

ECCOSTOCK® FFP

One Part Free Flowing Syntactic Foam Powder

Material Characteristics

- Low cost, low loss, and low dielectric constant
- This one-part, epoxy-based, free-flowing powder cures at elevated temperatures to a rigid, non-burning syntactic foam
- ECCOSTOCK® FFP is extremely light weight and provides physical support as well as thermal insulation without increasing the weight or dielectric constant
- ECCOSTOCK® FFP exhibits minimum shrinkage during cure, exerting minimum stress on delicate components
- Cured material can be easily removed with tools enabling access to repair or replace components
- Since cured ECCOSTOCK® FFP is porous, an application of an epoxy coating will reduce moisture absorption
- Shelf life is 6 months if stored in a cool dry place out of direct sunlight at 21 °C (70 °F)

Applications

- ECCOSTOCK® FFP is designed to infiltrate densely populated electronic packages, readily filling available volumes around components. It been used to stabilize crystal oscillators as well as other delicate components that need to be held in place or thermally protected.
- ECCOSTOCK® FFP has also found its way into machinery operating in high vibration environments to keep electrical components from shaking apart

Availability

- ECCOSTOCK® FFP is readily available in pints, quarts, gallons, and 5 gallon containers. Pint and quart containers are also available in squeeze bottles for ease in application

Typical Properties

Appearance	White Powder
Temperature Range, °F (°C)	-85 to 347 (-65 to 175)
Density, kg/m ³ (lb/ft ³)	240 (15)
Compression Strength, kPa (psi)	1000 (150)
Dielectric Constant @ 8.6 GHz	1.25
Loss Tangent @ 8.6 GHz	0.005
Dielectric Strength, volts/mil	64
Thermal Conductivity, (cal)(cm)/(sec)(cm ²)(°C) (BTU)(in)/(hr)(ft ²)(°F)	1.20 x 10 ⁻⁴ 0.35
Volume Resistivity, ohm-cm	3.49 x 10 ¹¹

Instructions For Use

- Refer to the MSDS for full safety information before opening the container. Measures should be taken to avoid any contact with the skin and eyes, and a dust mask or respirator should be used to avoid inhaling the product.
- Mix the ECCOSTOCK® FFP in the shipping container by lightly tumbling or shaking before use, as some components may separate during shipping and storage
- In a well ventilated area, carefully pour the ECCOSTOCK® FFP from a small paper cup or dispense from a squeeze bottle into the device being filled
- Light to moderate vibration is recommended to maximize packing of the ECCOSTOCK® FFP
- ECCOSTOCK® FFP bonds well to itself and most other substrates. Butcher's Wax or a silicone mold release is recommended in applications where removal from a mold is necessary
- Elevated temperature curing of the ECCOSTOCK® FFP is required. Select one of the following recommended curing times and temperatures below:

Cure Times and Temperatures

24 hours at 212°F (100°C)

4 hours at 248°F (120°C)

2 hours at 302°F (150°C)