

ECCOSORB® LS

Lossy, Flexible, Foam Microwave Absorber

Material Characteristics

- ECCOSORB® LS is the most widely known, used, and recommended urethane foam sheet product.
- High loss, low density, and very flexible
- ECCOSORB® LS obtains its microwave properties via a carbon loading system and is therefore, electrically conductive
- Very low cost solution for many applications over the thinner, more expensive rubber absorbers
- Not weatherproof but can be supplied with a weather resistant CERSEAL coating, *see Availability below*
- If UL-94-HF-1 fire retardancy is a requirement, see [ECCOSORB® QR](#)
- Can be easily cut with a knife, scissors, or die

Applications

- 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 (metal or otherwise) can be reduced somewhat by applying one or more layers of ECCOSORB® LS to its surface

Availability

- Standard sheets are 24" x 24" (61 cm x 61 cm)
- Standard thicknesses are 1/8" (0.3cm), 1/4" (0.6cm), 3/8" (0.9cm), 1/2" (1.3cm) & 3/4" (1.8cm)
- Upon special request, ECCOSORB® LS can be supplied with an anti-dust coating UMSEAL (UM), to prevent carbon fallout
- ECCOSORB® LS can be supplied with a [CERSEAL](#) coating to prevent moisture uptake in high humidity to moderately wet environments upon special request
- For applications requiring ECCOSORB® LS to be in close contact with electrical components, a PEF film is available on request to prevent electrical shorts
- ECCOSORB® LS can also be supplied with a [Pressure Sensitive Adhesive \(PSA\)](#). Product designation denoting ECCOSORB® LS with a PSA is ECCOSORB® LS-XX/SS-3
- ECCOSORB® LS is available in other sizes and customer specified configurations upon request

Typical Properties

Frequency Range	1 to 26 GHz
Service Temperature, °F (°C)	-94 to 200 (-70 to 93)
Color	Black
ϵ'	3 - 20
μ'	1.0
$\tan \delta_m$	0.0
Fire Retardancy	UL 94 HBF

	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

Instructions for Use

- Being electrically conductive ECCOSORB® LS could cause a short in some microwave circuits, but only if the material comes in contact with components, *see PEF film under Availability*
- For high loss applications, ECCOSORB® LS-28 and LS-30 are recommended
- ECCOSORB® LS can be securely bonded to itself or to other materials such as metal, wood, and common plastic composites. The recommended adhesive is [ECCOSTOCK® 13-111-NF](#) if not ordered from the factory with a PSA.

ECCOSORB® LS Microwave Parameters (permittivity)





