

ECCOSORB® AN

Flexible Foam Sheet Broadband Microwave Absorbers

Material Characteristics

- Lightweight, flexible, broadband, open-cell, polyurethane foam absorber
- Carbon loaded, laminated polyurethane sheets
- Frequency range from 600 MHz -40 GHz
- Designed to reflect less than -17 dB of normal incident energy above specified frequencies and relative to a metal plate
- Does not support fungal growth per MIL-STD-810E
- Can be readily cut on a band saw, with scissors, die, or a sharp knife

Applications

- ECCOSORB® AN is commonly used for the lining of small test chambers to reduce reflections
- ECCOSORB® AN has been used in reducing crosstalk between adjacent antennas, shrouding antennas to improve the antenna patterns and undesired backlobes, as well as selective shadowing of parts of a target for RCS measurements
- Shadowing of posts and supports in anechoic chambers, and as absorbing blankets for testing radar systems without harm to personnel
- For isolation of components or antennas by means of insertion loss, it can be used without a metal backing

Environmental Properties

- ECCOSORB® AN is *not* waterproof and will not operate correctly when wet. Since there is no washout, ECCOSORB® AN will function as expected after being allowed to dry
- A special CERSEAL coating to prevent moisture uptake in high humidity to moderately wet environments is available on special request
- For waterproof applications, see ECCOSORB® ANW or ECCOSORB® AN can be coated with CERSEAL

Availability

- Standard sheets are 24" x 24" (61 cm x 61 cm)
- Thickness depends upon the lowest desired frequency of operation required
- ECCOSORB® AN is available in other sizes and customer specified configurations, incorporating miter cuts or attachment to metal parts
- Can be manufactured, on special order, on a mandrel, to take a contoured shape.

Instructions for Use

- To obtain low reflectivity, the absorbers must be mounted on a metal surface. If a metal surface is not available, ECCOSORB® AN can be supplied metal backed with aluminum foil (ML)
- Layering of multiple pieces or slicing off part of the thickness will degrade the overall performance
- Reflectivity performance also degrades for off-normal bistatic incidence and at different rates for different polarizations
- ECCOSORB® AN 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.

Typical Properties

Front Surface Color (facing oncoming EMI)	White
Max. Service Temperature, °F (°C)	248 (120)
Power Handling, W/cm ²	0.15
Thermal Conductivity, cal-cm/sec- cm ² -°C	6.8 x 10 ⁻⁵
Fire Retardancy	UL 94 HBF

	Reflectivity range (>17 dB)	Thickness Inch (cm)	Weight lb/piece (kg/piece)	Density oz/in ³ (g/cm ³)
AN-72	>20 GHz	0.24 (0.6)	0.6 (0.25)	0.06 (0.11)
AN-73	>7.5 GHz	0.39 (1.0)	1.1 (0.50)	0.08 (0.13)
AN-74	>3.5 GHz	0.75 (1.9)	1.5 (0.70)	0.06 (0.10)
AN-75	>2.4 GHz	1.14 (2.9)	1.8 (0.80)	0.04 (0.07)
AN-77	>1.2 GHz	2.24 (5.7)	3.3 (1.50)	0.04 (0.07)
AN-79	>600 MHz	4.49 (11.4)	6.5 (2.95)	0.04 (0.07)

