Eccosorb® FGM

Thin, Flexible, Broadband Microwave Absorber



THIN FLEXIBLE BROADBAND ABSORBER

Eccosorb FGM is a thin, flexible, magnetically loaded, silicone absorber. Silicone absorbers have high service temperature capabilities and offer advantages for high power and low out-gassing applications. They can be subjected to high altitudes, including space, with no adverse effects.

FEATURES AND BENEFITS

- High power performance
- High magnetic loss
- Low outgassing properties

MARKETS

- Commercial Telecom
- Security and Defense

SPECIFICATIONS

TYPICAL PROPERTIES	ECCOSORB FGM-40	ECCOSORB FGM-125
Frequency Range (GHz)	4 - 18	2 - 12
Max Service Temperature °C (°F)	170 (338)	170 (338)
Hardness (Shore A)	94	85
Weight kg/m² (lb/ft²)	5.0 (1.0)	10.8 (2.2)
Outgassing (%TML) (%CVCM)*	0.16/0.06	0.31/0.10

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

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

APPLICATIONS

- Eccosorb FGM is used to line cavities in which antennas operate. It may be applied to surfaces to improve radar performance, reduce radar cross section or backscattering.
- Eccosorb FGM is effective even at high power in reducing specular reflections as well as surface currents due to the high magnetic loss properties.
- When bonded to a metal surface Eccosorb FGM will significantly reduce the reflectivity of metal objects or structures due to the flow of microwave currents on that surface.
- It can be applied to antenna elements, microwave dishes, the inner or outer surfaces of waveguides for isolation, attenuation or modification of radiating patterns.
- Applications include power amplifiers, oscillators, down/up converters and LNB's. It is also utilized to modify antenna patterns, cover antenna feed supports, line antenna caps to reduce reflections and improve the isolation of sensitive RF devices.

AVAILABILITY

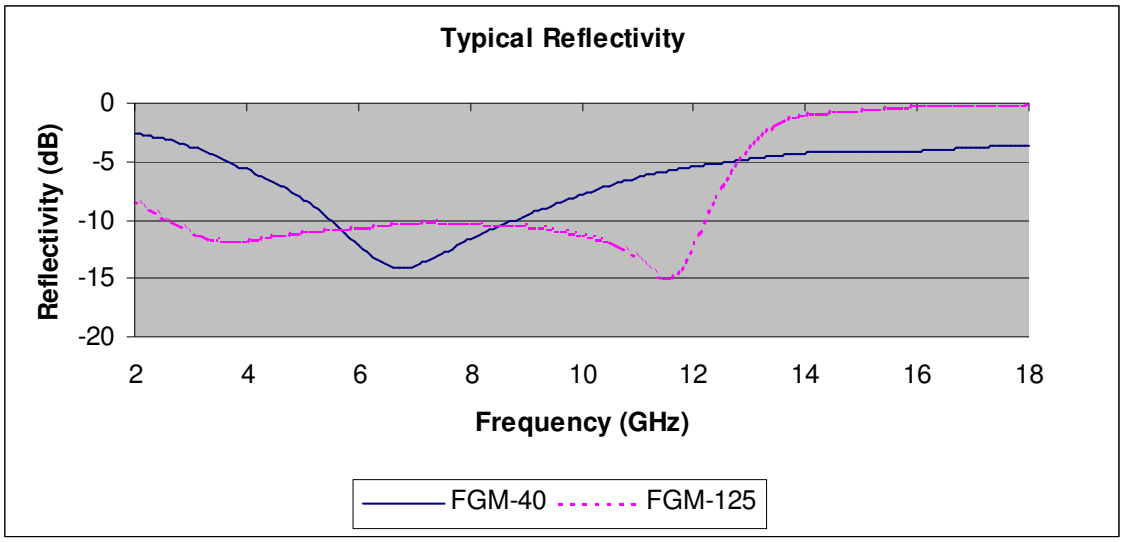
- Standard sheets are 305 x 305mm (12"x12").
- Standard thicknesses are 1.0mm (.040") and 3.2mm (.125").
- On request Eccosorb FGM can be supplied with a Pressure Sensitive Adhesive.
- The product is also available in other sizes, thicknesses and customer specified configurations upon request.

Americas: +1.866.928.8181
Europe: +49.(0)8031.2460.0
Asia: +86.755.2714.1166

www.lairdtech.com

INSTRUCTIONS FOR USE

- To obtain low reflectivity, the absorber must be mounted on a metal surface.
- The material can be bonded by use of an RTV silicone based adhesive in conjunction with a suitable primer. To obtain a strong bond, the metallic surface should be thoroughly cleaned with a degreasing solvent.
- Eccosorb FGM can be readily cut with a sharp knife and template. It is a very flexible material and conforms to contoured surfaces.



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