

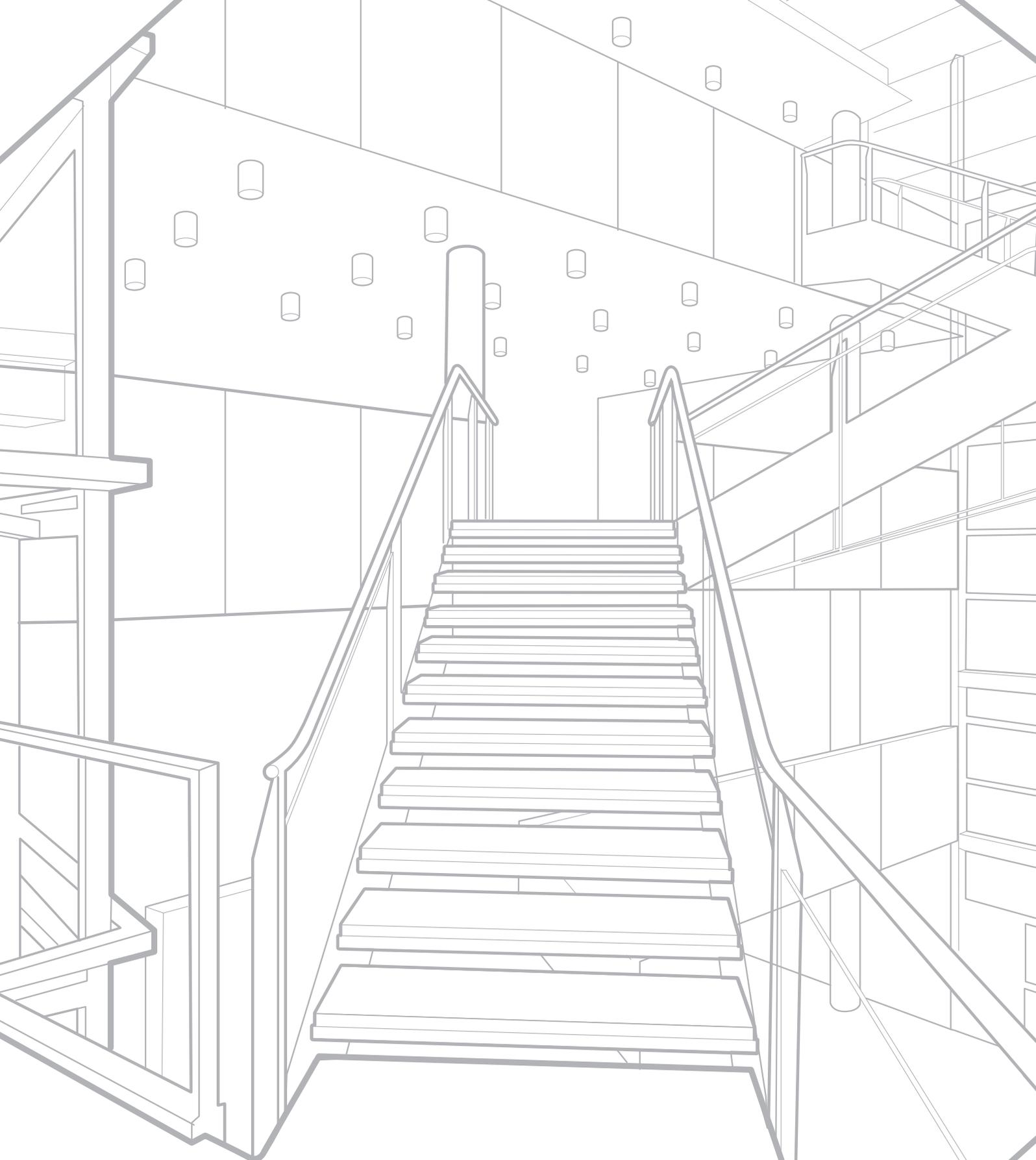
# Ecophon's level changes

**allow creative solutions for acoustic ceilings**



**Ecophon®**

A SOUND EFFECT ON PEOPLE



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.

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Idea and layout: Saint-Gobain Ecophon AB. Printer: Skånetryck. Cover: Patrick Klemm, Partone. Project photos page 6 photographers: from top row, left to right; 1. Szymon Polański, 2. Anastasi Kazakova, 3. Vitaly Kononov, 4. Faraday Photographic Limited, 5. Patrick Klemm, Partone, 6. Georg van der Weyden, 7. Szymon Polański, 8. Szymon Polański, 9. Faraday Photographic Limited, 10. Patrick Salaün, 11. Szymon Polański, 12. Mikko Pekki. Page 29 Faraday Photographic Limited. Page 7, 15, 19, 10, 11 Patrick Klemm Partone. Technical photos pages 12-31, Studiore. Technical illustrations: 3D Bild/Mats Paulsson. Illustrations: Citat AB.

# Buildings feature

## many changes in levels

*There are level changes everywhere you look in buildings nowadays. They arise for many different reasons. It may be a purely practical means of hiding cables, or a desire to preserve the architectural proportions of a room.*

*To fulfil such desires and needs Ecophon offers a series of ceiling systems in which the vertical surfaces also contribute to a better acoustic environment. Level changes may be sharp or they may be curved to create a smooth transition between ceiling and vertical surface.*

Varying the ceiling height in a room is an effective way of changing the whole feel of a room. Higher ceilings create an impression of space, while lower ceilings can create a sense of intimacy.

Ecophon's range of level changes makes it possible to achieve such transitions using the same material, which is often difficult to do today.

### **Taking ease of installation to a new level**

Over a period of many years Ecophon has been developing solutions for level changes in standardised combinations with a variety of ceiling systems. These

systems permit greater freedom of expression in the design of ceilings. The latest in a string of innovations is the patent pending Ecophon Focus™ Fixiform. This system takes ease of installation to a new level and makes it possible to create sharp level changes quickly and simply – from construction drawing to reality!

### **Acoustic room design – for people**

Thanks to its good acoustic properties, Ecophon Focus™ Fixiform makes it possible to create sharp level changes whilst improving the acoustic environment. This is in line with Ecophon's Room Acoustic Comfort™ concept, which takes into account people, their activities and the room acoustic design.

Level changes are often used in ceilings to meet practical or aesthetic needs. By using one of Ecophon's level change solutions the area of sound absorbing material in the ceiling is increased. This also has the added advantage of eliminating undesirable sound that would otherwise be reflected from the surfaces in the room. As a result, people who spend time in the building will find that speech perception is improved and the background noise level is lower.



Photographer: Michel Kievits

The sketch below shows Ecophon Focus™ Fixiform XL.



# Architectural identity

## preserved with level changes

*Preserving the character of a building without compromising the acoustic environment can be a difficult balancing act. As is often the case when attempting to combine practicality and aesthetics, one aspect often loses out. However, with the right system it is possible to achieve both.*

Ecophon's range of level changes provide a variety of solutions to the problems that can arise in a building where the ceiling space has to accommodate a wide variety of pipes and wiring.

### **Create space**

In stairways, foyers and entrances it is usually desirable to convey an open, airy and welcoming impression. Vertical ceiling surfaces ensure that the feeling of space is preserved.

## Lighting

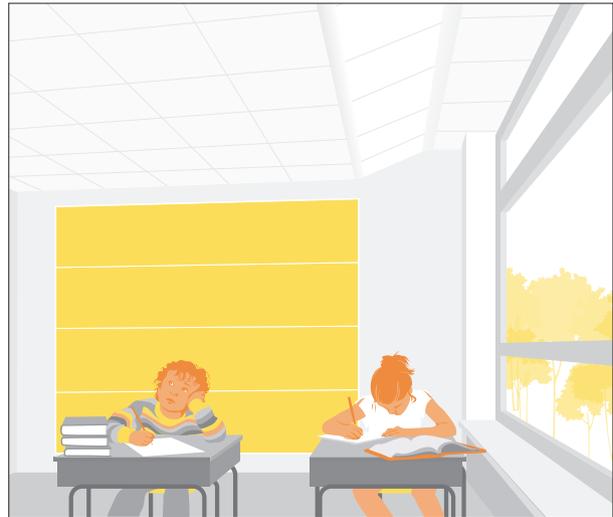
The use of illuminated level change can create a ceiling with a strong visual impact. Transitions in the ceiling level can also conceal light fittings and create an illusion of light radiating from the ceiling.



Sketch showing Ecophon illuminated level change.

## Preserve the original window height

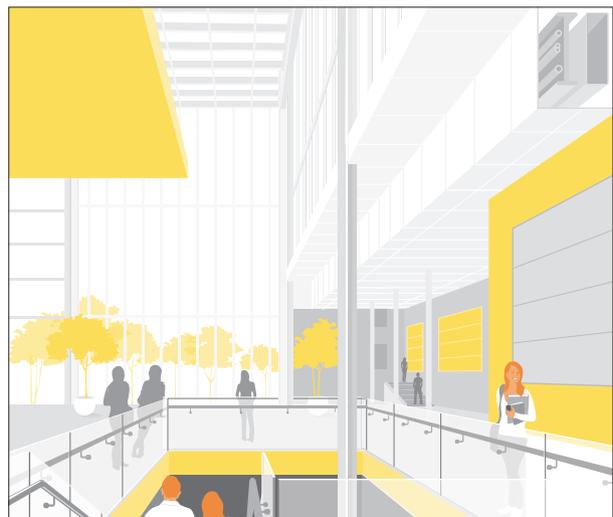
When older buildings are renovated it is often necessary to lower the ceilings to make space for ventilation and other utilities. By using one of Ecophon's vertical solutions it is possible to preserve the original tall windows and admit plenty of light into the building, thus reducing energy consumption.



Sketch showing Ecophon Connect™ Etage 45.

## Hide installations

In modern buildings the ceiling space is used to conceal various types of utility supplies, often in runs that reduce the ceiling height of the room. With the aid of one of our level change solutions the height reduction can be minimised in large areas of the room and the sense of space can be preserved.



Sketch showing Ecophon Focus™ Fixiform.



# Ecophon Focus™ Fixiform

**for sharp level changes**

*For a long time the only way to create sharp level changes was to use materials such as sheet metal and plasterboard. Solutions of this type are not easy to install!*

*Now Ecophon Focus™ Fixiform makes it possible to create 90° level transitions in ceilings using the same attractive material!*

Focus Fixiform is yet another innovation from Ecophon. This quick and easy system is supplied in a flat package and can then be folded on site to create a neat vertical transition.

## **Focus Fixiform at different levels**

Focus Fixiform is available in two versions to suit different level changes in the ceiling surface. The standard size can accommodate level changes of up to 530 mm, while the XL variant can be used to create level changes of up to 1930 mm. The height of the level change can be adjusted on site by cutting the tile.

Because Focus Fixiform is manufactured from the same material as the rest of the acoustic ceiling it results in a very clean and harmonious appearance. Sound absorbers are supplied with the Akutex™ FT surface, which distributes the light in a gentle way.

Focus Fixiform is primarily intended for use in combination with Ecophon Focus™ Ds. This enables vertical surfaces to be created without the use of visible profiles, screws or rivets, thus contributing to the sleek finish of the system. Focus Fixiform is also available with edge E, which means it can also be combined with Ecophon Focus™ E.

## **Aesthetic and efficient**

Focus Fixiform is available in a 600 module, like the rest of the ceiling. The Focus Fixiform system also includes internal and external corners for vertical surfaces up to 530 mm. These can be used to create square or rectangular areas in the ceiling.

Because level changes made with Focus Fixiform are integrated with the rest of the ceiling system, the entire installation can be carried out by the same contractor. This ensures simple and efficient installation. Installations in the ceiling void are accessible via the flat ceiling.

Because joints between the horizontal Focus ceiling and Focus Fixiform are standardised, you get a reliable solution with a high standard of aesthetic finish.



Before: When renovating premises and making improvements to the acoustic environment at the same time, considerations often have to be made for ventilation and other utilities. This means that some form of level change is required.



After: Svenska Finans AB solved the problem by using Ecophon Focus™ Fixiform thus achieving a solution that has the same material and absorption class on vertical surfaces.



Ecophon Focus™ Fixiform XL.

# Classics with unique and clear advantages



Ecophon Focus Flexiform  
Photographer: Faraday Fotografic Limited

*In addition to Focus™ Fixiform we have a variety of different solutions for level changes. These range from moulded products to simple profiles. The one thing they all have in common is that they provide a reliable and repeatable solution for creating vertical transitions.*

## **Ecophon Focus™ Flexiform**

If you want to create smooth, rounded level changes, Focus Flexiform is the ideal choice. It offers great flexibility and makes it possible to create a varied ceiling that contributes to good room acoustics.

Focus Flexiform is flexible enough to bend into convex or concave shapes with a radius of 200 millimetres to 10 metres by shaping the special Connect Flexiform profiles, which the Flexiform tile follows.

It is possible to order factory-shaped profiles or bend profiles on site. Flexible profiles are also available for creating internal and external corners.

Focus Flexiform sound absorbers are held in place using standard Ecophon Connect™ Flexiform clips. This means that the product cannot be easily demounted. Focus Flexiform is a product made from glass wool, with the Akutex™ FT surface in the colour White Frost. Flexiform A edges are uncoated. The product is supplied flat and is ideally used in combination with Ecophon Focus™ A or Ecophon Master™ A.



Ecophon Focus Quadro  
Photographer: Faraday Fotografic Limited

## **Ecophon Focus™ Quadro**

By using Focus Quadro it is easy to create curved transitions with level changes of 300 mm or 450 mm, either concave or convex.

Focus Quadro is a stiff, moulded product made from glass wool. It is well suited to applications where there is a need to create lowered or raised areas in the ceiling.

The system includes both concave and convex internal and external corners. The profiles in the system are supplied ready shaped from the factory and can be fitted with connectors that allow them to be joined to the rest of the Connect grid. This creates a robust system that preserves the aesthetic appeal of the ceiling. Focus Quadro is also sound-absorbing and helps to create a healthy acoustic environment.

### **Ecophon level changes with lighting**

This is a system that combines level changes with general lighting. It is ideal for use in corridors or aisles in offices or shopping centres.

The extruded aluminium profile conceals light fittings that provide gentle indirect lighting when reflected from the exceptionally matt Akutex™ FT surface. The profile is finished in white with a matt texture that matches that of the acoustic ceiling. Together with the arc-shaped ceiling elements it creates a flowing, harmonious space that feels very welcoming. The system can be combined with Ecophon Focus™ Ds, Ecophon Focus™ Dg or Ecophon Focus™ E.



Ecophon Illuminated Level Change  
Photographer: Szymon Polański

### **Ecophon Connect™ Etage 45**

The junction between the flat ceiling surfaces and vertical level changes can often be difficult from an aesthetic viewpoint. Connect Etage 45 is a profile that creates a smooth, elegant transition that solves this problem. The profile is easily combined with the rest of the Connect grid.

Connect Etage 45 creates a 45° level transition and has a matt textured finish that matches the Akutex™ FT surface.



Connect Etage 45

### **Ecophon Connect™ F-trim**

Connect F-trim consists of a series of profiles that are designed to provide a convenient solution at the junction between a horizontal ceiling and vertical surface. These profiles are tailored for different types of level change depending on the thickness of the sound absorber. Connect F-trim can be combined with the rest of the Connect grid.



Ecophon Connect F-trim  
Photographer: Ole Jais

# Simple installation

with just one contractor.



#### Reinforcing the fold

A concealed aluminium rod reinforces the fold. This provides a solution with good resistance to impact and knocks.



#### Accurate angles

The Connect Hook ensures an accurate 90° angle.



#### Reinforcing plug

A plastic reinforcing plug is installed at the joint to give the vertical surface a clean appearance.



#### A neat finish

To ensure a neat finished result the plug is carefully aligned with the edge of the sound absorber.

*Ecophon Focus™ Fixiform is an efficient product for use when creating sharp vertical transitions in ceilings. It is a solution that enables the ceiling contractor to carry out every stage of installation and provides a finished result that perfectly matches the rest of the ceiling.*

Focus Fixiform has several benefits, making it a great solution to work with. We've listed some of these benefits below.

### Easy to transport

Focus Fixiform is supplied in a flat package and can then be folded on site to create a neat vertical transition. This minimises freight costs and the risk of damage during transport, as well as simplifying handling on the building site.

### Easy to plan

Because the ceiling and level changes are installed as part of the same system by the same contractor it simplifies planning on the building site. Everything can be installed at a late stage in the building process, which makes it easier for other trades to complete their installation work.

### Easy to install

Focus Fixiform is supplied with a range of fitting accessories as standard, which makes it easy to install. The low weight also simplifies the installation process.

### Neat end result

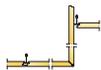
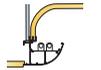
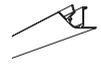
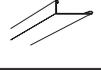
The finished appearance of the ceiling is also excellent, since Focus Fixiform has the same coating as other Focus products. Profiles and other fitting components that make up the Connect™ grid system ensure durable and attractive results.



Akutex™ label guarantees that the product you have chosen has a superior surface. Ecophon sound absorbers meet the requirements of several ecolabels and marks of quality.

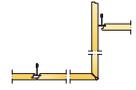


### Choose level change to suit your needs and aesthetic preferences

System		Width	Height	Radius	Absorp.class	Edge	Thickness	Installation diagram	System pages
Focus Fixiform		600 mm	150-530 mm XL <1930 mm	90°	A	Ds, E	20 mm	M274 M275 M276 M277	12-19
Focus Flexiform		600 mm		min:200 mm max: 10 m	B	A	30 mm	M31	20-21
Illuminated level change		1200 mm	150 mm		B	E/B	20 mm	M148	22-23
Focus Quadro		1200 mm	300 or 450 mm	r=300 r=450	B	E	20 mm	M27 M28 M41 M42	24-29
<b>Profiles</b>									
Connect Etage		N/A	N/A	45°	N/A				30
Connect F-trim		N/A	N/A	90°	N/A				31



# ECOPHON FOCUS™ FIXIFORM Ds



Ecophon Focus Fixiform Ds is used to create distinct transitions between different levels of ceiling either to accommodate various service installations in the ceiling void or to add shape and structure to the room. The tiles are delivered flat and folded to 90 degrees on site before installation. There is an eight mm rod in the fold which reinforces the folded tile. The difference in level can be adjusted between 150 and 530 mm for the standard tile and up to 1930 mm using the XL system. The Fixiform tiles are not demountable. The system consists of Fixiform tiles and accessories in standard and XL size including external and internal corners for the standard size. The visible surface is Akutex FT and the adjoining painted edges are edge detail C. The system is patent pending. For best performance and system quality, use Ecophon Connect grid and accessories.



Focus Fixiform tile



Detail of Focus Fixiform system fold



Focus Fixiform Ds system



Focus Fixiform Ds system upper level

## SYSTEM RANGE

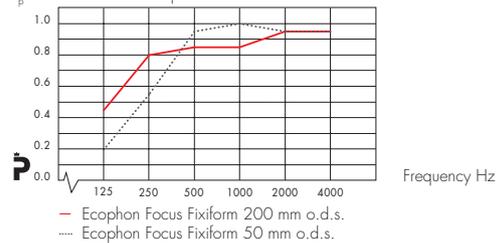
Size, mm	600	1200	XL 1500	XL 1900	XL 2300
	600 x 600	600 x 600	600 x 600	600 x 600	600 x 600
T24	•	•	•	•	•
Thickness	600	20	20	20	20
Inst. diag.	M274EC	M274/ M274IC	M275	M275	M275

## TECHNICAL INFO

**ACOUSTIC** Acoustic values corresponding to a flat ceiling. 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 Fixiform			
	o.d.s mm	60	75	200
Absorption class		B	A	A

SOUND INSULATION  $D_{n,f,w} = 24$  dB according to EN 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 Not applicable

**ACCESSIBILITY** The panels are demountable via adjacent flat ceiling tiles.

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

**LIGHT EFFICIENCY** 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.

**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.

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

**ENVIRONMENTAL INFLUENCE** Granted the Nordic Swan eco-label. Fully recyclable.

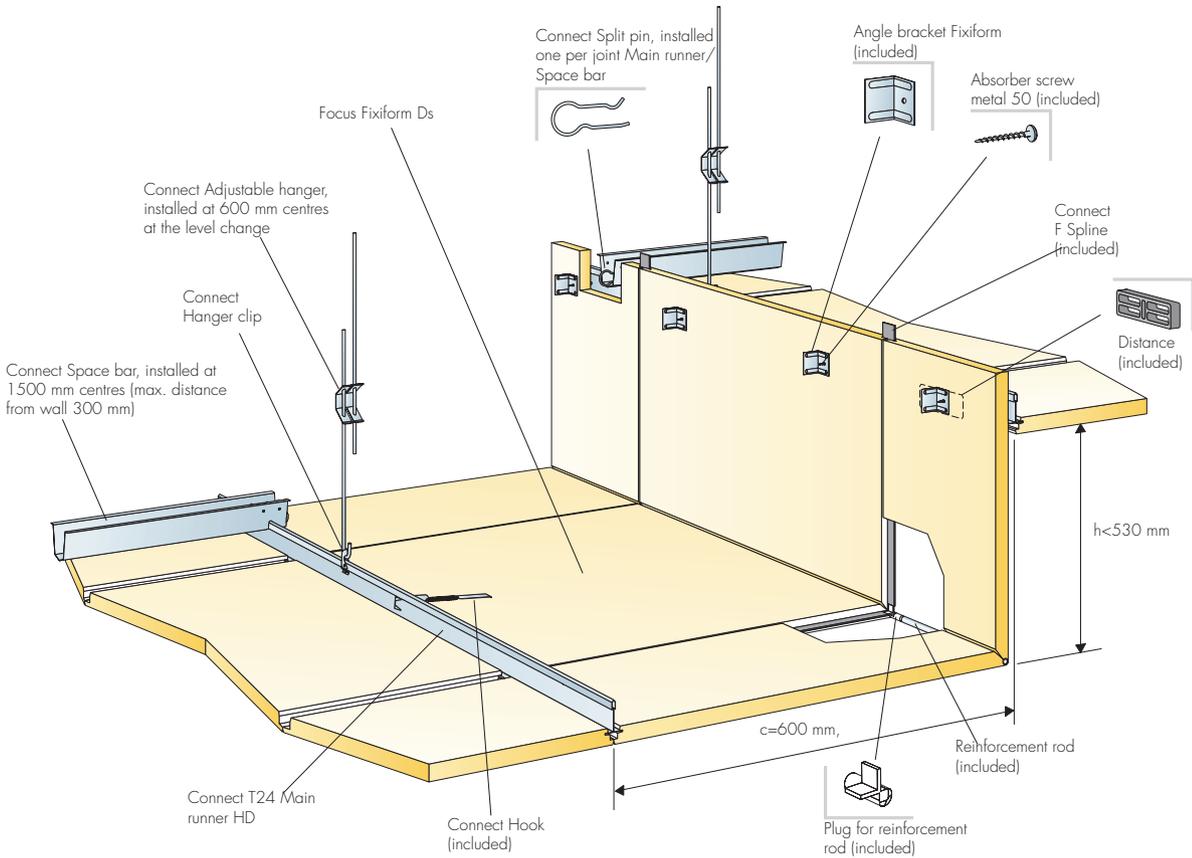
**FIRE SAFETY** The glass wool core of the tiles is tested and classified as non-combustible according to EN ISO 1182. The systems are classified as fire protective covering according to NT FIRE 003. See Technical properties, Fire safety.

Reaction-to-fire classification		
Country	Standard	Class
Europe	EN 13501-1	A2-s1,d0

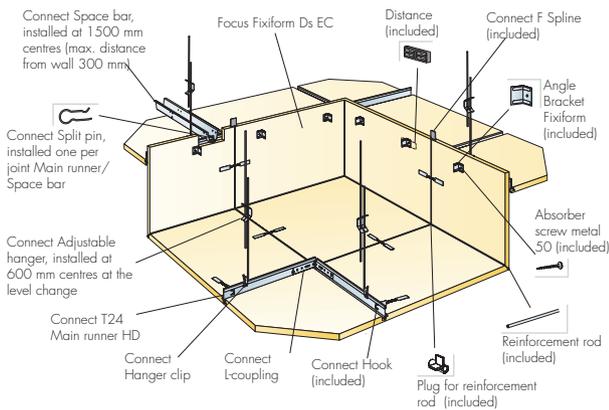
**MECHANICAL PROPERTIES** Additional live load has to be secured to the soffit.

**INSTALLATION** Installed according to system range. Focus Fixiform Ds is supplied with all necessary installation accessories. There are no corners for the XL sizes of the product.

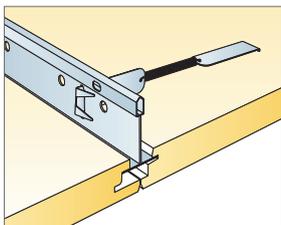
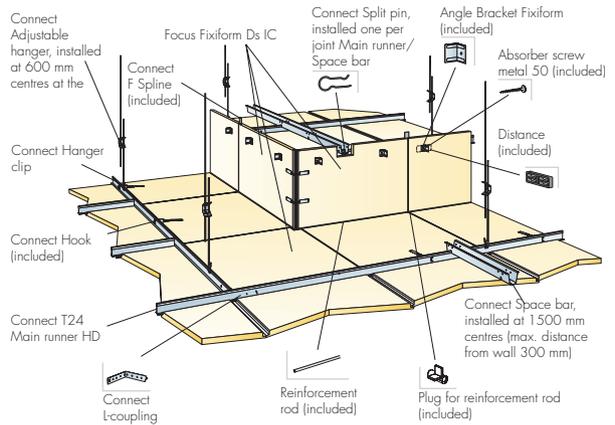
INSTALLATION DIAGRAM (M274) FOR FOCUS FIXIFORM Ds



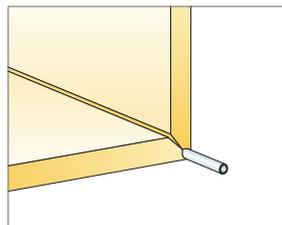
EXTERNAL CORNER (M274EC) FOR FOCUS FIXIFORM Ds



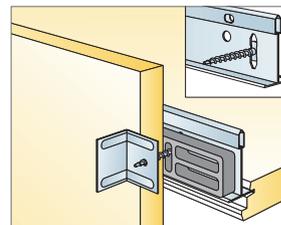
INTERNAL CORNER (M274IC) FOR FOCUS FIXIFORM Ds



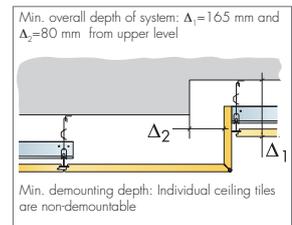
Lower level connection to Main runner



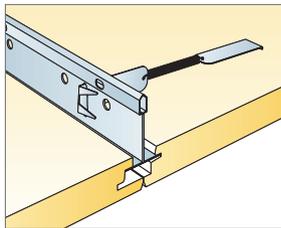
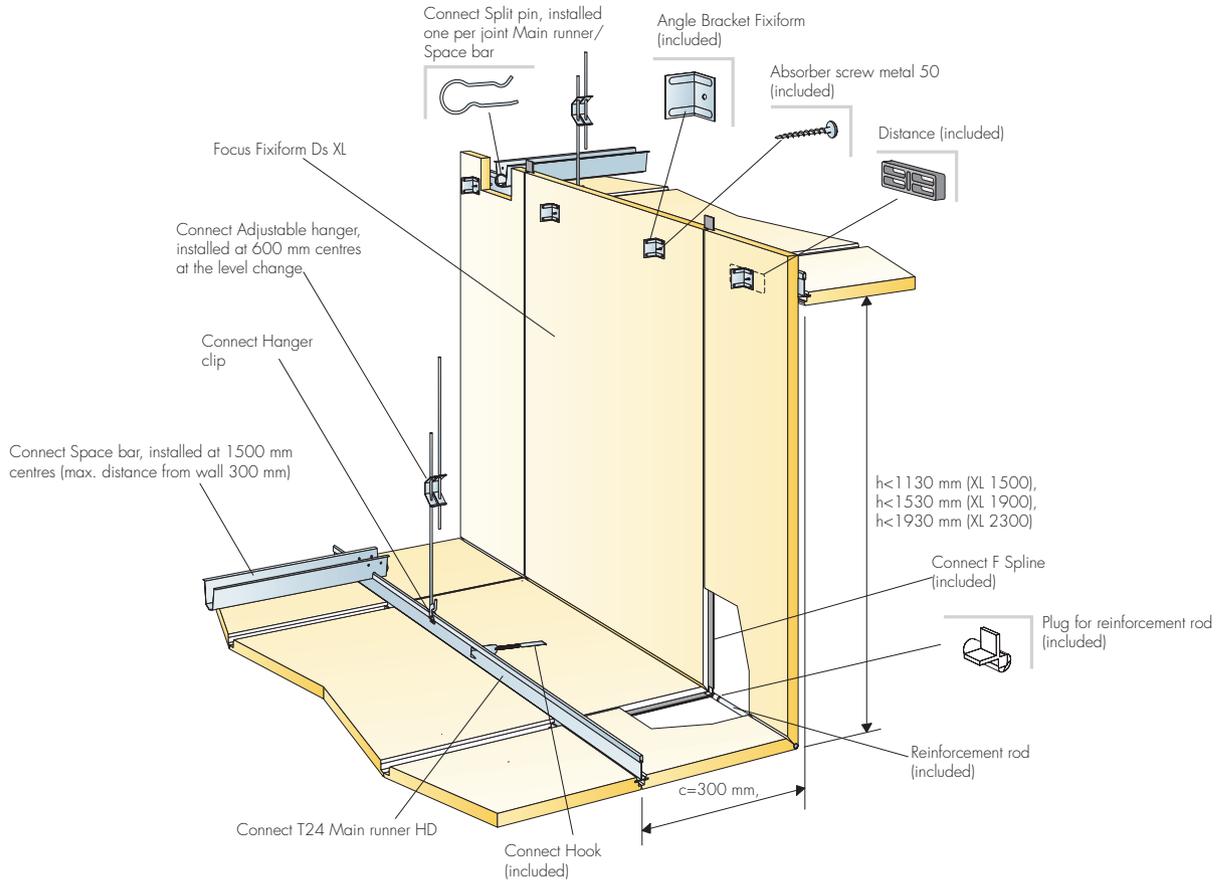
The fold is reinforced by a rod



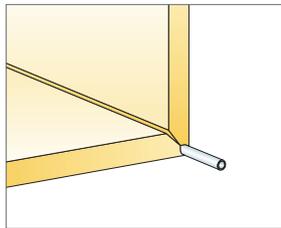
Upper level connection to Main runner



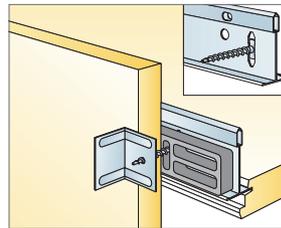
INSTALLATION DIAGRAM (M275) FOR FOCUS FIXIFORM Ds XL



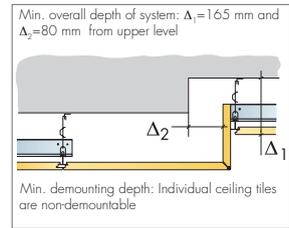
Lower level connection to Main runner



The fold is reinforced by a rod



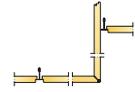
Upper level connection to Main runner







# ECOPHON FOCUS™ FIXIFORM E



Ecophon Focus Fixiform E is used to create distinct transitions between different levels of ceiling either to accommodate various service installations in the ceiling void or to add shape and structure to the room. The tiles are delivered flat and folded to 90 degrees on site before installation. There is an eight mm rod in the fold which reinforces the folded tile. The difference in level can be adjusted between 150 and 530 mm for the standard tile and up to 1930 mm using the XL system. The Fixiform tiles are not demountable. The system consists of Fixiform tiles and accessories in standard and XL size including external and internal corners for the standard size. The visible surface is Akutex FT and the edges are painted with edge detail C where the Fixiform tiles meet. The system is patent pending. For best performance and system quality, use Ecophon Connect grid and accessories.



Focus Fixiform tile



Detail of Focus Fixiform system fold



Focus Fixiform E system



Focus Fixiform E system upper level

## SYSTEM RANGE

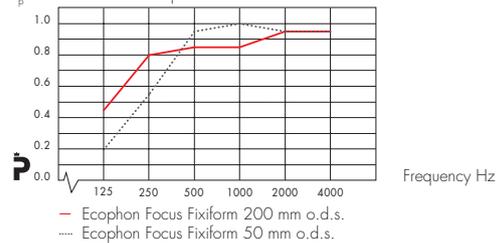
Size, mm	600	1200	XL 1500	XL 1900	XL 2300
	600 x 600	600 x 600	600 x 600	600 x 600	600 x 600
T24	•	•	•	•	•
Thickness	600	20	20	20	20
Inst. diag.	M276EC	M276C/ M276	M277	M277	M277

## TECHNICAL INFO

**ACOUSTIC** Acoustic values corresponding to a flat ceiling. 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 Fixiform			
	o.d.s mm	60	75	200
Absorption class		B	A	A

SOUND INSULATION  $D_{n,f,w} = 24$  dB according to EN 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 Not applicable

**ACCESSIBILITY** The panels are demountable via adjacent flat ceiling tiles.

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

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

**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.

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

**ENVIRONMENTAL INFLUENCE** Granted the Nordic Swan eco-label. Fully recyclable.

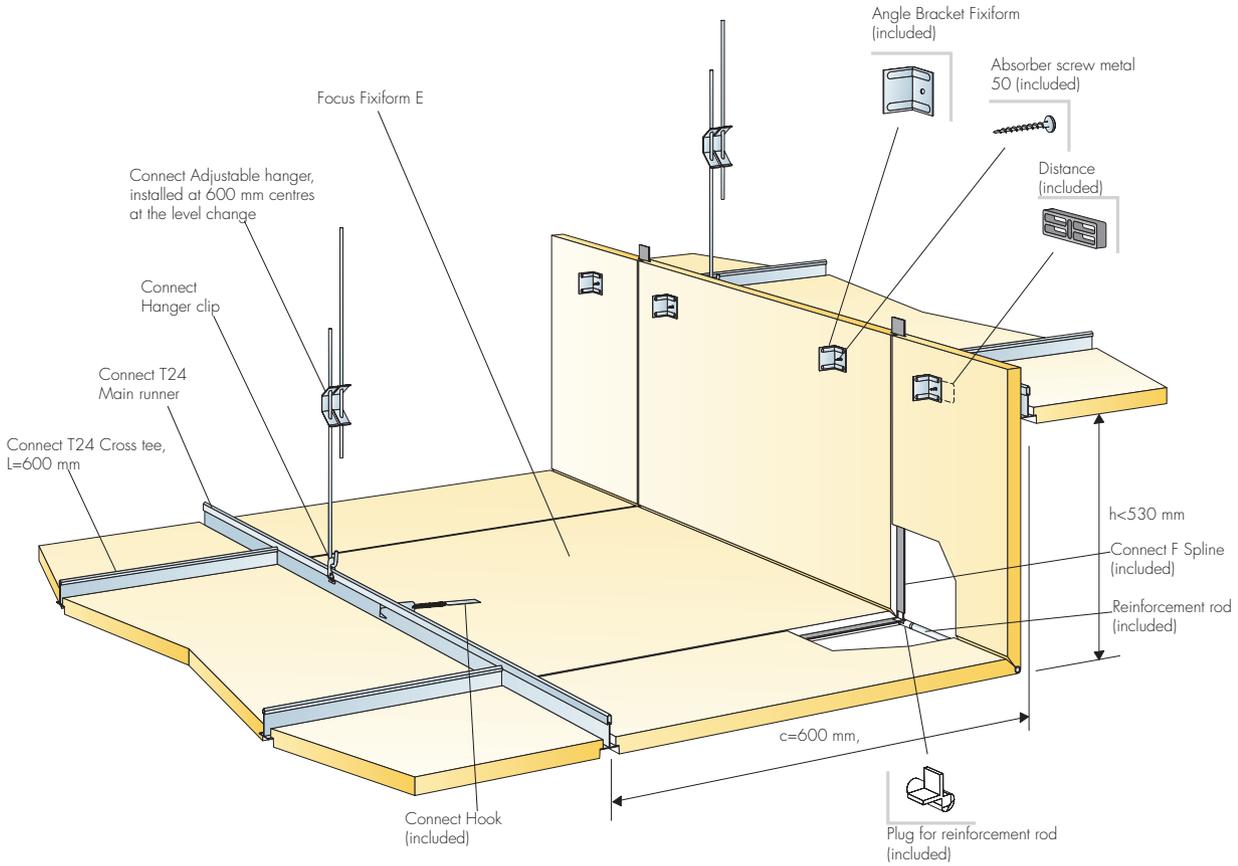
**FIRE SAFETY** The glass wool core of the tiles is tested and classified as non-combustible according to EN ISO 1182. The systems are classified as fire protective covering according to NT FIRE 003. See Technical properties, Fire safety.

Reaction-to-fire classification		
Country	Standard	Class
Europe	EN 13501-1	A2s1,d0

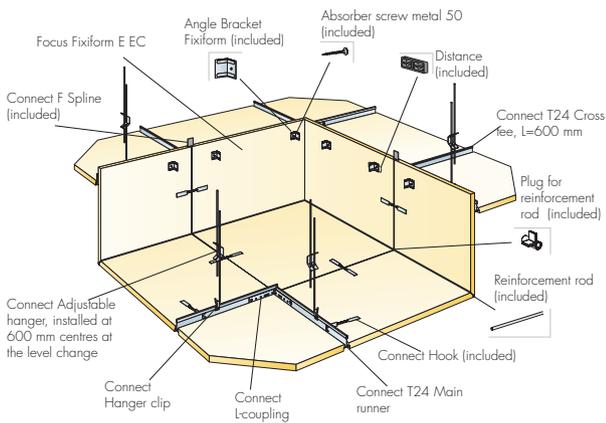
**MECHANICAL PROPERTIES** Additional live load has to be secured to the soffit.

**INSTALLATION** Installed according to system range. Focus Fixiform E is supplied with all necessary installation accessories. There are no corners for the XL sizes of the product.

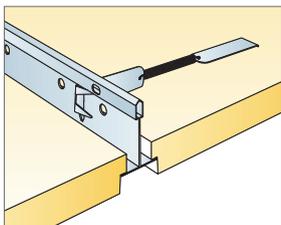
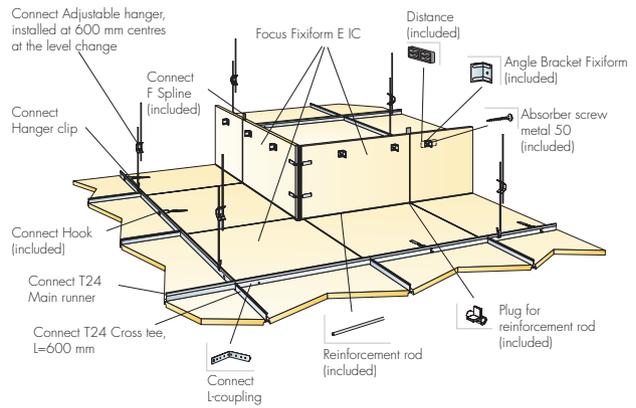
INSTALLATION DIAGRAM (M276) FOR FOCUS FIXIFORM E



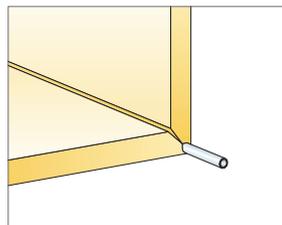
EXTERNAL CORNER (M276EC) FOR FOCUS FIXIFORM E



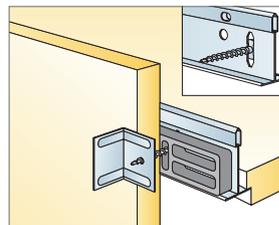
INTERNAL CORNER (M276IC) FOR FOCUS FIXIFORM E



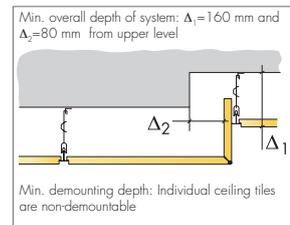
Lower level connection to Main runner

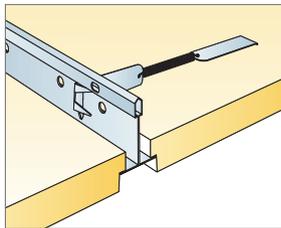
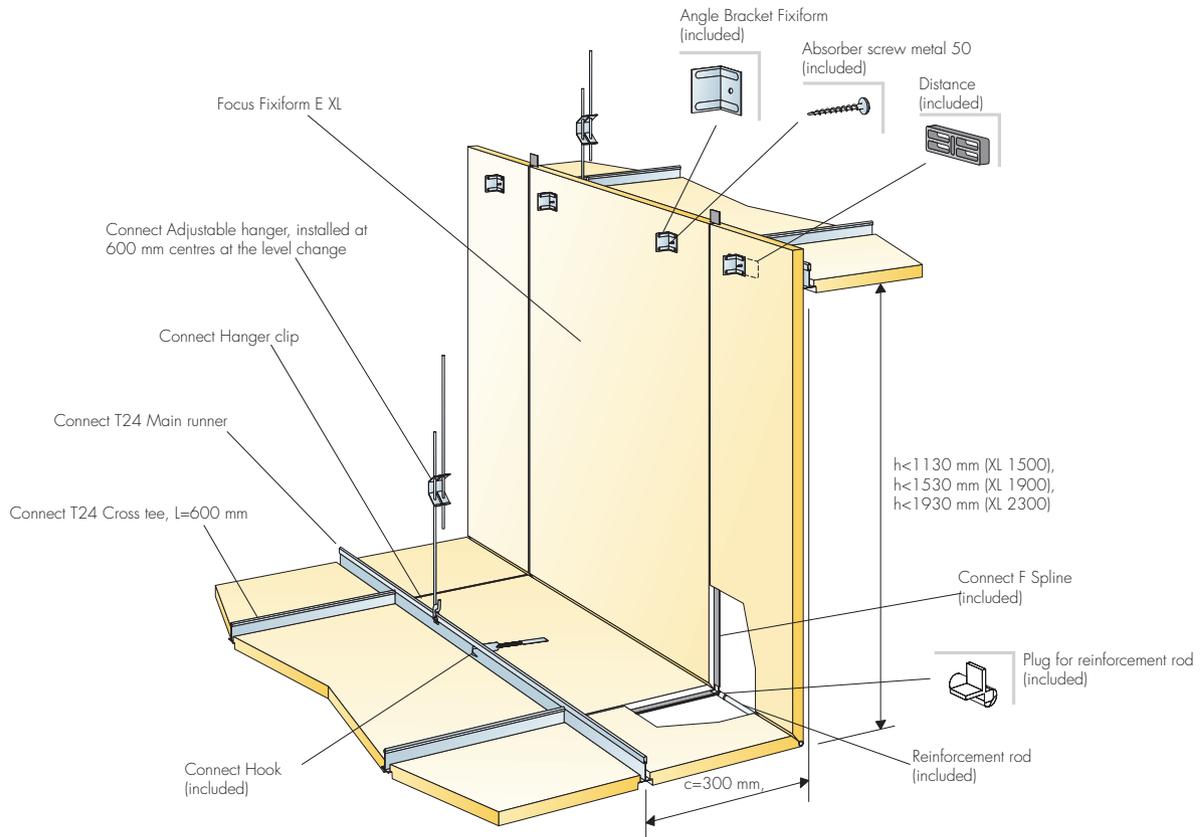


The fold is reinforced by a rod

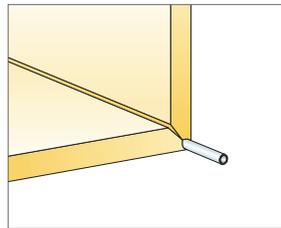


Upper level connection to Main runner

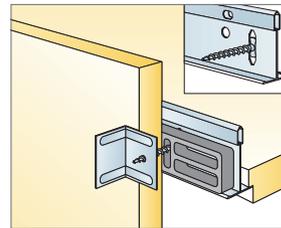




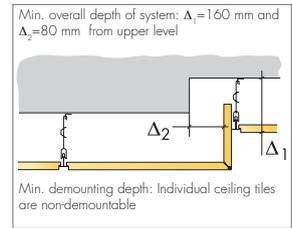
Lower level connection to Main runner



The fold is reinforced by a rod



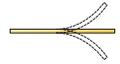
Upper level connection to Main runner



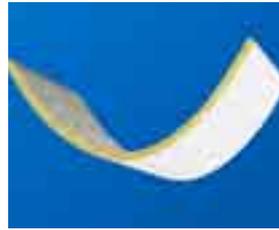




# ECOPHON FOCUS™ FLEXIFORM



The Ecophon Focus Flexiform panel is delivered flat and formed on site into concave or convex shape (min. radius 200 mm and max. radius 10 m) by means of special profiles. It is ideal for creating surfaces with special curvatures, or if the dimensions of the installations etc. above the suspended ceiling cannot be accommodated by using preformed ceiling elements. The panels are not demountable. The system consists of Ecophon Focus Flexiform panels and Ecophon Connect grid systems. The weight is approximately 3 kg/m<sup>2</sup>, depending on the installation method. The panels have a special glass wool core which allows the product to be formed to the required shape. The visible surface is Akutex FT. The edges are natural. For best performance and system quality, use Ecophon Connect grid and accessories. The curved profiles are made of aluminium.



Focus Flexiform panel



Section of Focus Flexiform system with Connect T24



Focus Flexiform system



Detail of Focus Flexiform

## SYSTEM RANGE

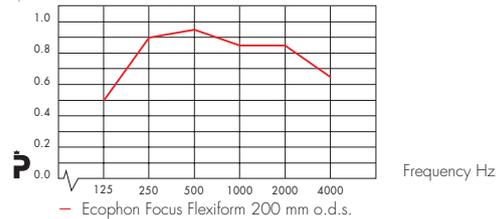
Size, mm	1200 x 600	1600 x 600	2000 x 600	2400 x 600
T24	•	•	•	•
Thickness	30	30	30	30
Inst. diag.	M31/M31ic/ M31ec	M31/M31ic/ M31ec	M31/M31ic/ M31ec	M31/M31ic/ M31ec

## TECHNICAL INFO

**ACOUSTIC** Acoustic values corresponding to a flat ceiling. 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 Flexiform	
o.d.s mm	400	200
Absorption class	B	
NRC	0,9	
SAA	0,91	

SOUND INSULATION Not applicable.

SOUND PRIVACY Not applicable

**ACCESSIBILITY** The tiles are not demountable.

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

**LIGHT EFFICIENCY** 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.

**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.

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

**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. See Technical properties, Fire safety.

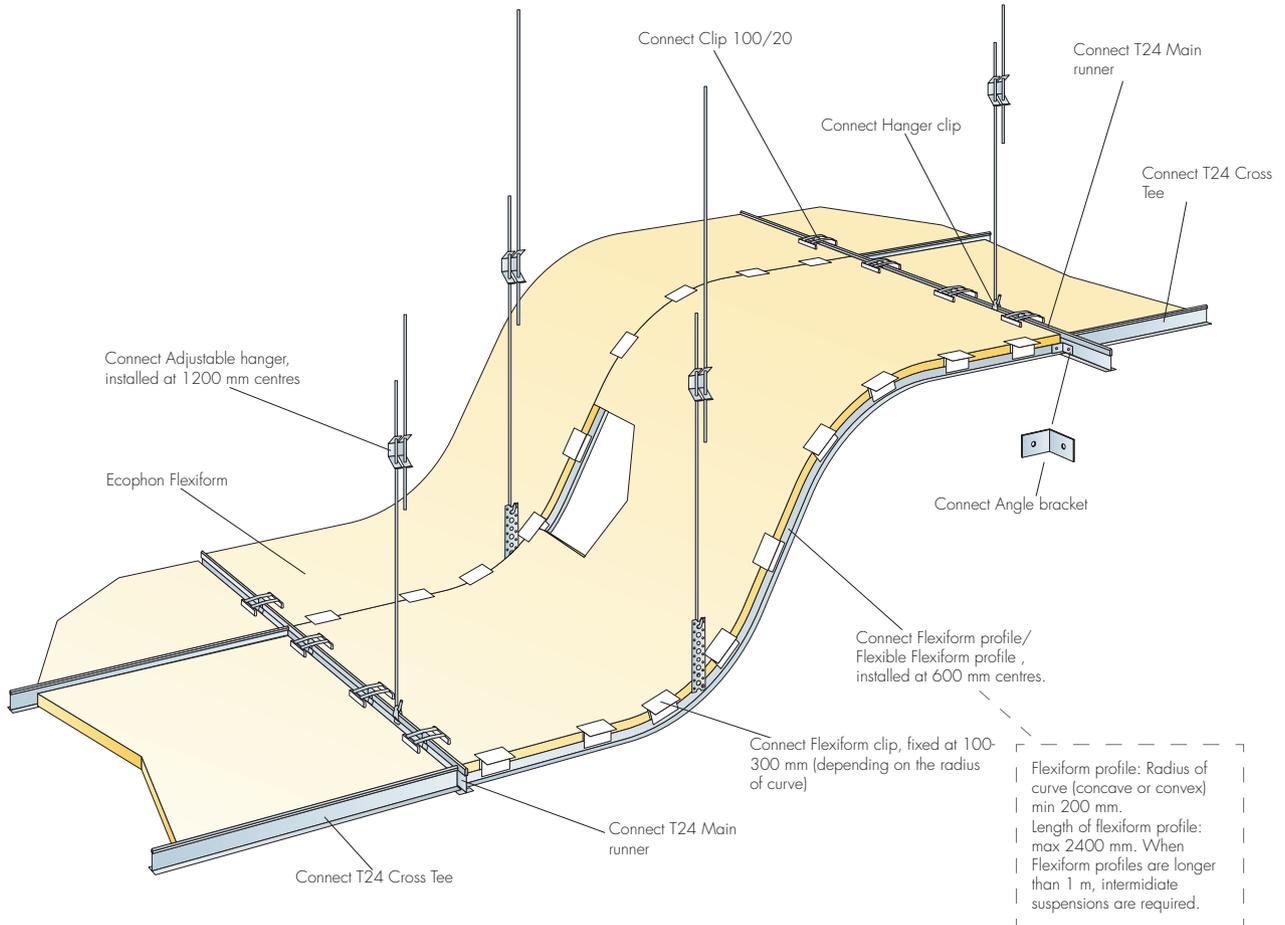
Reaction-to-fire classification

Country	Standard	Class
Europa	EN 13501-1	Bs1,d0

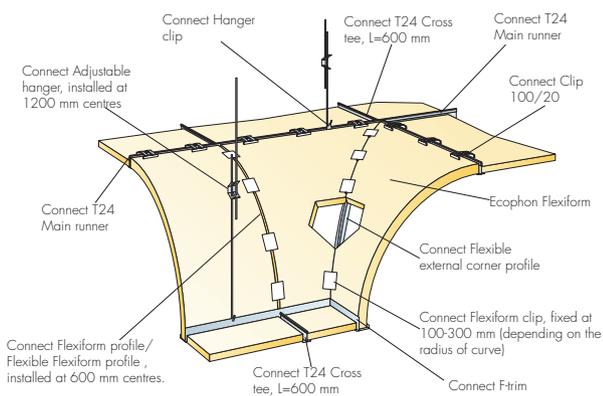
**MECHANICAL PROPERTIES** Additional live load has to be secured to the soffit.

**INSTALLATION** Installed according to system range. Internal and external corners are cut on site during installation. Special corner profiles are available.

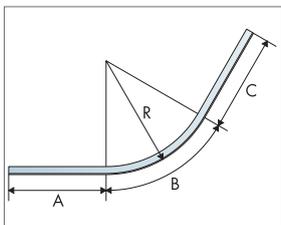
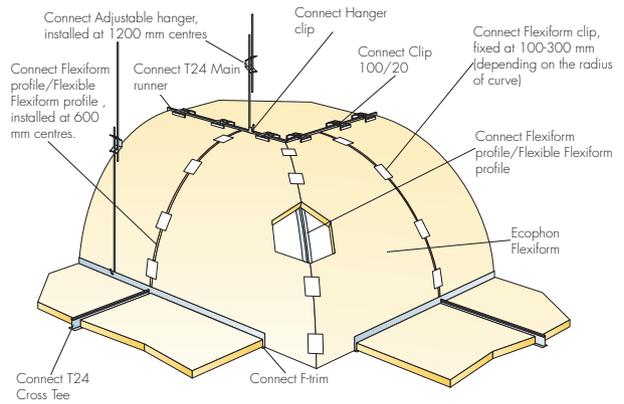
INSTALLATION DIAGRAM (M31) FOR FLEXIFORM



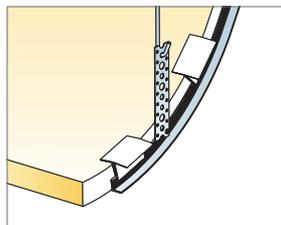
EXTERNAL CORNER (M31EC) FOR FLEXIFORM



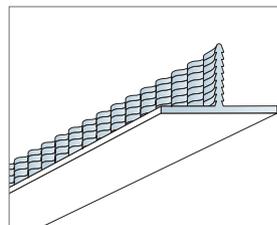
INTERNAL CORNER (M31IC) FOR FLEXIFORM



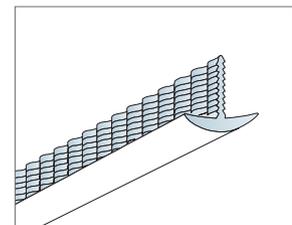
Example with dimensions of Flexiform profile



Suspension with metal strip

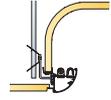


Profile for internal corner



Profile for external corner

# ECOPHON ILLUMINATED LEVEL CHANGE



*Ecophon Illuminated Level Change is effectively an open Ecophon Light Coffers. By combining several lengths and shapes of level change, special size light coffers are created. The level change can be used for allowing creative use of available height and room space, emphasizing and strengthening the identity of large-scale rooms or leading the way with directional walkways. The illuminated level change creates an even and harmonious illumination with its indirect lighting while controlling shadows in the room. Ecophon Illuminated Level Change consists of two different parts, each with different functions.*

- **Uplight extrusion:** Matt white polyester powder coated aluminium extrusion containing the gear tray.
- **Acoustic ceiling:** curved coffer panels with Akutex FT surface, that provide good acoustic properties in combination with excellent light diffusion and light reflection.

*Installation components and connection details are included.*



Curved Coffler panel



Curved Coffler panel with Focus E



Luminaire in extrusion

## TECHNICAL INFO

- ⚡ **ELECTRICAL DATA** 230-240V, 50 Hz, power factor  $\cos \varphi > 0,9$ . Electronic ballast is standard. The system can also be supplied with a special electronic ballast for digital regulation. Gear tray is made for 1x28W or 1x35W T5, light source not included.
- 🔧 **CONNECTION** The gear trays are positioned and fixed in the uplight extrusion and wired to each other via an instant connection 3x1,5 mm<sup>2</sup>. The first gear tray is connected with a hard-wired connection.
- ✅ **APPROVALS** IP20, CE, S, ENEC, Class 1.
- 👁️ **ACCESSIBILITY** The panels are demountable via adjacent flat ceiling tiles.
- 🧽 **CLEANABILITY** Daily dusting and vacuum cleaning. Weekly wet wiping.

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

👤 **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.

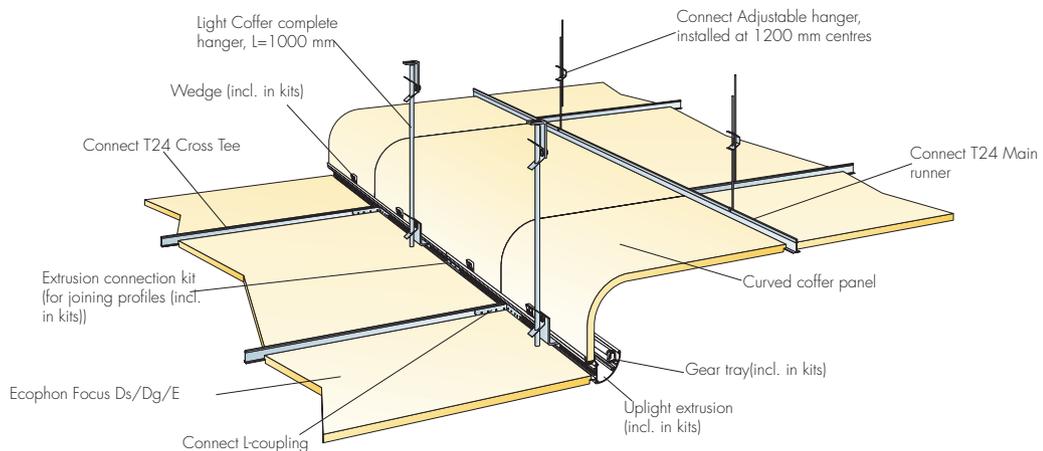
♻️ **ENVIRONMENTAL INFLUENCE** Fully recyclable

🔥 **FIRE SAFETY** See Technical properties, Fire safety.

Reaction-to-fire classification

Country	Standard	Class
Europa	EN 13501-1	Bs1,d0

## INSTALLATION DIAGRAM (M148) FOR ECOPHON ILLUMINATED LEVEL CHANGE

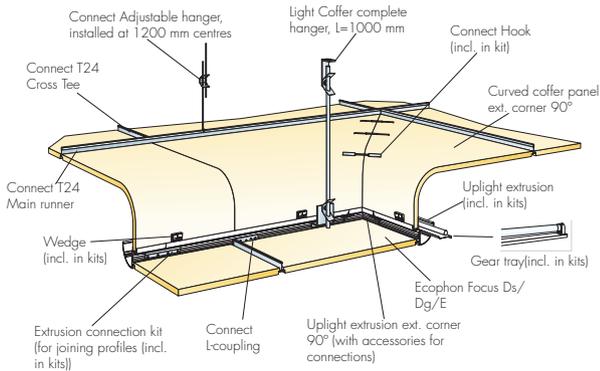


## KIT CONTENTS:

- Kit 1 consists of the following components: 1 Uplight extrusion 1200 mm, 1 Curved coffer panel 1200 mm, 2 Light Coffe complete hanger, 1 Gear tray 1x28W (1180 mm), 1 Extrusion connection kit
- Kit 2 consists of the following components: 1 Uplight extrusion 2400 mm, 2 Curved coffer panels 1200 mm, 2 Light Coffe complete hanger, 1 Gear tray 1x28W (1180 mm), 1 Gear tray 1x35W (1480 mm), 1 Extrusion connection kit
- Kit 3 consists of the following components: 1 Uplight extrusion 2400 mm, 2 Curved coffer panels 1200 mm, 2 Light Coffe complete hanger, 2 Gear tray 1x28W (1180 mm), 1 Extrusion connection kit

Kit 1 - 3 exists as dimmable versions. For internal and external corners see M148ec\_135, M148ec\_90, M148ic\_135 and M148ic\_90

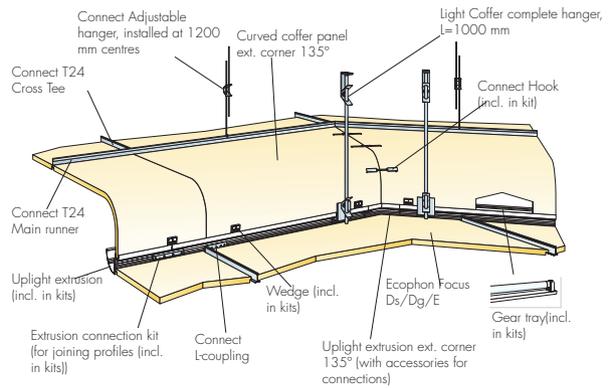
## EXTERNAL CORNER 90° (M148EC\_90) FOR ECOPHON ILLUMINATED LEVEL CHANGE



## KIT CONTENTS:

- Kit 4 consists of the following components:  
 1 Uplight extrusion ext. corner 90° (with accessories for connections), 2 Uplight extrusion 510 mm, 1 Curved coffer panel ext. corner 90°, 2 Light Coffe complete hanger, 2 Gear tray 1x28W (1180 mm), 1 Extrusion connection kit

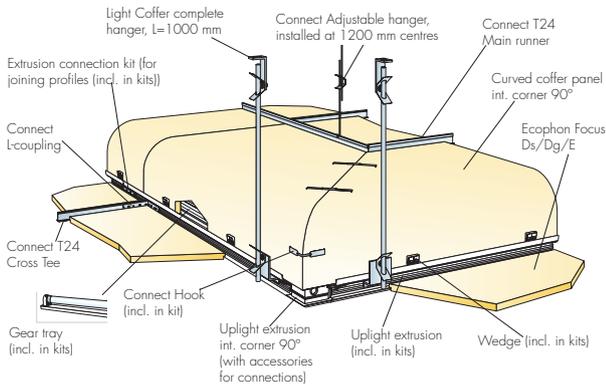
## EXTERNAL CORNER 135° (M148EC\_135) FOR ECOPHON ILLUMINATED LEVEL CHANGE



## KIT CONTENTS:

- Kit 6 consists of the following components:  
 1 Uplight extrusion ext. Corner 135° (with accessories for connections), 2 Uplight extrusion 510 mm, 1 Curved coffer panel ext. corner 135°, 2 Light Coffe complete hanger, 2 Gear tray 1x28W (1180 mm), 1 Extrusion connection kit

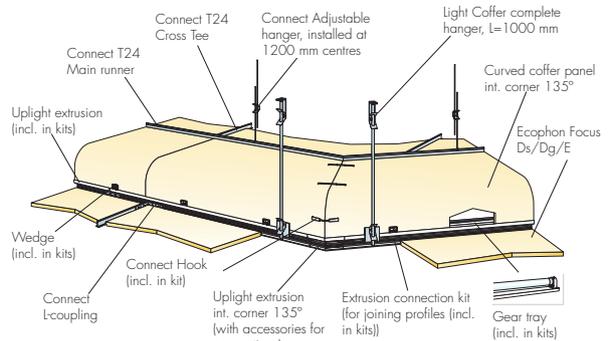
## INTERNAL CORNER 90° (M148IC\_90) FOR ECOPHON ILLUMINATED LEVEL CHANGE



## KIT CONTENTS:

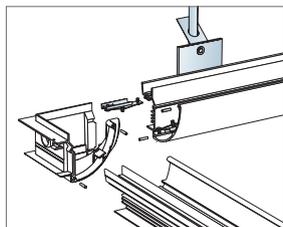
- Kit 5 consists of the following components:  
 1 Uplight extrusion int. corner 90° (with accessories for connections), 2 Uplight extrusion 1110 mm, 1 Curved coffer panel int. corner 90°, 2 Light Coffe complete hanger, 2 Gear tray 1x28W (1180 mm), 1 Extrusion connection kit

## INTERNAL CORNER 135° (M148IC\_135) FOR ECOPHON ILLUMINATED LEVEL CHANGE

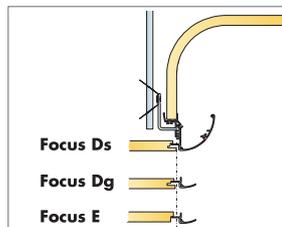


## KIT CONTENTS:

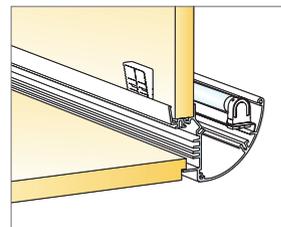
- Kit 7 consists of the following components:  
 1 Uplight extrusion int. corner 135° (with accessories for connections), 2 Uplight extrusion 1110 mm, 1 Curved coffer panel int. corner 135°, 2 Light Coffe complete hanger, 2 Gear tray 1x28W (1180 mm), 1 Extrusion connection kit



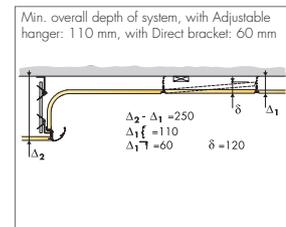
Section of corner with suspension



Connections to different ceiling systems



Detail showing luminaire in extrusion





# ECOPHON FOCUS™ QUADRO E



Ecophon Focus Quadro E is used to create smooth transitions between different levels of ceiling either to accommodate various service installations in the ceiling void or to achieve a special effect. The difference in level is 300 mm or 450 mm. The Ecophon Focus Quadro E panels are not directly demountable.

The systems consist of Ecophon Focus Quadro E panels and Ecophon Connect grid systems, with an approximate weight of 4 kg/m<sup>2</sup>. The panels are manufactured from high density moulded glass wool. The visible surface is Akutex FT. The edges are painted with edge detail E on all sides. The corner elements are of the same design. The radius is 300 mm or 450 mm. For best performance and system quality, use Ecophon Connect grid and accessories. The grid is manufactured from galvanized steel.



Focus Quadro E panel



Section of Focus Quadro E system with Connect T24



Focus Quadro E system



Detail of Focus Quadro E

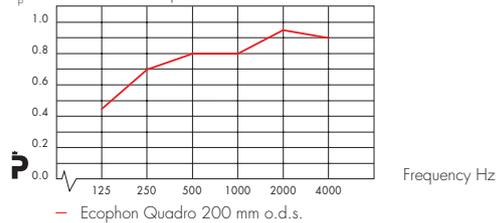
## SYSTEM RANGE

Size, mm	Concave	Concave	Convex	Convex
	1200 x 300	1200 x 450	1200 x 300	1200 x 450
T24	•	•	•	•
Thickness	20	20	20	20
Inst. diag.	M27/M27ic/ M27ec	M41/M41ic/ M41ec	M28/M28ic/ M28ec	M42/M42ic/ M42ec

## TECHNICAL INFO

**ACOUSTIC** Acoustic values corresponding to a flat ceiling. 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.

Product	Focus Quadro E
o.d.s mm	200
Absorption class	B

SOUND INSULATION  $D_{n,f,w}$  = 24 dB according to EN 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 Not applicable

**ACCESSIBILITY** The panels are demountable.

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

**LIGHT EFFICIENCY** 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.

**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.

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

**ENVIRONMENTAL INFLUENCE** Granted the Nordic Swan eco-label. Fully recyclable.

**FIRE SAFETY** See Technical properties, Fire safety.

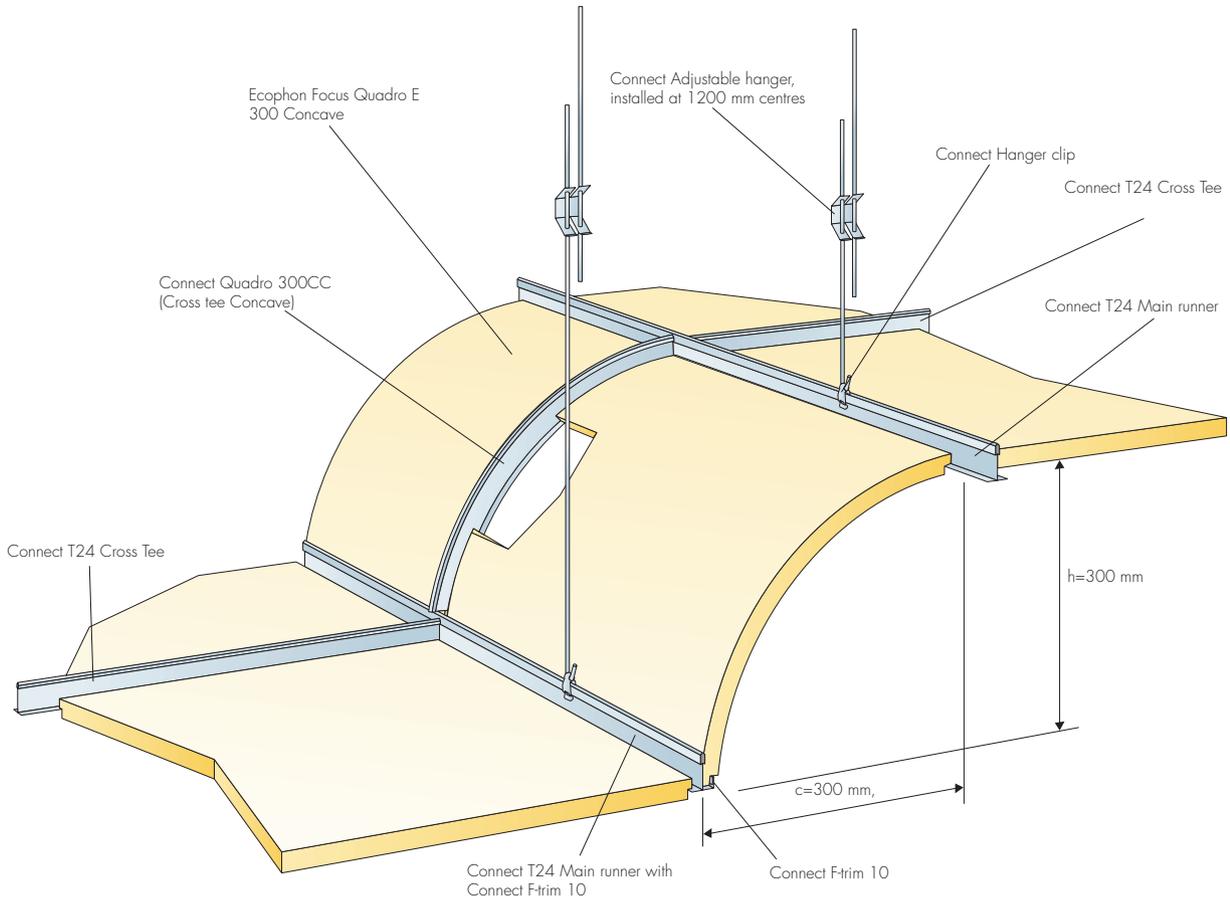
Reaction-to-fire classification

Country	Standard	Class
Europa	EN 13501-1	Bs1,d0

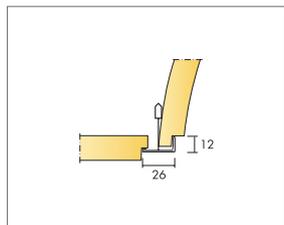
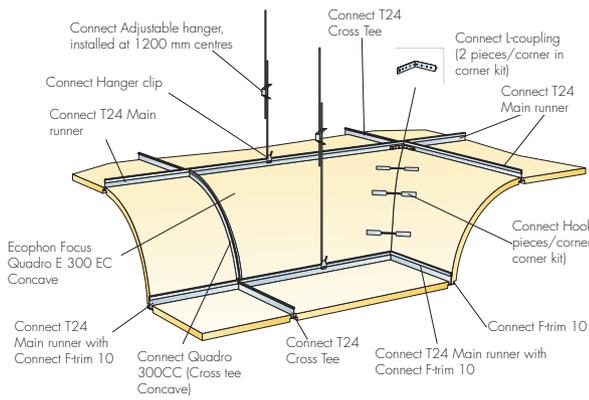
**MECHANICAL PROPERTIES** Additional live load has to be secured to the soffit.

**INSTALLATION** Installed according to system range. Focus Quadro E 300 and 450 90° internal and external corners are available in concave and convex versions. The corners are supplied in sets with all necessary installation accessories.

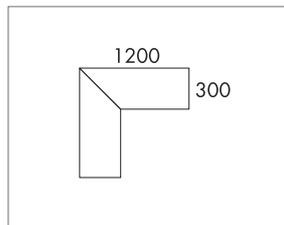
INSTALLATION DIAGRAM (M27) FOR FOCUS QUADRO E 300 CONCAVE



EXTERNAL CORNER (M27EC) FOR FOCUS QUADRO E 300 CONCAVE EXTERNAL CORNER

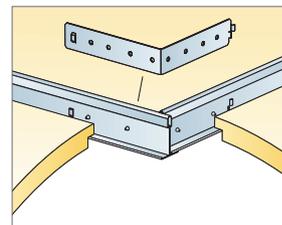
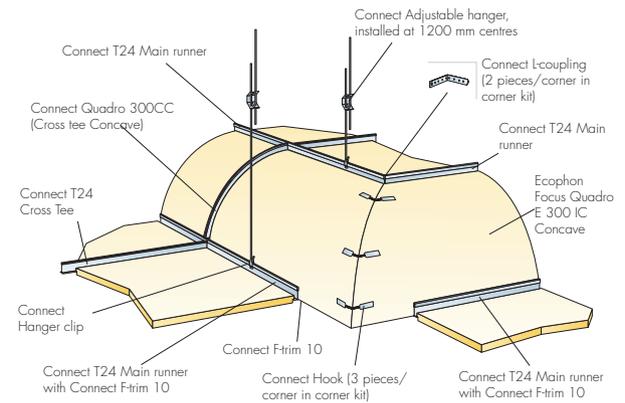


Detail of lower part with F-trim



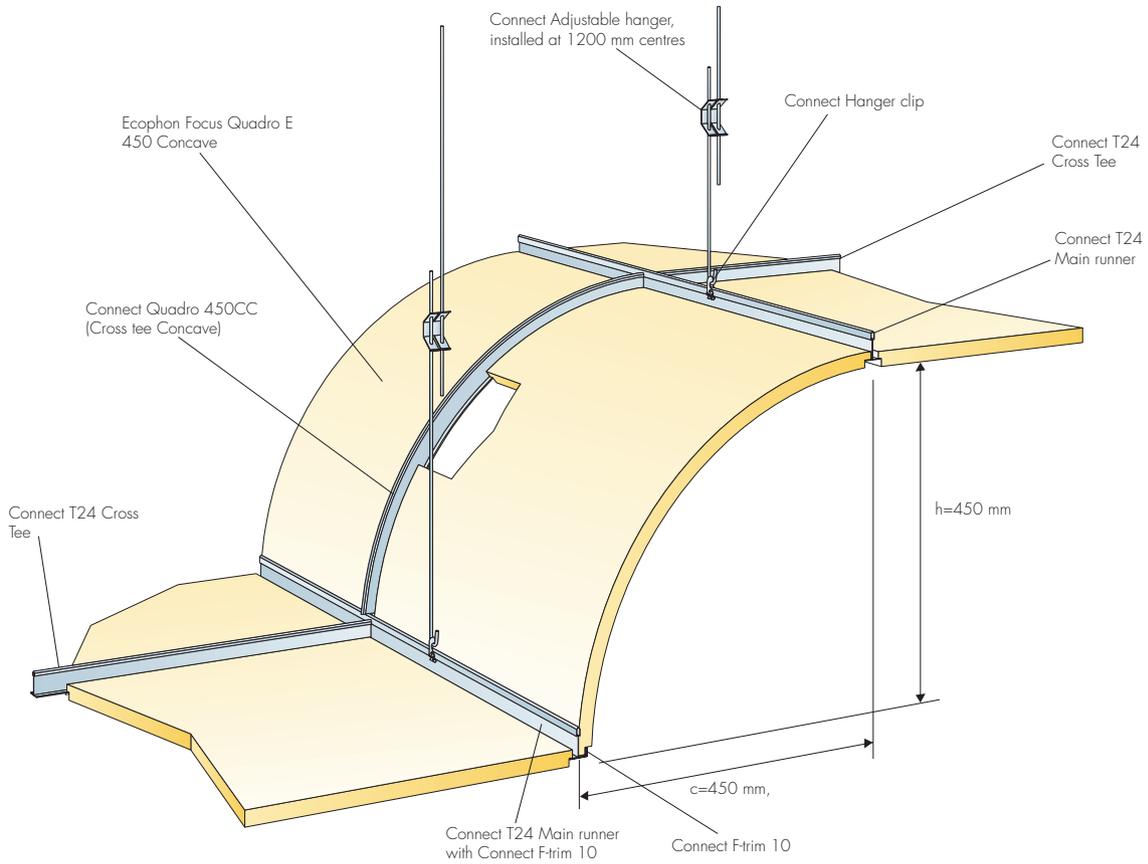
Module measures of corner

INTERNAL CORNER (M27IC) FOR FOCUS QUADRO E 300 CONCAVE INTERNAL CORNER

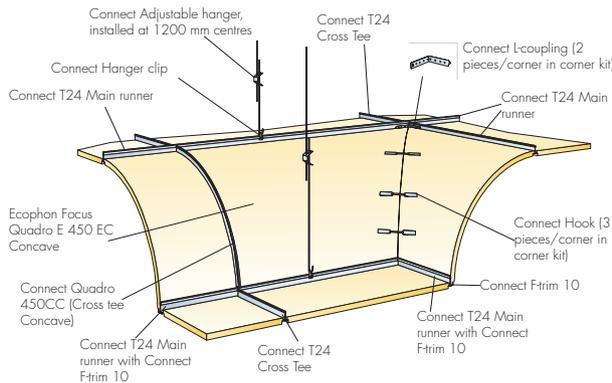


Internal corner, upper connection between profiles

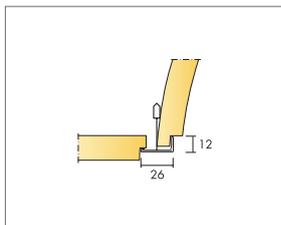
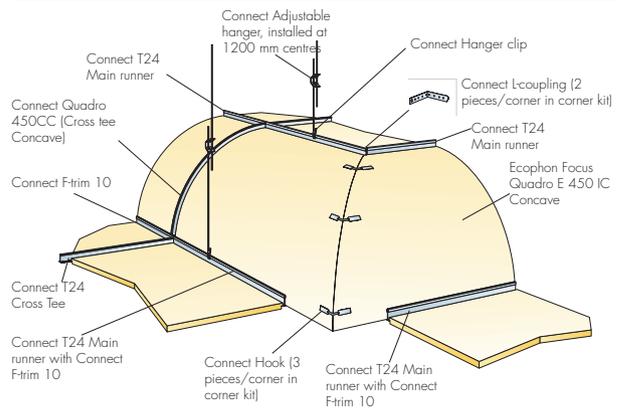
INSTALLATION DIAGRAM (M41) FOCUS QUADRO E 450 CONCAVE



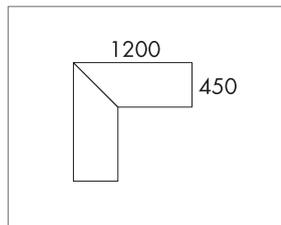
INSTALLATION DIAGRAM (M41EC)  
FOCUS QUADRO E 450 CONCAVE EXTERNAL CORNER



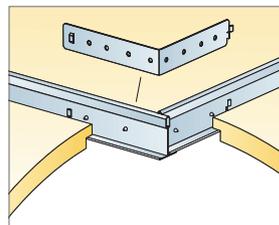
INSTALLATION DIAGRAM (M41IC)  
FOCUS QUADRO E 450 CONCAVE INTERNAL CORNER



Detail of lower part with F-trim

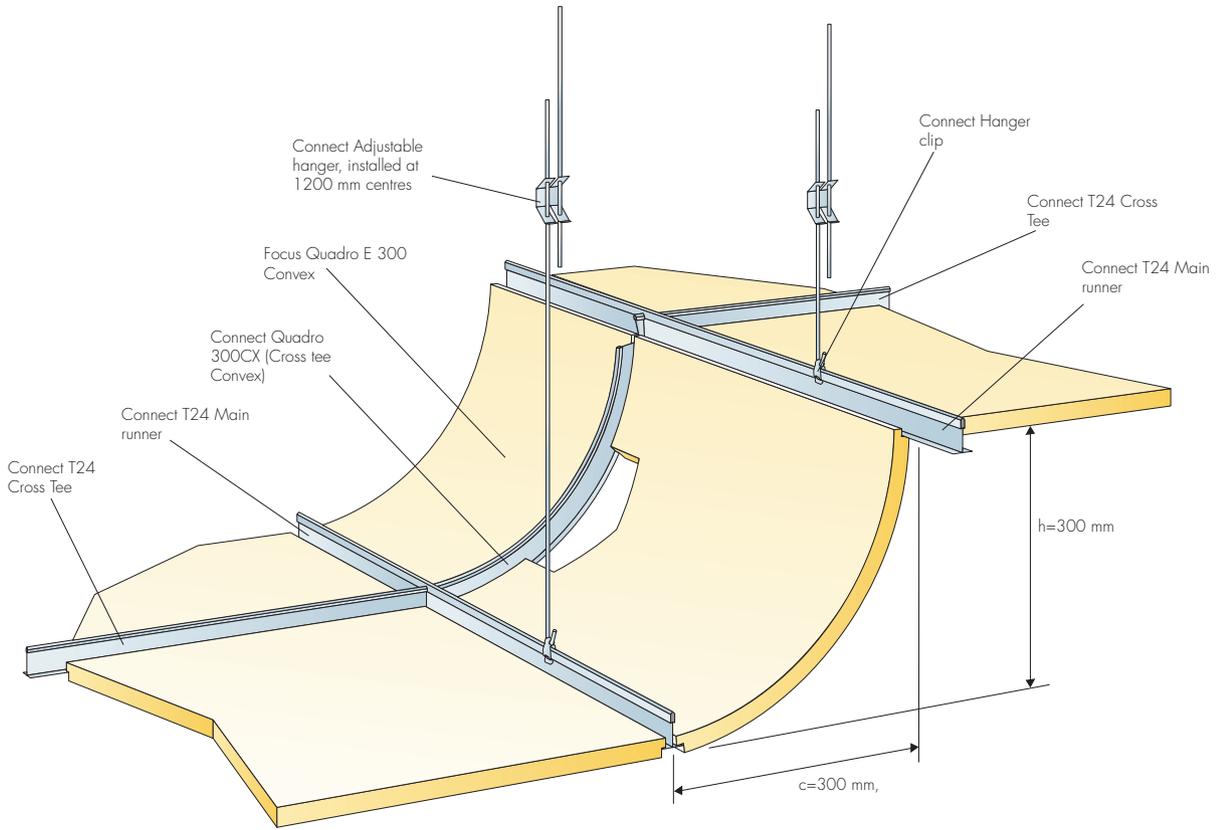


Module measures of corner

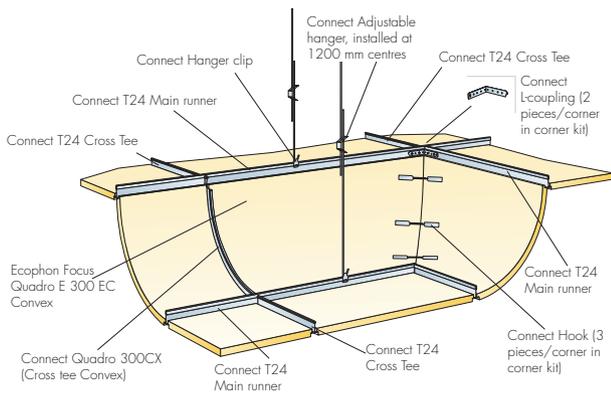


Internal corner, upper connection between profiles

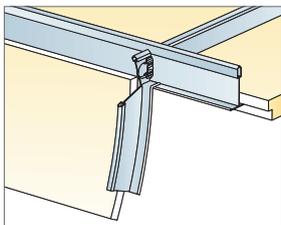
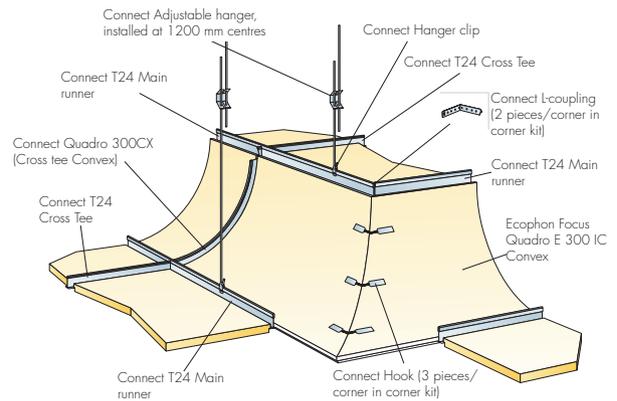
INSTALLATION DIAGRAM (M28) FOR FOCUS QUADRO E 300 CONVEX



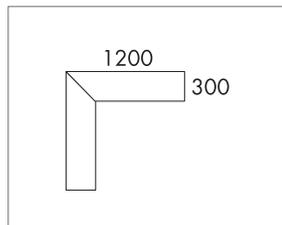
EXTERNAL CORNER (M28EC) FOR FOCUS QUADRO E 300 CONVEX



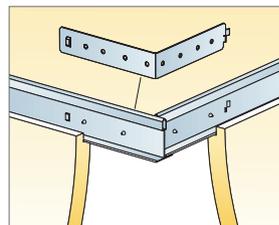
INTERNAL CORNER (M28IC) FOR FOCUS QUADRO E 300 CONVEX



Upper cross tee connection

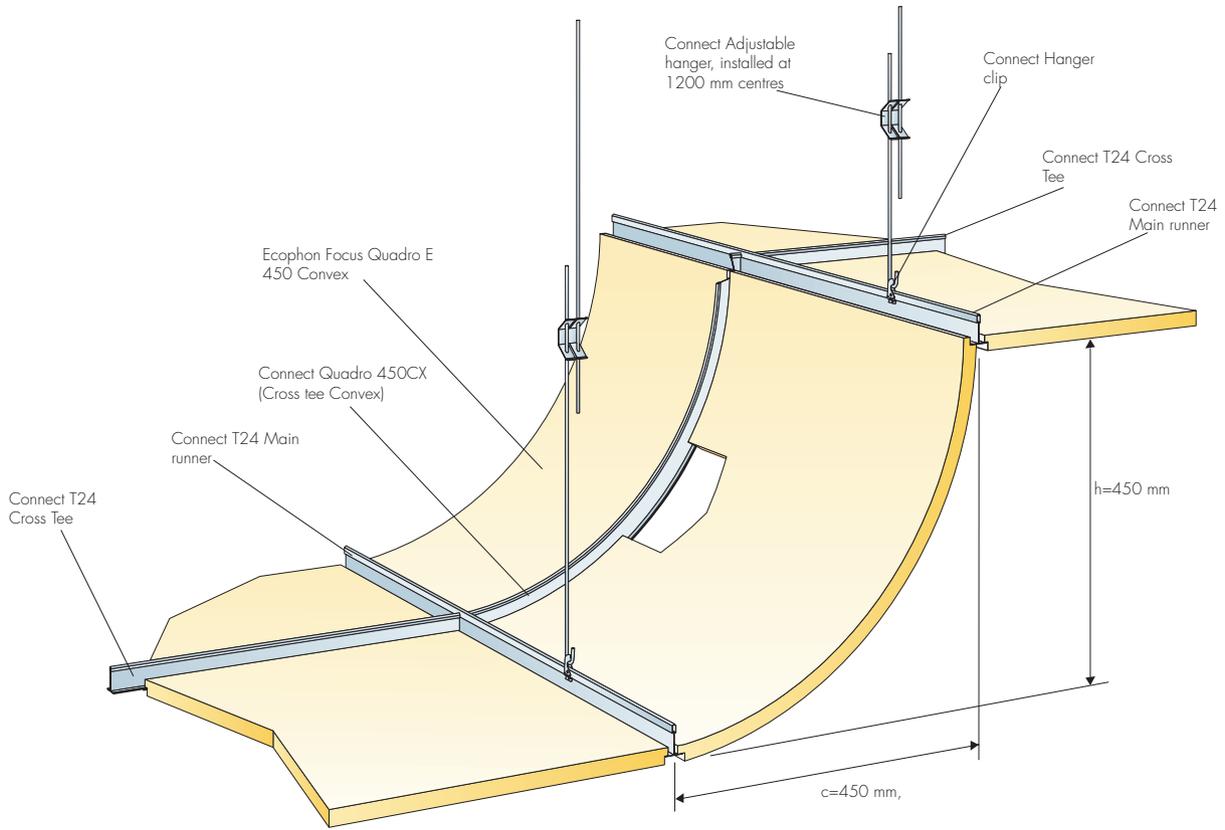


Module measures of corner

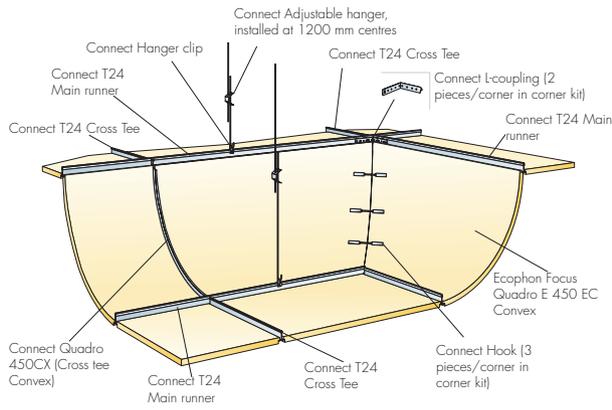


Upper connection between profiles

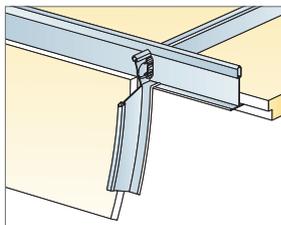
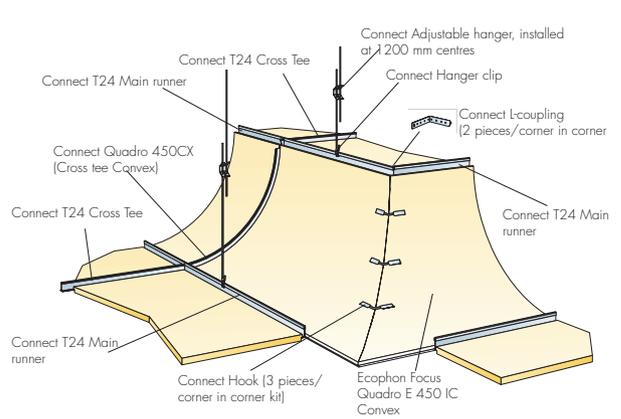
INSTALLATION DIAGRAM (M42) FOCUS QUADRO E 450 CONVEX



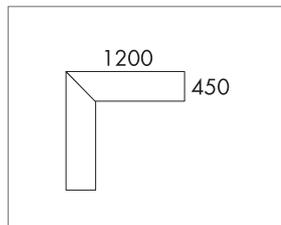
INSTALLATION DIAGRAM (M42EC)  
FOCUS QUADRO E 450 CONVEX EXTERNAL CORNER



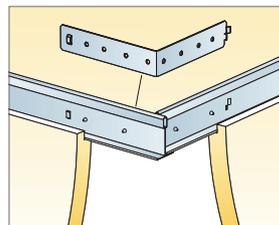
INSTALLATION DIAGRAM (M42IC)  
FOCUS QUADRO E 450 CONVEX INTERNAL CORNER



Upper cross tee connection



Module measures of corner

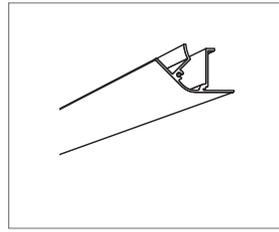


Upper connection between profiles

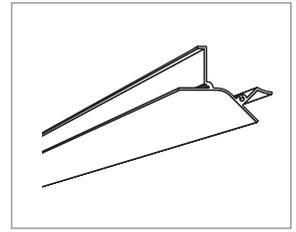


# ECOPHON CONNECT™ ETAGE 45

*Ecophon Connect™ Etage is a series of profiles in extruded aluminium that give a smooth transition between the flat ceiling surface and the change in level of the ceiling. There is a Connect Etage 45 Up profile for the top part of the vertical surface and a matching Connect Etage 45 Down profile for the bottom of the vertical surface. The profiles have a finish similar in texture to Akutex™ FT.*



Connect Etage 45 Up



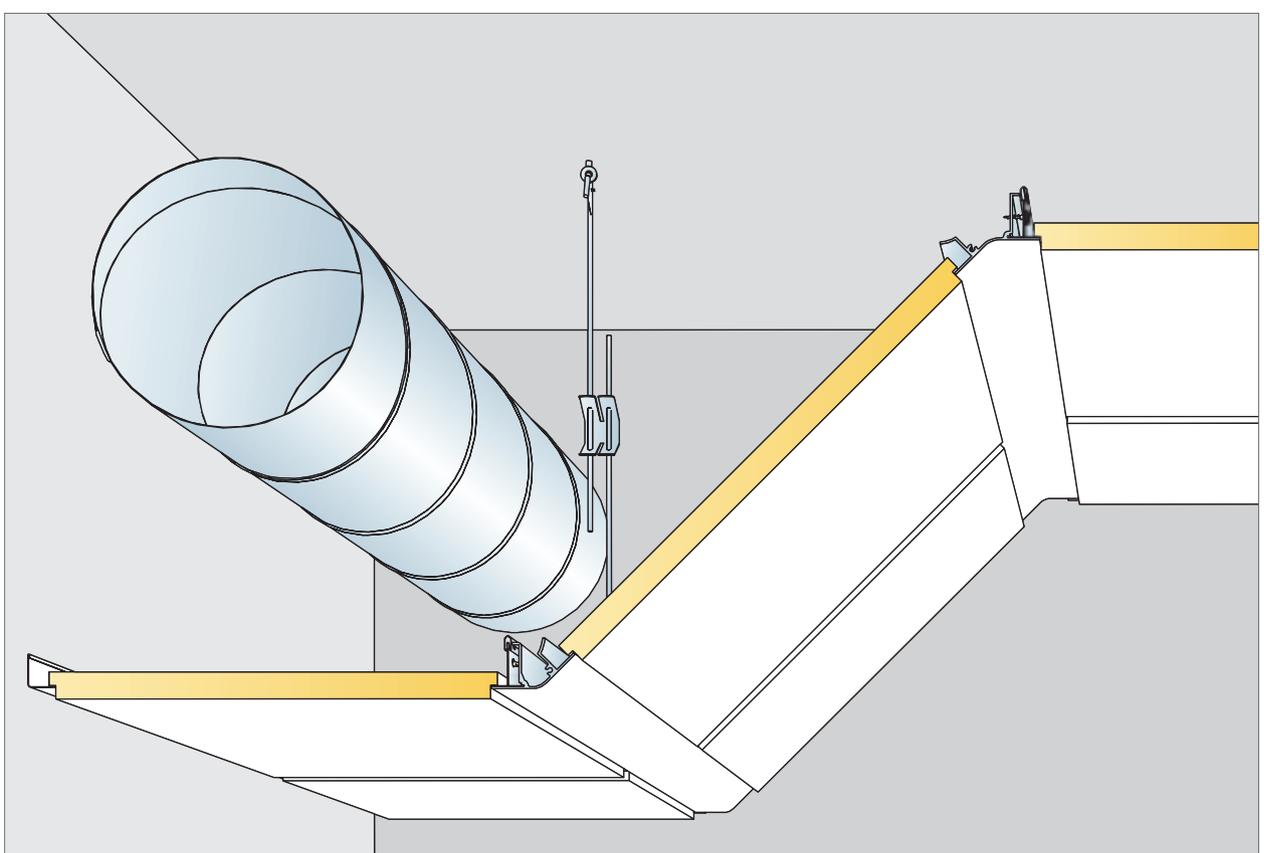
Connect Etage 45 Down



Connect Main runner with Etage Up and ceiling tile

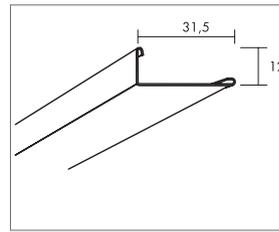


Connect Main runner with Etage Down and ceiling tile

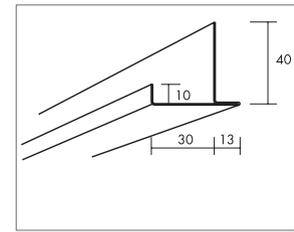


# ECOPHON CONNECT™ F-TRIM

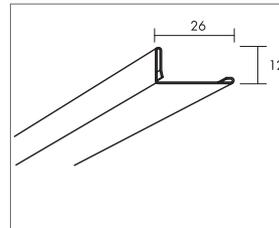
*Ecophon Connect™ F-trim is a galvanised steel profile finished in white that is designed to integrate with the rest of the Connect grid. F-trim is available in 10 mm width for use with Ecophon Focus™ Quadro E Concave and vertical level transitions with Ecophon Focus™ E. It is available in 15 mm width for Ecophon Gedina™ A and Ecophon Advantage™ A, and in 30 mm width for Ecophon Focus™ Flexiform.*



Connect F-trim 15



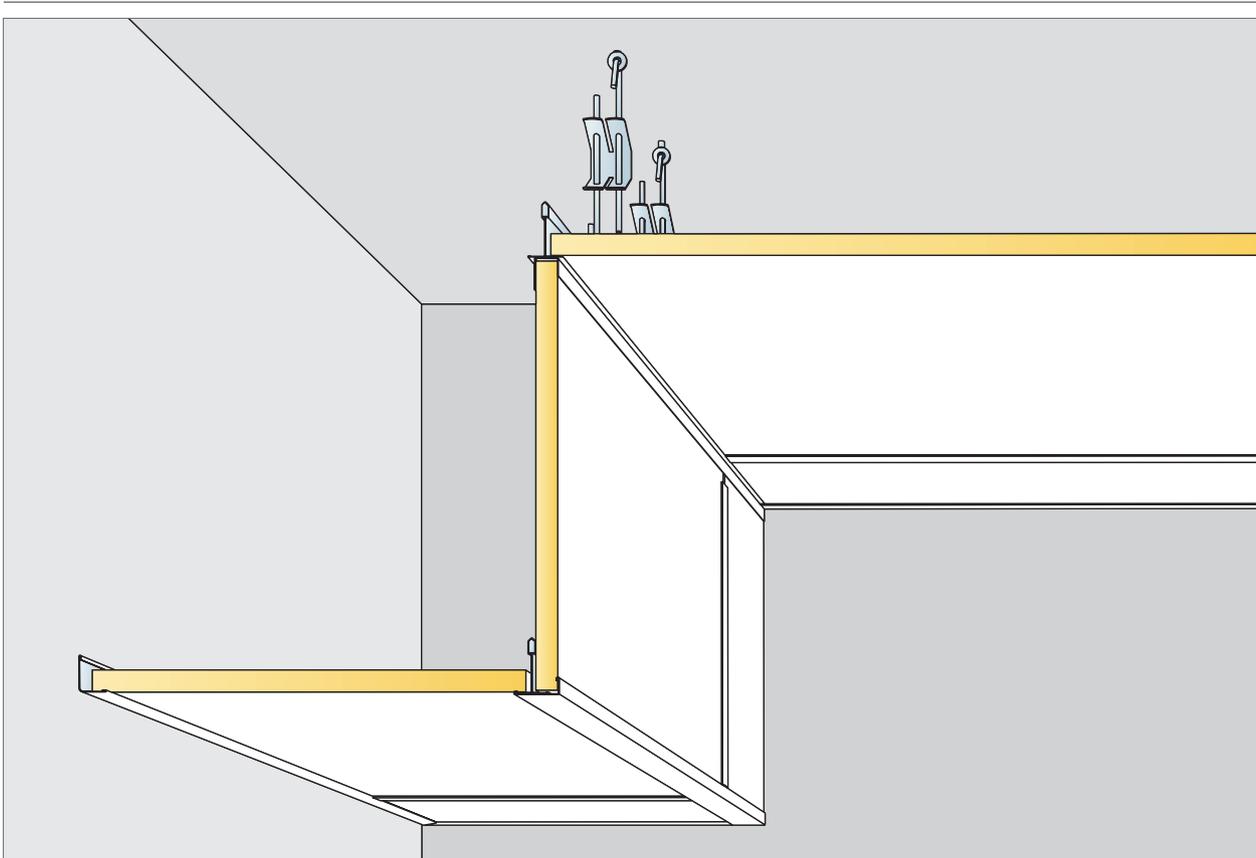
Connect F-trim 0889



Connect F-trim 10



Connect Main runner with F-trim and ceiling tile



# 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.co.uk](http://www.ecophon.co.uk)*

