

C-FOAM™ PK

Rigid foam-in-place liquid polyurethane

Description

C-FOAM™ PK is a two-part liquid resin kit, which is mixed together to expand into a rigid polyurethane foam with good structural and electrical properties.

Available in two grades, PK-2, which expands to approximately 2.5-3 lb/cu ft. and PK-5, which expands to approximately 5-6 lb/cu ft.

C-FOAM™ PK is intended for filling cavities of electronic and microwave devices such as waveguides, instrument housings, and radomes. Encapsulate RF antennas and electronic components.

The liquid material is sensitive to moisture and should be shipped and stored in sealed containers purged with nitrogen.

Availability

C-FOAM™ PK is available as a 16 pound kit, 8 lbs of part A, and 8 lbs of part B, each in a gallon can. It is also available as a 4 pound kit, 2 lbs Part A and 2 lbs part B, each in a quart can. The material is sold by weight, not volume, so the containers will not be completely filled.

When ordering, specify grade and size, for example:

- C-FOAM™ PK-2 16lb KIT
- C-FOAM™ PK-5 4lb KIT

All recommendations, statements, and technical data contained herein are based on tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty, either expressed or implied. User shall rely on his own information and tests to determine suitability of the product for the intended use and assumes all risks and liability resulting from his use of the product. Seller's and manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proves to be defective. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss, or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements other than those contained in a written agreement signed by an officer of the manufacturer shall not be binding upon the manufacturer or seller.

This document has been reviewed by the PPG Aerospace Export Control Department and has been determined to contain only EAR99 controlled data.

Typical properties of cured foam

	PK-2	PK-5
Dielectric constant, 10 GHz:	1.04	1.06
Dissipation factor, 10 GHz:	0.001	0.001
Compressive strength, psi:	30	50
Compressive modulus, psi:	500	800
Thermal conductivity, BTU-in/hr-ft ² -°F:	0.040	0.042
Water absorption, 24hr.:	0.012	0.018
Service Temp, °C (°F):	3.0% max.	-40 to +100 (-40 to +212)

Instructions for use

Mix part A and B together in an equal weight ratio (Part A has a slightly higher density than B), and use agitation such as a mixing propeller. The mixture begins to foam and rise within 30 seconds at room temperature, and should be poured into the cavity without delay. It foams fully within 2-3 minutes and hardens after several minutes. The reaction is exothermic and generates heat.

If filling a closed cavity, calculate the volume and the amount of foam carefully; one can foam to a slightly higher density in a closed cavity, but if there is not enough volume, the expanding foam and CO₂ gas can warp or break the mold. C-FOAM™ PK generates considerable expansion pressure, so closed molds must be sturdy and have vent holes.

The final density of the foam must be determined by experiment; many factors such as ambient temperature and humidity, size of the mixture, and mixing conditions can cause variations in the final expanded density.

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