

SCCF6 A/B Expanding Silicone Encapsulant Silicone Cellular Coating F6

SCCF6 A/B is a dual component, fast room temperature cure and self-leveling material. The cured material has an expansion ratio of 3 times that will form a durable, flexible silicone elastomer that will protect componentry from the effects of harsh environmental conditions.

SCCF6's broad range of physical properties are ideal for use in EV/automotive, aerospace, electronics and green technologies applications.

Typical Applications

- Mitigation of fluid ingress
- Thermal runaway/insulation
- Acoustic insulation
- Potting requiring low stress/strain and low additional mass
- Environments requiring flexibility over broad operating temperatures
- Creating in-place gaskets

Features and Benefits

- Approximately 3.0 expansion ratio
- User-friendly, free flowing 1:1 mix ratio
- Fast Curing at room temperature
- Easy to color with common colors for special effect applications
- UL 94 V-0 equivalent rating
- Continuous service temperature range of -40 to 180°C
- Good chemical resistance
- Resistance to UV and ozone degradation
- Excellent moisture, condensation, and water repellent characteristics
- Low hardness (Shore A)
- Adhesion to itself
- Good adhesion to a wide range of substrates (i.e. PBT, Aluminum, Copper and glass)
- Self levelling
- Good oil resistance
- Low toxicity of thermal decomposition products

Storage and Shelf Life

Store in a dry, cool place (1°C to 30°C out of direct sunlight) with good ventilation. Keep away from sources of ignition. The shelf life of SCCF6 A/B is twelve months from date of shipment when stored in the original, unopened containers.

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All information is given in good faith but without warranty. Properties are given as a guide only and should not be taken as specification. Chiltern Connections cannot be held responsible for the performance of its products within any application determined by the customer, who must satisfy themselves as to the suitability of the product.

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ISO 9001:2015

ISO 45001:2018

Technical Data Sheet



Typical Properties – Guideline Only

Property	Unit	Value	
As supplied		Part A	Part B
Colour*		Black or White	White
Viscosity @ 23°C	Pa.s	4.5	6.9
Specific Gravity @ 23°C		1.1	1.1
*Custom colours are available in blue, red, green and yellow			
After mixing Parts A and Part B at 1:1 ratio @ 23°C			
Cure Type		Addition	
Viscosity	Pa.s	8.0	
Working Time (Tack free) @23°C	min	6	
Standard Curing Time	hr	24	
Physical Properties Post 24-hour cure @ 23°C			
Density approx.	g/cm ³	0.4	
Hardness (Shore A)		14	
Elongation at Break	%	120	
Tensile Strength	MPa	0.2	
Volume Resistivity	TΩ.m	4	
Dielectric Strength	kV/mm	15	
Dielectric Constant		2.2@50Hz	
Dielectric Dissipation Factor		5x10 ⁻³ @50Hz	
Thermal Conductivity	W/m.K	0.23	

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Directions of Use

Please use the product in accordance with the safety data sheets.

SCCF6 A/B is mixed in a 1:1 mix ratio.

It is recommended that a Chiltern Connections' dynamic mixing equipment is used to achieve an optimum homogenous blend. The type and degree of mixing and shear can significantly affect the cell structure, cure and density of the final foam product.

If mixing small quantities manually, a thorough mix of each part is required prior to use. Mixing of the two parts can be achieved by vigorously stirring together equal amounts of A and B in a suitable container (minimum 30 seconds) and then pouring the material into or onto the components to be protected.

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

Caution

Batch Management

A and B components may only be used together if they have the same batch number. To ensure optimum expansion, cross-mixing of batches must be avoided.

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 SCCF6 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 SCCF6 A/B:

- Ammonia and amines
- Materials containing Sulphur
- Materials containing organotin salts

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- Chlorides
- PVC stabilizing agents

Substrates must be clean, dry and free of contaminants.

Recommended processing materials are stainless steel and/or PTFE.

If doubts exist, it is recommended to run a test with a small quantity of material in order to assess compatibility. Note that cross contamination due to tools or devices not cleaned well are frequently the main cause of inhibition.

Limited Warranty Information

The information contained herein is offered in good faith and is believed to be accurate.

However, because conditions and methods of use of our products is beyond our control, this information should not be used in substitution for customers' tests to ensure that our products are safe, effective and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

Chiltern Connection's sole warranty is that our products will meet the sales specifications in effect at the time of shipment.

Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

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