

Technical Data Sheet

SCCF5 A/B Silicone Encapsulant



SCCF5 is a dual component, room temperature cure material that will cure to form a durable, flexible silicone elastomer that will protect componentry from the effects of harsh environmental conditions.

SCCF5 is a methyl-based silicone material that will increase in volume by a minimum factor of eight during the curing process.

Main product features

- UL94 HBF
- Minimum 8.0 volume expansion silicone elastomer
- Dual component
- Room temperature cure
- Good adhesion to a wide variety of substrates
- Excellent moisture, condensation and water-resistant characteristics
- Low viscosity to aid flow around and under components ensuring full coverage
- Excellent `snap` time
- Good cure time
- Low stress/strain characteristics
- High resistivity
- High resistance to mold growth

Typical applications

- Potting applications that require decreased density
- Applications where overall component weight is a concern
- Applications where low stress/strain on components is required
- Long-term resistance to moisture/water ingress is required

Storage and Shelf Life

Store in a cool, dry place out of direct sunlight with good ventilation. Keep away from sources of ignition. The shelf life of SCCF5 A/B is eighteen months from date of manufacture when stored in the original, unopened containers in monthly average temperatures of between 1°C and 30°C.

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Typical Properties – Guideline only

Property	Unit	Value	
As supplied		Part A	Part B
Colour		Milky White	Transparent
Viscosity @ 23°C	Pa.s	5.0 – 10.0	1.0 – 8.0
Specific Gravity @ 25°C		0.95 – 1.05	0.95 – 1.05
After 1:1 ratio mix of Parts A and B @ 23°C			
Cure Type		Addition	
Colour		White	
Snap Time	sec	60	
Pot Life @ 23°C	sec	120	
Tack-Free Time	sec	300	
Standard Curing Time	hr	24	
Post 24-hour cure @ 23°C			
Density	g/cm ³	0.1	
Hardness (Asker Type C2)		1	
Elongation at Break	%	80	
Tensile Strength	MPa	0.03	
Volume Resistivity	Ω.cm	1.7 x 10 ¹⁵	
Dielectric Constant (50Hz)		1.4	
Dissipation Factor (50Hz)		0.0025	
Thermal Conductivity	W/m.K	0.02	

Ordering Details

Component	Quantity	Order Code	Shelf Life
Silicone Cellular Coating F5 – Part A	20kg Bulk	SCCF5 A	18 months
Silicone Cellular Coating F5 – Part B	20kg Bulk	SCCF5 B	18 months

Directions for Use

SCCF5 A/B are mixed in a 1:1 mix ratio.

Manual Mixing

Mixing can be achieved by vigorously stirring together equal amounts of A and B in a suitable container for a minimum of 30 seconds and then pouring the material into or onto the components to be protected.

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Machine Mixing

It is recommended to use a 1:1 ratio closed system dispensing kit with a dynamic mixer, adjustable mixing element speed and adjustable material dispensing pressure capabilities in order to set the machine parameters to achieve an optimum homogenous blend. Please also ensure you are adhering to the environmental and material conditions required by the material.

Should you require further advice on how to dispense the material please contact us at technical@chilternconnections.co.uk.

Material and Environmental Conditions Recommended:

A material temperature of 23 +/- 1°C, for both component and blended materials should be maintained during processing.

A room temperature of 23 +/- 1°C and well-ventilated and extracted environment to avoid a build up of the hydrogen generated within the atmosphere during the reaction process.

It is recommended not to mix material batches as it may affect the properties of the mixed product.

Reaction by-product

The chemical reaction, which facilitates the expansion of the material, results in the evolution of flammable hydrogen gas. Keep away from sources of ignition.

Adequate atmospheric monitoring and ventilation must be provided for the processing environment, to prevent localized build-up of hydrogen gas concentration.

If Part B of SCCF5 comes into contact with strong acids, bases or oxidizing materials, it could generate hydrogen. Ensure that containers are properly closed after use, to avoid any contamination of the contents.

Also, on mixing, some exotherm accompanies the reaction. Waste material must be handled, stored and disposed of with due regard to this precautionary information. Do not store in plastic bags and large quantities should not be allowed to accumulate.

Inhibition of cure

The following materials are known to inhibit the curing of SCCF5 A/B:

- Ammonia and amines
- Materials containing sulphur
- Materials containing organotin salts
- Chlorides
- Methanol
- PVC stabilizing agents

Substrates must be clean, dry and free of contaminants.

Recommended processing materials are stainless steel and/or PTFE.

We recommend conducting compatibility tests with other materials to ensure SCCF5 curing process remains uncompromised.

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The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health & safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

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