

## MAC-8101

### Flexible Low Frequency Microwave Absorber



Based upon MWT Materials proprietary technology, our electrical absorbers utilize circuit analog technology to provide high absorption in a physically thin package. Our MAC-8101 quilted textile product utilizes this process, allowing for broadband performance in packages under 0.25 inch (0.64 cm) thickness. Our thin and easy to handle MAC-8101 RF flexible low frequency microwave absorbing material affords significant savings in labor and space when compared to traditional pyramidal foam RF absorbers. It contains an RF reflective ground plane to reject outside EMF and layers of microwave absorbing materials to maintain RF suppression inside the area being treated.

This unique high performance EMF absorbing material can be tuned to provide broadband microwave suppression with a minimum of -15 dB Absorption from 0.5 to 5 GHz.

MAC-8101 is available with a variety of outer covers to handle various environmental conditions. From indoor (PVC outer cover) to outdoor environments (UV Stabilized acrylic coated nylon) to extreme conditions (Hypalon coated Kevlar), our products have been shown to withstand the test of time, yielding repeatable performance for over 15 continuous years with rough handling.

#### APPLICATIONS

- Reduction of signal reflection in RFID Portals
- Extraneous Reflection Reduction on Outdoor Antenna Test Ranges
- Extraneous Reflection Reduction on RCS Test Facilities
- Wideband EMI Reduction
- PIM Reduction Issues

#### FEATURES

- Minimum of -15 dB Absorption from 0.5 to 5 GHz
- Single Sided, Low Band RF Absorption
- Good Flexibility
- Corrosion Resistant
- Durable Outer Surfaces
- High Wear
- Tear Resistant
- High Tensile Strength
- POL (Petroleum, Oil, Lubricant) Resistant



**Custom Truck Cover**



**Custom Part**

**Installation:** The product is supplied with a choice of attachment options at no extra charge. They include Delrin D-rings or grommets as well as Velcro. Outdoor rated epoxy adhesives have been used successfully as well.

**General Specifications**

- Construction:** Single sided absorber composite flexible panel, consisting of resistive materials, separators and ground plane. Encapsulated in a durable waterproof outer cover of PVC or urethane.
- Thickness:** Typically 0.25 inches (0.64 cm)
- Weight:** Typically less than 0.5 lbs. per square foot (2.4 kg/m<sup>2</sup>)
- Color:** Black is standard (Other colors available: Gray, White, etc.)

**Mechanical Properties**

- Effects of Liquids Oil:** No adverse effects after 1000 hours (ASTM-B-117)
- Effects of Liquids, Water:** Less than 6% increase in volume (ASTM-D-471)
- Hydrostatic Resistance:** No water leaks after 20-min/15 psi (ASTM-D-751)
- Thermal Stability:** Range of -40°F to 160°F
- Low Temperature Impact:** -20°F, 1.5 ft. lbs., and no adverse effects
- Thermal Cycles:** 10 cycles, 1 hr/-20°F - 1 hr/70° F, no adverse effects
- Visual Defects:** Uniform surface texture and appearance
- Hazardous Material:** None

**Electrical Properties**

**Electrical Performance:**

**Attenuation:**

Greater than -15dB in the frequency range of 0.8 to 5 GHz (this attenuation is from normal incidence up to 45°).

Performances are stated in either polarization.

**Isolation:**

In excess of -85 dB

