

# Ecophon Focus™ Lp

**gives the ceiling direction**



**Ecophon®**

A SOUND EFFECT ON PEOPLE

# Organise the ceiling

## with distinct installation fields

*As an architect situations sometimes occur where the initial design intention has to take second place to technical installations in the ceiling such as ventilation and luminaires.*

*However, Ecophon's new Focus™ Lp solution lets you, the architect, reclaim this aspect of the design and give the ceiling the direction you strive for without compromise.*

Ecophon Focus™ Lp is a ceiling system developed with the aim of giving architects more control in the design process of open plan offices and other open plan solutions. One of the advantages is that it makes it possible to highlight one direction: *the linear direction.*

### **A versatile system solution**

The Focus Lp system not only includes standard tiles but also specially designed tiles in different sizes for technical installations such as luminaires and ventilation grilles. By using the Technical tiles for these kinds of installations it is possible to also place these in lines, thus giving the ceiling a striking linear appearance.

### **A sound working environment**

It is Ecophon's aim to help create agreeable indoor environments, pleasing to the eye, the ear and for the mind. In the case of Focus Lp, the combination of a versatile, high precision tile with the unique Akutex™ FT surface gives you as an architect the tools to create a smooth and acoustically optimal working environment in line with Ecophon's concept, Room Acoustic Comfort™. This is a concept that takes into account people and their activities in the room acoustic design process in order to provide the optimal environment.

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

© Ecophon Group 2010  
Idea and layout: Saint-Gobain Ecophon AB. Printer: Skånetryck AB. Cover: Patrick Klemm, Partone. Photo page 5: Patrick Klemm, Partone. Page 9: Szymon Polanski. Technical photos page 10, Studiare. Page 14 Patrick Klemm, Partone. Technical illustrations: 3D Bild/Mats Paulsson.



# The ingenuity of the Ecophon Focus™ Lp edge

*Developing ingenious solutions is teamwork, although somebody must start to think about the shape, structure and the details of a product. Combining these criteria with a concept that also incorporates technical features and design values is a challenging process. The latest result of this process is the Ecophon Focus™ Lp system! A system that opens up several possibilities for you as an architect to make your mark on the ceiling.*

## Play with perspective

The idea behind the Focus Lp system is to give the possibility of highlighting one linear direction in a room whilst camouflaging the other, without compromising on the room acoustic comfort. By highlighting one linear direction the finished result will make the room appear either longer or wider depending on the direction from which it is viewed.

## Organise installations

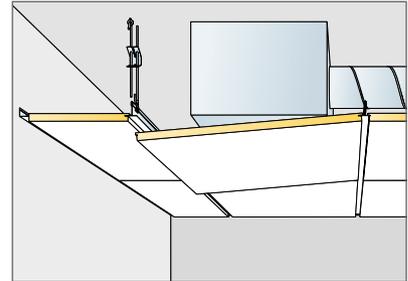
Focus Lp makes it possible to organise and control the placement of additional installations. This is done using the Focus Lp Technical tiles. By installing Technical tiles the architect can decide upon this aspect of the visual end result as well.

## Enables a low overall depth of system

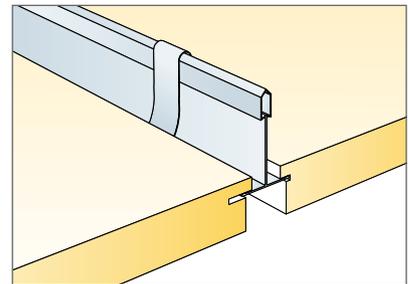
Focus Lp tiles can be mounted and demounted from below which makes it possible to install the ceiling system close to the wiring and ductwork in the plenum. This optimises the acoustic environment in the room.

## A secure line

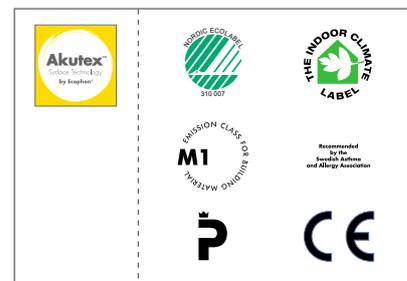
The Focus Lp system is a solution where each side of the tile is fixed in grooves. The tiles are then held in place using spring clips making the installation stable.



Focus Lp tiles can be mounted and demounted from below which makes it possible to install the ceiling system close to the wiring and ductwork in the plenum.



The Focus Lp system is a solution where each side of the tile is fixed in grooves. The tiles are then held in place using spring clips making it a stable solution.



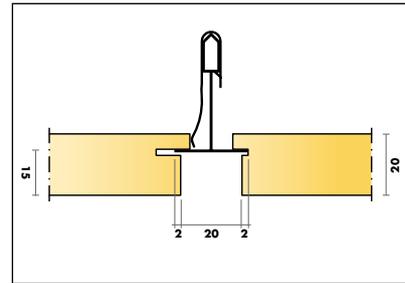
A good indoor climate has a significant impact on people's health and working capacities. Above is some of the ecolabels and marks of quality that have been granted Focus Lp.

## A smooth appearance

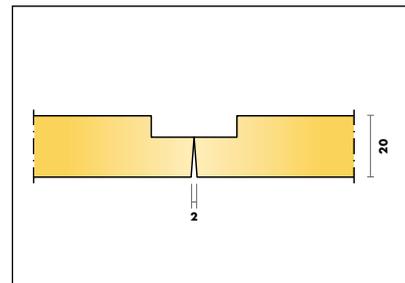
A key factor behind the smooth and linear appearance of the Focus Lp system lies in the edge design.

The long edge of the Focus Lp tile is the only part where the grid profile is visible. The short edge tiles butt together leaving a 2 mm gap. This is what makes the finished installation of the ceiling appear smooth and distinct. It is one of the key factors behind the linear appearance.

The design of the Focus Lp short edge side is straight, like those on the long side. The Focus Lp doesn't have beveled edges, because the light will be reflected on the facet that captures the light. By designing the edges straight it is possible to camouflage them. It is also possible to cut the tiles on site with a straight cut if necessary.



Detail Focus Lp long edge.



Detail Focus Lp short edge.



Thanks to the different designs of the Focus Lp edges this smooth appearance is guaranteed.

# Create your linear ceiling

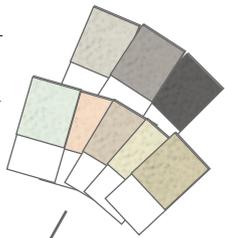
with **Ecophon Focus™ Lp**



*Ecophon Focus™ Lp not only gives direction to the room. The flexibility of the system also lies in the possibility to use different size of tiles and colours. It's a system that gives you additional possibilities to organize the technical installations within the ceiling.*

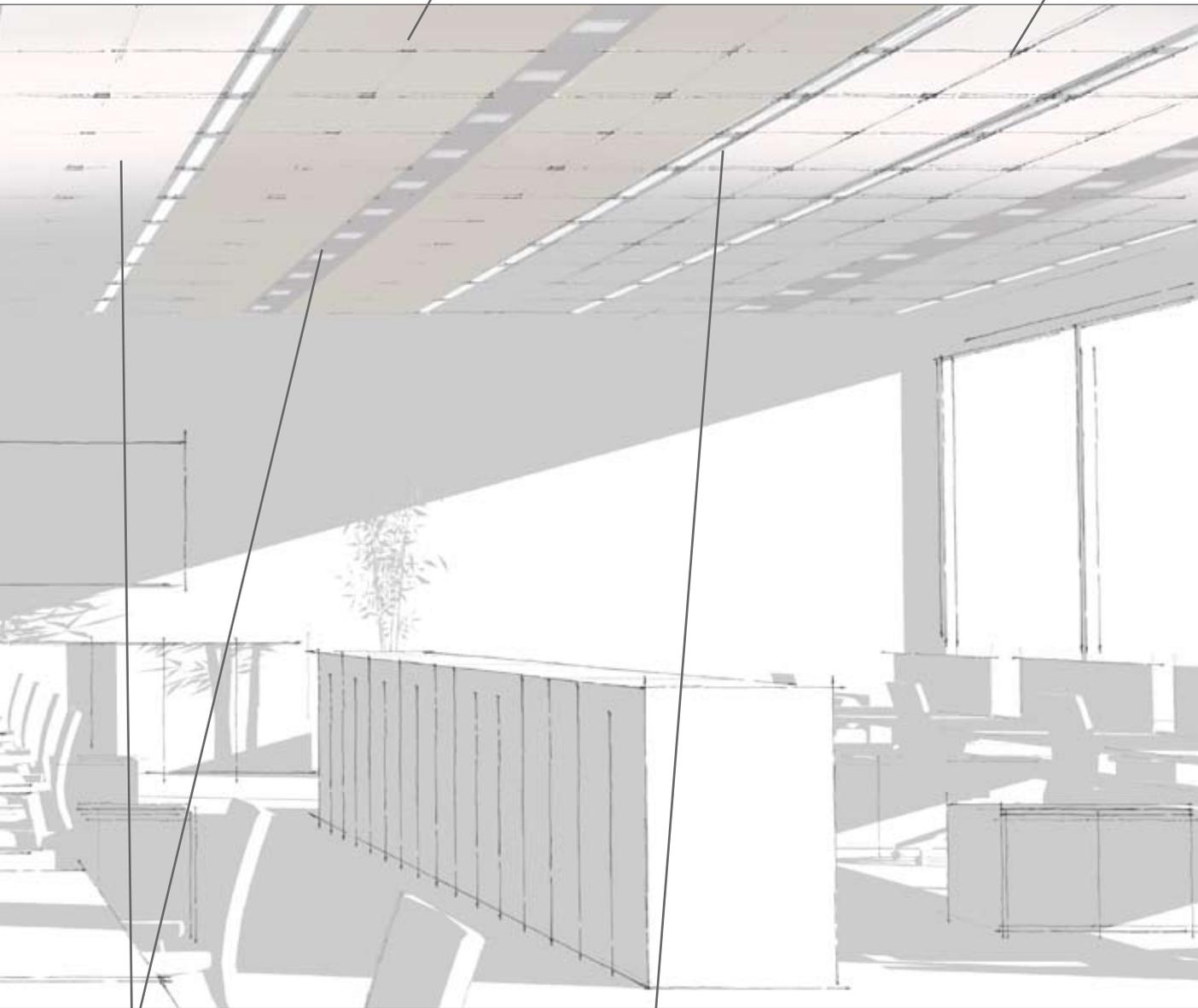
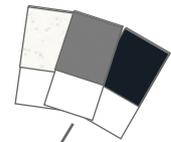
*For ideas and inspiration, visit our website,  
[www.ecophon.com/lp](http://www.ecophon.com/lp)*

**Colours** All tiles are available in 8 standard colours from the Akutex™ FT colour collection *Reveal the colours of nature.* For further information visit [www.ecophon.com/akutexft](http://www.ecophon.com/akutexft)



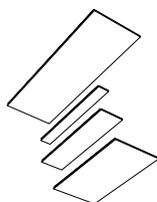
**Ecophon Connect™ grids**

Connect grids are available in 3 standard colours. The ULTRA MATT BLACK system can be used to create contrast, whereas the GREY RAL 9006 system can be used as an expressive ingredient in the ceiling. The WHITE 010 system can be used to give a distinct end result. Visit [www.ecophon.com/gridcolours](http://www.ecophon.com/gridcolours) for more information.



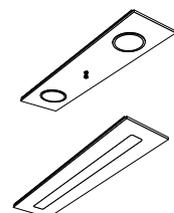
**Different size combinations**

There are two types of Focus Lp system, standard tiles and technical tiles. Standard tiles are available in different lengths and technical tiles are available in different lengths and widths allowing various patterns to be made.



**Technical installations in Focus Lp**

The Focus Lp Technical tiles are suitable for use with a wide range of luminaires and other types of technical installation. For example Ecophon Line™.



# Ecophon Focus™ Lp

**- compatible with other installations**

*Focus Lp gives you the key to organising a wide variety of technical installations and luminaires in the ceiling. This is because the system makes it possible to integrate both standard luminaires and technical installations as well as more specific solutions.*

## **Ecophon Focus™ Lp Technical tiles**

Ecophon Focus Lp is a system that allows you to incorporate additional installations in the ceiling in a practical and logical manner. Thanks to its specially developed Technical tiles it is easy to organise the complete installation from ceiling tile to additional technical installations.

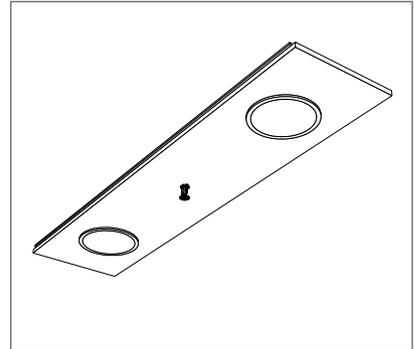
The Technical tiles come in 150, 300 and 600 mm widths and can easily be combined with installations such as sprinklers, smoke detectors, alarms, luminaires etc. By organising the technical installations in specific lines it is possible to make the ceiling appear organised and structured.

The Focus Lp system enables the use of standard luminaires and ventilation components, in module widths 150, 300 and 600 mm. This gives the architect additional options concerning the technical features that can be integrated. Within the system it is possible to prepare the Technical tiles with holes for additional installations.

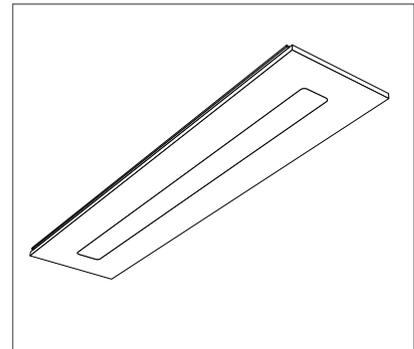
## **Ecophon Line™**

Ecophon Line is one of Ecophon's luminaires that can successfully be installed. It is a luminaire designed to achieve an exciting lighting effect and is suitable for various applications and environments. It works well in open plan solutions such as corridors, lunch areas, conference and meeting areas and for highlighting functional areas.

Line can be fully integrated in both the 150 mm and 300 mm widths of Focus Lp system. This makes it possible to create special lines for armatures which in turn helps give the ceiling a more structured appearance. The high level of output and Line being a fully integrated luminaire makes it a good choice in combination with Focus Lp.



The Technical tiles come in sizes of 150, 300 and 600 mm width. They can be used to install items such as sprinklers, spotlights, smoke detectors etc.



Ecophon Line™ is a luminaire integrated into an acoustic ceiling. Above is an illustration of Line with Focus Lp. Line consists of a luminaire housing and a frosted PET louvre. The system is patented in Sweden and is patent pending internationally.



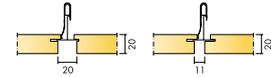


# ECOPHON FOCUS™ Lp

Ecophon Focus Lp has a semi-concealed grid system and is used for highlighting direction in a room. There is a wide gap between the tiles in the emphasized direction and narrow gap in the other. The edges are sharp and well defined. The system consists of standard Focus Lp tiles in 600 mm width and Focus Lp Technical tiles in widths of 150, 300 and 600 mm.

The tiles are manufactured from high density glass wool. The visible surface is Akutex FT and the edges are painted. The Technical tiles are used to create areas for technical installations such as luminaires, ventilation, sprinklers, smoke detectors, loudspeakers etc. The exact width (148, 298 or 598 mm) is adopted to suit the standard sizes of luminaires on the market.

The tiles have grooves in the supporting edges with a spring clip positioning the tile. Tiles are demounted by pushing the tile horizontally towards the spring clip and releasing one side downwards. The tiles and Connect grid have an approximate system weight of 3-4 kg/m<sup>2</sup>. The grid is manufactured from galvanized steel. For best performance and system quality, use Ecophon Connect grid and accessories.



Focus Lp tile



Section of Focus Lp system



Focus Lp system



Demounting of tile

## SYSTEM RANGE

Size, mm	600 x 150	600 x 300	600 x 600	1200 X 150	1200 X 300	1200 X 600	1800 X 600
T24	•	•	•	•	•	•	•
Thickness	20	20	20	20	20	20	20
Inst. diag.	M279	M279	M278, M279	M279	M279	M278, M279	M278

## TECHNICAL PROPERTIES

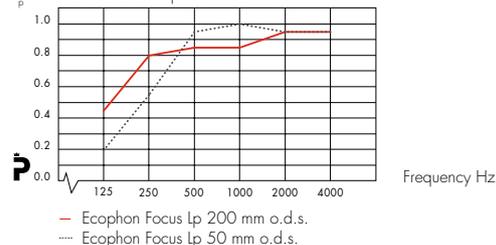


### ACOUSTIC

SOUND ABSORPTION Test results according to EN ISO 354.

o.d.s = overall depth of system

$\alpha_p$  Practical sound absorption coefficient



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

Product	Focus Lp		
	o.d.s mm	60	75 200
Absorption class		B	A A

Sound Insulation  $D_{n,f,w}$ =24 dB according to ISO 10848-2 and evaluation according to EN ISO 717-1. CAC=25 dB according to ASTM E 1414 and evaluation according to ASTM E 413.

Sound Privacy AC(1.5)=180 according to ASTM E 1111 and E 1110.



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



**CLEANABILITY** Daily dusting and vacuum cleaning. Weekly wet wiping.



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



**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, recommended by the Swedish Asthma and Allergy Association, and can be used in rooms classified as ISO class 6/M3.5.



**ENVIRONMENTAL INFLUENCE** 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. See Functional demands, Fire safety.

Reaction-to-fire classification

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

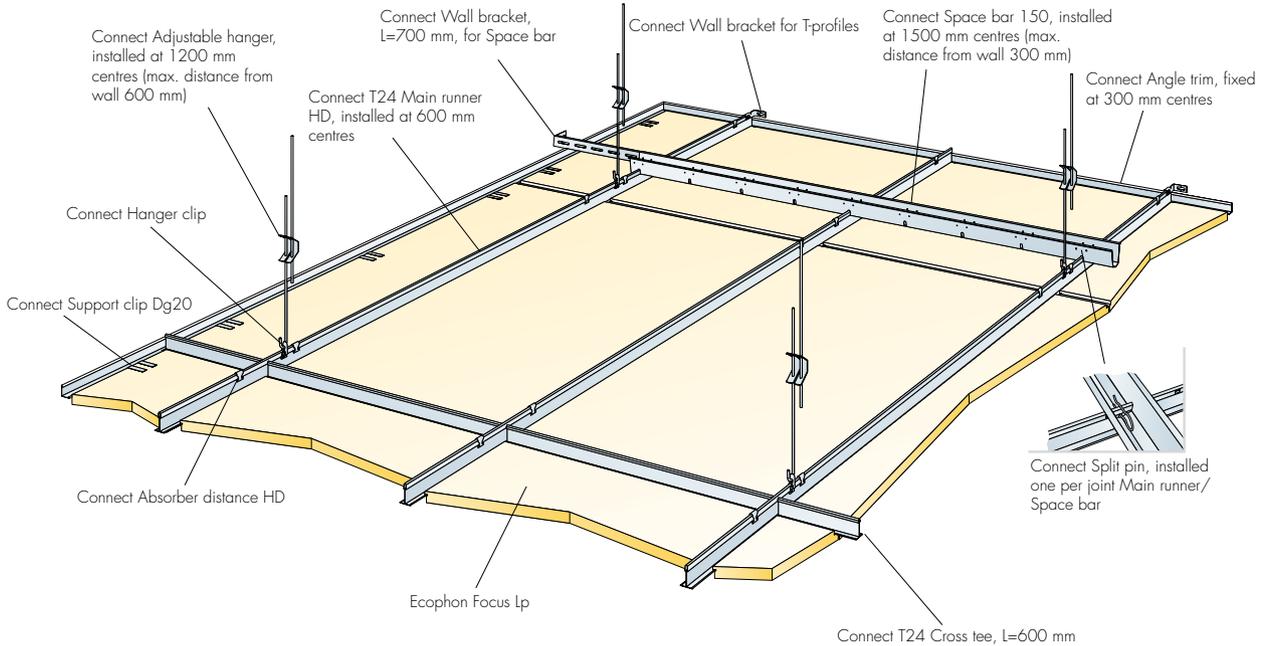


**MECHANICAL PROPERTIES** For the Technical tiles installed according to M279 there is a load bearing capacity of 100 N for each Main runner HD per 1200 mm. This gives a total load capacity of 200 N for a load evenly distributed on two Main runners.



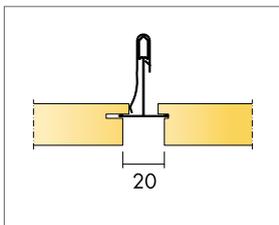
**INSTALLATION** Installed according to system range which include information regarding minimum overall depth of system.

INSTALLATION DIAGRAM (M278) FOR FOCUS Lp

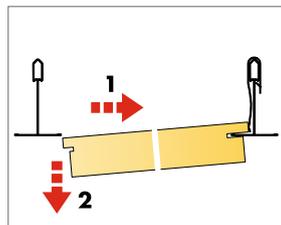


QUANTITY SPECIFICATION (EXCL. WASTAGE)

	Size, mm		
	600x600	1200x600	1800x600
Ecophon Focus Lp	2,8/m <sup>2</sup>	1,4/m <sup>2</sup>	0,95/m <sup>2</sup>
Connect T24 Main runner HD, installed at 600 mm centres	1,7m/m <sup>2</sup>	1,7m/m <sup>2</sup>	1,7m/m <sup>2</sup>
Connect T24 Cross tee, L=600 mm	2 per row of Main runner	2 per row of Main runner	2 per row of Main runner
Connect Space bar 150, installed at 1500 mm centres (max. distance from wall 300 mm)	0,7m/m <sup>2</sup>	0,7m/m <sup>2</sup>	0,7m/m <sup>2</sup>
Connect Split pin, installed one per joint Main runner/Space bar	1,1/m <sup>2</sup>	1,1/m <sup>2</sup>	1,1/m <sup>2</sup>
Connect Wall bracket, L=700 mm, for Space bar	1 for every row of Space bar	1 for every row of Space bar	1 for every row of Space bar
Connect Wall bracket for T-profiles	1 for every row of suspended Main runner HD	1 for every row of suspended Main runner HD	1 for every row of suspended Main runner HD
Connect Absorber distance HD	5,6/m <sup>2</sup> (2/tile)	2,8/m <sup>2</sup> (2/tile)	1,9/m <sup>2</sup> (2/tile)
Connect Adjustable hanger, installed at 1200 mm centres (max. distance from wall 600 mm)	0,7/m <sup>2</sup>	0,7/m <sup>2</sup>	0,7/m <sup>2</sup>
Connect Hanger clip	0,7/m <sup>2</sup>	0,7/m <sup>2</sup>	0,7/m <sup>2</sup>
Connect Support clip Dg20	2 per perimeter tile, cut on the long side	3 per perimeter tile, cut on the long side	4 per perimeter tile, cut on the long side
Connect Angle trim, fixed at 300 mm centres	as required	as required	as required



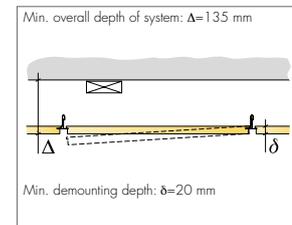
Distance between Focus Lp tiles



Demounting of tile

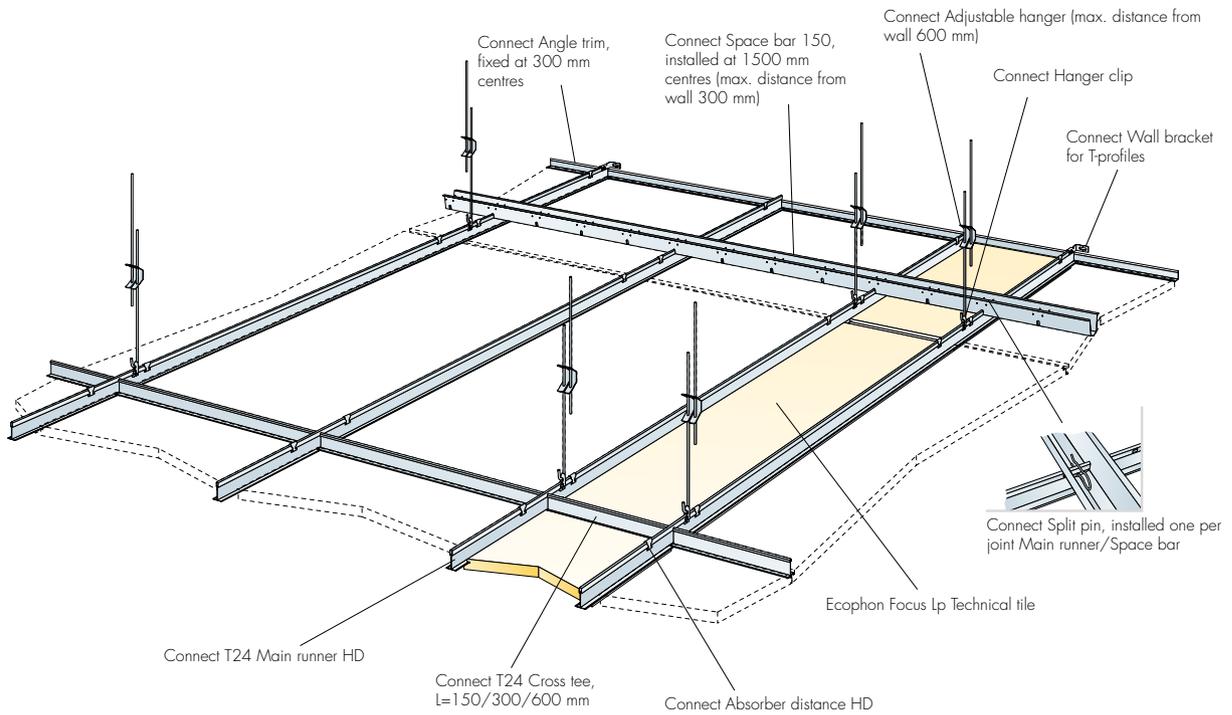
Size (mm)	Max live load (N)	Min load bearing capacity (N)
600x600	50	160
1200x600	50	160
1800x600	50	160

Live load/load bearing capacity



Min. demounting depth: δ=20 mm

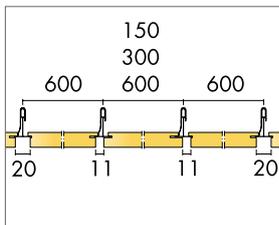
INSTALLATION DIAGRAM (M279) FOR FOCUS Lp TECHNICAL TILE



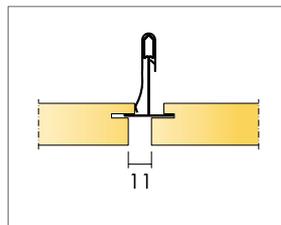
QUANTITY SPECIFICATION (EXCL. WASTAGE)

The area in quantity specification for M279 refers to the installation area between the two suspended Main runners. Maximum two rows of Technical tiles can be installed next to each other.

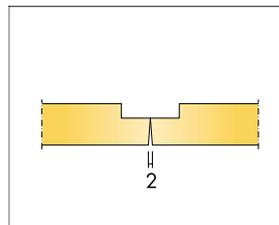
	Size, mm					
	600x150	600x300	600x600	1200x150	1200x300	1200x600
Ecophon Focus Lp Technical tile	11,1/m <sup>2</sup>	5,55/m <sup>2</sup>	2,8/m <sup>2</sup>	5,6/m <sup>2</sup>	2,8/m <sup>2</sup>	1,4/m <sup>2</sup>
Connect T24 Main runner HD	13,3m/m <sup>2</sup>	6,7m/m <sup>2</sup>	3,3m/m <sup>2</sup>	13,3m/m <sup>2</sup>	6,7m/m <sup>2</sup>	3,3m/m <sup>2</sup>
Connect T24 Cross tee, L=150/300/600 mm	as required					
Connect Space bar 150, installed at 1500 mm centres (max. distance from wall 300 mm)	0,7m/m <sup>2</sup>	0,3m/m <sup>2</sup>	0,2m/m <sup>2</sup>	0,7m/m <sup>2</sup>	0,3m/m <sup>2</sup>	0,2m/m <sup>2</sup>
Connect Split pin, installed one per joint Main runner/Space bar	8,9/m <sup>2</sup>	4,4/m <sup>2</sup>	2,2/m <sup>2</sup>	8,9/m <sup>2</sup>	4,4/m <sup>2</sup>	2,2/m <sup>2</sup>
Connect Wall bracket for T-profiles	1 per row of Main runner					
Connect Absorber distance HD	22,2/m <sup>2</sup>	11,1/m <sup>2</sup>	5,6/m <sup>2</sup>	11,1/m <sup>2</sup>	5,6/m <sup>2</sup>	2,8/m <sup>2</sup>
Connect Adjustable hanger (max. distance from wall 600 mm)	11,1/m <sup>2</sup>	5,6/m <sup>2</sup>	2,8/m <sup>2</sup>	11,1/m <sup>2</sup>	5,6/m <sup>2</sup>	2,8/m <sup>2</sup>
Connect Hanger clip	11,1/m <sup>2</sup>	5,6/m <sup>2</sup>	2,8/m <sup>2</sup>	11,1/m <sup>2</sup>	5,6/m <sup>2</sup>	2,8/m <sup>2</sup>
Connect Angle trim, fixed at 300 mm centres	as required					



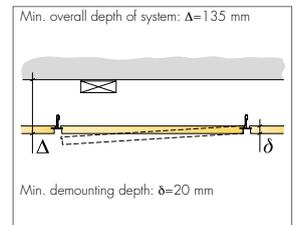
Distance between tiles overview



Distance between Focus Lp and Focus Lp Technical tile



Non-supported edges meeting with space for cross-tee.



Min. overall depth of system: Δ=135 mm

Min. demounting depth: δ=20 mm

# LOAD-BEARING CAPACITY

As an architect, the Focus Lp system lets you choose how additional installations should be installed. This mainly applies to determining the exact positions of installations and considering load-bearing capacity and other restrictions.

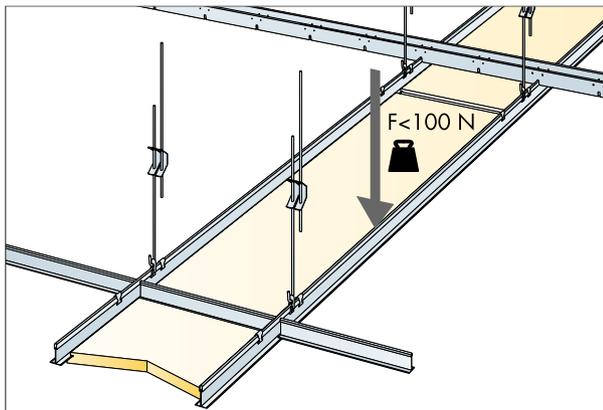
## Load on the grid

The grid profiles and hangers provide the load bearing capacity and strength of the ceiling. Maximum allowable load can only be applied if the ceiling is complete and has been installed in accordance with the installation diagram.

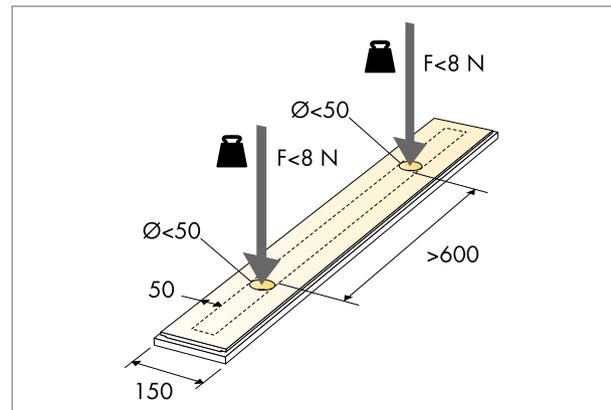
When a profile is loaded off-centre there is a risk for torsion of the profile. Centred loading of the profile is therefore always recommended to achieve the best result. Loads from installations in the Focus Lp Technical tiles should be transferred to both profiles to get an even distribution of the load.

## Load on the tile

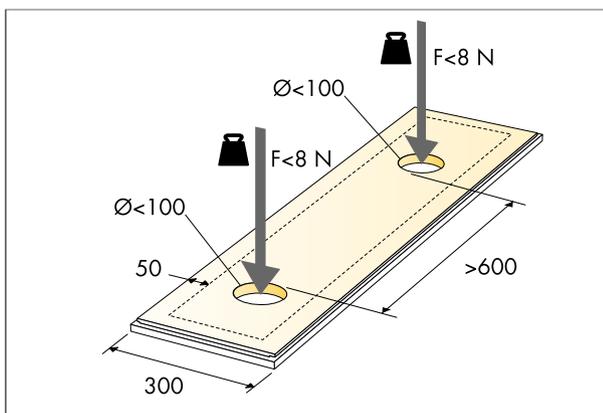
The general rule is that loads must not be imposed on the absorbers. Light fittings, ventilation components etc, should be supported by the suspension system or are to be hung directly from the soffit. However, Ecophon tiles from the Focus Lp system can take small loads according to the following sketches.



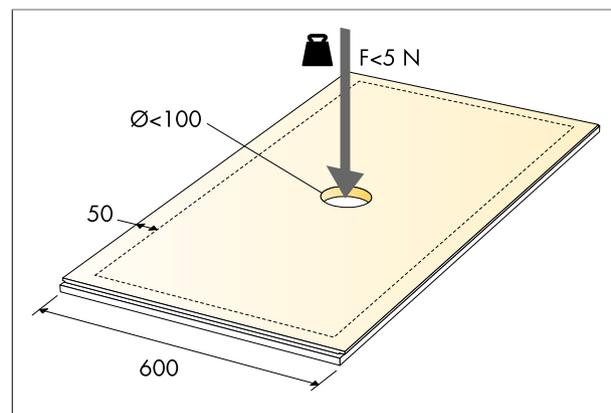
Maximum load on one Main runner. Distance between hangers lengthwise 1200 mm.



Load and hole cutting limits for a 150 mm wide Focus Lp Technical tile.



Load and hole cutting limits for a 300 mm wide Focus Lp Technical tile.



Load and hole cutting limits for a 600 mm wide Focus Lp Technical or regular Focus Lp tile.



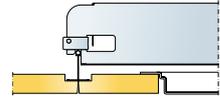
# ECOPHON LINE™

Ecophon Line is a fully integrated luminaire, developed for several Focus ceiling systems.

A luminaire suitable for various applications; work places for open-plan solutions, walkways or highlighting functional areas. But also for situations like lunch areas or restrooms, conference and meeting areas etc. The high level of output and the fully integrated solution give a distinctive expression to the whole ceiling.

Ecophon Line for Focus Lp is available in 150 and 300 mm width and can be used to create a special line for luminaires and achieve a more structured ceiling layout.

The lower part of the luminaire is easily demountable. Ecophon Line consists of a luminaire housing and a frosted PET louvre integrated in an Ecophon Focus tile. Each luminaire weighs approximately 2.5 kg. The system is patented in Sweden and International patent pending.



Ecophon Line Lp tile



Ecophon Line Lp section



Ecophon Line Lp system

## SYSTEM RANGE

Size, mm	1200 x 150	1200 x 300
T24	•	•
Thickness	20	20
Inst. diag.	M280	M280

## TECHNICAL PROPERTIES

**ELECTRICAL DATA** 230-240 V, 50 Hz, power factor  $\cos \varphi > 0,9$ . Electronic HF ballast or electronic HF dim ballast for digital regulation. Light source (not included): T5, 28W. Also available as emergency light, with a battery pack for one hour.

**CONNECTION** Luminaire with electronic HF ballast delivered with 2,5 metres of cable 3x1,0mm<sup>2</sup> and plug. Luminaire with electronic HF dim ballast delivered without cable.

**APPROVALS** IP20, Class 1. CE

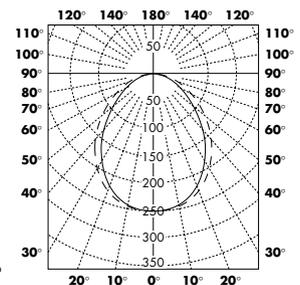
**ACCESSIBILITY** The tiles are easily demountable. Minimum demounting depth according to installation diagrams.

**CLEANABILITY** Daily dusting and vacuum cleaning. Weekly wet wiping.

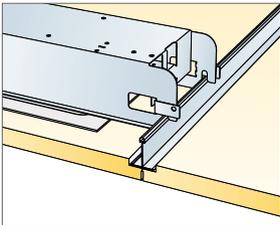
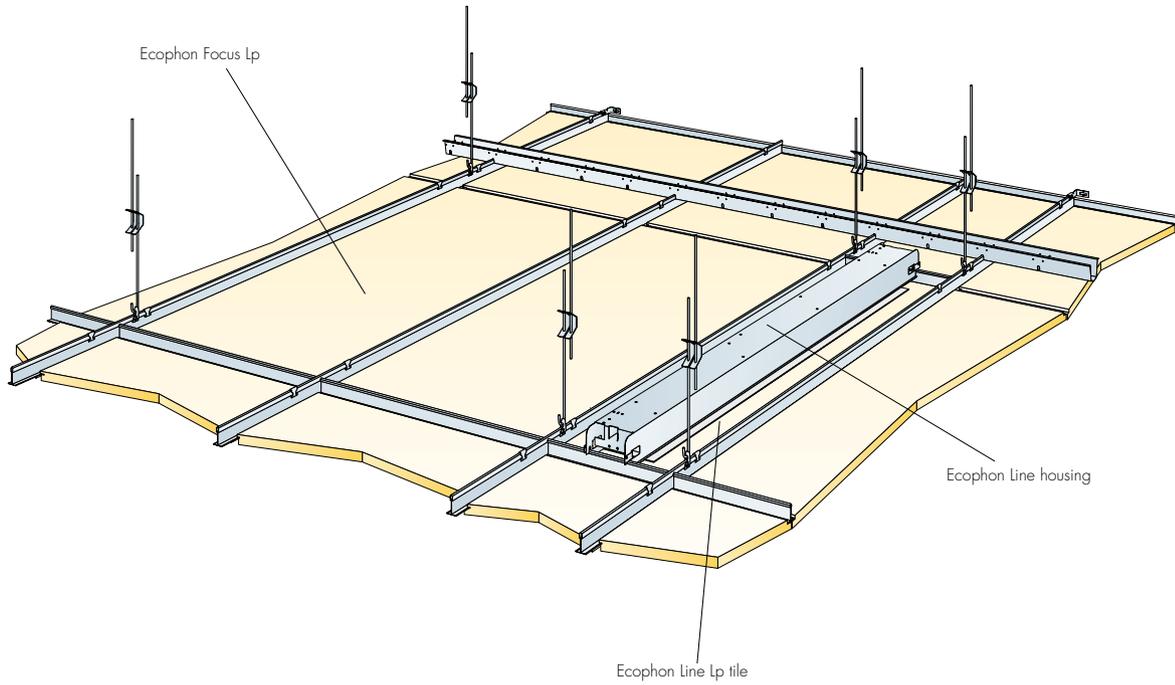
**VISUAL APPEARANCE** Acoustic tile: White Frost, nearest NCS colour sample S 0500-N, 85% light reflectance (of which more than 99% is diffuse reflection). Retro reflection coefficient 63 mcd\*m<sup>-2</sup>lx<sup>-1</sup>. Gloss < 1.

**INSTALLATION** Installed according to system range which include information regarding minimum overall depth of system. The luminaire housing rests on the back of the T-profiles. The tile in which the louvre is integrated in is installed as an ordinary ceiling tile. Once the luminaire and tile is in place a certified installation electrician must connect the wiring to sockets or to the next Ecophon Line luminaire.

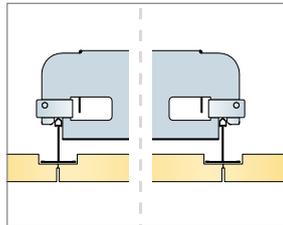
## PHOTOMETRIC DATA



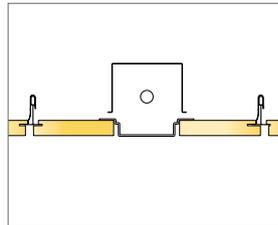
Light Output Ratio (LOR): 57%



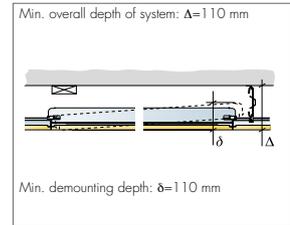
Detail of connection between housing and Cross tee



Line housing supported by Cross tee



Cross section of Ecophon Line Lp



Min. overall depth of system:  $\Delta=110$  mm

Min. demounting depth:  $\delta=110$  mm

# 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, healthcare and industrial manufacturing premises. Ecophon is part of the Saint-Gobain Group and has sales units and distributors in many countries.*

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

[www.ecophon.com](http://www.ecophon.com)

