



**Product  
Bulletin**

**300-05**

**MICROSORB FDS**

**SILICONE RUBBER, FERRITE LOADED ABSORBER**

**GENERAL DESCRIPTION**

**MICROSORB FDS** is a thin silicone rubber sheet stock that exhibits high loss at UHF frequencies. It is recommended for uses such as: to modify antenna patterns, lower the suppression in a cavity, in transmission line applications, and modify the radar cross section of targets. It is not intended to be used as an absorber for specular reflections.

**MICROSORB FDS** is thin and flexible and will conform to complex curves. It can be cut to shape by die-cutting, water-jet or cut with a sharp knife. Being based on a silicone rubber, it will resist weathering and moisture.

**MICROSORB FDS** has a high magnetic loss tangent and perform wells in the 900 MHz to 4.0 GHz cellular frequency band. It exhibits low out-gassing properties.

**APPLICATION**

The normal method of applying **MICROSORB FDS** to a substrate is with a silicone based adhesives or with pressure sensitive adhesives. For best results, the substrate should be prepared using normal process such as scuffing the surface with sandpaper, clean with alcohol to remove dust and grease, and use of a silicone primer if using an RTV adhesive. The silicone adhesive is applied to the substrate, and then the part is bonded to the substrate with pressure. A 12-hour cure is recommended. To strengthen the bond, an elevated temperature cure at 150°F for 3 hours is recommended.

- ❖ **MICROSORB Technologies** offers the addition of Pressure Sensitive Transfer Adhesive on the back surface, for ease of application.
- ❖ Also we offer fabrication of material according to your specific drawing requirements.

**SPECIFICATIONS**

Weight, lbs/ ft <sup>2</sup> (kg/m <sup>2</sup> )	0.4 (2)
Hardness, Shore A	60
Thermal Conductivity (BTU)(in)/(hr)(ft <sup>2</sup> )(°F) (cal)(cm)/(sec)(cm <sup>2</sup> )(°C)	6.0 0.002
Flammability	non-flammable
Dielectric Strength, v/mil	275
Volume Resistivity, ohm-cm	> 10 <sup>11</sup>
Service Temperature, °F (°C)	65 to +400 (-50 to +200)

PROPERTY	Frequency		
	1.0	3.0	8.5
Dielectric Constant, K'	13.0	8.9	7.4
Dielectric Loss Tangent, tan	0.15	0.07	0.15
Magnetic Permeability, K' <sub>m</sub>	2.25	1.65	1.375
Attenuation, dB/cm	3.0	9.0	16.0
Relative Impedance, Z/Z <sub>0</sub>	0.4	0.5	0.5

**SIZES**

**MICROSORB FDS** is available in sheet 12" x 12" Standard thicknesses available are:

- Thickness and weight:
- 0.030" (0.75mm)-- 0.41 lb/ft<sup>2</sup> (2.0 kg/m<sup>2</sup>)
  - 0.060" (1.52mm)-- 0.82 lb/ft<sup>2</sup> (4.0 kg/m<sup>2</sup>)
  - 0.125" (3.18mm) -- 1.68 lb/ft<sup>2</sup> (8.1 kg/m<sup>2</sup>)

Microsorb offers custom thicknesses. Please contact your **MICROSORB** Customer Service Department to discuss your specific requirement.