

# Deco Acoustic Grid
/THU

**THU**'s **Deco Acoustic Grid** range is a high-performance acoustic removable technical ceiling system composed of modular PET felt elements mounted on T15 and T24 metal profiles for removable technical ceilings.

Through different opening (module) size configurations for the grid – featuring standard centre-to-centre distances, materials and metal profiles with various finish colours – you can create a wide range of creative combinations to decorate spaces with high technical requirements.

The grids are manufactured using PET (polyethylene terephthalate) boards, which are formed from a mixture of recycled fibres and the primary profiles are made of pre-lacquered galvanised steel. Both components combine to form a **high-quality, durable** system that is **easy to clean**.

The main characteristics of the recycled PET felt panels are high acoustic performance, a textile-like appearance and low specific weight; these, combined with the stability and strength of the pre-lacquered steel primary profiles, result in a system that is stable, functional, decorative and high-performing.

Kingspan | THU ceiling solutions

# THU/ **Deco Acoustic Grid**

## DOCUMENT INFORMATION

| DOCUMENT VERSION |
| --- |
| Version 02 / 26-06-2026 |

## LATEST VERSION

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# INFO/ **Deco Acoustic Grid**

## GENERAL DESCRIPTION

THU technical ceiling system featuring assembled modular acoustic elements formed by cutting sheets of recycled PET. Using a THU metal profile structure, the entire acoustic technical ceiling system is suspended from a load-bearing element according to the needs and requirements of the project.

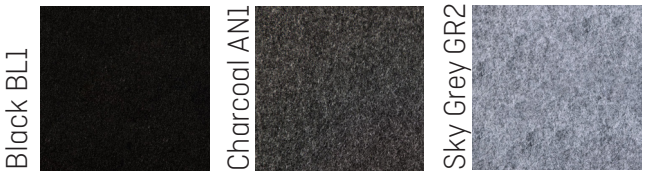
One of the system's standout features is its **easy access,** which allows you to quickly reach building services (lighting, air conditioning, electrics etc.), facilitating any work in the ceiling cavity, from the simplest repairs and maintenance tasks to the complete replacement of systems.



| Item | Material | Width-Height Thickness | Size (mm) | System | Regulations (raw materials & grid) |
|---|---|---|---|---|---|
| T15-38 substructure (exposed) | steel | 15 mm/38 mm | 3700-1200-600x38x15 | Grid | VOC emissions, EN 16516<br>react. to fire, EN 13501-1<br>acoustic absorption ISO 354<br>susp. ceilings EN 13964 |
| T24-38 substructure (hidden) | steel | 24 mm/38 mm | 3700-1200-600x38x24 | | |
| T24-33 substructure (hidden) | steel | 24 mm/33 mm | 3700-1200-600x33x24 | | |
| Exposed grid | PET felt | 9 mm | 595x595x59 | | |
| Hidden grid | PET felt | 9 mm | 600x600x59 | | |
| Open cell grid | PET felt | 9 mm | 595x595x59 | | |

## CUSTOMISATION

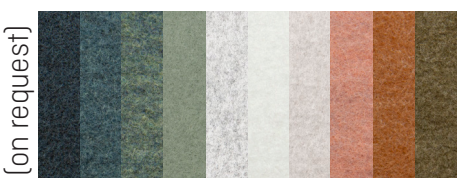
### standard colours



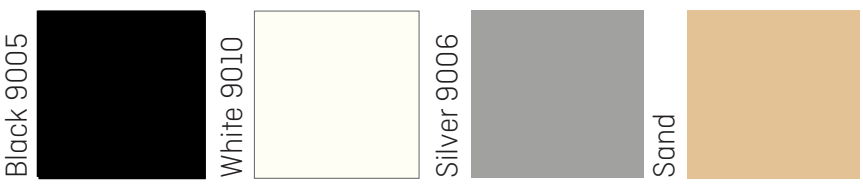

### special colours




### special colours




### T15-T24 colours




Please enquire regarding other colours, patterns, special designs and embossing.

# RAW MATERIALS AND ACCESSORIES

**Characteristics of the raw materials.**

Our grids are composed of acoustic panels made from recycled PET (polyethylene terephthalate), a raw material that is processed from plastic waste (mainly food packaging). This waste undergoes a thermo-mechanical process to produce fibres which, when compacted and bonded together, form the final panels. It offers excellent fire resistance and moisture resistance, as well as resistance to the growth of microorganisms and outstanding sound absorption.

The suspension substructure consists of profiles made from formed sheet steel, with the exposed surface finished with a minimum paint layer thickness of 25 microns. This type of finish is highly resistant to corrosion and offers excellent durability (gloss and colour retention). We can supply profiles in any other colour under special supply conditions.

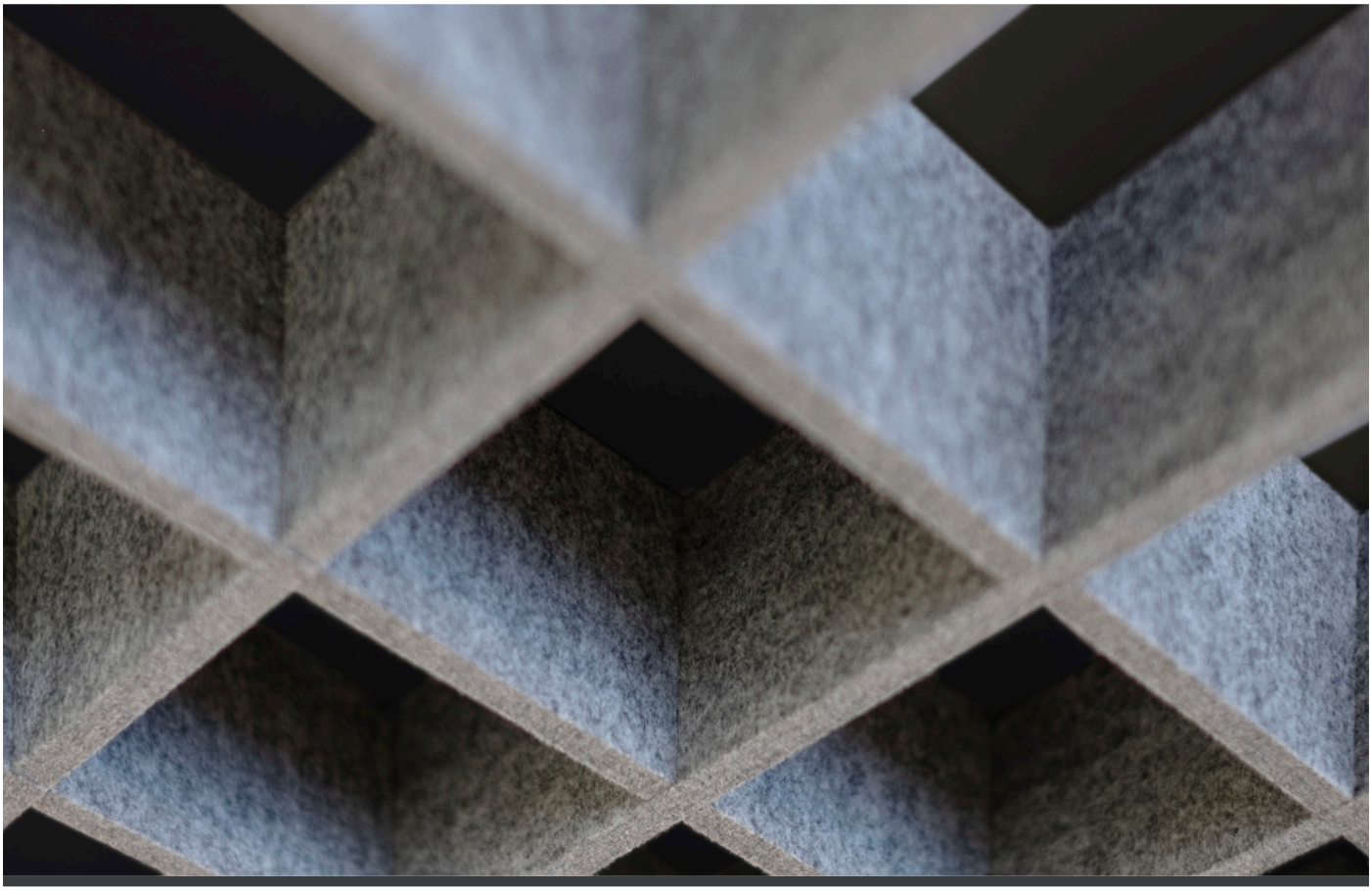
# PERFORMANCE

| Key characteristics | Performance Features | Harmonised Technical Specifications |
|---|---|---|
| Reaction to Fire | B-s2,d0 (raw material)* | UNE-EN 13501-1:2018 |
| Maximum load-bearing capacity | $1.14x10^4$ N·mm (T15-T24 profile) | UNE-EN 13964:2016 |
| Maximum load-bearing capacity | 48 kg/m² (hanger) | UNE-EN 13964:2016 |
| Sound absorption | $\alpha_w$ = 0.55 (exposed grid) | ISO 354:2004<br>ISO 11654:1998 |
| Emissions<br>(volatile organic compounds – VOCs) | Gold (raw material) | UNE-EN 16516:2017+A1:2020 |

*B-s1,d0 (raw material) available on request; please enquire about available colours.

# RECYCLED MATERIAL

Up to 25% metallic material, at least 60% felt material.

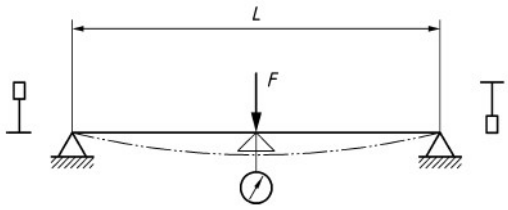


# PROPERTIES

**Mechanical tests at AIMME (UNE-EN 13964:2006).**

Load-bearing capacity test report S07-00098. Bending and suspension tests for the T24-38, T24-33 and T15 hanging systems: The system is mounted on a T-profile system for a removable technical ceiling using the recommended suspension method shown in the diagram (Figure 1). A load test is also carried out to measure bending deformation in accordance with section 5.2 of the standard (Figures 2, 3 and 4), comprising 10 bending tests with a span length of 1200 mm for a Class 2 deflection (L/300 = 4 mm).

Figure 1




a) T-section in the positive position

Legend
F Load
L Span

- T24-38 primary profile, 3.7 m, height 38
- T24-38 secondary profile, 1.2 m, height 38
- T24-38 secondary profile, 0.6 m, height 38

Bending test data (T24-38):

- Maximum permissible permanent deflection = 0.20 mm
- Average permanent deflection = 0.13 mm
- Flexural rigidity (EI) (Class 2) = $1.59x10^9$ N·mm$^2$
- Permissible bending moment (Class 2) = $2.65x10^4$ N·mm

- T24-33 primary profile, 3.7 m, height 33
- T24-33 secondary profile, 1.2 m, height 33
- T24-33 secondary profile, 0.6 m, height 33

Bending test data (T24-33):

- Maximum permissible permanent deflection = 0.20 mm
- Average permanent deflection = 0.13 mm
- Flexural rigidity (EI) (Class 2) = $0.95x10^9$ N·mm$^2$
- Permissible bending moment (Class 2) = $0.88x10^4$ N·mm

- T15 primary profile, 3.7 m
- T15 secondary profile, 1.2 m
- T15 secondary profile, 0.6 m

Bending test data (T15):

- Maximum permissible permanent deflection = 0.20mm
- Average permanent deflection = 0.11 mm
- Flexural rigidity (EI) (Class 2) = $1.32x10^9$ N·mm$^2$
- Permissible bending moment (Class 2) = $1.14x10^4$ N·mm

Figure 2

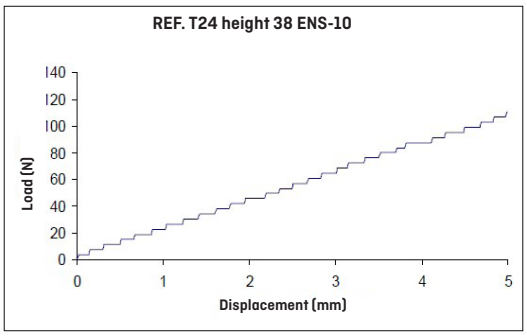



Figure 3

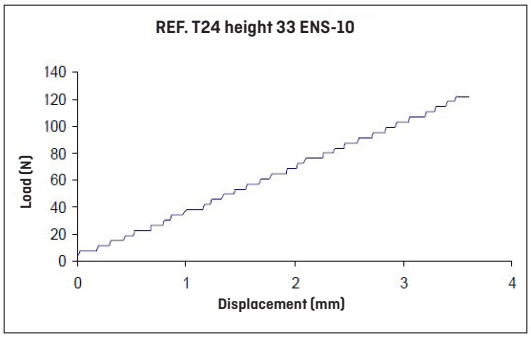
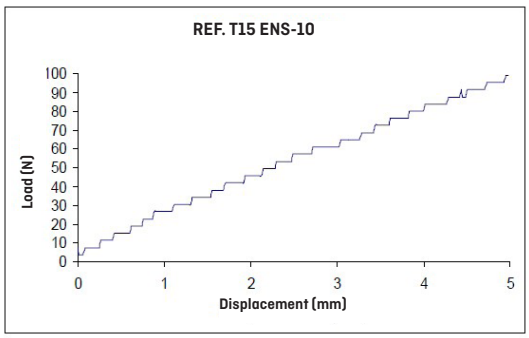



Figure 4

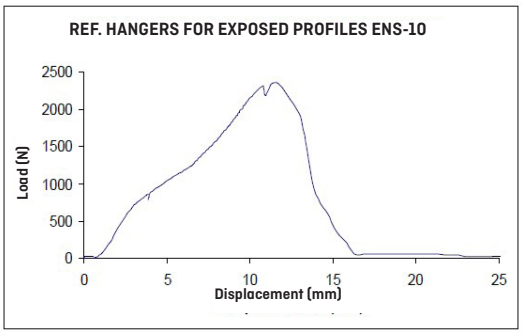


Suspension test data (hangers):

- Average maximum force load=2196 N / Permissible load=679 N (69.2 kg) (Figure 5).

Given that the maximum tributary area per hanger is 1.44 $m^2$, the maximum suspension force per hanger for this system is 48 $kg/m^2$ for the T24-38 and T15-38.

Figure 5




**Reaction to Fire tests at AITEX (UNE-EN 13501-1:2018) felt raw material.**
Test and raw material manufacturer's certificate. Euroclass B,s2-do. A combustible product with a very limited contribution to fire, with a medium smoke emission quantity and rate, and which does not produce flaming droplets or particles. For further details, refer to the raw material technical data sheet.

**Reaction to Fire tests at AFITI (UNE-EN 13501-1:2019) T15 and T24 substructure.**
4292T21 test. Result Euroclass A1. Non-combustible product (no contribution to fire).

**Volatile organic compound emission testing at EUROFIRMS (EN 16516:2017+A1:2020).**
Raw material testing and manufacturer's certificate 392-2023-00571401. Successfully meets the requirements of the "Indoor Air Comfort GOLD" and "M1" labels.

**Acoustic Absorption Tests at Applus (UNE-EN ISO 354: 2004)**
Tests ref. 22-3204656 and ref. 22-3204654 measuring sound absorption in a reverberation chamber for the raw material: 9 mm thick PET-type panels, either direct-to-support or with a 50 mm air cavity (plenum).

| Distance (mm) | 125 (Hz) | 250 (Hz) | 500 (Hz) | 1000 (Hz) | 2000 (Hz) | 4000 (Hz) | Weighted SAC $\alpha_w$ | CLASS |
|---|---|---|---|---|---|---|---|---|
| 9 mm panel (direct-to-support) | 0.00 | 0.05 | 0.15 | 0.35 | 0.70 | 0.95 | 0.25 | E |
| 9 mm panel (50 mm cavity) | 0.10 | 0.30 | 0.60 | 0.95 | 1.00 | 0.95 | 0.60 | C |

To achieve higher levels of acoustic absorption, it is recommended to use absorbent materials of greater thickness and/or density, placed on the upper side of the plenum or directly on top of the Deco Acoustic system. Increasing the plenum depth, where possible, will also improve acoustic absorption. Any additional materials must be within the load-bearing capacity of the ceiling installation.

# **PERFORMANCE** (distance between hangers 1 m)

| Model | Type | Units by m² |
|---|---|---|
| Deco Acoustic Hidden Grid | Grid SPACING 100 | 2.82 unit/m² |
| T24 system | T24 primary profile | 0.84 lm/m² |
| | 120 T24 secondary profile | 1.68 lm/m² |
| | 60 T24 secondary profile | 0.84 lm/m² |
| | Hanger parts | 1 unit/m² |
| | Module weight 0.690 kg | 3.211 kg/m² |

| Model | Type | Units by m² |
|---|---|---|
| Deco Acoustic Exposed Grid | Grid SPACING 100 | 2.82 unit/m² |
| T15 system | T15 primary profile | 0.84 lm/m² |
| | 120 T15 secondary profile | 1.68 lm/m² |
| | 60 T15 secondary profile | 0.84 lm/m² |
| | Hanger parts | 1 unit/m² |
| | Module weight 0.548 kg | 2.809 kg/m² |

| Model | Type | Units by m² |
|---|---|---|
| Deco Acoustic Open Cell Grid | Grid SPACING 100 | 2.82 unit/m² |
| T15/24 system | T15/24 primary profile | 0.84 lm/m² |
| | 120 T15/24 secondary profile | 1.68 lm/m² |
| | 60 T15/24 secondary profile | 0.84 lm/m² |
| | Hanger parts | 1 unit/m² |
| | Module weight 0.766 kg | 3.426 kg/m² |



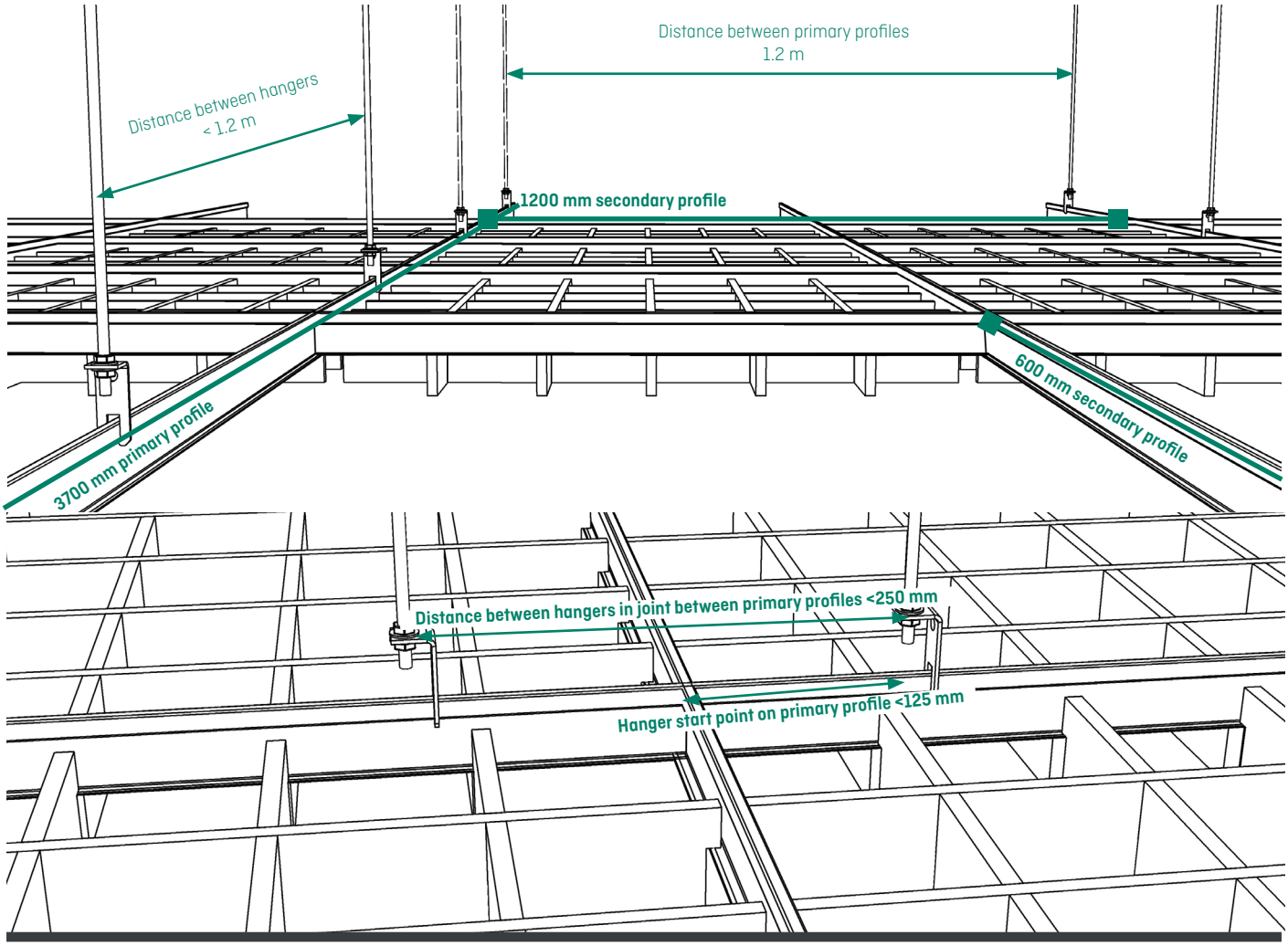
# INSTALLATION/ **Deco Acoustic Grid**

## ASSEMBLY PROCESS

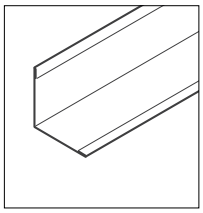
The substructure onto which the Deco Acoustic Grid's modules are mounted consists of profiles from a removable technical ceiling system (also called an FTD removable false ceiling) and comprises primary profiles measuring 3.7 m and two types of secondary profiles measuring 1.2 m and 0.6 m (T15-38 and T24-33). The primary profiles are the load-bearing elements that support the entire system, which is suspended vertically from the upper support element (the building structure). A threaded rod acts as the suspension bracket for this vertical fixing and is anchored using a anchor that is suitable for the structural element's material. The primary profile is placed along the longest side of the ceiling, spaced up to 1.2 m apart whilst maintaining a parallel configuration. The threaded rod is secured to the primary profile using the specific THU suspension bracket and secured with a double nut and washer – one set on the upper side and another on the lower side – securing it in a level position once the primary profile structure has been properly levelled.

In terms of maximum distances between elements, the following spacing requirements must be met during installation:

1. The distance between primary profiles is dictated by the system and must be 1.2 m; the distance between 1.2 m primary profiles and the distance between 0.6 m secondary profiles is determined by the slots in the web of the profiles themselves; in both cases it is 0.6 m.
2. The spacing between hangers must be less than 1.2 m, with the recommended distance being 1 m.
3. A hanger part must be placed within 125 mm of the start or end of the batten or primary profile.
4. Maximum distance of 250 between hangers in the joint between two primary profiles (one on each profile).



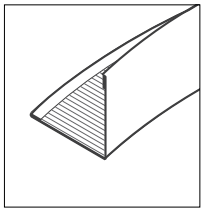
# T15 and T24 SUBSTRUCTURE MATERIALS



**1) Angle profile**

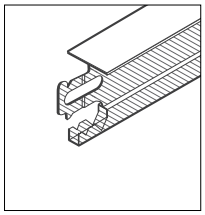
For points where the structure meets the wall or other constructive elements, the structure rests on a series of angle profiles that are placed around the entire perimeter of the enclosure at the height at which it is desired to place the metallic ceiling. All structure profiles that rest on these angle profiles are trimmed, if necessary, to the extent needed for their correct placement. The linear metres of angle profile needed for a given enclosure is equal to its perimeter.

**2) Flexible angle profile**



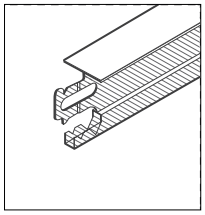
Profiles for the perimeter support of the false ceiling. The flexible profile is an extruded angle profile made of PVC designed to adapt to the curvatures of the partitions or columns up to 360° and has dimensions of 22 x 28 mm.

**3) Primary profile**



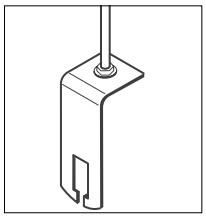
The primary profiles are the main elements of the structure as it is on these that the hanger parts and the threaded rods that are fixed to the upper framework are placed. Primary profiles are 3.7 m long and like the rest of the structure profiles, are made of galvanised steel and the visible side is lacquered.

**4) 1.2 m and 0.6 m secondary profiles**



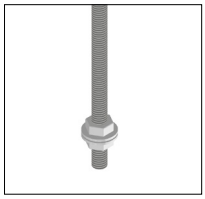
The 1.2 m secondary profiles are placed perpendicular to the primary profiles while the 0.6 m secondary profiles are placed perpendicular to the 1.2 m profiles, forming a 600 x 600 mm grid structure.

**5) Hanger part**



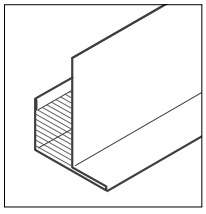
Composed of an angled metal part that is placed at the beginning of the primary profiles. The assembly is completed with a threaded rod (M4 or M6) and nuts to attach it and adjust the height.

**6) Hanger rod**



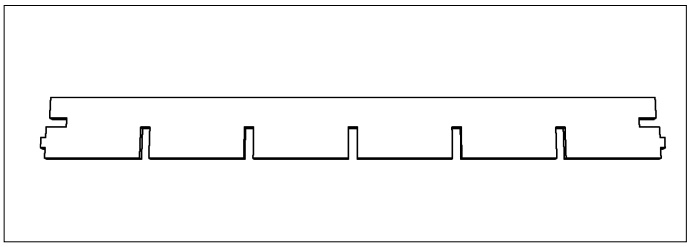
A 6 mm metric (M6) threaded rod inserted into an anchor that is suitable for the surface of the upper support and secured with a washer and nut. Suspension using a rod provides very high vertical stability, minimising movement in this direction. It is fixed to the hanger by means of a double nut plus upper and lower washers.

**7) Cornice profile**

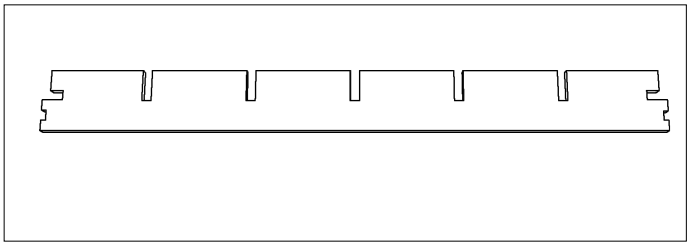


Pre-lacquered steel profiles designed to make it easier to connect spaces. Cornice profiles have dimensions of 13 x 33 mm (cornice profile 13) and 16 x 36 mm (cornice profile 16).

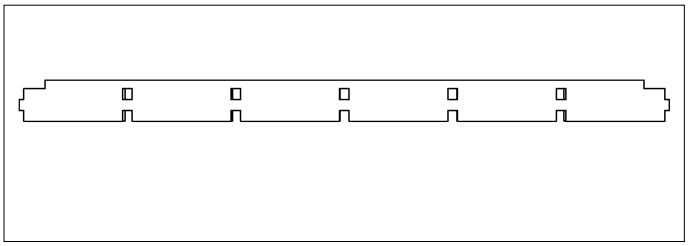
## HIDDEN GRID MATERIALS



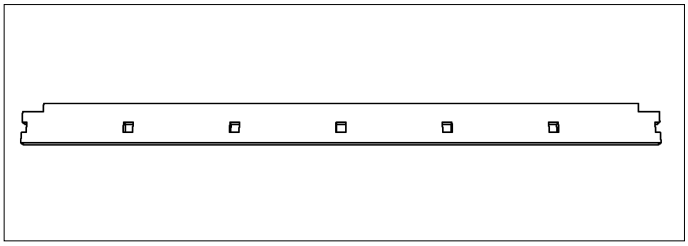
**1) Hidden transverse blade**
Transverse element (according to the installation specifications) of the hidden *Grid* module. This element is supported by the T24 system at both ends and forms part of the module by interlocking with the longitudinal element. Quantity: 5 units per module.



**2) Hidden longitudinal blade**
Longitudinal element (according to the installation specifications) of the hidden *Grid* module. This element is supported by the T24 system at both ends and forms part of the module by interlocking with the transverse element. 5 units per module.

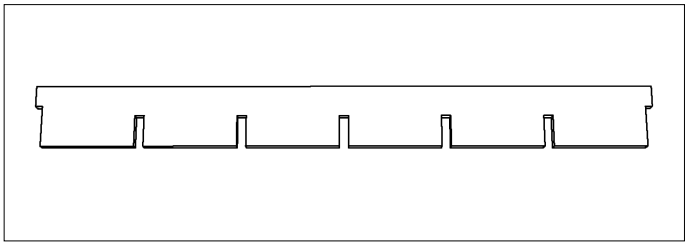


**3) Hidden transverse end blade**
Transverse end piece for the hidden *Grid* module. A side end piece that serves as a joint between two adjacent modules whilst securing the module to the T24 system.
1 unit per module, except for modules in the final transverse row, which require 2 units per module.

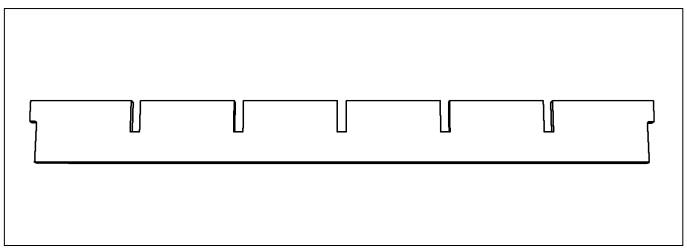


**4) Hidden longitudinal end blade**
Longitudinal end piece for the hidden *Grid* module. Self-supporting component of the module, secured by interlocking with the transverse element.
1 unit per module, except for modules in the final longitudinal row, which require 2 units per module.

## EXPOSED GRID MATERIALS

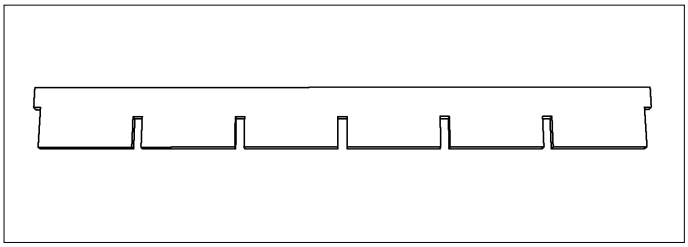


**1) Exposed transverse blade**
Transverse element (according to the installation specifications) of the exposed and open cell *Grid* modules. This exposed element is supported by the T15 system at both ends and forms part of the module by interlocking with the longitudinal element. Quantity: 5 units per module.

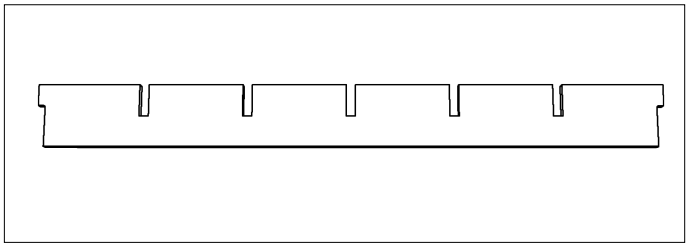


**2) Exposed longitudinal blade**
Longitudinal element (according to the installation specifications) of the exposed and open cell *Grid* modules. This exposed element is supported by the T15 system at both ends and forms part of the module by interlocking with the transverse element. Quantity: 5 units per module.

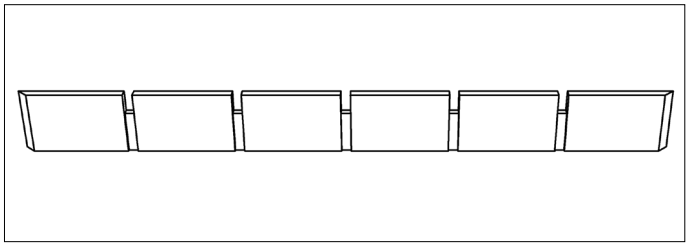
# OPEN CELL GRID MATERIALS



**1) Exposed transverse blade**
Transverse element (according to the installation specifications) of the open cell *Grid* module. This element is supported by the T15 or T24 system at both ends and forms part of the module by interlocking with the longitudinal element. Quantity: 5 units per module.



**2) Exposed longitudinal blade**
Longitudinal element (according to the installation specifications) of the open cell *Grid* module. This element is supported by the T15 or T24 system at both ends and forms part of the module by interlocking with the transverse element. 5 units per module.



**3) Open Cell end Blade**
Transverse end piece for the open cell *Grid* module. Side end piece installed at both ends of the open cell module, concealing the T15 or T24 profile from view. Quantity: 2 units per module.



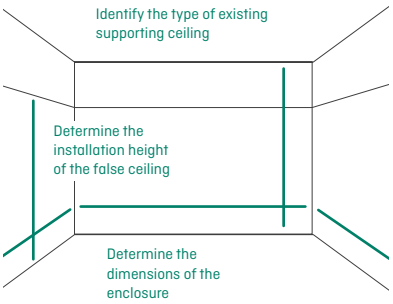
**4) Acoustic veil (optional accessory)**
Affixed using a heat-activated adhesive on the upper side of the module, the acoustic veil prevents any build-up of dust and dirt caused by air currents inside the plenum, as well as slightly improving acoustic absorption. It is 0.2 mm thick.

# SUBSTRUCTURE INSTALLATION PROCESS

Once the required installation conditions have been met (enclosures and installations are complete and have been cleaned), the ceiling is installed by following the steps below:

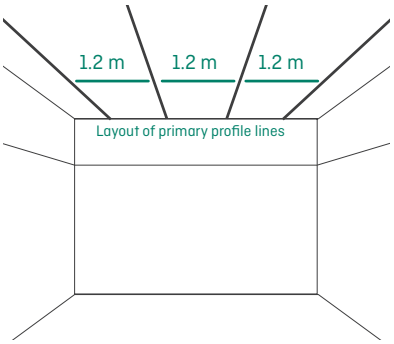
**1) Identify the type of upper support used (concrete, steel, etc.) to adapt the fixing elements to it.** Calculate the dimensions of the enclosure to be covered and determine the height at which the ceiling will remain. Mark the height at which you want to place the ceiling on the walls (along the entire perimeter of the enclosure). This can be done using a chalk line or any type of laser level.

1



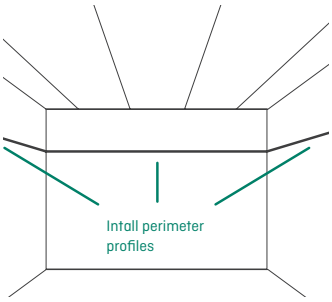

**2) On the ceiling, mark the lines along which the primary profiles will run and therefore where the hangers will be installed to support them.** Position the parallel rows at 1.20 m intervals along the longest side of the room. A symmetrical layout with respect to the central axis of the enclosure is recommended, so that the end pieces can be cut to the same size. For this purpose, you should align the primary profile with the centreline.

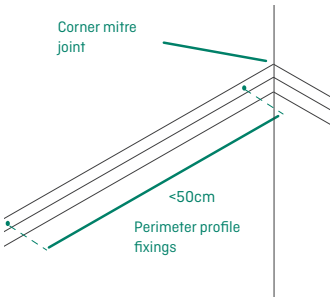
2




**3) Begin placing the angle profiles around the perimeter.** (The use of corner profiles is optional). This type of profile is screwed to the wall with a spacing between screws of up to about 50 cm. The underside can be clad with a piece of the desired size from the same Deco Acoustic panel (on request), which will be secured to the profile using mechanical fasteners (screws) or chemical fixings (grab adhesive). Joints between angle profiles are finished by cutting the ends at a 45° angle.

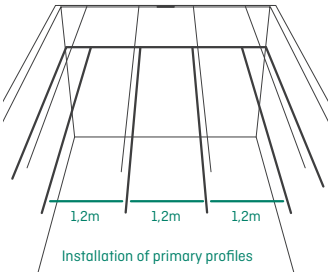
3

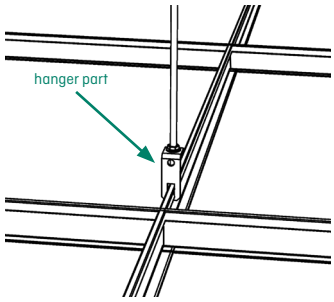


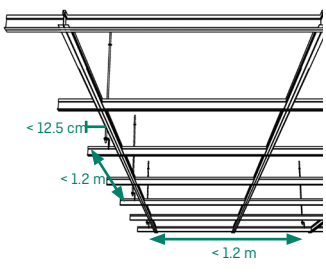



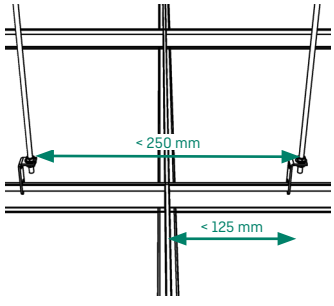

**4) The primary profiles are mounted following the layout lines.** Anchor the hangers to the upper support according to the type and material of the chosen support. For each primary profile there must be at least one hanger part less than 25 cm from the wall or from the joints between primary profiles. The spacing between hanger parts should be 1.2 m. Once all the primary profiles have been installed, level them and the 1.2 m and 0.6 m secondary profiles. Installation can be carried out without 1.2 m secondary profiles, if the primary profiles are installed 0.6 m apart and joined directly to the 0.6 m secondary profiles. Once the entire primary-secondary system has been installed, make sure that the level of the whole system has not been affected.

4



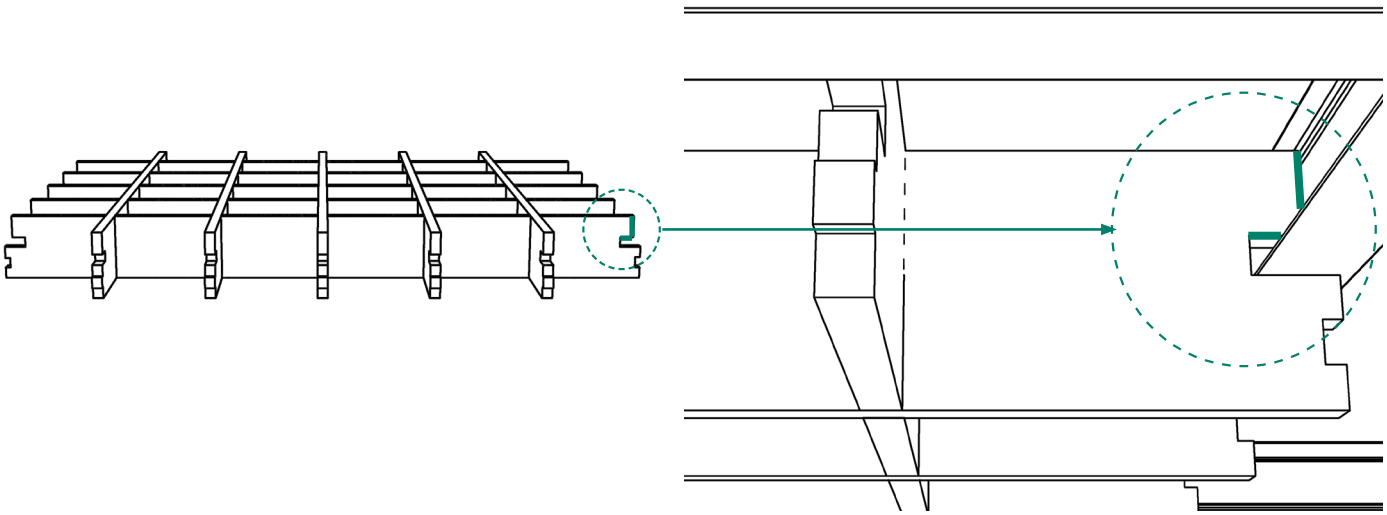



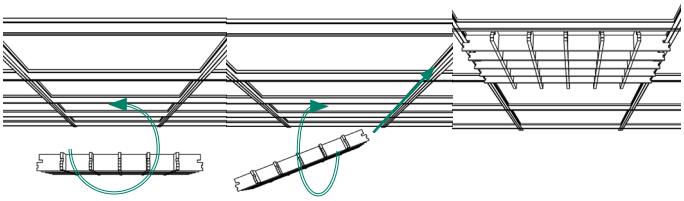

**Now refer to the page describing the installation of the relevant Grid module model.**

# HIDDEN GRID INSTALLATION PROCESS



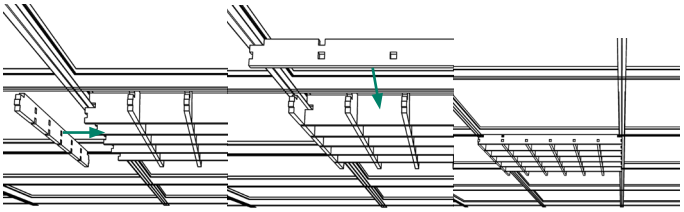
**5) Installing the hidden Grid.** After unpacking the hidden Grid, approach from the underside of the substructure, rotate it and carefully insert it into the slots on both sides. It fits tightly and must be pushed all the way in, overcoming slight resistance, so that the bearing faces of all the blades rest against the T24 profiles.

5

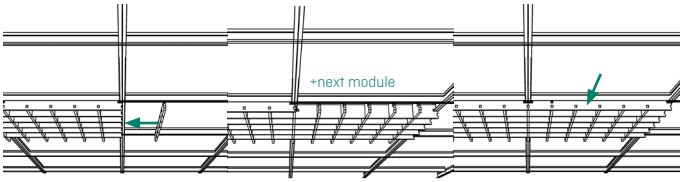


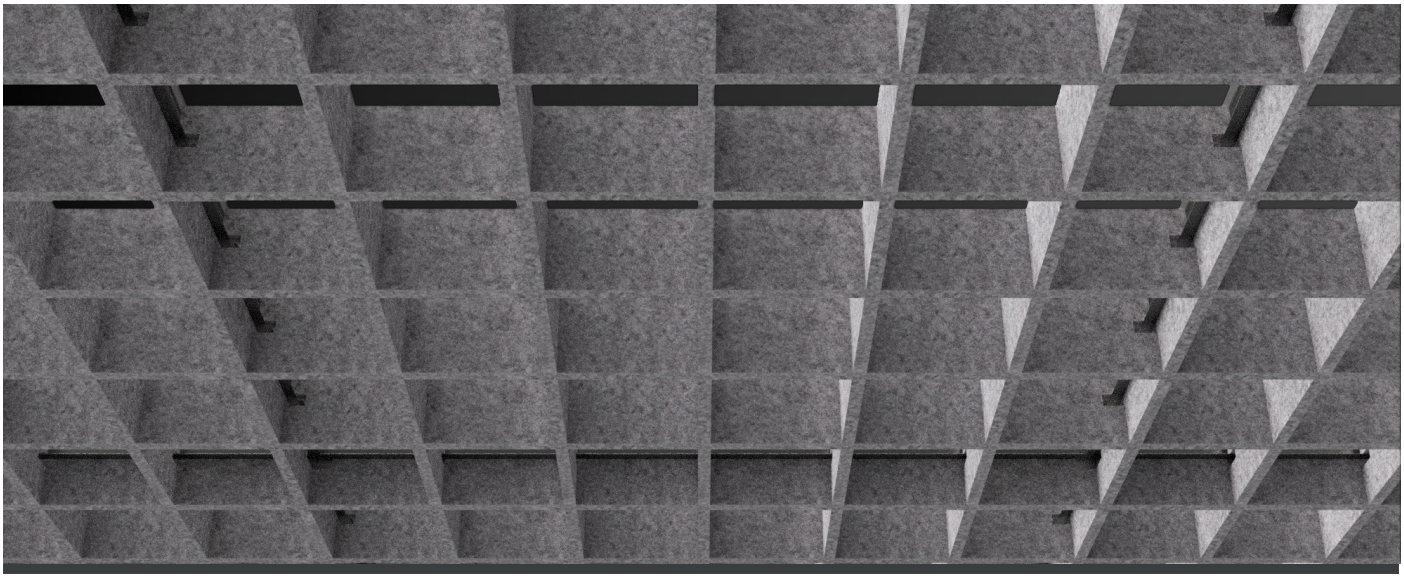
**6) Fitting the side covers.** Each side cover secures the Grid module to the T24 profile and restricts lateral movement during installation and removal, preventing accidental dislodgement. Each cover houses and aligns the position of the two adjacent modules, except in the case of the end rows.

6

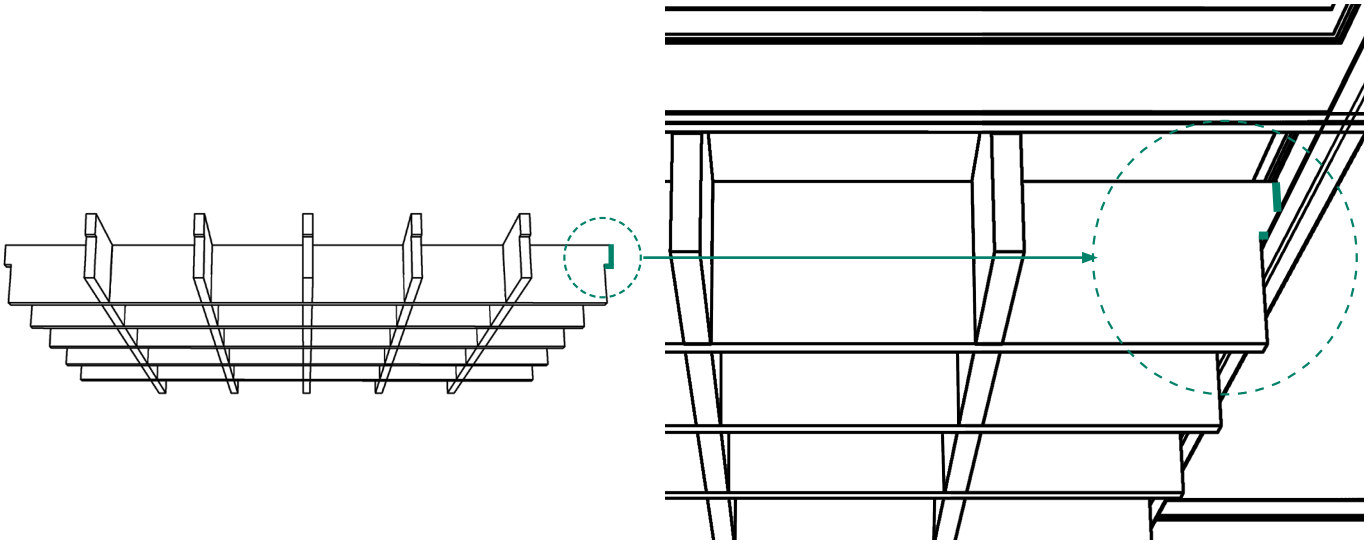


To dismantle an individual module that has already been locked into place with the adjacent ones, force it into position until there is no remaining lateral play, then release the side covers; this may cause several modules to become misaligned, and they will need to be realigned when reinstalled.



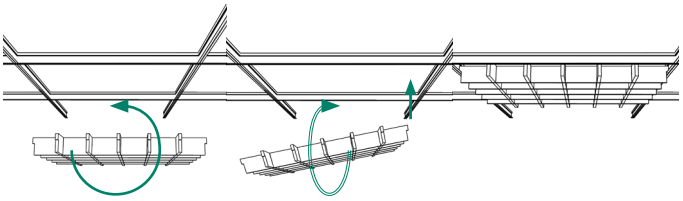



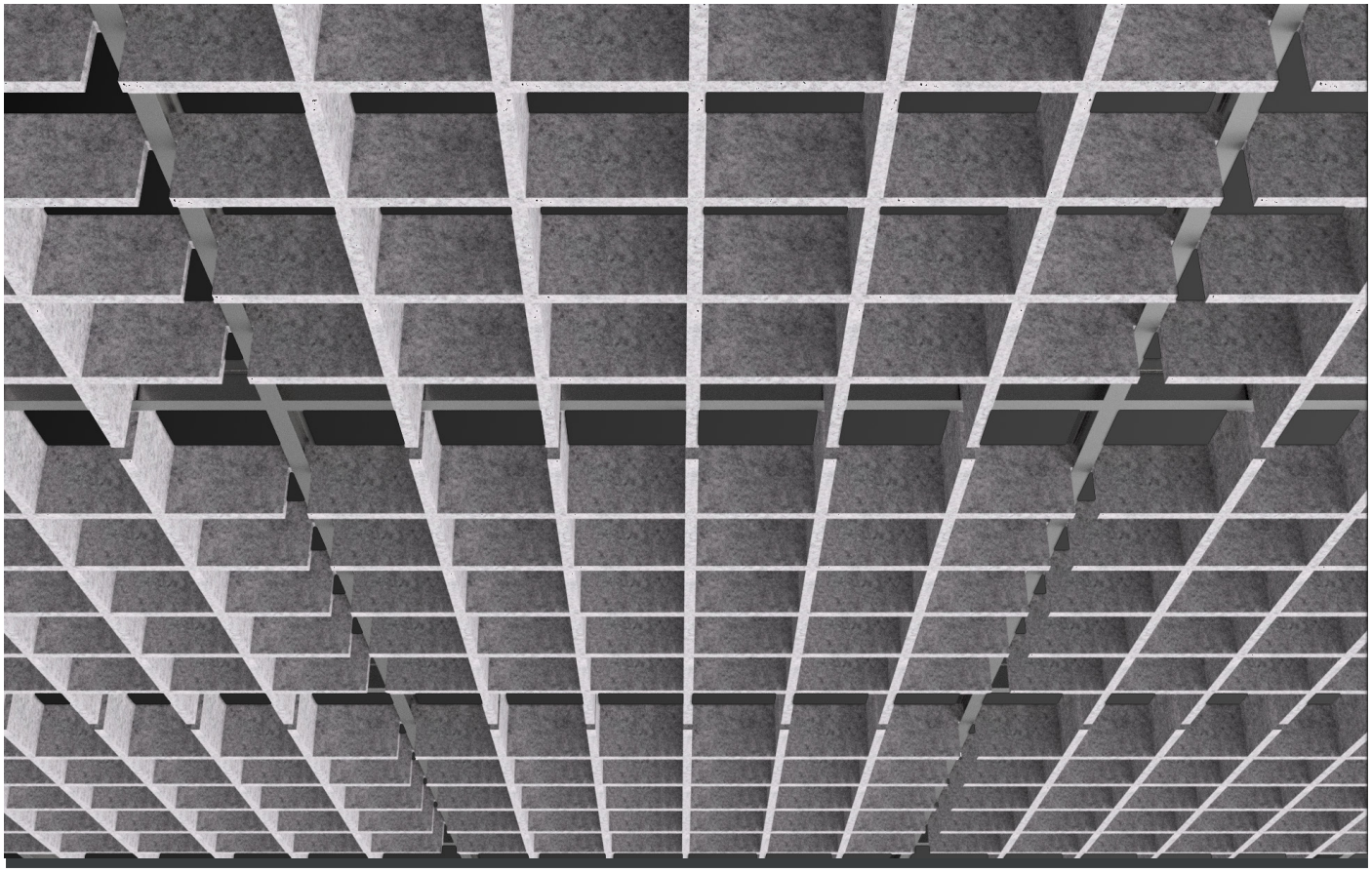
# EXPOSED GRID INSTALLATION PROCESS



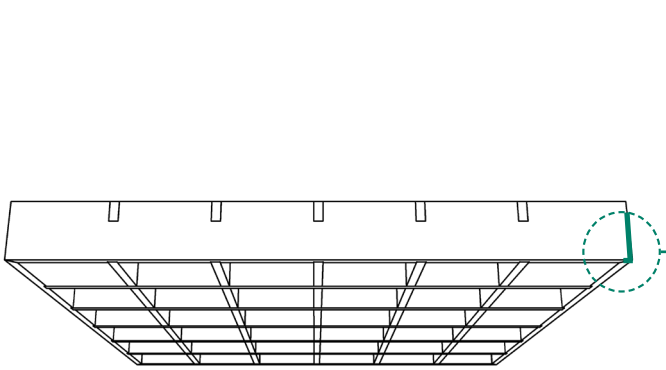
**5) Installing the exposed Grid.** After unpacking the exposed Grid, approach from the underside of the substructure, rotate it and insert the wider upper section above the substructure's support line.

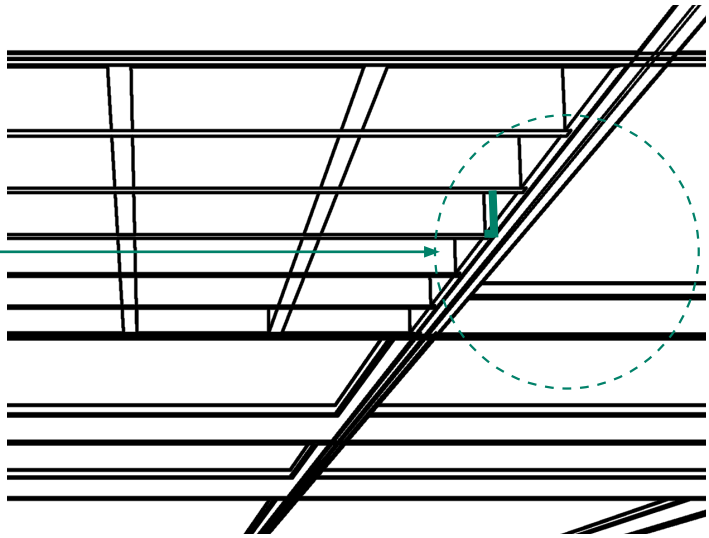
5





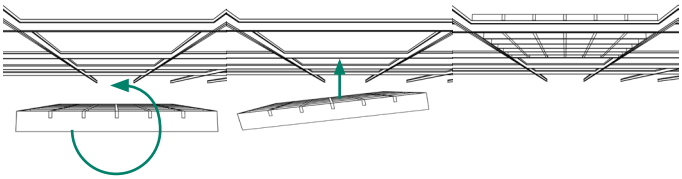
# OPEN CELL GRID INSTALLATION PROCESS

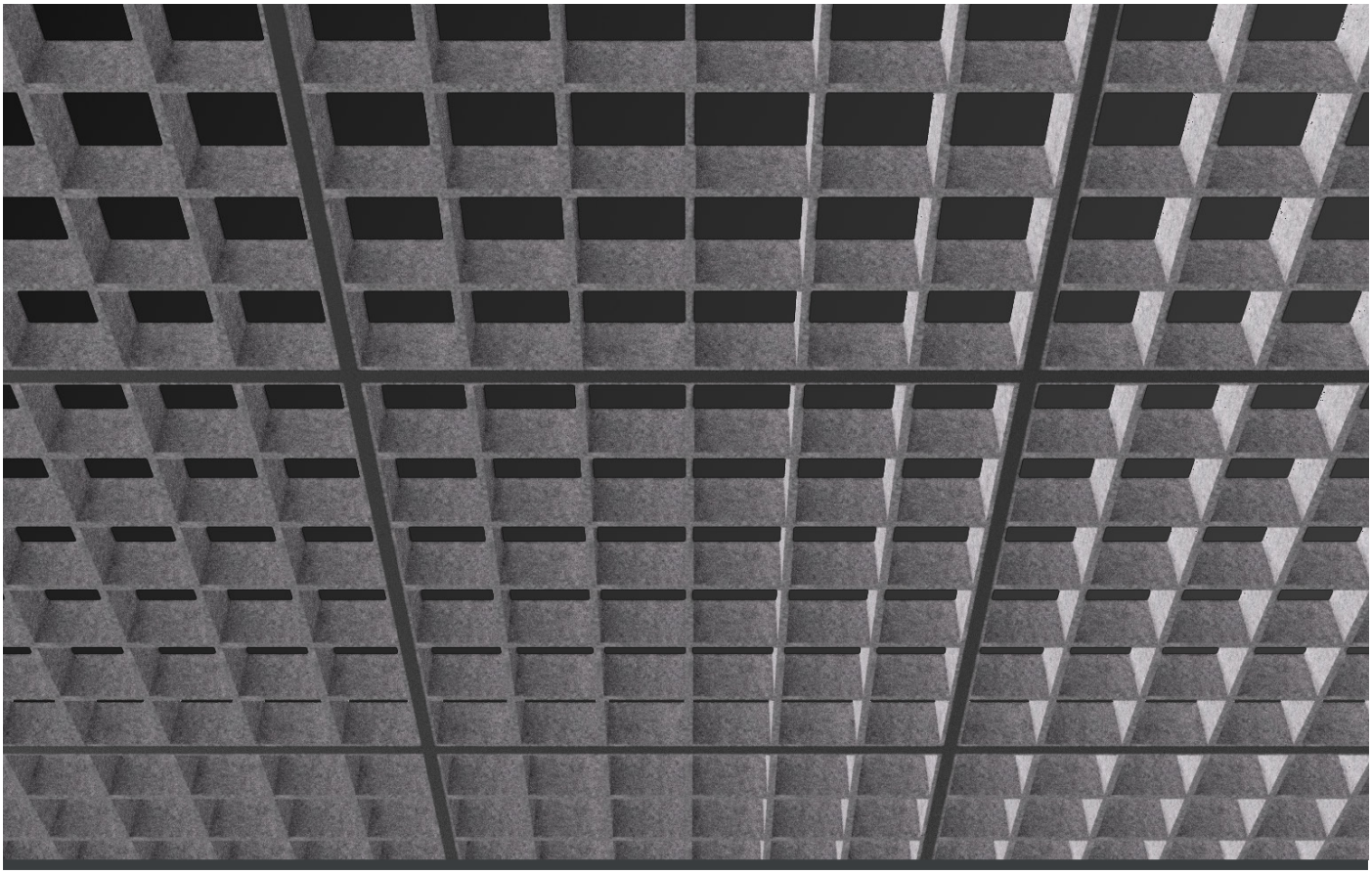




**5) Installing the open cell Grid.** After unpacking the open cell Grid, approach from the underside of the substructure, rotate it and insert the module above the substructure's support line. The interlocking joints must be fitted to the top side; if a veil has been installed, this must also be placed at the top.

5





## PREREQUISITES FOR INSTALLATION

- THU ceiling products must be stored indoors and must not come into direct contact with water. They must never be stored outdoors or partially outdoors.
- THU Profile removable ceilings are installed during the last phase of construction, once all enclosures and building services are in position.
- The area where the ceiling is to be installed must be clean and free from obstacles that might hinder the installation process.
- It is recommended that products NOT be kept in storage for more than 3 months.

## STORAGE AND INSTALLATION

- The components of any THU system must be stored in dry, well-ventilated areas, away from heat sources and protected from direct sunlight and rain.
- THU products are tested and approved for indoor use, without direct exposure to the elements or to the fluctuations in temperature/humidity associated with the outdoors.
- Only install when the building (or the relevant area of the building) is wind and watertight, when all traces of moisture have disappeared, and when the environmental conditions are suitable, i.e. the temperature (15°C to 25°C) and the humidity (35% to 70%).
- Once installed, each element must be free of all traces of packaging, protective film, surface markings or handling marks.

## MAINTENANCE AND CLEANING

- Only clean with soapy water (neutral soap) and rinse.
- Do NOT use solvents or degreasers.
- Use a soft cloth to wipe any excess water from the surfaces, taking care not to damage the surface of the product.

## SUPPLY

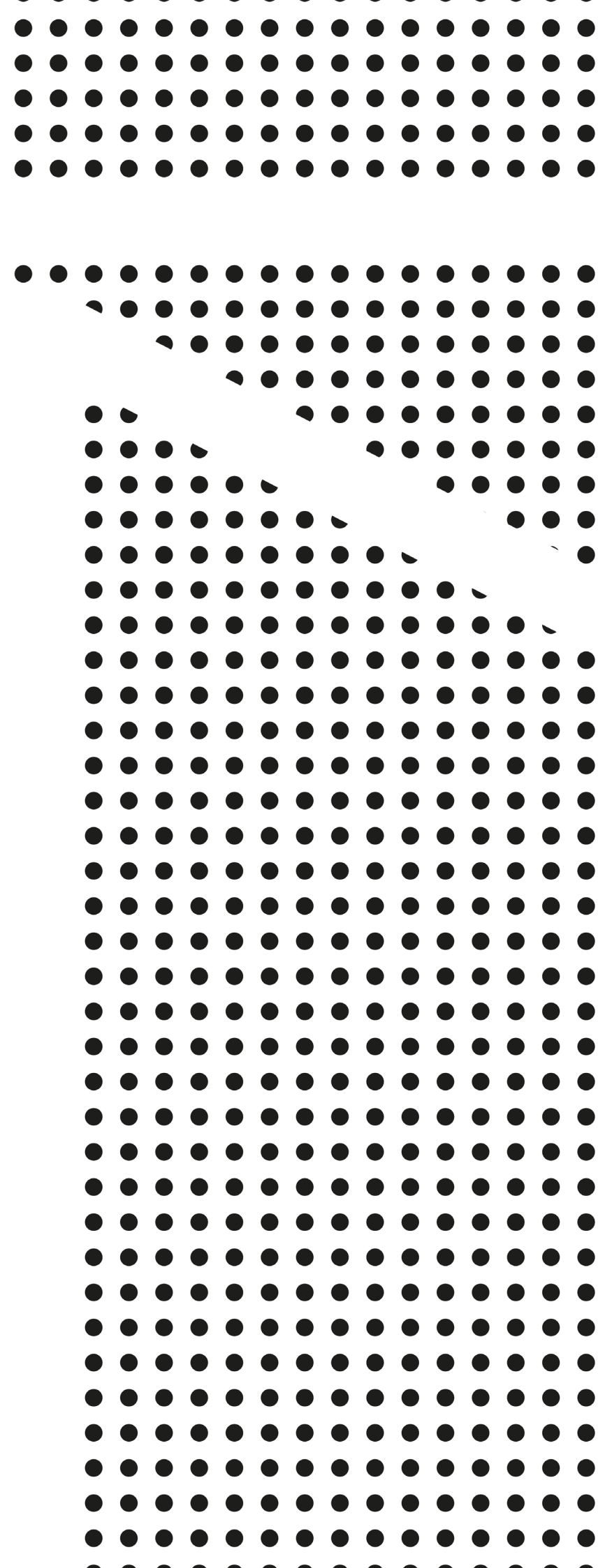
- Box of 9 hidden Grids.
- Box of 9 exposed Grids.
- Box of 9 open cell Grids.

## THU'S RESPONSIBILITY

- THU guarantees the quality of the products supplied and shall accept product returns when these have defects or do not arrive to the customer in good conditions for reasons attributable to THU. However, complaints regarding the delivery must be made within eight (8) calendar days following the receipt of the material either at the customer's warehouses or the site indicated for that purpose. After this time, the material is considered to have been checked and accepted by the customer. Under no circumstances shall THU be liable for damage to the material the customer may cause due to erroneous or improper use. THU will also not be held liable or bear any costs arising from damage caused by a permanent modification to any system components (cutting, drilling, painting, etc.).
- Orders for materials manufactured with specific characteristics requested by the customer may not be refunded, amended or cancelled without cause attributable to THU.

## WASTE MANAGEMENT

- To ensure the correct management of waste, contact an authorised waste management company, use the on-site storage points indicated by the site management and/or place the waste in the public waste containers provided for cardboard, plastic, glass and general waste.



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