

CUMING MICROWAVE

Technical Bulletin 390-16

RoHS
Compliant

C-RAM SFC-HC

HIGH POWER BROADBANDED PYRAMIDAL HONEYCOMB RF ABSORBER

C-RAM SFC-HC is a series of high power pyramidal absorbers made from specially treated plastic honeycomb. Using a pyramidal design, which provides an impedance gradient, C-RAM SFC-HC provides premium performance in anechoic chambers at both normal and off-normal incidence angles.

TYPICAL PROPERTIES

Typically, C-RAM SFC-HC absorbers, with no forced air, can handle up to 10 W/in² of RF energy with a phenolic coated honeycomb.

Cuming Microwave's high power C-RAM SFC-HC has been fully tested at high power. A complete test report is available which shows W/in² versus temperature rise in the honeycomb.

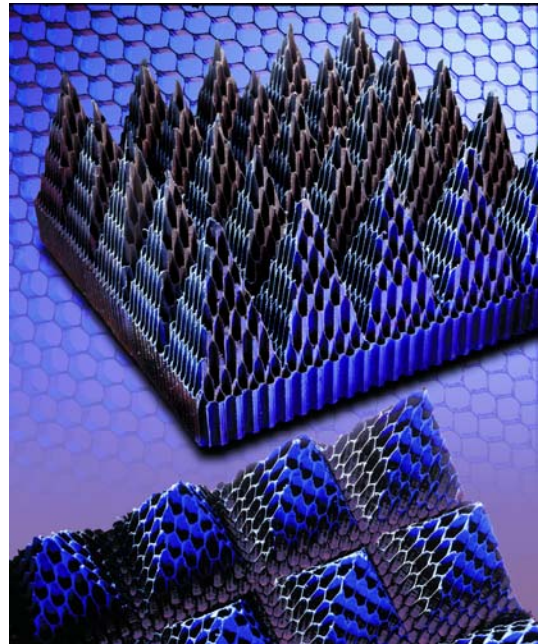
With forced air cooling through the honeycomb cells, power handling is increased as shown in the tables (as tested at 10 GHz):

Phenolic Coating

Air Velocity (Ft./Min.)	Power (W/in ²)
200	20
300	40
400	60
600	80

AVAILABILITY

Standard sizes of C-RAM SFC-HC are listed in Table 1, ranging from a 3¼ inch to 24 inch height. C-RAM SFC-HC-3 up through SFC-HC-24 are shaped as conventional pyramids and supplied as square 24 inch (610 mm) panels.



In addition to simply supplying a bill of materials, Cuming Microwave designs and installs complete anechoic chambers. Chambers can be designed to meet your specifications, and an entire kit of materials is supplied, including factory pre-cuts of special fitting parts. We can install all materials or supply technical support to help you complete your own installation.

Custom sizes 48" to 72" in height are made in two or three sections held together with a couple of polymer threaded rods 1/8" dia., using polymer washer and nuts.

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METHOD OF APPLICATION

SFC-HC honeycomb absorber pieces are generally installed in a chamber using mechanical fasteners. Plastic screws and washers can be screwed into the valleys between pyramids to hold pieces, or nylon cable ties can be used. In small test boxes, the absorbers can be cut slightly oversize and press-fit into place. Contact our engineering

staff to discuss various options depending upon your application.

Larger absorbers are most easily mounted on an open grid, using mechanical fastening

TABLE 1
PHYSICAL CHARACTERISTICS AND
TYPICAL REFLECTIVITY AT NORMAL INCIDENCE

GRADE	HEIGHT In. (mm)	WEIGHT Lbs. (kg)	TIPS PER PIECE	REFLECTIVITY AT FREQUENCY (GHz)							
				0.12	0.3	0.5	1.0	3.0	6.0	10	18
SFC-HC-3	3¼ (82)	2.25 (1.0)	256				12	25	30	35	38
SFC-HC-4	4 (109)	3 (1.4)	144				20	25	30	40	40
SFC-HC-5	5 (127)	3.3 (1.5)	144								
SFC-HC-6	6 (152)	3.5 (1.6)	100				23	28	35	40	45
SFC-HC-8	8 (203)	4.5 (2.0)	64			21	25	32	40	45	45
SFC-HC-12	12 (305)	6 (2.7)	36			24	30	35	40	45	45
SFC-HC-18	18 (457)	12 (5.4)	16			27	34	38	42	45	45
SFC-HC-24	24 (610)	16 (7.2)	9			30	35	40	44	45	45
SFC-HC-48	48 (1220)	32 (14.4)	4		30	34	38	43	45	45	45
SFC-HC-72	72	48 (21.5)	1	24	33	38	43	45	45	45	45

The information in this technical bulletin, although believed to be accurate, is not to be taken as a warranty for which Cuming Microwave assumes legal responsibility, nor as permission or recommendation to practice any patented invention without license. It is offered for verification by the customer, who must make the final judgment of suitability for any application.

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