

clipso sound[®]

Acoustic comfort for your ears!



Introduction

Noise pollution is today recognised by the scientific community as being a source of daily discomfort and stress, whether in public or private spaces. It has a significant impact upon health and performance.

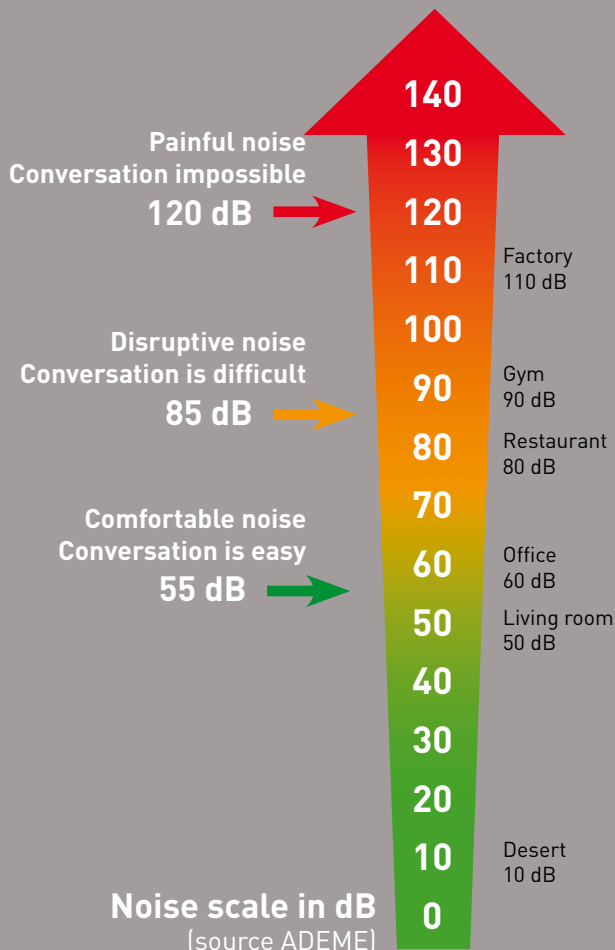
This is one of the reasons for which there is an increasing number of regulations regarding acoustics.

Good acoustics are not random but require the kind of know-how and expertise that **clipso** can provide.

Thanks to the coverings specially developed for ceilings and walls, **clipso** contributes to the good acoustics of your environment and thus provides a source of comfort and wellbeing to which we all aspire, with good reason, in our daily lives.



IBC Innovation Factory - Denmark - Architect: Schmidt Hammer Lassen Architects - Fitter: Ralbo Aps



How can you improve the acoustic performance of your premises?

Two aspects can have an impact in this area:

- Acoustic insulation concerning the building: construction materials, partitions, windows, etc.
- The acoustic absorption which applies to different rooms and which influences the propagation of sound in these rooms.

This second aspect is where **clipso** acoustic coverings come in, for both stretch walls and ceilings.



What are the important parameters in terms of acoustic improvement?

To achieve good results and acoustics, several approaches must be involved:

- The level of sound pressure: the noise level measured in dB (decibels), the best-known concept to the general public;
- The reverberation time: the amplitude of a room's echo;
- Spoken intelligibility: ease of understanding verbal exchanges;
- Acoustic insulation: amount of sound not transmitted from one room to another.

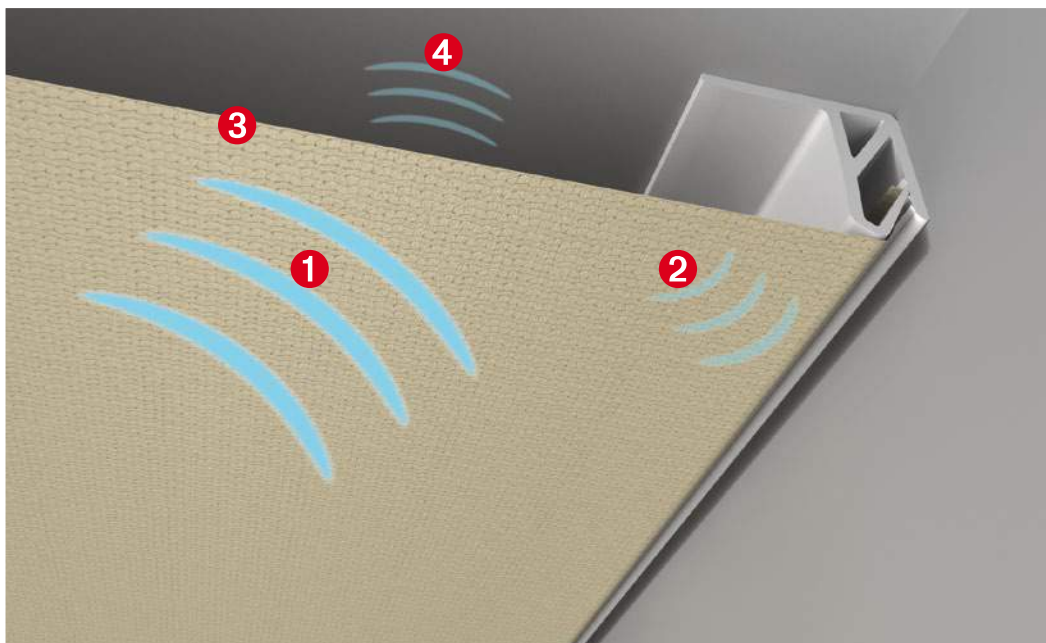
clipso: an optimal acoustic asset

clipso coverings together with acoustic insulators provide an excellent performance. Thus an adapted acoustic absorption makes the space appropriate for its use. This avoids the unpleasant effects like a loss of bearings, poor intelligibility and the 'cocktail party effect'.



What exactly is the acoustic absorption coefficient?

When a sound wave meets a material, energy disperses as follows: part of it is reflected, another part is absorbed into the material and a third part passes through the material.



- 1 The start of the acoustic wave
- 2 Sound is reflected upon contact with the covering
- 3 Sound is absorbed by the covering
- 4 Sound passes through the covering

- The acoustic absorption coefficient results from the ratio of absorbed sound energy to incident sound energy. **It is expressed in α_s (alpha Sabine), with a grade of 1 meaning that all sound is absorbed.**

- Another significant criterion in which the **clipso** acoustic coverings provide excellent results: the reverberation time (RT_{60}).

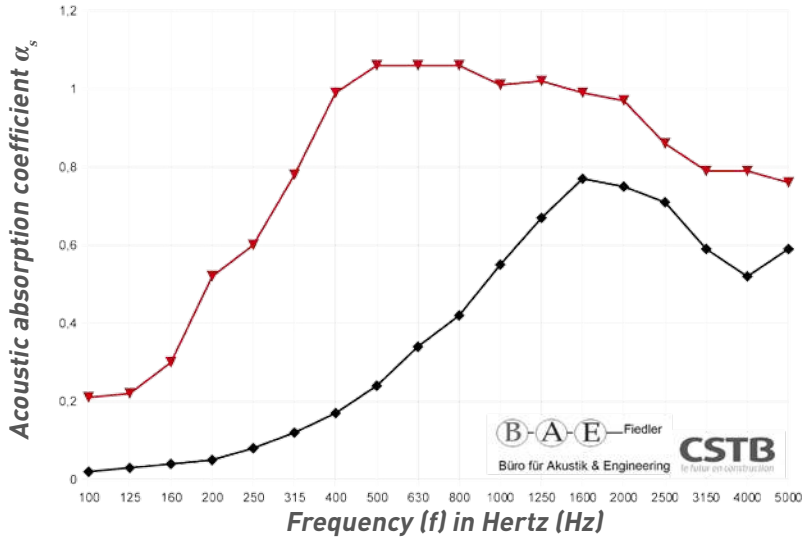
This is defined as the time needed for the level of sound pressure to decrease by 60 dB (decibels) after the interruption of the sound source. It is given in seconds, and the lower the time, the greater the acoustic comfort it provides. **Depending on the setting and the frequency, it is possible to gain more than 6 seconds using the acoustic solutions offered by clipso.**

clipso proposes a choice of four coverings: 705 A (Acoustics), 495 D (Acoustics), 495 AC (Acoustic Colours) and 495 AT (Acoustic Translucent).

Technical characteristics of the 495 D and 495 AC covering

Polyester knitted fabric coated with polyurethane (PU) - Openwork mesh, 250 000 holes/m² - Width up to 5.10m
 Thickness: 0.4 mm - Weight: 235 gr/m² (+/- 10 %) - Colours: 3 (495 D) and 20 (495 AC) - Appearance: mat, smooth and uniform - Fire reaction: Euroclass - Tear strength: CH 5.5 daN/TR 7.5 daN - Light fastness > 8

The 495 D covering offers the same acoustic performance whether printed or not.

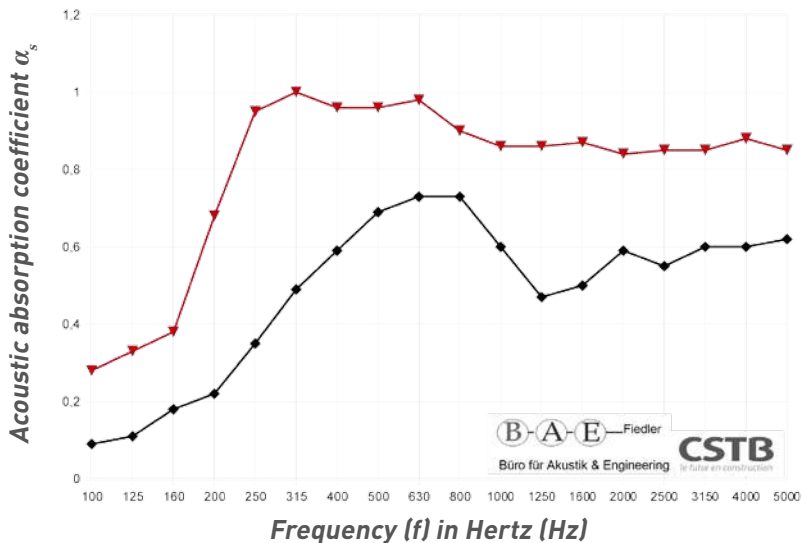


▼ 495 D / AC covering with insulation
 $\alpha_s = 1$ - Classification: A

Original wall or ceiling
 Insulation LA54 (50 mm)
 Empty plenum space (55 mm)
 495 D / AC covering (0.4 mm)

◆ 495 D / AC covering without insulation
 $\alpha_s = 0.30$ - Classification: D

Original wall or ceiling
 Empty plenum space (55 mm)
 495 D / AC covering (0.4 mm)

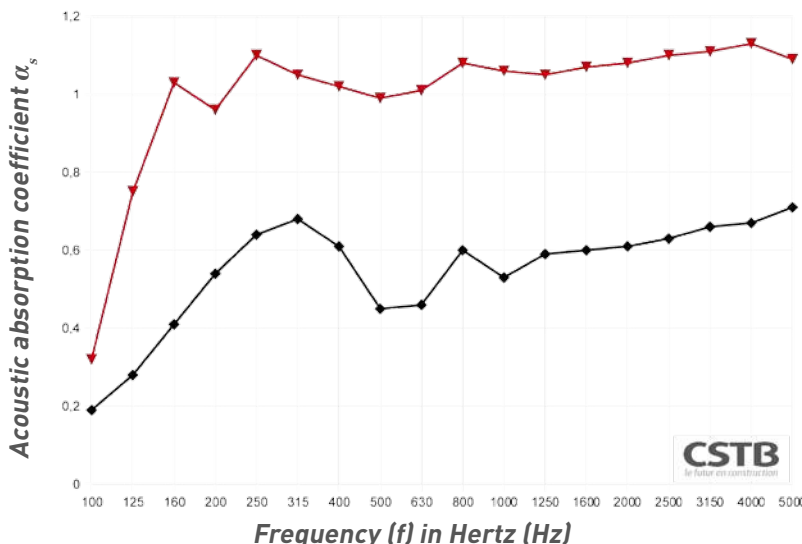


▼ 495 D / AC covering with insulation
 $\alpha_s = 1$ - Classification: A

Original wall or ceiling
 Insulation LA54 (50 mm)
 Empty plenum space (155 mm)
 495 D / AC covering (0.4 mm)

◆ 495 D / AC covering without insulation
 $\alpha_s = 0.60$ - Classification: C

Original wall or ceiling
 Empty plenum space (155 mm)
 495 D / AC covering (0.4 mm)



▼ 495 D / AC covering with insulation
 $\alpha_s = 1$ - Classification: A

Original wall or ceiling
 Glass wool (100 mm)
 Empty plenum space (355 mm)
 495 D / AC covering (0.4 mm)

◆ 495 D / AC covering without insulation
 $\alpha_s = 0.55$ - Classification: D

Original wall or ceiling
 Empty plenum space (355 mm)
 495 D / AC covering (0.4 mm)

NEW

Thanks to a totally innovative covering, fruit of **clipso** research, the **495 AT acoustic covering** is a major technical achievement, associating top-notch **acoustic performance** with the **possibility to integrate lighting in one and the same covering**.

Associated with a sound absorber, the 495 AT covering's **acoustic performance** is excellent (alpha sabine 0.95) and allows you to integrate **backlighting that will ensure a perfect result**.

The best way to meet **requirements, both aesthetic and technical, in spaces with a distinct ambience**: universities, companies, museums, restaurants, shops, hotels, airports, cinemas, thalassotherapy centres and spas, etc.

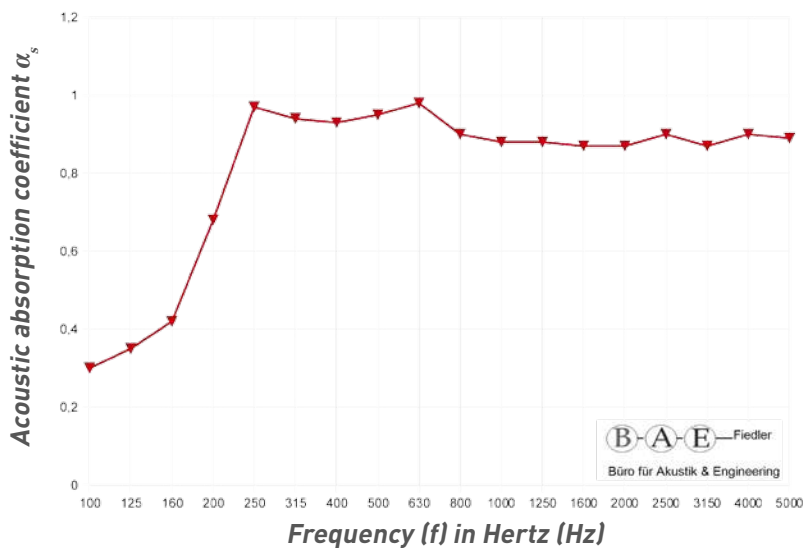
When treatment of light and sound transforms our daily lives.



Saskatoon International Airport, Canada - Architect: Kindrachuk Agrey Architecture - Fitter: Snap-TEX Canwest

Technical characteristics of the 495 AT covering

Polyester knitted fabric coated with polyurethane (PU) - Openwork mesh, 250 000 holes/m² - Width up to 5.10 m
 Thickness: 0.4 mm - Weight: 235 gr/m² (+/- 10%) - Colour: 1 - Appearance: mat, smooth and uniform
 Fire reaction: Euroclass - Tear strength: CH 5.5 daN/TR 7.5 daN - Light transmission: 40%



▼ 495 AT covering with insulation
 $\alpha_s = 0.95$ - Classification: A

Original wall or ceiling
Insulation LA54 (50 mm)
Empty plenum space (55 mm)
495 AT covering (0.4 mm)

Other acoustic tests are available; please address your request to our sales department at this e-mail address: service.commercial@clipso.com.



Zac Claude Bernard BNPPi, France - Project manager for Didier Gomez; Elisabeth Haulin - Fitter: Langlois Sobreti



Company restaurant, Belgium - Fitter: Mona Visa Architect: Lineos-Chris Vantornout



Aquatic complex, Badewelt Sinsheim, Germany Architect: Architekturburo Wund - Fitter: Art Design Hahn Distributor: Baumann Spanndecken



Office, Belgium - Fitter: Mona Visa Architect: Lineos-Chris Vantornout

CLIPSO Productions
5 rue de l'Église
68 800 Vieux-Thann
France

Tel. +33 (0)3 89 37 10 84
Fax +33 (0)3 89 37 48 92

Email: info@clipso.com
Web: www.clipso.com

