Noise reduction

in industrial spaces

Ecophon®
SAINT-GOBAIN
A SOUND EFFECT ON PEOPLE

Room Acoustic Comfort™ in industrial premises

Room Acoustic Comfort™ is Ecophon's concept for room acoustic design. We put emphasis on people, their activities and the space when considering the ideal acoustic conditions. The acoustic descriptors defined are reverberation, speech clarity, auditory strength and spatial decay. The aim is to achieve the optimum value for the descriptors that are relevant to the room's function, and the activity that will take place within it.

According to Room Acoustic Comfort™, auditory strength and reverberation should be the focus when designing industrial premises. In practice, this means reducing the auditory strength and limiting reverberation in a room. Production equipment generates a large amount of direct sound, and it is important to prevent this sound from being amplified by the premises themselves. This is achieved, by installing among other things class A sound absorbers in ceilings, on walls or as suspended baffles.

Sound is an important part

of the working environment

Sound affects us in many ways. Disturbing noise causes fatigue, increases stress and increases the risk of communication problems. This impairs both productivity and safety and can violate work environment regulations. Sick leave and high staff turnover due to challenging working conditions can also impact negatively on profitability. There is much to be gained from achieving an optimal acoustic environment.

Dampen disturbing noise and background noise

Certain mechanical processes in industrial environments inevitably generate loud and potentially disturbing noise. Eliminating as much of this noise as possible has many benefits. Above all, it creates a calmer, more pleasant atmosphere, helping employees to remain alert and focused. It also facilitates better communication, which not only raises efficiency but also improves safety when important messages need to be heard and understood. Minimising the need for hearing protection also offers benefits in terms of better teamwork and easier communication.

How can the acoustic environment be improved?

- Define a noise policy to raise awareness about the acoustic environment
- Make demands on suppliers of machinery and other equipment to reduce the noise at source
- If possible, gather noise sources together and create quiet areas in a room
- Install sound absorbers in ceilings, on walls or as suspended baffles to reduce the sound pressure

For the eye, the ear and the mind

Ecophon specialises in developing sound-absorbing solutions for all environments where people work and communicate. Long experience combined with innovative thinking has made us a leading player in the industry. Our mission is to contribute to a good working environment for the eye, the ear and the mind.

Certain mechanical processes in industrial environments inevitably generate loud and potentially disturbing noise.

A complete range

for industrial applications

Ecophon's range of ceiling and wall panels is one of the most comprehensive available. We have developed the Ecophon Industry range to meet the specific requirements of industrial applications, where optimum sound absorption and ease of installation are key to the successful delivery of a project.

Industry Modus
Suitable for noise reduction in a variety of industrial premises, where different sizes and installation methods are required. Ecophon Industry Modus can be installed in exposed grid systems or directly fixed with a screw and washer. The tiles are available in 1200 x 600mm or 1200 x 1200mm sizes, and with a white, grey or black finish. Industry Modus is a class A sound absorbing tile, maximising the sound absorption within your premises.

Industry Ambit
Industry Ambit is designed for noise reduction in industrial premises where a concealed grid and no visible suspension details are required. The tiles are not demountable once fixed. The Ecophon Industry Ambit system consists of Ecophon Industry Ambit tiles and Connect Ambit fixing and is available in white as 1200 x 600mm lengths.

Industry RTP
Industry RTP is designed to be used when an impact resistant ceiling is needed in industrial premises. The system consists of Ecophon Industry RTP panels and Ecophon Connect grid system, with an approximate weight of 4-6 kg/m^2 depending on thickness. The visible surface is a perforated sheet metal facing on top of a black glass tissue. The perforated sheet metal facing is galvanized, but also available in white. The tiles are available in 30mm and 50mm thicknesses as 1200 x 600mm tiles, offering the opportunity to provide class A sound absorbtion with an impact resistant finish for harder wearing areas.

Products for hygiene applications
For projects where cleaning or hygiene factors are critically important, you may prefer to choose products from our Hygiene range, designed to meet the specific requirements of pharmaceutical, kitchen, healthcare and laboratory environments.

Contact us

for an optimal solution

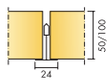
Many factors determine which system best meets the requirements and expectations for a specific room.

Many factors determine which system best meets the requirements and expectations for a specific room. These factors include the activities undertaken within the room, regulations, safety aspects and cleaning requirements. All these factors must be taken into account in an evaluation process. This is best done in consultation with Ecophon's representative to satisfy the specific needs of each individual industrial facility.

Visit our website to find out more about Ecophon and our acoustic solutions for industry. You will also find more technical information about our systems and a description of the standards we follow and the tests we have performed.

Please contact us for more details, visit www.ecophon.co.uk
or call +44 (0)1256 850977.

Ecophon Industry™ Modus

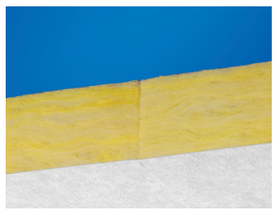


Suitable for noise reduction in industry premises, where different sizes and installation methods are required. Ecophon Industry Modus can be installed in exposed grid systems or with screw and washer.

The systems consist of Ecophon Industry Modus tiles and Ecophon Connect grid systems, with an approximate weight of 3-5 kg/m² depending on thickness. The tiles have a glass wool core utilizing the 3RD Technology. The visible surface is a batch painted glass tissue (S) and the back of the tile is covered with glass tissue. The edges are natural.

For best performance and system quality, use Ecophon Connect grid and accessories. The grid is manufactured from galvanized steel.

Industry Modus tile.



Section of Industry Modus system.

Section of Industry Modus TAL system.

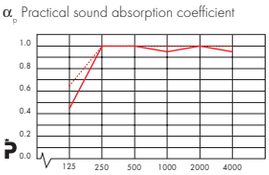
SYSTEM RANGE

Size, mm	1200 x 600	1200 x 1200
Direct	•	•
T24	•	•
Thickness	50	50
Inst. Diagr.	M22, M23, M44	M22, M23, M44

TECHNICAL PROPERTIES

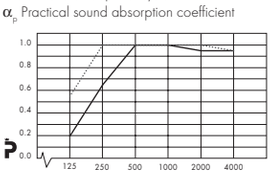
ACOUSTIC

α_p Practical sound absorption coefficient



— Ecophon Modus Industry 50 mm, 200 mm o.d.s.
· · · · Ecophon Modus Industry 100 mm, 200 mm o.d.s.
o.d.s = overall depth of system

α_p Practical sound absorption coefficient



– Ecophon Modus Industry 50 mm, 50 mm o.d.s.
···· Ecophon Modus Industry 100 mm, 100 mm o.d.s.
o.d.s = overall depth of system

Sound Absorption: Test results according to EN ISO 354.

Classification according to EN ISO 11654.

Sound Insulation: Not applicable.

Sound Privacy: Not applicable

Product	Industry Modus, 50 mm		Industry Modus, 100 mm	
o.d.s mm	50	200	100	200
absorption class	A	A	A	A
αw	0,95	1,00	1,00	1,00

ACCESSIBILITY The tiles are easily demountable. Minimum demounting depth according to installation diagrams.

CLEANABILITY Weekly dusting and vacuum cleaning

VISUAL APPEARANCE S White 190, nearest NCS colour sample S 0500-N, 80% light reflectance. S Grey 981, nearest NCS colour sample S 2502-Y, 45% light reflectance. S Black 970, nearest NCS colour sample S 8502-Y, 4% light reflectance. S Nature, 60% light reflectance. Slight colour differences can occur.

INFLUENCE OF CLIMATE The tiles withstand a permanent ambient RH up to 95% at 30°C without sagging, warping or delaminating (ISO 4611).

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

ENVIRONMENTAL INFLUENCE Glass wool core utilizing 3RD Technology. Fully recyclable.

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

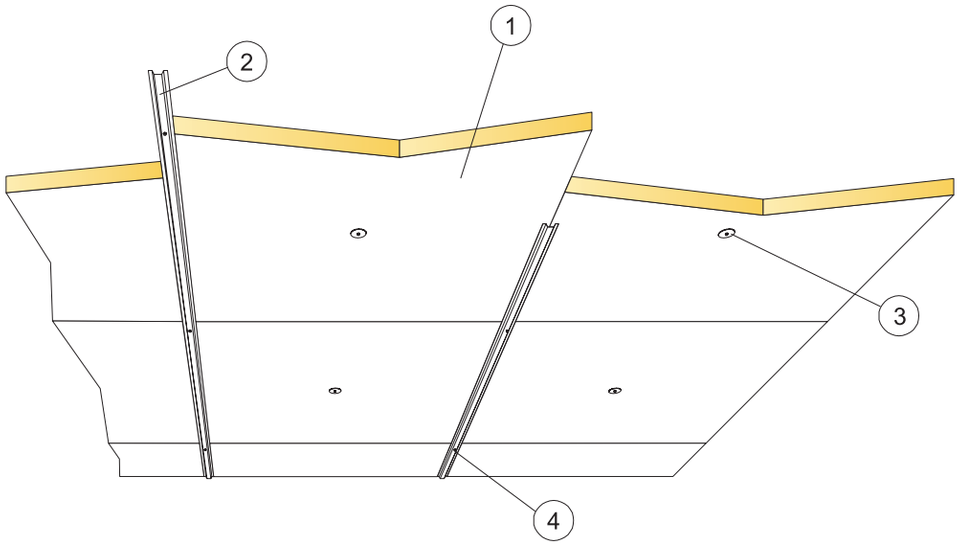
Reaction-to-fire classification

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

MECHANICAL PROPERTIES See table about Max live load and Min load bearing capacity and Functional demands, Mechanical properties at www.ecophon.com.

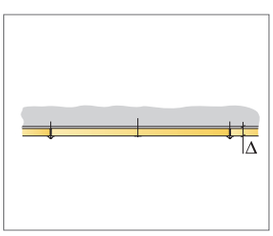
INSTALLATION Installed according to installation diagrams, installation guides and drawing aid. For information regarding minimum overall depth of system see quantity specification.

INSTALLATION DIAGRAM (M22) FOR ECOPHON MODUS WITH INLINE CARRIER

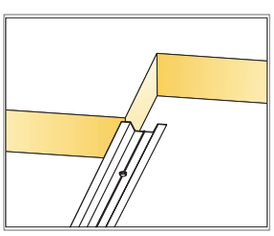


QUANTITY SPECIFICATION (EXCL. WASTAGE)

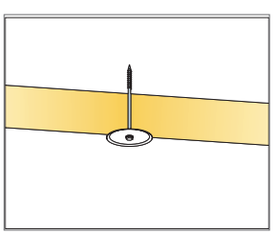
		Size, mm	
		1200x600	**1200x1200**
1	Industry Modus	1,4/m²	0,7/m²
2	Connect Inline carrier, installed at 1200 mm centres	0,9m/m²	0,9m/m²
3	Connect Screw (for light weight concrete or metal) and washer, installed 1 per panel	1,4/m²	0,7/m²
4	Connect Screw for metal or light weight concrete, installed 1000 mm centres	0,9/m²	0,9/m²
	Δ Min. overall depth of system: 50 or 100 mm	-	-
	δ Min. demounting depth: The system is non-demountable	-	-



See Quantity specification



Profiles support tiles in one direction



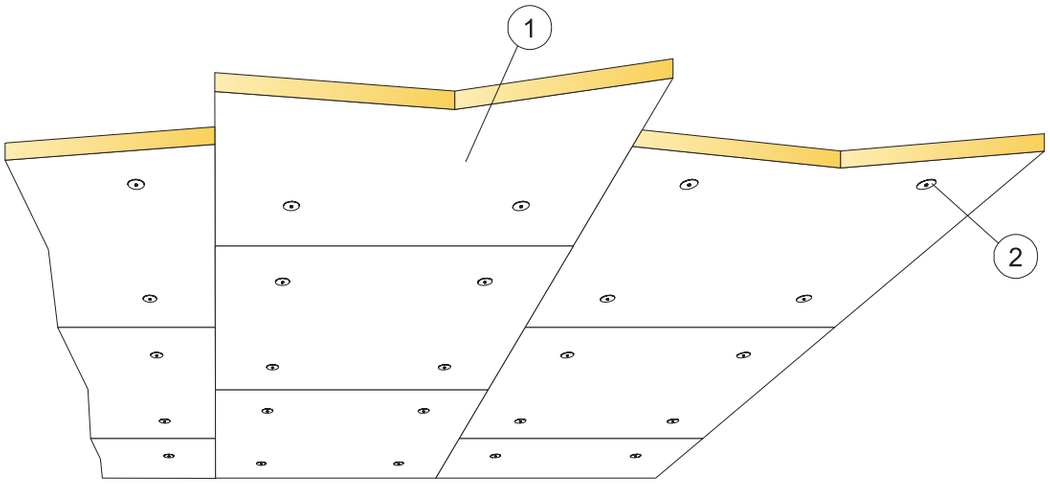
Screw and washer in centre of tiles

Size, mm	Max live load (N)	Min load bearing capacity (N)
1200x600	-	-
1200x1200	-	-

Live load/load bearing capacity

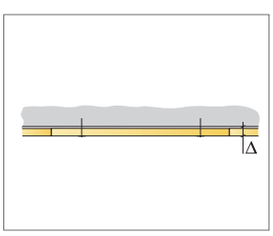
M23

INSTALLATION DIAGRAM (M23) FOR ECOPHON MODUS WITH SCREW AND WASHER

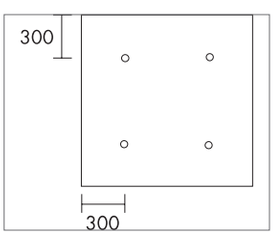


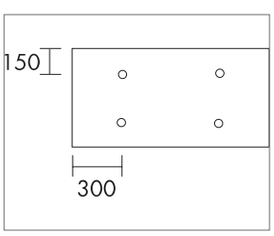
QUANTITY SPECIFICATION (EXCL. WASTAGE)

		Size, mm	
		1200x600	**1200x1200**
1	Industry Modus	1,4/m²	0,7/m²
2	Connect Screw (for light weight concrete or metal) and washer	5,6/m²	2,8/m²
	Δ Min. overall depth of system: 50 or 100 mm	-	-
	δ Min. demounting depth: The system is non-demountable	-	-



See Quantity specification

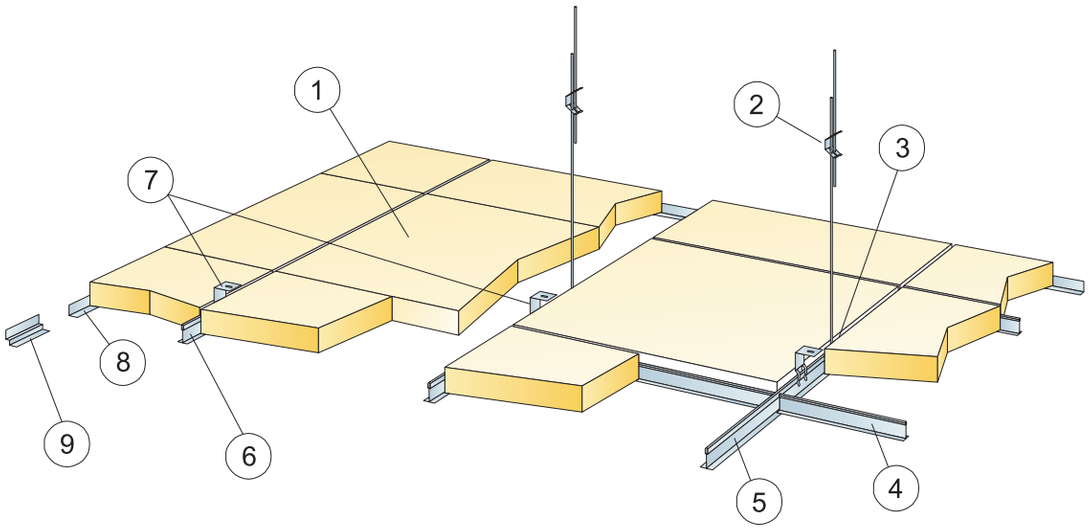




Size, mm	Max live load (N)	Min load bearing capacity (N)
1200x600	-	-
1200x1200	-	-

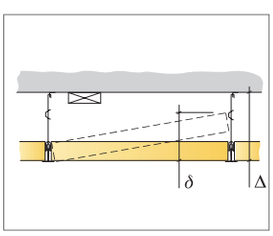
Live load/load bearing capacity

INSTALLATION DIAGRAM (M44) FOR ECOPHON INDUSTRY MODUS, 2- OR 4- SIDED SUPPORT

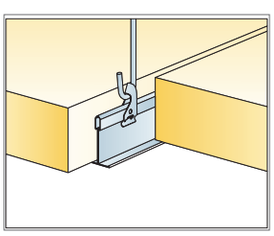


QUANTITY SPECIFICATION (EXCL. WASTAGE)

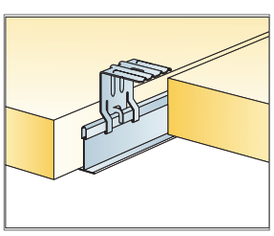
		Size, mm	
		1200x600	**1200x1200**
1	Industry Modus	1,4/m²	0,7/m²
2	Connect Adjustable hanger, installed at 1200 mm centres (only 4-sided support)	0,7/m²	0,7/m²
3	Connect Hanger clip	0,7/m²	0,7/m²
4	Connect T24 Cross tee, L=1200, installed at 1200 or 600 mm centres (only 4-sided support)	1,7m/m²	0,9m/m²
5	Connect T24 Main runner, installed at 1200 mm centres (only 4-sided support)	0,9m/m²	0,9m/m²
6	Connect T24 Main runner, installed at 1195 mm centres (only 2-sided support)	0,9m/m²	0,9m/m²
7	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
	Δ Min. overall depth of system: 50, 80 or 100 mm with Direct fixing bracket. 100 mm with Adjustable hanger.	-	-
	δ Min. demounting depth: 150 mm for 50 mm thickness. 250 mm for 100 mm thickness.	-	-



See Quantity specification



Suspension with adjustable hanger and clip

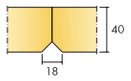


Suspension with direct bracket

Size, mm	Max live load (N)	Min load bearing capacity (N)
1200x600	40	160
1200x1200	40	160

Live load/load bearing capacity

Ecophon Industry™ Ambit

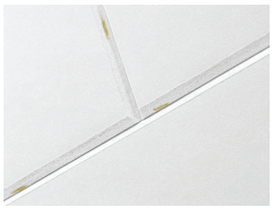


Suitable for noise reduction in industrial premises, where a concealed grid and no visible suspension details are required. The tiles are not demountable.

The Ecophon Industry Ambit system consists of Ecophon Industry Ambit tiles and Connect Ambit fixing, with an approximate weight of 3 kg/m². The tiles have a glass wool core utilizing the 3RD Technology. The visible surface is a batch painted glass tissue in white and the back of the tile is covered with glass tissue. The edges are primed.

Industry Ambit tile.

Section of Industry Ambit system.



Industry Ambit system.

SYSTEM RANGE

Size, mm	1200 × 600
Direct	•
Thickness	40
Inst. Diagr.	M40

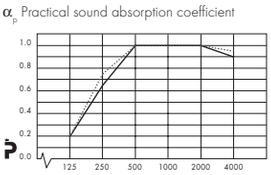
TECHNICAL PROPERTIES

ACOUSTIC

Sound Absorption: Test results according to EN ISO 354.

Classification according to EN ISO 11654.

α_p Practical sound absorption coefficient



Frequency Hz

– Ecophon Industry Ambit 40 mm o.d.s.
···· Ecophon Industry Ambit 60 mm o.d.s.
o.d.s = overall depth of system

Product	Industry Ambit	
o.d.s mm	40	60
absorption class	A	A
α_w	0,95	1,00

Sound Insulation: Not applicable.

Sound Privacy: Not applicable

ACCESSIBILITY The tiles are not demountable.

CLEANABILITY Weekly dusting and vacuum cleaning.

VISUAL APPEARANCE White 190, nearest NCS colour sample S 0500-N, 80% light reflectance. Since the product has a coloured glassfelt as a surface, it can appear mottled, specially with indirect lighting. Slight colour differences can occur.

INFLUENCE OF CLIMATE The tiles withstand a permanent ambient RH up to 95% at 30°C without sagging, warping or delaminating (ISO 4611).

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

ENVIRONMENTAL INFLUENCE Glass wool core utilising 3RD Technology. Granted the Nordic Swan eco-label. Fully recyclable.

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

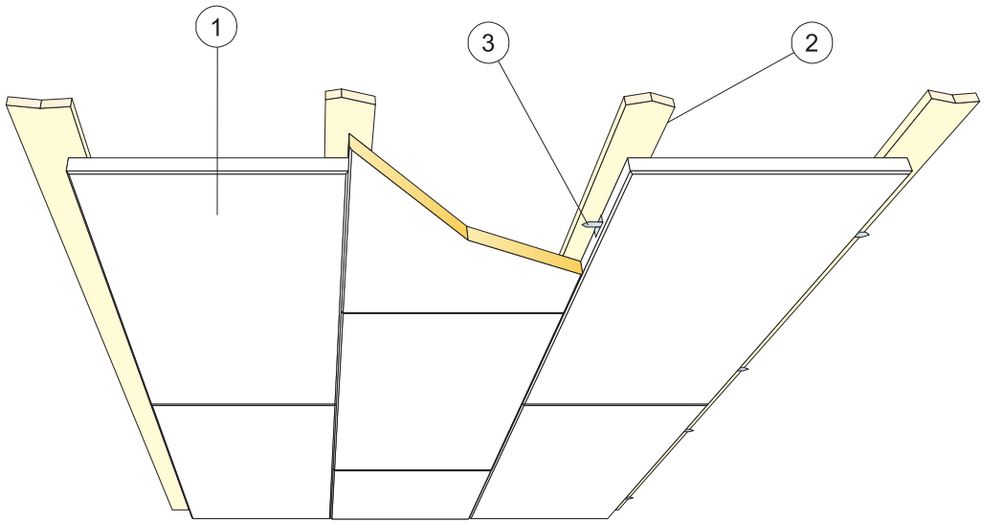
Reaction-to-fire classification

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

MECHANICAL PROPERTIES Additional live load has to be fixed to the soffit.

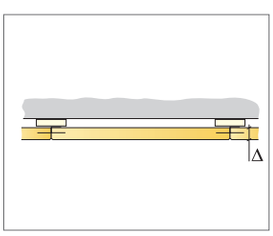
INSTALLATION Installed according to installation diagrams, installation guides and drawing aid. For information regarding minimum overall depth of system see quantity specification.

INSTALLATION DIAGRAM (M40) FOR ECOPHON INDUSTRY AMBIT

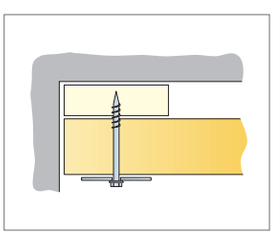


QUANTITY SPECIFICATION (EXCL. WASTAGE)

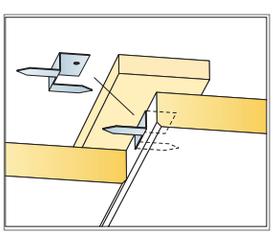
		Size, mm
		1200x600
1	Industry Ambit	1,4/m²
2	Timber batten	as required
3	Connect Ambit fixing	2,8/m²
	Δ Min. overall depth of system: 40 mm	-
	δ Min. demounting depth: The system is non-demountable	-



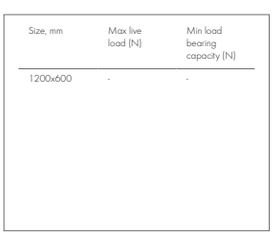
See Quantity specification



Installation on timber batten with screw and washer



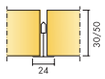
Installation with Connect Ambit fixing



Size, mm	Max live load (N)	Min load bearing capacity (N)
1200x600	-	-

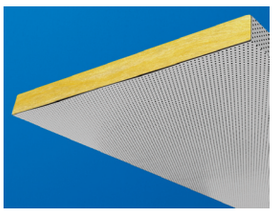
Live load/load bearing capacity

Ecophon Industry™ RTP

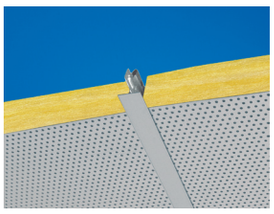


Suitable for noise reduction in industrial premises, where an impact resistant ceiling is needed. The system consists of Ecophon Industry RTP panels and Ecophon Connect grid system, with an approximate weight of 4-6 kg/m² depending on thickness. The panels have a glass wool core. The visible surface is a perforated sheet metal facing (Ø3 mm hole diameter, 15% perforated area) on top of a black glass tissue. The metal facing is bent around the long edges of the panels and overlaps the back surface. All edges are primed in black. The perforated sheet metal facing is galvanized, but also available in white.

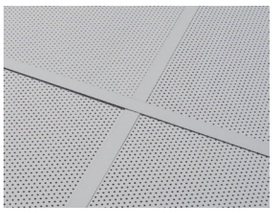
For best performance and system quality, use Ecophon Connect grid and accessories. The grid is manufactured from galvanized steel.



Industry RTP panel.



Section of Industry RTP system.



Industry RTP system.

SYSTEM RANGE

Size, mm	1200 x 600	1200 x 600
T24	•	•
Thickness	30	50
Inst. Diagr.	M172	M172

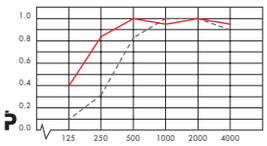
TECHNICAL PROPERTIES

ACOUSTIC

Sound Absorption: Test results according to EN ISO 354.

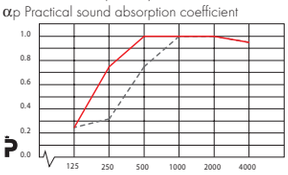
Classification according to EN ISO 11654.

α_p Practical sound absorption coefficient



— Ecophon Industry RTP 30 mm, 200 mm o.d.s.
– Ecophon Industry RTP 30 mm, 30 mm o.d.s.
o.d.s = overall depth of system

αp Practical sound absorption coefficient



— Ecophon Industry RTP 50 mm, 200 mm o.d.s.
– Ecophon Industry RTP 50 mm, 50 mm o.d.s.
o.d.s = overall depth of system

Product	Industry RTP, 30 mm		Industry RTP, 50 mm	
o.d.s mm	30	200	50	200
absorption class	C	A	A	A
αw	0,65	1,00	1,00	1,00

Sound Insulation: Not applicable.

Sound Privacy: Not applicable

ACCESSIBILITY The tiles are easily demountable. Minimum demounting depth according to installation diagrams.

CLEANABILITY Weekly dusting and vacuum cleaning.

VISUAL APPEARANCE Galvanized 189, 55% light reflectance, White 170, 65% light reflectance.

INFLUENCE OF CLIMATE The tiles withstand a permanent ambient RH up to 75% at 30°C without sagging, warping or delaminating (ISO 4611).

ENVIRONMENTAL INFLUENCE Fully recyclable

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

Reaction-to-fire classification

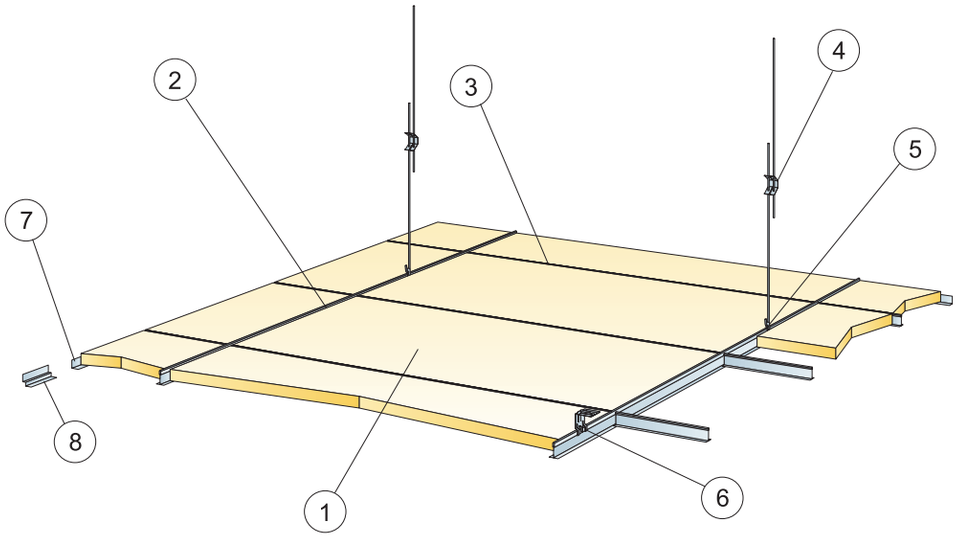
Country	Standard	Class
Europe	EN 13501-1	A2-s1,d0

MECHANICAL PROPERTIES See table about Max live load and Min load bearing capacity and Functional demands, Mechanical properties at www.ecophon.com.

INSTALLATION Installed according to installation diagrams, installation guides and drawing aid. For information regarding minimum overall depth of system see quantity specification.

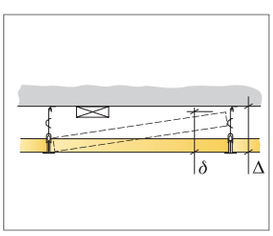
M172

INSTALLATION DIAGRAM (M172) FOR ECOPHON INDUSTRY RTP.

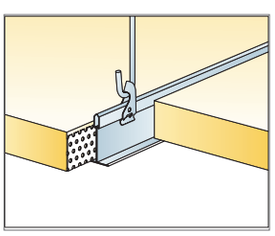


QUANTITY SPECIFICATION (EXCL. WASTAGE)

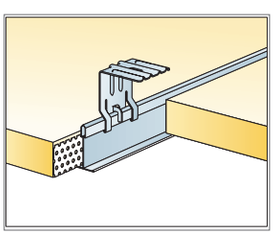
		Size, mm
		1200x600
1	Industry RTP	1,4/m²
2	Connect T24 Main runner, installed at 1200 mm centres (max. distance from wall 600 mm, can be extended up to 1200 mm if no live load between Main runner and wall).	0,9m/m²
3	Connect T24 Cross tee, L=1200 mm, installed at 600 mm centres	1,7m/m²
4	Connect Adjustable hanger, installed at 1200 mm centres (max. distance from wall 600 mm)	0,7/m²
5	Connect Hanger clip	0,7/m²
6	For direct installation: Connect Direct bracket, installed at 1200 mm centres	0,7/m²
7	Connect Angle trim, fixed at 300 mm centres	as required
8	Connect Shadow-line trim, fixed at 300 mm centres	as required
	Δ Min. overall depth of system, with Adjustable hanger: 100 mm, with Direct bracket 50 mm	-
	δ Min. demounting depth: 170 mm (30 mm thickness), 220 mm (50 mm thickness)	-



See Quantity specification



Suspension with adjustable hanger and clip



Suspension with Direct bracket

Size, mm	Max live load (N)	Min load bearing capacity (N)
1200x600	30	160

Live load/load bearing capacity


STILL

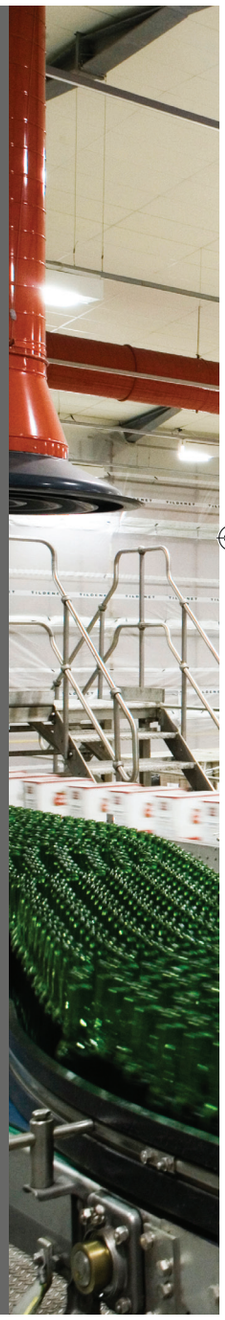
Ecophon®

A SOUND EFFECT ON PEOPLE

Ecophon dates back to 1958, when the first sound absorbers from glass wool were produced in Sweden to improve the acoustic working environment. Today the company is a global supplier of acoustic systems that contribute to good room acoustics and a healthy indoor environment with the focus on offices, education, health care and industrial manufacturing premises. Ecophon is part of the Saint-Gobain Group and has sales units and distributors in many countries.

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

www.ecophon.co.uk



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