





Acoustic problems



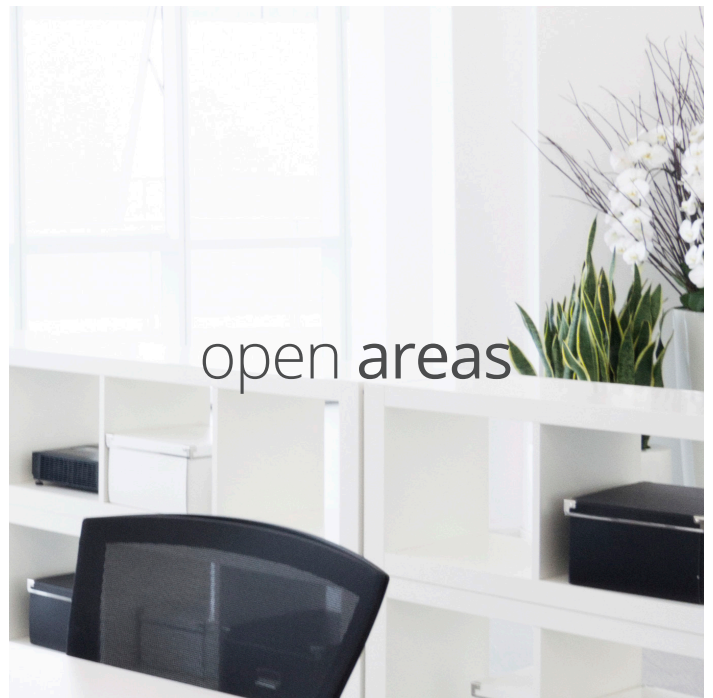
unfinished **ceilings**



lots of **glass**



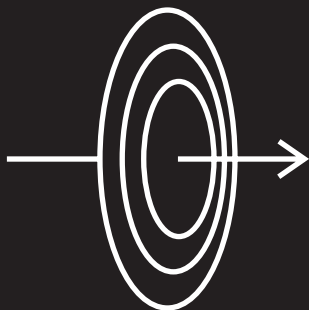
hard reflecting **surfaces**



open **areas**

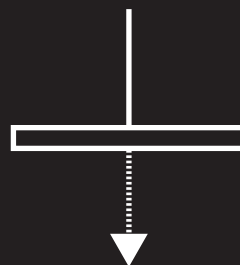
Current interior space trends can lead to increased noise problems. Unfinished ceilings & walls, harder surfaces such as concrete & glass, open office areas, mobile work spaces and impromptu meeting spaces are some of the contributing trends leading to excessive noise in our everyday life.

Acoustic concepts



SPEED OF SOUND

Sound travels at 1000 ft/s, therefore in a 50ft long room, an emitted sound could reflect off hard surfaces up to 60 times before dying out.



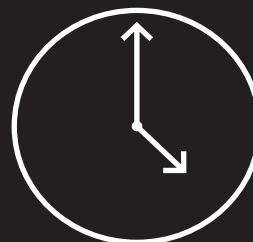
ABSORPTION

When sound waves encounter a material made up of tiny flexible fibers they move slightly and absorb a portion of the waves in a scale of 0 to 1.



REVERBERATION

Delayed sound caused by prolonged reflections is called reverberation. Excess reverberation creates noise issues and reduces the comprehension of speech.

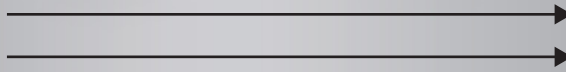
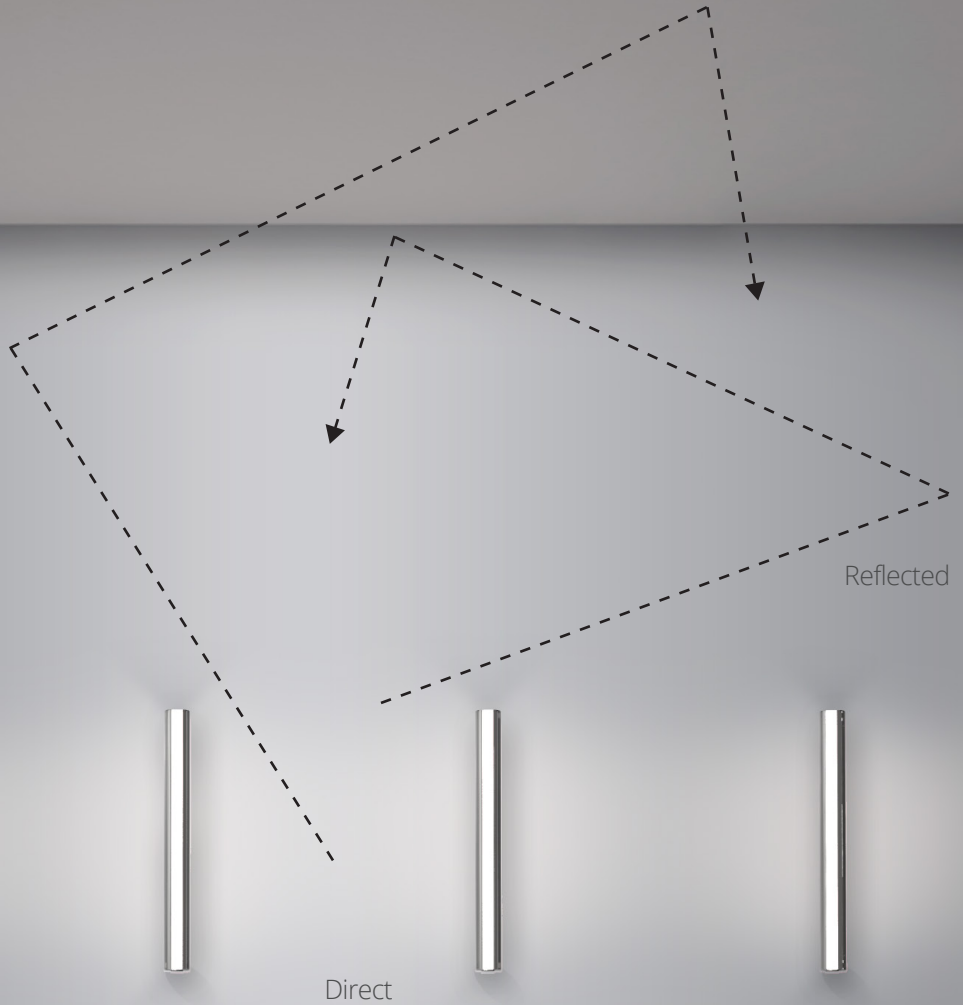


REVERBERATION TIME

Different room types & sizes have specific reverberation time recommendations. When they are not met, the addition of sound absorbing materials is an effective method of reaching them.

DIRECT VS. REFLECTED

Reflected sounds can “build up” to a level louder than direct sound and mask them. Late arriving reflections can distort and reduce the comprehension of the direct sound signal. A benefit of quieting a room through sound absorption is that users typically lower their voice, thus reducing direct sounds.



The quality of the sound environment

Several factors define the acoustical requirements of a space in addition to recommended acoustic values and calculations which are related to the type of activities and the requirements of the activities and people present.

SOUND PATH FACTORS

- Room materials
- Distance
- Sound barriers
- Reverberation
- Sound absorption
- Background noises
- Room shape & volume

RECEIVER INFLUENCES

- Task requirements
- Sound familiarity
- Level of concentration
- Hearing ability
- Auditory volume received
- Clarity of sounds

EMITTER FACTORS

- Auditory strength
- Volume variation
- Voice pitch & tone
- Orientation
- Occurrence
- Duration



Our acoustical offering

We have developed several luminaires with sound absorbing properties. Each one incorporates an acoustical material in a different way and with different luminaire formats to provide a variety of inspiring solutions for our clients.

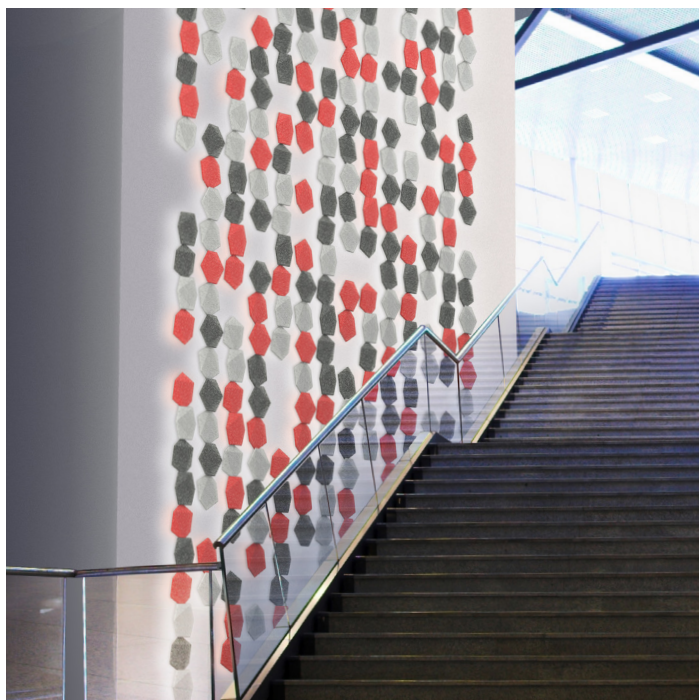


OSLO 3038 - 4238

Warm and delicate, this large surface sconce features front and back light giving a nicely toned atmosphere to interior spaces. Made out of formed recycled acoustical PET felt, the shape evokes the effect of rippling water.

KEY FEATURES:

- An elegant lighting effect which benefits room acoustics
- Available in 2 formats: Ø19" and Ø29"
- Wall surface, suspension or ceiling surface
- Available in 4 colors: red, charcoal, silver grey and navy blue and features a white or anthracite front plate.
- Designed with front as well as rear illumination, the Oslo features a 24W LED light source and standard 0-10V dimming.
- Tested noise reduction coefficient for material of 0.75 NRC
- Composed of polyester (PET) fibers with 42% recycled content
- 100% recyclable, low VOC & fire rated material
- Non-toxic, non-allergenic & non-irritable
- Dual-sided surface which is lightweight, durable, rigid & stable



NODE 3446

Compose an original pattern of light with these warmly diffused and soft to the touch hexagonal shapes. Create your personal motif using one or several sets of up to 12 Nodes at varying angles to add a large unique ambient lighting pattern and inspiration to your space.

KEY FEATURES:

- Allows the creation of a personalized pattern of lighting and acoustic panels
- An elegant solution for improved acoustics and ambient lighting
- Available in 2 sizes 12" and 17"
- Available in 3 colors: Red, charcoal and silver grey
- Tested noise reduction coefficient for material of 0.75 NRC
- Composed of polyester (PET) fibers with 42% recycled content
- 100% recyclable, low VOC & fire rated material
- Non-toxic, non-allergenic & non-irritable
- Lightweight, durable, rigid & stable



MATRIX 3525

An impressive example of modularity and flexibility, this sound absorbing mural system allows the creation of a colorful mosaic, punctuated with OLED light sources. The luminous modules are movable and can playfully be rearranged on the spot with the use of its simple and intuitive magnetic connection.

KEY FEATURES:

- A multi-featured product with high-tech lighting, playful modularity and acoustical absorption
- Covered with thick acoustical polyester felt panels offered in cold and warm color group options
- Offers a large visual impact in a room, with a flexible panel arrangement for a variety of pattern effects on a wall
- Tested noise reduction coefficient for material of 0.75 NRC
- Face panel of polyester (PET) fibers made with recycled content
- 100% recyclable, low VOC & fire rated material
- Non-toxic, non-allergenic & non-irritable
- Lightweight, durable, rigid & stable



MUTE 4258

This soft and colorful decorative format pendant is composed of twelve felt-like acoustic panels to illuminate and decorate your space with the added benefit of sound absorption.

KEY FEATURES:

- Composed of 12 easy to install sound absorbing panels
- Available in 2 formats: Ø16.5" and Ø32.4"
- Available in 4 colors: Red, charcoal, silver grey and beige
- Custom 24W LED module 3000K, 3500K, 4000K color temperature
- Frosted acrylic lens for superior light transmission
- Tested noise reduction coefficient for material of 0.75 NRC
- Composed of polyester (PET) fibers with 42% recycled content
- Panels are 100% recyclable
- Low VOC & fire rated material
- Non-toxic, non-allergenic & non-irritable
- Lightweight, durable, rigid & stable



TONE 2990

Enhance the acoustics of your space easily by adding the Tone accessory on our Cycle luminaires (sold separately) to reduce ambient noise and absorb background chatters.

KEY FEATURES:

- A simple solution to improve room acoustics
- Installs quickly without tools
- Minimal visual impact on room
- Minimal light loss (+/- 5%)
- Tested noise reduction coefficient for material of 0.75 NRC.
- Composed of polyester (PET) fibers with 42% recycled content
- 100% recyclable
- Low VOC & fire rated material
- Non-toxic, non-allergenic & non-irritable
- Lightweight, durable, rigid & stable

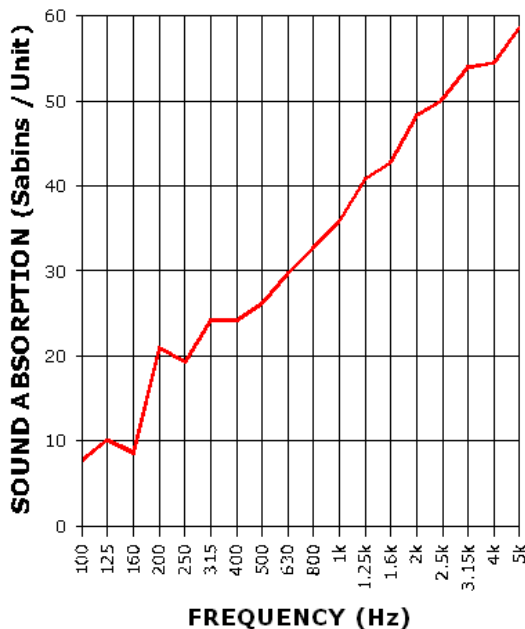
Acoustical testing lab results

CERTIFIED LAB TESTING SHOWS THE PERFORMANCE OF OUR ACOUSTICAL PRODUCTS

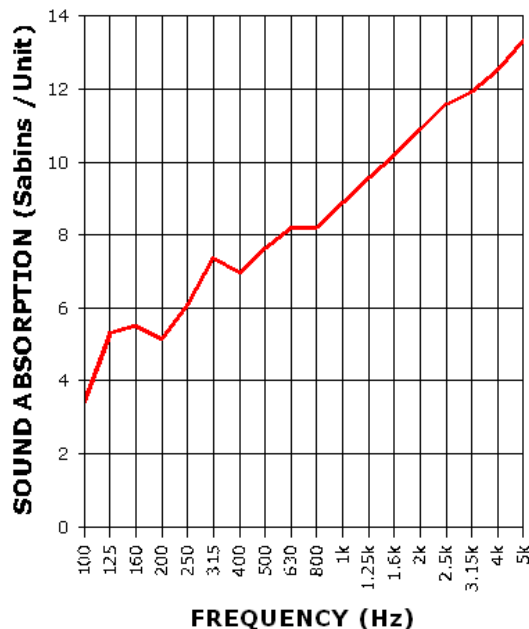
The ASTM C423-09a Tests for sound absorption were performed by the world renowned Riverbank Acoustical Laboratories. The tests measured the amount of sound absorption and the absorption coefficients at frequencies spanning from 100 to 5000Hz. The results can be used to calculate the acoustical impact for specific room sizes and characteristics.

See more information in the product brochures.

SOUND ABSORPTION REPORT
Acoustic Cycle



SOUND ABSORPTION REPORT
30" Thick Mute



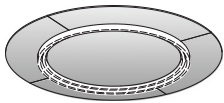
Acoustical lab results

Test : ASTM C423-09a : Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
Full lab report available on request.

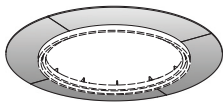
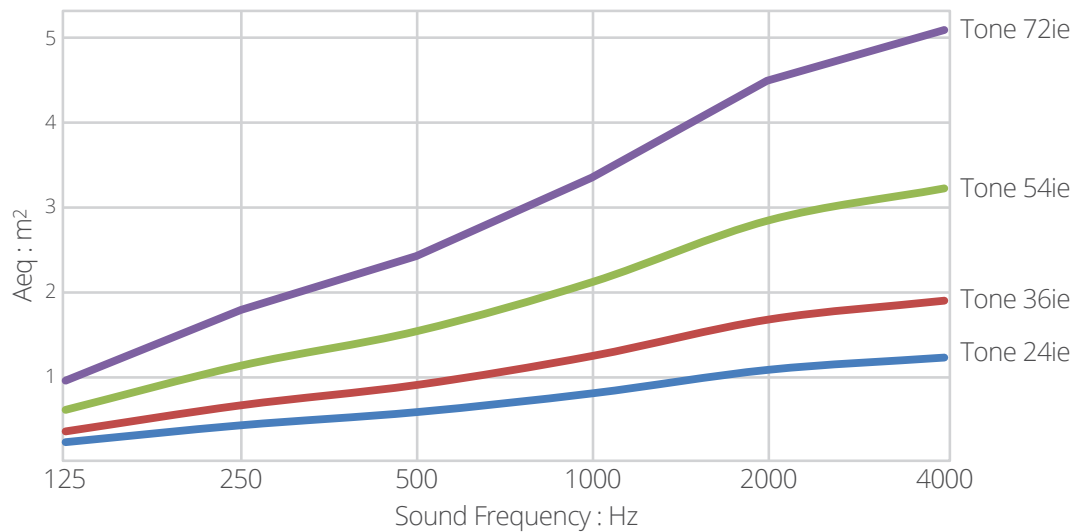
Test lab : Riverbank Acoustical Laboratories :
NVLAP, ISO 17025:2005. Test number RAL-A15-347

Absorption Coefficient
Frequency : Hz
Apparent NRC
Apparent SAA

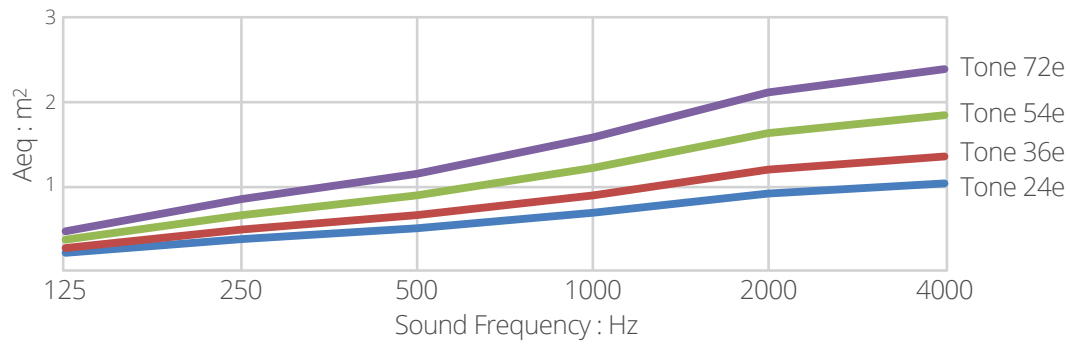
.21	.39	.53	.73	.98	1.11	1.23
125	250	500	1000	2000	4000	8000
0.65						
0.67						



TONE INTERIOR + EXTERIOR
Aeq : Equivalent sound absorption Area in m²



TONE EXTERIOR
Aeq : Equivalent sound absorption Area in m²



TONE INTERIOR
Aeq : Equivalent sound absorption Area in m²

