

# Soundlight Comfort Ceiling



Where sound meets light, comfort is built

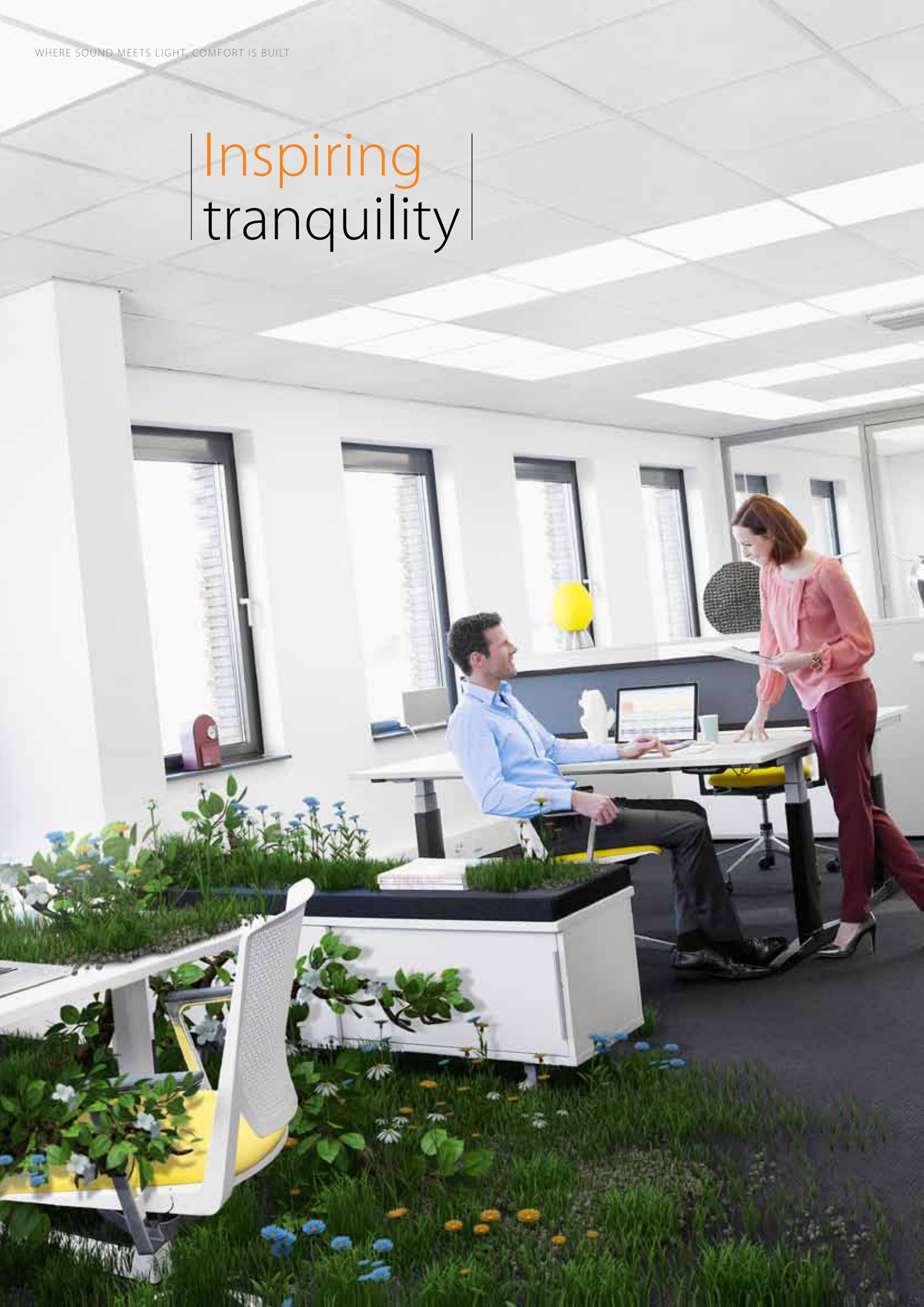
Soundlight Comfort

**PHILIPS**

**Ecophon**  
SAINT-GOBAIN

WHERE SOUND MEETS LIGHT, COMFORT IS BUILT

# Inspiring tranquility





### **Bringing the outdoor environment inside**

The human senses are developed for an outdoor environment. Light and sound influence our emotions, our health and well-being. Our hearing is developed for the way the sound behaves in the outdoors, to provide our mind with valuable information in our surroundings – and make us react to it. The biological clock is regulated by light and darkness, by the daily cycles of night and day and the time we spend asleep and awake. Today however, we spend 80%-90% of our time indoors. If we can create indoor environments where sound and light behave in a more natural way, it automatically makes us feel more comfortable.

### **Soundlight Comfort Ceiling – a synergy**

Using the new innovative technology developed, it is possible to combine the positive effects of sound comfort and light comfort to create a synergetic effect, instead of working at the cost of one another.

Soundlight Comfort Ceiling inspires tranquility as it improves comfort and performance in the office space by integrating comfortable LED lighting with superior sound absorption in one integrated light and acoustic ceiling system.



# A unique integrated lighting and acoustic ceiling system

Soundlight Comfort Ceiling is a revolutionary ceiling system. It is a fully integrated light and acoustic ceiling, developed mainly for open plan office spaces, where all parts are thoroughly tested and developed to function as one system. Soundlight Comfort Ceiling is patent pending (12189737.5).

## Key benefits

- Soundlight Comfort Ceiling fulfills the requirements of a ceiling system in all aspects; reduced sound level, improved speech clarity with Sound Absorption Class A, reduced sound propagation with Articulation Class = 200, and it is fully office norm compliant, meeting all office lighting standards.
- The integrated light and acoustic solution is not at the cost of each other; 100% of the tiles of Soundlight Comfort Ceiling are sound absorbing.
- Soundlight Comfort Ceiling has an even and uniform surface appearance.
- The Connect grid system is part of the Soundlight Comfort Ceiling system, which supports easy installation and maintenance, and gives flexibility to tailor the lighting design to the activities taking place.
- Soundlight Comfort Ceiling offers functional lighting and task lighting in one solution and is flexible for future office lay out changes.
- The LED technology used leads to an energy efficient solution with 65-70lm/W, alike the best TL5 systems in the market.
- Soundlight Comfort Ceiling is a low voltage system which enables a safe installation.



**Sound comfort**

**More natural sound:** the unwanted sound is reduced as unnatural sound reflections are reduced.

**Limit sound propagation:** disturbances from voices coming from colleagues sitting far away are reduced, as sound is not transported as far.

**Lower sound level:** the noise level generally building up in an untreated office is prevented.

**Good speech clarity:** wanted sounds, such as voices coming from colleagues sitting close-by are enhanced as short range speech clarity improves.

**Light comfort**

**More natural light:** the surface properties of the ceiling help to carry daylight far into the building.

**Balanced light distribution:** the diffuse light, emitted from a larger surface, provides visual comfort without harsh shadow contrasts.

**Prevent and reduce glare:** the light is soft yet crisp, glare is close to absent.

**High diffuse vertical light levels:** the room perception is enhanced; the high vertical light levels lead to better lit walls and ceiling, which makes the room appear bigger, less chaotic and more pleasant to work in.

# The Soundlight Comfort Ceiling system

Connect  
Hanger Clip



## Connect grid system

The system consists of sound absorbing lighting emitting tiles ( LED Tiles) and sound absorbing non lighting emitting tiles (Tiles) designed to fit in the Connect grid system. Connect has a narrow spine where the Connect Hanger Clip is connected, and that allows the LED Tiles and Tiles to be easily mounted. The Connect grid and accessories must be used to achieve a smooth installation.

Control box



## Control box

The Control box is the power supply and control unit for the Soundlight Comfort Ceiling LED Tiles. It drives 2-5 (600x600) or 1-2 (600x1200) LED Tiles via a low voltage output port and can connect to the Occuswitch DALI.

Installed  
OccuSwitch  
DALI



OccuSwitch  
DALI

## OccuSwitch DALI

OccuSwitch DALI is a combined sensor and controller and will dim and switch the lights in a room or area upon occupancy and according to the available daylight, with options for local override, parallel operation and network links to Building Management Systems (BMS). The OccuSwitch can easily be connected to the system and integrated in the Tile.



### Soundlight Comfort Ceiling LED Tiles and Tiles

Soundlight Comfort Ceiling LED Tiles and Tiles offer reduced sound level and improved speech clarity with Sound Absorption Class A. Both LED Tiles and Tiles are designed with edge type A. The LED Tiles and Tiles have the same specially designed surface technology, which gives closely matching colours.

A wide array of lux levels can be achieved with the LED Tiles. For a lux level according to office norms (500 lux) approximately 40% of the ceiling should be covered with LED Tiles, and 60% with Tiles. The percentage is depending on the customer requirements and the structure of the space.



#### Tiles

- Have a sound absorbing, light reflecting and light diffusing functionality.
- Offer reduced sound propagation with Articulation Class =200.
- Are made of glass wool with a thickness of 40mm.
- Are aimed for integration and can serve as interface in the case of partitioning.

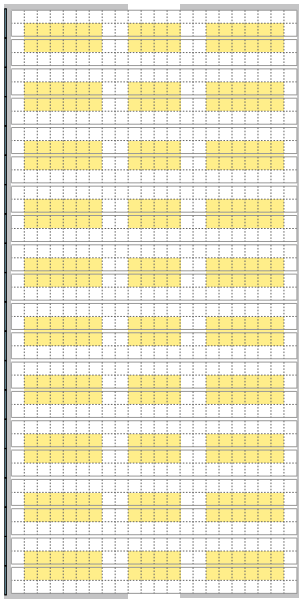




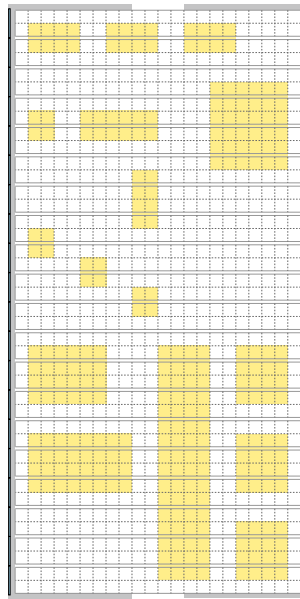
**LED Tiles**

- Have a sound absorbing and light emitting functionality.
- Offer reduced sound propagation with Articulation Class =200.
- Consist of a 15mm glass wool absorber, 45mm air cavity and a surface, which gives a thickness of 60mm. The three components are working together with specified technical properties to imitate a 40mm homogenous sound absorber.
- Have a mechanically strong metal frame. The LED Tile needs to keep the original shape and cannot be cut.
- Are available in two colour temperatures, 3000K and 4000K.
- Are connected with Cat5 cables.
- The LED light sources are completely embedded in the LED Tile and are invisible when the LED Tile is in both on and off state.

# Office design with Soundlight Comfort Ceiling



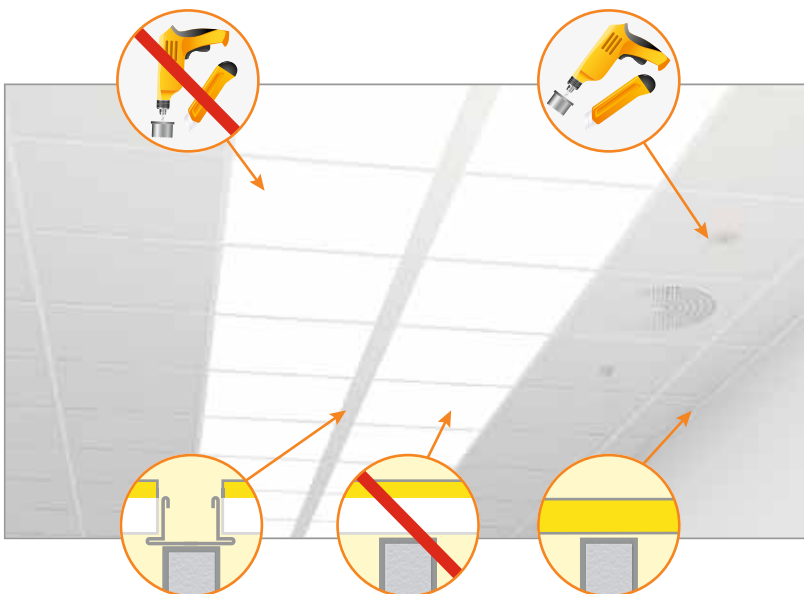
Flexible layout



Activity based layout

Make a flexible or activity based lighting design, based on room characteristics and required lux levels. Soundlight Comfort Ceiling fits both a flexible, identical layout throughout the office, and a more activity based lighting design mirroring room characteristics and specific room functions.

Define the mix of LED Tiles and Tiles according to the lighting design.



Plan for integration with presence detection, ventilation in- and outlets, pillars, sprinklers, etc. These integrations should be planned for the parts of the ceiling fitted with Tiles. Integration in LED Tiles is not possible.

The connection between walls and ceiling and the connection with bandrastrer should be made with Tiles. LED Tiles cannot serve as interface for partitioning since the metal frame in the LED Tile needs to keep its original shape.

Take building modules into account. A careful layout of LED Tiles and Tiles allows fitting any office building module, such as 1350mm, 1500mm and 1800mm.



1350mm



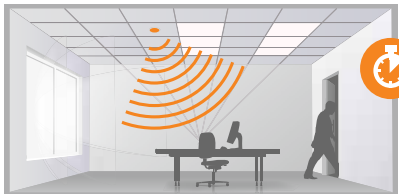
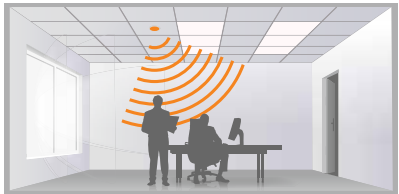
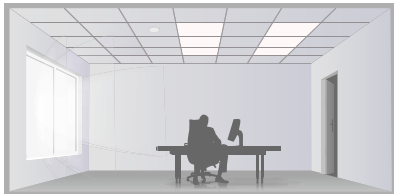
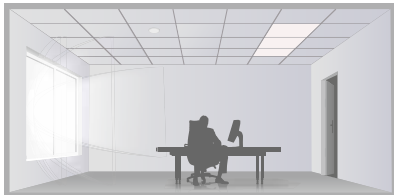
1500mm



1800mm

The installation should be made with support of the Installation Guide, and the light commissioning with support of the Light Commissioning Guide. Download from [www.soundlightcomfort.com](http://www.soundlightcomfort.com)

Decide on control requirements for presence detection and daylight regulation, and how the lighting should be switched on and off. Define the amount and the position of control boxes and OccuSwitches, the amount of Cat5 cables, and put this in a technical installation plan.



Daylight regulation

Presence detection



# Sustainability

## Glass wool technology

Soundlight Comfort Ceiling is manufactured using the latest technology for glass wool production, 3RD Technology, which is a combination of more than 70% recycled glass with a renewable plant based binder.

Products produced with traditional glass wool technology already meet the stringent demands imposed on building material emissions. With 3RD Technology we are taking a step further in preparation for future demands for even lower emissions.

The indoor environment impacts strongly on people's health and satisfaction. The Soundlight Comfort Ceiling products meet the strictest requirements in the Danish Indeklima (Indoor Climate) and Finnish M1 standards, and are recommended by the Swedish Asthma and Allergy Association.

## Energy efficiency

With low energy consumption, high efficiency and a long lifetime, Soundlight Comfort Ceiling is a solution for green buildings that saves on energy bills without compromising on lighting performance. As the LEDs are DALI-driven Soundlight Comfort Ceiling also works beautifully with intelligent controls for tailored light settings, daylight regulation and presence detection. A great way to save even more energy and show the credentials of green buildings in the best possible light. The total surface of the system contributes to make optimal use of daylight entering via the façade windows, as it will spread it further to the dark core of the building. The LED Tile has a high system efficiency of 65-70 lm/W.



Recommended  
by the  
Swedish Asthma  
and Allergy Association



# Soundlight Comfort Ceiling A

Soundlight Comfort Ceiling A is an embedded lighting and acoustic ceiling system. The application area is mainly open office spaces. Soundlight Comfort Ceiling A has an exposed grid system and each tile is easily demountable.

The system consists of sound absorbing lighting emitting LED Tiles, sound absorbing Tiles, Control box, OccuSwitch DALI, and the Connect grid system. The system has a weight of 6 kg/m<sup>2</sup>. All tiles have a core manufactured from high density glass wool utilizing the 3RD Technology. The LED Tile has a thickness of 60mm and the Tile has a thickness of 40mm.

Soundlight Comfort Ceiling A is unique with respect to the light design with wide distribution, large surface illuminated and that the highest possible sound absorption is integrated in every tile. The LED Tile is available in colour temperature 3000K and 4000K. For a lux level according to office norms approximately 40% of the ceiling should be covered with LED Tiles.

The LED Tile is patent pending (12189737.5).

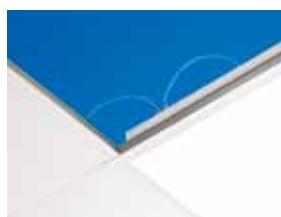


## SYSTEM RANGE

| Size, mm     | 600  | 1200 |
|--------------|------|------|
|              | x    | x    |
|              | 600  | 600  |
| T24          | -    | -    |
| Thickness    | 60   | 60   |
| Inst. Diagr. | M324 | M324 |



Section of Soundlight Comfort Ceiling A system with Ceiling cable



Soundlight Comfort Ceiling A system with Ceiling cable



Soundlight Comfort Ceiling A system



An unlit Soundlight Comfort Ceiling A system

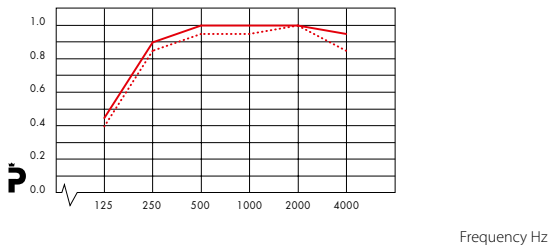
**TECHNICAL PROPERTIES**

**ACOUSTIC**

Sound Absorption: Test results according to EN ISO 354.

Classification according to EN ISO 11654.

$\alpha_p$  Practical sound absorption coefficient



— Soundlight Comfort Ceiling A Tile 200 mm o.d.s.  
 - - - Soundlight Comfort Ceiling A LED Tile 200 mm o.d.s.  
 o.d.s = overall depth of system

| Product          | LED Tile | Tile |
|------------------|----------|------|
| o.d.s mm         | 200      | 200  |
| absorption class | A        | A    |
| aw               | 0,95     | 1,00 |

Sound Insulation: Not applicable.

Sound Privacy: LED Tile AC(1.5)=200 and Tile AC(1.5)=200 according to ASTM E 1111 and E 1110.

- ACCESSIBILITY** The tiles are demountable.
- CLEANABILITY** Weekly dusting and vacuum cleaning.
- VISUAL APPEARANCE** Tile, nearest NCS colour sample S 0500-N, 81% light reflectance. LED Tile (unlit), nearest NCS colour sample NCS S 1000-N, 66% 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).
- INDOOR CLIMATE** Certified by the Indoor Climate Labelling, emission class M1 for building materials and recommended by the Swedish Asthma and Allergy Association.
- ENVIRONMENTAL INFLUENCE** The Tile have a glass wool core utilizing 3RD Technology. Granted the Nordic Swan eco-label. Fully recyclable. The LED Tile is partly 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** The Tile can take small loads of maximum 500g with largest aperture diameter of 100 mm. The LED Tile should only take the load of the Control box, no other additional live load allowed.

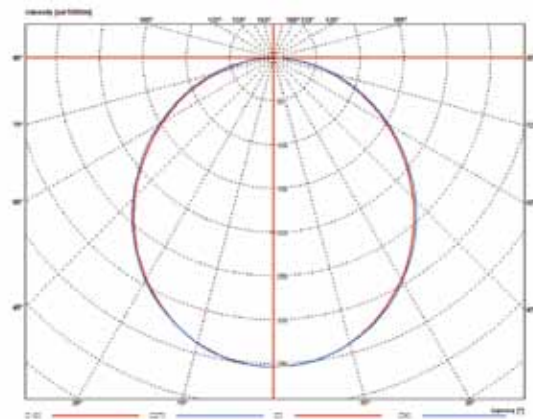
- INSTALLATION** Installed according to installation diagrams, installation guides and drawing aid. For information regarding minimum overall depth of system see quantity specification. Ambient temperature span for installation of LED Tile, +10° C < T < 35° C. Number of LED Tiles connected to control box: 600x600, 2-5. 1200x600, 1-2. Emergency light is optional (to be ordered separately).

- ELECTRICAL DATA :**  
 Mains voltage: 230-240V / 50Hz  
 Power consumption control box: 50W max  
 Output control box: Low voltage (< 60V)  
 Light source: LED (included)  
 Power consumption LED Tile: 600x600 10W, 1200x600 20W  
 System efficacy: 65-70 lm/W  
 Dimming: Compatible with DALI controllers

- CONNECTION :**  
 Ceiling cable: CAT 5 cable (RJ45 connection)  
 Control box: Wieland (GST18i3) and DALI (BST14i2)  
 Power cable: Wieland (GST18i3)  
 Power extension: Wieland (GST18i3)  
 DALI extension: DALI (BST14i2)  
 OccuSwitch cable: Wieland (GST18i3) and DALI (BST14i2)

**LIGHTING PERFORMANCE**

Beam angle: 108°  
 Luminous flux: 600x600 700lm, 1200x600 1400lm  
 Colour temperature: 3000K or 4000K  
 Colour rendering index (Ra): > 80  
 Unified glare rating: < 16  
 Maintenance of lumen output: L90 > 30000 h at 25° C  
 Maintenance of lumen output: L70 > 50000 h at 25° C



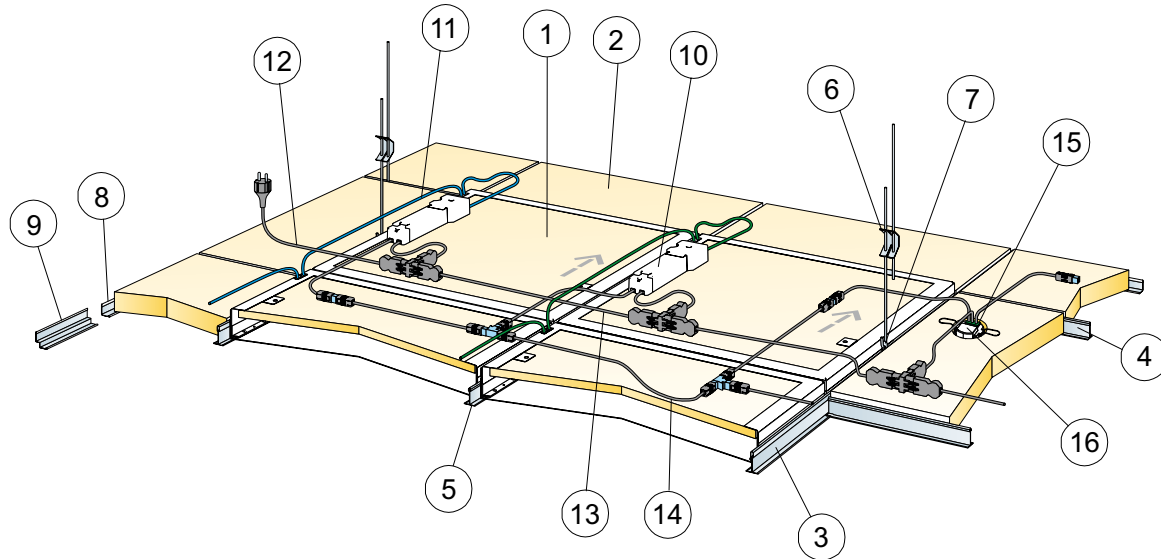
**ELECTRICAL APPROVALS :**

Control box: IP20, Class I  
 LED Tile: IP20, Class III



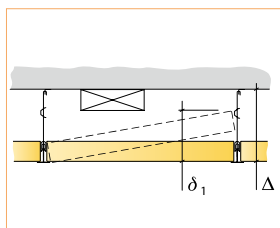
# M324

## INSTALLATION DIAGRAM (M324) FOR SOUNDLIGHT COMFORT CEILING A

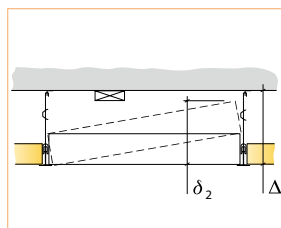


### QUANTITY SPECIFICATION (EXCL. WASTAGE)

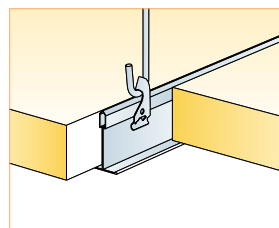
|  | Size, mm            |                     |
|--|---------------------|---------------------|
|  | 600x600             | 1200x600            |
| 1 SLCOMF Ceiling A LED Tile (Colour temperature: 3000K (830) or 4000K (840))                           | as required         | as required         |
| 2 SLCOMF Ceiling A Tile  | as required         | as required         |
| 3 Connect T24 Main runner, installed at 1200 mm centres (max distance from wall 300 mm)                | 0,9m/m <sup>2</sup> | 0,9m/m <sup>2</sup> |
| 4 Connect T24 Cross tee, L=1200 mm, installed at 600 mm centres  | 1,7m/m <sup>2</sup> | 1,7m/m <sup>2</sup> |
| 5 Connect T24 Cross tee, L=600 mm  | 0,9m/m <sup>2</sup> | -                   |
| 6 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>  |
| 7 Connect Hanger clip  | 0,7/m <sup>2</sup>  | 0,7/m <sup>2</sup>  |
| 8 Connect Angle trim, fixed at 300 mm centres  | as required         | as required         |
| 9 Connect Shadow-line trim, fixed at 300 mm centres  | as required         | as required         |
| 10 SLCOMF Ceiling Control box (includes power and DALI splitter)                                       | as required         | as required         |
| 11 SLCOMF Ceiling Cable, L = 1000 / 2000 / 5000 mm   | as required         | as required         |
| 12 SLCOMF Ceiling Power Cable, L = 3000 mm   | as required         | as required         |
| 13 SLCOMF Ceiling Power extension, L = 1000 / 3000 mm  | as required         | as required         |
| 14 SLCOMF Ceiling DALI extension, L = 1000 / 3000 mm   | as required         | as required         |
| 15 SLCOMF OccuSwitch cable, L = 500 mm   | as required         | as required         |
| 16 SLCOMF OccuSwitch   | as required         | as required         |
| Δ Min. overall depth of system: 140 mm   |                     |                     |
| δ1 Min. demounting depth: 170 mm   |                     |                     |
| δ2 Min. demounting depth: 230 mm, LED Tile with SLCOMF Ceiling Control box is not directly demountable |                     |                     |



See Quantity specification



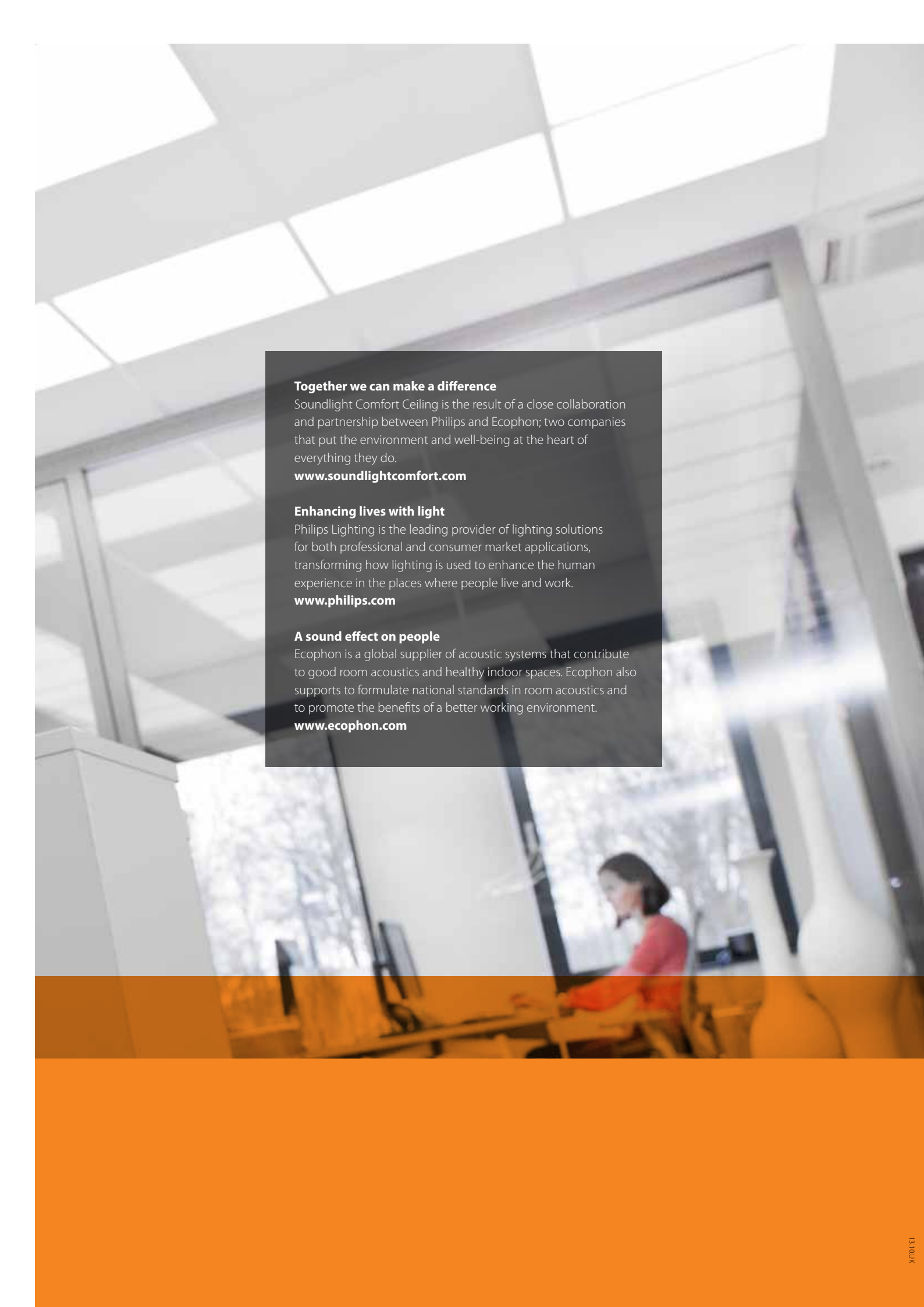
See Quantity specification



Suspension with adjustable hanger and clip

| Size, mm | Max live load (N) | Min load bearing capacity (N) |
|----------|-------------------|-------------------------------|
| 600x600  | 30                | 160                           |
| 1200x600 | 30                | 160                           |

Live load/load bearing capacity



**Together we can make a difference**

Soundlight Comfort Ceiling is the result of a close collaboration and partnership between Philips and Ecophon; two companies that put the environment and well-being at the heart of everything they do.

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

**Enhancing lives with light**

Philips Lighting is the leading provider of lighting solutions for both professional and consumer market applications, transforming how lighting is used to enhance the human experience in the places where people live and work.

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

**A sound effect on people**

Ecophon is a global supplier of acoustic systems that contribute to good room acoustics and healthy indoor spaces. Ecophon also supports to formulate national standards in room acoustics and to promote the benefits of a better working environment.

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