

SE2011 2-Part Self bonding potting compound

Introduction

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

This silicone elastomer has the benefit of developing chemical adhesion to a variety of substrates and is compatible with many sensitive substrates including copper, brass, steel, aluminium, FR4, and plastics making this an ideal option where fast curing and adhesion are needed without the use of a primer.

Key Features

- Adhesive at room temperature
- Fast curing at room temperature
- Low viscosity
- UL Listed in file No. E334038

Use and Cure Information

The product is supplied as two components 'A' and 'B'. These components should be mixed together in the ratio by weight shown opposite. Mixing can be done by hand or by automated dispensing machine using a static mixer nozzle. A nozzle of at least 9 GXF type elements is recommended for uniform mixing of both components.

The dispensing machine mix ratios should be adjusted if mixing by volume and not weight. **IMPORTANT** the mixed components will cure in the nozzle so to preserve nozzles a continuous process is required or a change of nozzle after the task is completed. Complete mixing of each component is achieved within the first 50-60% of the nozzle.

Mixing

Both the 'A' and 'B' parts should be well stirred to ensure the material is uniform and any settlement of the fillers have been remixed.

Place the required amount of 'A' and 'B' parts by weight at the mix ratio shown opposite, 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 volume of the mixing vessel helps prevent overflow during this operation. In case of automatic dispensing 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 either by gravity or pressure injection.

Complete mixing of each component is achieved within the first 50-60% of the nozzle.

Adhesion

Ensure all substrates are clean and free of surface contaminants. A Solvent degreaser is recommended for metallic substrates and Iso-propanol solvent is recommended for plastics and polycarbonates. A mechanical bond to the substrates will develop shortly after applying. A chemical bond will develop after 24 hours and maximum adhesion is reached after 7 days.

Health and Safety

Safety Data Sheets available on request.

Packaging

ACC Encapsulants are available in a variety of packaging including bulk containers. Please contact our sales department for more information.

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Property

Uncured product

Property	Test Method	Value
Appearance		Black liquid
Colour A Part		Black
Colour B Part		Clear
Cure Type		Condensation
Max Cure Hrs @ 25 °C		2 hrs
Mix Ratio		10:1
Pot Life mins		20 mins
Rheology		Liquid
Self Bonding		Yes
Viscosity A-Part mPas	Brookfield	4400 mPas
Viscosity B-Part mPas	Brookfield	100 mPas
Viscosity Mixed mPas	Brookfield	4000 mPas

Cured product

After 7 days cure at 23° +/-2° C and 50+/-5% humidity

CTE Linear ppm/°C		279 ppm/°C
CTE Volumetric ppm/°C		837 ppm/°C
Colour		Black
Duro Shore A	ASTM D 2240-95	23
Elongation %	ISO 37	270 %
Max Working Temp +°C	AFS_1540B	220 °C
Min Working Temp - °C		-50 °C
SG	BS ISO 2781	1.08
Tensile MPa	ISO 37	0.9 MPa
Thermal Conductivity W/mK		0.2 W/mK

Storage

Max storage temperature °C	40 °C
Shelf life	6 mths

Electrical properties

Dielectric Constant @ 1kHz	ASTM D-150	3.28
Dissipation Factor @ 1kHz	ASTM D-150	0.029
Volume Resistivity ohms cm	ASTM D-257	1.09E+14 ohms cm

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