EMERSON & CUMING
Anechoic Chambers
an Albatross Projects company

WAVASORB® VHY

Advanced Broadband EMC Hybrid Absorber

WAVASORB VHY is a series of truncated pyramidal shaped hybrid absorbers consisting of ferrite tiles WAVASORB FT and the carbon-loaded urethane-foam truncated pyramidal part.

Excellent performance in the EMC frequency range, obtained by optimization of the geometry of any individual absorber.

Certified to all fire-retardancy and environmental specifications by containing an advanced chemical composition.

Excellent power-handling capability assured under continuous wave exposure.

REACH- and RoHS-compliant, maintaining a healthy environment for operation.

Designed and quality controlled using commercial and original simulating and test techniques.

WAVASORB® VHY

E&C Anechoic Chambers has a fully automated manufacturing facility with CNC-controlled foam-cutting machines, computer-controlled impregnation, drying processes, and robotized painting to ensure stability of RF and fire-retardant performances.

Seventy years experience with absorber-manufacturing techniques provides consistency in chemical compositions, electrical and fire retardant properties with uniform distribution.

E&C Anechoic Chambers and Albatross Projects built the first validated EMC chambers for 10 m and 3 m distance in Europe in the beginning of the nineties. E&C Anechoic Chambers can provide customized solutions to accommodate clean room requirements, flexible coatings and paintings to improve durability, and engineered pre-cuts and custom parts fit for equipment linings.

Perfectionism is our goal, with special attention to the dimensions and geometry of the individual absorber panels that enhance performance as well as optical appearance of the entire test facility.

Installation Methods and Chamber Validation

WAVASORB VHY is a hybrid absorber, which consists of ferrite tiles and a truncated pyramidal part on top of the ferrites. Typically this kind of absorber is installed modularly. The ferrites are bolted directly to the reflective sub construction and the pyramidal part is installed by a hook-in-system with four fixation discs. The modular hook-in-system provides best convenience for installation and replacement and is easy to handle. No glueing or cutting on site is necessary.

Contrast colors are available in various types of paint and coating. Additional White-Caps on top of the pyramidal parts and ferrites can be installed as a design element.

E&C Anechoic Chambers and Albatross Projects are present and active in the relevant national and international standard committees. We have the expertise to perform all kinds of EMC test site validation measurements according to the relevant standards like CISPR 16, CISPR 12, CISPR 25, CISPR 36, IEC 61000-4-3, IEC 61000-4-22, ISO 11452-2, ANSI C 63.4, VCCI etc.

Measurement Techniques

WAVASORB VHY is manufactured in well-defined batches, and their reflectivity and fire-retardant properties are continuously monitored following internal ISO 9001 procedures.

The intrinsic material parameters are regularly measured with state-of-the-art test set ups and optimized using simulation softwares. WAVASORB VHY is tested routinely in the frequency range from 100 kHz to 40 GHz using a set of coaxial lines, waveguides, NRL Arches and in a Compact Range even exceeding IEEE Standard 1128 in the GHz range.

WAVASORB VHY has excellent power handling capability to safely withstand an incident CW power density of up to 800 W/m².

Applications

WAVASORB VHY is the preferred technical solution for commercial and military EMC chambers enabling typical measurement distances from 1 m up to 10 m with any volume sizes.

Our engineering is assisted by state of the art simulation tools. Special customer solutions can be designed by modelling of the EMC chamber in the relevant frequency range for emission and immunity. The VHY absorber is the perfect absorber for the entire EMC frequency range from 9 kHz up to 40 GHz.

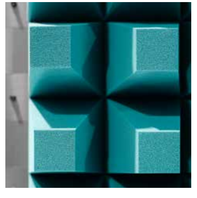
Electromagnetic Properties

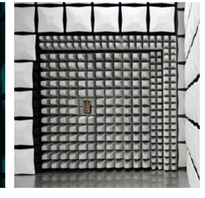
	30 MHz	40 MHz	50 MHz	70-200 MHz	200-500 MHz	700 MHz	1 GHz	1.2 GHz	2 GHz	6 GHz	10 GHz	15-100 GHz
WAVASORB VHY-12	-13 dB	-16 dB	-17 dB	-18 dB	-18 dB	-17 dB	-15 dB	-13 dB	-18 dB	-14 dB	-20 dB	-25 dB
WAVASORB VHY-18	-13 dB	-17 dB	-18 dB	-19 dB	-20 dB	-17 dB	-15 dB	-14 dB	-18 dB	-16 dB	-30 dB	-30 dB
WAVASORB VHY-30	-13 dB	-18 dB	-20 dB	-20 dB	-20 dB	-18 dB	-15 dB	-15 dB	-18 dB	-30 dB	-35 dB	-35 dB

Physical Properties

	Total height (cm)	Number of pyramids per piece	Nominal weight (*) (kg)
WAVASORB VHY-12	32.5	16	3.5
WAVASORB VHY-18	45.7	9	5.0
WAVASORB VHY-30	77.4	4	6.5

Standard Footprint: 60 x 60 cm
(*) without ferrite tiles WAVASORB FT





Characteristics

Standard Color	Blue (contrast colors available on request)	RoHS Compliant	According to 2011/65/EU
Operation Temperature	+5°C to +35°C	Reach Compliant	According to EC 1907/2006
Humidity Range	30% to 70%	Environmental	IEC 60068-2-1 Test Ab AATCC 30-IV (2004)
Frequency Range	9 kHz - 100 GHz	Quality Control	IEEE Standard 1128 ISO 9001
Maximum Incident Power Density	800 W/m², 0.52 W/in², 550 V/m	Product Life	20+ Years
Fire-retardancy	NRL 8093 Tests 1, 2 and 3 DIN 4102-1 ISO 11925-2 Class E UL-94HBF ISO 4589-2		

BEST RESULTS FOR PIONEERING SUCCESS

think global

WAVASORB® VHP CO:
Coated Absorber

WAVASORB® HFX/HFS:
High Power Absorber

WAVASORB® VHP FL:
Walkable Floorabsorber

WAVASORB® VHP:
Broadband Pyramidal Absorber

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Specifications subject to change without notice. ECAC 09/2017