Technical Data Sheet

Silcoset 105

2-part condensation cure silicone encapsulant

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

- Flexible from - 60 to +220°C
- Rolls Royce Aerospace approved
- Good electrical properties
- Resistance to many chemicals

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	Test Method	Value
Uncured product		
Appearance		**Viscous liquid**
Colour A Part		**White**
Colour B Part		**Clear**
Cure Type		**Condensation**
Max Cure Hrs @ 25 °C		**7 hrs**
Mix Ratio		**100:1**
Pot Life mins		**50 mins**
Rheology		**Viscous Liquid**
SG A Part	BS ISO 2781	**1.37**
Self Bonding		**No**
Viscosity A-Part mPas	Brookfield	**10000 mPas**
Viscosity B-Part mPas	Brookfield	**300 mPas**
Viscosity Mixed mPas	Brookfield	**9000 mPas**
Cured product		
After 7 days cure at 23°+/-2°C and 60+/-5% humidity		
CTE Linear ppm/°C		**267 ppm/°C**
CTE Volumetric ppm/°C		**800 ppm/°C**
Colour		**White**
Duro Shore A	ASTM D 2240-95	**45**
Elongation %	ISO 37	**175 %**
Linear Shrinkage %		**0.45 %**
Max Working Temp +°C	AFS_1540B	**220 °C**
Min Working Temp - °C		**-60 °C**
Modulus @ 100% Strain MPa		**0.83 MPa**
SG	BS ISO 2781	**1.19**
Tensile MPa	ISO 37	**1.1 MPa**
Thermal Conductivity W/mK		**0.2 W/mK**
UL 94V-0		**No**
Storage		
Max storage temperature °C		**40 °C**
Shelf life		**9 mths**
Electrical properties		
Dielectric Constant @ 1kHz	ASTM D-150	**3.4**
Dielectric Strength kV/mm	ASTM D-149	**20 kV/mm**
Power Factor @1MHz		**0.005**
Volume Resistivity ohms cm	ASTM D-257	**5.8E+13 ohms cm**

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