

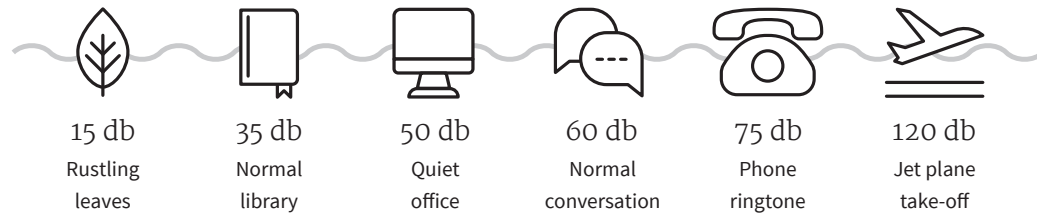
About Sound

What is sound?

Sound can be described as pressure waves fluctuating in the air. We hear sound when air pressure variations are transmitted to our ears and further transferred as nerve signals to our brains. Sound level is measured in Decibels (dB), and sound frequency in Hertz (Hz).

What is noise?

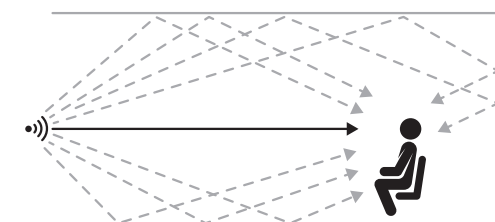
Noise is unwanted sound, for example background conversations, alarms and ringtones, electrical appliances or traffic noise.



Reverberation time.

Reverberation Time (RT) is one of the most important terms in acoustics, because it shows how quickly sound/noise decreases after the sound source stops. The higher the RT, the bigger the „echo” effect in a room. Sound waves which „meet” hard surfaces like glass, bare floors or concrete are continuously reflected, creating an annoying background noise. It makes it very difficult to focus, listen and talk in comfort. A reverberation time that is too long in relation to the size and function of the room is the main cause of a poor acoustic environment.

A balanced acoustic environment always depends on the purpose of the room. In a restaurant, a good acoustic environment may allow a certain degree of background noise as an element of social interaction. In an office however, background noise of colleagues chatting while we try to focus on our work, is clearly unwanted. In spaces with poor acoustic environment it is crucial to optimize the RT to a desirable level by installing properly designed sound absorbing products. HUSH products have been tested in professional reverberation chambers in accordance with the international standards EN ISO 354 and EN ISO 11654.



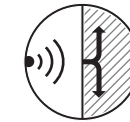
Reverberation. Multiple sound reflections.

-)) sound source
- direct sound
- - - - - reflected sound

Absorption & Attenuation.

An ideal combination of sound absorption and sound attenuation can drastically improve acoustic comfort in any space. Sound absorption reduces unwanted noise and sound attenuation blocks it from travelling between spaces. HUSH products have been designed and tested to create a pleasant acoustic environment in your room.

Absorption.



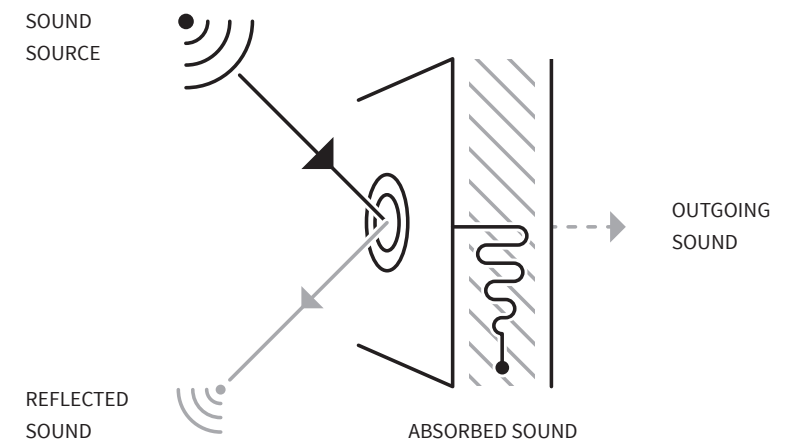
Sound absorption shows the ability to stop the sound wave that hits the surface and transform it into an unnoticeable heat energy. Sound absorbers improve room acoustics by eliminating sound reflections and reducing the reverberation time. Absorption is measured according to EN ISO 354 and can be expressed as:

- Sound absorption coefficient α . α ranges from 0 (total reflection) to 1 (total absorption). Weighted α_w results can be further classified into a specific sound absorption class, between A and E, where A means the highest sound absorption. This measure is used for sound absorbing elements covering surface of min. 10 m² on the wall or ceiling.
- Equivalent sound absorption area Am² compares the area of product analyzed to a perfect sound absorber. One Am² is equal to one square meter of full absorption. It is recommended to use this measure, rather than sound absorption class, for any single free-standing or desk acoustic screens.

Attenuation.



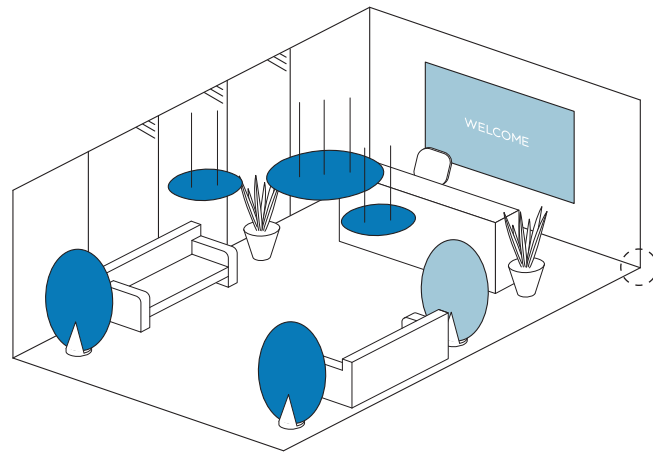
Sound attenuation shows the ability to reduce transmission of sound/noise through a screen. Screens with good attenuation play a role of sound shields between one space and another. Sound attenuation is measured according to EN ISO 10053 and is expressed as sound level decrease in dB thanks to blocking properties of an acoustic screen.



Design for Silence

Our day in the office requires constant switching between focusing on individual tasks and team work, where we often disturb each other in all parts of the office. Scientific research shows that continuous noise at work results in distraction, stress and may increase the rate of errors, burn-outs and even sick leaves. It is therefore crucial to aim for a balanced acoustic environment while designing all spaces in our offices.

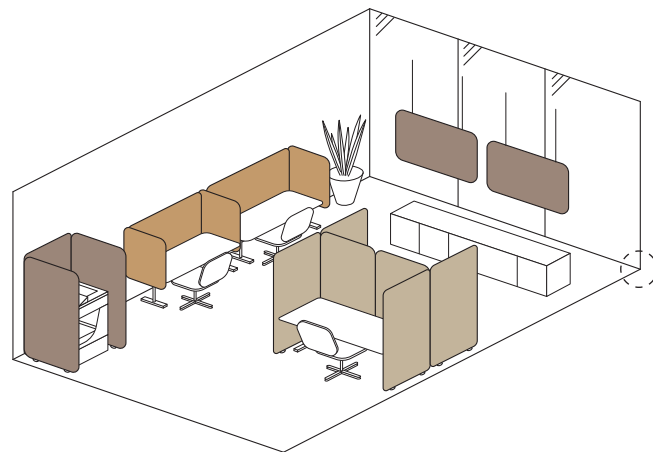
Welcome area.



Featured products:
Blocks ceiling
Cone Round
Print

Reception is usually a vast space with high ceilings and hard, reflecting surfaces on the ground and walls. Reception area is the showcase of your company, where guests should feel comfortable communicating with the reception staff or waiting for their meeting. Wall and ceiling panels with a high degree of sound absorption will create a more pleasant environment.

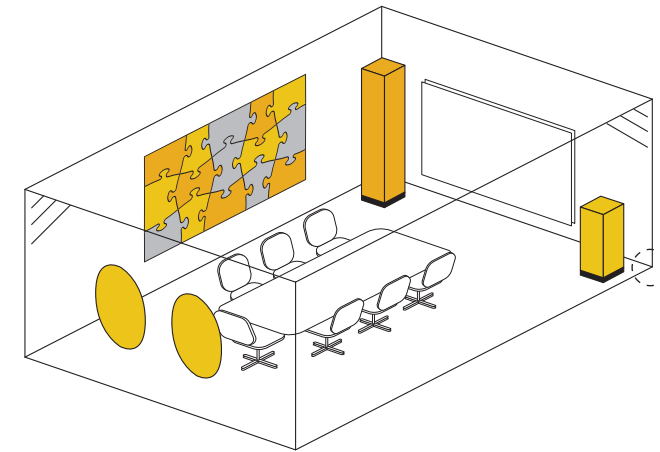
Focus area.



Featured products:
Duo hanging
Duo desk
Wall

We spend most of our working day at the desk, surrounded by co-workers, where we perform multiple tasks requiring high level of focus. In an open-space office, we should minimize speech and other background noises from spreading between workstations, by installing screens with great sound attenuation properties.

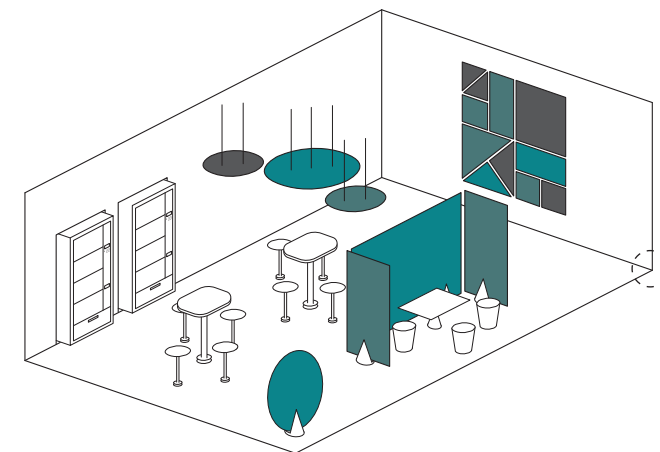
Formal meetings.



Featured products:
Puzzle
Tower
Blocks wall

Meeting rooms very often have one or two glass walls, and a whiteboard. These materials increase reverberation time and decrease speech clarity, which makes it very difficult to communicate with people in the room and on the phone. In these spaces it is recommended to use sound absorbing products on the wall and ceiling, or free-standing absorbers in case walls are occupied.

Informal meetings.



Featured products:
Cone Round
Cone Rectangle
Blocks ceiling
Blocks wall

In contemporary offices people tend to meet „over a coffee” in informal spaces, like breakout areas or kitchens. These are usually large spaces with a lot of background noise of people talking or walking by. In these spaces it is important to decrease the level of noise to allow clear conversations, but also separate this area to stop the noise from propagating to working areas.