Ea EMI MICROWAVE ABSORBERS

LEADER TECH
a HEICO company

EMI/RFI Board, Enclosure, Cable Shielding and Thermal Solutions

MICROWAVE ABSORBER - EMI/RF ABSORBER - RAM - FLEXIBLE FERRITE

Leader Tech's absorbing products are utilized to attenuate microwave energy from 500 MHz to 80 GHz. The unwanted electromagnetic energy is converted into a miniscule amount of heat.

Absorbers are composed of either iron-infused silicone or carbon-coated polyurethane foam. Greatest performance is achieved when absorber thickness is comparable to a quarter of the wavelength of the offending frequency.

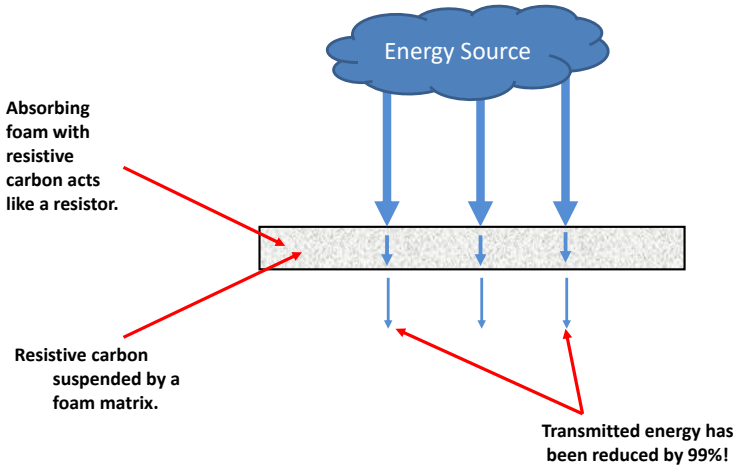
ABSORBER COMPARISON CHART

Parameters	Tuned	Cavity Resonance	Low Profile	Lossy	Reticulated	Pyramidal
Binder	Silicone	Silicone	Silicone	Polyurethane Foam	Polyurethane Foam	Polyurethane Foam
Filler	Iron	Iron	Iron	Carbon	Carbon	Carbon
Moisture Resistant	Yes	Yes	Yes	No	No	No
Attenuation Level	Excellent	Very Good	Fair	Good	Good	Good
Design Flexibility	Very Good	Very Good	Excellent	Good	Fair	Fair
Standard Format	Sheet	Sheet	Roll	Sheet	Sheet	Sheet
Die/Kiss Cut Option	Yes	Yes	Yes	Yes	Yes	No
Cost	$$	$$	$$	$	$	$
Lead Time	Very Good	Excellent	Excellent	Excellent	Excellent	Excellent

FORMAT OPTIONS: SHEET - DIE CUT - KISS CUT

LOSSY FOAM
RETICULATED
PYRAMIDAL

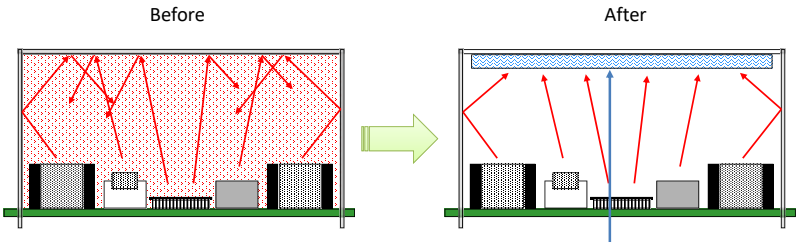
How do foam based absorbers work?



NARROWBAND
WIDEBAND
CAVITY RESONANCE

Cavity Resonances

(Spurious Harmonics, Noise Spurs, Cavity Oscillations)



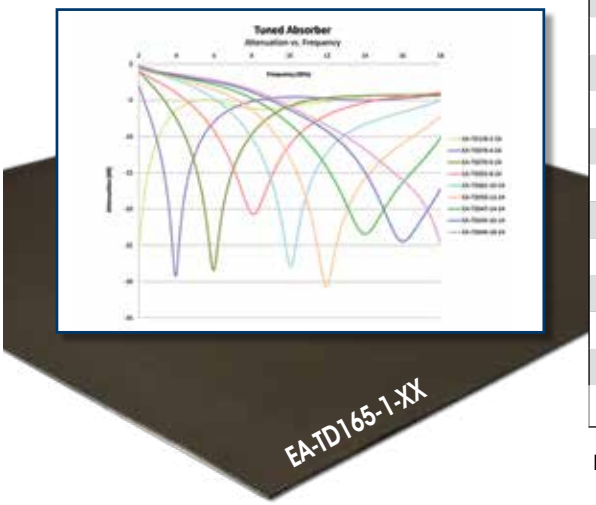
Totally enclosed by metallic conductors, have a physical size that can cause them to resonate at a discrete frequency or multiple frequencies.

Absorber will change the Q of the cavity disrupting the energy and dampening the resonance

NARROWBAND

TUNED

Tuned – In addition to our off the shelf Tuned absorber series (1-18 GHz), Leader Tech can customize absorbers for discrete frequencies (1.3 GHz, 6.5 GHz, 10.9 GHz, etc.) by modifying the thickness and formulation at no additional cost. Tuned absorbers offer the highest amount of performance, providing an average of 20-30 dB of attenuation.



Part Number	PSA	Base	Thickness (in.)	Frequency
EA-TD175-0.9-XX	Yes	Silicone	0.175	0.9 GHz
EA-TD165-1-XX	Yes	Silicone	0.165	1 GHz
EA-TD128-2-XX	Yes	Silicone	0.128	2 GHz
EA-TD095-3-XX	Yes	Silicone	0.095	3 GHz
EA-TD078-4-XX	Yes	Silicone	0.078	4 GHz
EA-TD081-5-XX	Yes	Silicone	0.081	5 GHz
EA-TD070-6-XX	Yes	Silicone	0.070	6 GHz
EA-TD062-7-XX	Yes	Silicone	0.062	7 GHz
EA-TD053-8-XX	Yes	Silicone	0.053	8 GHz
EA-TD072-9-XX	Yes	Silicone	0.072	9 GHz
EA-TD065-10-XX	Yes	Silicone	0.065	10 GHz
EA-TD060-11-XX	Yes	Silicone	0.060	11 GHz
EA-TD056-12-XX	Yes	Silicone	0.056	12 GHz
EA-TD051-13-XX	Yes	Silicone	0.051	13 GHz
EA-TD047-14-XX	Yes	Silicone	0.047	14 GHz
EA-TD045-15-XX	Yes	Silicone	0.045	15 GHz
EA-TD043-16-XX	Yes	Silicone	0.043	16 GHz
EA-TD041-17-XX	Yes	Silicone	0.041	17 GHz
EA-TD046-18-XX	Yes	Silicone	0.046	18 GHz

Note: XX = sheet size, available in 12" x 12" and 24" x 24" XX = 12 for 12" x 12" XX= 24 for 24" x 24"

CAVITY RESONANCE

Cavity Resonance – Off the shelf absorber that targets specific frequency increments when exact frequency is unknown. Cavity resonance absorbers typically provide 15-25 dB of attenuation.

Features & Properties

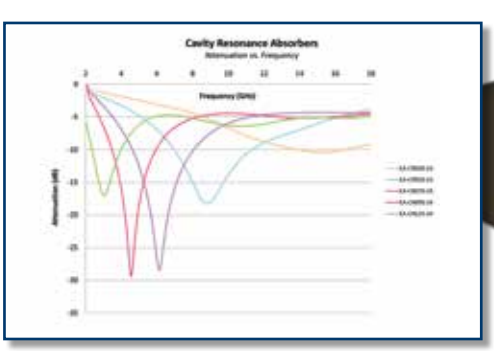
- Magnetically loaded silicone
- High Reflection Loss when mounted to a conductive surface
- Operating Temp: -60 F to 375 F (-51 C to 191 C)
- Flammability Rating : UL94 V-0
- Hardness: Shore A 60-80
- Halogen Free

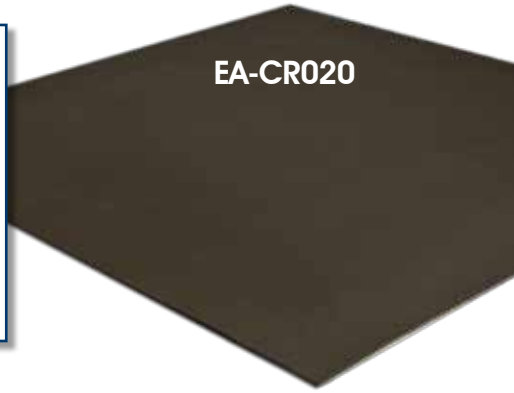
Common Applications:

- Antenna Cross Talk Reduction
- Radar Cross Section Reduction
- Instrument Housings
- Aircraft Seals/Ducts
- Cavity Resonance
- Inside EMI Shields
- Traveling, Creeping, Surface Wave Reduction

Part Number	PSA	Base	Thickness (in.)	Frequency
EA-CR020-XX	Yes	Silicone	0.020	14-18 GHz
EA-CR030-XX	Yes	Silicone	0.030	13-17 GHz
EA-CR040-XX	Yes	Silicone	0.040	9-12 GHz
EA-CR050-XX	Yes	Silicone	0.050	6-11 GHz
EA-CR060-XX	Yes	Silicone	0.060	5-9 GHz
EA-CR070-XX	Yes	Silicone	0.070	4-7 GHz
EA-CR080-XX	Yes	Silicone	0.080	3-7 GHz
EA-CR090-XX	Yes	Silicone	0.090	2-5 GHz
EA-CR100-XX	Yes	Silicone	0.100	2-5 GHz
EA-CR125-XX	Yes	Silicone	0.125	1-3 GHz

Note: XX = sheet size, available in 12" x 12" and 24" x 24" XX = 12 for 12" x 12" XX= 24 for 24" x 24"





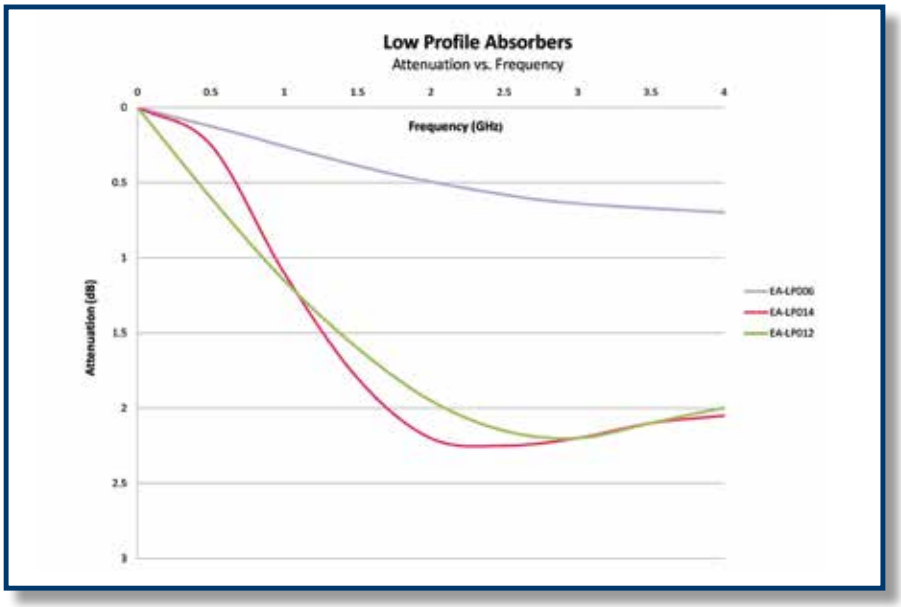
WIDEBAND

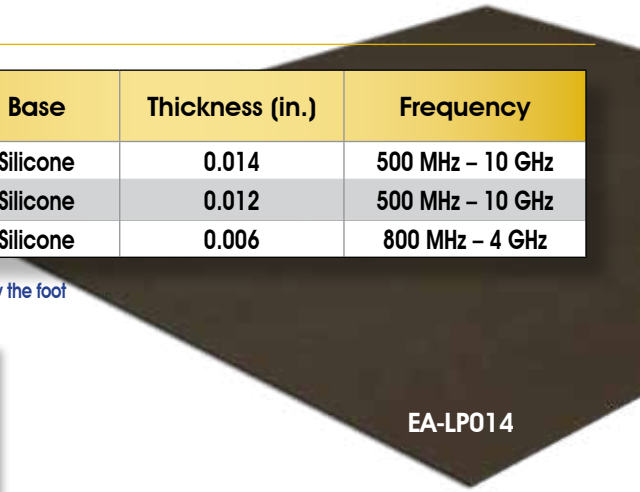
LOW PROFILE

Low Profile – Slender, flexible absorber that can easily be added to an array of applications with little or no design modification.

Part Number	PSA	Base	Thickness (in.)	Frequency
EA-LP014	Yes	Silicone	0.014	500 MHz – 10 GHz
EA-LP012	Yes	Silicone	0.012	500 MHz – 10 GHz
EA-LP006	Yes	Silicone	0.006	800 MHz – 4 GHz

*Low Profile Material comes on rolls, available by the foot





Features & Properties

- Magnetically loaded silicone
- High Power Loss when mounted to a conductive surface
- Operating Temp: -13 F to 194 F (-25 C to 90 C)
- Hardness: Shore A 75-85

Common Applications:

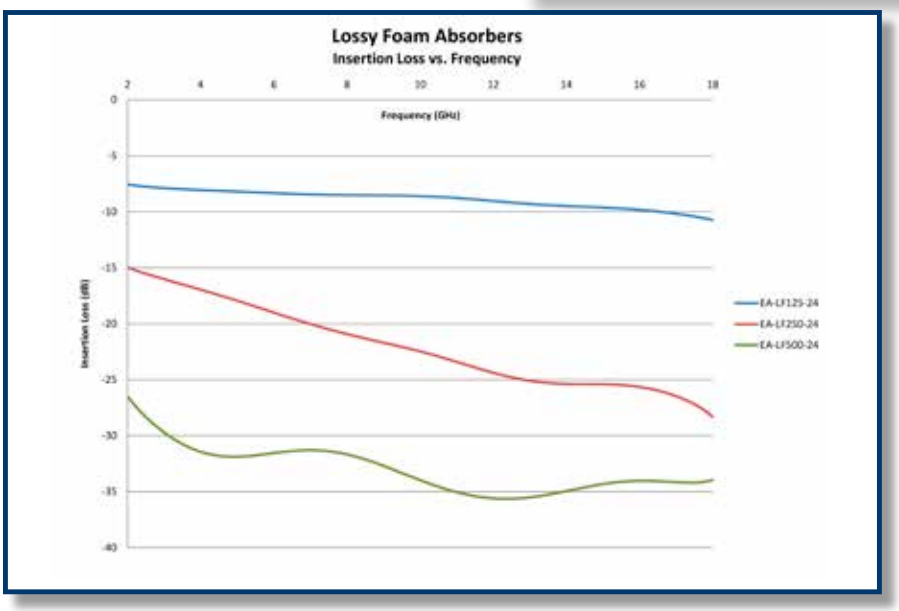
- Inside EMI Shields
- Mobile & Digital Devices

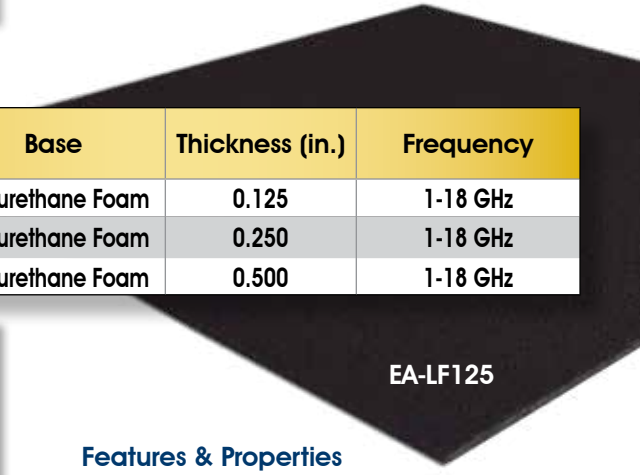
LOSSY FOAM

Lossy Foam – Lowest cost solution for attenuating a wide range of frequencies.

Note: XX = sheet size, available in 12" x 12" and 24" x 24"
XX = 12 for 12" x 12" XX= 24 for 24" x 24"
*Thicker material available by request.

Part Number	PSA	Base	Thickness (in.)	Frequency
EA-LF125-XX	Yes	Polyurethane Foam	0.125	1-18 GHz
EA-LF250-XX	Yes	Polyurethane Foam	0.250	1-18 GHz
EA-LF500-XX	Yes	Polyurethane Foam	0.500	1-18 GHz





Features & Properties

- Dielectrically loaded polyurethane foam
- High insertion loss when mounted to a nonconductive surface
- Operating Temp: -60 F to 250 F (-51 C to 121 C)
- Flammability Rating: UL94-HF1 available
- Halogen Free

Common Applications:

- Antenna Isolation
- Sidelobe/Backlobe Reduction
- EMI Reduction
- Radar Cross Section Reduction
- Test Boxes

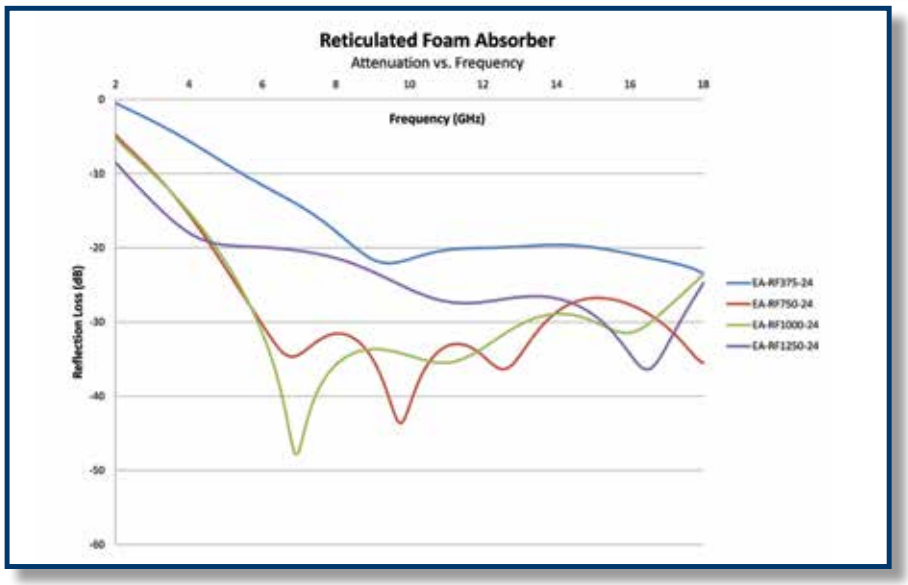
WIDEBAND

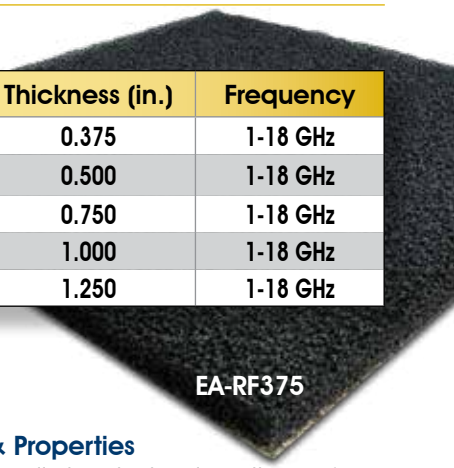
RETICULATED

Reticulated Foam – Open-cell, light weight, low cost solution which can be used as an air filter as well as an EMI absorber.

Note: XX = sheet size, available in 12" x 12" and 24" x 24"
XX = 12 for 12" x 12" XX= 24 for 24" x 24"

Part Number	PSA	Base	Thickness (in.)	Frequency
EA-RF375-XX	Yes	Polyurethane Foam	0.375	1-18 GHz
EA-RF500-XX	Yes	Polyurethane Foam	0.500	1-18 GHz
EA-RF750-XX	Yes	Polyurethane Foam	0.750	1-18 GHz
EA-RF1000-XX	Yes	Polyurethane Foam	1.000	1-18 GHz
EA-RF1250-XX	Yes	Polyurethane Foam	1.250	1-18 GHz





Features & Properties

- Dielectrically loaded polyurethane foam
- High reflection loss when mounted to a conductive surface
- Operating Temp:
  -60 F to 250 F (-51 C to 121 C)
- Flammability Rating: UL94-HF1 available
- Halogen Free

Common Applications:

- Antenna Isolation
- Sidelobe/Backlobe Reduction
- EMI Reduction
- Radar Cross Section Reduction
- Test Boxes

PYRAMIDAL

Pyramidal Foam - Gradual transition of impedance through the cones provides excellent reflection loss, specifically when applied to the walls of anechoic chambers.

Part Number	PSA	Base	Thickness (in.)	Frequency
EA-PF1500-XX	Yes	Polyurethane Foam	1.500	1-18 GHz
EA-PF3000-XX	Yes	Polyurethane Foam	3.000	1-18 GHz

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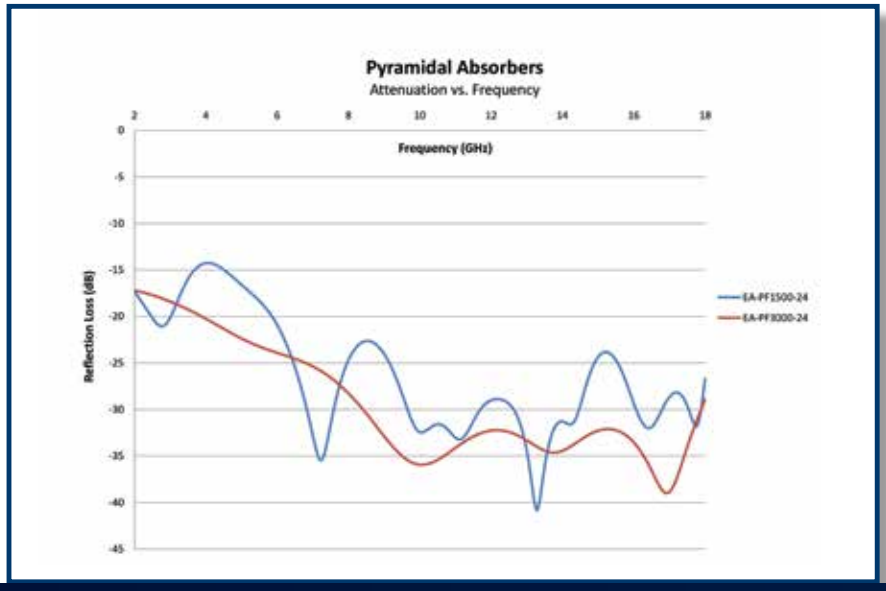

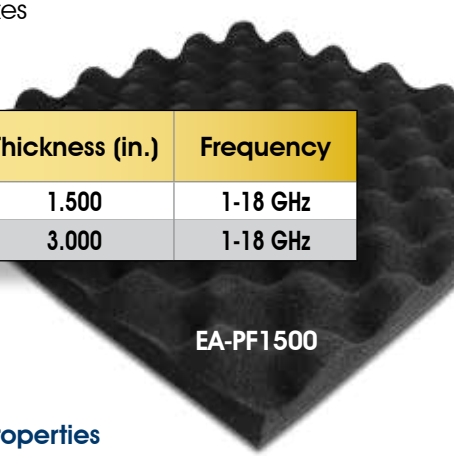

Features & Properties

- Dielectrically loaded polyurethane foam
- High reflection loss when mounted to a conductive surface
- Operating Temp:
  -60 F to 250 F (-51 C to 121 C)
- Flammability Rating: UL94-HF1 available
- Halogen Free

Common Applications:

- Antenna Isolation
- Sidelobe/Backlobe Reduction
- EMI Reduction
- Radar Cross Section Reduction
- Test Boxes

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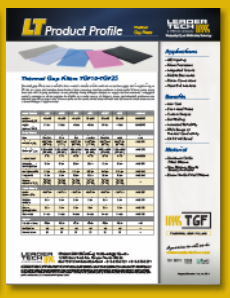
ISO 9001: 2015 CERTIFIED RoHS COMPLIANT

Products and Capabilities



Thermal Gap Fillers

Conductive Elastomers

Enclosure Shielding

FerriShield Ferrites

Board Level Shielding

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