



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**

**500-01**

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

**GENERAL DESCRIPTION**

**MICROSORB MTC-E** is a series of castable resin 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 MTS** (see Technical Data Sheet 400-02).

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

**PROPERTIES:**

Hardness, Shore D	85
Thermal Conductivity	
(BTU)(in)/ (hr) (ft <sup>2</sup> ) (°F)	8.70
(cal)(cm)/(sec)(cm <sup>2</sup> ) (°C)	.003
Water Absorption, % 24 Hours	<0.1%
Dielectric Strength, v/mil (kv)/mm	>100 (>400)
Volume Resistivity, ohm-cm	>10 <sup>11</sup>
Service Temperature, °F (°C)	-40 to 350 (-40 to 180)
Tensile Strength, psi (kg/cm <sup>2</sup> )	8,000 (560)

**SPECIFICATIONS**

<u>GRADE</u>	<u>SPECIFIC GRAVITY</u>
501-112	2.1
501-114	2.9
501-116	3.7
501-117	4.2
501-124	4.5

**Sizes:**

**MICROSORB MTC-E** 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-measured kits are available upon request.

**Permittivity and Permeability of MICROSORB MTC-E**

Properties at 1.0 GHz						Properties at 10.0 GHz					
GRADE	e'	e''	m'	M''	dB/cm	GRADE	e'	e''	m'	m''	dB/cm
MTC-E-112	6	0.24	1.4	0.03	0.16	MTC-E-112	4.8	0.19	1.1	0.25	5.6
MTC-E -114	11	0.55	2.1	0.17	0.57	MTC-E -114	9.7	0.49	1.1	0.44	13.2
MTC-E -116	17	1.2	3.0	0.39	1.30	MTC-E -116	16	0.96	1.5	1.0	32
MTC-E -117	28	2.5	4.1	0.82	2.8	MTC-E -117	21	0.42	1.1	1.7	56
MTC-E -124	32	2.6	5.0	2.3	6.5	MTC-E -124	23	0.71	1.5	2.1	67

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.



32 Mechanic Avenue Unit 211 • Woonsocket RI 02895

Tel. 401-767-2269

Fax 401-767-2255

[www.microsorbtech.com](http://www.microsorbtech.com)

E-mail: [engineer@microsorbtech.com](mailto:engineer@microsorbtech.com)

## APPLICATION:

1. Prepare mold or cavity to be filled. **MICROSORB MTC-E** will adhere well to most surfaces; therefore, if adhesion is not desired, mold surfaces must be coated with a release agent such as wax or silicone grease.
2. Kits are supplied as Part A (resin) & Part B. (hardener plus filler). Stir the contents of both containers to disperse any settled filler. Material may be heated to 150°F prior to stirring, to reduce viscosity.
3. Measure out the required amounts of material.  
Combine Parts A and B in equal quantities by either weight or volume. Mix together, preferably using a power mixer. Again, keeping the mixture warm helps the homogeneity of the mix. Pot life @ 150°F is between one and two hours.
4. Best results are obtained by first degassing the **MICROSORB MTC-E** under vacuum. Pour the mixture into the mold, taking care to avoid trapping air.
5. Cure the material in an oven at 212°F for 8 hours, minimum. Allow to cool gradually before removing from mold. For large castings cure at 175°F for 10-12 hours followed by 200°F for 4 hours.

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 042507