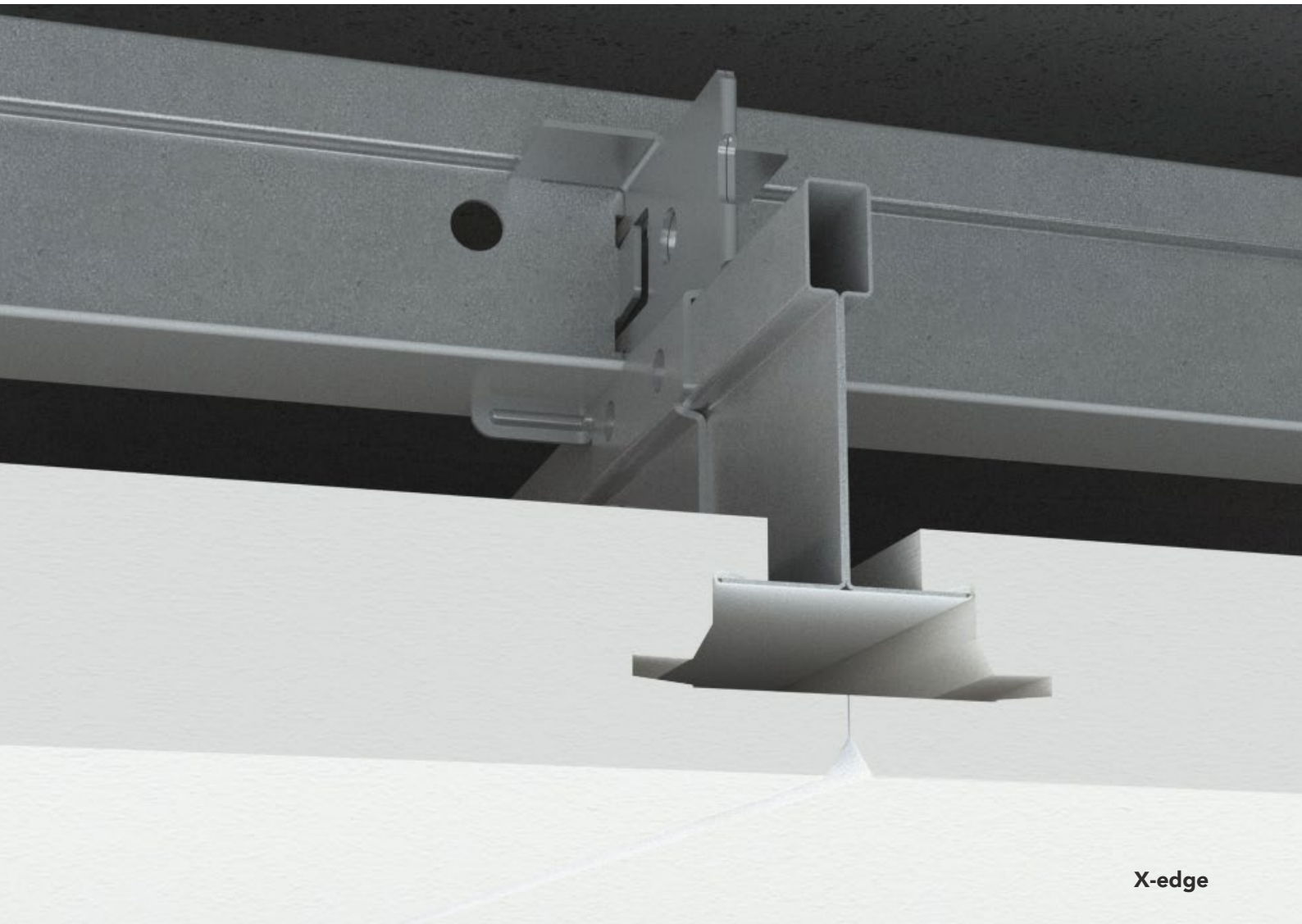
Rockfon

INSTALLATION GUIDE

# Rockfon® System T24 X DLC



X-edge

Concealed ceiling system
Continuous expression

- Elegant, continuous ceiling expression
- Ideal concealed ceiling system for large rooms
- Low installation height and full demountability
- Easy installation of large format ceiling tiles

Sounds Beautiful

# Description

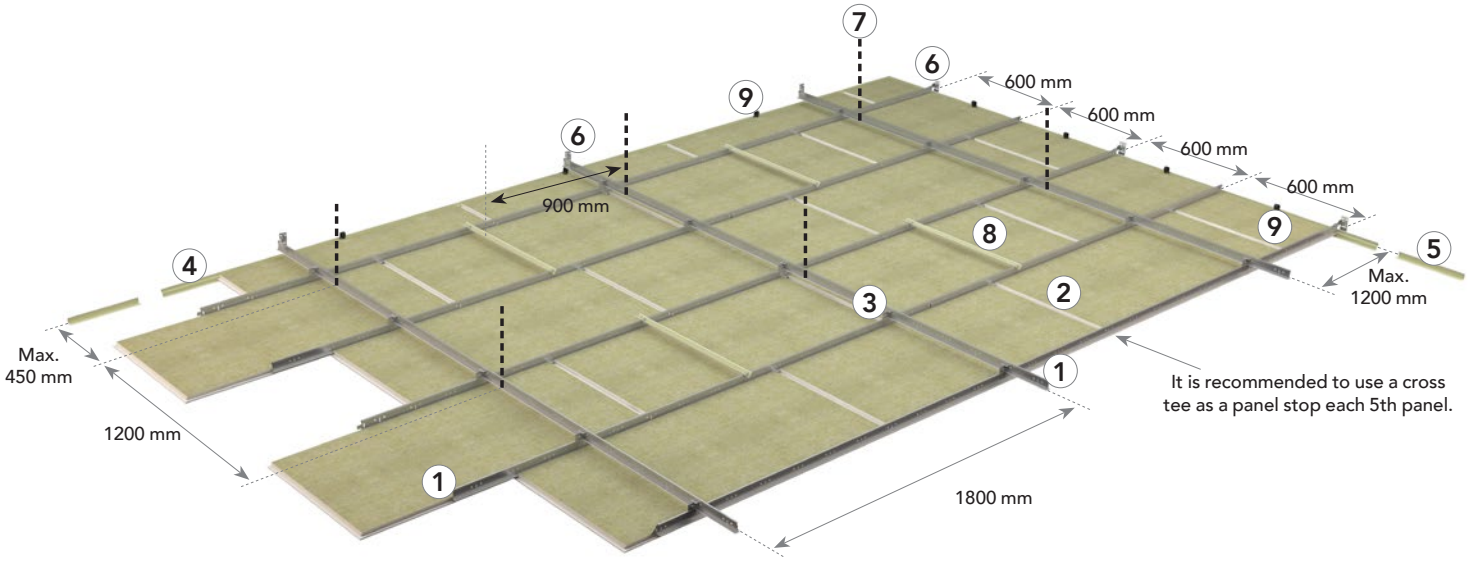
**Rockfon System T24 X DLC** is a concealed ceiling system that provides an elegant, continuous ceiling expression and is used with X-edge tiles.

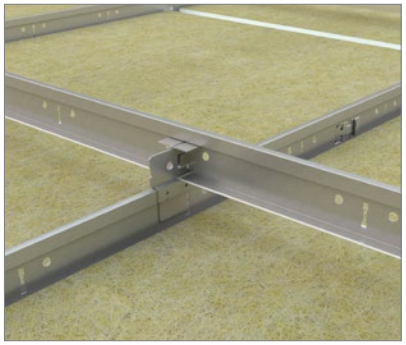
The system consists of a double layer grid layout, connecting the upper and lower grid layers with a specially designed clip (DLC), providing extra stability and easy installation of large format ceiling tiles. It is ideal for large rooms and can even be installed in a brick pattern. It can either be installed as a suspended ceiling at the desired height using the **Chicago Metallic T24 Click 2890** or installed directly to the soffit by using direct fixing brackets.

In Rockfon System T24 X DLC the Chicago Metallic T24 Click 2890 grid has a click connection providing quick and easy installation and demounting. The T profiles have a width of 24 mm, and all components are made of galvanised steel with a smooth, white surface hidden by Rockfon X-edge tiles.

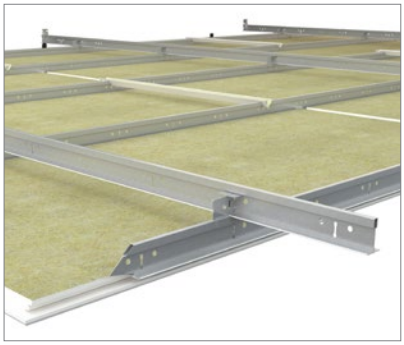
The system includes main runners, cross tees, hangers and other necessary components. The main runners and cross tees have a uniform height of 38 mm, ensuring stability and easier integration of services.

The system provides full demountability of the installed tiles. The system is characterised by symmetrical, fully independent tiles. Rockfon X-edge tiles are available in different module sizes (see overview on page 3). The grid layout to be used depends on the choice of the module size (see layout possibilities on page 5).

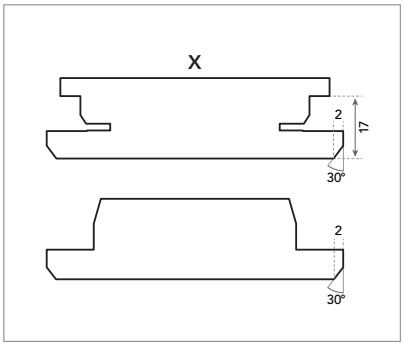


*Connection between upper and lower grid profiles with DLC clip ensuring stability and easy installation.*



*Two-layer grid system ensuring easy installation of perimeter tiles.*



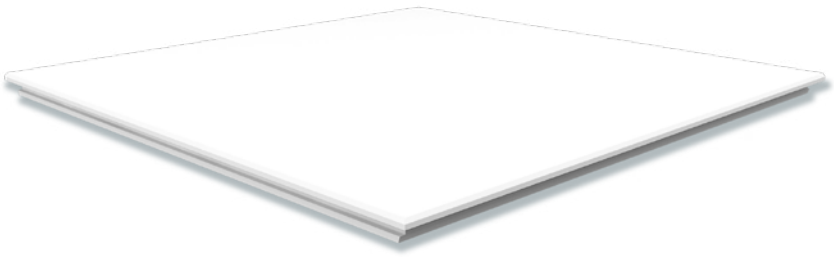

*Concealed grid system with the symmetrical X edge ensuring quick installations in both directions.*

# System components and consumption guide

| Tile | | Chicago Metallic T24 Click 2890 | | | | Wall angles | | Accessories | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| - | | Primary main runner T24 Click/Hook 3600 | Secondary main runner T24 Click/ Hook 3600 | Cross tee T24 Click 600 | DLC Clip | W 10 x 15 Shadow moulding wall angle | Perimeter wall angle trim | Wall & bridging bracket | Rigid angle hanger | Spacer Bar | Wall spring FIXT |
| **Dimensions (mm)** | **Consumption/m²** | | | | | | | | | | |
| 600 x 600 | 2.78 pcs/m² | 0.67 lm/m² | 1.66 lm/m² | 0.33 lm/m² | 1.11 pcs/m² | 1) | 1) | 1) 3) | 0.56 pcs/m² | 1) 4) | 1) 2) |
| 1200 x 600 | 1.39 pcs/m² | 0.67 lm/m² | 1.66 lm/m² | 0.27 lm/m² | 1.11 pcs/m² | 1) | 1) | 1) 3) | 0.56 pcs/m² | 1) 4) | 1) 2) |
| 1800 x 600 | 0.93 pcs/m² | 0.67 lm/m² | 1.66 lm/m² | 0.27 lm/m² | 1.11 pcs/m² | 1) | 1) | 1) 3) | 0.56 pcs/m² | 1) 4) | 1) 2) |
| 2100 x 600 | 0.79 pcs/m² | 0.67 lm/m² | 1.66 lm/m² | 0.23 lm/m² | 1.11 pcs/m² | 1) | 1) | 1) 3) | 0.56 pcs/m² | 1) 4) | 1) 2) |
| 2400 x 600 | 0.70 pcs/m² | 0.67 lm/m² | 1.66 lm/m² | 0.21 lm/m² | 1.11 pcs/m² | 1) | 1) | 1) 3) | 0.56 pcs/m² | 1) 4) | 1) 2) |

*Calculations are based on a primary main runner A/A distance of 1500 mm.*
*1) Consumption depends on room size.*
*2) The wall clip is used to block the tile against the wall. When edge springs are used, make sure there is enough space between the tile and the wall to insert the spring. Use one spring per tile.*
*3) For better stability we recommend to fix the upper main runners (each second) and lower main runners (each one) to the wall.*
*4) The use of a spacer bar is recommended.*

## Tile - X Edge



## Chicago Metallic T24 Click 2890

1. Primary & Secondary Main runner T24 Click/Hook 3600

2. Cross tee T24 Click 600

3. DLC Clip

## Wall angles

4. W Shadow moulding wall angle

5. Perimeter wall angle trim

## Accessories

6. Wall & bridging bracket

7. Rigid angle hanger

8. Spacer Bar 600 mm

9. Wall spring FIXT

# Performance


## System load bearing capacity

| - | | | Max. Load (kg/m²) | |
|---|---|---|---|---|
| Distance between primary/ secondary main runners (mm) | Hanger distance (mm) | Dimensions (mm) | Max. 2.5 mm deflection | Max. 4.0 mm deflection |
| 1500/600 | 1200 | 600 x 600 | 6.3 | 10.5 |
| | | 1200 x 600 | 6.3 | 10.5 |
| | | 1800 x 600 | 6.3 | 10.5 |
| | | 2100 x 600 | 6.3 | 10.5 |
| | | 2400 x 600 | 6.3 | 10.5 |
| 1800/600 | 1200 | 600 x 600 | - | 5.7 |
| | | 1200 x 600 | - | 5.7 |
| | | 1800 x 600 | - | 5.7 |
| | | 2100 x 600 | - | 5.7 |
| | | 2400 x 600 | - | 5.7 |

*The system´s load capacity is determined from a max. deflection of the individual components corresponding to 1/500 of the span or the cumulative deflection of all structural components which does not exceed 2,5 or 4,0 mm. The load bearing capacity is given as regularly distributed load in kg/m², the weight of the tile is not included.*

## Corrosion resistance

Class B (EN13964)

## Demountability

Tiles mounted in Rockfon System T24 X DLC are fully demountable.

## Fire resistance

Some Rockfon ceiling systems have been tested and classified in accordance with European norm EN 13501-2 and/or national norms. Please contact Rockfon.

# Compatible Tiles Overview

Rockfon System T24 X DLC is available with the following Rockfon tiles:

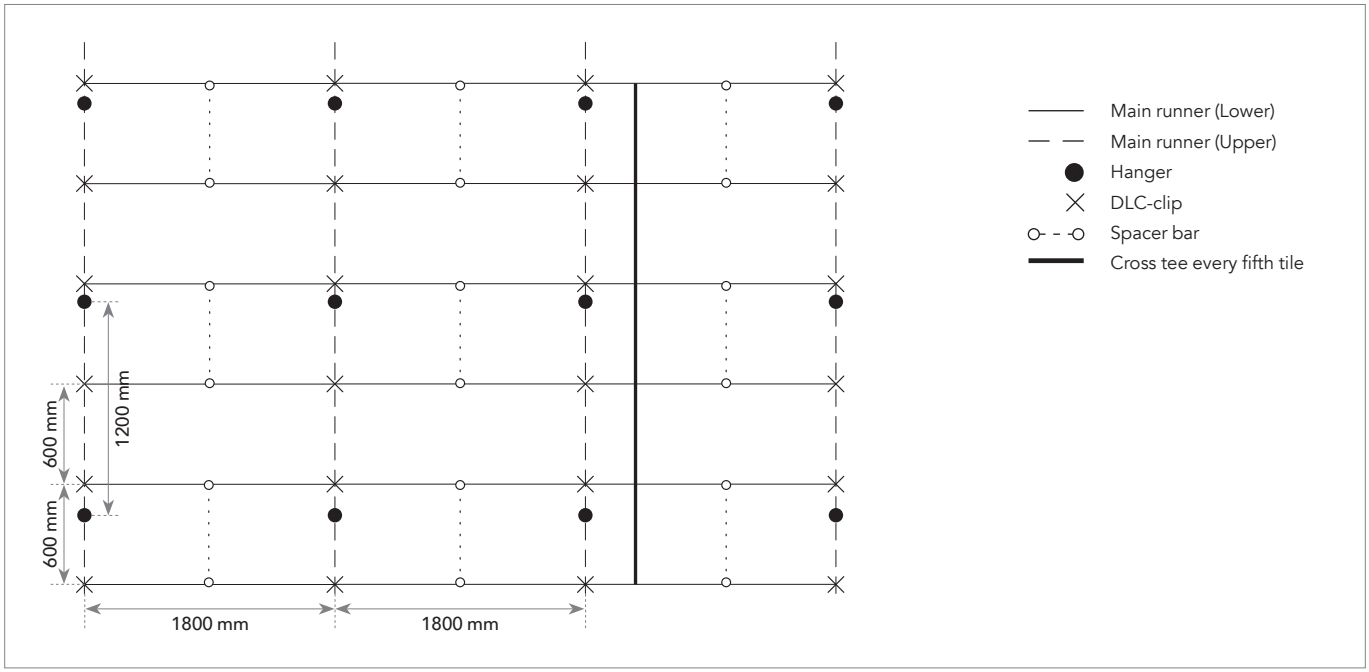
| - | | Dimensions (mm) | | | | |
|---|---|---|---|---|---|---|
| Tiles | Thickness (mm) | 600 x 600 | 1200 x 600 | 1800 x 600 | 2100 x 600 | 2400 x 600 |
| Rockfon® Blanka™ | 22 | • | • | • | | |
| Rockfon® MediCare® Plus | 22 | • | • | | | |
| Rockfon Color-all® | 22 | • | | | | |
| Rockfon Color-all® Special | 22 | • | | | | |
| Rockfon Blanka® | 25 | | | | • | • |

*Other dimensions can be installed in Rockfon System T24 X DLC. Please contact Rockfon.*

# Grid Installation

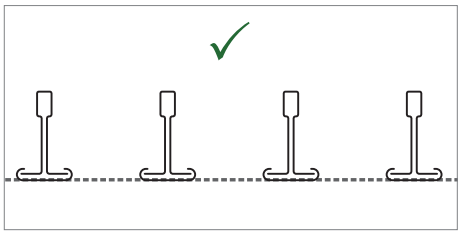
## Grid layout and hanger location

Rockfon X-edge tiles can be installed in Rockfon System T24 X DLC.
Some layout options are shown below depending on the size of the tile.

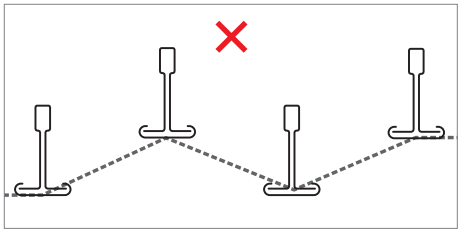


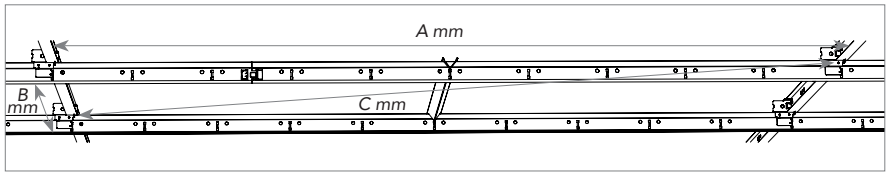

## Installation requirements

During and after the grid installation, it is important to check that the T profiles are perfectly aligned horizontally. A maximum level difference of +/- 1 mm is recommended between the profiles. This tolerance is valid for all directions.



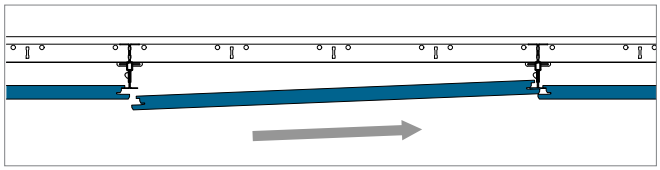
It is also important to check the squareness of the angles between the main runners and cross tees. This can be done easily by comparing the measurements of the two diagonals.
See recommended tolerances on the drawing below.



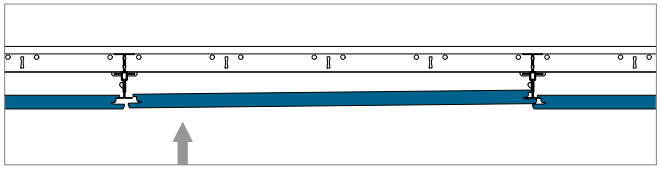



| Dimensions (A x B) | Diagonal (C) | Tolerance |
|---|---|---|
| mm | | |
| 1800 x 600 | 1867.07 | +/- 1.0 |

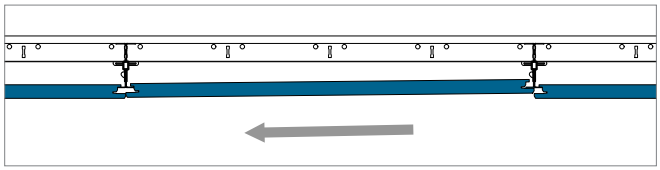
# Tile Installation



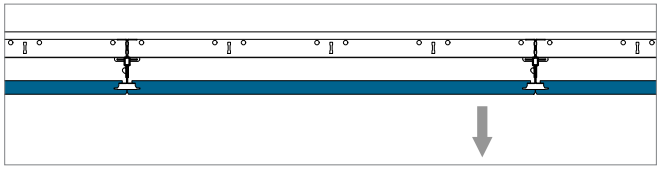
*Slide the X1 edge of the tile into the T profile.*



*Lift the upper side of the opposite X1 edge of the tile above the T profile*



*Pull the tile back.*



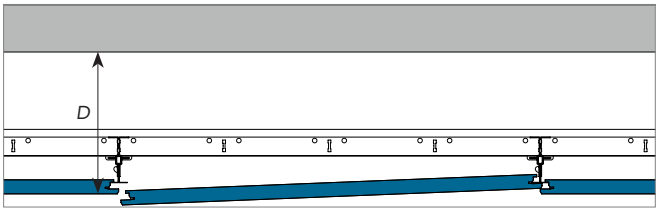
*Drop the tile carefully into position.*

# Minimum installation depth (mm)

Tiles installed in Rockfon System T24 X DLC are fully demountable. The system is characterised by symmetrical, fully independent tiles.

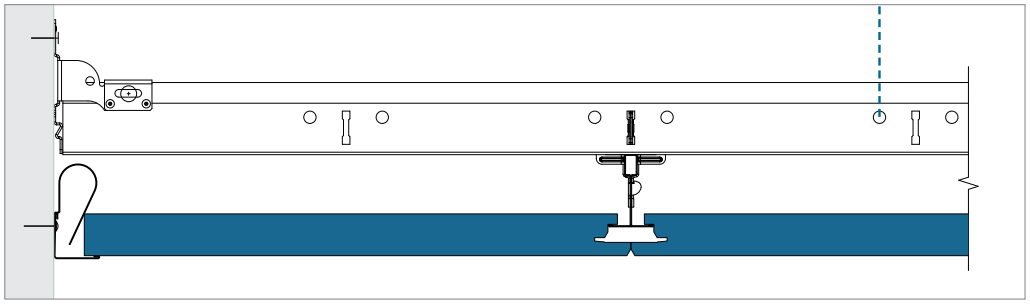
The installation depth is defined as the distance from the underside of the tile to the underside of the substrate, where the hangers are fixed. D represents the minimum installation depth that allows for easy tile installation and demounting.

| Mounting method | D = Minimum installation depth |
|---|---|
| Direct fixing with direct suspension clip 50mm - 211163 | 104 mm |
| Direct fixing with direct suspension clip 80mm - 211165 | 134 mm |
| Direct fixing with direct suspension clip 100mm - 165400 | 154 mm |
| Adjustable fixing bracket 70-110 | 124 mm |
| With hangers | 169 mm |
| Construction height for tiles incl. 2-layer runners | 92 mm |

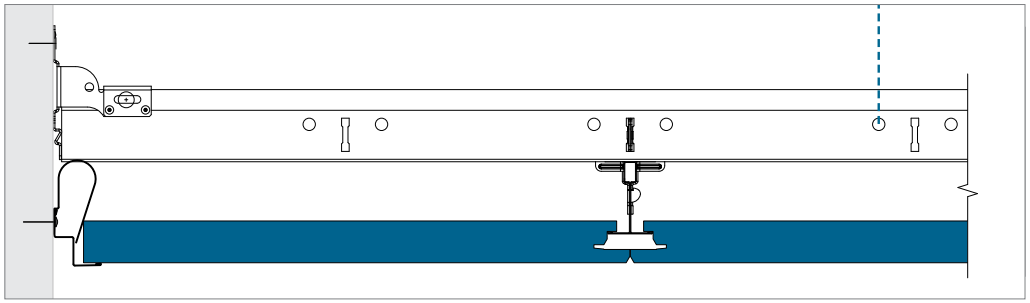


# Perimeter Finish Options

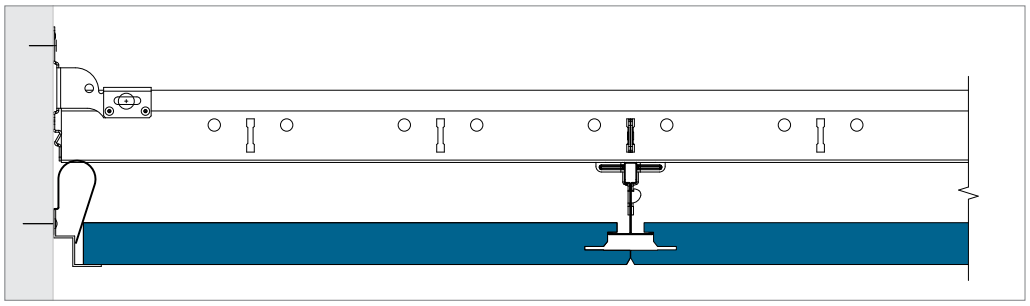
Below are examples of perimeter finishing. Further details can be found on **www.rockfon.co.uk**



*Perimeter finish with wall angle trim.*



*Perimeter finish with W shadow moulding wall angle.*



*Perimeter finish with aluminium W shadow moulding wall angle.*

# Service integration

**Rockfon ceiling tiles are easy to cut and therefore it is very easy to integrate service installations in our ceiling tiles. The cut-outs can be made with a simple utility knife.**

When the system is load bearing we recommend using a yoke or extra support arms that spread the weight of the service installation. The size of the yoke should not be bigger than the module size 600 x 600 mm and the use of extra hangers to overcome deflection in the ceiling system is strongly recommended. When using support arms to spread the weight of the installation, Rockfon recommends spanning a maximum 600 mm and the use of extra hangers to overcome deflection in the ceiling system.

When integrating (recessed) modular luminaires please take note of the X edge tile design and its relationship to the grid. Because of the ceiling tile design, a special type of luminaire should be chosen in order to create an aesthetically pleasing and well levelled ceiling surface. The actual size of the ceiling tile is nearly its module size and the front surface of the ceiling tile sits approx. 16 mm below the face of the T-grid.

## Planning

A thorough project plan will result in less re-work and less ceiling tile damage. Rockfon recommends discussing the installation thoroughly and well in advance with other installers that have to work in or near the suspended ceiling. By doing so damaged ceiling tiles and dirty spots on the finished ceiling surface can be reduced, which reduces costs on site.

## Overview load bearing capacity

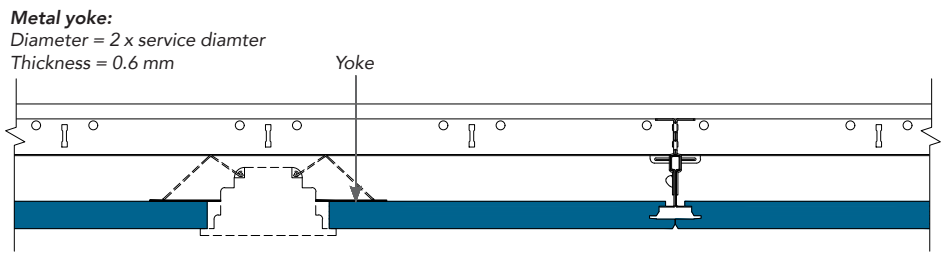
| - | Weight of installations | | |
|---|---|---|---|
| - | < 0.25 kg/pcs | 0.25 ≥ 3.0 kg/pcs | > 3.0 kg/pcs |
| Small service integration;<br>Spot- or downlight, speaker, ventilation etc. | Drawing A | Drawing B | Suspend separately |
| Large service integration;<br>Downlight, speaker, ventilation, etc. | Drawing A | Drawing B | Suspend separately |
| Modular lighting- or ventilation fixture | Drawing C; System load bearing capacity (if evenly distributed over grid in kg/m²) | | |

When installing services in Rockfon System T24 X DLC you should always follow local building regulations. If the constraints are stricter than the load-bearing capacity, please find our recommendations in the above table.

Contact your local Rockfon customer service for more information on suitable lighting fixtures, accessories and the availability of CAD drawings for the different services integrated in Rockfon system T24 X DLC. Special solutions with integrated services are, if available, shown on page 12 of this document; in the Tools section.

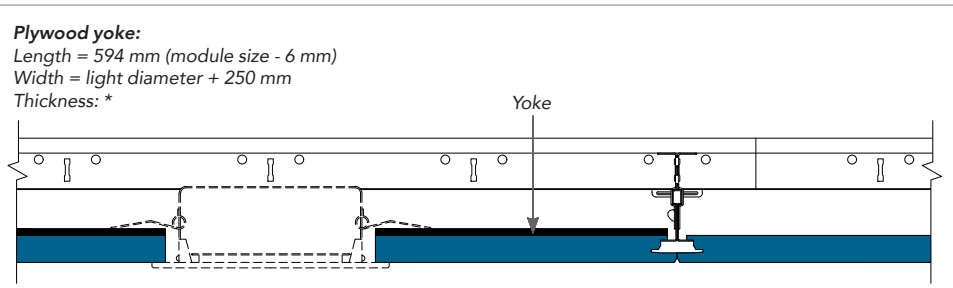
## Drawing A

The integration of a spotlight, smoke detector, speaker, etc. (weighing < 0.25kg/pcs).




## Drawing B

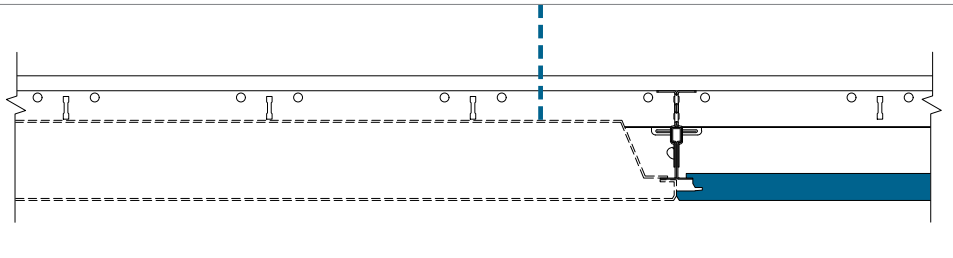
The integration of a downlight, spotlight, smoke detector, loud speaker, etc. (weighing 0.25 ≥ 3.0kg/pcs). Use of a plywood yoke to spread the load on the back of the tile (as shown in the detail) or use of support arms to spread the load to the grid system is strongly recommended. The use of extra hangers to reduce deflection is strongly recommended.




**The thickness of the plywood or metal yoke needs to be adapted in function of the weight, size and position of your service integration (e.g. downlight or speaker). The Plywood or metal yoke itself may not deflect after installing your service integration.*

## Drawing C

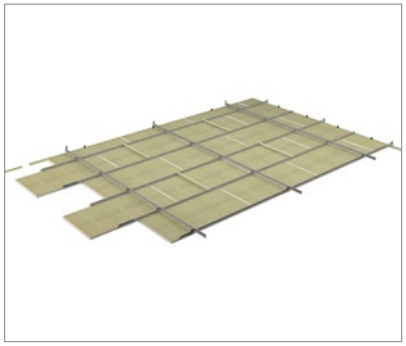
The integration of a modular lighting fixture or air vent (evenly distributed over grid), weighing max. the system loading capacity. It is strongly recommended to suspend the service integrated surface separately with extra hangers.

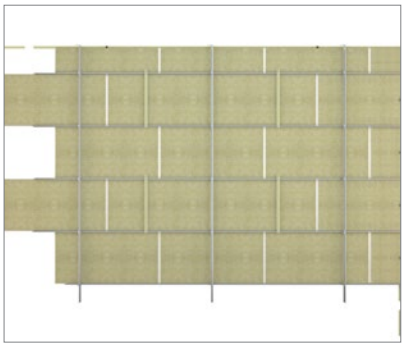


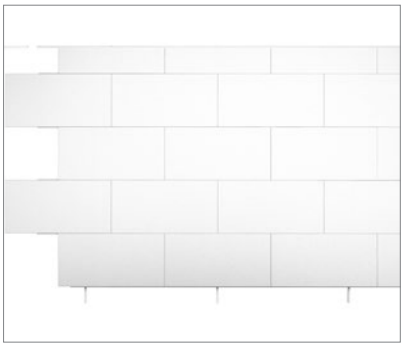
# Specific Solutions

### Brick pattern design

Rockfon System T24 X DLC makes it possible to create a brick pattern design in you ceiling, with only standard components.

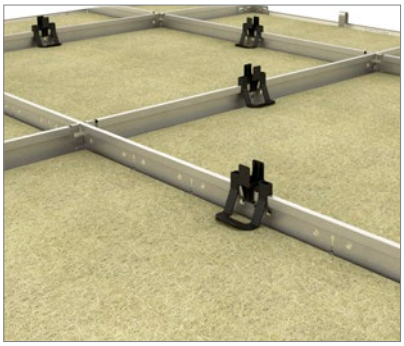






### Hold down clip

For maintaining tiles in place, Rockfon offers a range of hold-down clips. In smaller rooms, hallways, stairwells, etc. which can be exposed to air pressure differences between the ceiling void and room, it is recommended that ceiling tiles are clipped at the back. This is also recommended for cleaning purposes. For further information on our hold down clips please refer to our Hold Down Clips brochure.



### Light frame

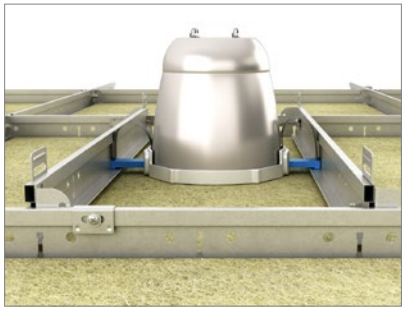
Made exclusively for our Rockfon System T24 X DLC, the easy to mount light frame for our X-edge concealed ceiling tile securely fits into the grid, providing an aesthetic and practical finish. It allows for the easy installation of both a light frame and other important service integration without compromising the visual finish of the total ceiling, leaving no gaps between the light frame and the X-edge tile.

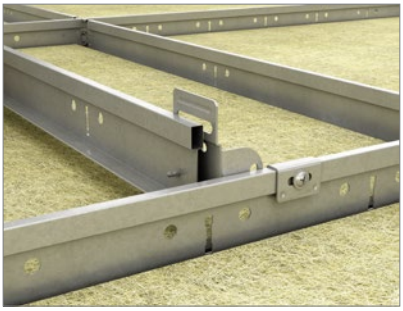
## Bridging (Eliminate deflection)

Perfectly optimised for our Rockfon suspension grids, the bridging bracket enables you to secure your T profiles across a variety of tile thicknesses ranging from 0 mm (only relevant for our Chicago Metallic T24 Click 2890 or Chicago Metallic T24 Click 2790) to 20 mm.

Easy to install, the bracket is a versatile, non-combustible component that can be used for service integration with different dimensions without the need for a using a yoke or patress.

To install the Bridging function of the bracket, simply screw fasten the Wall & Bridging Bracket for T profiles to your main runners and cross tees, transferring the weight of the service to the grid. This ensures that no load rests on the tile, eliminating concerns of deflection.





# General installation recommendations

### Junction between ceiling and wall or other vertical surface

The perimeter trim should be fastened to vertical surfaces at the required level using appropriate fixings replace by every 300 mm centres. Ensure that butt joints between adjoining lengths of trim are neat and that the trim is free from kinks and remains true and level. For the best aesthetics, use as long a length of trim as possible. The minimum recommended cut length is 300 mm.

### Timber trims, timber shadow battens and metal

Shadow mouldings should not be used with fire resisting/protecting ceilings.

### Junction between ceiling and curved vertical surface

The use of a preformed curved perimeter trim is the most appropriate method. We can provide details of curved perimeter trims on request.

### Corners

Perimeter trims should be neatly mitred at all corner joints. Overlap mitres are acceptable for metal trims on internal corner joints, unless specified otherwise.

### Suspension grid

This system has to be installed in two levels. An upper and a lower level of main runners.
The hangers must be secured to the upper main runners with a max. distance of 1200 mm and adjusted to the required level. The upper main runners must be installed with a max. distance of 1500 to 1800 mm to each other.

The lower main runners will carry the load of the panels and must be secured to the upper main runners with a DLC clip in every cross section between the lower and upper profiles. The tile with the X edge will be easy to install and be fully demountable in the system.

The upper main runners must be secured to the wall with a suitable bracket. Every second lower main runner has to be secured to the wall as well. The distance profile has to be used for every second area as shown in the drawing on page 2.

To avoid the displacement of panels, a cross tee has to be used at the beginning and the end of each row of panels. This cross tee has to be connected to the lower level of main runners. Furthermore, the cross tee has to be used for every fifth panel row. Each panel has to be secured by a wall spring for every 600 mm distance.

### Tiles

We recommend the use of clean nitrile or PU coated gloves when installing Rockfon tiles in order to avoid fingerprint marking on the surface.

Cutting is made easy with a sharp knife.

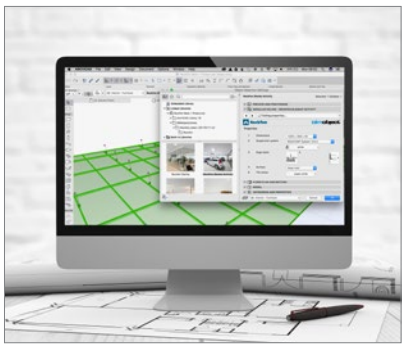
For an optimum work environment, we recommend installers always observe common work practices and follow the installation advice as shown on our packaging.

Installation of 1800 x 600 mm and larger planks is recommended to be carried out by two people.

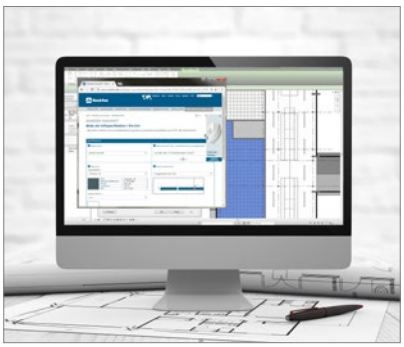
**Note!** Certain smooth matt surfaces are directional. To ensure consistency of the finished ceiling, it is important that all tiles are installed in one direction indicated by the arrow printed on the back of each tile.

# Tools

Rockfon has developed specific tools that are available on **www.rockfon.co.uk**



*Visit our online CAD Library or BIM portal to assist you in your project design.*



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