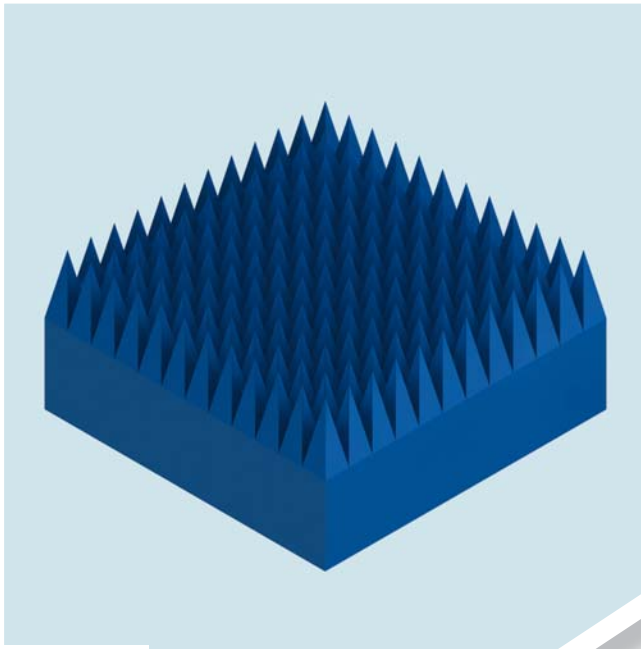


Low Frequency Absorbers - AEP-EM Series



AEP-12-EM

➤ Applications:

- Low frequency measurement in medium size chambers
- Multiple reflection and resonant condition reduction

➤ Key features:

- High loss at low frequency
- Minimum thickness
- Stackable to build temporary wall
- Allows for greater repeatability

➤ Shape:

- Pyramidal

➤ Frequency band:

- From 30 MHz to 1000 MHz

➤ Standard base size:

- 2' x 2' (60.96 cm x 60.96 cm)

➤ Height:

- 12" to 48" (30.5 cm to 121.9 cm)

➤ Operating conditions:

- Temperature: 70° F +/- 10° (21° C +/- 3°)
- Relative humidity: 55 % RH +/- 15 %

➤ Indoor/outdoor:

- Indoor

➤ Related certifications:

- NRL 8093 – 1, 2, 3

➤ Ordering code:

- AEP-XX-EM, where XX designates absorber height in inches

1/ Description

Low Frequency absorbers should be used in order to reduce the multiple reflection and resonant conditions typical in shielded rooms at frequencies from 30 MHz to 1000 MHz. The use of these materials allows for greater repeatability of tests performed within a shielded room. Due to the extremely long wavelength at 30 MHz, conventional pyramidal absorbing materials must be extremely thick because the performance of the absorber drops off rapidly as the material becomes less than one quarter wavelength in thickness. In order to minimize this roll off and improve the overall loss characteristics, AEMI has developed low frequency absorber using special materials. These materials have proven to be extremely effective in medium size shielded rooms.

2/ A unique graded dielectric approach

The EM material is essentially a pyramidal front material properly loaded to match successive layers of graded dielectric foam. This design allows for the proper matching of the material to free space by initially providing a tapered impedance match through the pyramidal front.

After the energy has entered the material, it is then suc-

cessively passed on to higher and higher dielectrically loaded layers which enhance the energy dissipation characteristics. It is through this gradual change in dissipation that high loss at low frequencies can be achieved.

The design of this graded dielectric approach provides the user with 33% more lossy dielectric material than the use of conventional pyramidal material of equal size. This added dielectric material provides increased performance at low frequencies. The graded design also increases the wide angle performance of these products with respect to conventional pyramidal materials. Typical performance increases at normal incidence are 3-6 dB and 6-10 dB at wide angles.

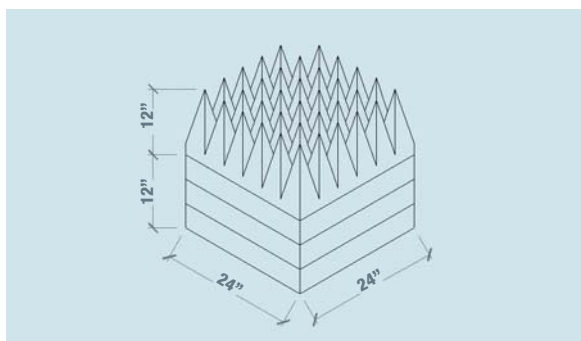
3/ A high flexibility of use

Another feature of this series is its ability to be stacked. This allows the engineer to provide a temporary wall of absorptive material for the elimination of hot spots in a shielded facility. This mobility also gives the freedom to alter the test environment whenever conditions and requirements change. Resonance of the shielded cavity can be altered at will by the proper placement of this series of absorbers.

4/ Specifications

		AEP-12-EM	AEP-18-EM	AEP-24-EM	AEP-36-EM	AEP-48-EM
Height	in	12	18	24	36	48
	cm	30.5	45.7	61	91.4	121.9
Absorption @ Normal Incidence	@ 30 MHz				6	9
	@ 50 MHz			8	12	16
	@ 100 MHz	9	11	14	21	27
	@ 250 MHz	19	21	26	30	34
	@ 500 MHz	26	29	32	36	39
	@ 1000 MHz	32	35	38	41	44
Weight	lbs/pc.	10	16.5	17	27	36
	kg/pc.	4.5	7.5	7.7	12.2	16.3

AEP-24 EM mechanical drawing



**Increase durability & lifespan
by adding our rubberized coating!**

For more information, see page 32