

■ Description :

ECCOSORB VHY is a solid, pyramidal shaped, carbon-loaded hybrid absorber which has been designed for use in EMC test chambers. It consists of a thin lightweight matching layer and a pyramidal shaped resistive top part. It is meant to be used on top of ferrites and provides an adequate wideband performance for EMC test chamber applications in the frequency range from below 30 MHz to over 30 GHz when combined with the correct ferrite. Frequently it is the only possible absorber choice if there are severe space constraints.

For large EMC facilities (TL = 10 meters and large EUT), ECCOSORB HX (see Technical Bulletin EB-125) is usually the most cost-efficient absorber solution.

For antenna or RCS test chambers, ECCOSORB VHP (see Technical Bulletin EB-100) are usually the preferred solutions because of better performance at microwave frequencies.

Whereas the ferrite part is non-combustible, the matching and pyramidal parts are fire-retardant according to the U.S. Naval Research Laboratory (NRL) 8093 Specification.

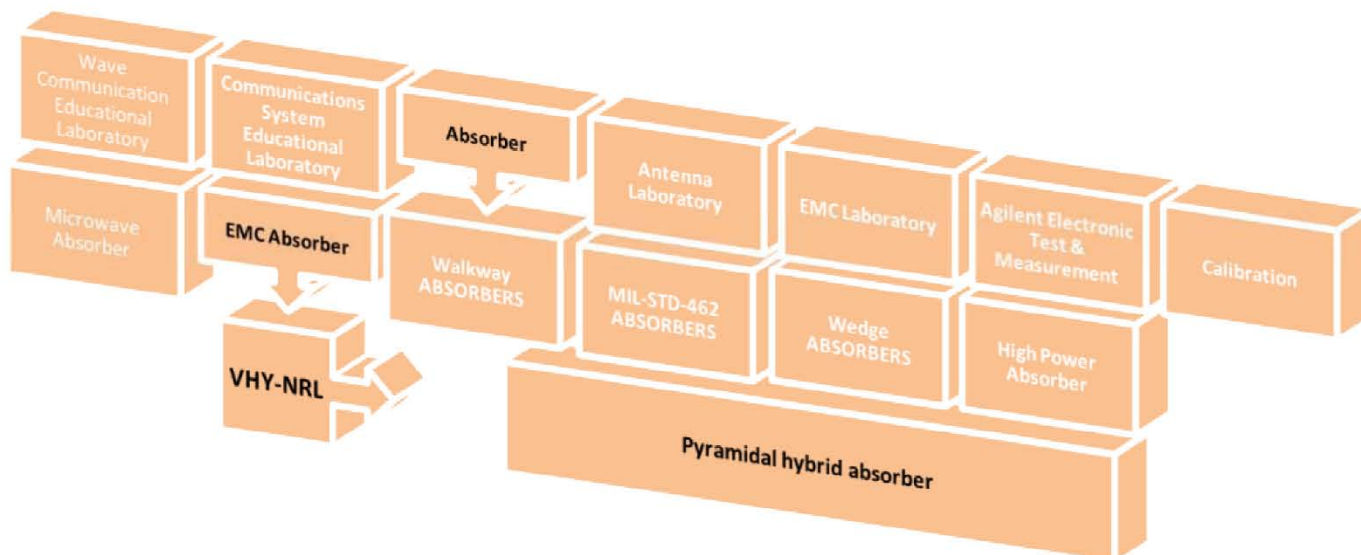


■ Application :

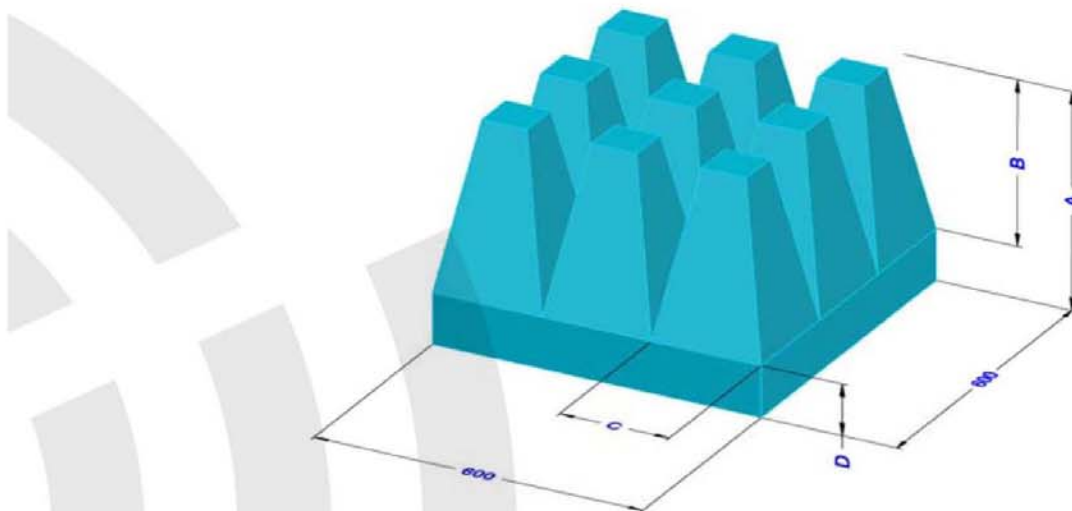
Typically ECCOSORB VHY-12 and VHY-18 are used in fully compliant 3 m chambers whereas ECCOSORB VHY-30 and VHY-40 are used in fully compliant 10 m chambers. However, the optimal lay-out depends on the precise chamber dimensions and test configuration. It can only be determined by numerical simulation of the performance of the proposed anechoic chamber.

■ Physical properties :

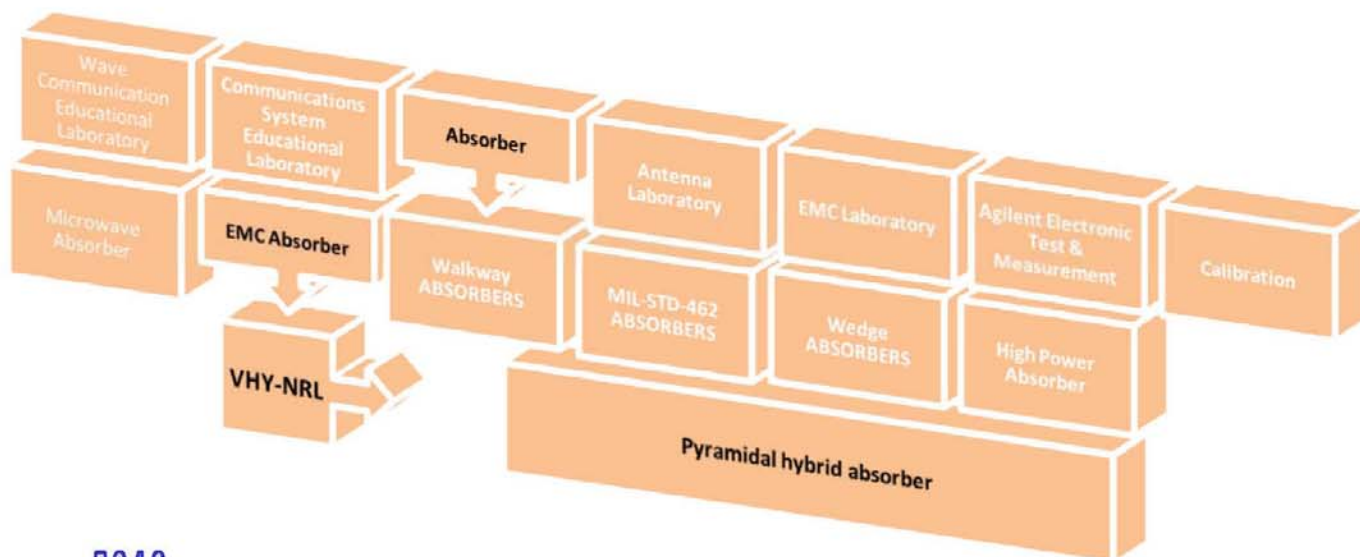
	VHY-NRL Truncated pyramidal resistive absorber
Standard Colour	Blue
Base size (cm)	60 x 60
Max Service Temp	90°C
Power Handling	1,5 kW/m ² or 600 V/m
Fire Retardancy	NRL 8093 tests 1, 2 and 3 / ISO 11925-2 / DIN 4102 Class B2

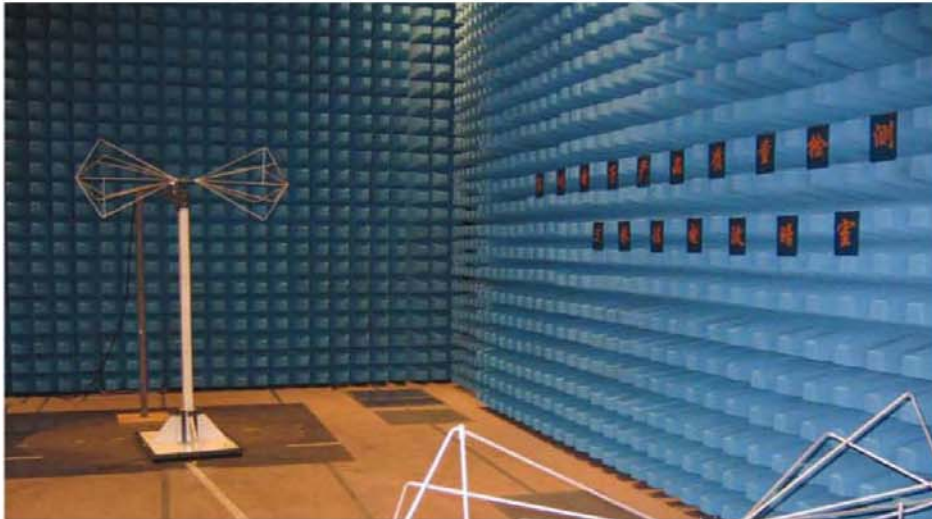


■ Nominal dimensions and weights of Eccosorb VHY-NRL



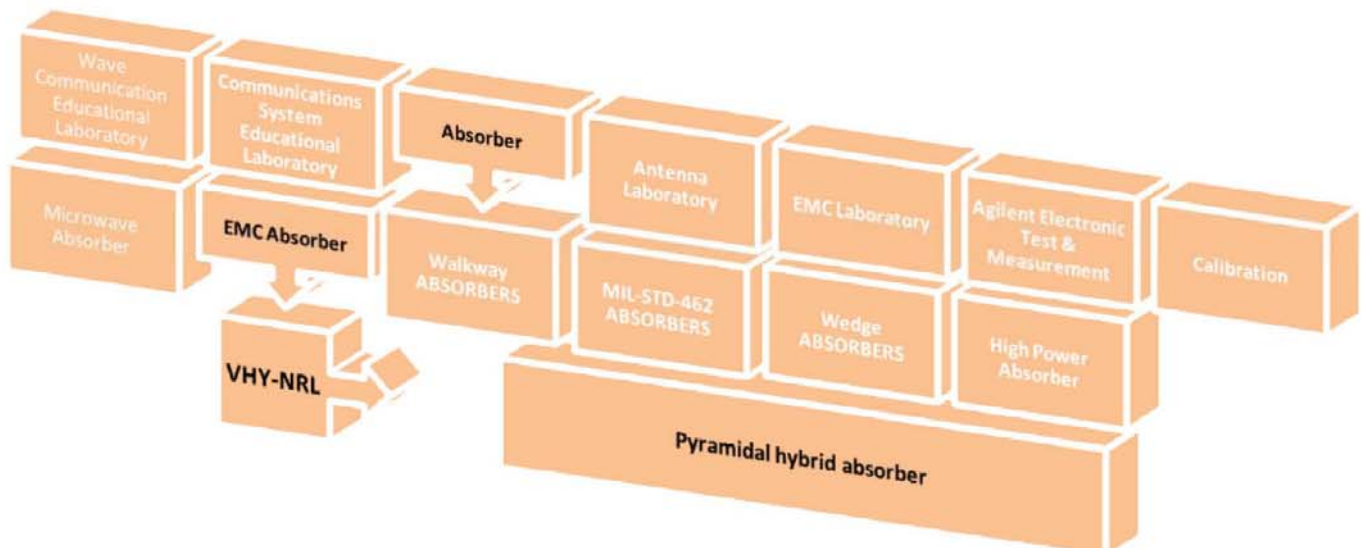
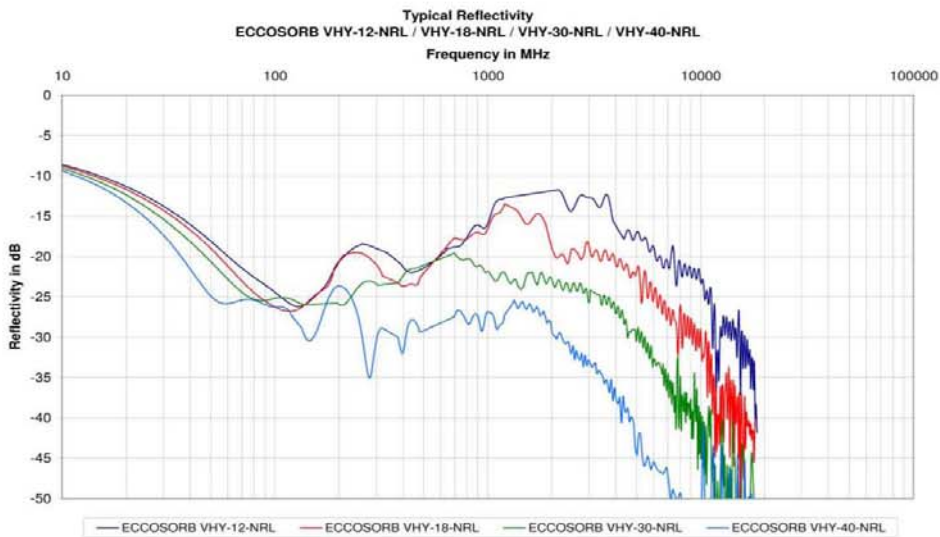
ECCOSORB VHY grade	Total height A (cm)	Pyramid height, B (cm)	Pyramid width, C (cm)	Base height, D (cm)	Number of pyramids per piece	Nominal weight (kg)
VHY-12-NRL	32,5	25,3	15,0	7,2	16	3,0
VHY-18-NRL	45,7	34,5	20,0	11,2	9	3,6
VHY-30-NRL	77,4	69,2	30,0	8,2	4	4,5
VHY-40-NRL	99,6	81,6	60,0	18,0	1	9,3





3 meters semi anechoic EMC chamber lined with ECCOSORB VHY-12-NRL hybrid absorbers. The chamber is shown during radiated emission calibration with biconical broadband antennas.

■ **Electromagnetic properties :**



■ Availability :

ECCOSORB VHY is available in four thicknesses according to the required performance. It concerns ECCOSORB VHY-12, VHY-18, VHY-30 and VHY-40 where the numbers give the total hybrid absorber thickness in inches.

The ferrites for use in Anechoic Rooms consist of 10 cm x 10 cm ferrite tiles which have to be glued or screwed carefully to a flat metallic surface. Most often the tiles will be supported by the shielded walls, ceiling and floor of the shielded room surrounding the EMC test chambers.

The matching and pyramidal part of the absorber pieces have base dimensions of 60 cm x 60 cm and are adhered to the ferrite tiles.

ECCOSORB VHY can be delivered with white-caps as shown in the photograph below. White-caps offer several advantages like light reflecting white walls, protected absorber tops, more attractive working volume, chamber easier to clean.

