

Flexible & Thin-type radio absorbers

EC-SORB® AN is a lightweight flexible foam sheet broadband microwave absorber. It can be readily cemented to or draped over items which produce undesired reflection.

Representative use

Examples are radar antenna nacelles, anechoic enclosures, antenna or target test mounts in radar ranges, etc.

Reflectance factor

By appropriate choice of design type, less than 1% reflection for normally incident energy can be obtained over several frequency bands ranging from 0.6 to 50 GHz (see performance table and curves on next page).

EC-SORB® AN is equally effective against linear, elliptical or circular polarization.

It is relatively insensitive to changes in incidence angle; for example, the reflectivity of EC-SORB® AN75 at 70° incidence, at parallel polarization, at 9.5 GHz has been measured at 17 dB below a metal plate.

Reflection of visible light and infrared

Typical infrared reflectance ranges from 0.1% at 1 micron to 6% at 40 microns for any surface color. Visible light reflectance is 0.1% when colored black; standard EC-SORB® AN is light blue surfaced to improve light reflection, while not appreciably affecting infrared reflectance.

Handling procedure

Installation is straightforward. EC-SORB® AN can cut to appropriate shape with scissors or a sharp knife; a household electric knife has been found to be especially effective. It can be formed easily to compound curves. It may be attached to either metallic surfaces or non-metallic surfaces. Metallic surface is preferred for rated electrical performance of the absorber. However, it is permissible to use non-metallic mounting surfaces or no backing at all still achieve adequate reflectivity characteristics.



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Installation

Many techniques are possible for permanent attachment to surfaces.

After chloroprene adhesive sprayed or brushed on both surfaces, leave it for a few minutes to 10 minutes, then press installation surface.

They can also be used to join edges of absorber to form a continuous blanket.

The amount of adhesive required absorber per sheet varies widely, depending on working methods, please refer to the quantity as below.

With 1 gallon chloroprene adhesive

- 1) With spray: 15~20pcs
- 2) With brushe:10~12pcs
- 3) For vertical and overhead installations, nails or small serrated pins attachment surface have been used successfully.
- 4) If you need to be able to instantly attach and detach the absorber, put a velcro zipper the back of absorber with chloroprene adhesive.

Environmental condition

- 1) Performance is not impaired by exposure to high relative humidity.
- 2) Useful temperature range is from -50°C (-58° F) to +120°C (248° F) .
- 3) For continuous use -20°C (-4° F) to +80°C (176° F) .
- 4) In situations where the absorber will be in contact with water, fuel, or hydraulic fluids and for outdoor exposure, EC-SORB® AN-W or EC-SORB® AN-P is recommended.

Feature size

EC-SORB® AN can be furnished to special order in any size desired.
Standard sheet size is 61cm x 61cm (24in x 24in).

Note

This information is not to be taken as warranty or representation for which we assume legal responsibility, nor as permission or recommendation to practice any patented invention without licenses.

It is offered solely for consideration, investigation, and verification.

Performance Table

Type	Frequency	Bands covered	Maximum Power Reflectivity	Sheet Size	Nominal Thickness	Nominal Weight Kg/Sq. m2
EC-SORB® AN72	20 GHz And above	K	1%	61cm x 61cm (24" x 24")	0.6cm 1/4"	0.5
EC-SORB® AN73	7.5 GHz And above	X, Ku, K	1%	61cm x 61cm (24" x 24")	1.0cm 3/8"	1.0
EC-SORB® AN74	3.5 GHz And above	C,A,B X, Ku, K	1%	61cm x 61cm (24" x 24")	1.9cm 3/4"	1.5
EC-SORB® AN75	2.4 GHz And above	S,C,A,B X, Ku, K	1%	61cm x 61cm (24" x 24")	2.9cm 1-1/8"	2.4
EC-SORB® AN77	1.2 GHz And above	L,S,C,A B, X, Ku, K	1%	61cm x 61cm (24" x 24")	5.7cm 2-1/4"	4.4
EC-SORB® AN79	0.6 GHz And above	L,S,C,A B, X, Ku, K UHF	1%	61cm x 61cm (24" x 24")	11.4cm 4-1/2"	9.8

