

High performance radio absorbers

EC-SORB® CV is a broadband absorber series for high performance in the frequency domain of 1 GHz or more.

Typical Applications

Anechoic chamber, Radio screen, Antenna pattern improvement.

Reflection Coefficient

Power reflectivity of 0.01 percent(-20db) and less is assured at frequencies above the low-frequency limits tabulated below, up to frequencies in excess of 100GHz. Measurements at 96 GHz indicate reflectivity of -40 dB out to incidence angles of at least 70°. Throughout a frequency range extending about two octaves below the lower limit of the -40db region, the reflectivity of these materials remains better than -20db.

Shape and dimension

EC-SORB® CV is made from lightweight artificial-dielectric loaded flexible foam. The front surface is rippled for optimum impedance match at the higher microwave frequencies. Sheet size is 61cm x 61cm (24in x 24in) and the number in the type designation indicates at below chart thickness in cm. Sheets may be cut readily to any required outline and can be contoured to surfaces of moderate curvature by appropriate procedures.

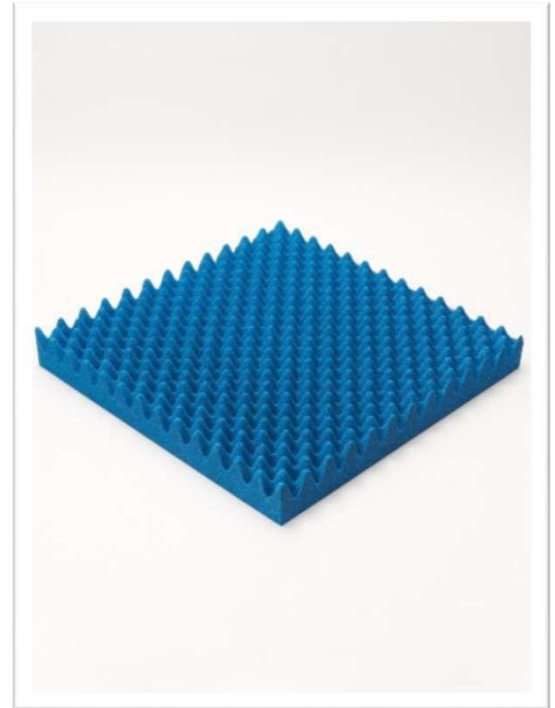
Installation

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 on Technical bulletin of EC-SORB® AN.



EC-SORB® CV

EC-SORB® CV is widely used on sloping surfaces of funnel type anechoic chambers. Excellent performance at near grazing incidence makes relatively thin material usable to very low frequencies. EC-SORB® CV6 in the illustration permits 35dB worst level reflectivity down to at least 500MHz.

While EC-SORB® VHP or HPY absorbers are often preferable as workhorse materials for anechoic chambers, EC-SORB® CV is definitely recommended when maximum performance is required in the frequency range above about 25 GHz and expect -40db or more performance. In some cases it makes more sense to use the EC-SORB® CV is economical.

EC-SORB® CV-W is a weatherproof outdoor use version of EC-SORB® CV.

An intimately fitting layer of loss-less foam is used to provide a physically flat front face in EC-SORB® CV and this assembly is then sealed in neoprene coated nylon fabric. Only minor degradation of high- frequency performance results. It is a self-extinguishing in the same way as all types of CV.

Low frequency limits of indicated reflectivity

| Type | -20db | -30db | -40db | Thickness (cm) | Approx. Wt. (kg/m ²) |
|------|--------|-------|-------|----------------|----------------------------------|
| CV-3 | 3.0GHz | 6GHz | 9GHz | about 7.6cm | about 3.5 kg |
| CV-4 | 2.5GHz | 5GHz | 8GHz | 10cm | 4.0 kg |
| CV-6 | 1.5GHz | 3GHz | 6GHz | 15cm | 4.5 kg |

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