

C-RAM™ SFC-MP

Pyramidal absorber for medium power applications

Description

C-RAM™ SFC-MP is a series of very high-performance pyramidal absorbers capable of handling medium-power densities. It is an open cell, porous material, and is used in anechoic chambers or test environments where RF power densities will be higher than the standard C-RAM™ SFC can withstand.

Without forced air cooling, the material can typically handle 2 W/in² (1100 V/m) continuously. Depending on the dimensions of the absorber and the wavelength of RF power, this may cause the internal temperature to rise to 200–230°F (93–110°C). It can see short exposures to 2.5 W/in² (1250 V/m), which can cause a temperature rise to 250°F (120°C). This is a safe temperature, but could shorten the material life span over time.

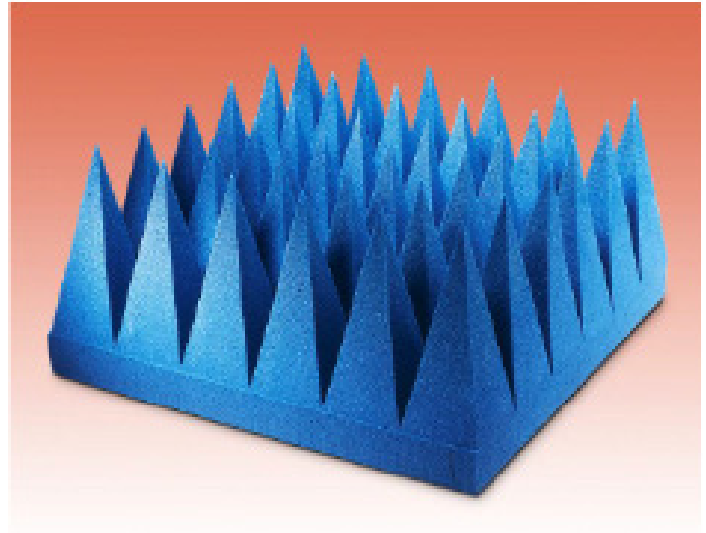
C-RAM™ SFC-MP is dimensionally equivalent to the corresponding grades of C-RAM SFC. The reflectivity characteristics are similar to those of C-RAM™ SFC.

C-RAM™ SFC-MP meets all the fire retardancy requirements of NRL Specification 8093 tests 1, 2, and 3.

Availability

C-RAM™ SFC-MP is available in heights of 6, 8, 12, 18, 24, and 36 inches tall, corresponding in geometry to the equivalent grade of C-RAM™ SFC.

C-RAM™ SFC-MP is available in standard base dimensions of 24 in x 24 in (610 x 610 mm). Custom sizes can be produced as well.



Applications

C-RAM™ SFC-MP is readily installed using a solvent-based neoprene contact adhesive, just as C-RAM™ SFC would be. It can also be installed with Velcro (grades up to 24). For this option, a sheet of Velcro pile is bonded to the entire back surface of the piece, and Velcro hook is supplied in rolls to apply to the substrate surface.

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Table 1

Physical characteristics and typical reflectivity at normal incidence, dB
(minimum reflectivity at normal incidence, dB)

Grade	Height In. (mm)	Weight Lbs. (kg)	0.1	0.3	0.5	1	3	6	10	18	36*	50*
SFC-MP-6	6 (152)	3.5 (1.6)					-35 (-30)	-50 (-35)	-50 (-35)	-50 (-35)	-50 (-42)	-50 (-42)
SFC-MP-8	8 (203)	5 (2.3)				-33 (-30)	-38 (-30)	-50 (-35)	-50 (-35)	-50 (-38)	-50 (-42)	-50 (-42)
SFC-MP-12	12 (305)	7 (3.1)				-40 (-30)	-48 (-30)	-52 (-35)	-55 (-40)	-55 (-40)	-50 (-42)	-50 (-42)
SFC-MP-18	18 (457)	10 (4.5)			-33 (-25)	-43 (-32)	-50 (-35)	-55 (-40)	-60 (-42)	-55 (-42)	-50 (-42)	-50 (-42)
SFC-MP-24	24 (610)	12 (5.4)	-7 (-7)	-30 (-30)	-37 (-28)	-45 (-35)	-50 (-40)	-57 (-45)	-60 (-45)	-55 (-45)	-50 (-44)	-50 (-44)
SFC-MP-36	36 (914)	19 (8.6)	-20 (-20)	-33 (-33)	-45 (-31)	-50 (-42)	-55 (-45)	-57 (-45)	-60 (-45)	-55 (-45)	-50 (-44)	-50 (-44)

Notes: SFC-MP has been characterized at 36* and 50* GHz but is not routinely measured at these frequencies. For sizes smaller than 6" and taller than 36", please inquire to our technical sales group at cmcsales@ppg.com

Table 2

Typical reflectivity (bistatic) at off-normal incidence
(multiply numbers in chart by dB values in Table 1)

Absorber height in wavelength	Off-normal angle (0° = normal, 90° = grazing)							
	45°	50°	55°	60°	65°	70°	75°	80°
4.0	1.00	0.95	0.86	0.75	0.70	0.60	0.51	0.43
2.0	0.90	0.82	0.74	0.66	0.58	0.49	0.42	0.34
1.0	0.72	0.65	0.58	0.50	0.44	0.37	0.31	0.25
0.5	0.48	0.43	0.37	0.31	0.25	0.20	--	--

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.

Printed in the U.S.A.

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Made in the USA
Issue Date: 08/24
Supersedes: 07/24
Lit: #4895