Eccosorb® JCS

High Loss, Low Density, Flexible, Carbon-loaded, Silicone Rubber Sheet

FLEXIBLE CARBON-LOADED SILICONE RUBBER SHEET

Eccosorb JCS is a carbon-loaded, silicone rubber sheet. It obtains its microwave properties via a carbon loading system and is therefore electrically conductive. Eccosorb JCS is waterproof and has excellent thermal characteristics, tolerating high and low temperatures. Low out-gassing is assumed, but formal testing has not been completed yet. Material does not flake or shed. Complex shapes are best cut with a water jet system.

FEATURES AND BENEFITS

- High loss
- Low density
- Very flexible
- Dust free
- High frequency applications

MARKETS

- Automotive
- Telecom
- Industrial

SPECIFICATIONS

TYPICAL PROPERTIES	ECCOSORB JCS
Frequency range	6 – 100 GHz
Service Temperature °C (°F)	-70 to 177 (-94 to 350)
Thickness	0.50 mm - 3.18mm (0.020”-0.125’’)
Color	Black

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

ELECTRICAL PROPERTIES

Eccosorb JCS is a pure dielectric absorber with no magnetic properties (permeability = 1). The complex permittivity varies with frequency, see graphs below. Attenuation is a figure of merit for the lossiness of absorbent material and should not be used to directly estimate insertion loss.

Insertion loss is defined as the reduction in energy between point A and point B caused by the insertion of a material. In general, insertion loss is a function of the material electromagnetic parameters and the thickness. JCS can be custom tailored to many different insertion loss values.

	Attenuation (dB/cm)	
	3 GHz	**10 GHz**
JCS-3	2	3.5
JCS-5	4.5	9
JCS-7	8	16
JCS-9	10	20

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www.lairdtech.com

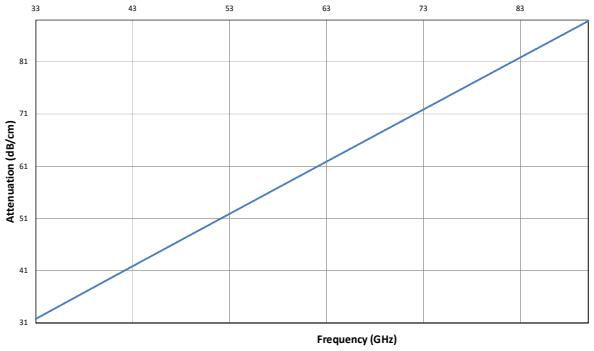
APPLICATIONS

- Eccosorb JCS is used to lower cavity Q's in RF amplifiers, oscillators, cabinets containing microwave devices, computer housings, LNB's, and isolation of antennas by insertion loss.
- Eccosorb JCS is also used to reduce surface currents on radiating elements and outer ground-plane type surfaces.

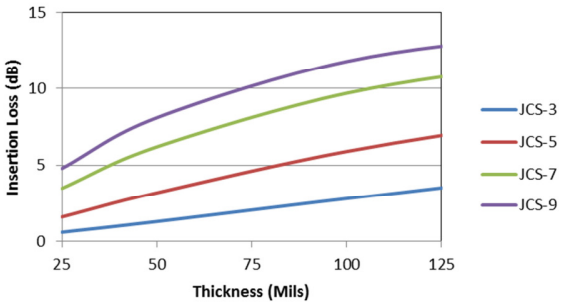
AVAILABILITY

- Standard sheets are 30.5 cm x 30.5 cm (12''x12'')
- Standard thicknesses are 0.50 mm – 3.18 mm (0.20"-0.125") with the exception of JCS-9 which has a maximum thickness of 2.03 mm (0.08")
- Eccosorb JCS can also be supplied with a Pressure Sensitive Adhesive(PSA) Product designation 'ECCOSORB® JCS-X/SS6M'.
- Eccosorb JCS is available in other sizes and customer specified configurations upon request.

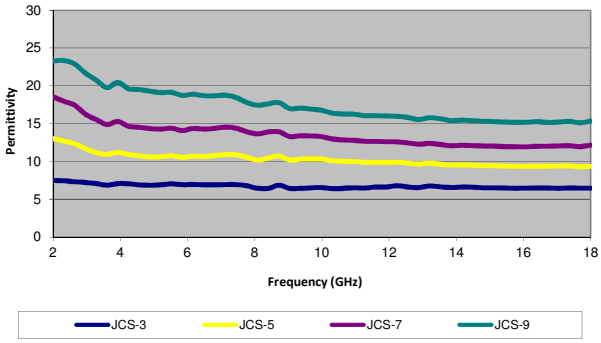
Typical attenuation of ECCOSORB JCS-7



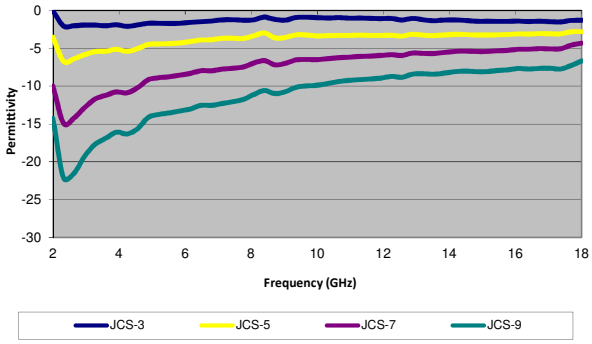
JCS-X Insertion Loss @3GHz



JCS Permittivity (e')



JCS Permittivity (e")



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