ml, 100 g and 1 kg containers.

Storage and Shelf Life – Silcoset 101 is expected to be 6 months in original, unopened containers below 30°C. Curing agent A is expected to be 12 months in original unopened containers below 30°C.

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