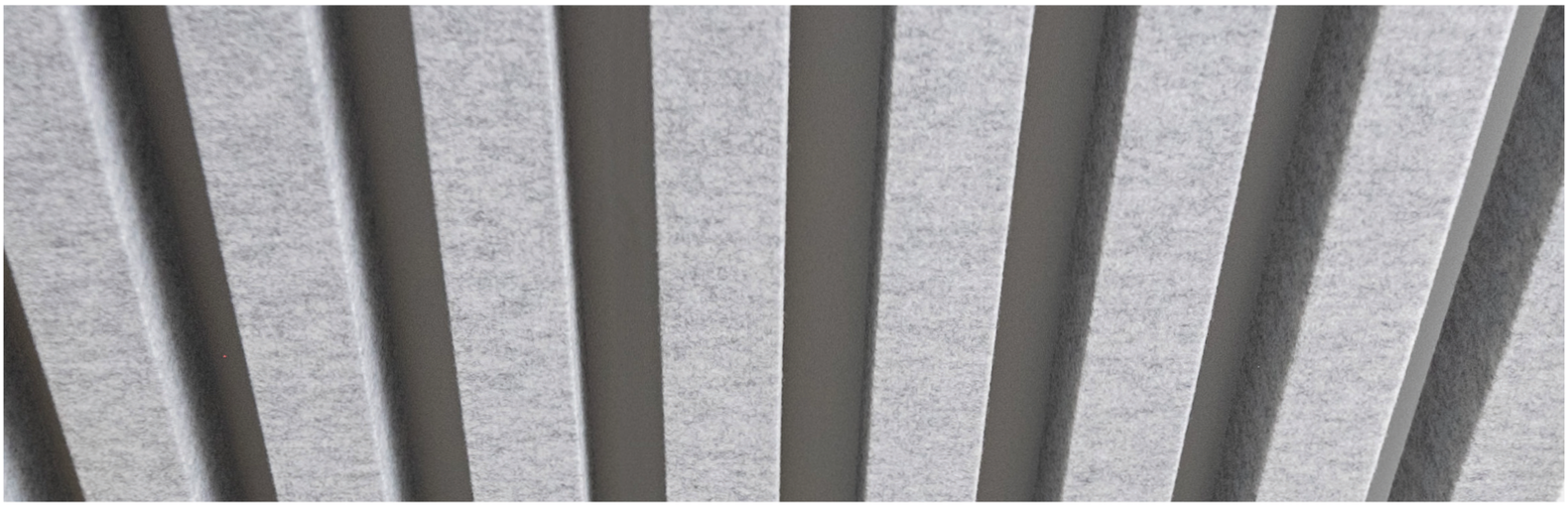


Deco Acoustic Linear
/THU

THU's **Deco Acoustic Linear** range is a high-performance acoustic removable technical ceiling system composed of PET felt linear elements with metal primary profiles.

Through different linear element (slat) size configurations, centre-to-centre distances, finish colours and edging options, you can create a wide range of creative combinations to decorate spaces with high technical requirements.

The panels are manufactured using PET (polyethylene terephthalate) boards, which are formed from a mixture of recycled fibres that are compacted and heat-treated. The primary profiles are made of pre-lacquered galvanised steel.

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, durable, and also easy to clean and high-performing.

Kingspan | THU ceiling solutions

THU/ **Deco Acoustic Linear**

DOCUMENT INFORMATION

DOCUMENT VERSION
Version 02 / 30-jul-2026

LATEST VERSION

To view the latest version of this document, scan this QR code.

THU Ceiling Solutions reserves the right to change the content of this document without prior notice. Every effort has been made to ensure that the content of this publication is accurate, but THU Ceiling Solutions accepts no liability for any errors or potentially misleading information. Suggestions regarding the end use or application of the products or working methods are for information purposes only and THU Ceiling Solutions accepts no liability in this regard.

Kingspan | THU ceiling solutions

INFO/ **Deco Acoustic Linear**

GENERAL DESCRIPTION

THU technical ceiling system featuring linear acoustic elements formed by cutting and folding 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.

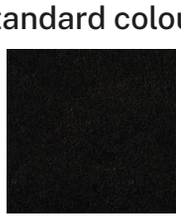


Item	Material	Thickness	Size (mm) length*width*height	System	Regulations (raw materials & linear)
substructure	steel	0.6 mm	3000x34x36	Linear	VOC emissions, EN 16516 react. to fire, EN 13501-1 acoustic absorption ISO 354 susp. ceilings EN 13964
linear slat	PET felt	9 mm	2400x55-80-100x40		
flat linear slat	PET felt	9 mm	2400x100-150-200x9		
flat linear slat S/S2	PET felt	9 mm	2400x160x9		

CUSTOMISATION

standard colours

Black BL1



Charcoal AN1



Sky Grey GR2



Beige BE1



special colours

(on request)



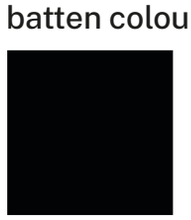
special colours

(on request)



batten colour

Black 9005



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

RAW MATERIALS AND ACCESSORIES

Characteristics of the raw materials.
Our slat/linear element system is composed of 9 mm-thick acoustic panels made primarily 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, offering excellent fire resistance and moisture resistance, as well as resistance to the growth of microorganisms and outstanding sound absorption.

The primary profiles/battens are made from formed sheet steel with a black paint finish (THU 9005) with a minimum 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.

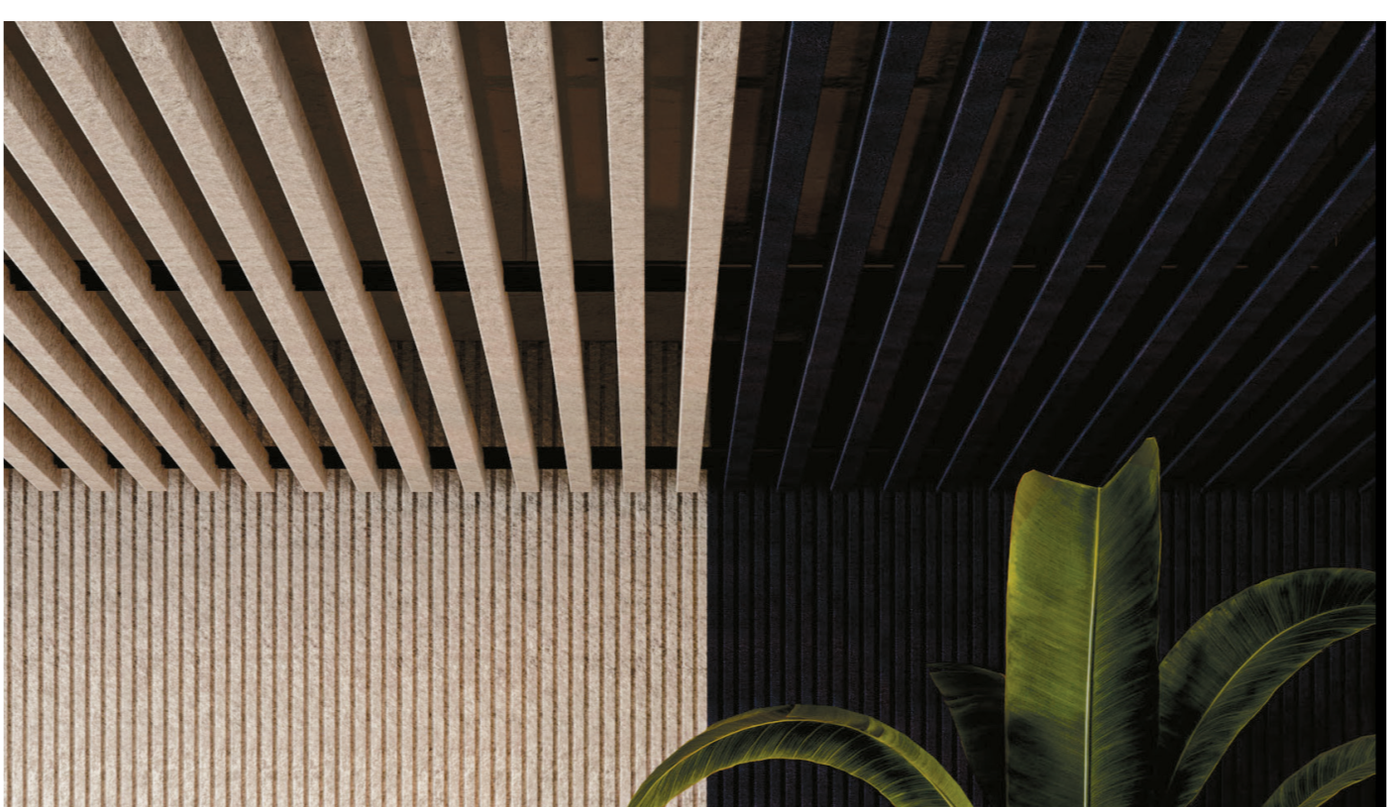
PERFORMANCE

Key characteristics	Performance Features	Harmonised Technical Specifications
Reaction to Fire	B-s2,d0 (raw material)*	UNE-EN 13501-1:2018
Permissible load-bearing capacity (batten)	EI = $2.95x10^8$ N·mm²; M_{all} = $5.91x10^3$ N·mm	UNE-EN 13964:2016
Permissible load-bearing capacity (hanger part)	53 kg/m²	UNE-EN 13964:2016
Sound absorption	α_w = 0.55 (spacing 60mm, linear 40x55 mm)	ISO 354:2004 ISO 11654:1998
Emissions (volatile organic compounds – VOCs)	Gold level compliance (linear 40x55 mm)	UNE-EN 16516:2017+A1:2020

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

RECYCLED MATERIAL

Up to 25% in metal components (primary profiles or hangers); at least 60% in components where the main raw material is PET felt.

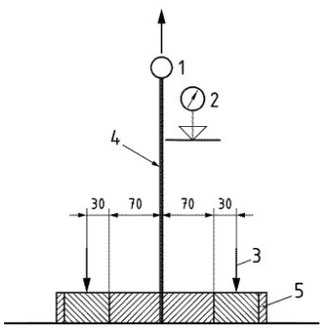


PROPERTIES

Mechanical tests at AIDIMME (UNE-EN 13964:2016).

Load-bearing capacity test 22404790. Suspension test for Deco Acoustic Linear batten hanger. The primary profile (steel batten) is loaded using the recommended hanger as shown in the diagram (Figure 1), and a load test is carried out to measure bending deflection in accordance with section 5.3 on page 45 of the standard (Figure 2).

Figure 1



Legend
1 Upper fixing
2 Displacement measurement
3 Support/reinforcement
4 Suspension (upper fixing or substructure profile)
5 Support element

Figure 2

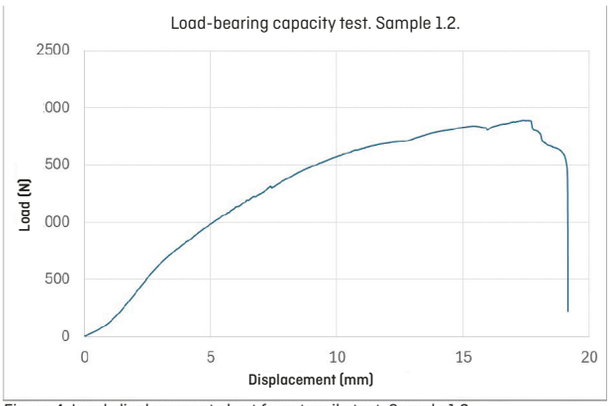


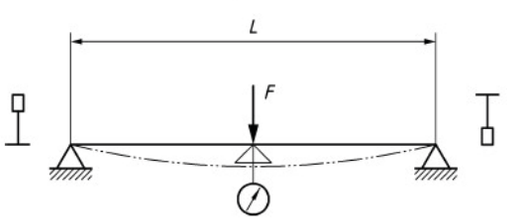
Figure 4. Load-displacement chart from tensile test. Sample 1.2.

The result: an allowable tensile force per hanger of 755 N (77.04 kg). Given that the maximum load tributary area is 1.44 m^2 (maximum distance between battens × maximum distance between hangers), the permissible distributed live load for the suspension elements would be 53.5 kg/m^2; therefore, this load value must not be exceeded in any installation configuration. Note that this value refers to the load-bearing capacity of the substructure. The linear elements and their fixings to the substructure are only designed to support their own weights.

Load-bearing capacity test 224004790. Bending test for Deco Acoustic Linear batten.

The primary profile (steel batten) is loaded as shown in the diagram (Figure 3), and a load test is carried out to measure bending deflection in accordance with section 5.2 on page 42 of the standard.

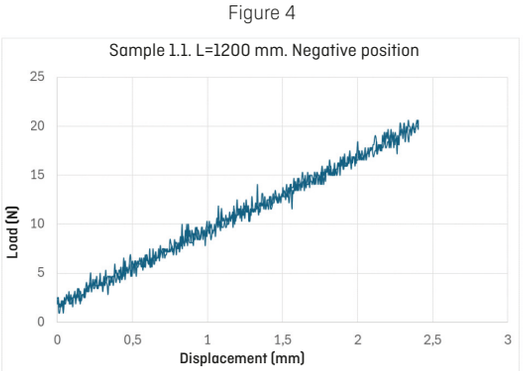
Figure 3



a) T-section in the positive position

Legend
F Load
L Span

Figure 4



10 bending tests are performed on Deco Acoustic Linear battens with a span length of 1200 mm for a Class 1 deflection (L/500=2.4 mm).

- Flexural rigidity EI (Class 2) = $2.95x10^8$ N·mm2
- Permissible bending moment (Class 1) = $5.91x10^3$ N·mm

Reaction to fire rating. Deco Acoustic Linear batten.

Class A1 (No contribution to Fire), in accordance with UNE/EN 14195:2005, which establishes said classification for construction products made of steel without the need for testing.

Reaction to Fire tests at AITEX (UNE-EN 13501-1:2018)

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.

Volatile organic compound (VOC) emission testing at Eurofirms (UNE-EN 16516:2017+A1:2020)

Test 392-2025-00019201_A_EN and certificate of compliance with LEED and BREEAM standards for VOC emissions. LEED v4.0 and v4.1 BETA. BREEAM up to version 6.1. VOC emissions test report: GOLD for Deco Acoustic Linear 40x55. All other variants and models are validated by the manufacturer's raw material test report 392-2023-00571401.

Acoustic Absorption Tests at Audiotec (UNE-EN ISO 354:2004)

Tests ref. CAM24090050-1/REV, ref. CAM24090050-2/REV and ref. CAM24090050-3/REV measuring sound absorption in a reverberation chamber for Deco Acoustic Linear. Product composed of slats made from 9 mm thick, 40 mm wide and 55 mm high PET-type raw material, with a 400 mm high air cavity (plenum).

Table 1 Sound Absorption Coefficient (SAC) (α_p)

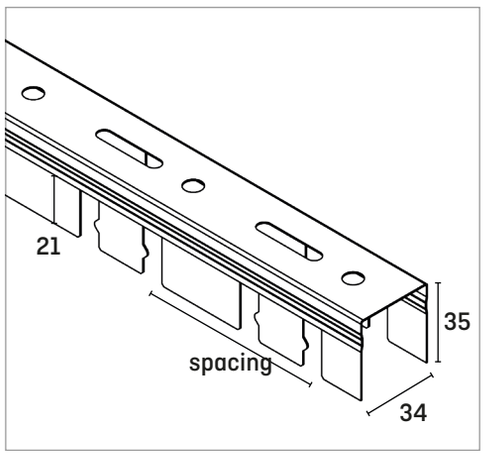
Distance (mm)	125 (Hz)	250 (Hz)	500 (Hz)	1000 (Hz)	2000 (Hz)	4000 (Hz)	Weighted SAC α_w	CLASS
60	0.25	0.40	0.45	0.70	0.80	0.80	0.55	D
80	0.15	0.30	0.35	0.60	0.75	0.80	0.45	D
100	0.10	0.20	0.30	0.55	0.70	0.85	0.40	D

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.

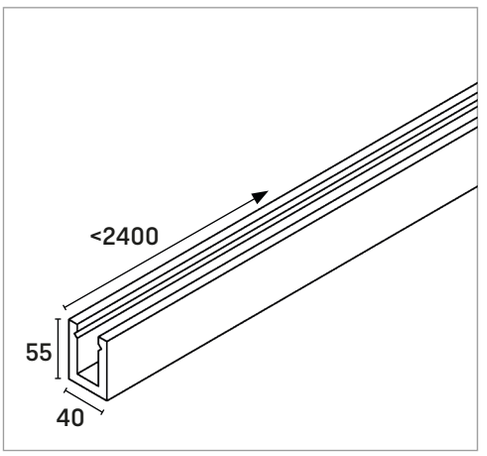
MATERIALS

Bearing elements and linear elements in standard configurations.

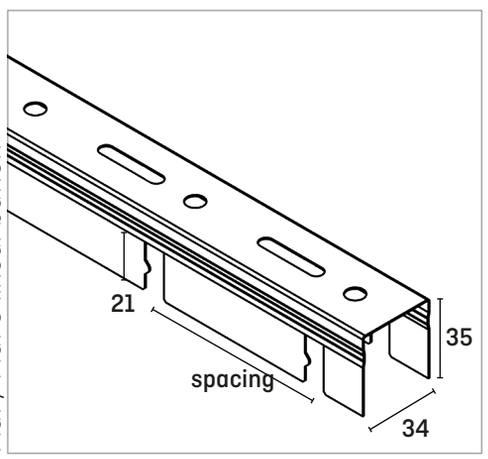
40x55 linear batten



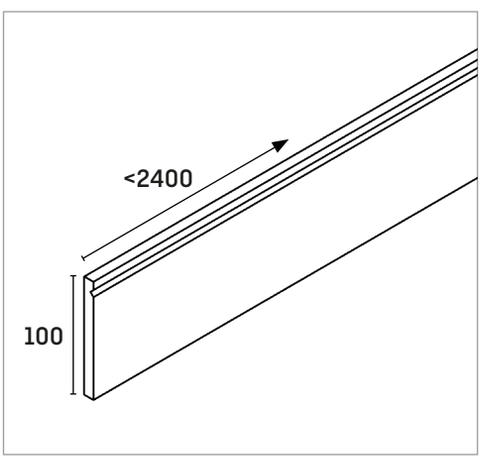
40x55 linear slat



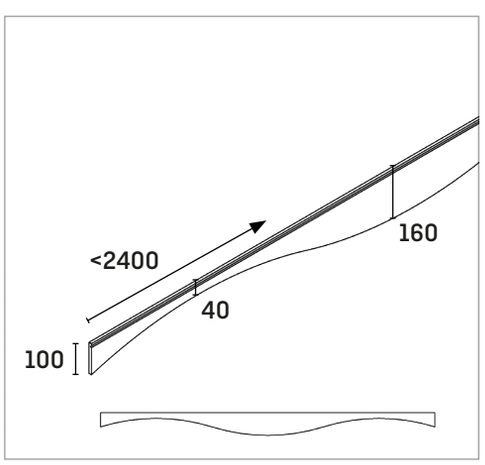
Flat / Flat S linear batten



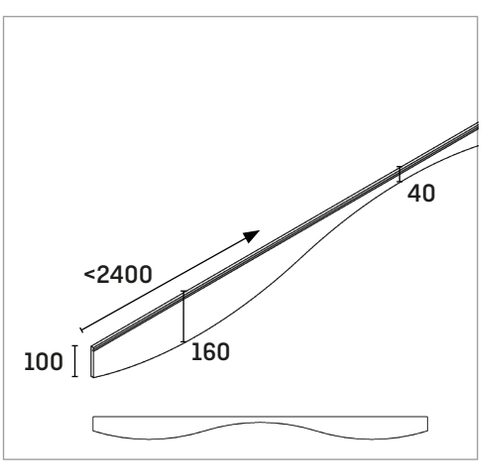
Flat linear slat



Flat S linear slat



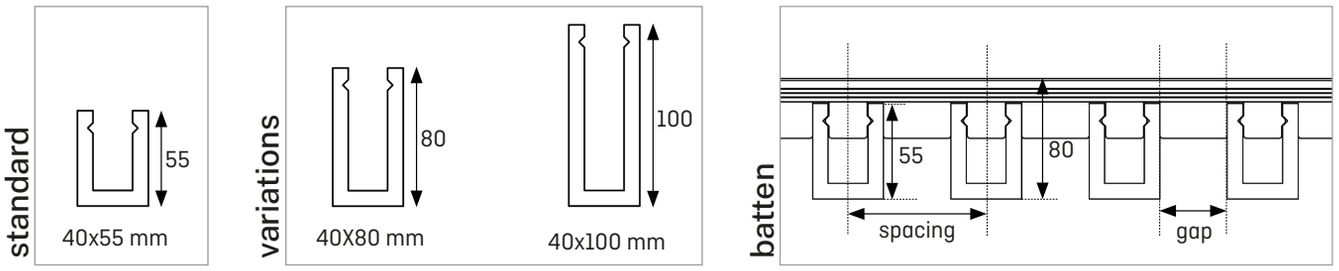
Flat S2 linear slat



dimensions in mm

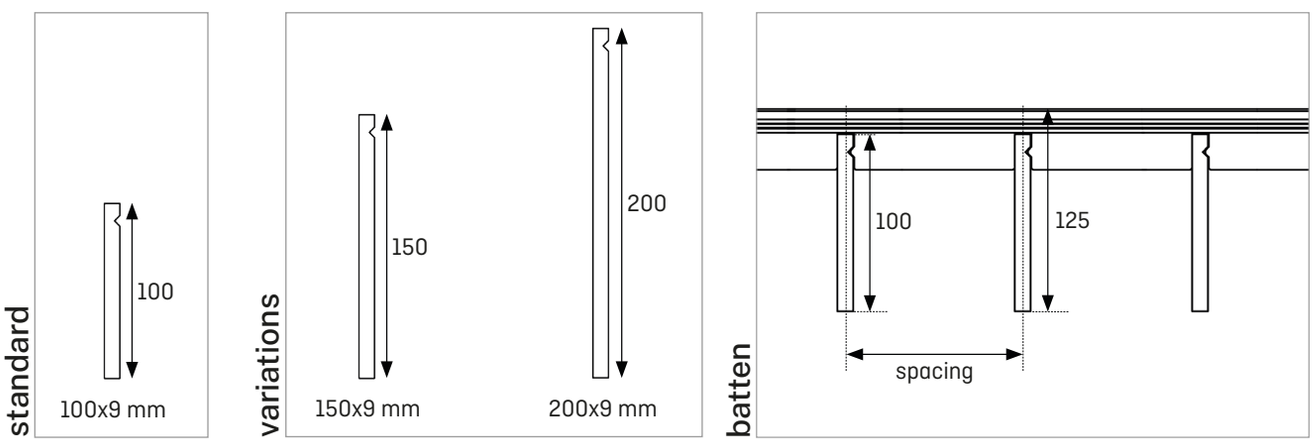
VARIATIONS

Linear



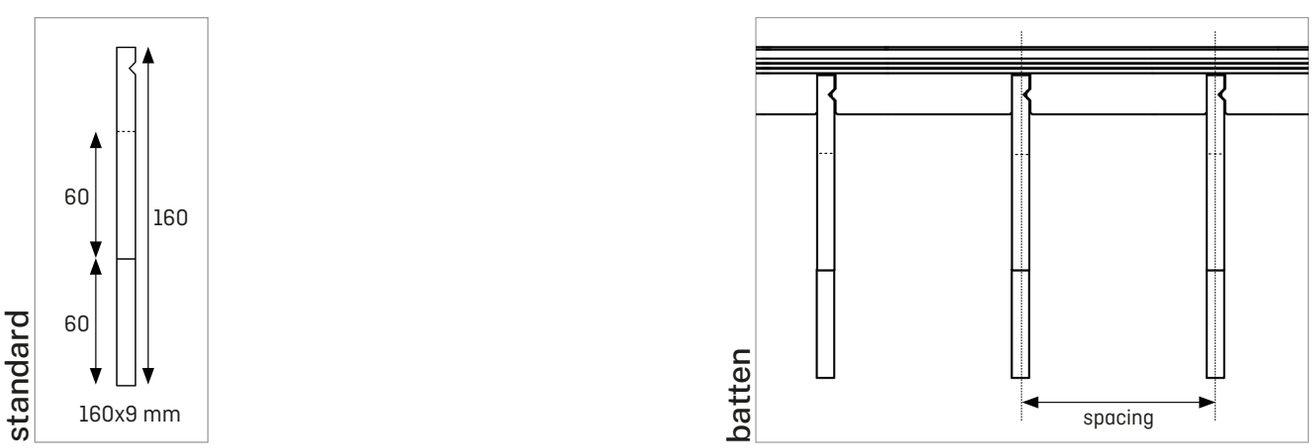
- Slat height: Standard 55 mm, variations 80 mm, 100 mm. Please enquire about other height options.
- Standard spacing 60-80-100 mm. Please enquire about other spacing options.
- Gap-to-spacing: Spacing 60 mm->Gap 20 mm, 80 mm->40 mm, 100 mm->60 mm.

Linear flat



- Slat height: Standard 100 mm, variations 150 mm, 200 mm. Please enquire about other height options.
- Standard spacing 100-150-200 mm. Please enquire about other spacing options.

Linear flat S/S2



- Maximum slat height: Standard 160 mm, minimum slat height 40 mm. Side height 100 mm. Please enquire about other slat heights and designs.
- Standard spacing 100-150-200 mm. Please enquire about other spacing options.

DECO ACOUSTIC LINEAR PERFORMANCE

(based on a distance of 1.2 m between battens and 1 m between hangers)

Model	Type	Units by m^2
Deco Acoustic Linear	SPACING 60	
	Primary profile 3.0 m	1 lm/m^2
	Linear element 2.4 m	16.67 lm/m^2
	Hanger parts	1 unit/m^2
	Batten joining piece	As per project requirements
	Slat joint part	As per project requirements
	System weight based on slat height (55–80–100)	(4.95-6.35-7.45) kg/m^2

Model	Type	Units by m^2
Deco Acoustic Linear	SPACING 80	
	Primary profile 3.0 m	1 lm/m^2
	Linear element 2.4 m	12.5 lm/m^2
	Hanger parts	1 unit/m^2
	Batten joining piece	As per project requirements
	Slat joint part	As per project requirements
	System weight based on slat height (55–80–100)	(4.05-5.10-5.95) kg/m^2

Model	Type	Units by m^2
Deco Acoustic Linear	SPACING 100	
	Primary profile 3.0 m	1 lm/m^2
	Linear element 2.4 m	10 lm/m^2
	Hanger parts	1 unit/m^2
	Batten joining piece	As per project requirements
	Slat joint part	As per project requirements
	System weight based on slat height (55–80–100)	(3.55-4.35-5.00) kg/m^2

DECO ACOUSTIC LINEAR FLAT PERFORMANCE

(based on a distance of 1.2 m between battens and 1 m between hangers)

Model	Type	Units by m^2
Deco Acoustic Linear Flat	SPACING 100	1 m^2
	Primary profile 3.0 m	1 lm/m^2
	Linear element 2.4 m	10 lm/m^2
	Hanger parts	1 unit/m^2
	Batten joining piece	As per project requirements
	Slat joint part	As per project requirements
	System weight based on slat height (100–150–200)	(3.05-3.90-4.70) kg/m^2

Model	Type	Units by m^2
Deco Acoustic Linear Flat	SPACING 150	
	Primary profile 3.0 m	1 lm/m^2
	Linear element 2.4 m	6.67 lm/m^2
	Hanger parts	1 unit/m^2
	Batten joining piece	As per project requirements
	Slat joint part	As per project requirements
	System weight based on slat height (100–150–200)	(2.55-3.10-3.55) kg/m^2

Model	Type	Units by m^2
Deco Acoustic Linear Flat	SPACING 200	
	Primary profile 3.0 m	1 lm/m^2
	Linear element 2.4 m	5 lm/m^2
	Hanger parts	1 unit/m^2
	Batten joining piece	As per project requirements
	Slat joint part	As per project requirements
	System weight based on slat height (55–80–100)	(2.30-2.75-3.15) kg/m^2

DECO ACOUSTIC LINEAR FLAT S-S2 PERFORMANCE

(based on a distance of 1.2 m between battens and 1 m between hangers)

Model	Type	Units by m^2
Deco Acoustic Linear Flat S/Flat S2	SPACING 100	1 m^2
	Primary profile 3.0 m	1 lm/m^2
	Linear element 2.4 m	10 lm/m^2
	Hanger parts	1 unit/m^2
	Batten joining piece	As per project requirements
	Slat joint part	As per project requirements
	System weight based on slat height (S / S2)	(2.90-3.35) kg/m^2

Model	Type	Units by m^2
Deco Acoustic Linear Flat S/Flat S2	SPACING 150	
	Primary profile 3.0 m	1 lm/m^2
	Linear element 2.4 m	6.67 lm/m^2
	Hanger parts	1 unit/m^2
	Batten joining piece	As per project requirements
	Slat joint part	As per project requirements
	System weight based on slat height (S / S2)	(2.45-2.75) kg/m^2

Model	Type	Units by m^2
Deco Acoustic Linear Flat S/Flat S2	SPACING 200	
	Primary profile 3.0 m	1 lm/m^2
	Linear element 2.4 m	5 lm/m^2
	Hanger parts	1 unit/m^2
	Batten joining piece	As per project requirements
	Slat joint part	As per project requirements
	System weight based on slat height (S / S2)	(2.25-2.45) kg/m^2

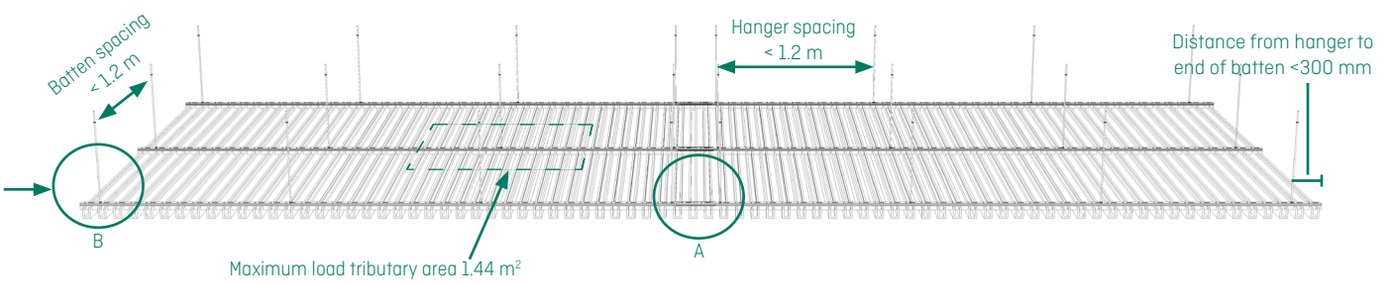
INSTALLATION/ **Deco Acoustic Linear**

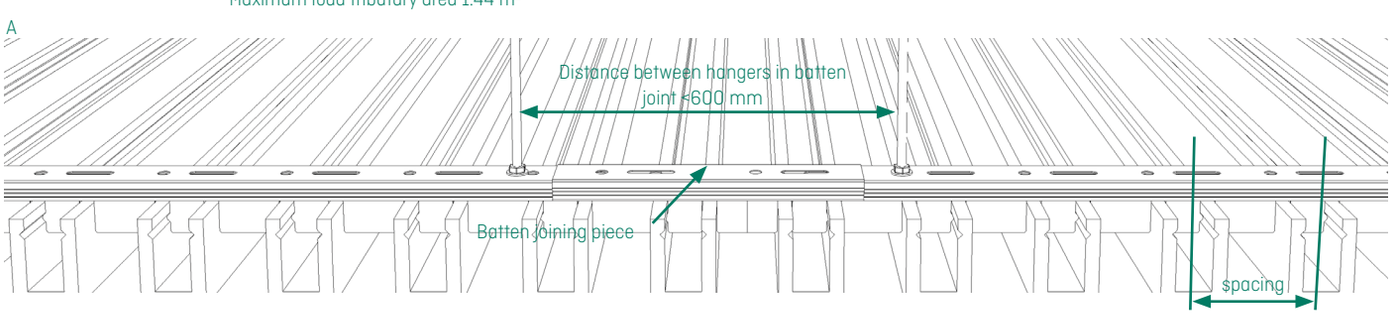
ASSEMBLY PROCESS

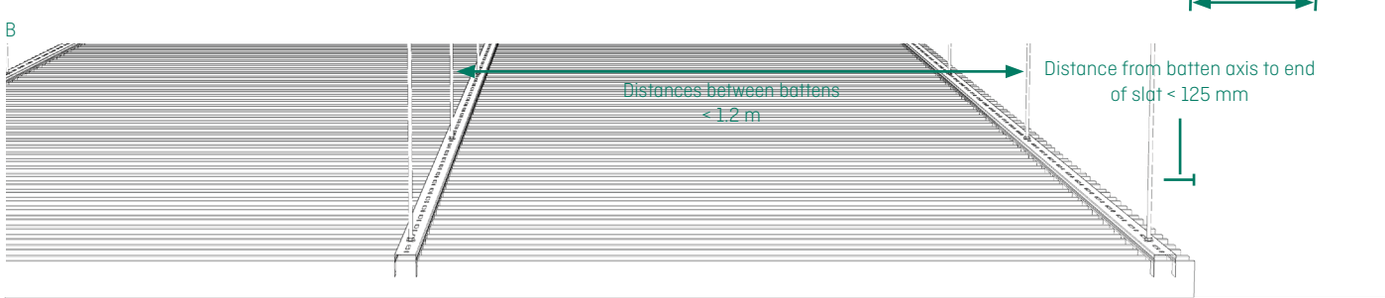
The Deco Acoustic Linear system consists of a substructure of primary profiles or battens, which are joined together by fitting the linear elements or slats. The primary profiles (battens) are the load-bearing elements that support the entire system, which is suspended vertically from the upper support 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 battens or primary profiles are 3 m long and they are 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 batten using 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 structure has been properly levelled.

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

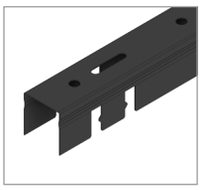
1. The spacing between hangers must be less than 1.2 m, with the recommended distance being 1 m.
2. A hanger part must be placed within 300 mm of the start or end of the batten or primary profile.
3. Maximum distance of 600 mm between hangers in the joint between two primary profiles (one on each profile), joined using a batten connector.
4. The distance between battens must be less than 1.2 m, with the recommended distance being 1 m.
5. The distance between the batten and the start/end of a slat must be less than 125 mm. The slats must be connected using the "slat connector" piece.



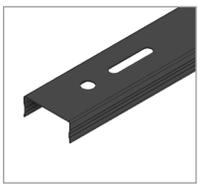




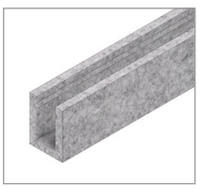
MATERIALS



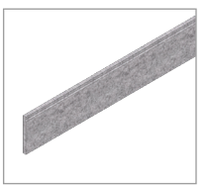
1) Batten
A longitudinal U-shaped element, the primary profile, which supports the slats in the Deco Acoustic Linear system. It is suspended from the structural slab using threaded rods* secured with double hexagonal nuts and washers. (Performance specifications are based on this fixing method).



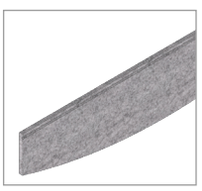
2) Batten joint
A U-shaped fitting that is inserted at the meeting point between two battens, restricting movement between them and maintaining the alignment established during the setting out phase. Fix to both battens using a double nut and washer. 155 mm long.



3) 40x55 mm slat
A U-shaped linear slat made from recycled PET fibre felt panels. It interlocks with the batten at each intersection. It is removable and suffers no visible wear or damage during the dismantling process.



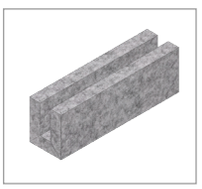
4) Flat slat
Flat linear slat with a straight exposed edge made from recycled PET fibre felt panels. It interlocks with the batten at each intersection. It is removable and suffers no visible wear or damage during the dismantling process.



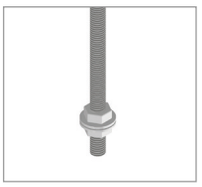
5) Flat S / Flat S2 slat
Flat linear slat with a curved exposed edge made from recycled PET fibre felt panels. It interlocks with the batten at each intersection. It is removable and suffers no visible wear or damage during the dismantling process. Two complementary models designed to be installed consecutively lengthwise and/or crosswise.



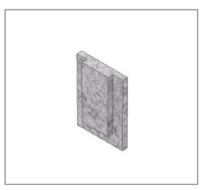
6) 40x55 mm slat joint
A U-shaped fitting to be inserted internally at the longitudinal joint between two slats, ensuring correct alignment between collinear slats, provided that the primary batten structure is aligned correctly. (Optional). 125 mm long.



7) Flat / Flat S / Flat S2 slat joint
A U-shaped fitting to be inserted externally at the longitudinal joint between two slats, ensuring correct alignment between collinear slats, provided that the primary batten structure is aligned correctly. (Optional). 125 mm long.



8) Hanger part
A 6 mm metric (M6) threaded rod that is secured with 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 batten by means of a double nut plus upper and lower washers.



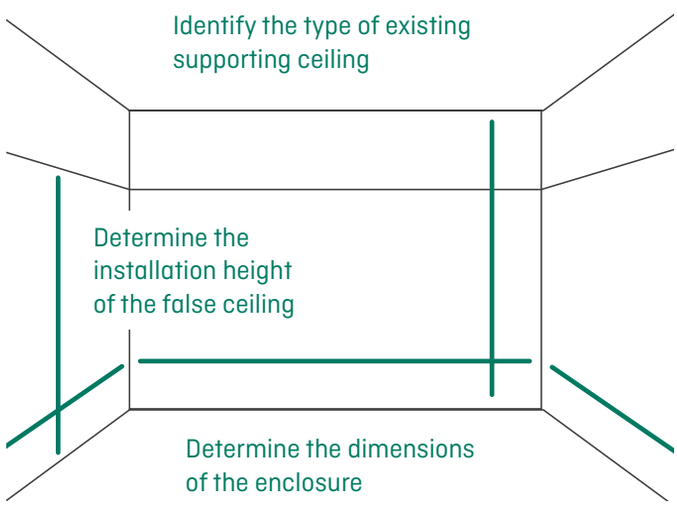
9) 40x55 mm slat end cap.
End cap for the slat, to be inserted into the exposed sides once the slat has been installed. (Optional).

INSTALLATION PROCESS

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

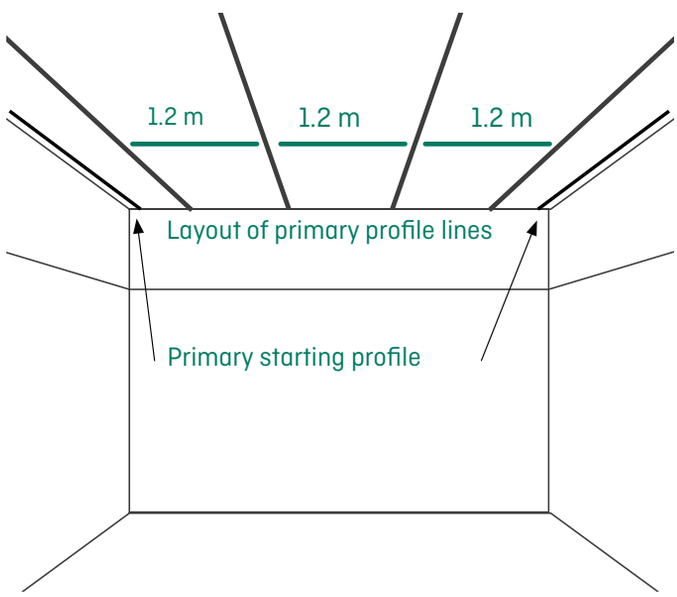
1) Identify the type of upper support used (concrete, steel, etc.) to adapt the fixing elements to it. Calculate the dimensions of the enclosure to be covered and determine the height at which the ceiling will remain. Mark the height at which you want to place the ceiling on the walls (along the entire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

1



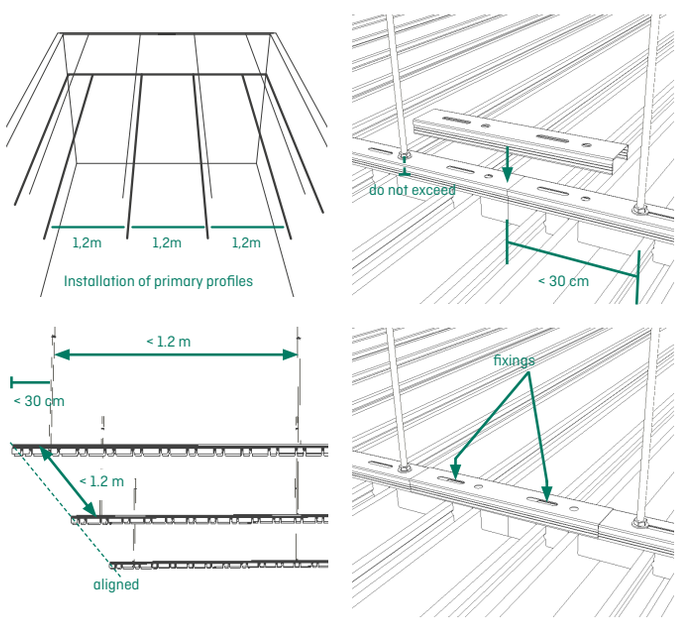
2) On the ceiling, mark the lines along which the primary profiles will run and therefore where the hangers will be installed to support them. Position the parallel pieces along the longest side of the room at intervals no greater than 1.2 m. A symmetrical layout with respect to the central axis of the enclosure is recommended, so that the end pieces can be cut to the same size. For this purpose, you should align a primary profile with the centreline.

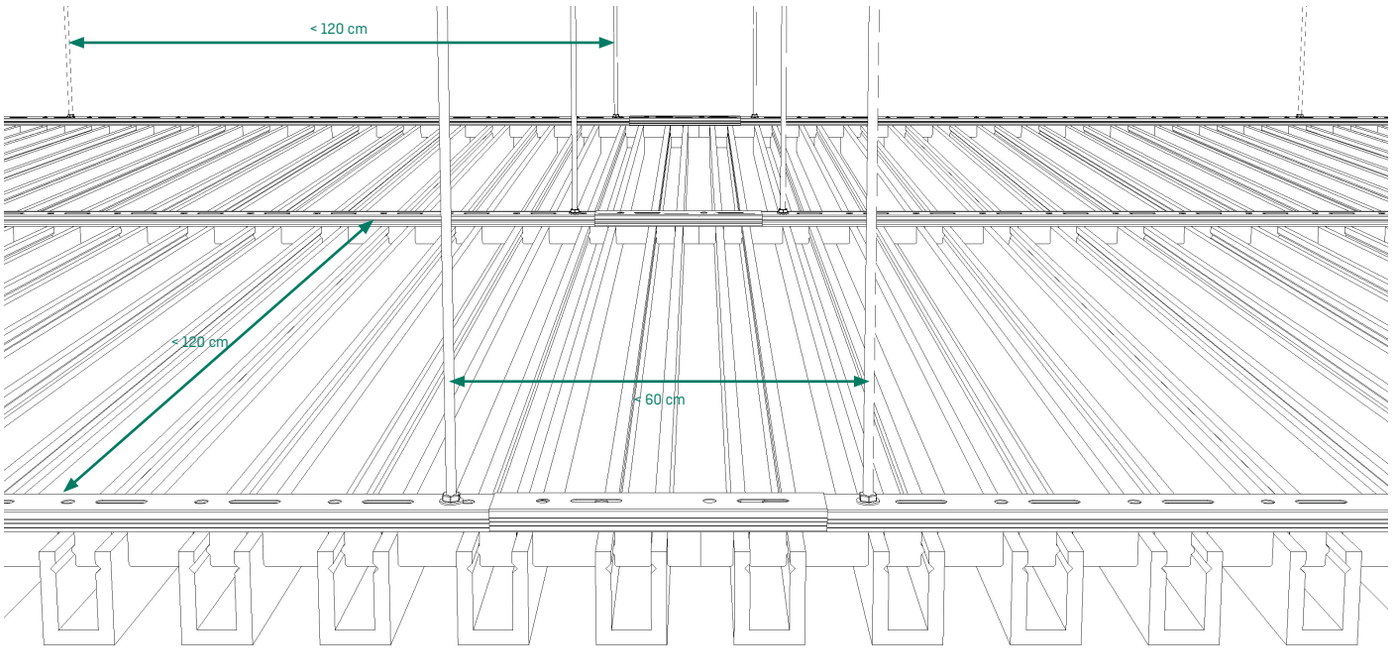
2



3) The primary profiles (battens) are mounted following the layout lines. Anchor the hangers to the upper support according to the type and material of the chosen fastening. At the ends, the hanger must be within 30 cm of the beginning of the profile, with two hangers - one on each profile - placed at the joints. The recommended spacing between hangers is 1 m, with a maximum distance of 1.2 m. Once all the primary profiles have been fitted, they must be levelled. Next, fit the batten joints, securing them to both battens using a screw and nut, and finally, make sure that the level of the entire system has not been affected. Battens should be aligned with each other at the point where a slat is inserted, not from the end of the profile. The ends of the hangers must be cut above the installation line to avoid any interference.

3

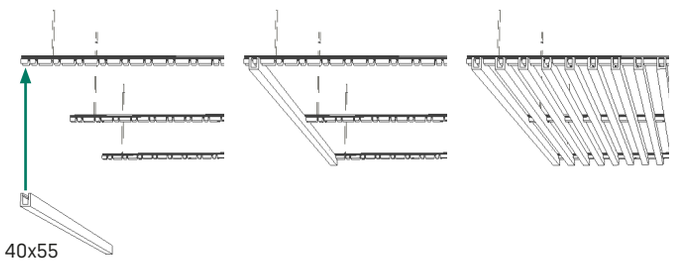




40x55

4) Install the linear felt elements (slats). Each linear element is positioned from below, inserted parallel to the horizontal plane and inserted into the battens' slots, whilst ensuring that the ends of the slats are aligned with one another.

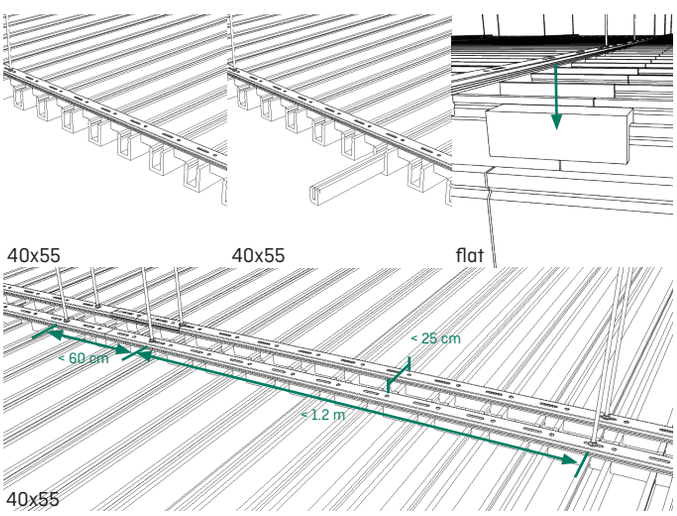
4



40x55

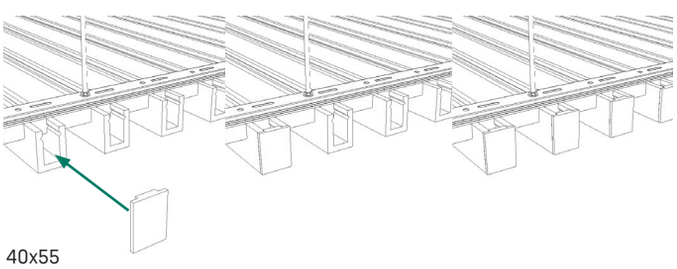
5) Connect the slats using the joint fitting. For collinear slats, to improve the finish, felt connectors may optionally be fitted; these should be installed before the second row of slats. The paired battens at the start and end of consecutive slats must be spaced less than 25 cm apart to remain within the recommended maximum distance between a batten and the end of a slat (125 mm). (All battens must be installed and levelled simultaneously, prior to the installation of the slats). For flat slats, the connector is inserted from the top of the intersection between two slats.

5

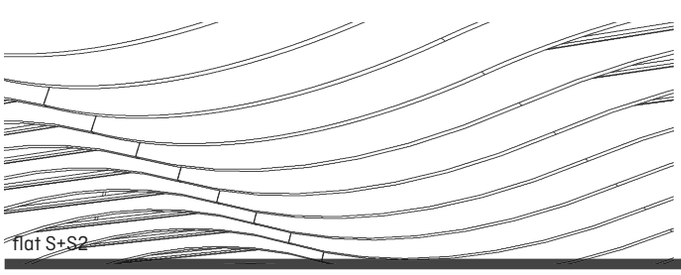


6) Fit the side covers onto the exposed side slats (optional).
The covers are optional and improve the appearance of the exposed sides. Fit them as the final step. Apply a couple of drops of a light-duty adhesive, such as white glue, to the sides that are inserted into the slat.

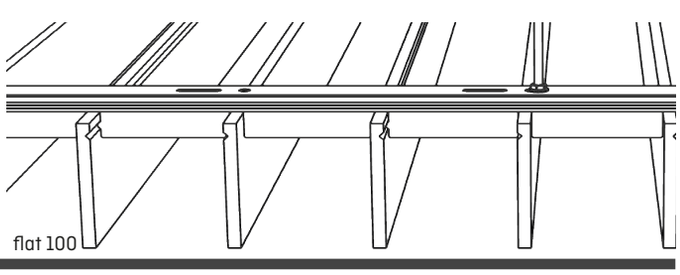
6



40x55



flat S+S2



flat 100

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 without added waxes or polishes) 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

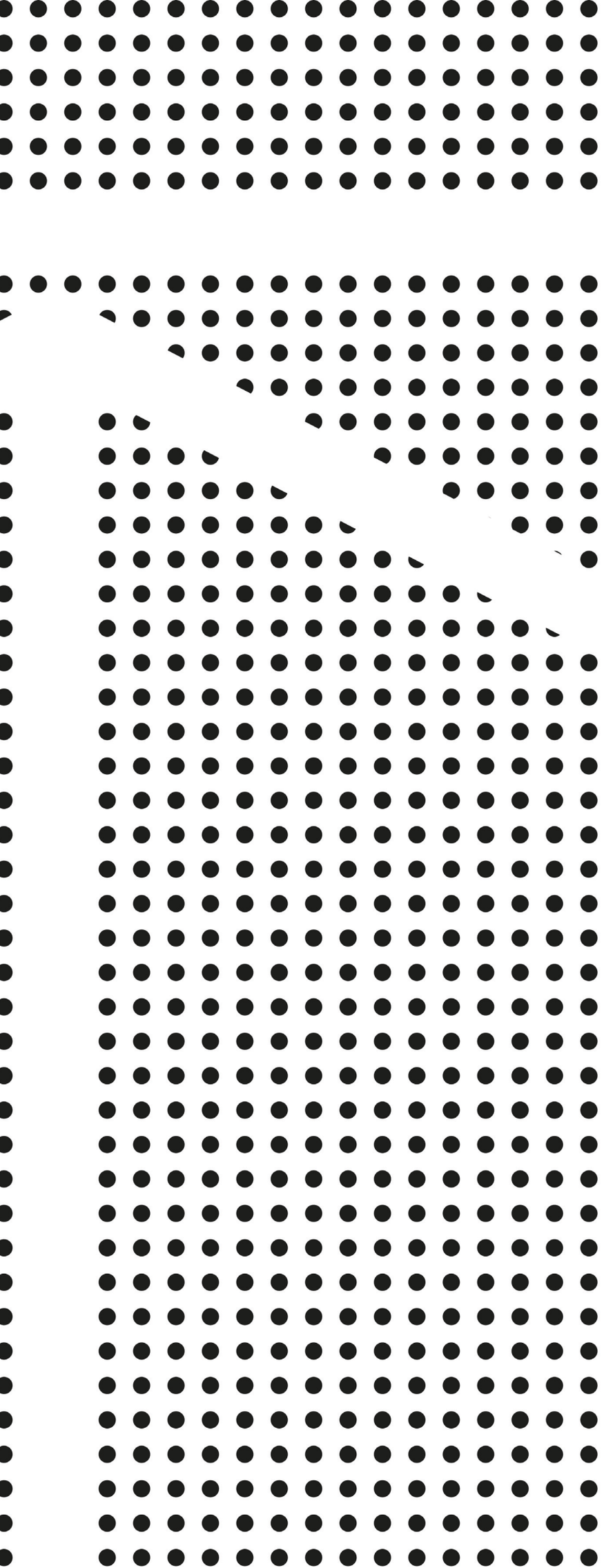
- Box of 12 slats (40x55 linear element).
- Box of (*) slats (flat linear element).*please enquire
- Box of (*) slats (flat S / flat S2 linear element).*please enquire
- Box of 10 battens (primary profile).

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.



Kingspan | THU ceiling solutions

Masía de Monte Alcedo Parcela, 4.3
P.I Masía Baló, 46394
Ribarroja del Turia, Valencia

Telephone: +34 96 134 05 44
Fax: +34 96 166 78 21

info@thu.es
www.thu.es