Technical Data Sheet

Engineered Materials

C-RAM™ RGD-S

Flexible silicone rubber transmission line absorber

Description

C-RAM™ RGD-S is a magnetically loaded silicone rubber sheet material with a high magnetic loss. It is available in three grades: -117, -124, and -192. The -192 grade has the highest loading and highest loss.

Availability

Standard sheet size is 12” x 12” (305 mm x 305 mm).

Standard thickness are:

0.010 in (0..25 mm)
0.020 in (0.51 mm)
0.030 in (0.76 mm)
0.040 in (1.02 mm)
0.060 in (1.52 mm)
0.125 in (3.17 mm)
0.250 in (6.35 mm)

C-RAM™ RGD-S can be supplied in other sizes, thickness or per customer specified configurations upon request.

C-RAM™ RGD-S can also be supplied with a peel-and-stick pressure sensitive adhesive backing, order as RGD-S-XXX/PPGA.

As a standard, The C-RAM™ RGD-S base material is silicone, but it can also be supplied in a urethane base version.

Application

Terminations, loads, attenuators in waveguides, coaxial lines, and microstrip circuits.

Lowering the Q of cavities and dampening unwanted resonances.

Suppression of surface currents over a wide range of frequencies.

Method of application

C-RAM™ RGD-S can be cut with a sharp knife, die cut, waterjet cut, kiss-cut or otherwise machined to complex shapes.

It is flexible and can be bonded to contoured surfaces. Because it is flexible, C-RAM™ RGD-S can withstand temperature cycling when bonded to metals.

C-RAM™ RGD-S can be applied to a substrate by using a silicone RTV adhesive. For best results, the material should be scuffed with sandpaper, wiped with alcohol to remove dust and grease, and have a silicone primer applied to the substrate.

C-RAM™ RGD-S can also be supplied with a pressure sensitive adhesive backing (/PPGA).

Typical properties

Frequency range	≥ 0.8 GHz
Color	Gray
Flammability	Non-flammable
Specific gravity	4.0
Thermal expansion per °C	6 x 10-5
Thermal conductivity	.0021 cal-cm/sec-cm^2-°C 6.0 BTU-in/hr-ft^2-°F
Service temperature	-60 to +150 °C (-80 to +300 °F)
Outgassing	(TML%) (CVCM%) (0.23) (0.05)
Hardness, shore A	75
Water absorption, 24 hrs	<0.1%
Volume resistivity, ohm-cm	>1010
Dielectric strength, kV/mm	>400 (>100 V/mil)
Relative impedance (Z/Z_o)	0.3 for -117 0.4 for -124 0.6 for -192

Attenuation, dB/cm:

	-117	-124	-192
1.5 GHz	4.7	5.0	10.0
3.0 GHz	12.0	13.0	25.0
8.0 GHz	36.0	37.0	65.0
10.0 GHz	46.0	47.0	80.0

(Note: attenuation is a measure of the absorption of RF energy within the material, and is not the same as insertion loss, which includes reflected energy at the air-material interface)

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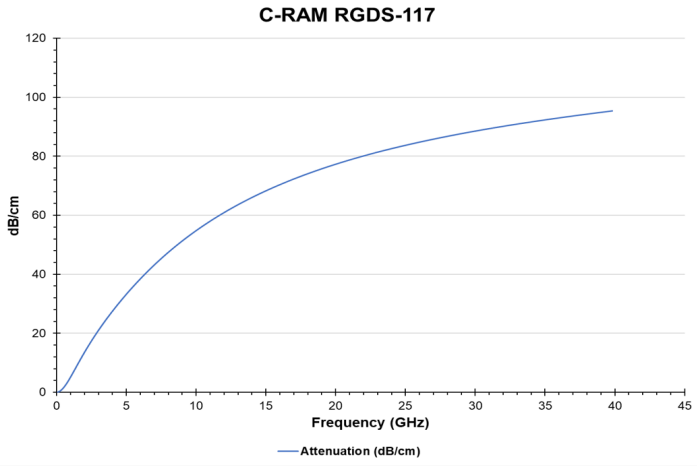

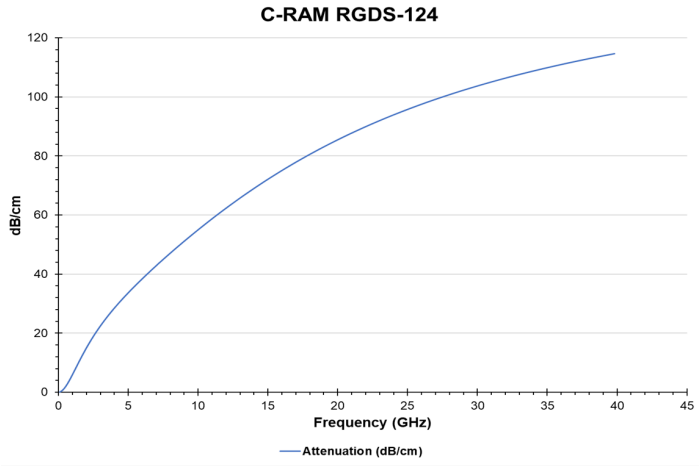

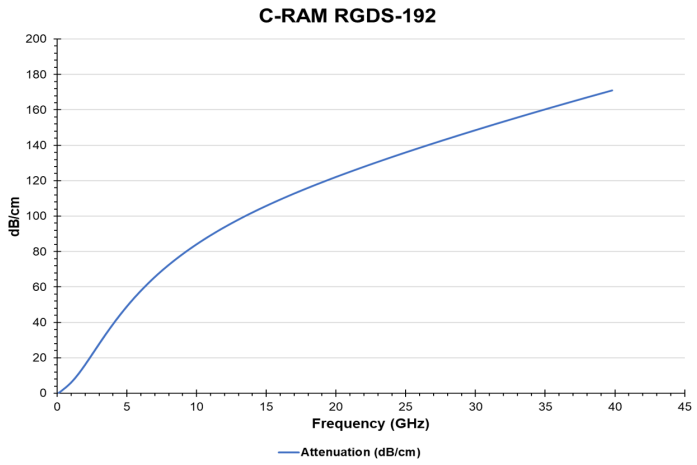

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