

High Temperature, Two-Part Castable Load Absorber

HIGH TEMPERATURE TWO PART CASTABLE LOAD ABSORBER

Eccosorb CR500 is a castable resin series that, when fully cured, will duplicate the physical and electrical properties of its counterpart in the Eccosorb® MF500 series. For example, Eccosorb® CR500-117 is the equivalent to Eccosorb® MF500-117. Frequency range from 1 - 18 GHz. Low out-gassing properties for space applications.

FEATURES AND BENEFITS

- High temperature
- Low outgassing

MARKETS

- Commercial Telecom
- Security and Defense

SPECIFICATIONS

TYPICAL PROPERTIES	ECCOSORB CR500
Service Temperature °C (°F)*	<260 (<500)
Density (g/cc)	1.6 to 4.6
Outgassing*	
(%TML) (cured CR500-124)	.163
(%CVCM) (cured CR500-124)	.074

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

**Eccosorb CR500 can be used for short periods at 260°C (500°F) permitting use at high power levels. Exposure to high temperatures should be limited. Slow change in physical and electrical properties occurs at temperatures above about 177°C (350°F).*

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

APPLICATIONS

- Eccosorb CR500 can be used to mold waveguide terminations, attenuators, and loads to size.

AVAILABILITY

- Eccosorb CR500 is available in six castable versions, CR500-110, CR500-112, CR500-114, CR500-116, CR500-117 & CR500-124.
- Eccosorb CR500 is supplied as a two-part system consisting of a Component X and Component Y in 2 pound (quart) and 5 pound (gallon) kits.
- Shelf life is approximately 6 months when stored unmixed in a well sealed container at temperatures no higher than 25°C (77 °F).

INSTRUCTIONS FOR USE

- Prepare mold by applying a thin coat of butchers wax.
- Mix Part X in its shipping container to a uniform consistency before removing any material
- If crystals appear in Part Y, gently heat to 65°C (150 °F) until crystals go into solution
- Weigh out the desired amounts of both Part X and Part Y in accordance with the table below.
- Heat Part X to about 65°C (150 °F). This will reduce the viscosity substantially and improve pourability.
Note: in an effort to drop viscosity do not dilute with any chemical as this would alter the electrical performance of the material.
- Thoroughly blend Part X and Part Y. Remove entrapped air, if necessary, by vacuum evacuation.
- Pour into mold (pot life at 65°C (150 °F) is about 1 hour) and cure per the below schedule. The mold is also preferably preheated to about 65°C (150 °F).
- Clean up can be done with a solvent such as MEK.

- Unlike Eccosorb CR or CRS, Eccosorb CR500 requires a 4-step cure cycle to achieve its high temperature properties.

Cure cycle is as follows:

- > 8 hours at 93°C (200°F)
- > then 12 hours at 121°C (250°F)
- > then 5 hours at 149°C (300°F)
- > then 3 hours at 177°C (350°F)

If small volumes of materials are to be cured, the cycle can be accelerated, but the stepped temperatures should be retained.

**Recommended Frequency and
Mixing Ratios by Weight**

Series	Range (GHz)	Part X	Part Y
CR500-110	26+	100	24.4
CR500-112	12 - 18	100	17.0
CR500-114	10 - 14	100	9.6
CR500-116	6 - 12	100	5.9
CR500-117	4 - 8	100	4.6
CR500-124	5 and below	100	3.6