



**Product
Bulletin**

400-03

MICROSORB MTT-S

**FLEXIBLE TRANSMISSION LINE HIGH-LOSS MAGNETIC ABSORBER,
SILICONE**

GENERAL DESCRIPTION

MICROSORB MTT-S is a filled silicone rubber sheet material having a high magnetic loss. It is used for terminations, loads, and attenuators in waveguides, coaxial lines, and antenna elements. It can also be used for lowering the Q of cavities and eliminating unwanted resonances.

MICROSORB MTT-S is cut readily with a sharp knife, and can be sawed, ground, or otherwise machined to complex shapes. Since it is ferromagnetic, it is easily held in place during machining with magnetic chucks. It is flexible and can be bonded to contoured surfaces. Because it is flexible, **MICROSORB MTT-S** can withstand temperature cycling when bonded to metals. The material has good thermal conductivity and can be used to dissipate heat, including that generated by its own magnetic loss mechanism.

APPLICATION

The normal method of applying **MICROSORB MTT-S** to a substrate is with a silicone RTV adhesive. For best results, the substrate should be scuffed with sandpaper, wiped with alcohol to remove dust and grease, and with a silicone primer.

The silicone adhesive can be brushed or rolled onto the substrate, and then the part is bonded to the substrate. An overnight cure is generally required, and a modest temperature cycle, such as a few hours at 150 F will strengthen the bond.

- **MICROSORB Technologies** offers the addition of Pressure Sensitive Transfer Adhesive on the back surface, for ease of application.
- Fabrication of material into shapes to specific drawing requirements.

SPECIFICATIONS

Specific Gravity:	4.0
Hardness, Shore A	75
Thermal Conductivity (BTU)(in)/(hr)(ft ²)(°F) (cal)(cm)/(sec)(cm ²)(°C)	6.0 0.0021
Thermal Expansion per °C:	6 x 10 ⁻⁵
Water Absorption, % 24 Hours	<0.1
Flammability:	non-flammable
Service Temperature, °F (°C)	-65 to +400° (-55 to 200°)
Dielectric Strength, v/mil (kv)/mm	>100 (>400)
Volume Resistivity, ohm-cm	>10 ¹⁰

PROPERTY	MICROSOR B MTT-S-117	MICROSOR B MTT-S-124
RELATIVE IMPEDANCE (Z/Z ₀)	0.3	0.4
ATTENUATION, dB/cm Frequency, GHz		
1.5	2.9	5.6
3.0	11.0	20.0
8.5	46.0	63.0
10.0	50.0	69.0

SIZES MICROSORB MTT-S is available in sheet 12" x 12". Standard thicknesses available are: 0.020", 0.030", 0.060", 0.125", 0.180", 0.250", 1.00". Microsorb offers custom thicknesses.