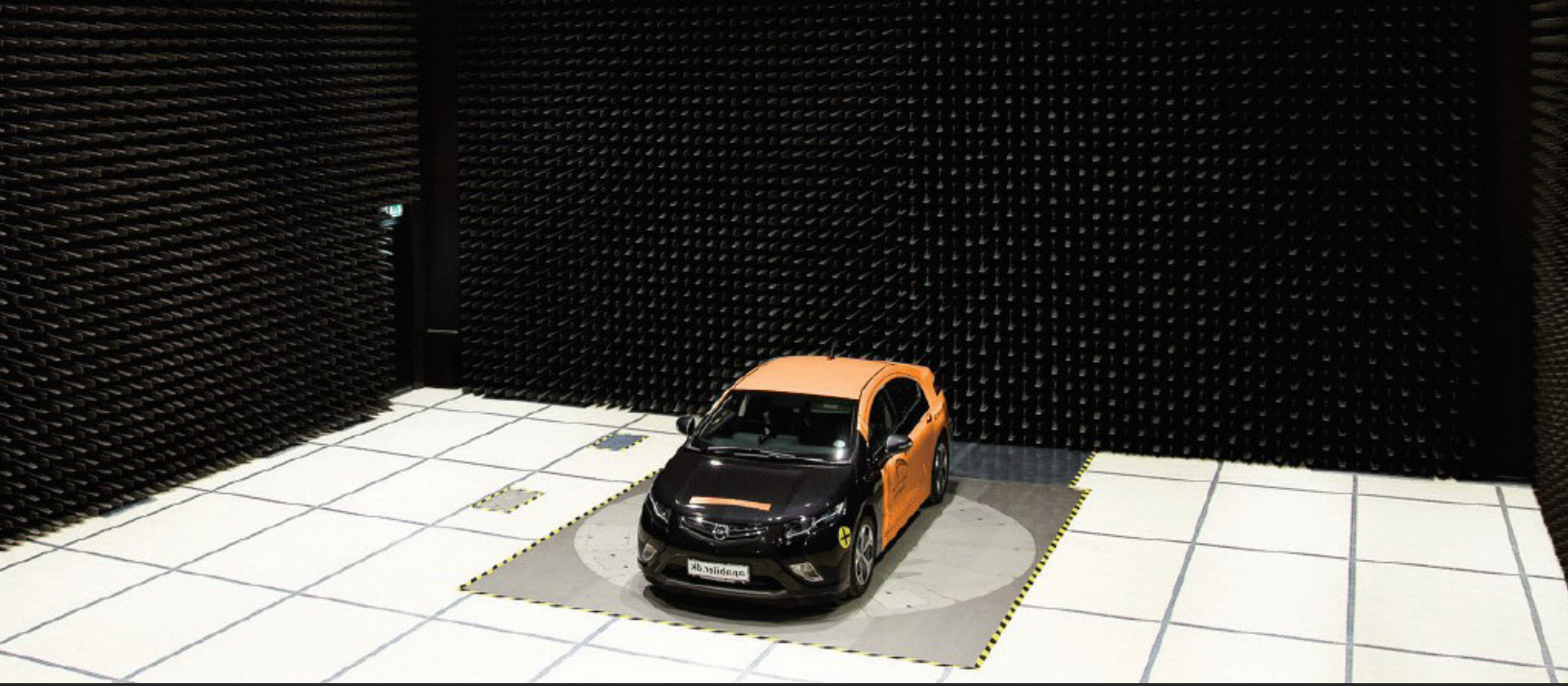




Absorbers

Controlled Electromagnetic Environments



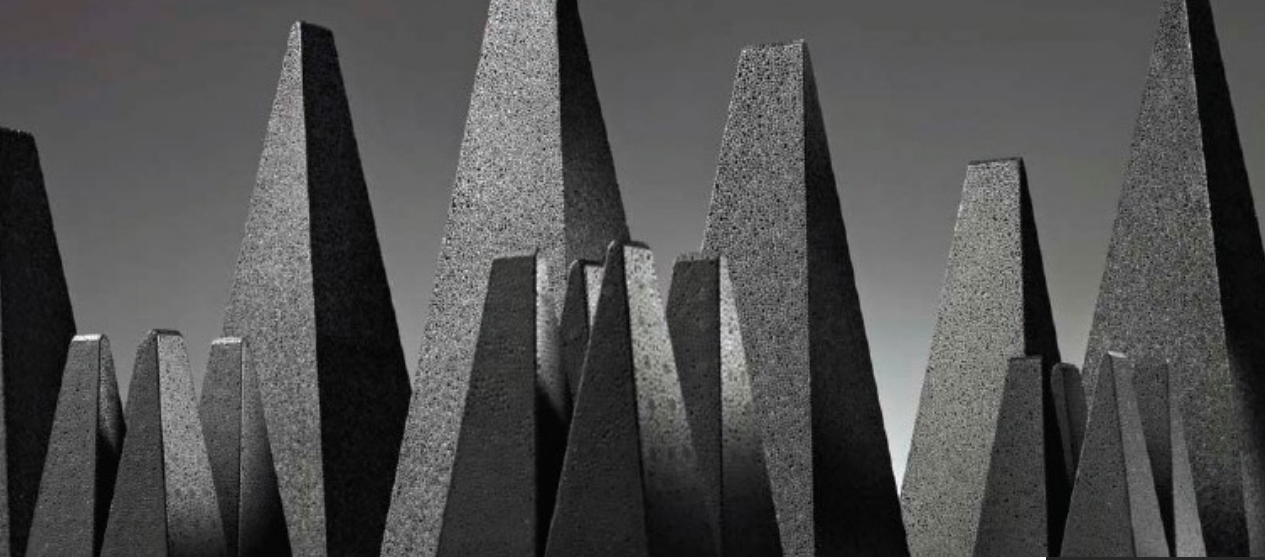
One of the most evident and essential components of anechoic chambers is the RF absorber.

AR RF/Microwave Instrumentation (AR) is the exclusive distributor of RF absorbers from COMTEST Engineering for North America. Our closed-cell, carbon-loaded polystyrene absorbers are specifically designed to inhibit the reflection of electromagnetic radiation, making them suitable for use in EMC test laboratories and antenna chamber applications. Naturally, the absorption characteristics can be altered by using different thicknesses and arrangements.

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Our absorber products are divided into two main categories: Hybrid & Microwave. Our hybrid absorbers are used with a matching ferrite tile absorber and can be used for various EMC testing applications, typically performed in semi-anechoic chambers.

Our microwave absorbers can be used for antenna pattern measurements in compact ranges and Wireless test chambers (OTA).

Green & Sustainable

These closed-cell polystyrene absorbers don't contain poisonous fire-retardant chemicals. The absorbers are sustainable, 100% environmentally friendly, and fully compliant with REACH and ROHS.

Quality Control

According to the latest edition of ISO 9001 and ISO 14001 standards, Absorber production is executed under tight quality control.

Each production cycle is carefully tested, all following IEEE Standard 1128 guidelines.

Benefits

The benefits of the polystyrene absorbers are:

- Closed-cell polystyrene material (no leakage of carbon dust)
- Uniform carbon cell loading resulting in stable performance
- Modular design using baseplate & tapers (damaged tapers are easily replaced)
- Easy installation method using screws and nylon mounting strips
- Lightweight product (up to 40% lighter than traditional foam solutions)
- Rigidity and superior tensile strength (no drooping absorber tips)
- Resistant to humidity (resulting in no performance deterioration from moisture)
- Superior product lifecycle (25+ years)
- Environmentally friendly and compliant with REACH and RoHS directives
- Hybrid absorbers are suitable for clean room class 4 as per ISO14644-1 / class 10 as per US Fed.
- Microwave absorbers are suitable for clean room class 2 as per ISO14644-1 / class 1 as per US Fed. Standard 209E
- Compliant with fire retardancy ISO 11925-2 class E / DIN 4102 class B2 / UL94 HBF
- Hybrid absorbers can be equipped with protective end caps

Installation Method

Compared to traditional foam solutions, our polystyrene absorbers are considered lightweight and are very easy to handle during installation due to its modular product design. For installation it is recommended to use a mechanical installation, using nylon mounting strips and screws, which fit seamless onto our baseplates.

After installment of the baseplates, all tapers can be easily inserted. If you consider relocating your EMC facility in the future, tapers can be removed and baseplates can be unscrewed from the chamber walls, ready to be fitted a second time.



Hybrid Absorbers

The hybrid absorber is a high-performance, ultra-wideband, carbon-loaded polystyrene absorber with an operating frequency from 20 MHz - 40 GHz. These hybrid absorbers are tuned for perfect performance in combination with ferrite tile in semi- or full-anechoic chambers for EMC testing. The baseplate dimensions of these hybrid absorbers are 1200x600mm. All absorbers have a modular design of separate base plates and tapers. upon customer request, the hybrid absorbers can be equipped with white end caps.

Specifications

Material: Closed-cell polystyrene

Base Plate Dimensions: 1200x600mm

Color: Dark Grey

Humidity Resistance: No performance deterioration from moisture

Product Lifetime: > 25 years

Power Handling: 200 V/m

Frequency Range: 20MHz - 40GHz

Fire Retardancy: ISO 11925-2 class E / DIN 4102 class B2

Suitable for clean room class 4 as per ISO14644-1 / class 10 as per US Fed. Standard 209E

White end cap upon request, 2 square caps per absorber

REACH & RoHS Compliant

Hybrid Absorbers (HT-Series)

Ferrite Tile Absorbers

Ferrite Tiles

In hybrid solutions, the polystyrene absorber is used in combination with a ferrite tile. The tile is a sintered ferrite tile and delivers excellent electromagnetic absorption performance from 20MHz - 1GHz. The ferrite tile can be directly glued to the shielding enclosure or screwed to an inner structure, enabling easy installation.

Wideband Ferrite Floor Absorbers

The wideband ferrite floor absorber is designed to facilitate the use of all semi-anechoic chambers for full compliance radiated immunity testing. In combination with the hybrid absorber model HT45 the wideband ferrite floor absorber is ideally suited for a floor setup for immunity testing according to IEC/EN-61000-4-3.





End Caps

End caps are used to protect the absorber taper tips against damage. They are made of polystyrene and are available in white and grey coloring. The grey option is used to protect the absorber taper tips of floor absorbers during handling and stacking. The purpose of the white end caps is to enhance the brightness inside anechoic chambers. They are offered as an extra option and are not needed to assemble absorbers. Your company branding can also be printed on a logo plate, and mounted on the end caps.



End Caps

Microwave Absorbers (MT-Series)



Microwave Absorbers

The microwave absorbers are high-performance, broadband, carbon-loaded polystyrene absorbers with an operating frequency from 200MHz - 50GHz. Due to the excellent performance at microwave frequencies, the MT series is suited for Antenna Pattern Measurement (APM), (compact) Antenna Test Range (ATR), Radar Cross Section (RCS) anechoic test chamber applications.

Specifications

Material: Closed-cell polystyrene

Base Plate Dimensions: 1200x600mm

Color: Dark Grey

Humidity Resistance: No performance deterioration from moisture

Product Lifetime: > 25 years

Power Handling: 600 W/m²

Operating Temperature: +41°F to +95°F (+5°C to +35°C)

Frequency Range: 200 MHz - 50 GHz

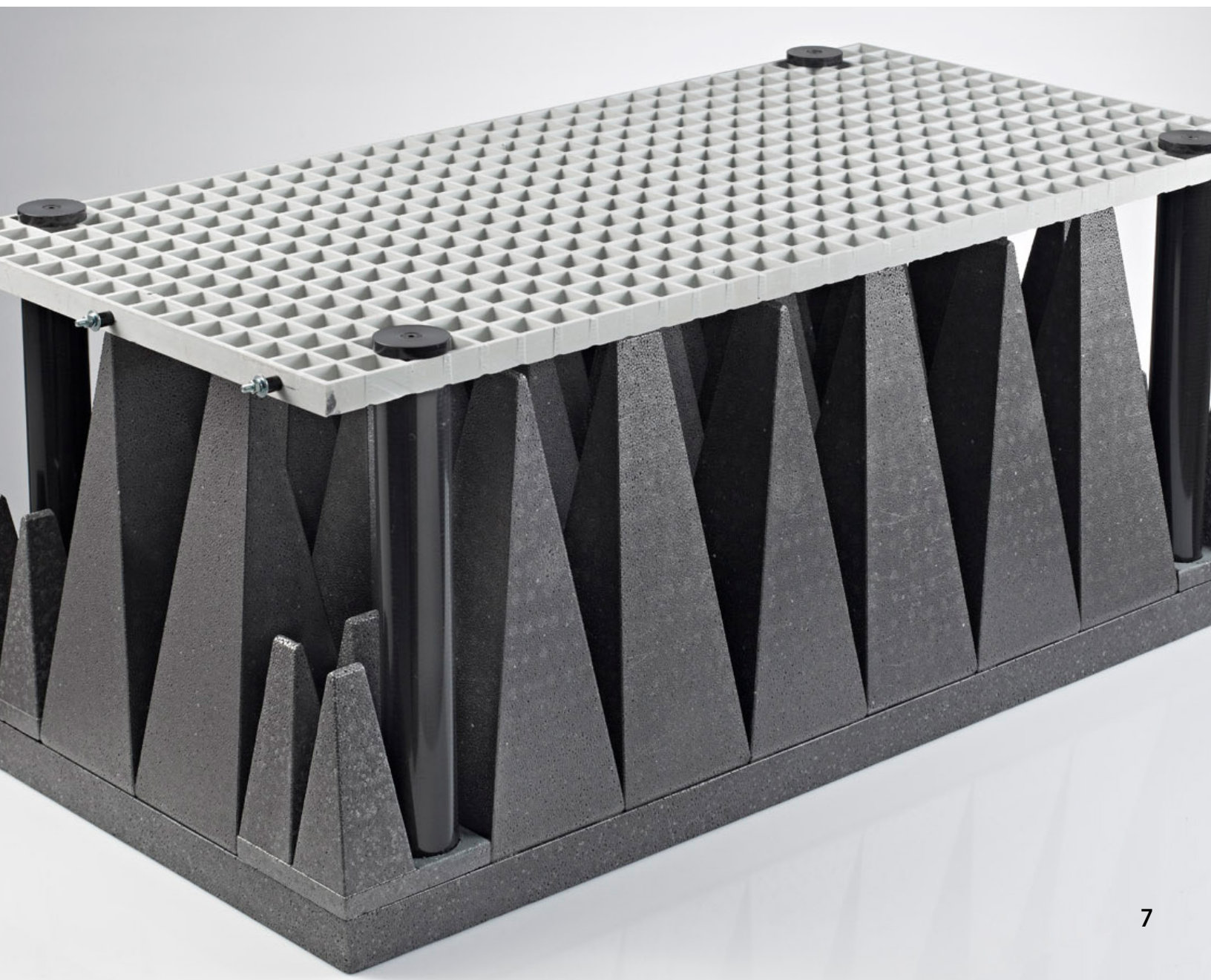
Fire Retardancy: ISO 11925-2 class E / DIN 4102 class B2 / UL 94HBF

Suitable for clean room class 2 as per ISO14644-1 / class 1 as per US Fed. Standard 209E

REACH & RoHS Compliant

Walkway Solution

The walkway solution is designed to provide safe and easy access for the test engineers to the test set up / AUT in full anechoic chambers. Due to the use of connectable reinforced fiberglass epoxy grid panels, they combine extreme strength with minimal RF scattering.



We're with you all the way.

The partnership between AR and Comtest Engineering makes it possible to design, build, and service an EMC test facility using a single source provider.



Visit our website to learn more about our additional Total Solutions offerings:

- Amplifiers
- Systems
- Chambers
- Antennas
- Accessories

AR RF/Microwave Instrumentation
160 Schoolhouse Rd, Souderton, PA 18964

(215) 723.0275
www.arworld.us



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