



32 Mechanic Avenue Unit 211 • Woonsocket RI 02895
 Tel. 401-767-2269
 Fax 401-767-2255
 www.microsorbtech.com
 E-mail: engineer@microsorbtech.com

**Product
Bulletin**

500-02

**MICROSORB MTC-S
CASTABLE IRON LOADED RF ABSORBER**

GENERAL DESCRIPTION

MICROSORB MTC-S is a series of RF iron-loaded kits which can be used to mold waveguide terminations, attenuators, loads, and other RF absorbing parts. When cured into a solid, these parts have the same properties as parts machined from bars or blocks of **MICROSORB MTSS** (see Technical Data Sheet 400-02).

MICROSORB MTC-S is available in the same range of iron loadings as **MICROSORB MTSS**. In general, best performance is obtained at lower frequencies with high iron loadings, whereas low loadings work best at higher frequencies. **MICROSORB MTC-S -117** and **-124** are the preferred materials below 20 GHz.

APPLICATION

1. Prepare mold or cavity to be filled. **MICROSORB MTC-S** will adhere to most silicones and will not adhere to most other substrates. If adhesion is required, use a thin coat of silicone primer. Follow directions of manufacturer. In molding operations where the highest release is required, a wax mold release works well.
2. Kits are supplied as Part A & Part B. Stir the contents of Part A & B thoroughly, preferably using a power mixer, to disperse settled filler before removing material.
3. Measure out the material required, by weight:

GRADE	PART A	PART B
MTC-S-116	100	1.70
MTC-S-117	100	1.30
MTC-S-124	100	1.08
4. Mix Parts A and B together. Power mixer is recommended. Clean sides and bottom of container during mixing, to ensure complete mix.
5. Best results are obtained by de-airing the mixture. Pour the material into the prepared mold or cavity taking care not to entrap air.
- 5) Cure the material at 77°F (25°C) overnight, or at 175°F (80°C) for three hours. At usage temperatures above 250°F (120°C), a post cure at or above the usage

SPECIFICATIONS

<u>GRADE</u>	<u>SPECIFIC GRAVITY</u>
501-116	3.7
501-117	4.2
501-124	4.5

Other grades are available, upon request.

Hardness, Shore A	75
Thermal Conductivity (dependent on grade& filler loading) (BTU)(in)/ (hr) (ft ²) (°F) (cal)(cm)/(sec)(cm ²)(°C)	6 - 7 0.0021 – 0.0024
Water Absorption, % 24 Hours	<0.1
Dielectric Strength, v/mil (kv)/mm)	>10 (>4)
Volume Resistivity, ohm-cm	>10 ¹⁰
Service Temperature, °F (°C)	-40 to 400 (-40 to 204)

SIZES

MICROSORB MTC-S is available in the following Kits (total weight):

- 3 lb. pint (1.35 kg total weight)
- 6 lb. quart (2.7 kg total weight)
- 25 lb. gallon (11.3 kg total weight).

Pre-weighed kits are available upon request.

Shelf life is at least 12 months when stored in unopened containers. It may be necessary to power stir the contents as settling may occur.

- 5) Continued-temperature for approximately eight hours is recommended. Do not exceed the service temperature.

Warranty: This information is, to the best of Microsorb Technologies knowledge, accurate as of the date indicated. This information relates only to the specific materials designated herein and is not intended for the application or use of the materials with any other materials or in any process. The information is intended as a general guide only and does not constitute a warranty or representation whatsoever and **MICROSORB TECHNOLOGIES HEREBY DISCLAIMS ALL EXPRESS AND IMPLIED WARRANTIES ARISING FROM THE USER'S RELIANCE ON OR USE OF THIS INFORMATION.**
 Rev 2 042407



32 Mechanic Avenue Unit 211 • Woonsocket RI 02895
 Tel. 401-767-2269
 Fax 401-767-2255
 www.microsorbtech.com
 E-mail: engineer@microsorbtech.com

Permittivity and Permeability of MICROSORB MTC-S

Properties at 1.0 GHz						Properties at 10.0 GHz					
GRADE	e'	e''	m'	M''	dB/cm		e'	e''	m'	m''	dB/cm
501-116	17	1.2	3.0	0.39	1.30		16	0.96	1.5	1.0	32
501-117	28	2.5	4.1	0.82	2.8		21	0.42	1.1	1.7	56
501-124	32	2.6	5.0	2.3	6.5		23	0.71	1.5	2.1	67

MICROSORB MTC-S is safe to use, provided care is taken to protect eyes and avoid excessive skin contact and breathing of vapors. Consult the Materials Safety Data Sheet for details.

Warranty: This information is, to the best of Microsorb Technologies knowledge, accurate as of the date indicated. This information relates only to the specific materials designated herein and is not intended for the application or use of the materials with any other materials or in any process. The information is intended as a general guide only and does not constitute a warranty or representation whatsoever and MICROSORB TECHNOLOGIES HEREBY DISCLAIMS ALL EXPRESS AND IMPLIED WARRANTIES ARISING FROM THE USER'S RELIANCE ON OR USE OF THIS INFORMATION.
 Rev 2 042407