MWT Materials Inc.
Providing RF Control Solutions

90 Dayton Avenue
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Tel +1 973-928-8300
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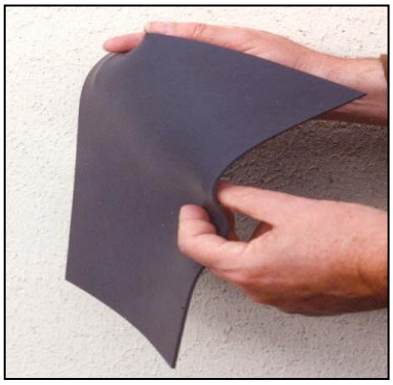
MAS-200 Series

MagRAM RF Absorbers



MAS-200 series are thin, flexible resonant absorbers which are available for frequencies within the 0.9 GHz to 16.0 GHz frequencies range. Center frequency absorption is approximately -25 dB and bandwidth is typically 10%. Product is formulated using custom magnetic active fillers.

The product is tuned by varying the loading and thickness of these MagRAM (Magnetic Radar Absorbing Material) sheets, allowing for attenuation of the RF signal at the desired frequency.

MagRAM materials are significantly thinner than equivalent electrical absorbers, but correspondingly heavier due to their high active magnetic filler load. The fillers are fully encapsulated in a urethane (MAS-200 Urethane) or silicone (MAS-200 Silicone) resin system. Our most popular version is made with the urethane binder as this version has the best mechanical and bonding properties. The silicone version has the advantage of is its large range of service temperatures (350° F [177°C] continuous with short term exposures to higher temperatures). Both versions are impervious to water and may be used outdoors.

Typical Applications:

- Suppression of extraneous reflections within electronics enclosures
- Reduction of stray RF radiation in an antenna compartment
- To decrease the RCS of objects
- Fabrication into tapered shapes for impedance matching in wave guide or micro strip application

Features:

- Urethane (MAS-0200 Urethane) or Silicone (MAS-200 Silicone) based materials available
- Impervious to water
- Standard sheet size is 24 x 24 inches (61 x 61 cm)
- Thickness varies according to desired resonant frequency

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Other Physical Properties:

Properties	Test Methods	Values
Color	ASTM-D-794	Grey
Service temperature (°C)		-55 to 165
Nominal dimensions (cm)	ASTM-D2240	30.5 x 30.5
Nominal hardness (share A)	ASTM-D-412	73
Nominal tensile strength (Mpa)	ASTM-D-412	3
Nominal elongation (%)	ASTM-D-624	30
Nominal tear strength (N/mm)	ASTM-D-2214	1.2
Thermal conductivity (W/m.K)		0.8
Power handling (W/cm^2)	ASTM-D-570	0.5 maximum
Water absorption (24 hr) (%)	DIN 4102	<0.04
Fire retardancy		B2

Part Number Suffix versus Thickness
(Suffix denotes absorber resonant frequency):

Suffix	Nominal Thickness (mm)	Density (g/cc)
-0.95	6.0 mm	4.6
-2.0	4.0	4.0
-2.5	4.0	4.0
-3.0	4.0	4.0
-3.5	4.0	4.0
-4.0	4.0	4.0
-4.5	3.7	3.2
-5.0	3.0	3.2
-5.5	3.0	3.2
-6.0	3.0	3.2
-6.5	2.5	3.2
-7.0	2.5	3.2
-7.5	2.5	3.2
-8.0	2.5	3.2
-8.5	2.0	3.2
-9.0	1.5	3.2
-9.5	1.5	3.2
-10.0	1.5	3.2
-10.5	1.5	3.2
-11.0	1.5	3.2
-12.0	1.5	3.2
-13.0	1.5	3.2
-14.0	1.5	3.2
-15.0	1.5	3.2
-16.0	1.5	2.4