Ecophon Wall Panel™
Expressive art or discreet setting
Colour, design and structure – for the eye and ear.

Create a bold feature in a room, or go for a harmonious set of colours. Horizontal, vertical or diagonal, one colour or many? Your only limit is your imagination. The Wall Panel system allows you to create superior acoustic comfort according to your own choices and needs. Let’s find some inspiration!

ECOPHON WALL PANEL™
The traditional way to add sound absorption into a room is to install a suspended acoustic ceiling. However there are many situations where a traditional suspended ceiling can't be used, or where only parts of the ceiling area can be treated with sound absorbing material. This might be due to different reasons. Buildings might have nice details in the ceiling, like plaster figures, which you don’t want to hide or which even may be protected by law. In other cases the designer wants to expose all the installations or the structure of the roof, or the concrete deck is designed to be exposed to be a part of the thermal regulation of the room. In such rooms vertical absorbers can be an alternative, to provide enough sound absorbing material.

**Extensive design possibilities**

Wall absorbers in different colours together with a surrounding profile system and corner details in matching or different colours, offer a vast amount of possibilities for the interior design of the room. If wall absorbers are used when renovating a room, the preparatory work with the walls is minimized.

**Applications**

Ecophon offers Wall Panel systems with different types of surfaces and profiles. What system to choose depends on the kind of premises it is to be installed in. For instance in school corridors a surface with high impact resistance is recommended, while in a prestigious office a surface and a profile with very high aesthetical values can be chosen. In cinemas, theatres, auditoriums and broadcasting studios, the sound absorbers are installed in different ways to control and regulate both the sound emitted from the speakers and reflected sound.
Wall Panels

There are many ways in which Wall Panels improve acoustic conditions

**Physical effects:**
- Increased sound absorption and reduced noise level
- Increased speech intelligibility
- Increased directional hearing
- Avoid flutter echo
- Avoid late sound reflexes

**Subjective effects:**
- Increased speech and listening comfort
- Reduced stress and stress-related symptoms
- Less vocal effort
- Easier to concentrate
In a room with parallel, hard walls, the wall absorber removes any flutter echo.

In a classroom, the wall absorber helps to reduce the sound level and remove unwanted sound reflexes.

Wall absorbers in reception areas help to reduce the sound level, improving communication.
In some premises, conditions are such that a wall-to-wall sound-absorbing ceiling on its own is not sufficient to create good acoustics. New findings show that in, for example, day-care centres and schools for younger grades, it is not only important to reduce the reverberation time, but also to reduce the sound pressure level as a whole. This is best done by maximizing the amount of sound-absorbing material, meaning that the walls have to be used for sound absorption as well. Optimal conditions are achieved by distributing absorbers over other surfaces than just the ceiling.

It might in some cases be difficult or inappropriate to use the ceiling area for sound absorbers, or perhaps only parts of the ceiling can be used. In older buildings, the original ceilings might have attractive plaster details or artwork which you want to be visible, or covering them might be contradictory to regulations. In modern buildings, the design of the interior may be such that the architect or designer wants installations or the roof structure to be exposed. Where the concrete joists are an active part of the thermal system, they must not be covered.

**Acoustic parameters and how to apply them**

*Reverberation time (RT)* is by far the most frequently used parameter for calculations and measurements within room acoustics. The formulas used are normally the Sabine formula or some modified version of it. They are easy to use - you need the room volume and the amount of sound absorption, calculated with the absorption coefficient $\alpha_v$.

These formulas, however, are designed for ideal conditions with *diffuse sound fields*. In reality, the sound field is far from diffuse. It will probably consist of two main parts: one grazing and one non-grazing.
Grazing sound fields, which exist mainly in the mid and high frequencies, consist of sound energy developed in a plane parallel to a sound absorbing surface (normally the ceiling). The reverberation time in a room is mainly determined by the grazing sound fields. This means, in practice, that the reverberation time is considerably higher than the value calculated for diffuse sound fields.

The best way to control the sound energy in the grazing sound fields is to absorb it by using sound absorbers on walls. The sound energy can also be redirected towards the (sound-absorbing) ceiling by scattering or diffusion from furniture, interior fittings and surfaces.

Added benefits with vertical absorbers

Many premises require really good room acoustics in order to reduce the noise level. The more sound absorption there is in a room, the lower the noise level will be. It has been shown that physical reduction of sound pressure levels (= less noise) in a room also results in additional sound reduction by psychological reaction: people talk more quietly.

With regard to environments requiring a high level of speech intelligibility, application of the STI (or RASTI) value might be a more appropriate parameter than reverberation time. Although STI is partly determined by the reverberation time, it is better correlated to the amount of sound absorption in the room. Adding sound absorption by placing absorbers on the walls will decrease the reverberation time, improve speech intelligibility and also reduce the sound pressure level.
Practical solutions with vertical acoustics

There are a minimum of three things to take into consideration when treating a room acoustically:

• the area available for sound treatment
• the requirements for mechanical resistance
• the aesthetics

The most straightforward application is to install wall panels continuously wall-to-wall or to partly cover a wall. From the acoustic point of view it is ideal to cover at least two perpendicular walls, or parts of them, since, in this case, both of the horizontal sound fields are being treated and flutter echo is avoided.

Another way of installing wall panels is to split them into smaller fields - or even use them singly, scattered over the wall. This can be done in regular or irregular patterns and provide an outlet for all sorts of creativity.
The amount of sound absorption can be used to calculate speech intelligibility and the reduction of the sound pressure level. It is not, however, safe nor reliable to calculate the reverberation time (RT) on the basis only of the amount of sound absorption.

A common way of arranging wall panels in, for example, classrooms or offices is to install a horizontal band of absorbers at a suitable height and use them as pinboards. In this case too it is preferable to use more than one wall and to combine with a sound-absorbing ceiling. The wall absorbers should be placed at the height of people’s ears in both the sitting and standing positions.

Corners are especially important for the acoustics - corners between walls and corners between the ceiling and the walls - sound absorbers perform optimally there.
There are several different ways of installing wall panels. They can be split into smaller fields to create different patterns, installed from ceiling to floor to create a uniform wall and, with the smart profile, it is also possible to create different types of framing. The wall panel installation process, in other words, can be an outlet for all sorts of creativity.

To give you an idea of the possibilities, we gathered some creative people together and asked them to show us their ideas for combining the panels.

If you want to create your own combinations visit our website at www.ecophon.co.uk
Visible or hidden, your choice!

The profiles for Wall Panel A and Wall Panel C come in 3 colours and finishes. This enables you to create a distinct frame effect round the panel or, alternatively, a more subtle one. You decide.

**CONNECT WP PROFILE**
- **TEXTURED WHITE**
  - Nearest NCS colour sample: S 0502-Y.
  - Gloss 2.

- **NATURAL ANODIZED**
  - Nearest NCS colour sample: S 1000-N.
  - Gloss 10.

- **BLACK ANODIZED**
  - Nearest NCS colour sample: S 9000-N.
  - Gloss 5.

**CONNECT WP CORNER**
- **MATT WHITE**
  - Nearest NCS colour sample: S 0502-Y.

- **MATT GREY**
  - Nearest NCS colour sample: S 2500-N.

- **MATT BLACK**
  - Nearest NCS colour: S 9000-N.

**CONNECT GRID**
- **WHITE O10**
  - Nearest NCS colour sample: S 0502-Y.
  - Gloss 20.

- **GREY RAL 9006**
  - Natural variation in gloss and colour can occur: Metallic.

- **ULTRA MATT BLACK**
  - Nearest NCS colour sample: S 9000-N.
  - Gloss 3.
COLOUR COLLECTION

The colour reproductions indicate the available colours and finishes. However, we can also provide samples in each different colour and finish. We recommend that you review these samples before placing an order. Colours may vary between batches.

To see our latest colour collection, visit our website, www.ecophon.co.uk

TEXONA

WHITE 900.
Nearest NCS colour sample S 0500 N.
Light reflectance 81%.

LIGHT GREY 910.
Nearest NCS colour sample S 5000 Y.
Light reflectance 52%.

MEDIUM GREY 920.
Nearest NCS colour sample S 4502 Y.
Light reflectance 34%.

LIGHT BEIGE 620.
Nearest NCS colour sample S 2005 Y30R.
Light reflectance 36%.

BLACK 940.
Nearest NCS colour sample S 90000 N.
Light reflectance 5%.

BLUE 720.
Nearest NCS colour sample S 7020 Y80B.
Light reflectance 6%.

TURQUOISE 710.
Nearest NCS colour sample S 1040 Y30G.
Light reflectance 49%.

ORANGE 520.
Nearest NCS colour sample S 2000 Y50R.
Light reflectance 27%.

BROWN 610.
Nearest NCS colour sample S 7010 Y10R.
Light reflectance 14%.

DARK GREY 930.
Nearest NCS colour sample S 6502 Y.
Light reflectance 17%.

VIOLET 730.
Nearest NCS colour sample S 2020 Y50B.
Light reflectance 6%.

CERISE 810.
Nearest NCS colour sample S 2060 Y20B.
Light reflectance 16%.

RED 820.
Nearest NCS colour sample S 2070 R.
Light reflectance 11%.

SUPER G

WHITE 085.
Nearest NCS colour sample S 1002 Y.
Light reflectance 78%.

GREY 984.
Nearest NCS colour sample S 3502 G.
Light reflectance 38%.

GREEN 583.
Nearest NCS code S 4040 G40Y.
Light reflection 22%.

AKUTEX FT

WHITE FROST
Nearest NCS colour sample S 0500 N.
Light reflectance 83% (diffuse reflection).

Ecophon and the trademarks mentioned in this publication are trademarks belonging to the Ecophon Group. This publication is intended to provide a general guide as to which product is best suited for a given requirement and shows suggested applications for our system range. Technical data is based on results obtained under typical or testing conditions or from long practice under normal conditions. Specified functions and properties for products and systems are only valid when handling instructions, installation diagrams, installation guides, maintenance guides and other stated conditions and recommendations have been considered and followed. Any deviation from this, e.g. exchange of specific components or products, will entail Ecophon not being held responsible for functions, results and properties achieved. All descriptions, illustrations and dimensions in this publication represent general particulars and shall not form part of any contract. Products and systems presented in this publication are subject to change without prior notice. Accordingly, descriptions and recommendations are updated continuously. For latest information please consult www.ecophon.com or contact your nearest Ecophon representative.
ECOPHON WALL PANEL™ A

For use as vertical absorbers together with, or instead of a sound absorbing ceiling, to achieve excellent acoustic properties in the room, particularly in larger areas. Ecophon Wall Panel A has an exposed grid system and each panel is demountable.

SYSTEM AND PRODUCT DESCRIPTION

The system consists of Ecophon Wall Panel A panels and Ecophon Connect grid systems, with an approximate weight of 4 kg/m².

The panels are manufactured from high density glass wool. The visible surface has a glass fibre fabric (Texona) or a strong glass fibre fabric (Super G), and is also available in Akutex FT coating (white). The back of the tile is covered with glass tissue. The edges are natural.

The grid is manufactured from galvanized steel.

For use as vertical absorbers together with, or instead of a sound absorbing ceiling, to achieve excellent acoustic properties in the room, particularly in larger areas. Ecophon Wall Panel A has an exposed grid system and each panel is demountable.

SYSTEM RANGE

<table>
<thead>
<tr>
<th>Size, mm</th>
<th>2700</th>
<th>48</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1200</td>
<td>150</td>
</tr>
</tbody>
</table>

Wall Panel A
Wall Panel A system with Connect Channel trim and Connect T24 Main Runner
Wall Panel A with internal corner solution
Wall Panel A with Connect Recessed profile

ACCESSIBILITY: The panels are demountable.

CLEANABILITY: Daily dusting and vacuum cleaning. Weekly wet cleaning (Super G and Akutex FT surface). Weekly dusting and vacuum cleaning (Texona surface).

LIGHT EFFICIENCY: Wall Panel in white has high light reflectance. Light reflectance and nearest NCS colour sample for all the different colours: See Ecophon Colour Range.

INFLUENCE OF CLIMATE: The panels withstand a permanent ambient RH up to 95% at 30°C (Super G and Akutex FT surface) and RH up to 75% at 30°C (Texona surface) without sagging, warping or delaminating (EN 13964).

Thermal resistance for the panels, \( R = 1.0 \text{ m}^2\text{K}/\text{W} \). Since a wall absorber mounted on an external wall serves as additional insulation, the need for a vapour barrier should be investigated.

INDOOR CLIMATE: Certified by the Indoor Climate Labelling, recommended by the Swedish Asthma and Allergy Association.

ACOUSTICS:

SOUND ABSORPTION: Test results according to EN ISO 354.

\( \alpha_p \): Practical sound absorption coefficient

Classification according to EN ISO 11654, and the single value ratings for NRC and SAA according to ASTM C 423.

<table>
<thead>
<tr>
<th>Product</th>
<th>Wall Panel A/Texona</th>
<th>Wall Panel A/Super G</th>
<th>Wall Panel A/Akutex FT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absorption class</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
</tbody>
</table>

SOUND INSULATION: Not applicable.

SOUND PRIVACY: AC=230 according to ASTM E 1376 and E 1110.

ENVIRONMENTAL INFLUENCE: Granted the Nordic Swan ecolabel. Fully recyclable.

FIRE SAFETY: Reaction-to-fire classifications.

Country | Standard | Class|
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe</td>
<td>EN 13801-1</td>
<td>A2:s1,d0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

MECHANICAL PROPERTIES: Texona surface has moderate impact resistance. Super G surface is a stronger glass fibre fabric with high impact resistance.

INSTALLATION: Installed according to installation diagram M194. Wall Panel with Akutex FT surface should be installed out of reach.


www.ecophon.co.uk/co.uk
INSTALLATION DIAGRAM (M194) FOR WALL PANEL A

**M194 COMPONENTS**

Ecophon Wall Panel A
- Connect Channel trim 0465, L=2700 mm, fixed at 300 mm centres.
- Connect Direct fixing plate 0032 is placed inside at each fixing point if Wall Panel is not supported by the floor.
- Connect Channel trim 0465, L=2700 mm, installed with Connect Fixing bracket 0214 at 400 mm centres.
- Connect Fixing bracket 0214 at 400 mm centres.
- Internal wall corner: Connect Channel trim 0465, L=2700 mm, fixed at 400 mm centres.
- Alt. Connect Recessed profile 0357, L=2700 mm [Installation: kept in position with the Channel trims].
- Alt. Connect T24 Main runner 8101, L=3700 mm [Installation: kept in position with the Channel trims].

Frame: Connect Channel trim 0465, L=2700 mm, fixed at 300 mm centres.
- Connect Direct fixing plate 0032 can be placed inside for extra support.

External wall corner: Connect Channel trim 0465, L=2700 mm, fixed at 400 mm centres.
- Alt. Connect T24 Main runner 8101, L=3700 mm [Installation: kept in position with the Channel trims].
- Connect Direct fixing plate 0032 is placed inside at each fixing point if Wall Panel is not supported by the floor.

Accessories for adjusting electrical installations are available in electricity retail stores.
ECOPHON WALL PANEL™ C

For use as vertical absorbers together with, or instead of a sound absorbing ceiling, to achieve excellent acoustic properties in the room, particularly in larger areas. Ecophon Wall Panel C has a concealed grid and the bevelled edges create a narrow groove between each panel. The system provides extensive design possibilities. The panels are demountable.

SYSTEM AND PRODUCT DESCRIPTION

The system consist of Ecophon Wall Panel C panels and Ecophon Connect grid systems, with an approximate weight of 5 kg/m².

The panels are manufactured from high density glass wool. The visible surface has a glass fibre fabric (Texona) or a strong glass fibre fabric (Super G), and is also available in Akutex FT coating (white). The back of the panels is covered with glass tissue. The edges are painted, and the front surface is partly covering the long edges.

The profiles are manufactured from extruded aluminium.

SYSTEM RANGE

| Size, mm | 2700 |
| WP profile | 400 |
| Thickness | * |
| Inst. diagr | 40 |

Wall Panel C

Section of Wall Panel C System

Wall Panel C system with Connect WP profile and external corner

Wall Panel C system with Connect WP profile and internal corner

ACCESSIBILITY: The panels are demountable, if installed without splines.

CLEANABILITY: Daily dusting and vacuum cleaning. Weekly wet cleaning (Super G and Akutex FT surface). Weekly dusting and vacuum cleaning (Texona surface).

LIGHT EFFICIENCY: Wall Panel in white has high light reflectance. Light reflectance and nearest NCS colour sample for all the different colours: See Ecophon Colour Range.

INFLUENCE OF CLIMATE: The panels withstand a permanent ambient RH up to 95% at 30°C (Super G and Akutex FT surface) and RH up to 75% at 30°C (Texona surface) without sagging, warping or delaminating (EN 13964).

Thermal resistance for the panels, $R=1.0\,\text{m}^2\cdot\text{K}/\text{W}$. Since a wall absorber mounted on an external wall serves as additional insulation, the need for vapour barrier should be investigated.

INDOOR CLIMATE: Certified by the Indoor Climate Labelling, recommended by the Swedish Asthma and Allergy Association.

ENVIRONMENTAL INFLUENCE: Granted the Nordic Swan ecolabel. Fully recyclable.

FIRE SAFETY: Reaction-to-fire classifications.

<table>
<thead>
<tr>
<th>Country</th>
<th>Standard</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe</td>
<td>EN 13501-1</td>
<td>A2-s1,d0</td>
</tr>
</tbody>
</table>

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

MECHANICAL PROPERTIES: The Wall Panel C/Super G system has been tested according to EN 13964 annex D and DIN 18 032 part 3 and fulfills the demands corresponding to class 1A. Please note: Where the panels are subjected to frequent blows and impacts e.g. behind an indoor goal mouth, it will be necessary to add some protection in the form of restraining nets or wooden slats. Texona surface has moderate impact resistance.

INSTALLATION: Installed according to installation diagram M195 (vertical installation), M196 (horizontal installation) or M235 (diagonal installation). Wall Panel with Akutex FT surface should be installed out of

www.ecophon.co.uk, CADsupport, Product selector, Specification, Maintenance manual

www.ecophon.co.uk/co.uk
INSTALLATION DIAGRAM (M195) FOR WALL PANEL C

VERTICAL INSTALLATION

Full size panel without profile

Internal wall corner: Cut panel and Connect WP Profile, L=2687 mm alt. full size panel without profile

Connect WP Profile, L=2687 mm, fixed at 400 mm centres

External wall corner: Connect WP Profile, L=2687 mm, fixed at 400 mm centres

Connect Fixing bracket 0214 at 400 mm centres

Connect WP Space bar 1050, L=2400 mm

Joint between panels (Connect Spline 0219 can be used to secure the panels)

ECOPHON WALL PANEL C

Connect WP Profile, L=2687 mm, fixed (alt. with Connect Fixing bracket 0214) at 400 mm centres,
with Connect WP Space bar 1050, L=2400 mm

Connect Fixing bracket 0214 at 400 mm centres.

Connect WP Space bar 1050, L=2400 mm

Connect WP External corner mounted in Connect WP Profile

Connect WP Internal corner mounted in Connect WP Profile

Joint between panels (Connect Spline 0219 can be used to secure the panels)

Detail of installation

Detail of upper connection

Detail of lower connection

M195

COMPONENTS

<table>
<thead>
<tr>
<th>COMPONENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecophon Wall Panel C</td>
</tr>
<tr>
<td>Connect WP Profile, L=2687 mm, fixed (alt. with Connect Fixing bracket 0214) at 400 mm centres,</td>
</tr>
<tr>
<td>with Connect WP Space bar 1050, L=2400 mm</td>
</tr>
<tr>
<td>Connect Fixing bracket 0214 at 400 mm centres.</td>
</tr>
<tr>
<td>Connect WP Space bar 1050, L=2400 mm</td>
</tr>
<tr>
<td>Connect WP Profile, L=2687 mm, fixed at 400 mm centres</td>
</tr>
<tr>
<td>External wall corner: Connect WP Profile, L=2687 mm, fixed at 400 mm centres</td>
</tr>
<tr>
<td>Internal wall corner: Cut panel and Connect WP Profile, L=2687 mm alt. full size panel without profile</td>
</tr>
<tr>
<td>Full size panel without profile</td>
</tr>
<tr>
<td>Joint between panels (Connect Spline 0219 can be used to secure the panels)</td>
</tr>
<tr>
<td>Connect WP External corner mounted in Connect WP Profile</td>
</tr>
<tr>
<td>Connect WP Internal corner mounted in Connect WP Profile</td>
</tr>
</tbody>
</table>
INSTALLATION DIAGRAM (M196) FOR WALL PANEL C
HORIZONTAL INSTALLATION

Connect WP External corner mounted in Connect WP Profile

Connect WP Internal corner mounted in Connect WP Profile

Vertical joint between panels: Connect WP Profile, L=2687 mm, fixed at 400 mm centres

Connect WP Profile, L=2687 mm, fixed at 400 mm centres

Horizontal joint between panels: Connect Fixing plate 0299 is mounted at 500 mm centres

Connect Fixing plate 0299 is mounted at 500 mm centres

Connect WP Profile, L=2687 mm, fixed at 400 mm centres

Connect WP Profile, L=2687 mm, fixed at 400 mm centres

Connect Fixing bracket 0214 at 400 mm centres

Connect WP Profile, L=2687 mm, fixed at 400 mm centres

Connect WP Profile, L=2687 mm, fixed at 400 mm centres

Connect Fixing bracket 0214 at 400 mm centres

Connect WP External corner mounted in Connect WP Profile

Connect WP Internal corner mounted in Connect WP Profile

Detail of upper connection

Detail of lower connection

Detail of junction to acoustic ceiling

M196 COMPONENTS

Ecophon Wall Panel C

Connect WP Profile, L=2687 mm, fixed (alt. with Connect Fixing bracket 0214) at 400 mm centres

Connect Fixing bracket 0214 at 400 mm centres

Horizontal joint between panels: Connect Fixing plate 0299 is mounted at 500 mm centres

Connect WP Profile, L=2687 mm, fixed at 400 mm centres

Vertical joint between panels: Connect WP Profile, L=2687 mm, fixed at 400 mm centres

Connect WP External corner mounted in Connect WP Profile

Connect WP Internal corner mounted in Connect WP Profile
Installation Diagram (M235) for Wall Panel C
Diagonal Installation

Components

- Ecophon Wall Panel C
- Connect WP Profile, L=2687 mm, fixed (alt. with Connect Fixing bracket 0214) at 400 mm centres, with Connect WP Space bar 1050, L=2400 mm
- Connect Fixing bracket 0214 at 400 mm centres
- Connect WP Space bar 1050, L=2400 mm
- Connect Fixing bracket 0214 mounted in Connect WP Profile
- Connect WP Profile, L=2687 mm, fixed at 400 mm centres
- Joint between panels (Connect Spline 0219 can be used to secure the panels)

- Connect WP External corner mounted in Connect WP Profile

Ecophon Group 2008
Idea and layout: Saint-Gobain Ecophon AB, Printer: Skånetryck AB, Photo: Patrick Klemm, Paul Megahey, Studio e. Illustrations: 3D Bild/Mats Paulsson
Ecophon dates back to 1958, when the first sound absorbers from glass wool were produced in Sweden to improve the acoustic working environment. Today the company is a global supplier of acoustic systems that contribute to good room acoustics and a healthy indoor environment, with the focus on offices, education, healthcare and industrial manufacturing premises. Ecophon is part of the Saint-Gobain Group and has sales units and distributors in many countries.

Ecophon’s efforts are guided by a vision of earning global leadership in acoustic ceiling and wall absorber systems by providing superior end user value. Ecophon maintains an ongoing dialogue with government agencies, working environment organisations and research institutes, and is involved in formulating national standards in the field of room acoustics where Ecophon contributes to a better working environment wherever people work and communicate.

www.ecophon.co.uk