

Two-Part Castable Silicone Load Absorber

TWO-PART CASTABLE SILICONE LOAD ABSORBER

Eccosorb CRS is a series of castable, magnetically loaded, RTV silicone rubber materials with high-loss in the microwave frequency range. Being a true elastomer, Eccosorb CRS, when cured, has a number of distinct advantages over rigid materials of the Eccosorb MF type.



FEATURES AND BENEFITS

- 2-component castable
- Low outgassing

MARKETS

- Commercial Telecom
- Security and Defense

SPECIFICATIONS

TYPICAL PROPERTIES	ECCOSORB CRS-117	ECCOSORB CRS-124
Frequency Range	>1 Ghz	>1 Ghz
Service Temperature °C (°F)	<160 (<320)	<160 (<320)
Density (g/cc)	4.16	4.55
Thermal Expansion Coefficient per °C (per °F)	63 x 10 ⁻⁶ (35 x 10 ⁻⁶)	59 x 10 ⁻⁶ (33 x 10 ⁻⁶)
Thermal Conductivity W/mK	0.9	1.0
Hardness, Shore A	75	75
Water Absorption, % 24h	<0.1	<0.1
Dielectric Strength volts/mil	>10	>10
Volume Resistivity, ohm-cm	>10 ¹⁰	>10 ¹⁰

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

APPLICATIONS

- Eccosorb CRS can be used to cast cones, wedges and pyramids for terminations and loads.
- It can be used to fill cavities or can be painted on surfaces to suppress the flow of currents. This product line finds use in antennas and transmission lines.
- Eccosorb CRS can also be poured in place to form microwave gaskets, where a sheet elastomer would not fit. It can also be poured around the base of microwave tubes to prevent undesired energy flow.
- When bonded to surfaces, Eccosorb® CRS will withstand temperature cycling (even to cryogenic temperatures). It can be deformed and shaped to contoured surfaces and is not subject to damage from impact or shock.

AVAILABILITY

- Eccosorb CRS is available in 2 grades : CRS-117 & CRS-124.
- Eccosorb CRS is supplied as a 2-part system, consisting of a Part A (resin) and Part B (catalyst).
- Please contact your local supplier for available sizes and packages, as there might be some regional differences.

- It does not ship as a dangerous good.
- 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

- Mix the Eccosorb CRS Part A in its shipping container using a power stirrer to insure homogeneity.
- Part A is supplied as a high viscosity paste. In all cases a small amount of Part B has to be added.
- Weigh out the desired amounts of both parts in the correct mix ratio as given below.
 Mix ratio : Eccosorb CRS-117: 100 parts of A to 1.18 parts of B
 Eccosorb CRS-124: 100 parts of A to 1.00 parts of B
- To insure void-free castings, the entrapped air should be removed by vacuum de-airing.
- Pour into the cavity to be filled.
- Cure overnight at room temperature or for 3 hours at elevated temperatures of 80°C (175 °F). Where use temperature is anticipated above 120°C (248 °F), a post cure is recommended. Gradually raise cast parts to the use temperature over an 8 hour or longer period.
- If cast around inserts, they place negligible curing pressures on them.
- The Eccosorb® CRS will adhere to themselves but will release from most other surfaces. Therefore, metal or epoxy molds are suitable for cast shapes. If adhesion is required, a thin coat of a suitable primer should first be applied.

Typical Attenuation

	GHz	10 ⁻⁷	10 ⁻⁶	10 ⁻⁵	10 ⁻⁴	10 ⁻³	10 ⁻²	10 ⁻¹	1.0	3.0	8.6	10.0	18.0
CRS-117	dB/cm	0	0	0	0	0	0.03	0.27	2.8	11	46	56	119
	dB/in	0	0	0	0	0	0.08	0.69	7.1	28	117	142	302
CRS-124	dB/cm	0	0	0	0	0	0.03	0.48	6.5	20	63	67	149
	dB/in	0	0	0	0	0	0.08	1.2	16.51	50	160	170	378

*Note: Attenuation is a theoretical property calculated from the Complex Permittivity and Complex Permeability of a lossy material and is strictly a means of comparing one absorbing material to another. The attenuation properties are not an indication of how the material will perform inside a microwave device. For further electrical and physical properties of the ECCOSORB® CRS series, please see the Typical Electrical Properties Table on the ECCOSORB® MFS technical bulletin