



Microwave Absorbers

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COMTEST[®]
ENGINEERING

Controlled Electromagnetic Environments

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CONTROLLED ELECTROMAGNETIC ENVIRONMENTS

Comtest Engineering supplies high performance RF shielded rooms, reverberation and anechoic chambers. The company is located in The Netherlands and was founded in 1985.

We are a professional organization and recognized for quality and flexibility. Comtest high performance RF shielded doors, mode-stirrer systems and microwave absorbers have been internationally recognized as state of the art products.

Our skilled and experienced team is dedicated to satisfy your need to control the electromagnetic environment!



Microwave absorbers

Green and sustainable

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

Quality control

Production of Comtest products is executed under tight quality control according to ISO 9001:2008 and ISO 14001:2004.

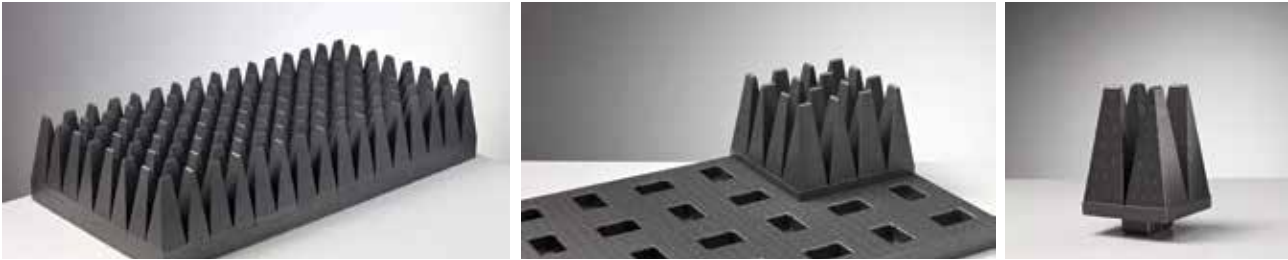
Benefits

The benefits of the polystyrene absorbers are:

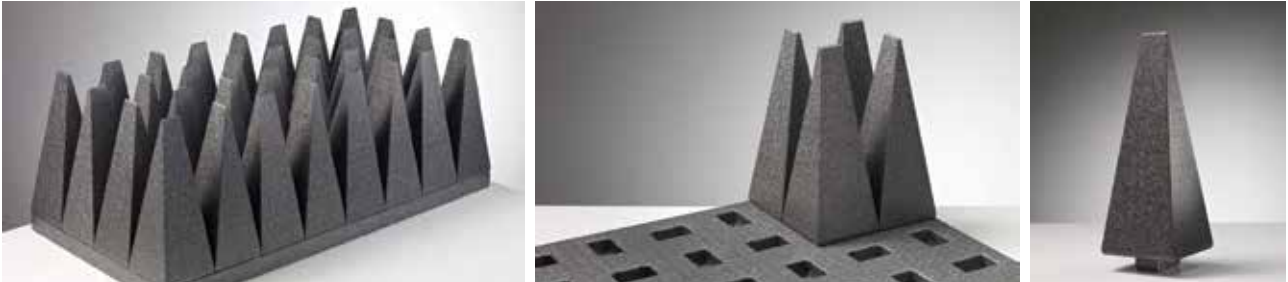
- ✓ Unique and enhanced product design:
 - ✓ Alternating taper design (vertical – horizontal)
 - ✓ Light weight
 - ✓ Removable tapers
- ✓ Microwave absorbers are suitable for clean room class 2 as per ISO14644-1 / class 1 as per US Fed. Standard 209E
- ✓ Uniform carbon cell loading
- ✓ Compliant with fire retardancy ISO 11925-2 class E / DIN 4102 class B2 / UL94 HBF
- ✓ Rigidity and superior tensile strength (no drooping tips)
- ✓ Superior product life time (>25 years)
- ✓ Resilience to humidity



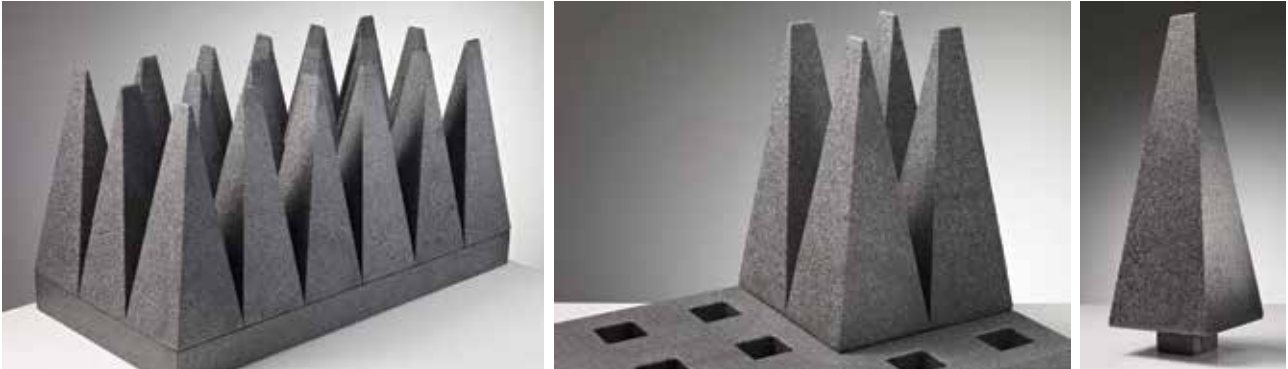
MT25



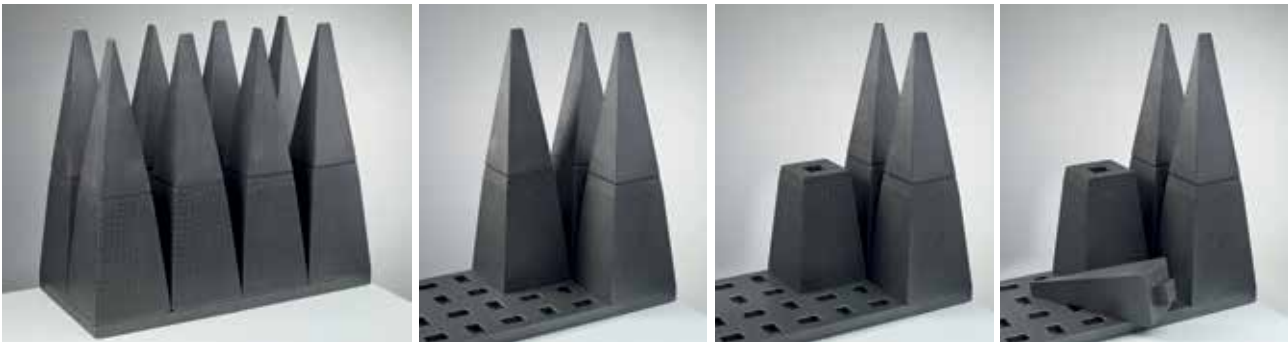
MT50



MT65



MT105



Microwave absorbers (MT-series)

MT microwave absorbers are high performance, broad band, carbon loaded polystyrene absorbers with an operating frequency from 70MHz - 40GHz. 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. Model MT65 is also suited for MIL-STD and CISPR-25 test chambers. Model MT25 can be used for sVSWR floor setup in EMC chambers.

The MT microwave absorber series consist of four different models:

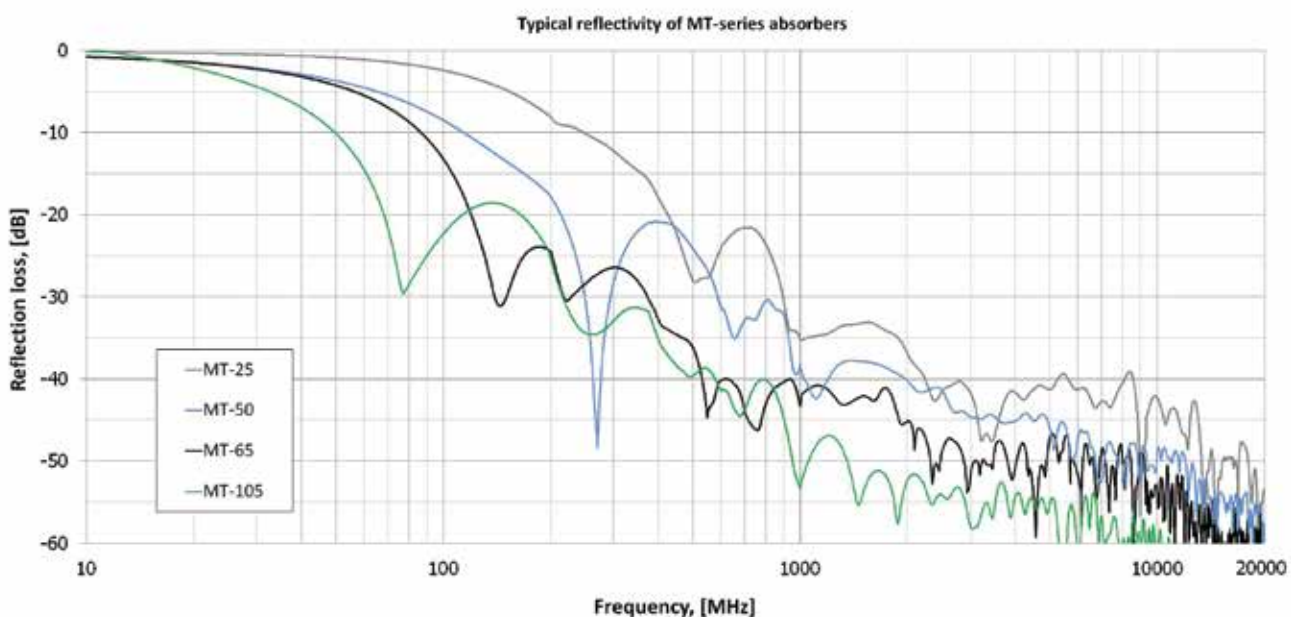
- MT25 (height 250mm / 10")
- MT50 (height 500mm / 20")
- MT65 (height 650mm / 26")
- MT105 (height 1050mm / 41")

The base plate dimensions of these microwave absorbers is 1200*600mm. All absorbers have a modular design of separate base plates and tapers.

Specifications

Material	Closed-cell polystyrene
Dimensions	1200*600*250mm (height)*
Weight	5,5 Kg / m ² *
Color	Dark Grey
Humidity resistance	No deterioration from moisture
Product life time	> 25 years
Power Handling	1500 W/m ²
Max. operating temperature	70°C
Frequency range	70 MHz – 40 GHz
Fire retardancy	ISO 11925-2 class E / DIN 4102 class B2 / UL 94HBF
Clean room spec.	Suitable for clean room class 2 as per ISO14644-1 / class 1 as per US Fed. Standard 209E
Reach & ROHS compliant	Yes

*: MT25.



Warranty

Values shown are based on testing of laboratory test specimens and represent data that falls within the normal range purpose. These values are not intended for use in establishing maximum, minimum or ranges of values for specification purposes. Any determination of the suitability of the material or any use contemplated by the user and the manner of such use is the sole responsibility of the user who must assure that the material as subsequently processed meets the needs of this particular product or use. The given information is based on data and knowledge considered to be true and accurate and is offered for the user's consideration, investigation and verification but we don't warrant the results to be obtained.

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. It is recommended to use the walkway in the non-critical area of the chamber and at a reduced height compared to the applied floor absorber. For example if the floor absorber is MT-45, the WWA-MT25 shall be used.

The reflectivity of this walkway solution corresponds to that of the performance of the absorber under the walkway for frequencies up to 3GHz. Above 3 GHz the reflectivity (back scatter) performance is limited to < -40dB. Despite the specular reflection (scatter) is in the order of -20dB, the angle of incidence equals the angle of reflection and therefore the unwanted waves will be damped by the absorber lining of the chamber.

Due to the reduced height of the walkway and the above mentioned RF characteristics, the influence of the walkway on the measurements in the chamber is neglectable as long as the walkway is used in the non-critical area of the chamber.

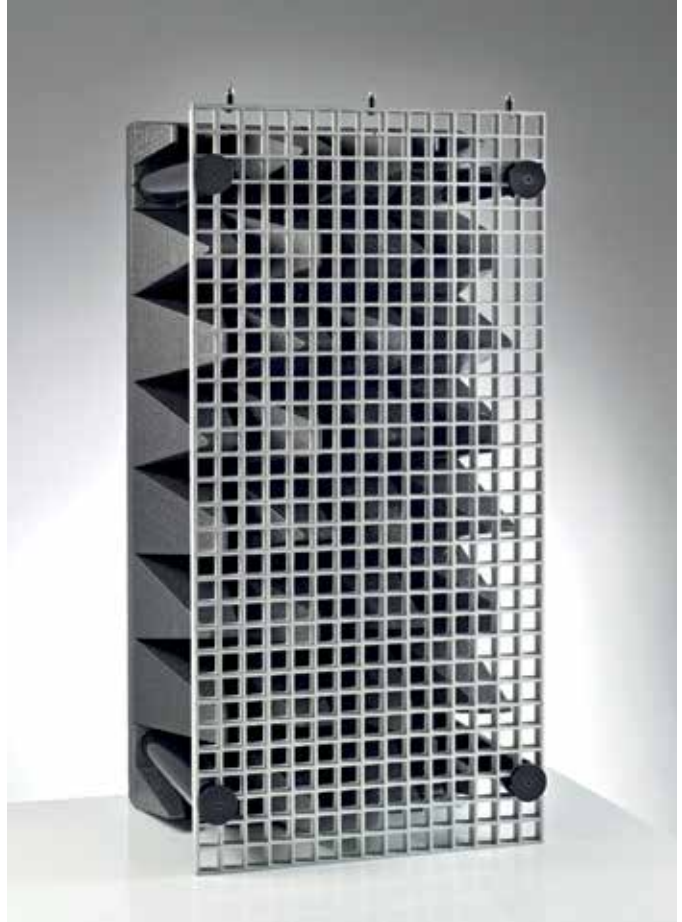
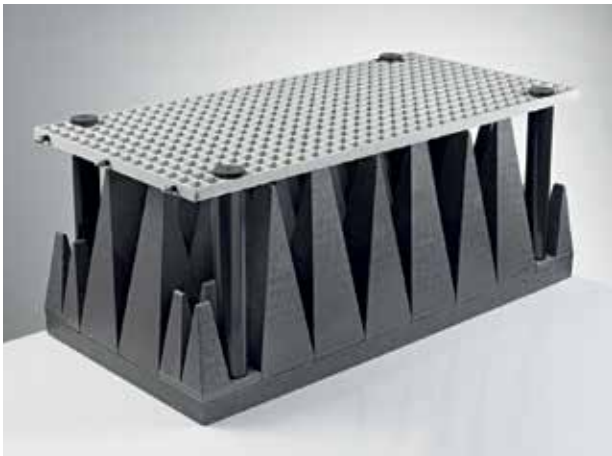
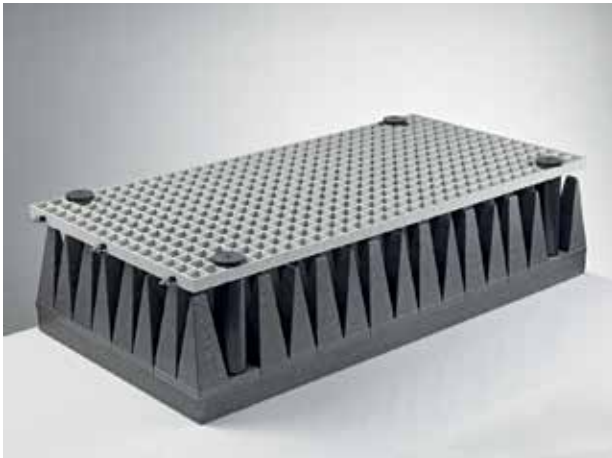
The walkway solution model WWA is available in the following models:

- **WWA-MT25** walkway solution using MT25 absorber (microwave)
- **WWA-MT45-JT**: walkway solution using MT45-JT absorber (microwave)

Specifications:

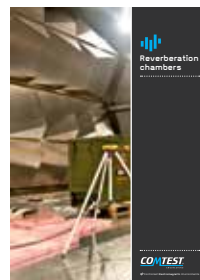
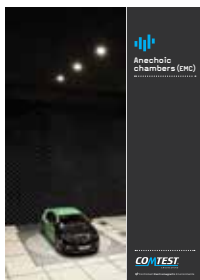
Material	Reinforced fiber glass epoxy grid
Dimensions grid	1186x577x25mm
Product life	>25 years
Color	RAL 7035 / grey
Height of WWA-HT25/MT25	295mm (tot. height)
Height of WWA-HT45/MT45	495mm (tot. height)
Recommended maximum distributed load	6kN
Breaking load*	27kN

**Breaking load is defined as a stress or tension just steady enough to cause a break or rupture*



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