

Enhance the workplace with **Ecophon** acoustic solutions



Ecophon[®]
SAINT-GOBAIN

A SOUND EFFECT ON PEOPLE



Bring the outdoors in to enhance well-being and performance

Over hundreds of thousands of years, our ears have evolved for us to hear perfectly outdoors in nature. As evolution takes us further away from the outdoors, we are involuntarily exposed to an artificial sound experience. Today most of us spend more than 90% of our time indoors.

This unnatural setting disturbs not only our hearing and ability to communicate, but also our well-being and level of performance. For more than 50 years, Ecophon has been on a mission to spread awareness of the importance of creating indoor environments that resemble what we experience in nature.

Ecophon - A sound effect on people

This publication shows products from Ecophon product range and those of other suppliers. The specifications are intended to provide a general guide to which products are most suitable for the preferences indicated. Technical data is based on results obtained under typical testing conditions or long experience in normal conditions. The specified functions and properties for products and systems are only valid on condition that instructions, installation diagrams, installation guides, maintenance instructions and other stated conditions and recommendations have been taken into consideration and followed. Deviation from this, such as changing specific components or products, will mean that Ecophon cannot be held responsible for the function, consequences and properties of the products. All descriptions, illustrations and dimensions contained in this brochure represent general information and shall not form part of any contract. Ecophon reserves the right to change products without prior notice. We disclaim any liability for misprints. For the latest information go to www.ecophon.com or contact your nearest Ecophon representative.

© Ecophon Group 2019
Idea and layout: Saint-Gobain Ecophon AB. Printer: SkåneTryck AB. Cover: 1234/Jożef Polc and Rickard Johansson/Studio-e.se



For the latest news on Ecophon, our solutions, design inspiration and the world of acoustics, follow us on: LinkedIn ([linkedin.com/company/ecophon](https://www.linkedin.com/company/ecophon)), Facebook ([facebook.com/Ecophon](https://www.facebook.com/Ecophon)), Youtube ([youtube.com/EcophonTV](https://www.youtube.com/EcophonTV)) and Twitter ([@ecophon](https://twitter.com/ecophon)).

Activity Based Acoustic Design makes companies more successful

Are you in an open-plan office right now? Take a look around you. Listen. Do you hear people talking on the phone? Do you hear conversations that are not relevant to you? Do you hear ventilation fans? Do you feel that these things disturb you, break your concentration and make you feel more stressed? If so, you're not alone. The undisputed number predominant of dissatisfaction in offices is sounds that you don't want to hear.¹ Or in one word – noise.

Instead of everybody having their own designated desk, the trend today is to design offices where different activities are performed in different areas of the office. This means you have to move around as you switch between work tasks that demand concentration, talking on the phone, meetings, video conferencing, teamwork, brainstorming and desk-based multitasking.

However, it's not enough just to put people in different sections of an office. If you don't attend to acoustics, speech will spread through the office, people will raise their voices to be heard and the overall sound level will escalate. Basically, you will have a poor working environment.

Supporting the activity

To create office spaces where people can perform a certain activity and feel good doing it, Ecophon has developed Activity Based Acoustic Design. This is a method for designing indoor environments to support the level of communication and concentration taking place in the space. In practice, this means defining spaces from three perspectives – activity, people and space – and finding the common ground where all perspectives benefit. Optimal solutions are then achieved using a combination of high-quality acoustic elements.

1 Activity

What will people be doing in the space? Talking on the phone, working in a team, focusing at the computer or something else? How much time is spent communicating?

2 People

Who are the people performing the activities? How many people are there? Are they old or young? Do they have any special needs?

3 Space

Is the space big or small? Where is it situated in the office, what spaces are next to it and what activities are performed there? Does the building have bare concrete walls, ceilings and floors? Are there fans, projectors or other sound sources in the space?

Noise exposure is significantly related to
sickness absence

The more complex the task, the more significant the correlation.²

The top 25%
performers

are more protected from disruptions, have interruption consciousness at their workplace and have fewer phone interruptions.³

A good sound environment can
reduce adrenaline

levels by 30%.⁵

It takes on average
25 minutes

for a worker to return to their original task after an interruption, and a further eight minutes to resume the same level of concentration.⁴

A good sound environment can improve
task motivation by 66%.⁵

A good sound environment can
enhance performance
during high-concentration tasks by up to 50%.⁶

¹ Kl. Jensen, E. Aram, L. Zagreus, Proceedings: Indoor Air 2005, "Acoustical quality in office workstations, as assessed by occupants surveys".

² Friedl et al "The joint effects of noise, job complexity and gender on employee sickness absence", Journal of Occupational and Organizational Psychology, 2002, 75, 131-144.

³ DeMarco, Lister, "Programmer performance and the effects of the workplace", 1985, ICSE '85 Proceedings of the 8th international conference on Software engineering.

⁴ Mark, Gonzalez, "No Task Left Behind? Examining the Nature of Fragmented Work", University of California - Irvine, 2005

⁵ Evans, Johnson, Cornell university, "Stress and open office noise", Journal of Applied Psychology, 2000, vol. 85, no. 5, 779-783

⁶ Weinstein, University of California, Berkeley, 1974, "Effect of noise on intellectual performance", Journal of Applied Psychology 1974, vol. 59, no 5, 548-554



On the road to acoustic comfort

Once you have defined your space according to the activities, the people and the space itself, the next step is finding an optimal acoustic solution that achieves the desired acoustic comfort. Depending on what will happen in your space, your solution should have different acoustic qualities. When you know these qualities, it is much easier for you to find the acoustic systems you need.



Sound propagation

Sound spreading through a space. This results in increased sound levels and constant disturbance if left unchecked. Use an absorption class A ceiling with a high Articulation Class value (see next page). In most cases, you will also need to supplement the ceiling with sound-absorbing screens and wall absorbers.



Speech clarity

Making yourself heard and understanding others without having to raise your voice. Late reflections (echoes) and background noise from installations, such as office equipment and video projectors/beamer, reduce speech clarity and hinder communication. A combination of acoustic ceilings and acoustic wall absorbers helps you create a space where speech clarity is high.



General sound strength

The combination of all sounds present in a space. A high sound level results in people having to raise their voices to be heard above the surrounding noise – known as the "café effect". To absorb as much sound as possible, all sound absorbers must be of the highest quality.



Reverberation

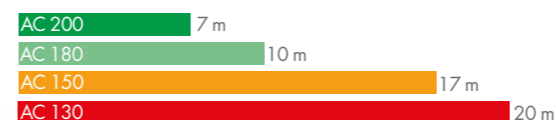
Sound that bounces back to you. In smaller spaces and larger spaces with many hard surfaces, it is easy for sound and speech to bounce off walls and surfaces and create echoes. These echoes make it hard to hear the things you want to hear. To prevent reverberation, you need the right amount of absorption in the ceiling and on the walls in relation to the size of the space.

Less disturbance with high AC value

A good sound environment is integral to providing the workers with a sense of well-being and satisfaction in their daily office environment. A good working environment is not only beneficial for workers, but can also increase the efficiency and productivity of the company as a whole.

Office work can be divided into communication and concentration tasks. The challenge in an open-plan office is to prevent sound from spreading and assure privacy where needed. Noise from different sources can easily spread more than 20 metres, disturbing everyone in the vicinity. According to a study, workers can lose as much as 86 minutes of working time per day due to distractions.⁷

To prevent sound propagation, you need at least a ceiling with absorption class A. In most cases you also have to supplement it with sound-absorbing screens and wall absorbers. Since speech is the most common sound in offices, it is very important that the sound absorbers perform well at frequencies where speech is predominant. To ensure this, your class A ceiling should have a high Articulation Class value, a minimum of 180 in open-plan offices.



Comparing AC 200 and AC 130, the sound needs 13 more metres to drop by 10 dB and reach acceptable levels.

How many colleagues were distracted and how many mistakes were made? How many tasks had to be repeated to get them right?

⁷ Ipsos and Steelcase 2014



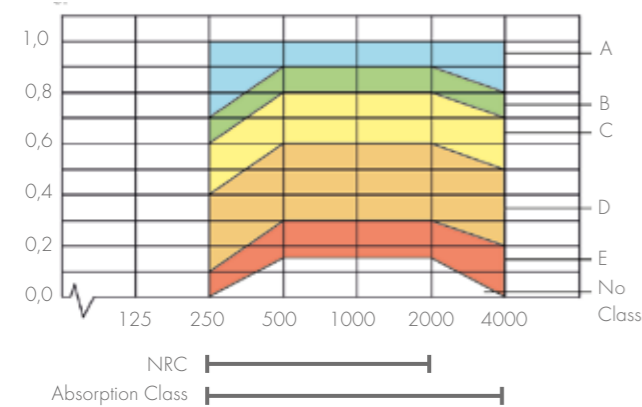
Photographer: Richard Johnson/Studiovis

Acoustic performance

NRC and sound absorption classes

Optimal acoustics can be created by choosing the right amount and the right positioning of absorption material. An acoustic panel's sound absorption performance can be measured and presented in different ways. Two common methods are NRC and sound absorption classes.

NRC is measured at 250, 500, 1000 and 2000 Hz and is presented as a value between 0 and 1, or 0 and 100%. Absorption classes include a broader range of frequencies, measured from 250 to 4000 Hz, and are presented in classes ranging from A to E. Absorption class graphically shows how the panels perform in each frequency, whereas NRC displays an average.



Since NRC only shows an average, this value can sometimes be limited in providing the information needed to create a good sound environment.

Ex: A conference room needs a high level of speech clarity. To achieve this, low-frequency sound needs to be absorbed. A panel with a high NRC value can have a poor ability to absorb low frequencies, making it unsuitable as a solution for this kind of space.

NRC can also be limiting when working on an acoustic design that requires high frequency absorption, since it is only measured up to 2000 Hz.



Amount of sound energy absorbed matters

The choice of a class A absorber over the other classes will result in lower sound levels, limitation of sound propagation and better speech clarity.

The percentage of sound absorbed differs substantially depending on the class installed, ranging from 15% to 100%. The percentage not absorbed will remain in the room, creating sound reflections. This "echo" effect is called reverberation, and while it is the most common acoustic parameter used, it is not the only relevant one.

CLASS | NRC equivalent* | Amount of sound energy absorbed

A	0,90 -	
B	0,80 - 0,85	
C	0,60 - 0,75	
D	0,30 - 0,55	
E	0,15 - 0,25	

NO CLASS < 0.10

* Indicative values based on ASTM C 423 and ISO 11654
Indicative values based on ISO 11654 at 500-2000Hz

Informal meetings

Discuss and socialise

Wherever people meet, there will be informal meetings. In a typical office environment, this is very common in canteens and breakout spaces. These spaces are commonly large and may have high soffits. There are often lots of people, noise from tableware and cutlery, and sounds from people talking or walking around.

Most important is to keep the overall sound level from escalating, or people will have to raise their voices significantly just to be heard. Increased sound levels can also result in sound spreading to areas where people are working at their desks.

Solution

Best possible coverage of high sound-absorbing elements on ceiling and walls. If adjacent to workspaces, sound-absorbing screens are recommended as dividers and to prevent sound propagation. It is also recommended to think about the location of the informal meeting spaces so they are not too close to activities that require concentration.

Acoustic considerations

Sound level and sound propagation



Photographer: Gordon McAvey

Good acoustics in informal meeting places will:

- support communication between people.
- prevent speech from spreading in semi-open or open spaces and disturbing others.



Ecophon Focus™ E

Photographer: Richard Jamson/Studio-evo



Ecophon Gedina™ A

Photographer: Richard Jamson/Studio-evo

Multi-tasking

Effectively solving various tasks

Most people perform a lot of different tasks every day while sitting at their desks in a large open office area surrounded by co-workers.

They will have the occasional phone conversation, concentrate on important tasks, answer e-mails and prepare presentations. But they will also walk around, have quick meetings and discuss daily business across desks. To create the best possible working conditions, it is important to keep speech and other sounds from spreading and to minimise disturbance of co-workers.

Solution

Choose a sound-absorbing ceiling with good absorption qualities at speech frequencies. Complement it with wall absorbers and sound-absorbing screens dividing people into groups.

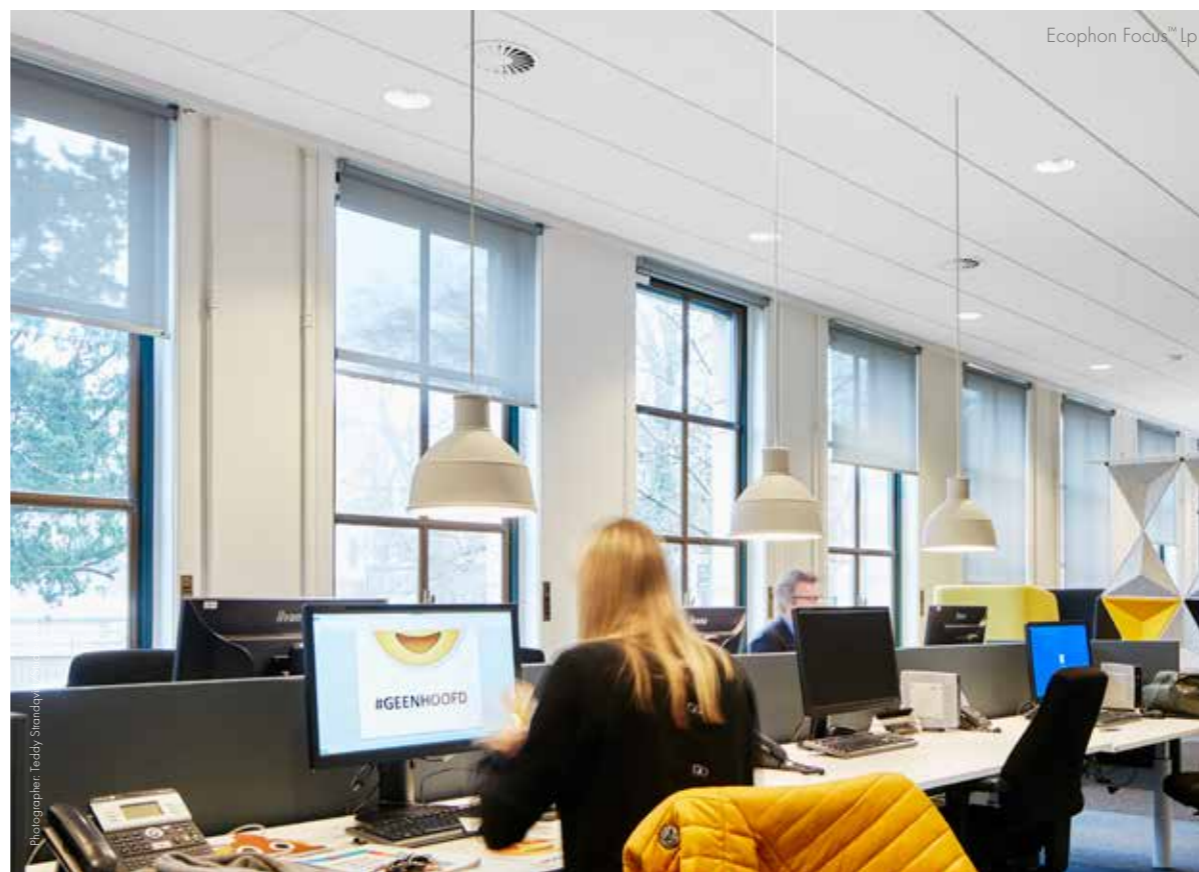
Acoustic considerations

Sound propagation and disturbance between workspaces



Good acoustics for multi-tasking activities will:

- support a variety of different work tasks.
- prevent speech from spreading in an open space and disturbing others.



Teamwork

Transferring knowledge

Office workers are often involved in projects and team assignments. To succeed, the team needs to transfer knowledge within the group and have meetings, discussions and work sessions. This should ideally be done in a collaborative space separate from others, but it often takes place in a semi-open space or among others in a completely open space.

In a collaborative space it is important to prevent wall-to-wall echoes and support communication (speech clarity). The room should also be properly sound-insulated to keep sound from entering or leaving the space. In a semi-open or open space you need to keep sound from spreading, prevent sound levels from escalating and avoid the need for people to raise their voices. The team should have local speech clarity so they can talk normally.

Solution

A collaborative space needs sound insulation, a sound-absorbing ceiling with good absorption qualities at low frequencies, and wall absorbers. In a semi-open or open space you need a sound-absorbing ceiling with good absorption qualities at speech frequencies. If there is a risk of disturbing people in adjacent areas, sound-absorbing screens are also needed.



Good acoustics for teamwork activities will:

- support good speech communication.
- prevent speech from spreading in a semi-open or open space and disturbing others.

Brainstorming

Level up the ideas

A brainstorming session is a lively activity where creativity is released, often with people walking around and two or more people speaking at the same time. This dynamic activity usually takes place in a closed space with a flexible interior, a kind of "cool meeting room" or ideation room.

The challenge is to avoid echoes, support communication (speech clarity) and prevent sound from entering and leaving the space.

Solution

Sound insulation, a sound-absorbing ceiling or free-hanging units, and wall absorbers covering at least one wall but preferably two adjacent walls.

Acoustic considerations

Speech clarity, echoes and sound insulation



Photographer: //brigitte/Schubert

Good acoustics for brainstorming work will:

- facilitate creative brainstorming sessions.
- support good speech communication.



Ecophon Solo™ Circle

Photographer: Peter Vermani Photography



Photographer: 123rf/guodastudio

Phone-intensive

Provide support and make business

Telephone conversations are a fast and important way to do business or answer questions. But if you have a phone-intensive support team or sales team, you will have many people in the same area speaking on the phone at the same time, with conversation flowing in all directions. This results in escalating sound levels and impaired speech clarity over the phone.

The challenges are to prevent sound levels from escalating, enhance speech clarity over the phone by limiting loud background noise, reduce disturbance between co-workers and prevent sound from spreading to other areas.

Solution

A sound-absorbing ceiling with the best absorption qualities at all frequencies, sound-absorbing screens dividing people into groups and wall absorbers on every possible wall space.

Acoustic considerations

Sound level, disturbance between workspaces, speech clarity over the phone and sound propagation



Good acoustics for phone-intensive activities will:

- lower sound levels and increase speech clarity over the phone.
- prevent speech from spreading in an open space and disturbing others.



Focus work

Concentrate and work efficiently

From time to time everybody needs to focus without being disturbed. Since fewer and fewer people have their own private office, it is crucial to have dedicated concentration spaces where people can go to concentrate on very important tasks and have long telephone conversations, video conferences and meetings.

The challenges are to prevent wall-to-wall echoes, enhance speech clarity and keep sound from entering and leaving the space.

Solution

For both cellular offices and concentration spaces you need sound insulation, a sound-absorbing ceiling and wall absorbers on at least one wall.

Acoustic considerations

Wall-to-wall echoes, sound insulation and speech clarity



Photographer: Richard Johnson/SIPA

Good acoustics for focus work will:

- provide workers with spaces for concentration and brain work.
- enhance the quality of long phone meetings and video/Skype meetings.



Ecophon Focus™ A

Photographer: Teddy Stenqvist/Shutterstock



Photographer: © iStock

Formal meetings

Discussions and decision-making

To hold a constructive meeting, it is crucial to hear each other clearly. Everyone should be able to easily follow and participate in the conversations, presentations and discussions. However, it is also important to prevent sound from the meeting from spreading to others in the office.

A meeting room is almost always furnished with lots of equipment, such as humming projectors and speakers for telephone and video conferences. Moreover, there are often two glass walls and a third wall with the obligatory whiteboard. Speech bounces off all these hard surfaces, creating echoes that impair speech clarity.

The challenges are to keep sound from entering and leaving the space, and to ensure speech clarity by preventing wall-to-wall echoes and low-frequency disturbance.

Solution

Superior sound insulation, a sound-absorbing ceiling with good absorption qualities at low frequencies, and wall absorbers covering at least one wall but preferably two adjacent walls.

Acoustic considerations

Sound insulation, speech clarity at low frequencies (especially if video conferencing equipment is installed)



Photographie: Barbara Malowski

Good acoustics for formal meeting activities will:

- support good speech communication.
- provide good speech privacy by preventing sound leakage to other spaces.



Ecophon Master™ Matrix

Photographie: Van der Aalst



Photographie: Van der Aalst

Welcoming

Making a strong first impression

When clients and guests enter your reception area they should immediately feel welcomed. They should easily be able to talk to the people behind the desk and relax while waiting for someone to come and meet them.

A welcoming space often has large windows, many other hard surfaces and a high soffit. At any given time there will be people walking past and conversations on the phone and in person at the desk.

The challenges are to absorb sound and hinder echoes, improve speech clarity and keep conversations at the reception desk from spreading throughout the space.

Solution

A sound-absorbing ceiling with good absorption qualities, lowered sound-absorbing free-hanging units directly above the reception desk, and wall absorbers on the wall behind the desk.

Acoustic considerations

Echoes and speech clarity over the reception desk and phone



Photographer: 1231/Woodboard/Studio.se

Good acoustics for welcoming activities will:

- create a good work environment for the reception staff.
- support conversations between visitors and reception staff.
- prevent speech from spreading in an open space.



Ecophon Solo™ Baffle

Photographer: Jeroen Vuch

Ecophon Focus™

Entering a universe of design flexibility

The Akutex™ label guarantees that the product carrying it has a superior surface technology



Our most comprehensive system family, Ecophon Focus will always offer a range of opportunities through different edge designs, forms, levels and installation options, allowing it to be used in most application areas.

- Options
- Level changes
- Design and precision

Product	Edge design	Size mm	Thickness mm	Colours	Surface	Sound absorp. ¹	
						Class	α_w
Ecophon Focus™ A TECH Visible grid. Easily demountable.		600x600, 1200x600, 1200x1200, 1600x600, 1800x600, 2000x600, 2400x600	20	16 standard colours	Akutex™ FT	A	1.00
Ecophon Focus™ B TECH For direct fixing with glue.		600x600	20	16 standard colours	Akutex™ FT	C	0.65
Ecophon Focus™ Ds TECH Concealed grid. Easily demountable. Symmetric edge.		600x600, 1200x600, 1200x1200, 1600x600, 1800x600, 2000x600, 2400x600	20	16 standard colours	Akutex™ FT	A	0.90
Ecophon Focus™ Dg TECH Floating appearance. Easily demountable.		600x600, 1200x600, 1600x600, 1800x600, 2000x600, 2400x600	20	16 standard colours	Akutex™ FT	A	0.90
		1200x1200	25				
Ecophon Focus™ E TECH Recessed visible grid. Easily demountable.		600x600, 1200x600, 1200x1200, 1600x600, 1800x600, 2000x600, 2400x600	20	16 standard colours	Akutex™ FT	A	0.95
Ecophon Focus™ F TECH For direct fixing with screws.		600x600, 1200x600	20	White	Akutex™ FT	C	0.75
Ecophon Focus™ Lp TECH Semi-concealed grid system. Highlights direction in a room.		600x150, 600x300, 600x600, 1200x150, 1200x300, 1200x600, 1800x600	20	16 standard colours	Akutex™ FT	A	0.90
Ecophon Focus™ SQ TECH For direct fixing with glue.		600x600, 1200x600	20	16 standard colours	Akutex™ FT	C	0.65
Ecophon Focus™ Wing TECH Wing-shaped elements for free hanging units. Use with Ds, Dg, E.		600x200, 1200x200	50	White	Akutex™ FT	-	

¹At 200 mm o.d.s. (overall depth of system). According to EN ISO 11654. Focus B and SQ are glued to the soffit. Focus F is fixed with screws.

Cleanability Daily dusting and vacuum cleaning. Weekly wet wiping.

Visual appearance White Frost, nearest NCS colour sample S 0500-N, 85% light reflectance (of which more than 99% is diffuse reflection). Retro reflection coefficient 63 mcd*m⁻²lx⁻¹. Gloss < 1.

Influence of climate The tiles withstand a permanent ambient RH up to 95% at 30°C following the test standard in EN 13964.

Accessability The tiles are easily demountable. Focus B, F, SQ and Wing are not demountable.

Mechanical properties See table about Max live load and Min load bearing capacity at ecophon.in.

Fire safety The glass wool core of the tiles is tested and classified as non-combustible according to EN ISO 1182. The systems are classified as fire protective covering according to NT FIRE 003.

Country	Standard	Class
Europe	EN 13501-1	A2-s1, d0

Indoor Climate



Environmental influence



Ecophon Master™

Taking care of demanding conditions

The Akutex™ label guarantees that the product carrying it has a superior surface technology



The Master family is unrivalled when it comes to sound absorption and speech clarity. It is simply the best. So when you have a tough sound environment, such as a space where phones are used frequently, we highly recommend you turn to Master to find your solution.

- Performance
- Superior acoustics
- Robust



Cleanability Daily dusting and vacuum cleaning. Weekly wet wiping.



Visual appearance White Frost, nearest NCS colour sample S 0500-N, 85% light reflectance (of which more than 99% is diffuse reflection). Retro reflection coefficient 63 mcd*m⁻²lx⁻¹. Gloss < 1.



Influence of climate The tiles withstand a permanent ambient RH up to 95% at 30°C following the test standard in EN 13964.



Accessibility The tiles are easily demountable. Master B, F and SQ are not demountable.



Mechanical properties See table about Max live load and Min load bearing capacity at ecophon.in.



Fire safety The glass wool core of the tiles is tested and classified as non combustible according to EN ISO 1182. The systems are classified as fire protective covering according to NT FIRE 003.

Country	Standard	Class
Europe	EN 13501-1	A2-s1, d0



Indoor Climate



Environmental performance



Product	Edge design	Size mm	Thickness mm	Colours	Surface	Sound absorption ¹	
						Class	α _w
Ecophon Master™ A TECH Visible grid. Easily demountable.		600x600, 1200x600, 1200x1200	40	16 standard colours	Akutex™ FT	A	1.00
Ecophon Master™ B TECH For direct fixing with glue.		600x600	40	16 standard colours	Akutex™ FT	A	1.00
Ecophon Master™ Ds TECH Concealed grid. Easily demountable. Symmetric edge.		600x600	40	16 standard colours	Akutex™ FT	A	0.90
Ecophon Master™ E TECH Recessed visible grid. Easily demountable.		600x600, 1200x600, 1200x1200	40	16 standard colours	Akutex™ FT	A	1.00
Ecophon Master™ F TECH For direct fixing with screws.		600x600, 1200x600	40	White	Akutex™ FT	A	1.00
Ecophon Master™ SQ TECH For direct fixing with glue.		600x600, 1200x600	40	16 standard colours	Akutex™ FT	A	1.00
Ecophon Master™ Matrix TECH Semi-concealed grid. Easily demountable.		600x1040, 600x1200, 600x2400, 1200x1040, 1200x1200, 2400x1040, 2400x1200	40	16 standard colours	Akutex™ FT	A	1.00
Ecophon Master™ Rigid A TECH Visible grid. Demountable tiles.		600x600, 1200x600, 1600x600, 1800x600, 2000x600, 2400x600	20	White	Akutex™ FT	A	1.00
Ecophon Master™ Rigid E TECH Recessed visible grid. Demountable tiles.		600x600, 1200x600	20	White	Akutex™ FT	A	1.00
Ecophon Master™ Rigid Dp TECH Semi-concealed grid system. Demountable tiles.		600x600, 1200x600	20	White	Akutex™ FT	A	0.90

¹At 200 mm o.d.s. (overall depth of system). Master Matrix at 300 mm o.d.s. According to EN ISO 11654. Master B and SQ are glued to the soffit. Master F is fixed with screws.

Ecophon Gedina™

Presenting a true and established classic

The Akutex™ label guarantees that the product carrying it has a superior surface technology



The dependable classic is an excellent choice when functional requirements are high and design possibilities are limited. Ecophon Gedina has set the standard and will continue to be a benchmark in the acoustic ceiling business.

- Standard solutions
- Common demands
- Well proven



Cleanability Daily dusting and vacuum cleaning. Weekly wet wiping.



Visual appearance White 500, nearest NCS colour sample S 0500-N, 84% light reflectance (of which more than 99% is diffuse reflection).



Influence of climate The tiles withstand a permanent ambient RH up to 95% at 30°C following the test standard in EN 13964.



Accessibility The tiles are easily demountable.



Mechanical properties See table about Max live load and Min load bearing capacity at ecophon.in.



Fire safety The glass wool core of the tiles is tested and classified as non-combustible according to EN ISO 1182. The systems are classified as fire protective covering according to NT FIRE 003.

Country	Standard	Class
Europe	EN 13501-1	A2-s1, d0



Indoor Climate



Environmental performance



Product	Edge design	Size mm	Thickness mm	Colours	Surface	Sound absorption ¹	
						Class	α_w
Ecophon Gedina™ A TECH Visible grid. Easily demountable.		600x600, 1200x600, 1200x1200	15	White	Akutex™ T	A	0.95
Ecophon Gedina™ E TECH Recessed visible grid. Easily demountable.		600x600, 1200x600, 1200x1200	15	White	Akutex™ T	A	1.00

¹At 200 mm o.d.s. (overall depth of system). According to EN ISO 11654.






Ecophon Advantage™


Delivering elementary function



Ecophon Advantage guarantees good value for money that meets essential requirements regarding acoustics, moisture resistance and mechanical strength. Available in a limited number of sizes, Advantage aims to provide effortless handling and straight forward installation.

- Basic
- Good value for money

-  **Cleanability** Weekly dusting and vacuum cleaning.
-  **Visual appearance** White 500, nearest NCS colour sample S 0500-N, 83% light reflectance.
-  **Influence of climate** The tiles withstand a permanent ambient RH up to 95% at 30°C following the test standard in EN 13964.
-  **Accessibility** The tiles are easily demountable.
-  **Mechanical properties** See table about Max live load and Min load bearing capacity at ecophon.in.

 **Fire safety** The glass wool core of the tiles is tested and classified as non-combustible according to EN ISO 1182. The systems are classified as fire protective covering according to NT FIRE 003.

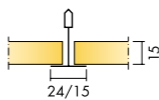
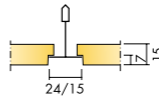
Country	Standard	Class
Europe	EN 13501-1	A2-s1, d0

 **Indoor Climate**

 **Environmental performance**



Product	Edge design	Size mm	Thickness mm	Colours	Surface	Sound absorption ¹	
						Class	α_w
Ecophon Advantage™ A TECH Visible grid. Easily demountable.		600x600, 1200x600	15	White	High quality batch painted glass tissue	A	1.00
Ecophon Advantage™ E TECH Recessed visible grid. Easily demountable.		600x600, 1200x600	15	White	High quality batch painted glass tissue	A	0.95

¹At 200 mm o.d.s. (overall depth of system). According to EN ISO 11654.

Ecophon Akusto™

Exploring the variety of the vertical



A complement to acoustic ceilings, Ecophon Akusto solves acoustic challenges whilst also providing opportunities to follow current trends in design and installation. Different colours and textured finishes ensure that Akusto is suitable for a range of applications.

- Diversity
- Engineered
- Vertical acoustics



Cleanability Daily dusting, vacuum cleaning and weekly wet wiping (Super G and Akutex FT surfaces). Weekly dusting and vacuum cleaning (Texona surface).



Visual appearance Akusto Wall in white has high light reflectance. Light reflectance and nearest NCS colour sample for all the different colours: See Ecophon Colours and surfaces.



Influence of climate The tiles withstand a permanent ambient RH up to 95% at 30°C following the test standard in EN 13964.



Mechanical properties Texona surface has moderate impact resistance. Super G surface has high impact resistance and is tested according to EN 13964 annex D and DIN 18032 part 3 and fulfils the demands for class 1A. For Akusto One, no additional live load is allowed.



Fire safety The glass wool core of the tiles is tested and classified as non-combustible according to EN ISO 1182.

Country	Standard	Class
Europe	EN 13501-1	A2-s1, d0



Indoor Climate



Environmental performance



Accessibility Akusto Wall A, C and C Akutex Hs are not demountable. Akusto One is easily demountable.

Product	Edge design	Size mm	Thickness mm	Colours	Surface	Sound absorption ¹	
						Class	α_w
Ecophon Akusto™ Wall A TECH Visible profiles. Panel width 1200 mm.		2700x1200	40	32 standard colours	Akutex™ FT Texona Super G	A	1.00
Ecophon Akusto™ Wall C TECH Concealed panel connection. Panel width 600 mm.		2700x600	40	32 standard colours	Akutex™ FT Texona Super G	A	1.00
Ecophon Akusto™ Wall C Akutex HS Water resistant and ventilated wall panels. Concealed panel connection.		2700x600	40	White	Akutex™ HS	A	1.00
Ecophon Akusto™ One TECH Panels for wall applications, shaped as a square, rectangle and circle.		Ø792, 592x592, 1192x292, 1192x592	40	13 standard colours	Texona	Visit ecophon.in ²	

¹At 50 mm o.d.s. Akusto Wall C Akutex HS at 60 mm o.d.s. (overall depth of system). According to EN ISO 11654.

²Sound absorption of Akusto One is measured by Aeq, equivalent absorption area per unit (m² sabin). According to EN ISO 354. Find more information in our website www.ecophon.in

Ecophon Solo™

Experiencing freedom of expression

The Akutex™ label guarantees that the product carrying it has a superior surface technology



The ever trend sensitive Ecophon Solo comes in several shapes and sizes, allowing freedom of design and the opportunity to create striking new expressions whilst also keeping up to speed with sustainable architectural developments.

- New perspective
- Shapes
- Possibilities



Cleanability Daily dusting, vacuum cleaning and weekly wet wiping.



Visual appearance White Frost, nearest NCS colour sample S 0500-N, 85% light reflectance (of which more than 99% is diffuse reflection). Retro reflection coefficient 63 mcd/(m²lx). Gloss < 1.



Influence of climate The tiles withstand a permanent ambient RH up to 95% at 30°C following the test standard in EN 13964.



Accessibility The tiles are demountable.



Mechanical properties Square, Rectangles, Circle and Freedom: Can take both point loads and distributed loads. Baffles: additional live load has to be fixed to the soffit. Solos Akutex HS and Circle XL: No additional live load is allowed.



Fire safety The glass wool core of the tiles is tested and classified as non-combustible according to EN ISO 1182.

Country	Standard	Class
Europe	EN 13501-1	A2-s1, d0



Indoor Climate



Environmental performance



Product	Edge design	Size mm	Thickness mm	Colours	Surface	Sound absorption ¹
Ecophon Solo™ Square TECH Free hanging unit, shaped as a square.		1200x1200	40	16 standard colours	Akutex™ FT	Visit ecophon.in
Ecophon Solo™ Rectangle TECH Free hanging unit, shaped as a rectangle.		1800x1200, 2400x600, 2400x1200, 3000x1200	40	16 standard colours	Akutex™ FT	Visit ecophon.in
Ecophon Solo™ Circle TECH Free hanging unit, shaped as a circle.		Ø800, Ø1200	40	16 standard colours	Akutex™ FT	Visit ecophon.in
Ecophon Solo™ Circle XL TECH Free hanging unit, shaped as a circle (two parts).		Ø1600	40	16 standard colours	Akutex™ FT	Visit ecophon.in
Ecophon Solo™ Freedom TECH Free hanging unit, shaped on request.	It is possible to design almost any shape (for example Hexagon)	Design any shape based on a 1200x1200 or 2400x1200 panel.	40	16 standard colours	Akutex™ FT	Visit ecophon.in
Ecophon Solo™ Baffle TECH Vertically installed unframed baffles.		1200x200, 1200x300, 1200x600, 1800x200, 1800x300, 1800x600	40	16 standard colours	Akutex™ FT	Visit ecophon.in
Ecophon Solo™ Baffle Wave TECH Vertically installed unframed baffles.		1800x300, 1800x600	40	16 standard colours	Akutex™ FT	Visit ecophon.in
Ecophon Solo™ Baffle ZigZag TECH Vertically installed unframed baffles.		1800x300, 1800x600	40	16 standard colours	Akutex™ FT	Visit ecophon.in
Ecophon Solo™ Baffle Wall TECH Vertically installed unframed baffles for walls.		1200x200, 1200x300	40	16 standard colours	Akutex™ FT	Visit ecophon.in
Ecophon Solo™ Square Akutex HS TECH - Water resistant free hanging unit, shaped as a square.		1200x1200	40	White	Akutex™ HS	Visit ecophon.in
Ecophon Solo™ Rectangle Akutex HS TECH - Water resistant free hanging unit, shaped as a rectangle.		1800x1200, 2400x1200	40	White	Akutex™ HS	Visit ecophon.in
Ecophon Solo™ Circle Akutex HS TECH - Water resistant free hanging unit, shaped as a circle.		Ø800, Ø1200	40	White	Akutex™ HS	Visit ecophon.in

¹Sound absorption capacity of baffles and free-hanging units is measured by Aeq, equivalent absorption area per unit (m² sabin). According to EN ISO 354. Visit www.ecophon.in for more information.

Colours and surfaces for an attractive interior feel

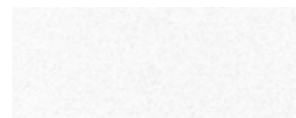
Being the largest continuous surface in a room, an acoustic ceiling will affect not only the entire look and feel of the interior, but also the end-users' well-being. Ecophon has developed different types of surfaces and in different colours to suit most types of office environments.



The Akutex label guarantees that the product carrying it has a superior surface technology. Our research and development focuses on visual aspects, acoustical properties, working environment, architectural trends and environmental thinking. This ensures that Akutex is always one step ahead.

Akutex™ FT

Akutex FT is the most popular surface of the Akutex family and one of the most popular surfaces in the Ecophon offer. With a unique, modern look, Akutex FT provides superior sound absorption, a more dirt repellent product and a surface that is easy to clean. The standard colour range includes 16 attractive colours carefully selected by interior designers, architects and textile designers.



White Frost
Nearest NCS colour S 0500-N
Light reflectance 85%



Golden Field
Nearest NCS colour S 1040-G90Y
Light reflectance 61%



Volcanic Ash
Nearest NCS colour 2002-Y
Light reflectance 56%



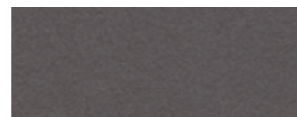
Sunset Heat
Nearest NCS colour S 2070-Y60R
Light reflectance 20%



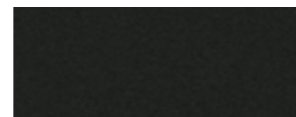
Silver Stone
Nearest NCS colour S 4502-Y
Light reflectance 29%



Ruby Rock
Nearest NCS colour S 4050-R10B
Light reflectance 7%



Silk Slate
Nearest NCS colour 7000-N
Light reflectance 13%



Dark Diamond
Nearest NCS colour S 9000-N
Light reflectance 4%



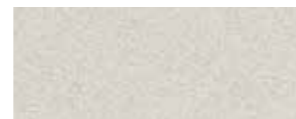
Summer Breeze
Nearest NCS colour S 1515-B50G
Light reflectance 54%



Morning Drizzle
Nearest NCS colour S 1002-B
Light reflectance 69%



Silent Steam
Nearest NCS colour S 2010-B
Light reflectance 45%



Cloudy Day
Nearest NCS colour S 1500-N
Light reflectance 62%



Ocean Storm
Nearest NCS colour S 4020-R90B
Light reflectance 24%



Pale Pearl
Nearest NCS colour S 2005-R30B
Light reflectance 55%



Moonlight Sky
Nearest NCS colour S 7020-R90B
Light reflectance 7%

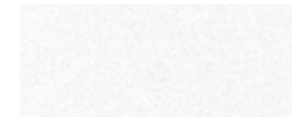


Highland Fog
Nearest NCS colour S 2005-G
Light reflectance 55%

Akutex™ T

Akutex T is a well-trying painted surface, that in combination with the glass wool core provides optimal sound absorption.

It is a porous surface that allows almost 100% of the sound energy to penetrate into and be absorbed by the glass wool core. The surface is a crucial element in the system constituting a class A absorbent. The high light reflectance (84%) means that Akutex T can lead to cost-effective and more energy-efficient lighting.



White 500
Nearest NCS colour S 0500-N
Light reflectance 84%
(diffuse reflectance)

Texona

If you want to create expressive wall solutions with a wide range of colours, Texona is the preferred choice. The surface has a smooth textured surface, is impact resistant and available in a variety of colours.



Sea Salt
Nearest NCS colour S 0500-N
Light reflectance 81%



Liquorice
Nearest NCS colour S 9000-N
Light reflectance 5%



Pepper
Nearest NCS colour S 6502-Y
Light reflectance 17%



Garlic
Nearest NCS colour S 2502-Y
Light reflectance 52%



Ginger
Nearest NCS colour S 2005-Y30R
Light reflectance 56%



Tangerine
Nearest NCS colour S 2060-Y50R
Light reflectance 27%



Mustard
Nearest NCS colour S 2050-Y
Light reflectance 45%



Menthol
Nearest NCS colour S 4040-B30G
Light reflectance 18%



Oyster
Nearest NCS colour S 4005-Y20R
Light reflectance 32%



Poppy seed
Nearest NCS colour S 3020-B10G
Light reflectance 28%



Cranberry
Nearest NCS colour S 2060-R20B
Light reflectance 16%



Thyme
Nearest NCS colour S 2010-B90G
Light reflectance 47%



Acai
Nearest NCS colour S 6020-R90B
Light reflectance 12%



Explore Ecophon online www.ecophon.in

You will be amazed at how much acoustic knowledge and design inspiration you can find there. Architects, acousticians and installers will also find very useful tools for their job.

On the website you will discover how acoustics can dramatically improve workplaces by selecting the right materials when designing, constructing or renovating buildings. You will find detailed product information and new innovative acoustic solutions.

At www.ecophon.in you can download all our product pages as PDF files. In this way you ensure you always have access to the very latest information, as our website is updated daily.

- Product information and recommendation for different applications
- Inspiration
- E-tools
- Acoustic knowledge
- Functional demands
- Certificates and environmental aspects, etc

How about having our entire catalogue available in your iPad?

Download our iPad app by searching for Ecophon on App Store.



Ecophon's contribution to sustainable buildings

Most of us spend more than 90% of our time indoors. To enhance well-being and performance, it is important to do this in healthy spaces with high acoustic and visual comfort and good indoor air quality. We at Ecophon take great pride in providing low-emitting products that offer endless possibilities for creating a stunning acoustic and visual design.

With our fundamental respect for people, we care strongly about all their environments. The majority of our factories run on 100% renewable electricity and we have a long history of using safe ingredients. Our panels are made of more than 70% recycled glass and are fully recyclable.



Green Building Certification Schemes
Green building certification schemes are becoming important tools for encouraging and rewarding social and environmental responsibility. Ecophon acoustic products have excellent sound-absorbing properties as well as other technical qualities that contribute to the interior environment. Choosing Ecophon solutions can therefore help you earn a variety of credits/points towards your certification according to for example LEED, BREEAM and WELL. For more detailed information, please contact us.

certifications for green buildings. We know what impact our products have, and for some years we have been able supply this information in easy-to-use third party verified Environmental Product Declarations. EPDs make it possible to compare different building materials and make choices that contribute to healthy environments. All Ecophon EPDs are available at www.ecophon.in and environdec.com.

Environmental Product Declarations
Demand for comprehensive data on the environmental impact of products has increased in the last decade, along with the development of

Ecophon BIM Objects
Ecophon BIM objects are available for both Revit and ArchiCAD. In both versions, you get access to information such as sound absorption classes, CO₂ emissions and links to documentation. Download our BIM objects at www.ecophon.in or bimobject.com.



ECOPHON A PART OF SAINT-GOBAIN GROUP world leader in sustainable habitat solutions

This is Saint-Gobain
Saint-Gobain is constantly innovating to make living spaces more comfortable, cost-efficient and sustainable worldwide. Saint-Gobain solutions span from self-cleaning windows and photovoltaic glass to smart insulation systems, water supply systems and building materials distribution.

For over 350 years, Saint-Gobain has consistently demonstrated its ability to invent products that improve comfort and quality of life. Today's Saint-Gobain is one of the top 100 industrial groups in the world and one of the 100 most innovative companies, and continues to deploy its technological know-how, often in partnership with the most prestigious universities and laboratories.

Saint-Gobain offers solutions to the major challenges of energy efficiency and environmental protection. No matter what new needs emerge in the habitat and construction markets, the future is made of Saint-Gobain.

To find out more visit www.saint-gobain.com



Ecophon®

SAINT-GOBAIN

A SOUND EFFECT ON PEOPLE

Ecophon is the leading supplier of acoustic solutions. We contribute to healthier indoor environments, improving quality of life, wellbeing and working performance. As evolution has adapted the human senses to a life outdoors, our focus is to bring the ideal acoustic environments of nature into our modern indoor spaces. We know they will have a sound effect on people.



The principles guiding our work are grounded in our Swedish heritage, where a human approach and a common responsibility for people's lives and future challenges come naturally.

Ecophon is part of the Saint-Gobain Group, a world leader in sustainable habitat solutions. This is also one of the top 100 industrial groups in the world, constantly innovating to make living spaces more comfortable and cost-efficient. Saint-Gobain offer solutions to the major challenges of energy efficiency and environmental protection. No matter what new needs emerge in the habitat and construction markets, the future is made of Saint-Gobain.



www.ecophon.in