TECHNICAL DATA SHEET

SE2003
2 PART ENCAPSULATION AND POTTING SILICONE

Introduction

This is a 2-component, silicone elastomer specifically designed for electronic potting and encapsulation applications. It offers good protection against chemicals, environmental contamination, mechanical shock, vibration, and impact damage. It can be applied in areas where low flammability is a prerequisite. The cured elastomer can be repaired. The component parts have relatively low viscosities and are easily mixed either by hand or machine.

Key Features

- Room temperature cure
- Non-corrosive
- Excellent thermal conductivity
- Resistant to reversion
- Low thermal outgassing (ECSS-Q-ST-70-02C)

Use and Cure Information

IMPORTANT:
Component A of product contains the platinum catalyst; great care should be taken when using automatic dosing equipment. Please ensure that it is not contaminated by residual elastomers containing hydride as otherwise curing will result. If in doubt, it's advised to thoroughly purge the equipment with a suitable hydrocarbon solvent or silicone fluid.

Mixing

Both the 'A' and 'B' parts should be well stirred to ensure the material is uniform and any settlements of the fillers have been remixed. Component A should be well stirred to ensure the material is uniform and any settlement of the fillers have been remixed.
Mix the required amounts of A and B by weight at the mix ratio shown above in a clean plastic or metal container of approximately 3 times their volume and mix until the colour of the mixture is uniform. For best results, we recommend degassing. Degas by intermittent evacuation, the larger the volume of the mixing vessel helps prevent overflow during this operation. In case of automatic dosing with static mixing head, the two components should be degassed before processing. Recommended vacuum conditions are 30-50 mbar intermittently over 5-10 minutes. Cast the mixture by gravity or pressure injection.

Property	Test Method	Value
Uncured Product		
Appearance		Viscous liquid
Colour		Brick Red
Color A Part		White
Color B Part		Red
Cure Type		Addition
Self Bonding		No
Viscosity A Part	Brookfield HBTD	40000
Viscosity B Part	Brookfield HBTD	30000
Mixed Viscosity	Brookfield HBTD	35000
Max Cure at 25°C		24 hr
Max Cure at 100°C		30 min
Mix Ratio		1:1
Pot life		60 min
Cured Product ***(after 7 days cure at 23°C +/- 2°C and 50 +/- 5% humidity)***		
CTE Linear		155 ppm/°C
CTE Volumetric		465 ppm/°C
Durometer Shore A	ASTM D 2240-95	80
Specific Gravity	ISO 2781	2.3
Elongation	ISO 37	40%
Linear Shrinkage	ISO 2781	0.1 %
Tensile Strength	ISO 37	3.3 MPa
Youngs Modulus		16.9 MPa
Tear Strength	ISO 34-1	5 kN/m
Thermal Conductivity		1.27 W/mK
Min. Working Temperature	AFS 1540B	-50 °C
Max. Working Temperature	AFS 1540B	250 °C
Electrical Properties		
Dielectric Constant @1kHz	ASTM D-150	6.0
Dielectric Strength	ASTM D-149	22.5 kV/mm
Surface Resistivity	ASTM D-257	1.76E+15 Ohms
Volume Resistivity	ASTM D-257	3.00E+14 Ohms*cm

Storage

Maximum Storage Temperature	40°C
Shelf Life	9 months

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Inhibition of Cure
Great care must be taken when handling and mixing all addition cured silicone elastomer systems, ensuring that all the mixing tools (vessels and spatulas) are clean and constructed in materials which do not interfere with the curing mechanism. The cure of the rubber can be inhibited by the presence of compounds nitrogen, sulphur, phosphorus and arsenic; organotin catalysts and PVC stabilisers; epoxy resin catalysts and even contact with materials containing certain of these substances e.g. moulding clays, sulphur vulcanised rubbers, condensation cure silicone rubbers, onion and garlic. It is absolutely important to check the compatibility in preliminary tests if unknown substrates are used.

Health & Safety
Safety Data Sheets available on request.

Packaging
CHT Silicone Elastomers are available in a variety packaging including cartridges and bulk containers. Please contact our sales department for more information.

Storage and Shelf Life
With proper storage the product will have a shelf life of 9 months when stored at <40°C and protected from frost in a dry place, in original unopened containers.

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