

EMC ABSORBER FOR FERRITE CHAMBER 1 - 40 GHz

HY & HYT are high performances electromagnetic absorbers to be installed over ferrite tiles. They are used in EMC anechoic chambers to get broadband reflectivity performances.

These absorbers are dedicated to new chambers or within the framework of retrofit / upgrade.



DESCRIPTION

SIEPEL has developed a **specifically matched EMC pyramidal absorber** which provides **high performances** over the frequency range 1 GHz – 40 GHz. Its broadband features make it ideal to meet the specifications of:

- **EMI** standards, such as CISPR 16-1-4, CISPR 25, ISO 11452-2, EN 50147-2, EN 55022, ANSI C63.4 and similar standards.
- **EMS** standards, such as EN / IEC 61000-4-3,
- **MIL-STD** and **DO** applications.

MAIN FEATURES

- To be combined with ferrite tiles, either for new EMC chambers, existing ones or refurbishment
- Very broadband frequency range 1 GHz – 40 GHz
- Performances guaranteed for 20 years
- Unique plastic paint
- Service temperature: 0°C (32°F) up to +50°C (122°F)

RF POWER HANDLING

These absorbers are designed to handle a power density up to **2000 W/m² / (1.29 W/in²)**



GUARANTEED PERFORMANCES

These reflectivity performances values are outstanding and **guaranteed for 20 years**. They are based on extensive experience in electromagnetic absorbers manufacturing. Their reflectivity performances are **factory checked**, using cutting-edge broadband equipment (14 m long coaxial line with a 1.83 x 1.83 m section, fully anechoic chamber with optimised design, VNA). In addition, we offer our customers to perform reflectivity measurements in our factory with SIEPEL engineers.

Let us know which ferrite tiles you intend to use and we will provide expected performances.

We can also provide a combined hybrid solution, based on our experience and simulation capabilities. Refer to our datasheet HYBRID PYRAMIDAL ABSORBER HY & HYT for more information.

| Guaranteed reflectivity performances (dB) at normal incidence | | | | | | | |
|---|-------|-------|-------|-------|--------|--------|--------|
| Type | 1 GHz | 2 GHz | 4 GHz | 8 GHz | 12 GHz | 18 GHz | 40 GHz |
| HY20T+ | - 11 | - 10 | - 10 | - 10 | - 10 | - 12 | - 16 |
| HY30T+ | - 13 | - 14 | - 14 | - 20 | - 20 | - 25 | - 25 |
| HY45T+ | - 16 | - 17 | - 20 | - 26 | - 28 | - 30 | - 30 |
| HY60T+ | - 20 | - 21 | - 27 | - 30 | - 30 | - 40 | - 40 |
| HY20 | - 12 | - 10 | - 10 | - 12 | - 14 | - 16 | - 16 |
| HY30 | - 13 | - 11 | - 11 | - 14 | - 15 | - 20 | - 20 |
| HY45 | - 15 | - 13 | - 16 | - 18 | - 20 | - 24 | - 24 |

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DIMENSIONS

| Type | Overall Height | | Pyramid Height | | Base Height | | Base Width | | Weight | |
|-------------|----------------|-----|----------------|-----|-------------|-----|---------------|-----------|--------|-----|
| | In | mm | in | mm | in | mm | In | mm | Lb | kg |
| HY20 T / T+ | 3.94 | 100 | 1.77 | 45 | 2.17 | 55 | 23.82 x 23.82 | 605 x 605 | 3.75 | 1.7 |
| HY30 T / T+ | 7.87 | 200 | 5.51 | 140 | 2.36 | 60 | 23.82 x 23.82 | 605 x 605 | 5.51 | 2.5 |
| HY45 T / T+ | 13.78 | 350 | 10.82 | 275 | 2.95 | 75 | 23.82 x 23.82 | 605 x 605 | 7.50 | 3.4 |
| HY60 T / T+ | 19.68 | 500 | 15.75 | 400 | 3.94 | 100 | 23.82 x 23.82 | 605 x 605 | 9.48 | 4.3 |
| HY20 | 8.27 | 210 | 5.79 | 147 | 2.48 | 63 | 23.82 x 23.82 | 605 x 605 | 4.63 | 2.1 |
| HY30 | 12 | 305 | 9.65 | 245 | 2.36 | 60 | 23.82 x 23.82 | 605 x 605 | 5.73 | 2.6 |
| HY45 | 17.91 | 455 | 14.96 | 380 | 2.95 | 75 | 23.82 x 23.82 | 605 x 605 | 8.16 | 3.7 |



SPECIAL COATING

SIEPEL **plastic paint coating** was developed to:

- **optimise carbon binding:** no finger marks, no pollution or carbon dust,
- Both aqueous and plastic paint coating were developed to complies with ISO class 4 clean room conditions according to ISO 14644-1 : 2015.
- **Improve aesthetics** (brightness) and **lifetime**.

This coating provides:

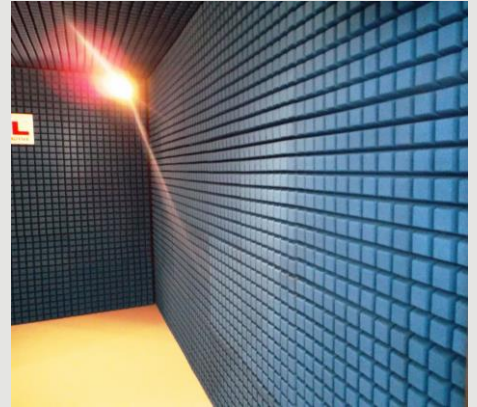
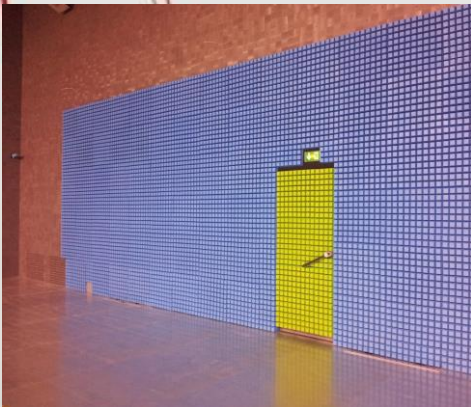
- an excellent **shape memory** to absorber
- an **extreme softness:** absorber is therefore not easily breakable and highly suitable for heavy duty chambers

This coating is proposed in whatever colour you want: contact us to customize your chamber.

FIRE RETARDANT PROPERTIES

EMC pyramidal absorbers are tested in SIEPEL's internal fire test lab as well as in independent test laboratories. HY & HYT absorbers are compliant with the following tests and standards:

- ISO 11925-2 Euroclass E
- NRL 8093 – tests 1, 2 & 3
- DIN 4102 – B2
- UL 94 HBF upon request



These data are the result of tests performed in our laboratory. The use of the material and the performance specifications are the entire responsibility of the users who should ensure that the material is suitable for their purposes