

F40 potting foam

Is a two-part, self-blowing silicone foam, that is fast curing at room temperature. It has a low density, low viscosity and high flowability, allowing it to completely self-level. It contains a unique mixture of fillers that make the cured material exceptionally resistant to high-temperature fires, gases, and hot particles, withstanding temperatures up to 1300 °C through its ceramifying technology. It helps to control a thermal runaway event, allowing breakthrough of venting gases whilst protecting surrounding cells from hot particles, reducing the risk of thermal propagation.

Suitable for automated two-component mixing and dosing equipment, including static-dynamic, and dynamic mixing. Detailed information is available on request from your AIS contact. The material is available in 20 litre pails and 200 litre drums.

The primary application of ContraFlame® F40 potting foam is for potting around cylindrical and prismatic battery cells. It provides rebound protection against venting particles to help prevent flames or hot particles getting in contact with other cells to eliminate the risk of a chain reaction. Additionally, the material plays a crucial role in protecting critical areas from mechanical shocks.

Product characteristics

In service performance:

- 100% mica & aerogel free
- Flexible and resistant to vibration
- High continuous in-service temperatures up to 150 °C
- No phase change in the operating temperature range
- Excellent water and chemical resistance
- Highly electrically insulative.

Thermal runaway event performance:

- Protects against temperatures of over 1200 °C
 - Specially designed for cylindrical & prismatic cells
 - Soft venting compatible
 - Allows vent break-through and protects from hot particle rebound
 - Low smoke and toxicity.
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Performance and properties

Property	Standard	Value	Unit
Viscosity Part A	Brookfield	5600	cPs
Viscosity Part B	Brookfield	200	cPs
Mixed viscosity	Brookfield	3000	cPs
Mix ratio (by volume)		10 : 1	-
Mix ratio (by weight)		11.5 : 1	-
Cure time		25 to 30	min
Working time		5 to 10	min
De-moulding time		35 to 40	min
Density cured (nominal)		600	kg/m ³
Density Part A		1100	kg/m ³
Density Part B		980	kg/m ³
Thermal conductivity	ASTM C518	0.18	W/(m K)
Dielectric strength	ASTM D149	2.9	kV/mm

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