

Silcoset® 101

2 Part condensation cure silicone encapsulant high temperature

Introduction

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® 101 is approved under the UK Ministry of Defence Air Materials Specification DTD 900

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

Key Features

- High temperature resistance
- Rolls Royce Aerospace approved
- Ideal for low melt metal alloy casting
- Good flow properties

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® 101 by weight.) Alternative bulked catalysts are available and details are given on the individual technical data sheets.

Health and Safety

Safety Data Sheets available on request.

Packaging

ACC 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
Appearance		Viscous Liquid
Colour A Part		Red
Colour B Part		Clear
Cure Type		Condensation
Max Cure Hrs @ 25 °C		4 hrs
Mix Ratio		100:1
Pot Life mins		60 mins
Rheology		Viscous Liquid
SG A Part	BS ISO 2781	~1
SG B Part	BS ISO 2781	~1
Self Bonding		No
Viscosity A-Part mPas	Brookfield	45000 mPas
Viscosity B-Part mPas	Brookfield	300 mPas
Viscosity Mixed mPas	Brookfield	40000 mPas

Cured product

CTE Linear ppm/°C		236 ppm/°C
CTE Volumetric ppm/°C		708 ppm/°C
Colour		Red
Duro Shore A	ASTM D 2240-95	61
Elongation %	ISO 37	131 %
Linear Shrinkage %		0.41 %
Max Working Temp +°C	AFS_1540B	250 °C
Min Working Temp - °C		-60 °C
Modulus @ 100% Strain MPa		4.18 MPa
SG	BS ISO 2781	1.5
Tear kN/m	BS ISO 34-1	8.1 kN/m
Tensile MPa	ISO 37	4.77 MPa
After 7 days cure at 23°+/-2°C and 60+/-5% humidity		
Thermal Conductivity W/mK		0.37 W/mK
UL 94V-0		No

Storage

Max storage temperature °C	30 °C
Shelf life	7 mths

Electrical properties

Dielectric Strength kV/mm	ASTM D-149	20 kV/mm
Permittivity		3
Power Factor @1MHz		0.0025
Volume Resistivity ohms cm	ASTM D-257	1.51E+14 ohms cm

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