



# **HYGIENE**<sup>™</sup>



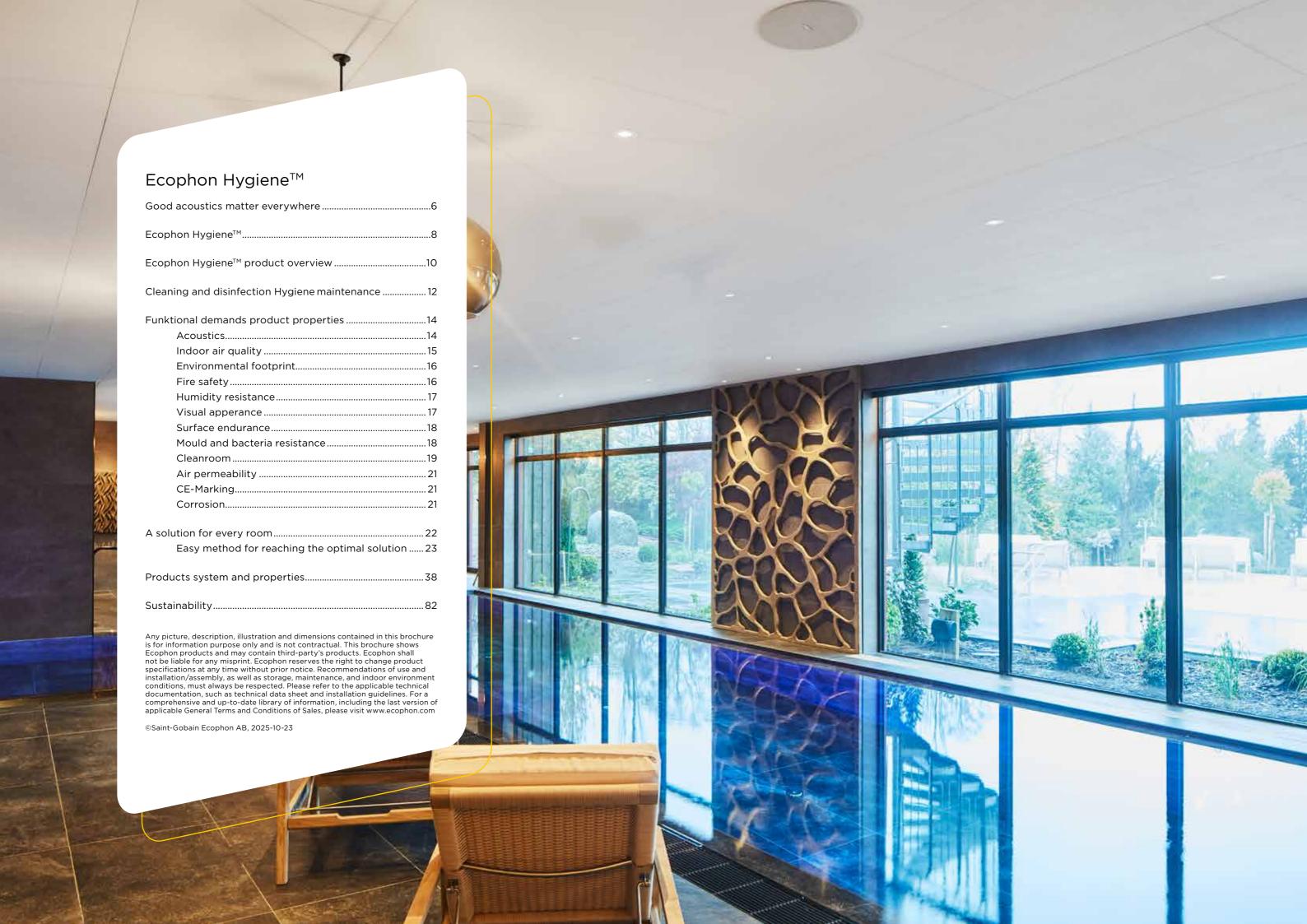
# A sound effect

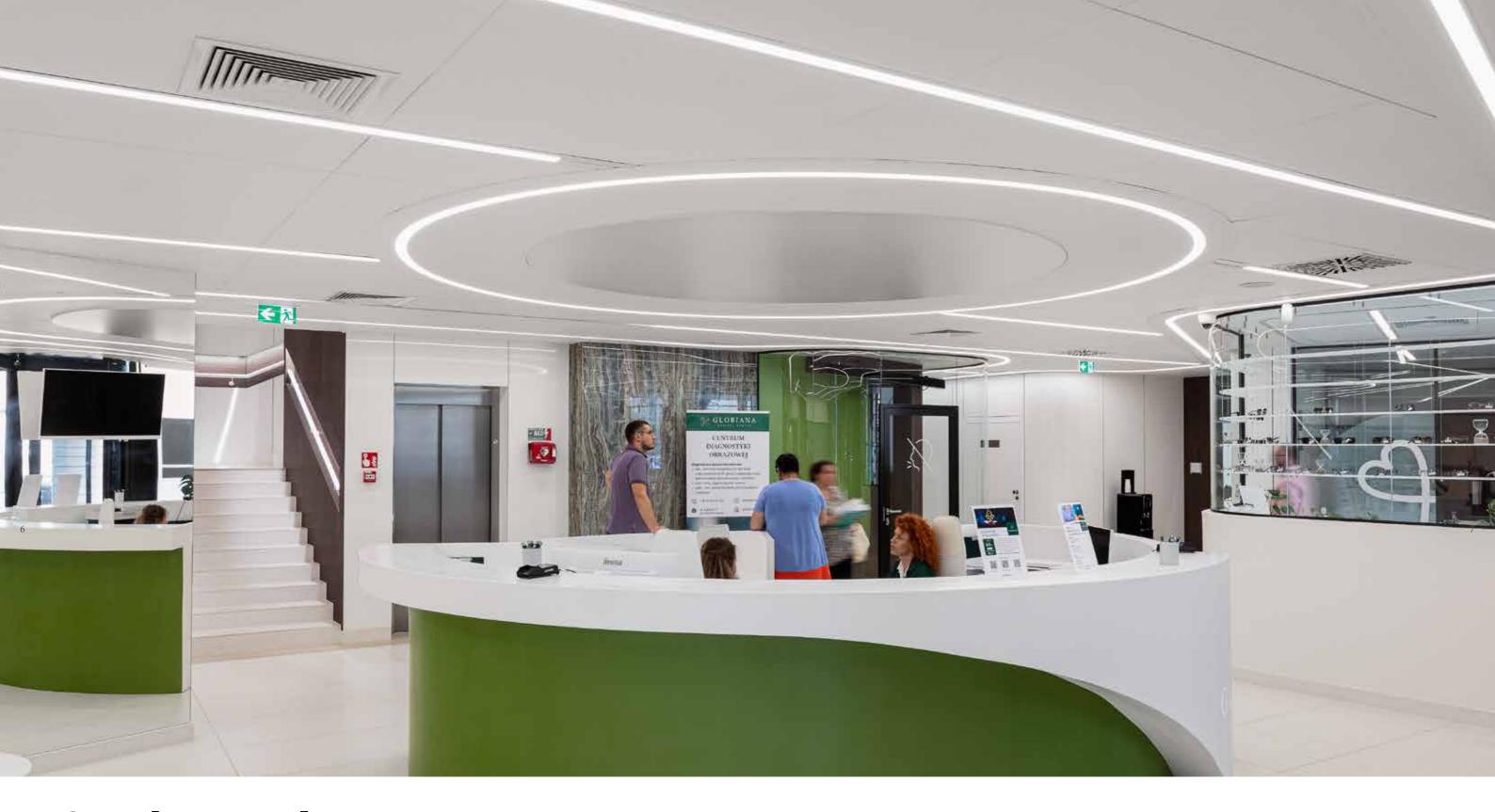
on people

Saint-Gobain Ecophon contributes to good indoor environments for working, healing and learning. We do this by developing, manufacturing, and delivering acoustic products and systems designed around the natural evolution of human hearing – replicating the outdoor sound experience indoors, because that's just better for people. Having a sound effect on people, in every way we can, is what we do proudly. That promise makes every one of us a passionate advocate for the importance of room acoustics to people's wellbeing – whatever the space, activity or need.









# **Good acoustics matter everywhere**

The importance of acoustics is underappreciated. Sound impacts us in daily life, and the scientific support for improving our indoor sound environments is well-documented.

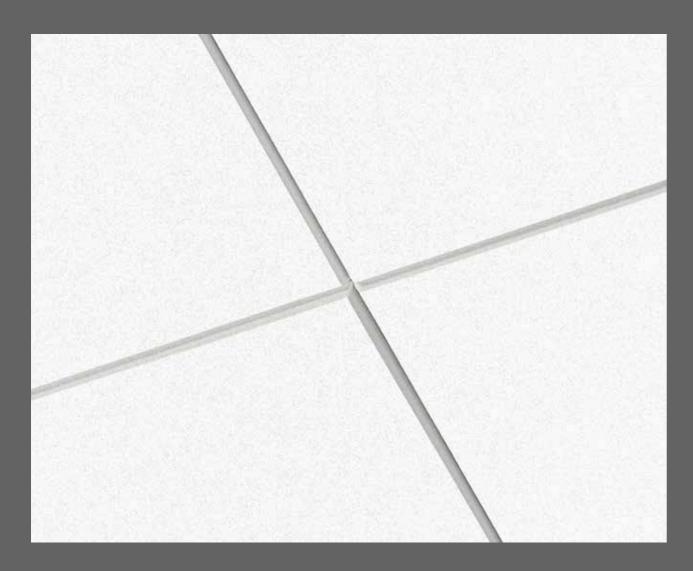
And what exactly is an ideal indoor sound environment for people? One based on how we experience sound outside. The human auditory sense is naturally adapted to an outdoor environment where there is not any sound reflections from ceilings and walls.

That's why most of what we do at Ecophon is about replicating the acoustic qualities found in nature for indoor environments.

Usually that starts with the ceiling. A wall-to-wall acoustic ceiling is the easiest way to get a large soundabsorbing surface area into a space, and is usually the best way to reduce sound strength, shorten reverberation times, and increase speech clarity and overall hearing comfort.

If we also use wall absorbers, we can further improve speech clarity, shorten how far the sound will travel (sound propagation) and increase overall hearing comfort.

A good sound environment supports both the staff and the patient's wellbeing.



# **HYGIENE**<sup>™</sup>

# Ensuring the required level of hygiene and cleanliness

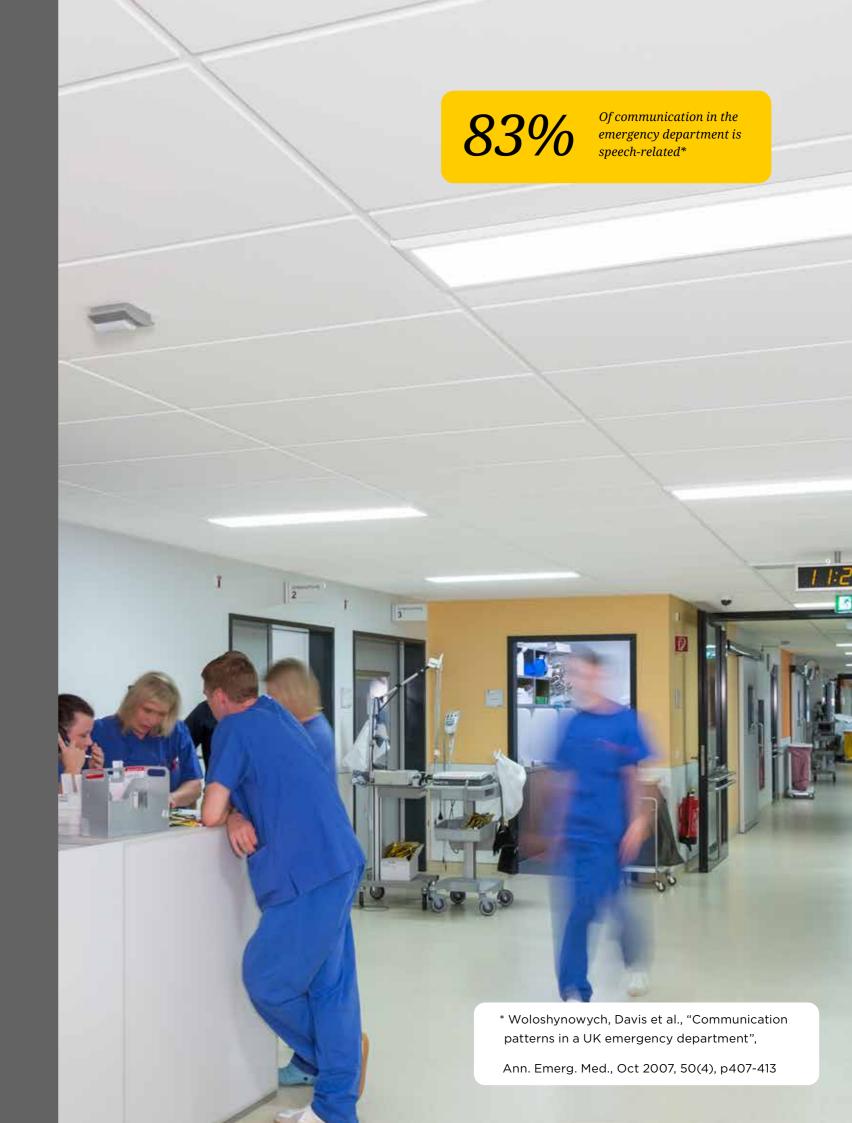
In hospitals and other healthcare facilities, a good sound environment is crucial for saving lives as well as enabling rest and recovery.

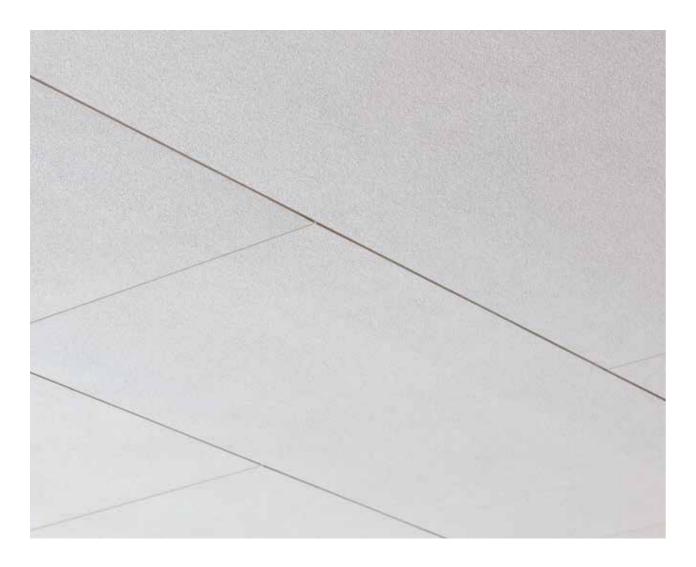
In large industrial premises, a combination of hard, reflective surfaces and loud machines often necessitates the use of hearing protection. However, hearing protection makes it hard to hear alarms, while also making communication almost impossile.

In swimming pool areas, the high noise levels don't increases wellbeing and performance. just take some of the fun away, but also make it tough for lifeguards to identify potentially serious incidents.

A common characteristic of these environments is that they all have specific hygiene demands. This could, for instance, be cleaning, disinfection, water resistance or particle repellency. There may be highly corrosive pollutants in the air. Or maybe all surfaces in the space need to withstand high-pressure washing.

The extensive Ecophon Hygiene™ range offers soundabsorbing solutions that meet all these hygiene demands and more, making sure everyone can experience all the benefits of a workplace with a good sound environment – a workplace that increases wellbeing and performance.





PRODUCT OVERVIEW

# **ECOPHON HYGIENE™**

### Find the right product for your needs

Ecophon Hygiene $^{\text{\tiny TM}}$  covers a comprehensive range of products, suitable for environments with different needs.

Use the table on the next page to find the product group that meets your demands. Then continue reading about your chosen group on their respective pages.

### Shared properties - Ecophon Hygiene $^{\scriptscriptstyle{\text{\tiny{M}}}}$

Cleanroom	Clean room classification ISO 3 - ISO 4 (ISO 14644-1) Kinetic class for particle elimination, CP(0,5)5 (NF S 90-351) or better Bacteriological class M1/Area 4 (NF S 90-351)
Circularity	Fully recyclable
Fire safety	Class: A2-s1,d0, EN 13501-1

#### Differentiating properties - Ecophon Hygiene™

		Hygiene Clinic	Hygiene Meditec	Hygiene Black	Hygiene Protec	Hygiene Performance	Hygiene Advance
Range	Installation methods	E					
Cleanability	Dusting & vacuum cleaning	•	•	•	•	•	•
	Wet wiping	•	•	•	•	•	•
	Steam cleaning	-	•	-	•	•	•
	Wet cleaning	-	-	-	-	e <sup>1</sup>	•
	High pressure washing	-	-	•1	-	⊕1	•
	Hydrogen peroxide vapour	•	•	-	•	•	•
	Compatible with UV-C disinfection	•	•	•	•	•	•
×200 Surface endurance	Withstand 200 cycles (ISO 11998)	-	•	•	•	•	•
	Withstand cycles beyond ISO 11998	-	-	-	-	-	•
Chemical resistance	Resistant to disinfection chemicals (ISO 11998)	-	•	•	•	•	•
	Resistant to strong chemicals (ISO 2812-1)	-	-	-	-	-	•
Air permeability	Ceiling for areas with air pressure control requirement	-	-	-	• <sup>2</sup>	-	<sub>@</sub> 3
Humidity resistance	Dry area system, compatible with corrosion class C1 areas	•	•	•	•	•	•
	High humidity area system, compatible with corrosion class C3 areas	-	-	•	-	•	•
	Swimming pool area system, compatible with corrosion class C4 areas	-	-	•	-	•	•
	Constant wet area system, compatible with corrosion class C4 areas	-	-	-	-	-	•
Mould and	Fungi ASTM D3273-16	Class 10*	Class 10*				
bacteria resistance	Bacteria, method C (ISO 846)	Class 0**	Class O**	Class 0**	Class 0**	Class O**	Class 0**
	Fungi, method A ( ISO 846)	Class 0**	Class O**	Class 0**	Class 0**	Class O**	-
Clean room (Advanced)	Clean room classification (ISO 14644-1)	ISO 4	ISO 4	ISO 4	ISO 3	ISO 4	ISO 3
(Auvanced)	Kinetic particle elimination (NFS 90-351)	CP <sub>(0,5)</sub> 5	CP <sub>(0,5)</sub> 5	CP <sub>(0,5)</sub> 5	CP <sub>(0,5)</sub> 1	CP <sub>(0,5)</sub> 5	CP <sub>(0,5)</sub> 1
Page		40	44	54	48	58	70

 $<sup>^{1}\</sup>mbox{Wet \& high pressure cleaning not valid for Performance B, Ds, Care Wall or Hygiene Black Ds.}$ 





For the latest information go to www.ecophon.com or contact your nearest Ecophon representative.

<sup>&</sup>lt;sup>2</sup> Applicable for Protec Air

<sup>&</sup>lt;sup>2</sup> Applicable for Advance A

<sup>\* 0%</sup> growth on the surface. \*\* No growth under the microscope.





### Cleaning and disinfection

# **Hygiene maintenance**

Ecophon sound absorbers are available for every hygiene demand. To ensure their durability it is important to choose the best solution for your needs, and to know how to clean the products Here you can see specific characteristics of the product groups in the Ecophon Hygiene™ family. General recommendations that should always be followed:

- Perform regular maintenance of the ventilation system
- · Wear clean cotton gloves when handling the absorbers

#### Differentiating properties - Ecophon Hygiene™

		Hygiene Clinic	Hygiene Meditec	Hygiene Black	Hygiene Protec	Hygiene Performance	Hygiene Advance
Range	Installation methods						
Cleanability	Dusting & vacuum cleaning	Daily	Daily	Daily	Daily	Daily	Daily
	Wet wiping	Weekly	Weekly	Weekly	Weekly	Weekly	Daily
	Steam cleaning	-	1/year	-	4/year	4/year	Daily
	Wet cleaning	-	-	_	-	2/year <sup>1</sup>	Daily
	High pressure washing	-	-	2/year³	-	2/year <sup>1</sup>	Daily
	Hydrogen peroxide vapour	•	•	_	•	•	•
	UV-C disinfection	•	•	•	•	•	•
Chemical resistance	Applicable for disinfection chemicals	-	2/year	2/year	2/year	2/year	Daily
Page		40	44	54	48	58	70

<sup>&</sup>lt;sup>1</sup>Not applicable to Ecophon Hygiene Performance™ B, Ecophon Hygiene Performance™ Ds and Ecophon Hygiene Performance™ Care Wall



### Cleanability

The common cleaning methods for ceiling tiles require the use of a soft microfibre cloth (made of a minimum of 70% polyester).

**Dry cleaning:** Wipe with a soft microfibre cloth using gentle circular movements, or use a vacuum cleaner with a soft brush or with a microfibre cloth wrapped around the standard head. Set the suction to a reduced level and vacuum gently, with very soft contact between the cleaner head and the tiles. Vacuum with linear movements.

Wet wiping: Saturate the microfibre cloth with water or with a mild detergent solution suitable for indoor painted surfaces. Wipe with circular movements and moderate pressure. Wet cleaning at low pressure: Apply a suitable cleaning foam or gel to the surface, rinse with water and finally wipe the surface dry with a clean, soft microfibre cloth (made of a minimum of 70% polyester). Wipe with gentle circular movements.

Wet cleaning at high pressure: When washing tiles secured with clips, set the pressure to 20-40 bar and keep a distance of at least 0.5 m between the hose and the panel. If a pressure of 40-100 bar needs to be applied, it is recommended to demount the tiles. Lay them on a rigid surface and keep a distance of at least 1 m between the hose and the panel. In all cases, the hose should be held at a 30° angle of incidence. The water temperature should be 20°C. Clean with linear movements.

**Steam cleaning:** Apply steam to the surface of the panels through a nozzle with an attached soft microfibre cloth (made of minimum 70% polyester). Move the steamer with gentle circular movements.

**Disinfection with Hydrogen Peroxide Vapour:**According to the test method specified by Bioquell.

#### **Chemical resistance**

Some specific Ecophon products have been designed to withstand the use of common detergents and disinfecting agents.

Our products have been tested for Chemical Resistance according to two different standards.

Products tested for medium to high level of chemical resistance: Hygiene Performance, Hygiene Protec, Hygiene Meditec, Hygiene Black The products have been exposed to the detergent or disinfecting agents repeatedly and evaluated according to ISO 11998:2006 "Determination of wet-scrub resistance and cleanability of coatings", with the use of a soft microfiber cloth made of minimum 70% polyester, 200 scrubbing cycles. To pass as approved the surface should be without gloss changes and marks in all angles.

Chemicals are chosen to represent most common detergent and disinfection products.

Products tested for very high level of chemical resistance: Hygiene Advance.

When tested according to ISO2812-1: 2017 "Determination of resistance to liquids – Immersion in liquids", a complete material sample is placed in a receptacle filled with the test chemical and then hermetically sealed. The test object is subjected to each chemical for a period of one, three, six and 24 hours and then examined for visible alterations.

Chemicals are chosen to represent some of the most severe chemicals used in industry and laboratories.

- The respective list of tested chemicals can be found on the product page of the relevant products.
- Always refer to a product's technical datasheet to ensure its compatibility with the described cleaning methods.
- Always ensure that the corrosion class of the ceiling grids is compatible with the desired cleaning protocol and cleaning products.

<sup>&</sup>lt;sup>2</sup> Method according to supplier of HPV equipment

 $<sup>^3</sup>$  Applicable to Ecophon Hygiene $^{\text{TM}}$  Black A-edge



### Funktional demands

# **Product properties**

Ecophon sound-absorbing systems are continuously tested to verify that they perform as intended, withstand relevant hygiene demands and meet applicable standards. Here you can learn more about what to look for when choosing your acoustic solution and specific products.

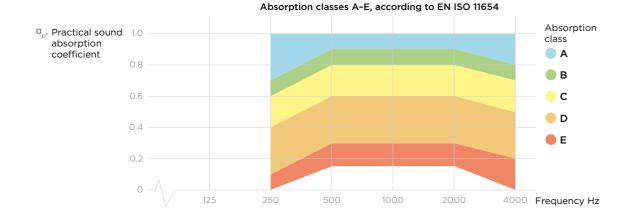
### **Acoustics**

Acoustics is the term for the study of sound and how sound is perceived. The field of acoustics is divided into several specialist areas, where room acoustics has to do with indoor sound environments.

To create a healthy sound environment, it is important to use sound absorbers that deliver the desired function. Ecophon Hygiene $^{\text{m}}$  offers absorbers of the highest quality. These absorbers also meet hygiene demands in tough environments.

#### **Absorption classes**

Sound absorption qualities are measured at different frequencies, according to EN ISO 354. Each resulting value is defined as a practical sound absorption coefficient,  $\alpha p$ . These values are then weighted to create one  $\alpha w$  value. The  $\alpha w$  value is between 0 and 1, where 1 is the best. To make it easier to communicate sound absorption qualities, the  $\alpha w$  is used for classifying sound absorbers in classes A-E, according to EN ISO 11654. A is the highest classification.





### Sound strength (G)

Sound strength is a measure of the loudness of all sounds that are present in a space. It is expressed in decibels (dB). A high sound strength results in people having to raise their voices to be heard above all the surrounding noise. To lower the sound levels, it is important to use sound absorbers of the highest quality.



### Sound propagation

Sound propagation is defined as how much the sound level in a room decreases by distance, measured in decibel per distance doubling. Stopping sound from spreading and making sound levels decrease faster are key aspects of creating good room acoustic comfort.

Articulation Class (AC) is a classification of suspended ceilings, according to ASTM E-1110. A high classification means that more sound is absorbed early and increases privacy. An AC value of 180 is good in a space where background noise and noise levels are the main issue, while an AC value of 200 is preferable in an open-plan office space, where it is important to stop specific (speech) sounds from spreading and disturbing people close by.



### Speech clarity (C<sub>50</sub>)

Wherever people are, there is communication. For this reason, it is important to choose sound absorbing products that enhance communication and make it easy to hear and understand what is being said. Speech clarity (C50) measures how well speech is perceived in a space. The higher the value, the better the speech clarity.



### Reverberation time $(T_{20})$

Reverberation time is used when measuring basic acoustic qualities of a room. Reverberation time is defined as the time it takes for the sound pressure level to decrease by 60 dB after the sound source has been terminated. Rooms where speech intelligibility and comfort are in demand, will often require a shorter reverberation time.



# Indoor air quality

Today we spend more than 90% of our time indoors. Consequently, the quality of the indoor air impacts us enormously with regard to both health and performance. Indoor air pollution can be caused by chemicals that are released from the materials used in the interior. These are called Volatile Organic Compounds (VOCs). Building materials can be significant sources of VOCs. Thus, it is crucial to choose products with low emissions. It is also important to make sure that the chosen products do not contain any pollutants that negatively affect health or performance. The VOC content of Ecophon products is tested by external laboratories in accordance with European regulations. The results of these tests are shown by means of emission labels.







# **Environmental footprint**

In order to get a transparent and scientific view of a product's environmental impact, Ecophon performs a Life Cycle Assessment (LCA) for all products. The assessment takes every step of the product's life into account, from the harvesting of raw materials to production and end of life.

Life Cycle Assessments of Ecophon products are conducted in line with ISO 14040 and give a fully transparent overview of our environmental impact. The results are presented in standardised documents called Environmental Product Declarations (EPD).



An EPD is a type III environmental declaration. This means it is always revised and certified by a third party. Ecophon EPDs are done in compliance with ISO 14025 and EN 15804. The third-party verification is performed by the Swedish environmental institute IVL.



### Fire safety

The fire safety requirements for suspended ceilings depend on the type of room and the building where they are installed. Detailed requirements can be found in your national building regulations.

However, two general requirements can be identified as crucial with respect to suspended ceilings. They both regard the early stages of fire:

- 1. Suspended ceilings should only make a negligible contribution to the fire development and to the production of smoke. This is fulfilled by using a ceiling consisting of materials and surface linings complying with at least Euroclass B-s1, d0.
- Suspended ceilings should not break and/or collapse during the early stages of the fire.
   To pass this requirement a ceiling system should be able to withstand a heat exposure of approx. 300°C.

### The European fire testing system - Euroclass

The reaction to fire classification system of ceiling products in Europe is based on the Euroclass system, as defined in EN 13501-1. There are 39 classes grouped in 7 main levels; A1, A2, B, C, D, E and F. A1 is the best.

Most of the classes also include an additional classification regarding smoke production and the occurrence of flaming droplets/particles.

- The classes for smoke are s1, s2 and s3. S1 is the best.
- The classes for flaming droplets and particles are d0, d1 and d2. D0 is the best.

1 = Main class

2 = Smoke production

3 = Occurrence of flaming droplets/particles

All Ecophon Hygiene™ products comply with Euroclass A2-s1,d0



# Humidity resistance

Ceiling producers must ensure that the tiles, when installed, are sufficiently strong to support their own weight, as well as any additional point/linear/distributed load.

This is done by testing Flexural Tensile Strength (FTS), according to EN 13964:2014 (Annex F for ceiling tiles and Annex J for Baffles), in determined conditions and classes according to Table 8, EN 13964:2014.

Specific product information can be found on the respective product pages at Ecophon. com, and in their respective Declaration of Performance.

#### TABLE 8, EN 13964:2014

Class	Conditions
А	Building components exposed to varying relative humidity up to 70 $\%$ and varying temperature up to 25 $^{\circ}\text{C}$ but without corrosive pollutants.
В	Building components exposed to varying relative humidity up to 90 $\%$ and varying temperature up to 30 $^{\circ}\text{C}$ but without corrosive pollutants.
С	Building components exposed to varying relative humidity up to 95 % and varying temperature up to 30 °C and accompanied by a risk of condensation but without corrosive pollutants.
D	D More severe than the above.



# Visual appearance

Visual appearance and light have a strong impact on the overall look and feel of a room. Lighter surfaces also create good conditions for costefficient lighting.

#### Light reflectance values for ceilings

The light reflectance of a surface is expressed as a percentage, and states how much of the light is reflected back. In order to get the best efficiency, both for incident daylight and lighting, the ceiling's light reflectance should be high.

Light Reflectance Values are measured in accordance with the standard BS 8493:2008+A1:2010. Measurement values are evaluated with CIE 10-degree Standard Observer (1964) and CIE Standard Illuminant D65.

### Gloss

The gloss of a surface means to what extent the surface will reflect impinging light without scattering it. Gloss is expressed as a value for a specific angle of incidence: 20°, 60° or 85°. The gloss value is normally between 0 and 100, where under 10 is low gloss, 10-70 is medium gloss and above 70 is high gloss. Gloss is evaluated according to relevant standards such as ISO 2813 and ASTM D 523.



### Surface endurance

To ensure the durability of the surface after repeated cleaning, specific Ecophon products are evaluated according to ISO 11998:2006 (Determination of wet-scrub resistance and cleanability of coatings). The evaluation is done after 200 scrubbing cycles with a soft microfibre cloth made of minimum 70% polyester.



### Mould and bacteria resistance

Ecophon products have been tested to ensure they do not serve as a natural breeding medium for mould and bacteria. By keeping the environment of the ceiling clean and having a controlled climate below the critical humidity and temperature level, the risk for these micro-organisms is reduced considerably. Tests have been performed on Ecophon tiles according to ISO 846:2019 methods A (fungal growth) and C (bacteria) and/or ASTM D3273-16 (fungal growth):

#### ISO 846, Method A

- Paecilomyces variotii
- · Penicillium funiculosum
- Aspergillus niger
- Gliocladium virens
- · Chaetomium globosum

#### ISO 846, Method C

Pseudomonas aeruginosa

### **ASTM D3273-16**

- Aureobasidium pullulans
- Aspergillus niger
- · Penicillium citrinum

The ISO 846 standard classifies materials from Class 0 (no growth of microorganisms) to Class 5 (heavy growth of microorganisms). Ecophon products that have been tested according to ISO 846:1997 have reached Class 0 or Class 1. The ASTM D3273-16 standard evaluate the fungal growth according to a scale from 0 to 10, where rating 0 is 91-100% invasion of fungus and rating 10 has no growth of fungus.



### Cleanroom

All Ecophon Hygiene™ products are classified according to ISO 14644-1:2015 (Classification of air cleanliness by particle concentration). This is to ensure their compatibility with clean room requirements, in terms of the number of airborne particles.

#### Definition of classes according to ISO 14644-1:2015

Class	Particle size						
Ciuss	≥ <b>0.1</b> µm	≥ <b>0.2</b> µm	≥ <b>0.3</b> µm	≥ <b>0.5</b> µm	≥ <b>1</b> µ <b>m</b>	≥ <b>5</b> µm	
ISO 1	10	2					
ISO 2	100	24	10	4			
ISO 3	1,000	237	102	35	8		
ISO 4	10,000	2,370	1,020	352	83		
ISO 5	100,000	23,700	10,200	3,520	8,320	293	
ISO 6	1,000,000	237,000	102,000	35,200	8,320	2,930	
ISO 7				352,000	83,200	2,930	
ISO 8				3,520,000	832,000	29,300	
ISO 9				35,200,000	8,320,000	293,000	

All Ecophon Hygiene<sup>™</sup> products are also tested to ensure their compatibility with the requirements of the standard NF S 90-351 (Healthcare institutions — Controlled environment areas — Requirements for airborne contamination control).

The standard defines several risk zones, where zone 4 has the highest demands. For a product to be classified for use in a certain risk zone, it needs to be tested for particle emission according to ISO 14644-1, particle elimination kinetics and air microbiology control.

Table 8, EN 13964:2014

Class risk	ISO class	Particle elimination kinetic	Microbiological cleanliness class
4	ISO 5	CP <sub>(0,5)</sub> 5	M1
3	ISO 7	CP <sub>(0,5)</sub> 10	M10
2	ISO 8	CP <sub>(0,5)</sub> 20	M100

All Ecophon Hygiene™ products are applicable in risk zone 4 areas.

### Particle elimination kinetics (particular classes)

Particle elimination has to do with how quickly particles are released after making contact with the product. For instance,  $CP_{(0.5)}$ 5 means that when particles with a 0.5µm diameter are projected onto the product, 90% of them are released within 5 minutes.

The standard NF S 90-351 defines three classes, according to whether it takes 5, 10 or 20 minutes to release 90% of the particles.

However, some of our Ecophon Hygiene™ products meet requirements that would be "CP<sub>(0.5)</sub>1", meaning 90% of the particles are released within one minute. This indicates premium particle repellence properties.

Classes kinetics of particle removal of 0,5 µm	Time required to obtain 90% of reduction (min)
CP <sub>(0,5)</sub> 20	≤ 20
CP <sub>(0,5)</sub> 10	≤ 10
CP <sub>(0,5)</sub> 5	≤ 5

### Air microbiology control

The testing is done by contaminating the material and then, after incubation, sampling air and surface to check that the material does not allow microbial proliferation. Ecophon Hygiene™ products have been tested for the following species:

- Staphylococcus aureus MRSA
- Escherichia coli
- Candida albicans
- Aspergillus brasiliensis

Definition of microbiological cleanliness classes

Microbiological cleanliness class	Maximum concentration in number of viable particles per cubic meter of air ( $CFU/m^3$ )
M1	≤1
M10	10
M100	100



# Air permeability

Some areas, such as clean rooms, require the indoor air pressure to be controlled. Some Ecophon systems are designed to limit air leakage at pressure differentials. The declared values are valid for pressure differentials up to 50 Pa at both overpressure and negative pressure, when installed according to the recommended installation diagram. EN ISO 9972:2015 (Thermal performance of buildings. Determination of air permeability of buildings. Fan pressurisation method).

# **(€** CE-Marking

In compliance with the Construction Product Regulation (CPR 305/2011), Ecophon ceiling systems are CE marked according to the European harmonised standard EN13964:2014. This standard consolidates methods for product testing, product classification and performance declaration for suspended ceilings. To improve transparency in terms of product performance, CE marked construction products all have their own Declaration of Performance (DOP). This enables customers and users to easily compare performance of products available on the European market.



### Corrosion

The corrosion level of the environment to which building structures are exposed, is classified according to ISO 12944-2 (Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 2: Classification of environments).

All Ecophon grid systems are developed to meet the basic level of requirements (C1). Specific products meet higher requirements of the standard (C3 and/or C4):

- C1: dry and ventilated environments
- C3: humid environments with low pollution
- C4: wet environments with high pollution

ConnectTM items are classified according to ISO 12944-2, after tests are performed in accordance with NORDTEST method NT MAT 003. This method specifies stricter testing than ISO 12944-2 requirements.

Additionally, Ecophon grid systems are classified according to EN 13964:2014 to ensure their compatibility with the different classes of exposure defined by the standard. This information can be found in the Declaration of Performance for the Connect products.

Always ensure that the corrosion class of the ceiling grids is compatible with the desired cleaning protocol and the cleaning products used for the ceiling system.





# **A solution**

for every room

Spaces requiring a high level of cleanliness can vary much in type. A hospital has very different needs compared to the clean industry and the Pharmaceutical industry varies from the Food and beverage industry.

However, if the acoustics are not well-designed in any of these environments, they all have one thing in common: a poor sound environment. If the ceiling, floor, and walls of a space consist of hard, sound-reflecting surfaces, there is nothing to stop sound from spreading. The sound will bounce off all the hard surfaces and spread far creating a background noise that is stressful and tiring for everyone in the space. Being able to communicate clearly can become challenging and both the speaker and the listener's comfort will be compromised.

Since all these spaces differ from one another, appropriate solutions to the noise can vary. For instance, in a bottling factory, the main goal will probably be to reduce noise levels dramatically, while the most important thing in an operating room is to increase speech clarity so medical staff can communicate clearly.

# Easy method for reaching the optimal solution

In order to design spaces where people can perform a given activity to the best of their ability and feel comfortable while doing it, Ecophon has developed Activity Based Acoustic Design. In practice, this is a method that defines spaces from three perspectives – activity, people and space – and finds the common ground where all these perspectives benefit. The optimal acoustic products are then identified to meet the acoustic and hygiene needs in the space. On the following pages you will find product recommendations for some areas where both acoustics and hygiene are important. The hygiene demands presented are not complete, and should be seen as guidelines. For all product properties, please see the respective product pages.

1 Activity

What sound environment is needed to support the activities in this space? Will concentrated focus work be important, or spoken communication? Or perhaps lively interaction between people? Consider how the activities may require different acoustic support.



What considerations should be taken for the people using this space? Age may play a role. Will they have challenging hearing impairments, be very young or not be fluent in the language spoken? Is it probable that they will be stressed or feeling anxious? A calming environment can influence their levels of stress or feelings of security.



How will the sound environment be affected by the space outlining and adjacent rooms? Will there be a need for various acoustic zones, or will the space be situated close to noisy activities? Consider how the space may challenge or support a good sound environment.











## Public areas

The ideal entrance to a healthcare facility is inviting, comfortable and stress-free. Visitors, patients and their relatives, and staff should easily find their way and orient themselve. The sound environment should allow for having conversations and asking for directions and not be overwhelming and disturbing. Waiting areas and public corridors should be acoustically designed to secure comfort and privacy.

A canteen or cafeteria should offer a calming space to find relief in, a pause to relax with refreshments and perhaps the company of others. Speaking and listening comfort must be inclusive so that everyone, including people with hearing impairments, can participate in the conversation.

The hospital's main entrance is typically intended to receive the most traffic of people and ensure acoustic comfort and calming environments matter to the experience of the visit.

Ecophon Hygiene Clinic™ A	Mould and bacteria resistant, UV-C Cleaning.		
Ecophon Hygiene Clinic™ E	ibulu aliu bacteria resistant, 0 v-C Cleaning.		
Ecophon Hygiene Meditec™ A	Mould and bactoric resistant resist disinfection chamicals LIV Colonian		
Ecophon Hygiene Meditec™ E	Mould and bacteria resistant, resist disinfection chemicals, UV-C cleaning.		
Ecophon Hygiene™ Black A	Mould and bacteria resistant, UV-C-cleaning , resist disinfection chemicals, stain resistant.		
Ecophon Hygiene™ Black Ds			
Ecophon Hygiene Performance™ A	Mould and bacteria resistant, resist disinfection chemicals, steam cleaning, easy to clean, UV-C cleaning, resistant to water based stains, endure wet cleaning including high pressure.		
Ecophon Hygiene Performance™ B	Mould and bacteria resistant, resist disinfection chemicals, steam cleaning, easy to clean, stain resistant, UV-C cleaning.		
Ecophon Hygiene Performance™ Care Wall	Mould and bacteria resistant, resist disinfection chemicals, steam cleaning, easy to clean, resistant to water based stains, UV-C cleaning.		







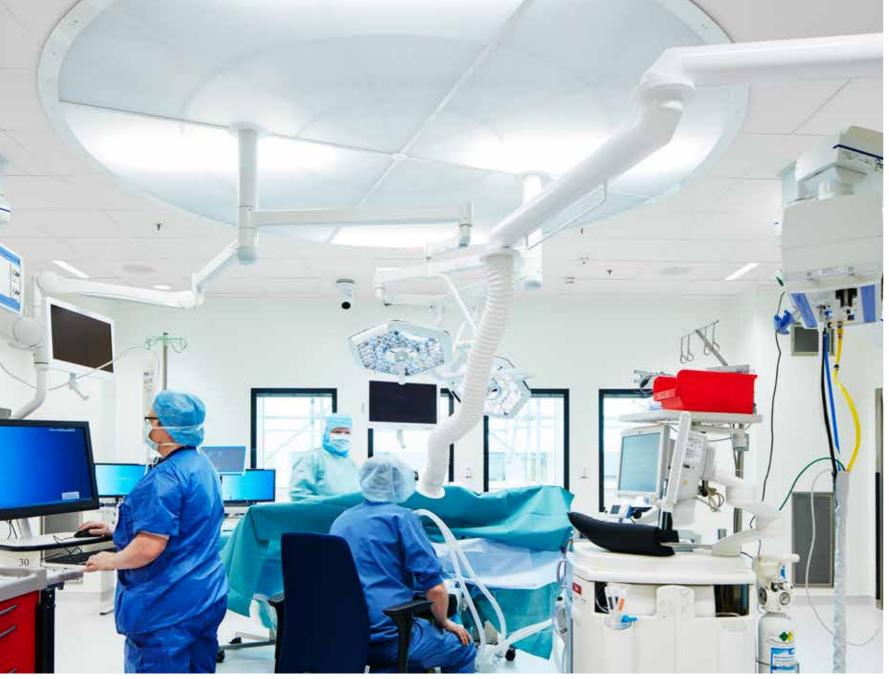
# Clinical areas

Patients need a peaceful, stress-free environment to promote healing, rest, and recovery. Undergoing examinations or treatments can be challenging and a feeling of security and privacy can support and strengthen a person during stressful times. Enabling good sleep to enhance wellbeing and recovery is a priority and the acoustic design needs to promote such an environment.

Nurse stations are often placed in an open setting in conjunction with corridors and waiting areas. It requires both openness to patients and visitors as well as a need for privacy as sensitive information is being handled during staff meetings and handovers.

In corridors and waiting areas attention needs to be given to not only lowering sound levels but also sound propagation. The use of sound-absorbing wall application should be considered as a supplement to a ceiling installation.

Ecophon Hygiene Clinic™ A	Mould and bacteria resistant, UV-C Cleaning.		
Ecophon Hygiene Clinic™ E			
Ecophon Hygiene Meditec™ A	Mould and bacteria resistant resist disinfection chemicals LIV Coloaning		
Ecophon Hygiene Meditec™ E	Mould and bacteria resistant, resist disinfection chemicals, UV-C cleaning.		
Ecophon Hygiene Protec™ A	Mould and bacteria resistant, resist disinfection chemicals, steam cleaning, easy to clean, particle repellent, UV-C cleaning.		
Ecophon Hygiene Protec™ Ds			
Ecophon Hygiene Performance™ A	Mould and bacteria resistant, resist disinfection chemicals, steam cleaning, easy to clean, UV-C cleaning, resistant to water based stains, endure wet cleaning including high pressure.		
Ecophon Hygiene Performance™ Ds	Mould and bacteria resistant, resist disinfection chemicals, steam cleaning,		
Ecophon Hygiene Performance™ Care Wall	easy to clean, resistant to water based stains, UV-C cleaning.		





Specialist areas may require even higher hygiene standards and the strain on both patients and staff can be significantly more demanding. The acoustic challenges can be profound and need appropriate attention. Operating rooms may encounter both repetitive high levels of noise and speech intelligibility can be compromised. Patients in intensive care units are often very vulnerable and exposed to sound and noise both day and night. In the emergency room decisions and treatment must be made quickly without hesitation and a quieter sound environment can reduce the overall stress on all.

Laboratories can require a high level of cleanliness and the technical equipment contributes to increasing the sound pressure levels. To enable a good sound environment the product choice needs proper consideration.





Ecophon Hygiene Protec™ A	Mould and bacteria resistant, resist disinfection chemicals, steam cleaning, easy		
Ecophon Hygiene Protec™ Ds	clean, particle repellent, UV-C cleaning.		
Ecophon Hygiene Protec™ Air A	Mould and bacteria resistant, resist disinfection chemicals, steam cleaning, easy to clean, particle repellent, UV-C cleaning, withstands air pressure differentials.		
Ecophon Hygiene Performance™ A	Mould and bacteria resistant, resist disinfection chemicals, steam cleaning,		
Ecophon Hygiene Performance™ Plus A	easy to clean, UV-C cleaning, resistant to water based stains, endure wet cleaning including high pressure.		
Ecophon Hygiene Performance™ B	Mould and bacteria resistant, resist disinfection chemicals, steam cleaning, easy to clean, resistant to water based stains, UV-C cleaning.		
Ecophon Hygiene Performance™ Ds			
Ecophon Hygiene Performance™ Care Wall			
Ecophon Hygiene Advance™ A	Mould and bacteria resistant, resist wide range of strong disinfection chemicals, steam cleaning, easy to clean, stain resistant, endure daily wet cleaning including		
Ecophon Hygiene Advance™ Wall	high pressure, UV-C cleaning, withstands air pressure differential*.		
Ecophon Hygiene Lavanda™ LED	Daily dusting, vacuum cleaning, manual wet cleaning and low-pressure washing.		









# Food handling

Food needs to be safely prepared under hygiene conditions. Depending on the space being used for cooking food or merely reheating and handling prepared food the need for cleaning agents and methods on the absorbing tiles can differ.

Kitchens and restaurants often struggle with high noise levels in the preparation areas. And located close to the diner area noise from the kitchen can disturb the diners. Acoustic tiles need to be chosen to meet both appropriate cleaning methods and be highly efficient in reducing noise. Consistent high levels of noise can increase stress for the employees, cause fatigue and create communication problems.

Production environments in the food industry typically contain hard surfaces and open spaces to permit good food hygiene practices. The production lines for preparation, filling, packing, freezing and preservation of food generate a high level of noise, which builds up by the hard surface materials used. Sound absorption should also include wall-mounted tiles as complementary to ceiling and/or free- hanging units.

### Product recommendation

Ecophon Hygiene™ Black A	Mould and bacteria resistant, UV-C-cleaning , resist disinfection chemicals, stain resistant.	
Ecophon Hygiene Performance™ A		
Ecophon Hygiene Performance™ Plus A	Mould and bacteria resistant, resist disinfection chemicals, steam cleaning,	
Ecophon Hygiene Performance™ Baffle	easy to clean, UV-C cleaning, resistant to water based stains, endure wet cleaning including high pressure.	
Ecophon Hygiene Performance™ Wall		
Ecophon Hygiene Advance™ A		
Ecophon Hygiene Advance™ Baffle	Mould and bacteria resistant, resist wide range of strong disinfection chemicals, steam cleaning, easy to clean, stain resistant, endure daily wet cleaning including high pressure, UV-C cleaning, withstands air pressure differential*.	
Ecophon Hygiene Advance™ Wall		

\* Ecophon Hygiene Advance™ A







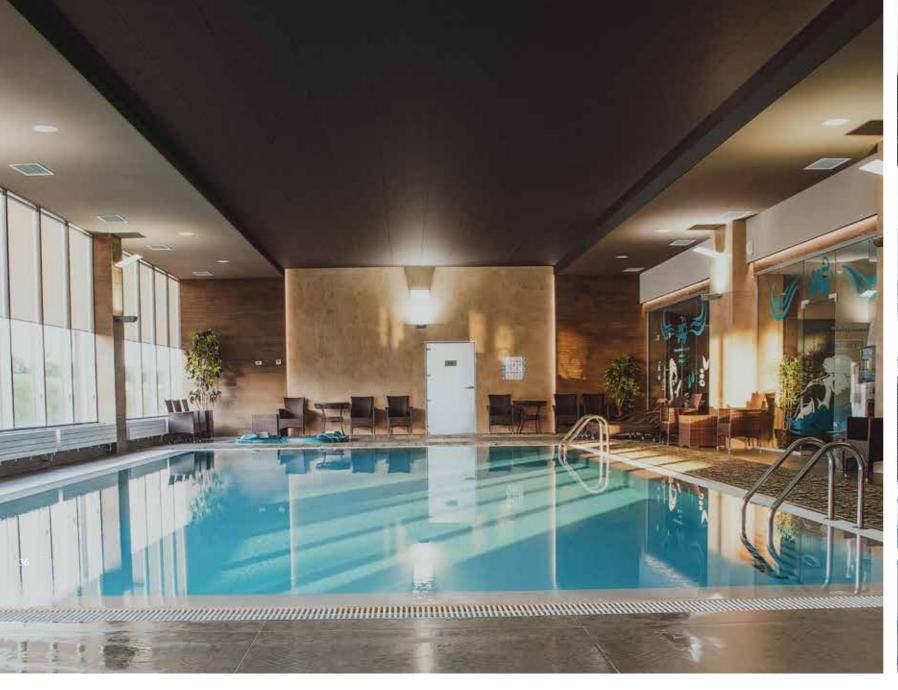
## Clean and controlled environments

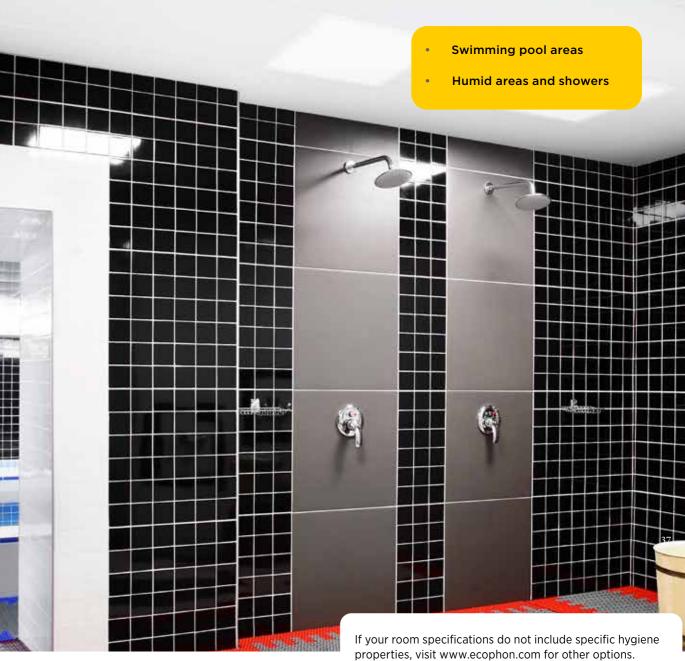
In microelectronics factories, the walls, floors, and ceilings consist of hard surfaces to facilitate cleaning. Sound pressure levels are often high, and the continuous noise affects employees negatively, resulting in reduced concentration and lowered productivity. When installing sound-absorbing products they need to comply with the ISO 14644-1 standard regarding air particle levels. Also, possible particle repellency features, cleaning agents and cleaning methods used.

Medical device production requires a high degree of accuracy, consistency, and focus. These operations often take place in cleanrooms or controlled environments where surface materials must meet strict hygiene and particle emissions. At the same time, teams must be able to communicate clearly and stay focused, something not easily achieved in noisy, reverberant spaces.

In beverage factories very demanding acoustic conditions may occur with bottling lines, filling lines and conveyor belts in open spaces as it generates very high levels of noise. These settings have hard, sound-reflecting surfaces that add to the noisy environment. High levels of cleanability of sound absorbers apply.

Ecophon Hygiene Protec™ A	Mould and bacteria resistant, resist disinfection chemicals, steam cleaning, easy to	
Ecophon Hygiene Protec™ Ds	clean, particle repellent, UV-C cleaning.	
Ecophon Hygiene Protec™ Air A	Mould and bacteria resistant, resist disinfection chemicals, steam cleaning, easy to clean, particle repellent, UV-C cleaning, withstands air pressure differentials.	
Ecophon Hygiene Performance™ A	Mould and bacteria resistant, resist disinfection chemicals, steam cleaning, easy to clean, UV-C cleaning, resistant to water based stains, endure wet cleaning including high pressure.	
Ecophon Hygiene Performance™ Ds	Mould and bacteria resistant, resist disinfection chemicals, steam cleaning, easy to clean, resistant to water based stains, UV-C cleaning.	
Ecophon Hygiene Performance™ Plus A	Mould and bacteria resistant, resist disinfection chemicals, steam cleaning, easy to clean, UV-C cleaning, resistant to water based stains, endure wet cleaning including high pressure.	
Ecophon Hygiene Advance™ A		
Ecophon Hygiene Advance™ Baffle	Mould and bacteria resistant, resist wide range of strong disinfection chemicals, steam cleaning, easy to clean, stain resistant, endure daily wet cleaning including high pressure, UV-C cleaning.	
Ecophon Hygiene Advance™ Wall	p. 355a. 5, 5 1 5 5.5ag.	
Ecophon Hygiene Lavanda™ LED	Daily dusting, vacuum cleaning, manual wet cleaning and low-pressure washing.	





## **Humid environments**

Swimming pool areas are often very lively and noisy places where sound builds up and bounces off the surrounding hard surfaces.

These environments are not only for fun and games but are also workplaces for the staff and using sound absorption will provide a more comfortable sound environment. These environments can be highly corrosive due to chloride pollution. Therefore, all grids and accessories must be designed and tested to be suitable for areas classified as C4 according to the corrosion standards in EN-ISO 12944-2.

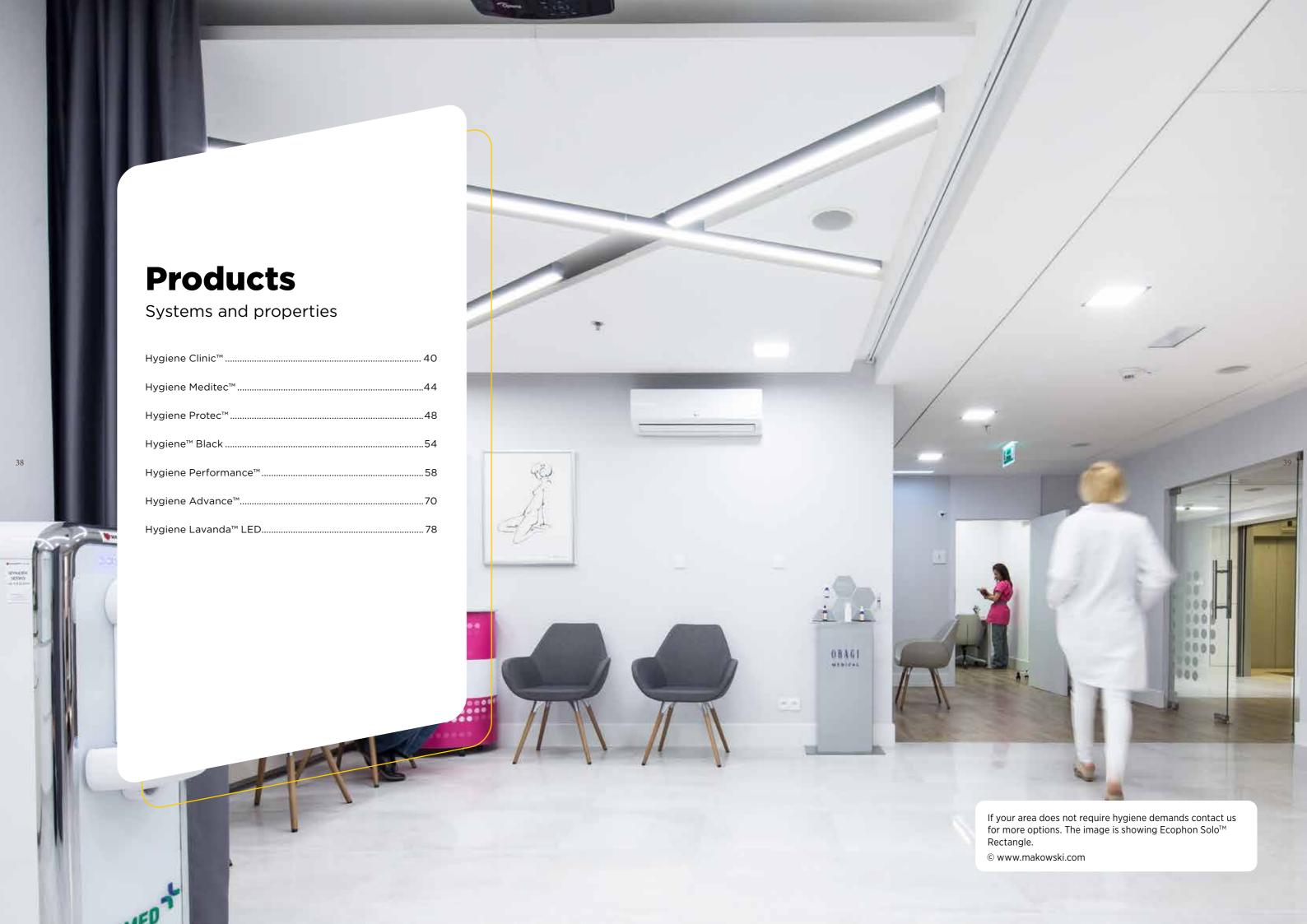
Other areas need solutions with a tolerance for high humidity, such as showers, disinfection rooms or sterile units.

### Product recommendation

Ecophon Hygiene™ Black A	Mould and bacteria resistant, UV-C-cleaning , resist disinfection chemicals,
Ecophon Hygiene™ Black Ds	stain resistant.
Ecophon Hygiene Performance™ A	Mould and bacteria resistant, resist disinfection chemicals, steam cleaning, easy to clean, UV-C cleaning, resistant to water based stains, endure wet cleaning including high pressure. including high pressure.
Ecophon Hygiene Performance™ Ds	Mould and bacteria resistant, resist disinfection chemicals, steam cleaning, easy to clean, resistant to water based stains, UV-C cleaning.
Ecophon Hygiene Performance™ Baffle	Mould and bacteria resistant, resist disinfection chemicals, steam cleaning,
Ecophon Hygiene Performance™ Wall	easy to clean, UV-C cleaning, resistant to water based stains, endure wet cleaning including high pressure.
Ecophon Hygiene Advance™ A	
Ecophon Hygiene Advance™ Baffle	Mould and bacteria resistant, resist wide range of strong disinfection chemicals, steam cleaning, easy to clean, stain resistant, endure daily wet cleaning including high pressure, UV-C cleaning, withstands air pressure differential*.
Ecophon Hygiene Advance™ Wall	pressure, ov C cleaning, withstands an pressure differential.

 $^*$  Ecophon Hygiene Advance $^{\scriptscriptstyle\mathsf{TM}}$  A

Additional swimming pool offers can be found in our application guide for pool environment on Ecophon.com





# **HYGIENE CLINIC™**

### For dry areas - dry and wet wiping

Ecophon Hygiene Clinic™ are class A sound-absorbing ceilings for dry areas.

The absorbers have low emission levels, thus ensuring high indoor air quality. They are resistant to mould and bacteria growth and withstand HPV cleaning.

### Shared properties - Ecophon Hygiene Clinic™

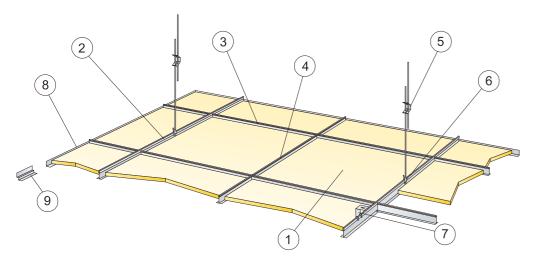
	Accessibility	Demountable
<b>\$</b> ))	Visual appearance	White 500, nearest NCS colour sample S 0500-N, Light reflectance: 84%
	Fire safety	Class: A2-s1,d0, EN 13501-1

### Differentiating properties - Ecophon Hygiene Clinic™

	A	E	
Installation methods			
Size, thickness (mm)	600x600x15 1200x600x15	600x600x15 1200x600x15	
Visual experience	Visual grid	Recessed grid	
Edge treatment	Primed	Painted	
Weight of system (approx.)	2.5 kg/m <sup>2</sup>	2.5 kg/m²	
Back treatment of the tile	Glass tissue	Glass tissue	
Sound absortion ( $lpha_{_{ m w}}$ )	0.95	1.00	
Dusting & vacuum cleaning	Daily	Daily	
Wet wiping	Weekly	Weekly	
Hydrogen peroxide vapour	•	•	
Compatible with UV-C disinfection	•	•	
Kg CO <sub>2</sub> equiv/m² (ISO 14025, EN 15804)	2,55	2,19	
Dry area system, compatible with corrosion class C1 areas	•	•	
	Clean room classification ISO 4 (ISO 14644-1)		
	Bacteriological class M1/Area 4 (NF S 90-351)		
	Kinetic class for particle elimination CP <sub>(0,5)</sub> 5 (NF S 90-351)		
	Mould (ASTM D3273-16)	Class 10, no growth on the surface	
resistance	Bacteria, method C (ISO 846)	Class 0, no growth under the microscope	
	Mould, method A (ISO 846)	Class 0, no growth under the microscope	
	Size, thickness (mm)  Visual experience  Edge treatment  Weight of system (approx.)  Back treatment of the tile  Sound absortion (\alpha_w)  Dusting & vacuum cleaning  Wet wiping  Hydrogen peroxide vapour  Compatible with UV-C disinfection  Kg CO_2 equiv/m² (ISO 14025, EN 15804)  Dry area system, compatible with corrosion class C1 areas	Installation methods  Size, thickness (mm)  Size, thickness (mm)  Visual experience  Edge treatment  Weight of system (approx.)  Back treatment of the tile  Sound absortion (α <sub>w</sub> )  Dusting & vacuum cleaning  Wet wiping  Wet wiping  Hydrogen peroxide vapour  Compatible with UV-C disinfection  Kg CO <sub>2</sub> equiv/m² (ISO 14025, EN 15804)  Dry area system, compatible with corrosion class C1 areas  Clean room classification ISO 4 (ISO 1464-1864)  Bacteriological class M1/Area 4 (NF S 90-1864)  Kinetic class for particle elimination CP <sub>(0.5)</sub> Mould (ASTM D3273-16)  Bacteria, method C (ISO 846)	



For the latest information go to www.ecophon.com or contact your nearest Ecophon representative.

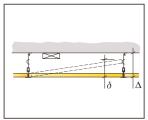


©Saint-Gobain Ecophon AB

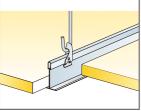
Installation diagram (M338) for Ecophon Hygiene Clinic™ A

### Quantity specification (excl. wastage)

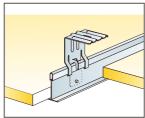
	Size, mm	
	600x600	1200x600
1 Hygiene Clinic A	2,8/m²	1,4/m²
2 Connect T24 Main Runner, installed at 1200 mm centres	0,9m/m²	0,9m/m²
3 Connect T24 Cross Tee, L=1200 mm, installed at 600 mm centres	1,7m/m²	1,7m/m²
4 Connect T24 Cross Tee, L=600 mm	0,9m/m²	-
5 Connect Adjustable Hanger, installed at 1200 mm centres (max. distance from wall 600	00 mm) 0,7/m²	0,7/m²
6 Connect Hanger Clip (not to be used in swimming hall environments)	0,7/m²	0,7/m²
7 For direct installation: Connect Direct Bracket, installed at 1200 mm centres	0,7/m²	0,7/m²
8 Connect Angle Trim, fixed at 300 mm centres	as required	as required
9 Connect Shadow-line Trim, fixed at 300 mm centres	as required	as required
$\Delta$ Min. overall depth of system, with adjustable hanger: 100 mm, with direct bracket: 50	0 mm	
δ Min. demounting depth: 120 mm		



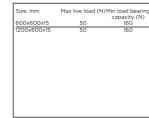
See Quantity Specification



Suspension with Connect Adjustable Hanger and Connect Hanger Clip

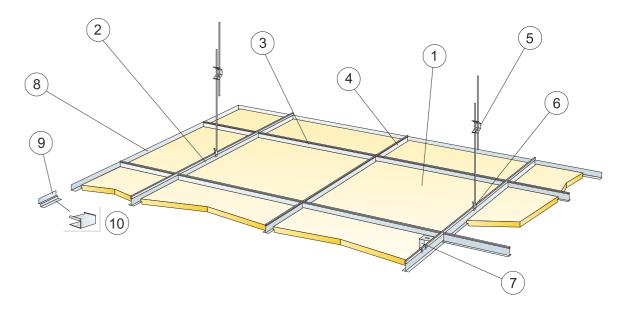


Suspension with Connect Direct Bracket



Live load/load bearing capacity

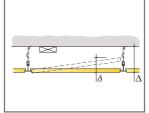
### Suspended ceiling



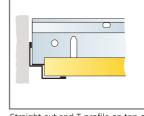
© Saint-Gobain Ecophon AB

Installation diagram (M339) for Ecophon Hygiene Clinic™ E

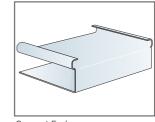
		Size, mm	
		600x600	1200x600
1	Hygiene Clinic E	2,8/m²	1,4/m²
2	Connect T24 Main Runner, installed at 1200 mm centres	0,9m/m²	0,9m/m²
3	Connect T24 Cross Tee, L=1200 mm, installed at 600 mm centres	1,7m/m²	1,7m/m²
4	Connect T24 Cross Tee, L=600 mm	0,9m/m²	-
5	Connect Adjustable Hanger, installed at 1200 mm centres (max. distance from wall 600 mm)	0,7/m²	0,7/m²
6	Connect Hanger Clip (not to be used in swimming hall environments)	0,7/m²	0,7/m²
7	For direct installation: Connect Direct Bracket, installed at 1200 mm centres	0,7/m²	0,7/m²
8	Connect Angle Trim, fixed at 300 mm centres	as required	as required
9	Connect Shadow-line Trim, fixed at 300 mm centres	as required	as required
10	Connect E-plug (for Connect Shadow-line Trim)	as required	as required
	$\Delta$ Min. overall depth of system, with adjustable hanger: 110 mm, with direct bracket: 60 mm		
	δ Min. demounting depth: T15: 110 mm, T24: 90 mm		



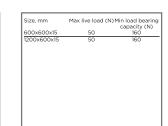
See Quantity Specification



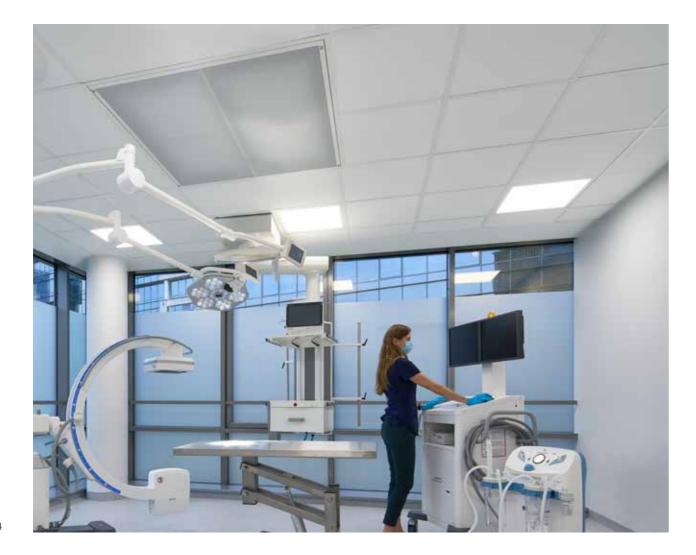
Straight cut and T-profile on top of Connect Shadow-line Trim



Connect E-plug



Live load/load bearing capacity



# **HYGIENE MEDITEC™**

### For dry areas - disinfection on a regular basis

Ecophon Hygiene Meditec<sup>™</sup> are Class A sound-absorbing ceilings designed for dry areas where disinfection and cleaning is required regularly. The surface is resistant to common detergents and disinfectants and can withstand HPV cleaning. The absorbers have low emission levels, thus ensuring high indoor air quality. They are resistant to mould and bacterial growth.

### Shared properties - Ecophon Hygiene Meditec™

	Accessibility	Demountable
<b>\$</b> ))	Visual appearance	White 500, nearest NCS colour sample S 0500-N, Light reflectance: 84%
	Fire safety	Class: A2-s1,d0, EN 13501-1

### Differentiating properties - Ecophon Hygiene Meditec™

		A	E	
	Installation methods	E		
	Size, thickness (mm)	600x600x15	600x600x15	
	Size, triickriess (min)	1200x600x15	1200x600x15	
Range	Visual experience	Visual grid	Recessed grid	
	Edge treatment	Primed	Painted	
	Weight of system (approx.)	2.5 kg/m <sup>2</sup>	2.5 kg/m²	
	Back treatment of the tile	Glass tissue	Glass tissue	
Acoustic	Sound absortion ( $\alpha_{w}$ )	0.95	1.00	
	Dusting & vacuum cleaning	Daily	Daily	
	Wet wiping	Weekly	Weekly	
Cleanability	Steam cleaning	1/year	1/year	
	Hydrogen peroxide vapour	•	•	
	Compatible with UV-C disinfection	•	•	
Surface endurance	Withstand 200 cycles (ISO 11998)	•	•	
Chemical resistance	Resistant to disinfection chemicals (ISO 11998)	2/year	2/year	
EPD life cycle stages A1-C4	Kg CO <sub>2</sub> equiv/m <sup>2</sup> (ISO 14025, EN 15804)	2,71	2,37	
Humidity presistance Dry area system, compatible with corrosion class C1 areas		•	•	
Cleanroom		Clean room classification ISO 4 (ISO 14644-1)		
		Bacteriological class M1/Area 4 (NF S 90-351)		
		Kinetic class for particle elimination $CP_{\scriptscriptstyle (0,5)}$	5 (NF S 90-351)	
		Mould (ASTM D3273-16)	Class 10, no growth on the surface	
Mould and bacteria resistance		Bacteria, method C (ISO 846)	Class 0, no growth under the microscope	
		Mould, method A (ISO 846)	Class 0, no growth under the microscope	

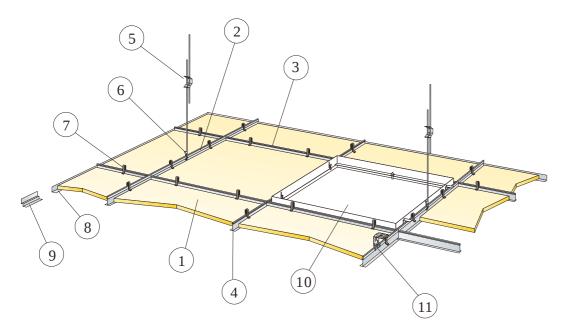
### Chemicals & concentration (Tested according to ISO 11998)

Chemicals	Ethanol	Chlorine	Virkon S	Isopropanol
Concentration	70%	2,5%	1%	70%





For the latest information go to www.ecophon.com or contact your nearest Ecophon representative.

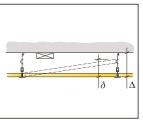


© Saint-Gobain Ecophon AB

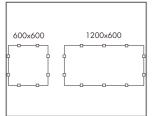
Quantity specification (excl. wastage)

		Size, mm	
		600x600	1200x600
1	Hygiene Meditec A	2,8/m²	1,4/m²
2	Connect T24 Main Runner, installed at 1200 mm centres	0,9m/m²	0,9m/m²
3	Connect T24 Cross Tee, L=1200 mm, installed at 600 mm centres	1,7m/m²	1,7m/m²
4	Connect T24 Cross Tee, L=600 mm	0,9m/m²	-
5	Connect Adjustable Hanger, installed at 1200 mm centres (max. distance from wall 600 mm)	0,7/m²	0,7/m²
6	Connect Hanger Clip (not to be used in swimming hall environments)	0,7/m²	0,7/m²
7	Connect Universal Clip	11/m²	7/m²
8	Alt. Connect Angle Trim, fixed c300	as required	as required
9	Alt. Connect Shadow-line Trim, fixed c300	as required	as required
10	Connect Inspection Hatch	as required	as required
11	For direct installation: Connect Direct Bracket, installed at 1200 mm centres	0,7/m²	0,7/m²
	$\Delta$ Min. overall depth of system, with adjustable hanger and clip: 150 mm, with direct fixing without clip: 50 mm.		
	δ Min. demounting depth: With clip: 150 mm. Without clip: 100 mm.		

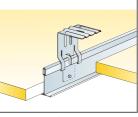
Installation diagram (M255) for Ecophon Hygiene Meditec™ A



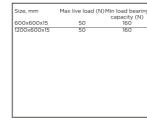
See Quantity Specification



Arrangement of clips

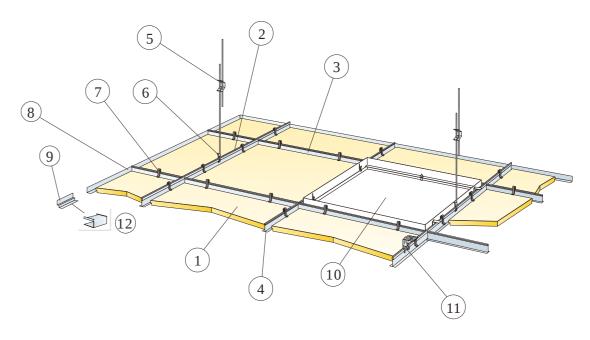


Suspension with Connect Direct Bracket



Live load/load bearing capacity

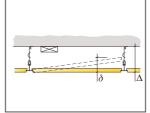
### Suspended ceiling



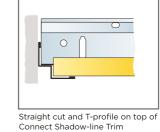
© Saint-Gobain Ecophon AB

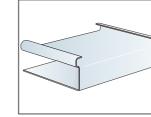
Installation diagram (M256) for Ecophon Hygiene Meditec $^{\text{\tiny TM}}$  E

		Size, mm	
		600x600	1200x600
1	Hygiene Meditec E	2,8/m²	1,4/m²
2	Connect T24 Main Runner, installed at 1200 mm centres	0,9m/m²	0,9m/m²
3	Connect T24 Cross Tee, L=1200 mm, installed at 600 mm centres	1,7m/m²	1,7m/m²
4	Connect T24 Cross Tee, L=600 mm	0,9m/m²	-
5	Connect Adjustable Hanger, installed at 1200 mm centres (max. distance from wall 600 mm)	0,7/m²	0,7/m²
6	Connect Hanger Clip (not to be used in swimming hall environments)	0,7/m²	0,7/m²
7	Connect Universal Clip	11/m²	7/m²
8	Alt. Connect Angle Trim, fixed c300	as required	as required
9	Alt. Connect Shadow-line Trim, fixed c300	as required	as required
10	Connect Inspection Hatch	as required	as required
11	For direct installation: Connect Direct Bracket, installed at 1200 mm centres	0,7/m²	0,7/m²
12	Connect E-plug (for Connect Shadow-line Trim)	as required	as required
	$\Delta$ Min. overall depth of system, with adjustable hanger and clip: 160 mm, with direct fixing wituout clip: 60 mm.		
	δ Min. demounting depth: With clip: 160 mm. Without clip: 110 mm.		

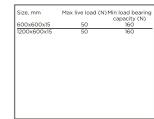


See Quantity Specification





Connect E-plug



Live load/load bearing capacity



# **HYGIENE PROTEC™**

### For dry areas - disinfection on a regular basis

Ecophon Hygiene Protec™ is a particle-repellent, sound-absorbing ceiling system for clean areas where disinfection and/or cleaning is required regularly.

The system is classified as ISO 3 according to ISO 14644-1, with a surface resistant to common detergents and disinfectants. The absorbers have low emission levels, ensuring high indoor air quality. They are resistant to mould and bacterial growth.

Ecophon Hygiene Protec™ Air A is specifically designed for areas where air pressure control is applied.

### Shared properties - Ecophon Hygiene Protec™

	Accessibility	Demountable
<b>\$</b> ))	Visual appearance	White 500, nearest NCS colour sample S 0500-N, Light reflectance: 84%
	Fire safety	Class: A2-s1,d0, EN 13501-1

#### Differentiating properties - Ecophon Hygiene Protec™

		Α	Ds	Air A
	Installation methods			
	Size, thickness (mm)	600x600x20 625x625x20 1200x600x20	600x600x20 1200x600x20	600x600x20 1200x600x20 600x600x40 1200x600x40
Range	Visual experience	Visual grid	Concealed grid	Visual grid
	Edge treatment	Painted	Painted	Painted
	Weight of system (approx.)	3-4 kg/m²	3-4 kg/m <sup>2</sup>	3.5 kg/m², 20 mm 4.5 kg/m², 40 mm
	Back treatment of the tile	Hygiene surface	Hygiene surface	Air pressure control surface
Acoustic	Sound absortion ( $\alpha_{w}$ )	0.95	0.95	0.80, 20 mm 0.90, 40 mm
	Dusting & vacuum cleaning	Daily	Daily	Daily
	Wet wiping	Weekly	Weekly	Weekly
Cleanability	Steam cleaning	4/year	4/year	4/year
	Hydrogen peroxide vapour	•	•	•
	Compatible with UV-C disinfection	•	•	•
Surface	Withstand 200 cycles (ISO 11998)	•	•	•
endurance	Back of tile withstand 200 cycles (ISO 11998)	•	•	-
Chemical resistance	Resistant to disinfection chemicals (ISO 11998)	2/year	2/year	2/year
EPD life cycle stages A1-C4	Kg CO <sub>2</sub> equiv/m <sup>2</sup> (ISO 14025, EN 15804)	5,25	7,06	4,45
Humidity resistance	Dry area system, compatible with corrosion class C1 areas	•	•	•
		Clean room classification	n ISO 3 (ISO 14644-1)	
Cleanroom		Bacteriological class M1/	Area 4 (NF S 90-351)	
		Kinetic particle eliminati	on, CP <sub>(0,5)</sub> 1 (NF S 90-351)	
Mould and bacteria	resistance	Mould (ASTM D3273-16)	Class 10,	no growth on the Surface
riould and bacteria	resistance	Bacteria, method C (ISO	846) Class 0, n	o growth under the microscope
		Mould, method A (ISO 8	46) Class 0, n	o growth under the microscope

### Air permeability EN ISO 9972:2015

Differential pressure (Pa)	10 -10	20 /-20	30 /-30	40 /-40	50 /-50
Protec Air, A 20mm	16,1	27,9/	38,5	48,4/	57,8/
Air leak rate m³/h/m²	15,0	22,1	/27,7	/32,5	<b>/</b> 36,8
Protec Air, A 40mm	14,6	25,7/	35,8	45,2	54,3
Air leak rate m³/h/m²	/16,9	26,5	/34,4	41,4	47,8

### Air permeability EN ISO 9972:2015

Differential pre	essure	10	20	30	40	50
(Pa)		/ -10	/ -20	/-30	/-40	/-50
Protec Air, A 2	Omm	4,5	7,8	10,7/	13,4	16,1
Air leak rate <b>L/</b>	/s/m²	4,2	6,1	7,7	9,0	/10,2
Protec Air, A 4	Omm	4,0	7,1	9,9	12,6	15,1
Air leak rate <b>L</b>	/s/m²	4,7	7,4	9,6	11,5	/13,3

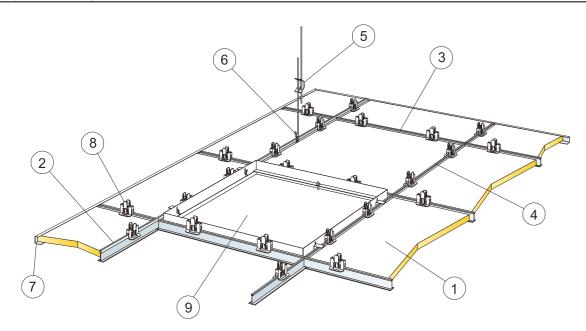
### Chemicals & concentration (Tested according to ISO 11998)

Chemicals	Ethanol	Chlorine	Virkon S	Isopropanol
Concentration	70%	2,5%	1%	70%



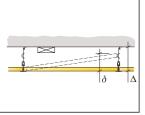


For the latest information go to www.ecophon.com or contact your nearest Ecophon representative.

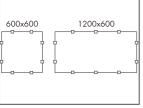


### Quantity specification (excl. wastage)

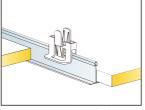
	Size, mm	
	600x600	1200x600
1 Hygiene Protec A	2,8/m²	1,4/m²
2 Connect T24 Main Runner, installed at 1200 mm centres	0,9m/m²	0,9m/m²
3 Connect T24 Cross Tee, L=1200 mm, installed at 600 mm centres	1,7m/m²	1,7m/m <sup>2</sup>
4 Connect T24 Cross Tee, L=600 mm	0,9m/m²	-
5 Connect Adjustable Hanger, installed at 1200 mm centres (max. distance from v	wall 600 mm) 0,7/m²	0,7/m²
6 Connect Hanger Clip (not to be used in swimming hall environments)	0,7/m²	0,7/m²
7 Connect Channel Trim, fixed c300	as required	as required
8 Connect Hygiene Clip 20	11/m²	7/m²
9 Connect Inspection Hatch	as required	as required
Δ Min. overall depth of system: 150 mm		
δ Min. demounting depth: 150 mm		



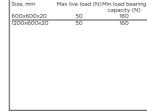
See Quantity Specification



Arrangement of clips

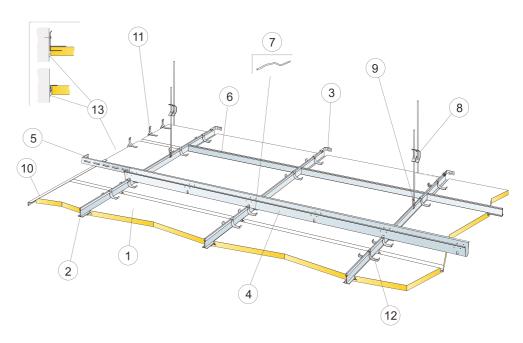


Connect Hygiene Clips for keeping tiles in position



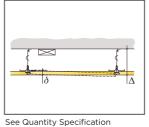
Live load/load bearing capacity

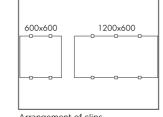
### Suspended ceiling

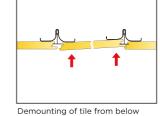


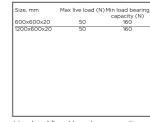
### Quantity specification (excl. wastage)

		Size, mm	
		600x600	1200x600
1	Hygiene Protec Ds	2,8/m²	1,4/m²
2	Connect T24 Main Runner HD, installed at 600 mm centres	1,7m/m²	1,7m/m²
3	Connect Wall Bracket for T-profiles	1/suspended row of Main run	ner
4	Connect Wall Bracket, L=700 mm, for Connect Space bar	1/row of Space bar	
5	Connect T24 Cross Tee, L=600 mm	2/row of Main runner	
6	Connect Space Bar Winch, installed one per joint Connect Main Runner/Connect Space Bar	1,4/m²	1,4/m²
7	Connect Adjustable Hanger, installed at 1200 mm centres (max. distance from wall 600 mm)	0,7/m²	0,7/m²
8	Connect Hanger Clip (not to be used in swimming hall environments)	0,7/m²	0,7/m²
9	Alt. Connect Frieze Trim, fixed c300 mm	as required	as required
10	Connect Frieze Bracket, installed at 500 mm centre. Minimum free depth above tile 150 mm.	2/cut tile with one bearing edge	3/cut tile with one bearing edge
11	Connect Hold Down Clip Ds	2/tile, 50-100 mm from corners	3/tile, 50-100 mm from corners
12	Joint sealant (not supplied by Ecophon)	as required	as required
	$\Delta$ Min. overall depth of system: 170 mm		
	δ Min. demounting depth: 30 mm		



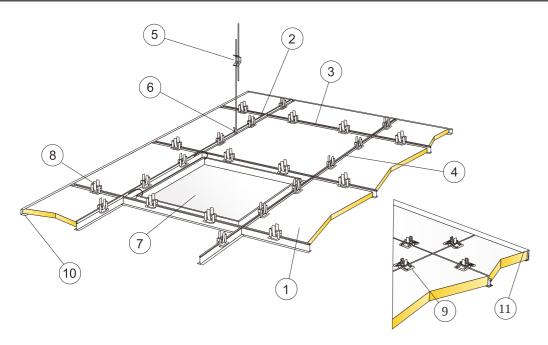






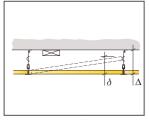
Live load/load bearing capacity

51

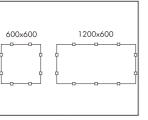


 $@ \ Saint-Gobain \ Ecophon \ AB \\ \ Installation \ diagram \ (M469) \ for \ Ecophon \ Hygiene \ Protec^{\text{\tiny TM}} \ Air \ A \\$ 

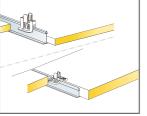
		Size, mm	
		600x600	1200x600
1	Hygiene Protec Air A	2,8/m²	1,4/m²
2	Connect T24 Main Runner, installed at 1200 mm centres	0,9m/m²	0,9m/m²
3	Connect T24 Cross Tee, L=1200 mm, installed at 600 mm centres	1,7m/m²	1,7m/m²
4	Connect T24 Cross Tee, L=600 mm	0,9m/m²	-
5	Connect Adjustable Hanger, installed at 1200 mm centres (max. distance from wall 600 mm)	0,7/m²	0,7/m²
6	Connect Hanger Clip (not to be used in swimming hall environments)	0,7/m²	0,7/m²
7	Connect Inspection Hatch C3	as required	as required
8	Connect Hygiene Clip 20	11/m²	7/m²
9	Connect Hygiene Clip 40	11/m²	7/m²
10	Connect Channel Trim, fixed c300 (for 20 mm thickness)	as required	as required
11	Connect Channel Trim, fixed c300 (for 40 mm thickness)	as required	as required
	Connect Edge Sealant	as required	as required
	$\Delta$ Min. overall depth of system: 150 mm		
	δ Min. demounting depth 20 mm: 150 mm		
_	δ Min. demounting depth 40 mm: 170 mm		



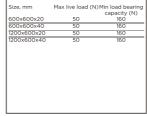
See Quantity Specification



Arrangement of clips



Clip for keeping tiles in place for 20/40 mm tiles



Live load/load bearing capacity





# **HYGIENE™ BLACK**

### Dry and humid areas - advanced cleaning

Ecophon Hygiene™ Black provides a sleek, washable surface specifically designed for humid environments. Its durable surface allows the panels to endure regular advanced cleaning methods, including UV-C, wet cleaning, and the use of common detergents and disinfectants. These absorbers have low emission levels, promoting high indoor air quality, and are resistant to mould and bacterial growth.

### Shared properties - Ecophon Hygiene™ Black

Accessibility	Demountable
W)) Visual appearance	e Hygiene Black, nearest NCS colour sample S-8500-N, 4,43% light reflectance.
Fire safety	Class: A2-s1,d0, EN 13501-1

#### Differentiating properties - Ecophon Hygiene™ Black

		A	Ds		
	Installation methods				
Range	Size, thickness (mm)	600x600x20 1200x600x20	600x600x20 1200x600x20		
	Visual experience	Visual grid	Concealed grid		
	Edge treatment	Primed	Painted		
	Weight of system (approx.)	2,5 kg/m <sup>2</sup>	2,9 kg/m²		
	Back treatment of the tile	Glass tissue	Glass tissue		
Acoustic	Sound absortion ( $\alpha_{_{\!\! w}}$ )	1.0	0.95		
	Dusting & vacuum cleaning	Daily	Daily		
	Wet wiping	Weekly	Weekly		
Cleanability	High pressure washing	2/year	-		
	Compatible with UV-C disinfection (BIFMA HCF 8.1-2019)	•	•		
Surface endurance	Withstand 200 cycles (ISO 11998)	•	•		
Chemical resistance	Resistant to disinfection chemicals (ISO 11998)	2/year	2/year		
EPD life cycle stages A1-C4	Kg CO <sub>2</sub> equiv/m <sup>2</sup> (ISO 14025, EN 15804)	3,43	3.95		
	Dry area system, compati- ble with corrosion class C1 areas	•	•		
Humidity resistance	High humidity area system, compatible with corrosion class C3 areas	•	•		
	wimming pool area system, compatible with corrosion class C4 areas	•	•		
		Clean room classification	ISO 4 (ISO 14644-1)		
Cleanroom		Bacteriological class M1/2	Area 4 (NF S 90-351)		
		Kinetic class for particle elimination, CP( <sub>0,5</sub> )5 (NF S 90-351)			
Mould and bacteria res	sistance	Mould, Class 0, method A (ISO 846)			
		Bacteria, Class 0, method	d C (ISO 846)		

#### Chemicals & concentration (Tested according to ISO 11998)

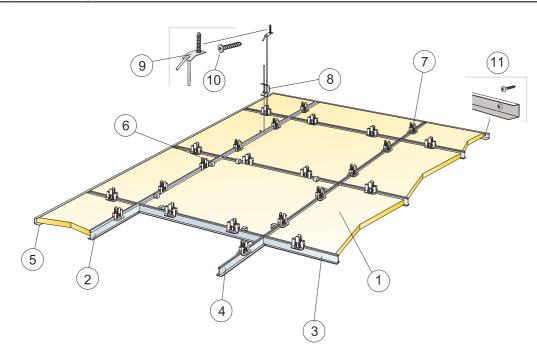
Chemicals	Virkon S	Isopropanol
Concentration	1%	70%





For the latest information go to www.ecophon.com or contact your nearest Ecophon representative.

### Suspended ceiling

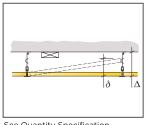


© Saint-Gobain Ecophon AB

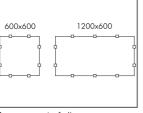
Installation diagram (M675C4) for Ecophon Hygiene™ Black A C4

### Quantity specification (excl. wastage)

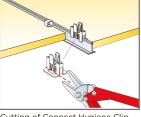
		Size, mm	
		600x600	1200x600
1	Hygiene Black A	2,8/m²	1,4/m²
2	Connect T24 Main Runner C4, c1200	0,9m/m²	0,9m/m²
3	Connect T24 Cross Tee C4, L=1200, c600	1,7m/m²	1,7m/m²
4	Connect T24 Cross Tee C4, L=600	0,9m/m²	-
5	Connect Channel Trim C4, fixed at c300 mm	as required	as required
6	Connect Demo Clip 20 C4, (where access is needed)	as required	as required
7	Connect Hygiene Clip 20	11/m²	7/m²
8	Connect Adjustable Hanger C4, c1200, (max 600 mm distance from wall)	0,7/m²	0,7/m²
9	Connect Fixing Plate C4	0,7/m²	0,7/m²
10	Connect Anchor Screw C4	0,7/m²	0,7/m²
11	Connect Installation Screw C4	3,4/lm Angle to	rim C4
	$\Delta$ Min. overall depth of system: 150 mm		
	δ Min. demounting depth: 150 mm		



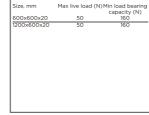
See Quantity Specification



Arrangement of clips

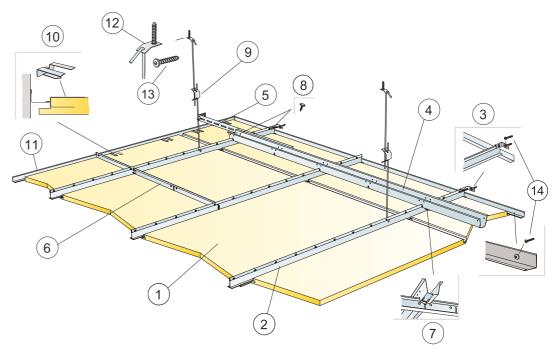


Cutting of Connect Hygiene Clip 20 at the inspection tile



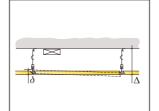
Live load/load bearing capacity

### Suspended ceiling

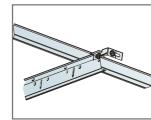


© Saint-Gobain Ecophon AB Installation diagram (M676C4) for Ecophon Hygiene™ Black Ds C4. Suspended installation

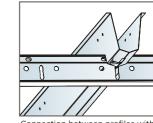
		Size, mm	
		600x600	1200x600
1	Hygiene Black Ds	2,8/m²	1,4/m²
2	Connect T24 Main Runner C4, installed at 600 mm centres	1,7m/m²	1,7m/m²
3	Connect Wall Bracket C4 for T-profiles C4	1/suspended row of	Main runner
4	Connect Space Bar C4, installed at 1500 mm centres (max. distance from wall 300 mm) for winch	0,7m/m <sup>2</sup>	0,7m/m²
5	Connect Wall Bracket C4, L=700 mm, for Connect Space Bar	1/row of Space bar	
6	Connect T24 Cross Tee C4, L=600 mm	2/row of Main runne	er
7	Connect Space Bar Winch C4, installed one per joint Connect Main Runner/Connect Space Bar	1,4/m²	1,4/m²
8	C4 screw for wall brackets (included in products)	-	-
9	Connect Adjustable Hanger C4, installed at 1200 mm centres (max. distance from wall 600 mm)	0,7/m²	0,7/m²
10	Connect Support Clip Dg20 C4	1pc/300-400 mm o supporting edge	n every cut perimeter tile with only 1
11	Connect Angle Trim 15/22 C4, fixed at 300 mm centres	as required	as required
12	Connect Fixing Plate C4	0,7/m²	0,7/m²
13	Connect Anchor Screw C4	0,7/m²	0,7/m²
14	Connect Installation Screw C4	3,4/lm Angle trim C	4
	$\Delta$ Min. overall depth of system: 385 mm		
	δ Min. demounting depth: 30 mm		



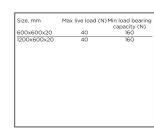
See Quantity Specification



Secured Connect Main Runner C4 at wall with Connect Wall Bracket C4



Connection between profiles with space bar winch



Live load/load bearing capacity



# **HYGIENE PERFORMANCE™**

### For dry and humid areas - advanced cleaning

Ecophon Hygiene Performance™ are easy-to-clean, sound-absorbing ceilings, wall panels and baffles for both dry and humid areas. They withstand regular cleaning using advanced methods such as steam or high/low pressure washing.

The surface is resistant to common detergents and disinfectants and can withstand HPV cleaning. The absorbers have low emission levels, thus ensuring high indoor air quality. They are resistant to mould and bacterial growth.

### Shared properties - Ecophon Hygiene Performance™

	Accessibility	Demountable, direct fix
<b>\$</b> ))	Visual appearance	White 500, nearest NCS colour sample S 0500-N, Light reflectance: 84%
	Fire safety	Class: A2-s1,d0, EN 13501-1

#### Differentiating properties - Ecophon Hygiene Performance™

		Α	В	Ds	Plus A	Baffle	Wall	Care Wall		
	Installation methods					ППП				
		600x600x20			600x600x20					
	Size, thickness (mm)	1200x600x20	600x600x40	600x600x20	1200x600x20	1200x600x50	1200x600x40	2700x1200x40		
	Size, triickriess (mm)	600x600x40	1200x600x40	1200x600x20	600x600x40	1200,000,30	1200,000,40	2700x1200x40		
		1200x600x40			1200x600x40					
Range	Visual experience	Visual grid	Direct fix	Concealed grid	Visual grid	Semi concealed grid	Visual bracket	Visual frame		
	Edge treatment	Primed	Painted	Painted	Painted	Painted	Painted	Primed		
	Weight of system (approx.)	20mm 2,6 kg/m²; 40mm 3,6 kg/m²	3,7 kg/m²	3,4 kg/m²	20mm 3,0kg/m²; 40mm 4,0 kg/m²	5 kg/m²	4,0 kg/m²	5 kg/m²		
	Back treatment of the tile	Glass tissue	Glass tissue	Glass tissue	Hygiene Surface	Akutex <sup>™</sup> HS	Akutex <sup>™</sup> HS	Glass Tissue		
Acoustic	Sound absortion ( $\alpha_{_{_{\!$	0.95, 20 mm 1.00, 40 mm	1.00	0.95	1.00, 20 mm 1.00, 40 mm	0.70, rows 0.75, rectangles	1.0	1.0		
	Dusting & vacuum cleaning	Daily	Daily	Daily	Daily	Daily	Daily	Daily		
	Wet wiping	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly		
	Steam cleaning	4/year	4/year	4/year	4/year	4/year	4/year	4/year		
Cleanability	Wet cleaning	2/year	-	-	2/year	2/year	2/year	-		
	High pressure washing	2/year	-	-	2/year	2/year	2/year	-		
	Hydrogen peroxide vapour	•	•	•	•	•	•	•		
	Compatible with UV-C disinfection	•	•	•	•	•	•	•		
Surface	Withstand 200 cycles (ISO 11998)	•	•	•	•	•	•	•		
endurance	Back of tile withstand 200 cycles (ISO 11998)	-	-	-	•	•	•	-		
Chemical resistance	Resistant to disinfection chemicals (ISO 11998)	2/year	2/year	2/year	2/year	2/year	2/year	2/year		
EPD life cycle stages A1-C4	Kg CO <sub>2</sub> equiv/m <sup>2</sup> (ISO 14025, EN 15804)	2,43, 20 mm 4,22 40 mm	-	3,46	3,22, 20 mm 5,19, 40 mm	8,30	7,13	-		
	Dry area system, compatible with corrosion class C1 areas	•	•	•	•	•	•	•		
Humidity resistance	High humidity area system, compatible with corrosion class C3 areas	•	•	•	•	•	•	-		
	Compatible with corrosion class C4 areas	•	-	•	•	•	-	-		
		Clean room cla	ssification ISO 4	(ISO 14644-1)						
Cleanroom		Bacteriological	class M1/Area 4	(NF S 90-351)						
		Kinetic class fo	r particle elimina	ation CP <sub>(0,5)</sub> 5 (NF	S 90-351)					
		Mould (ASTM [	)3273-16)		Class 10, no gro	owth on the surf	ace			
Mould and bac	teria resistance	Bacteria, metho	od C (ISO 846)		Class 0, no gro	wth under the m	nicroscope			
		Mould, method	A (ISO 846)		Class 0, no gro	wth under the m				
homicals 0 con	centration (Tested accord	ling to ISO 11009	)\		1					

### Chemicals & concentration (Tested according to ISO 11998)

Chemicals	Actichlor plus	LifeClean	Etanol	Chlorine	Virkon S	Isopropanol	Oxivir Excel	Sumabac D10	Suredis VT1	Enduro Chlor VE5	Aciplusfoam VF59
Concentration	1%	Undiluted	70%	2,5%	1%	70%	0,5%	1%	1%	1,5%	5%



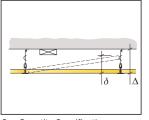


For the latest information go to www.ecophon.com or contact your nearest Ecophon representative.

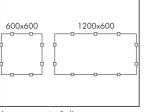
# 12 13 2 3 6 9 11 10 7

### Quantity specification (excl. wastage)

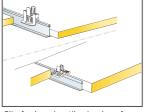
Size, mm 600x600 1200x600 2,8/m<sup>2</sup> 1,4/m<sup>2</sup> Hygiene Performance A Connect T24 Main Runner C3, installed at 1200 mm centres 0,9m/m<sup>2</sup>  $0.9 \text{m/m}^2$ Connect T24 Cross Tee C3, L=600 mm 0,9m/m<sup>2</sup> Connect T24 Cross Tee C3, L=1200 mm, installed at 600 mm centres 1,7m/m<sup>2</sup> 1,7m/m<sup>2</sup> Connect Adjustable Hanger C3, c1200 (max distance from wall 600 mm) 0.7/m<sup>2</sup> 0.7/m<sup>2</sup> Connect Hanger Clip (not to be used in swimming hall environments)  $0.7/m^{2}$ 0.7/m<sup>2</sup>Connect Inspection Hatch C3 as required as required Connect Hygiene Clip 20 11/m<sup>2</sup>  $7/m^2$ 7/m² Connect Hygiene Clip 40 11/m<sup>2</sup> 10 Connect Channel Trim C3, fixed c300 (for 20 mm thickness) as required as required Connect Channel Trim C3, fixed c300 (for 40 mm thickness) as required as required 12 Connect Anchor Screw C4 0,7/m<sup>2</sup> 0,7/m<sup>2</sup> 13 Connect Fixing Plate C4 0,7/m<sup>2</sup> 0,7/m<sup>2</sup> Δ Min. overall depth of system: 150 mm  $\delta$  Min. demounting depth 20 mm: 150 mm δ Min. demounting depth 40 mm: 170 mm



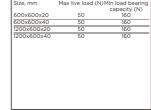
See Quantity Specification



Arrangement of clips

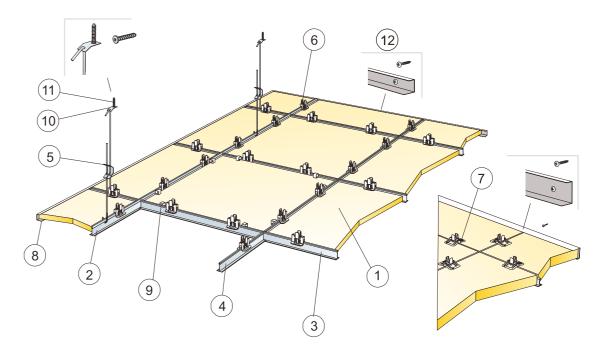


Clip for keeping tiles in place for 20/40 mm tiles



Live load/load bearing capacity

### Suspended ceiling

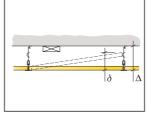


© Saint-Gobain Ecophon AB

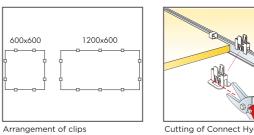
Installation diagram (M266C4) for Ecophon Hygiene Performance™ A C4

### Quantity specification (excl. wastage)

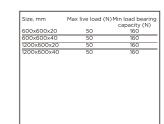
		Size, mm	
		600x600	1200x600
1	Hygiene Performance A	2,8/m²	1,4/m²
2	Connect T24 Main Runner C4, c1200	0,9m/m²	0,9m/m²
3	Connect T24 Cross Tee C4, L=1200, c600	1,7m/m²	1,7m/m²
4	Connect T24 Cross Tee C4, L=600	0,9m/m²	-
5	Connect Adjustable Hanger C4, c1200, (max 600 mm distance from wall)	0,7/m²	0,7/m²
6	Connect Hygiene Clip 20	11/m²	7/m²
7	Connect Hygiene Clip 40 C4	11/m²	7/m²
8	Connect Channel Trim C4, fixed at c300 mm	as required	as required
9	Connect Demo Clip 20 C4, (where access is needed)	as required	as required
10	Connect Fixing Plate C4	0,7/m²	0,7/m²
11	Connect Anchor Screw C4	0,7/m²	0,7/m²
12	Connect Installation Screw C4	3,4/lm Angle ti	rim C4
	$\Delta$ Min. overall depth of system: 150 mm		
	$\delta$ Min. demounting depth: 150 mm		
	δ Min. demounting depth 40 mm: 170 mm		



See Quantity Specification



Cutting of Connect Hygiene Clip 20 at the inspection tile



Live load/load bearing capacity

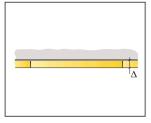
61

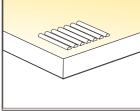
Installation diagram (M638) for Ecophon Hygiene Performance B, with glue

### Quantity specification (excl. wastage)

62

		Size, mm	
		600x600	1200x600
1	Hygiene Performance™ B	2,8/m²	1,4/m²
2	Connect Absorber glue (0,25 l/m² - 0,4 l/m² depending on installation conditions)	as required	as required
	Use Connect Notched spatula to apply the glue.		
	$\Delta$ Min. overall depth of system: 43 mm		
	$\delta$ Min. demounting depth: The system is not demountable		
	Cut visible edges should be painted		



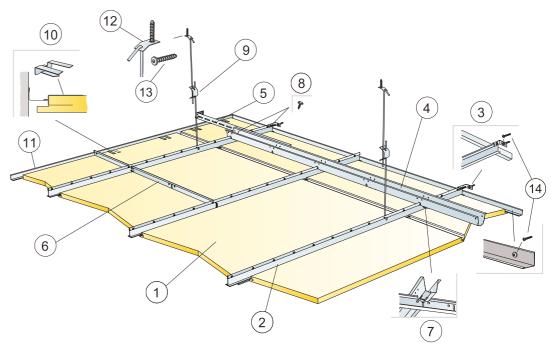


Application of glue



Live load/load bearing capacity

### Suspended ceiling

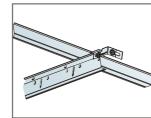


© Saint-Gobain Ecophon AB Installation diagram (M616C4) for Ecophon Performance™ Ds C4. Suspended installation

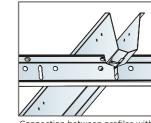
		Size, mm	
		600x600	1200x600
1	Hygiene Performance Ds	2,8/m²	1,4/m²
2	Connect T24 Main Runner C4, installed at 600 mm centres	1,7m/m²	1,7m/m²
3	Connect Wall Bracket C4 for T-profiles C4	1/suspended row of	Main runner
4	Connect Space Bar C4, installed at 1500 mm centres (max. distance from wall 300 mm) for winch	0,7m/m <sup>2</sup>	0,7m/m²
5	Connect Wall Bracket C4, L=700 mm, for Connect Space Bar	1/row of Space bar	
6	Connect T24 Cross Tee C4, L=600 mm	2/row of Main runne	r
7	Connect Space Bar Winch C4, installed one per joint Connect Main Runner/Connect Space Bar	1,4/m <sup>2</sup>	1,4/m²
8	C4 screw for wall brackets (included in products)	-	-
9	Connect Adjustable Hanger C4, installed at 1200 mm centres (max. distance from wall 600 mm)	0,7/m²	0,7/m²
10	Connect Support Clip Dg20 C4	1pc/300-400 mm or supporting edge	n every cut perimeter tile with only 1
11	Connect Angle Trim 15/22 C4, fixed at 300 mm centres	as required	as required
12	Connect Fixing Plate C4	0,7/m²	0,7/m²
13	Connect Anchor Screw C4	0,7/m²	0,7/m²
14	Connect Installation Screw C4	3,4/lm Angle trim C	4
	$\Delta$ Min. overall depth of system: 385 mm		
	δ Min. demounting depth: 30 mm		



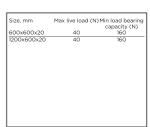
See Quantity Specification



Secured Connect Main Runner C4 at wall with Connect Wall Bracket C4

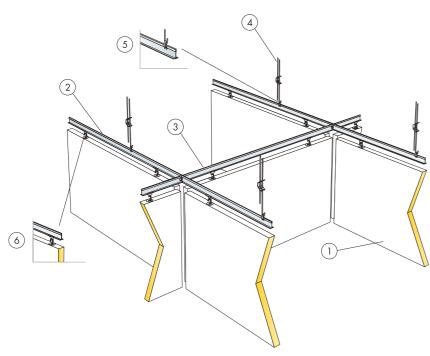


Connection between profiles with space bar winch



Live load/load bearing capacity

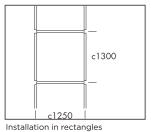
### **Baffle installation**

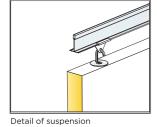


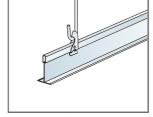
© Saint-Gobain Ecophon AB Installation diagram (M493C3) for Ecophon Hygiene Performance™ Baffle C3 (in rectangles)

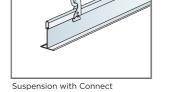
### Quantity specification (excl. wastage)

		Size, mm
		1200x600
1	Hygiene Performance Baffle	1,3/m²
2	Connect T24 Main Runner C3, installed at 1250 mm centres	0,8m/m²
3	Connect T24 Cross Tee C3, L=1250 mm, installed at 1300 mm centres	0,8m/m²
4	Connect Adjustable Hanger C3	0,7/m²
5	Connect Hanger Clip	0,7/m²
6	Connect Baffle Clip C3	2,5/m²







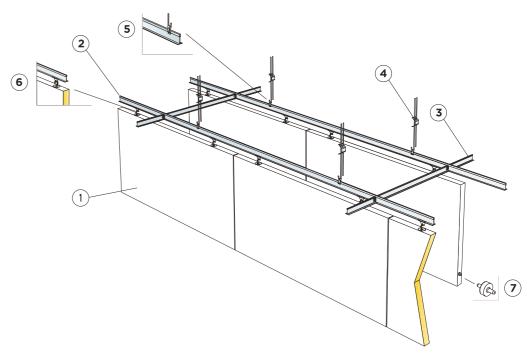


Suspension with Connect Adjustable Hanger and Connect Hanger Clip



Live load/load bearing capacity

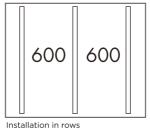
### **Baffle installation**

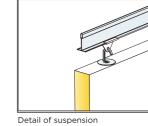


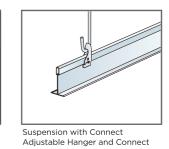
© Saint-Gobain Ecophon AB Installation diagram (M492C3) for Ecophon Hygiene Performance™ Baffle C3 (in rows)

### Quantity specification (excl. wastage)

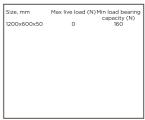
		Size, mm
		1200x600
1	Hygiene Performance Baffle	1,4/m²
2	Connect T24 Main Runner C3, installed at 600 mm centres	1,7m/m²
3	Connect T24 Cross Tee C3, L=600 mm, installed at 1800 mm centres	0,6m/m²
4	Connect Adjustable Hanger C3 c1200	1,4/m²
5	Connect Hanger Clip	1,4/m²
6	Connect Baffle Clip C3	2,8/m²
	Optional Accessories	-
7	Connect Guiding Pin, installed at 1200/1800 mm centres (not suitable for use in controlled environments i.e. food processing areas)	2,8/m²







Hanger Clip

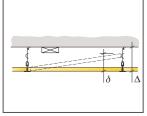


Live load/load bearing capacity

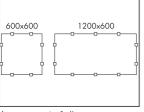
 $@ \ Saint-Gobain \ Ecophon \ AB \\ \ Installation \ diagram \ (M466) \ for \ Ecophon \ Hygiene \ Performance^{\text{\tiny M}} \ Plus \ A \ C3 \\$ 

Quantity specification (excl. wastage)

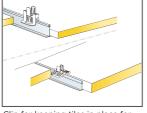
		Size, mm	
		600x600	1200x600
1	Hygiene Performance Plus A	2,8/m²	1,4/m²
2	Connect T24 Main Runner C3, installed at 1200 mm centres	0,9m/m²	0,9m/m <sup>2</sup>
3	Connect T24 Cross Tee C3, L=1200 mm, installed at 600 mm centres	1,7m/m <sup>2</sup>	1,7m/m <sup>2</sup>
4	Connect T24 Cross Tee C3, L=600 mm	0,9m/m²	-
5	Connect Adjustable Hanger C3, c1200 (max distance from wall 600 mm)	0,7/m²	0,7/m²
6	Connect Hanger Clip (not to be used in swimming hall environments)	0,7/m²	0,7/m²
7	Connect Inspection Hatch C3	as required	as required
8	Connect Hygiene Clip 20	11/m²	7/m²
9	Connect Hygiene Clip 40	11/m²	7/m²
10	Connect Channel Trim C3, fixed c300 (for 20 mm thickness)	as required	as required
11	Connect Channel Trim C3, fixed c300 (for 40 mm thickness)	as required	as required
12	Connect Anchor Screw C4	0,7/m²	0,7/m²
13	Connect Fixing Plate C4	0,7/m²	0,7/m²
	Δ Min. overall depth of system: 150 mm		
	δ Min. demounting depth 20 mm: 150 mm		
	δ Min. demounting depth 40 mm: 170 mm		



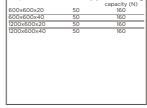
See Quantity Specification



Arrangement of clips

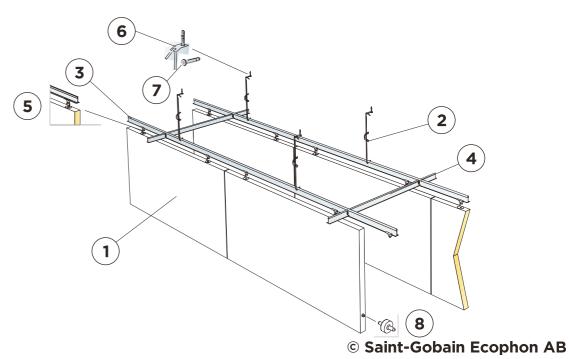


Clip for keeping tiles in place for 20/40 mm tiles



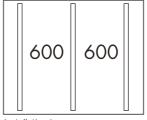
Live load/load bearing capacity

# Baffle installation

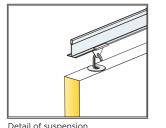


Installation diagram (M494C4) for Ecophon Hygiene Performance™ Baffle C4 (in rows)

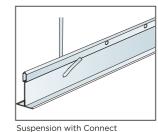
Size, mm
1200x600
1,4/m²
1,4/m²
1,7m/m²
0,6m/m²
2,8/m²
1,4/m²
1,4/m²
-
2,8/m²



Installation in rows



Detail of suspension

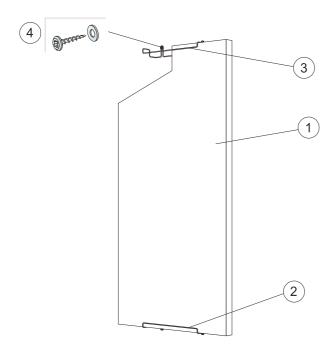


Suspension with Connect Adjustable Hanger C4



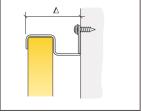
Live load/load bearing capacity

Wall installation

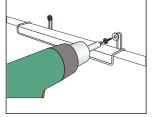


Quantity specification (excl. wastage)

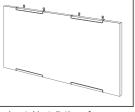
		Size, mm
		1200x600
1	Hygiene Performance Wall	1,4/m²
2	Connect Wall Fixing C3, vertical installation	2/panel
3	Connect Wall Fixing C3, horisontal installation	4/panel
4	Wall screw, A2 material (not supplied by Ecophon)	2/wall fixing
	Δ Min. overall depth of system: 90 mm	



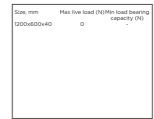
See Quantity Specification



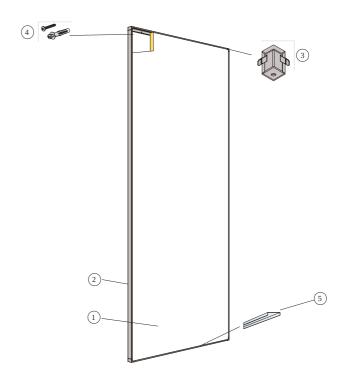
Installation with wall screw in stainless steel (A2) material



Horisontal installation of Performance Wall C3

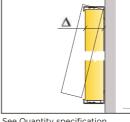


Live load/load bearing capacity

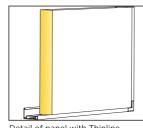


© Saint Gobain Ecophon AB Installation diagram (M610) for Ecophon Hygiene Performance™ Care Wall installation with Connect Thinline Profile

		Size, mm
		2700x1200
1	Hygiene Performance Care Wall	0,31/m²
2	Connect Thinline Profile, L=2658 mm	as required
3	Connect Thinline Ext. Corner	as required
4	Installation screw, installed at 200 mm centres (select fastener according to wall material)	as required
5	Connect Thinline Space Bar	as required
	Δ Overall depth of system: 45 mm	



See Quantity specification



Detail of panel with Thinline



# **HYGIENE ADVANCE™**

### For dry and wet areas - daily cleaning with strong chemicals

Ecophon Hygiene Advance™ are sound-absorbing ceilings, wall panels and baffles designed for the most demanding conditions. The system is classified as ISO 3, according to ISO 14644-1.

They withstand daily advanced cleaning, HPV cleaning and disinfection with strong chemicals. The absorbers have low emission levels, ensuring high indoor air quality,

For areas where air pressure control is applied, Ecophon Hygiene Advance $^{\text{\tiny TM}}$  A is a suitable option.

### Shared properties - Ecophon Hygiene Advance $^{\!\scriptscriptstyle{\mathsf{M}}}$

Accessibility	Demountable
₩)) Visual appearance	White 141, Nearest NCS colour sample: NCS S 1000-N. Light reflectance: 73%
Fire safety	Class: A2-s1,d0, EN 13501-1

#### Differentiating properties - Ecophon Hygiene Advance™

		Α	Ba	ffle	Wall
	Installation methods			тт	
Range	Size, thickness (mm)	600x600x20 1200x600x20 600x600x40 1200x600x40	1200x6	600x40	1200x600x40
Range	Visual experience	Visual grid	Semi cond	cealed grid	Visual bracket
	Edge treatment	Advance	Adv	ance	Advance
	Weight of system (approx.)	3 kg/m², 20 mm 4.5 kg/m², 40 mm	4 kç	g/m²	3 kg/pcs
	Back treatment of the tile	Advance	Adv	ance	Advance
Acoustic	Sound absortion ( $lpha_{ m w}$ )	0.85, 20 mm 0.90, 40 mm		n rows; ectangles	0.85
	Dusting & vacuum cleaning	Daily	Da	aily	Daily
	Wet wiping	Daily	Da	aily	Daily
	Steam cleaning	Daily	Da	aily	Daily
Cleanability	Wet cleaning	Daily	Da	aily	Daily
	High pressure washing	Daily	Da	aily	Daily
	Hydrogen peroxide vapour	•	(	•	•
	Compatible with UV-C disinfection	•	(	•	•
Surface endurance	Withstand beyond 200 cycles (ISO 11998)	•	(	•	•
Chemical resistance	Resistant to strong chemicals (ISO 2812-1)	Daily	Da	aily	Daily
EPD life cycle stages A1-C4	Kg CO <sub>2</sub> equiv/m² (ISO 14025, EN 15804)	9,32, 20 mm 16,23, 40 mm	16,	,23	16,23
Humidity	High humidity area system, compatible with corrosion class C3 areas	•		•	•
resistance	Constant wet area system, compatible with corrosion class C4 areas	•		-	-
		Clean room classification	on ISO 3 (ISO	14644-1)	
Cleanroom		Bacteriological class M	I/Area 4 (NF S	90-351)	
		Kinetic particle eliminat	tion, CP, 51 (N	IF S 90-351)	
		Mould, (ASTM D3273-16			growth on the surface
Mould and bacteri	a resistance	Bacteria, method C (ISC	-		owth under the microscope

### Air permeability EN ISO 9972:2015

Differential pressure	10 /	20 /	30 /	40 /	50
(Pa)	-10	/-20	/-30	/-40	/-50
Advance, A 20mm	13,1	20,9	27,5/	33,4/	38,8/
Air leak rate m³/h/m²	/12,5	17,9	/22,0	25,5	28,6
Advance, A 40mm	4,2	6,1	7,7	9,1	10,3
Air leak rate m³/h/m²	4,4	6,3	7,7	8,9	10,0

### Air permeability EN ISO 9972:2015

Differential pressure	10	20 /	30	40 /	50
(Pa)	/-10	/-20	/-30	-40	-50
Advance, A 20mm	3,6	5,8	7,6	9,3	10,8
Air leak rate <b>L/s/m²</b>	3,5	5,0	6,1	7,1	8,0
Advance, A 40mm	1,2	1,7	2,1	2,5	2,9
Air leak rate <b>L/s/m²</b>	/ 1,2	/ 1,7	2,1	2,5	2,8

### Chemicals & concentration (Tested according to ISO 2812-1)

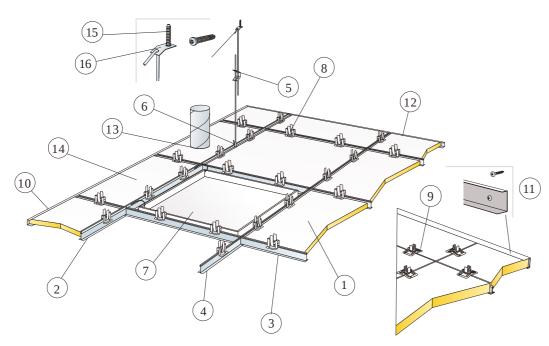
Chemicals	Formalin	Ammoniac	Hydrogen peroxide	Sulfuric acid	Phosphoric acid	Peracetic acid	Hydrochloric acid	Isopropanol	Sodium hydroxide	Sodium hypochlorite
Concentration	37%	25%	30%	5%	30%	15%	5%	100%	5%	5%







# Suspended ceiling

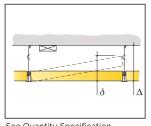


 $@ \ Saint-Gobain \ Ecophon \ AB \\ \ Installation \ diagram \ (M252C3) \ for \ Ecophon \ Hygiene \ Advance $^{\rm M}$ A C3 }$ 

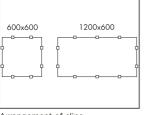
Quantity specification (excl. wastage)

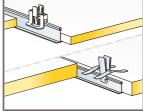
72

		Size, mm	
		600x600	1200x600
1	Hygiene Advance A	2,8/m²	1,4/m²
2	Connect T24 Main Runner C3, installed at 1200 mm centres	0,9m/m²	0,9m/m²
3	Connect T24 Cross Tee C3, L=1200 mm, installed at 600 mm centres	1,7m/m <sup>2</sup>	1,7m/m <sup>2</sup>
4	Connect T24 Cross Tee C3, L=600 mm	0,9m/m²	-
5	Connect Adjustable Hanger C3, c1200 (max distance from wall 600 mm)	0,7/m²	0,7/m²
6	Connect Hanger Clip (not to be used in swimming hall environments)	0,7/m²	0,7/m²
7	Connect Inspection Hatch C3	as required	as required
8	Connect Hygiene Clip 20	11/m²	7/m²
9	Connect Hygiene Clip 40	11/m²	7/m²
10	Connect Channel Trim C3, fixed c300 (for 20 mm thickness)	as required	as required
11	Connect Channel Trim C3, fixed c300 (for 40 mm thickness)	as required	as required
12	Connect Hygiene Advance Tape	as required	as required
13	Joint sealant (not supplied by Ecophon)	as required	as required
14	Connect Anchor Screw C4	0,7/m²	0,7/m²
15	Connect Fixing Plate C4	0,7/m²	0,7/m²
	$\Delta$ Min. overall depth of system: 150 mm		
	δ Min. demounting depth 20 mm: 150 mm		
	δ Min. demounting depth 40 mm: 170 mm		

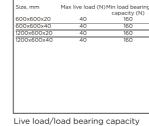


See Quantity Specification

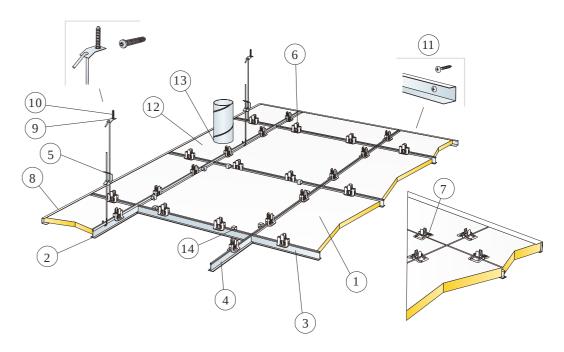




Clips for keeping tiles in place

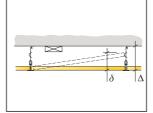


### Suspended ceiling

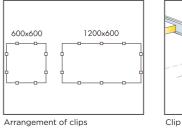


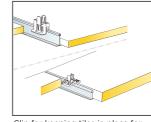
 $@ \ Saint-Gobain \ Ecophon \ AB \\ \ Installation \ diagram \ (M246C4) \ for \ Ecophon \ Hygiene \ Advance^{\text{\tiny IM}} \ A \ C4$ 

		Size, mm	Size, mm	
		600x600	1200x600	
1	Hygiene Advance A	2,8/m²	1,4/m²	
2	Connect T24 Main Runner C4, c1200	0,9m/m²	0,9m/m²	
3	Connect T24 Cross Tee C4, L=1200, c600	1,7m/m²	1,7m/m²	
4	Connect T24 Cross Tee C4, L=600	0,9m/m²	-	
5	Connect Adjustable Hanger C4, c1200, (max 600 mm distance from wall)	0,7/m²	0,7/m²	
6	Connect Hygiene Clip 20	11/m²	7/m²	
7	Connect Hygiene Clip 40 C4	11/m²	7/m²	
8	Connect Channel Trim C4, fixed at c300 mm	as required	as required	
9	Connect Fixing Plate C4	0,7/m²	0,7/m²	
10	Connect Anchor Screw C4	0,7/m²	0,7/m²	
11	Connect Installation Screw C4	3,4/lm Angle to	rim C4	
12	Joint sealant (not supplied by Ecophon)	as required	as required	
13	Connect Demo Clip 20 C4, (where access is needed)	as required	as required	
14	Connect Hygiene Advance Tape	as required	as required	
	Δ Min. overall depth of system: 150 mm			
	δ Min. demounting depth: 150 mm			

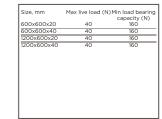


See Quantity Specification

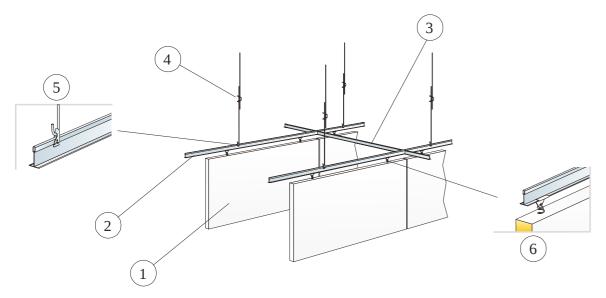




Clip for keeping tiles in place for 20/40 mm tiles



Live load/load bearing capacity



## © Saint-Gobain Ecophon AB

Installation diagram (M259) for Ecophon Hygiene Advance™ Baffle C3 (in rows)

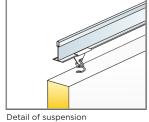
### Quantity specification (excl. wastage)

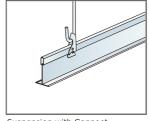
74

		Size, mm
		1200x600
1	Hygiene Advance Baffle	1,4/m²
2	Connect T24 Main Runner C3, installed at 600 mm centres	1,7m/m²
3	Connect T24 Cross Tee C3, L=600 mm, installed at 1800 mm centres	0,6m/m²
4	Connect Adjustable Hanger C3 c1200	1,4/m²
5	Connect Hanger Clip	1,4/m²
6	Connect Baffle Clip C3	2,8/m²

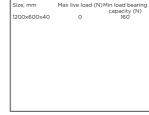
# 600 600





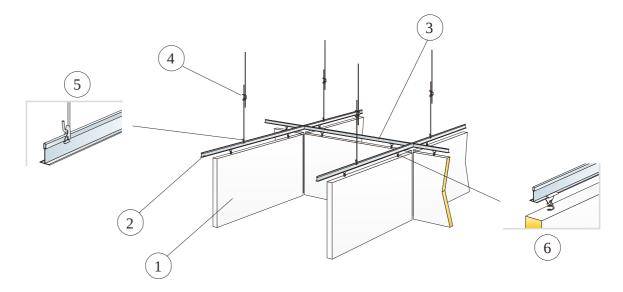


Suspension with Connect Adjustable Hanger and Connect Hanger Clip



Live load/load bearing capacity

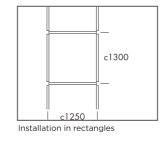
### **Baffle installation**

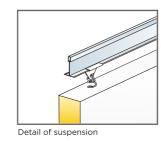


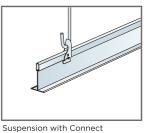
### © Saint-Gobain Ecophon AB

Installation diagram (M260) for Ecophon Hygiene Advance™ Baffle C3 (in rectangles)

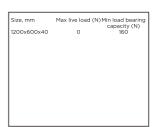
	Size, mm
	1200x600
Hygiene Advance Baffle	1,3/m²
Connect T24 Main Runner C3, installed at 1250 mm centres	0,8m/m²
Connect T24 Cross Tee C3, L=1250 mm, installed at 1300 mm centres	0,8m/m²
Connect Adjustable Hanger C3	0,7/m²
Connect Hanger Clip	0,7/m²
Connect Baffle Clip C3	2,5/m²
	Connect T24 Main Runner C3, installed at 1250 mm centres  Connect T24 Cross Tee C3, L=1250 mm, installed at 1300 mm centres  Connect Adjustable Hanger C3  Connect Hanger Clip



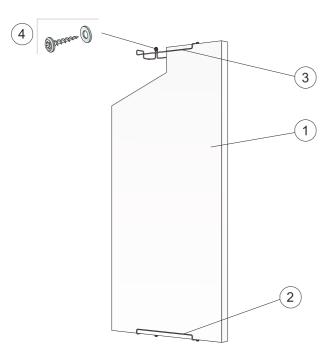




Suspension with Connect Adjustable Hanger and Connect Hanger Clip

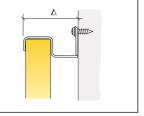


Live load/load bearing capacity

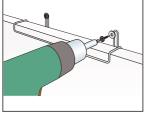


© Saint-Gobain Ecophon AB Installation diagram (M258) for Ecophon Hygiene Advance™ Wall C3

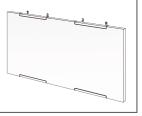
		Size, mm	
		0x0x0	
1	Connect Wall Fixing C3, vertical installation	-	
2	Connect Wall Fixing C3, horisontal installation	-	
3	Wall screw, A2 material (not supplied by Ecophon)	-	_
	Δ Min. overall depth of system: 90 mm	-	_







Installation with wall screw in stainless steel (A2) material



Horisontal installation of Advance Wall C3





# **HYGIENE LAVANDA™ LED**

### Withstands frequent low-pressure washing

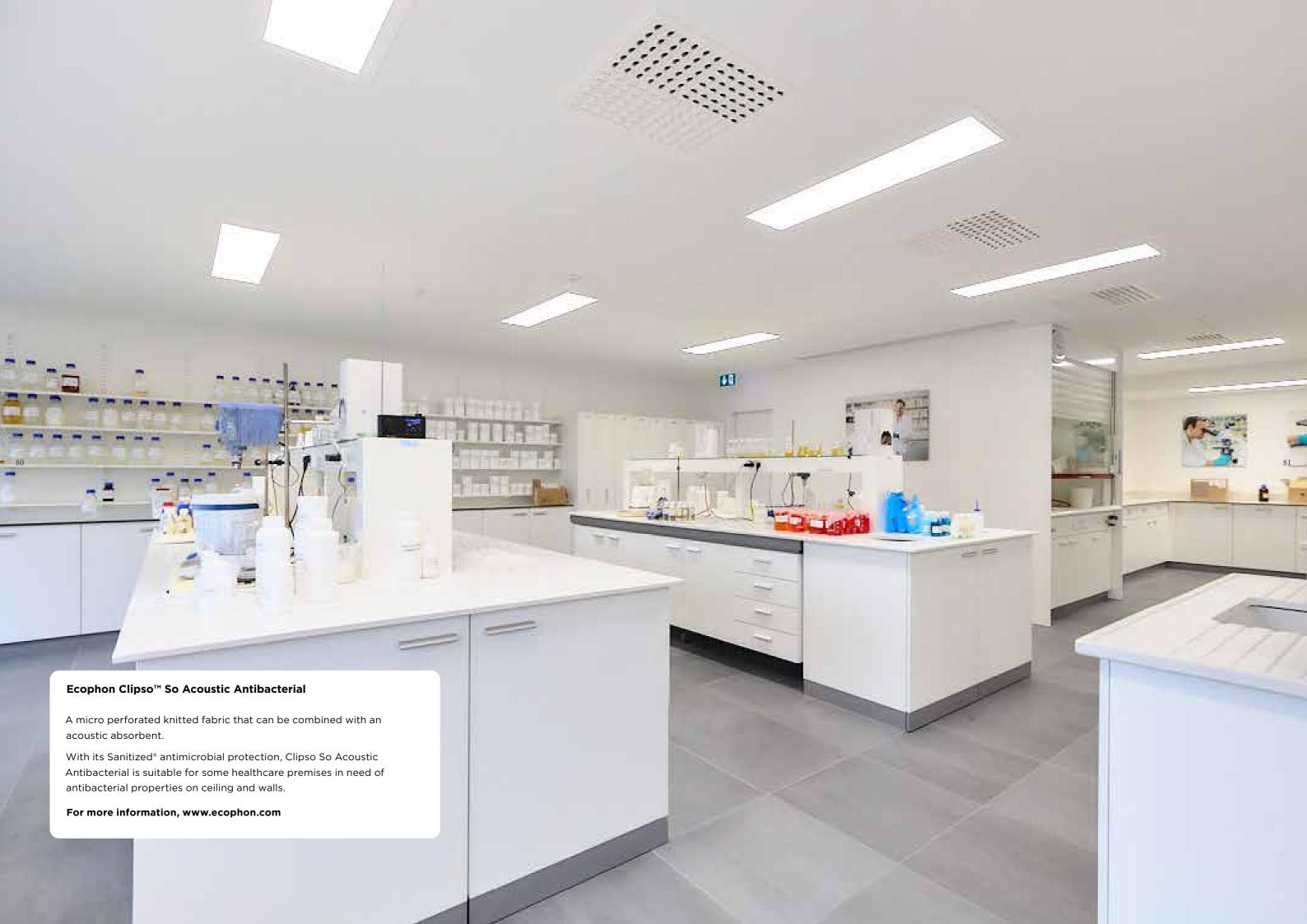
The Hygiene Lavanda™ LED is a recessed modular luminaire designed for use with Ecophon Hygiene Edge A ceilings. It features a high-frequency ballast and is flush-mounted to the ceiling, minimising areas where dirt and dust could accumulate. The housing is constructed from 1.0 mm thick corrosion-protected steel in white, while the frame is made of anodized extruded aluminum and secured to the housing with clips. The frame supports a 3 mm thick clear acrylic cover, which is sealed to the grid with a rubber gasket.

### Differentiating properties - Ecophon Hygiene Lavanda™ LED

		A
	Installation methods	
Range	Size (mm)	600x600
	Weight	6.5 kg
	Dusting & vacuum cleaning	Daily
Cleanability	Wet wiping	Daily
	Wet cleaning	Daily*
Chemical resistance	Resistant to disinfection chemicals	Withstand the use of common disinfecting chemicals
Humidity	Dry area system, compatible with corrosion class C1 areas	•
resistance	High humidity area system, compatible with corrosion class C3 areas	•
Electrical data	230-240V, 50 Hz, power factor	cos φ>0,95. Electronic HF ballast
Connection	Delivered without any cables. C or DALI	Can be installed for on/off, SwitchDIM
Electrical approvals	IP65, Class 1. CE	
Lighting performance	135 120 105 105 105 105 105 105 105 105 105 10	System effect: 49,8 W Light source: LED Luminous flux: 4189 Im Light efficiency: 84 Im/W Colour temperature: 4000K Color rendering index: Ra >80 Colour tolerance: MacAdam 3 SDCM Light output ratio (LOR): 100% Light distribution up/down: 0/100 Expected lifespan: L80 >60000 h

<sup>\*</sup>Water temperature max. 70°C

79





# **Sustainability**

Towards net-zero acoustics

Sustainability is more than a word - it's a collective movement to protect people and the planet that requires honest commitment and genuine care. That's why Ecophon is building on better materials, transparency, and principles, to name just a few.

We actively support an industry-wide drive to standardised, easy-access Environmental Product Declarations for individual products, rather than product families. Their inclusion of full lifecycle data,

from raw material sourcing to end of life, rather than only the favourable stages. A move away from self-declared labels, or non-independently verified sustainability claims.

And for any promises of net zero carbon emission targets to be validated by the Science-Based Targets initiative.

If we're going to build a sustainable future, it has to start with an honest approach, high ambition and the best of intentions - to build on better together.

Ecophon is the leading supplier of indoor acoustic solutions that improve working performance and quality of life. We believe in the difference sound can make to our everyday lives, and are passionate advocates for the importance of room acoustics to people's wellbeing – whatever the space, activity or need.

Having a sound effect on people is the principle that guides all we do. We're proud of the Swedish heritage and human approach that this promise is founded on. Our uncompromising commitment to transparent sustainable practice. And, as members of the Saint-Gobain Group, to be doing our part in making the world a better home.



Saint-Gobain Ecophon AB

Box 500, SE-265 03 Hyllinge, Sweden Phone: +46 (0)42 17 99 00 Fax: +46 (0)42 22 55 55 www.ecophon.com

SE556142516501 • Based in Åstorp

