TECHNICAL DATA SHEET

Silcoset 105
2 part encapsulation and potting silicone

Description

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

Key Features

- UK MOD approved to DTD 900/4721 and AFS 1980
- Flexible from -60°C/-76°F to +220°C/428°F
- Aerospace approved
- Good electrical isolation properties

Application

General purpose potting compound

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

Property	Test Method	Value
Uncured Product		
Cure Type		**Condensation**
De-mould Time / Full Cure at 23°C/73°F		**7 hrs**
Density A	BS ISO 2781	**1.37**
Density B	BS ISO 2781	**1.10**
Mix Ratio By Weight		**100:1**
Pot Life mins at 23°C/73°F		**50 min mins**
Rheology		**Liquid**
Viscosity Mixed	Brookfield	**9000 cP**
Cured Product		
7 days at 23+/-2°C and 60+/-5% humidity		
100% Modulus (N/mm2)		**0.83 MPa / 120 psi**
CTE Volumetric ppm/°C		**800 ppm/°C**
Color		**White**
Density	BS ISO 2781	**1.19 g/cm3**
Elongation at Break	ISO 37	**175 %**
Hardness IRHD	BS ISO 48	**45**
Linear Shrinkage (%)		**0.45 %**
Max Working Temp		**220 °C / 428 °F**
Min Working Temp		**-50 °C / -58 °F**
Tensile Strength	ISO 40	**1.1 N/mm2 / 160 psi**
Thermal Conductivity		**0.2 W/mK**
Electrical Properties		
Dielectric Constant	ASTM D-150	**3.4**
Dielectric Strength (V/mil)		**508 V/mil**
Dissipation Factor	ASTM D-150	**0.005**
Volume Resistivity (Ohms cm)	ASTM D-257	**5.8E+13 ohms cm**
Storage		
Max Storage Temperature		**40 °C / 104 °F**
Shelf Life		**9 mths**

It is important to check the compatibility in preliminary tests if unknown substrates are used.

Health & Safety

Health and Safety

Safety Data Sheets available on request.

Packaging

CHT Silcoset encapsulants are available in a variety packaging including bulk containers. Please contact our sales department for more information.

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