

C-RAM™ HC

Lightweight, high power, broadband honeycomb RF absorber

Description

C-RAM™ HC is a series of high power radar absorbing material made from Nomex/phenolic honeycomb with a proprietary lossy coating, available in three different types listed below.

The hexagonal open cell structure provides a high strength-to-weight ratio, making C-RAM™ HC an ideal material for aircraft parts, such as fairings, covers, and leading edges, which must combine strength, light weight, and low radar reflections.

C-RAM™ HC is also ideal for cavity backed spiral antenna applications. The open cell structure permit forced air cooling, allowing high-power applications. On special order, skins can be applied on the C-RAM™ HC material, typically fiberglass material.

C-RAM™ HC with no forced air can handle up to 10 W/in² of RF energy, Power handling can be increased with forced air cooling through the material cells.

Availability

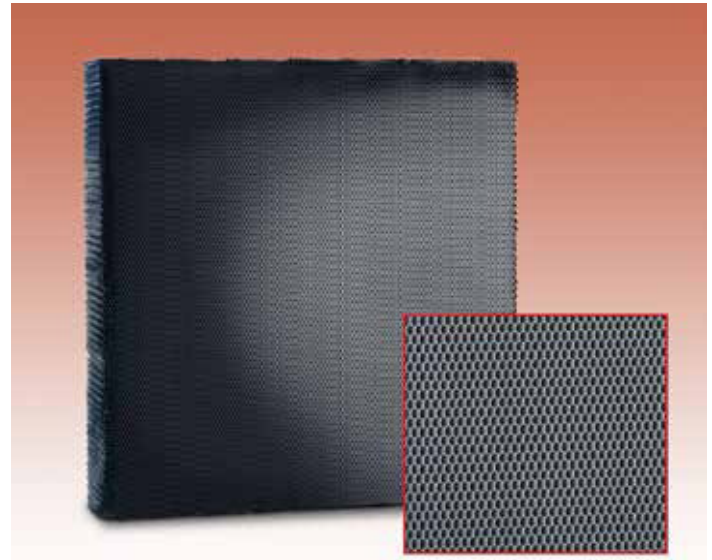
- Standard sheet size is 12"x12" or 24"x24".
- Standard thicknesses are:
- 0.500, 0.625, 0.750, 1.000, 2.000, 3.000 and 4.000 inches.
- Standard cell size is 3/16 inch (1/8 and 1/4 inch cell size is also available upon request)
- C-RAM™ HC can be supplied in other
- Sizes, thickness or per customer specified configurations upon request.

Applications

Depending on the type of C-RAM™ HC, it can be used in free space reflectivity reduction applications or in isolation of components or antennas by means of insertion loss.

Typical Properties

Nominal density:	4.5 lbs./ft ³
Insertion loss:	from 2 to 30 dB/inch
Reflectivity:	15 dB minimum, 20 dB avg. over range.
Temperature range:	-65 to +400 °F



C-RAM™ HC Types

C-RAM™ HCGR X/Y:

Gradient loaded flat sheets with reflectivity as follows, where X = thickness and Y= reflectivity.

0.500"	-15 dB minimum 10GHz to 18 GHz
0.750"	-15 dB minimum 8 GHz to 18 GHz
1.000"	-15 dB minimum 6 GHz to 18 GHz

C-RAM™ HCGI X/Y:

Gradient loaded flat sheets with insertion loss tuned to customer requirements, where X = thickness in inches and Y = insertion loss in dB/inch. Maximum insertion loss is 20 dB/inch. Note that, for instance, a .75 inch sheet specified with 20 dB/in, will have an insertion loss of 15 dB (.75 x 20)

C-RAM™ HCUI X/Y:

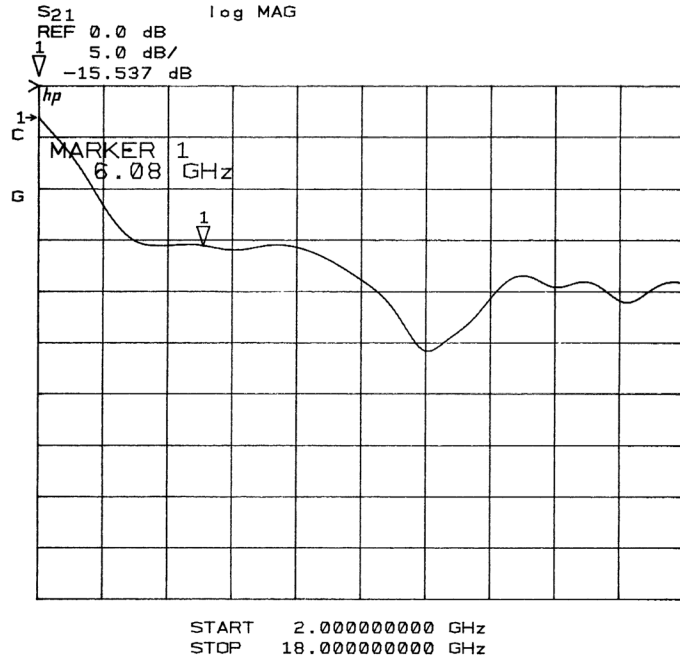
Uniformly loaded flat sheets with insertion loss tuned to customer requirements, where X = thickness and Y = insertion loss in dB/inch. Maximum insertion loss is 30 dB/inch.

Note: pyramidal and wedge-shaped Honeycomb absorbers are also available, see data sheet for C-RAM™ SFC-HC.

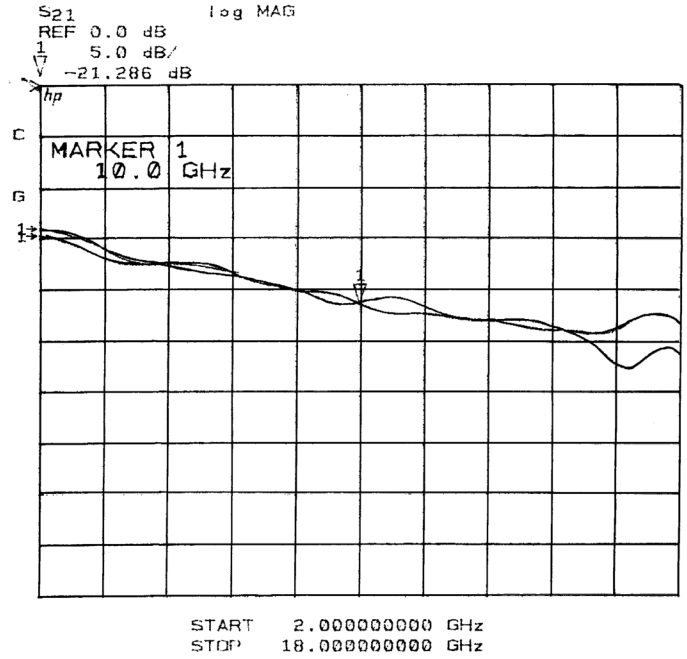
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**Figure 1. Typical Reflectivity of C-RAM™ HCGR
1.00/15 3/16" cell, 1.00 inch thick**



**Figure 2. Typical Insertion Loss of C-RAM™
HCGI 1.00/20, 3/16 " cell, 1.00 inch thick**



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.

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