

High-Loss, Thin, Elastomeric Microwave Absorber



HIGH-LOSS ELASTOMERIC ABSORBER

Eccosorb MCS is a thin, flexible, high-loss, magnetically loaded, electrically non-conductive silicone rubber sheet. It is designed for the frequency range from 800 MHz to 18 GHz. The material is impervious to moisture and can be subjected to high altitudes with no adverse effects. Being a silicone based absorber, it has low out-gassing properties for space applications.

FEATURES AND BENEFITS

- High power performance
- Low outgassing properties
- High magnetic loss

MARKETS

- Commercial Telecom
- Security and Defense
- Automotive and Industrial Electronics

SPECIFICATIONS

TYPICAL PROPERTIES	ECCOSORB MCS
Frequency Range (GHz)	0.8 to 18
Max Service Temperature °C (°F)	170 (338)
Fire Retardancy	UL94 V-0
Hardness (Shore A)	>80
Volume Resistivity (ohm-cm)	2×10^8
Weight kg/m ² (lbs/ft ²)	4.4 (0.9)
Relative Impedance	0.66 – 0.23
Tensile Strength (MPa)	>3.5
Elongation (%)	>20
Dielectric Strength (volts/mil)	>20
Outgassing (%TML) (%CVCN)*	0.3/0.05

Data for design engineer guidance only. Observed performance varies in application. Engineers are reminded to test the material in application.

* Outgassing data per ASTM E595-07; criteria for acceptability is 1.00% TML and 0.10% CVCN.

APPLICATIONS

- When placed within a cavity, Eccosorb MCS has proven to be very effective at dampening resonances due to the absorbers high permittivity and permeability as well as high loss values, which in turn reduces the overall VSWR.
- It is designed for the suppression of surface currents over a wide range of frequencies.
- It can be used for the suppression of creeping waves and reduction of cavity resonances in microwave modules.
- It is also useful in reducing RF coupling of antennas and microwave components.

AVAILABILITY

- Standard sheets are 305 x 305mm (12"x12"), standard thickness is 1 mm (.040")
- It can be supplied with a Pressure Sensitive Adhesive (PSA)
- Eccosorb MCS is available in other sizes, thicknesses and customer specified configurations upon request.

INSTRUCTIONS FOR USE

- Eccosorb MCS is designed to function directly in front of a metallic surface.
- The material can be bonded by use of an RTV silicone based adhesive in conjunction with a suitable primer.
- To obtain a strong bond of the absorber to the object, the metallic surface should first be thoroughly cleaned with a degreasing solvent.
- Eccosorb MCS can be readily cut with a sharp knife and template.
It is a very flexible material and conforms to contoured surfaces.

Typical Attenuation Eccosorb MCS

