

# ECCOSORB<sup>®</sup> LS

LOSSY, FLEXIBLE, FOAM MICROWAVE ABSORBER

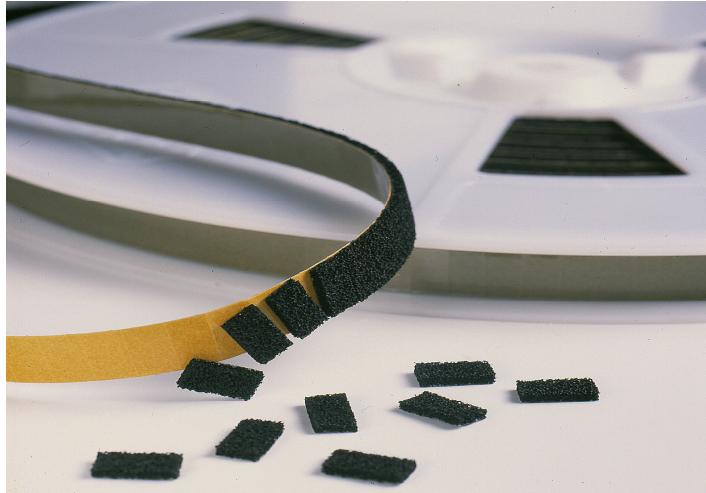
## Description :

Eccosorb LS is the most widely known, used, and recommended polyurethane foam absorber.

It is characterized by a high loss, low density, and it is a very flexible material. Eccosorb LS obtains its microwave properties via the impregnation with a carbon black dispersion and is therefore electrically conductive.

It is a very low cost solution for many applications over the thinner, more expensive rubber absorbers.

In case fire retardancy is a requirement i.e. UL-94-HF-1, Eccosorb QR-13AF should be used.



Designed to fit the application. Emerson & Cuming Microwave Products develops specialized microwave absorbers in a myriad of form to suit every specific application.

## Application :

Eccosorb LS 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 LS is also used to reduce surface currents on radiating elements and outer ground-plane type surfaces. Reflectivity of an object can be reduced somewhat by applying one or more layers of Eccosorb LS to its surface.

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**Laird**

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## Physical Properties:

	LS
Colour	black
Dimensions (cm)	61X61
Thickness range (mm)	3 to 25
Max Service Temp (°C)	90

## Electromagnetic Properties :

LS type	Attenuation (dB/cm)		Relative Impedance ( $ Z /Z_0$ )	
	3 GHz	10 GHz	3 GHz	10 GHz
LS-14	1.0	1.7	0.83	0.89
LS-16	1.5	2.3	0.78	0.87
LS-18	3.2	4.7	0.69	0.82
LS-20	4.2	7.0	0.61	0.78
LS-22	7.4	14.9	0.55	0.74
LS-24	11	24	0.25	0.44
LS-26	16	34	0.18	0.31
LS-28	20	40	0.16	0.27
LS-30	24	46	0.13	0.22

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### Availability :

Standard sheets are 610mm x 610mm.

Standard thicknesses are 3.2 mm, 6.4 mm, 9.5 mm, 12.7 mm, 19.1 mm and 25.4mm.

Upon special request, Eccosorb LS can be supplied with an anti-dust coating to prevent carbon fallout. This product is designated as Eccosorb LS-xx-PUC.

Eccosorb LS can also be supplied, upon request, with a coating to prevent moisture uptake in high humidity to moderately wet environments.

Usually Eccosorb LS is supplied with a pressure sensitive adhesive designated as Eccosorb LS-xx-SA, where the -SA suffix stands for **Self-Adhesive**.

All Eccosorb LS types can be delivered in special sizes or customer specified configurations upon request. This includes die-cut and kiss cut parts to reduce installation labour by allowing quick assembly.

Being electrically conductive, Eccosorb LS can cause a short in some microwave circuits, but only if the material comes in contact with components. For applications requiring Eccosorb LS to be in close contact with electrical components, the product can be supplied with a PEF or Kapton<sup>(1)</sup> film laminated on the top surface in order to prevent electrical short-circuits.

<sup>(1)</sup> Kapton is a TM of Dupont de Nemours

### Instructions for use :

Eccosorb LS is designed to function directly in front of a metallic surface.

If this is not the case, a metallic foil should first be bonded to the object.

As it is a homogeneous material, there is no distinction between its front and back face.

To obtain a strong bond of the absorber to the object, the metallic surface first needs to be cleaned thoroughly with a degreasing solvent.

It can be securely bonded to itself or to other materials such as metal, wood and common plastic composites.

The recommended adhesive is Eccostock Adhesive 13111 or use the self-adhesive version.

The material can be easily cut with a sharp knife, scissors or die.



**Safety Considerations:** It is recommended to consult the EMERSON & CUMING MICROWAVE PRODUCTS product literature, including material safety data sheets, prior to use EMERSON & CUMING MICROWAVE PRODUCTS products. These may be obtained from your local sales office.

**WARRANTY:** Values shown are based on testing of laboratory test specimens and represent data that falls within the normal range of properties of the material. These values are not intended for use in establishing maximum, minimum or ranges of values for specification purposes. Any determination of the suitability of the material or any use contemplated by the user and the manner of such use is the sole responsibility of the user who must assure that the material as subsequently processed meets the needs of this particular product or use. We hope the information given here will be helpful. It is based on data and knowledge considered to be true and accurate and is offered for the user's consideration, investigation and verification but we do not warrant the results to be obtained. Please read all statements, recommendations or suggestions in conjunction with our conditions of sale INCLUDING THOSE LIMITING WARRANTIES AND REMEDIES which apply to all goods supplied by us. We assume no responsibility for the use of these statements, recommendations or suggestions nor do we intend them as a recommendation for any use which would infringe any patent or copyright.

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