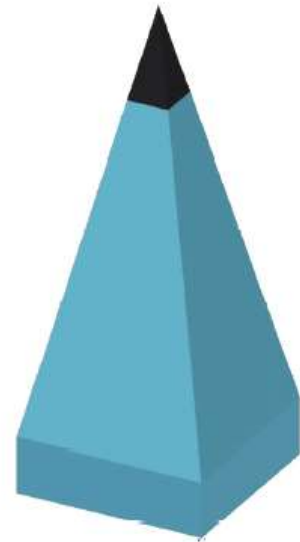


# WAVASORB® HHP-60

Advanced Broadband Hollow Pyramidal Absorbers



- WAVASORB® HHP-60 is a hollow, pyramidal shaped, carbon-loaded polyurethane foam absorber
- Premium performance starting at low frequencies (from 60 MHz)
- 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® HHP-60



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 can provide customized solutions to accommodate cleanroom requirements, flexible coatings and paintings to improve durability, and engineered pre-cuts and custom parts fit for equipment linings.

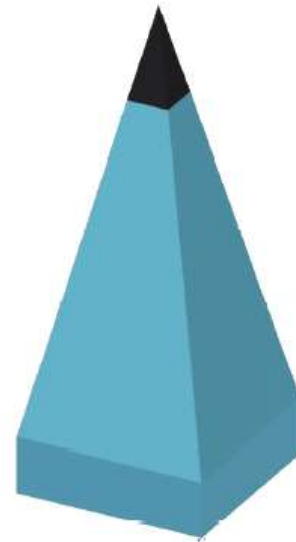
Perfectionism is our goal, with special attention to the dimensions and geometry of the individual absorber panels that enhance performance as well as optical appearance of the entire test facility.

## Measurement Techniques

WAVASORB® HHP-60 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 software. WAVASORB® HHP-60 is tested routinely in the frequency range from 30MHz to 9 GHz using a set of coaxial lines, waveguides, NRL Arch even exceeding IEEE Standard 1128 in the GHz range.

WAVASORB® HHP-60 has excellent power handling capability to safely withstand an incident CW power density of up to 800 W/m<sup>2</sup>.



# WAVASORB® HHP-60



## Installation Methods and Chamber Validation

WAVASORB® HHP-60 is typically bonded to metallic surfaces using E&C Adhesive. For easy exchange, modular installation techniques are available using Plate & Rail mounting to achieve perfect geometry and alignment compatibility with any type of shielding.

Contrast colors are available in various types of paint and coating.

E&C Anechoic Chambers has developed VSWR Field-Probe measurement techniques for anechoic chamber validation, verifying the chamber performance at the system level.

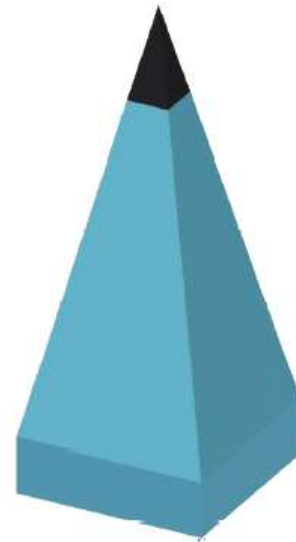
## Applications

WAVASORB® HHP-60 is a preferred solution for anechoic chambers which require a light-weight absorber and a very good performance starting from 60 MHz.

The light weight is enhanced by the fact that the absorber is hollow.

The excellent performance is due to many design features:

- The hollow design helps to achieve a better control over the production process compared to full absorbers.
- The thick walls of the pyramid together with their tapered design, provides impedance matching over a wide frequency band.



# WAVASORB® HHP-60



## Characteristics

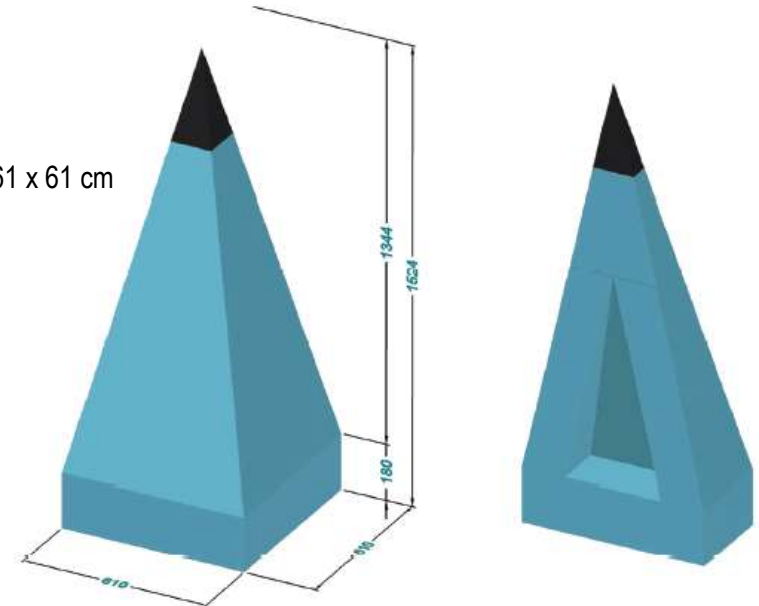
Standard Color	Blue (contrast colors available on request)
Operation Temperature	+5°C to +35°C
Humidity Range	30% to 70%
Frequency Range	30 MHz - 100 GHz
Maximum Incident Power Density	800 W/m <sup>2</sup> , 0.52 W/in <sup>2</sup> , 550 V/m
Fire-retardancy	NRL 8093 Tests 1, 2 and 3 DIN 4102-1 Class B2 ISO 11925-2 Class E UL-94/HBF ISO 4589-2
RoHS Compliant	According to 2011/65/EU
Reach Compliant	According to EC 1907/2006
Environmental	IEC 60068-2-1 Test Ab AATCC 30-IV ( 2004 )
Quality Control	IEEE Standard 1128 // ISO 9001
Product Life	10+ Years

## Physical Properties

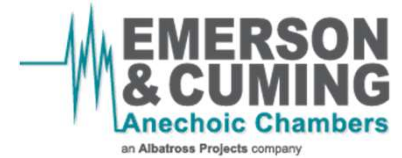
	Total height (cm)	Number of pyramids per piece	Nominal weight (*) (kg)
WAVASORB® HHP-60	152.4	1	15

Standard Footprint: 61 x 61 cm

(\*) without backing plate



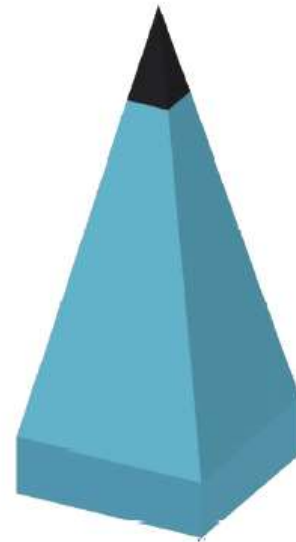
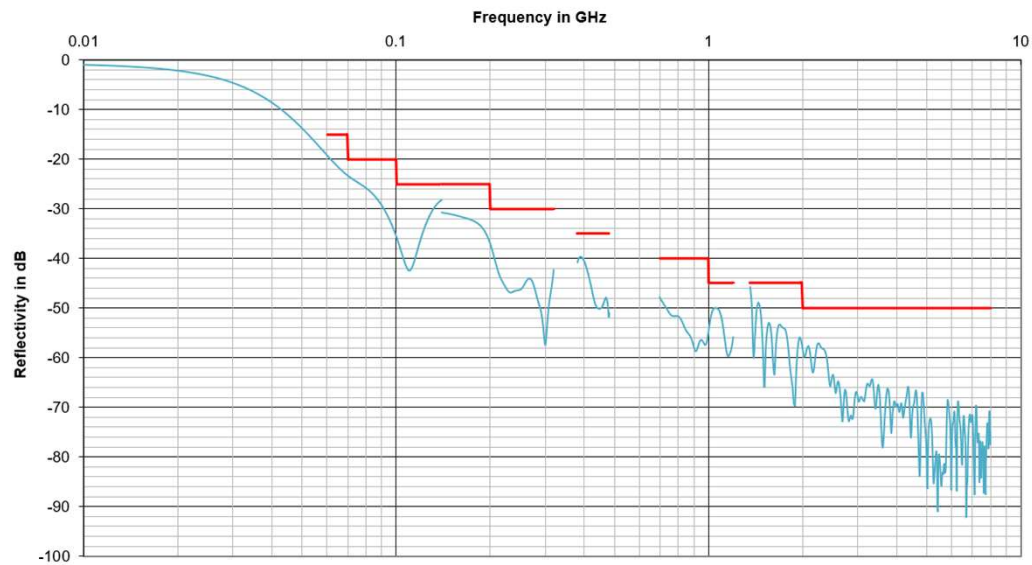
# WAVASORB® HHP-60



## Guaranteed Reflectivity

60-70 MHz	70-100 MHz	100-200 MHz	200-320 MHz	380-480 MHz	700-1000 MHz	1-2 GHz	2-40 GHz
-15 dB	-20 dB	-25 dB	-30 dB	-35dB	-40 dB	-45 dB	-50 dB

## Typical Reflectivity





BEST RESULTS FOR  
PIONEERING SUCCESS  
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■  
E&C Anechoic Chambers NV  
Nijverheidsstraat 7A  
B-2260 Westerlo  
Belgium

Tel.: +32 14 59 58 00  
Fax: +32 14 59 58 01

[info@ecanechoicchambers.com](mailto:info@ecanechoicchambers.com)  
[www.ecanechoicchambers.com](http://www.ecanechoicchambers.com)

■  
Albatross Projects RF Technology  
India Pvt. Ltd  
312, Siddhraj Zori, Near Sargasan Cross, KH-0,  
Off S.G. Highway  
Gandhinagar, 382421  
India

Tel.: +91 97 3737 9537  
Fax: +91 79 2975 0780

[info@albatross-projects.in](mailto:info@albatross-projects.in)  
[www.albatross-projects.de](http://www.albatross-projects.de)

■  
E&C Anechoic Chambers Asia Ltd  
Flat/Rm 303, 3/F St. George's Bldg  
2 Ice House Street, Central  
Hong Kong

Tel.: +852 3972 2173  
Fax: +852 3972 2211

[jtsang@ecanechoicchambers.com](mailto:jtsang@ecanechoicchambers.com)  
[www.ecanechoicchambers.com](http://www.ecanechoicchambers.com)

■  
Albatross Projects RF Technology  
(Shanghai) Co., Ltd.  
Block 35, No. 100 Baise Road  
Inside Grand Skylight Gardens Hotel  
200231 Shanghai  
P.R. China

Tel.: +86 21 6434 1110  
Fax: +86 21 6434 7800

[info@albatross-projects.com.cn](mailto:info@albatross-projects.com.cn)  
[www.albatross-projects.com.cn](http://www.albatross-projects.com.cn)

■  
Albatross Projects GmbH  
Daimlerstrasse 17  
89564 Nattheim  
Germany

Tel.: +49 7321 730 500  
Fax: +49 7321 730 590

[info@albatross-projects.com](mailto:info@albatross-projects.com)  
[www.albatross-projects.com](http://www.albatross-projects.com)

■  
AP Americas Inc.  
8101 Ridgepoint Drive, Suite 107  
Irving, TX 75063  
USA

Tel.: +1 972 295 9100  
Fax: +1 972 810 3223

[info@apamericas.com](mailto:info@apamericas.com)  
[www.apamericas.com](http://www.apamericas.com)

Safety Considerations: It is recommended to consult the E&C ANECHOIC CHAMBERS product literature, including material safety data sheets, prior to use E&C ANECHOIC CHAMBERS products. These may be obtained from your local sales office.

Warranty: Values shown are based on testing of laboratory test specimens and represent data that falls within the normal range of properties of the material. 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.

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