Technical Data Sheet

SE3000
Thermally conductive silicone elastomer

Introduction

SE3000 is a liquid, 2-component, addition-cure silicone system. It cures at ambient or elevated temperature to a moderately hard thermally conductive silicone rubber with a very low viscosity, a low volatile content and provides excellent environmental protection.
SE 2003 is recommended for the encapsulation of highly populated electronic assemblies requiring high flow between the components. It is completely neutral and will not cause corrosion of electrodes and other metal parts.

Key Features

- Thermally conductive
- Low viscosity
- Neutral and non-corrosive
- Low volatility
- Low modulus

Use and Cure Information

Equipment

Vessel, spatulas and stirrers used to mix SE3000A/B must be clean and free from contaminants such as compounds of nitrogen, sulphur, phosphorus which can poison the platinum catalyst.
Catalyst contamination will seriously affect the cure characteristics and at worst can completely inhibit cure.

Mixing

Mix each component part separately using clean equipment to ensure homogeneity.
Charge equal parts by weight or volume of Part 'A' and Part 'B' to a vessel of at least 2 times the total volume and mix until the blend is uniform in colour, avoiding excessive aeration.
The mixture can be readily degassed in a few minutes by intermittent evacuation at reduced pressure (25 to 40 mbar).

Pot Life Extension

The working life of the catalysed rubber can be extended by the addition of controlled amounts of PLE3 (pot life extender) to Part 'A' during the initial premix operation
(see separate Technical Data for PLE3)

Property	Test Method	Value
Uncured Product		
Colour:		
A Part		Light grey
B Part		Orange
Appearance:		Liquid
Mix Ratio:		1:1
SG		
A Part		2.20
B Part		2.20
Viscosity:		
A Part:	Brookfield	2000 mPa.s
B Part:	Brookfield	1900 mPa.s
Mixed:	Brookfield	1950 mPa.s
Pot Life:		50 minutes *

* measured at 23+/-2°C and 50+/-5% relative humidity.

Cured Elastomer (after 24 hours at 23+/-2°C and 50+/5% relative humidity)		
Tensile Strength:	BS903 Part A2	30.81 MPa
Elongation at Break:	BS903 Part A2	30 %
Youngs Modulus:		4.98 MPa
Hardness:	ASTM D 2240-95	40 Shore A
Specific Gravity:	BS 903 Part A1	2.20
Linear Shrinkage:		0.04 %
Thermal Conductivity:	Lees Disc	1.17 W/mK
Coefficient of Thermal Expansion:		
Volumetric		402 ppm / °C
Linear		70 ppm / °C
Min. Service Temperature:		-70 °C
Max. Service Temperature:	AFS 1540B	250 °C

Electrical Properties

Volume Resistivity:	ASTM D-257	1.8E+14 Ω.cm
Dielectric Strength:	ASTM D-149	14 kV/mm
Dielectric Constant at 1MHz:	ASTM D-150	4.34
Dissipation factor at 60 Hz	ASTM D-150	0.0166
Dissipation factor at 1 MHz	ASTM D-150	0.0037
Flame rating (tested by UL, not certified)		UL94V0

Curing Time, 30 ml section at 8 mm depth

Temperature °C	*Time*
23	240 minutes
50	30 minutes
100	6 minutes

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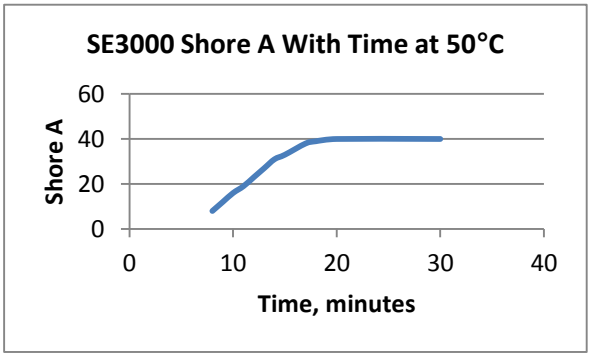

All values are typical and should not be accepted as a specification.

Health and Safety: Detailed advice for the safe handling and disposal of SE3000 is given in the individual product Material Safety Data Sheets, available on request

Adhesion
For enhanced adhesive performance, ACC recommend the use of Primer No. 3; please contact your regional sales manager for more information. Customers are advised to carry out their own tests on clean, degreased substrates to ensure satisfactory adhesion is achieved

Storage: If stored at room temperature in the original unopened sealed containers, the product is expected to have a shelf life of 12 months. The product must be mixed well, using a high torque paddle mixer, or a gyroscopic mixer, before use to disperse sediment.

Packages: SE3000 is supplied in kit form consisting of equal quantities of Parts 'A' and 'B' please discuss with your Regional Sales Manager

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