


TOP)A)K)U)S)T)I)K) 

## Installation Manual

Please read before starting installation  
ISSUE 2017

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## Introduction

### Information on new TOPAKUSTIK® INSTALLATION MANUAL 03/2017

This installation manual replaces all previous installation documents. The information is valid for installers and designers of ceiling- and wall coverings. The ceiling systems are treated as complete kits, substructure and acoustic covering.

### Validity – and field of application

This installation manual is valid as an application guideline and does not represent a complete reference to existing standards or codes. Descriptions and details refer only to TOPAKUSTIK® products. It defines dimensions, limiting dimensions and design requirements for ceilings in interior areas. The user is obliged to maintain all due project related requirements as well as respective valid standard requirements.

This installation manual however - has **no** validity for the following applications:

- Accessible ceilings and their supporting structure
- Ceilings with specific requirements regarding corrosion behaviour
- Ceilings with dynamic and/or static load effects (swimmingpools, underground stations etc.)

#### Additional Loads:

The installation of additional loads is not foreseen in the systems documented here. The substructure is to be attached by appropriate means to structural components. Additional loads (lights, ventilation elements among other things) are to be attached separately whenever possible. The substructure as well as the top layer must not be walked on. For special applications, a reinforcement of the system construction is feasible for additional loads. The direct consultation of NH Akustik + Design AG (TOPAKUSTIK®) is a mandatory pre-requisite for this. The determination of corresponding additional loads and their definition in writing shall be done by the customer. For all types of installations, the regulations documented here are to be observed.

All details and technical information in this manual or other publications referring to TOPAKUSTIK® Products are based on test results obtained under typical conditions.

### Obligation

We urgently recommend you to read and respect the yellow pages p. 3.0.1 and 3.0.2 before installation.

Technical changes without prior notification in the sense of further development are reserved at any time.

## Veneers

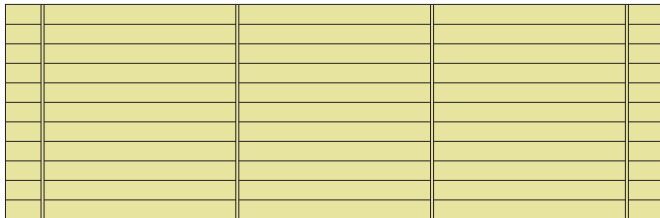
TOPAKUSTIK®-products are manufactured with selected veneers. Every veneer log has different natural features (growth and color, among other things).

*We recommend a harmonic sorting of the TOPAKUSTIK®-elements before installation.*

## Laying options

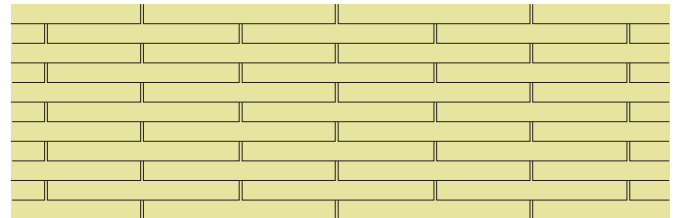
Divide transverse laths in such a way that under every groove a lath is placed for fixation.

### Parallel



Pic. 1

### English

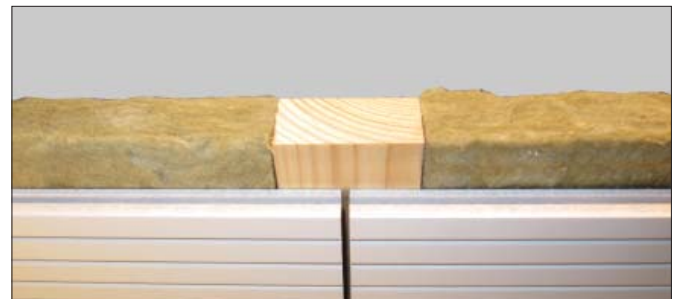


Pic. 2

## Transverse grooves

TOPAKUSTIK®-planks are available in various lengths up to 4m (see brochure).

At transverse joints, we recommend allowing a gap of 3-4 mm to absorb any changes in the length due to room humidity fluctuations.

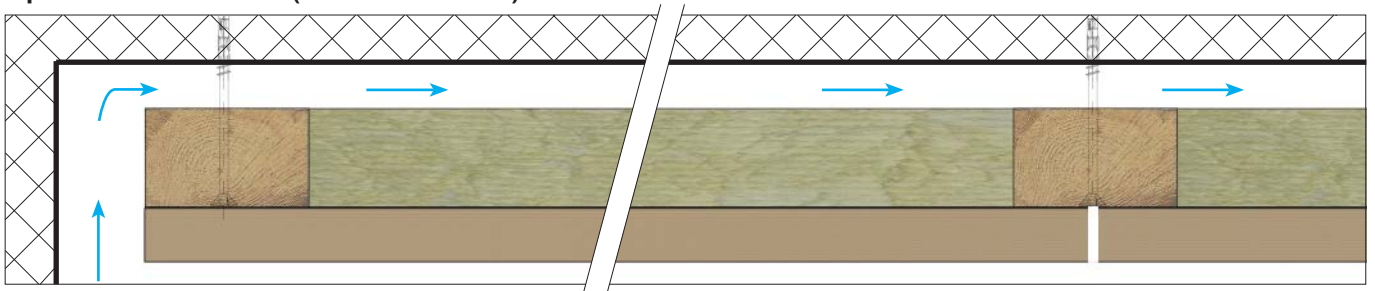


Pic. 3

## Parallel transverse grooves (Pic. 1 and 3)

TOPAKUSTIK®-planks have to be trimmed to length and installed in air-conditioned condition (see page 3.0.1-3.0.2) with router-or shadow joint cutter. Differences in measurements can occur before installation through change of room humidity at storage place or installation area.

## Open wall connection (for humid rooms)



Pic. 4

## Important for humid rooms

- Air ventilation required
- Use special carrier plate
- Use approved substructure
- Observe shrinkage und swelling when forming joints

When installing planks with difficult surfaces, we recommend to wear gloves when performing the installation (Pic. 5).

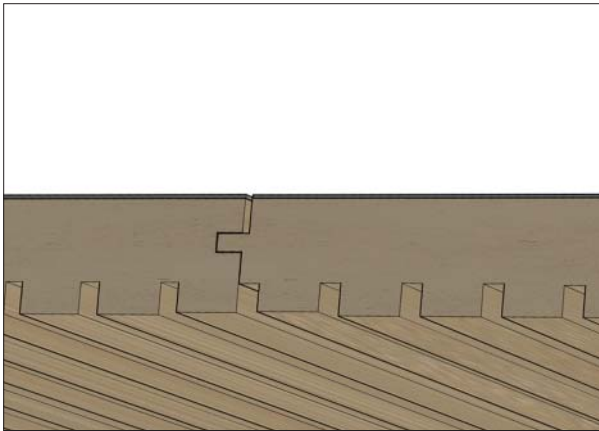


Pic. 5



## Fixation

The tongue and groove joint is machined very precisely, therefore push the plank together only by hand. In case the groove does not close neatly, check the joint for obstructive staples or residues!



Pic. 7



Pic. 6

## Information

TOPAKUSTIK®-planks, width 128 mm, can be fixed by standard available devices according to pic. 8, 9, 10 + 11 on the groove side. Staple length min. 29 mm.



Adjust air pressure correctly, i.e. countersink staples completely, **without breaking through the groove profile according to Pic. 9.**

For this installation use the standard foot according to Pic.11.

The fixing strength must be checked at the beginning of the assembly and at regular intervals.

## Standard installation of TOPAKUSTIK® and TOPPERFO® planks

Staples are shot into the groove.



Pic. 8



Pic. 10



Pic. 9



Pic. 11

## Installation through the grooves TOPAKUSTIK® planks

The installation, according to Pic. 12 + 13, is only recommended for start- end planks and panels. At high strain (wet rooms and outside areas) the planks must be fixed in the middle additionally through the grooves.



Pic. 12



Pic. 13

## Sports halls

When installing planks in sports halls, they have to be fixed, acc. to Pic. 8+12, in the groove and additionally in the middle of the plank with staples or according to pic. 14 twice into the grooves. Staple length min. 32 mm



When installing through the grooves, the lower part of the «Special foot» is not guided on the side thus the striking pin is exposed to strong wear. This can mean that the staples are no longer completely countersunk i.e. replace the special foot. The staples have to be aligned on the solid part of the acoustic holes.



Pic. 14

## TOPAKUSTIK®-Panels

TOPAKUSTIK®-panels can be fixed with the TOPAKUSTIK®-nail gun with «Special foot» though the grooves according to Pic. 15-17. Distance between the staples for normal ceilings approx. 250mm, in sports halls max. 100 mm



Pic. 15

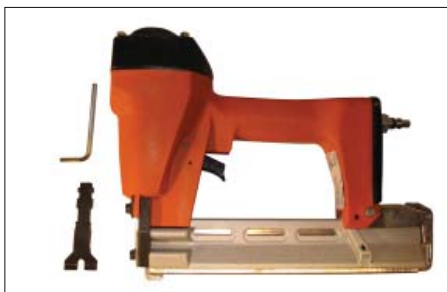


Pic. 16



Pic. 17

## TOPAKUSTIK®-Nail gun



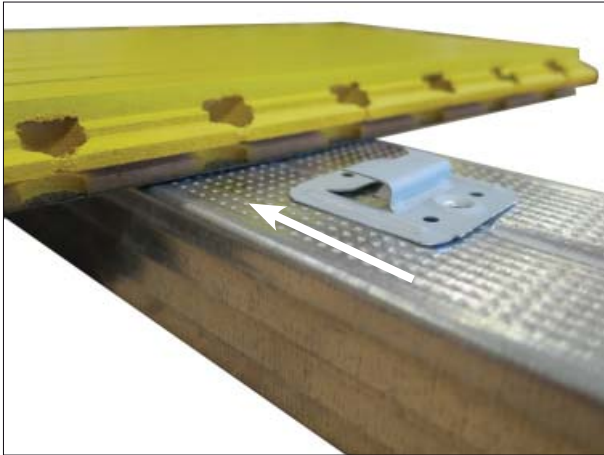
Pic. 19

For the installation according to Pic. 12 – 17 the «special foot» in Pic 18 is recommended.



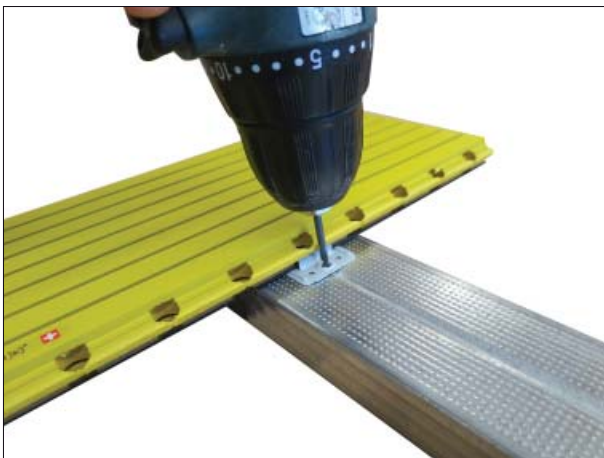
Pic. 18

## Installation method 1 for TOPAKUSTIK® and TOPPERFO® planks with pop-rivet:



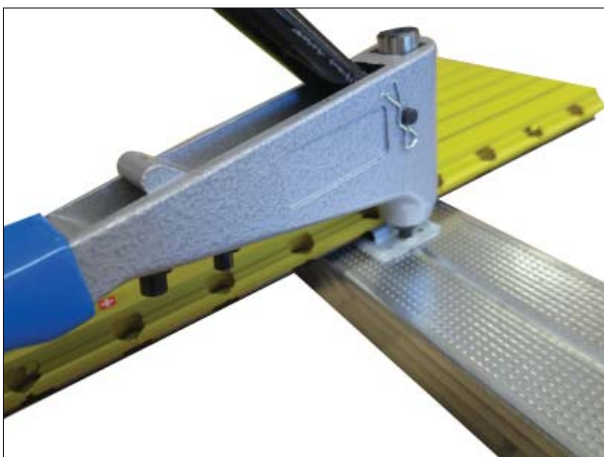
Pic. 20

- Place the plank into the recommended position for fixation.
- Move the clip into the designed groove acc. to pic. 20.



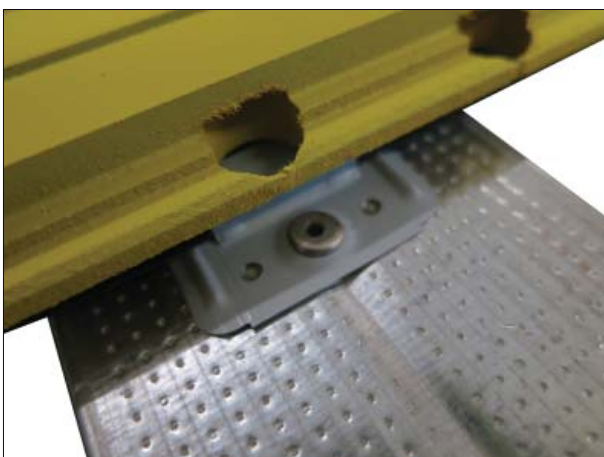
Pic. 21

- Predrill the hole for the pop-rivet, pic. 21



Pic. 22

- Tight the hand riveter tight together, pic. 22



Pic. 23

- Pin breaks away, clip is fixed (picture below), pic. 23

- Typical commercial pop-rivet, pic. 24



Pic. 24

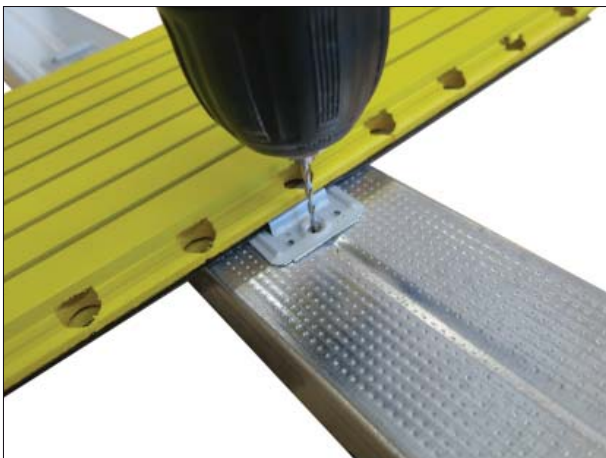


## Installation method 2 for TOPAKUSTIK® and TOPPERFO® planks with metal sheet screw:



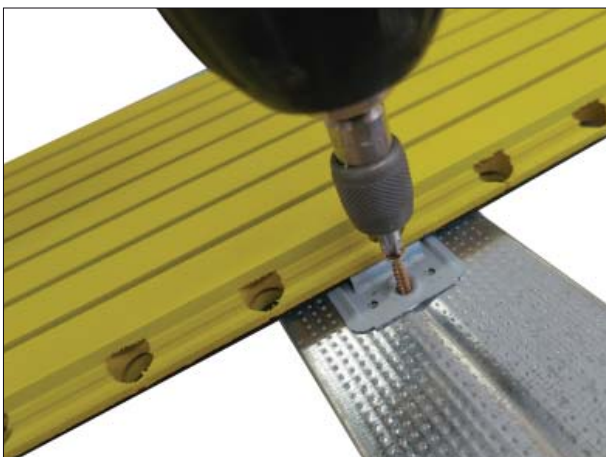
Pic. 25

- Place the plank into the recommended position for fixation.
- Move the clip into the designed groove acc. to pic. 25.



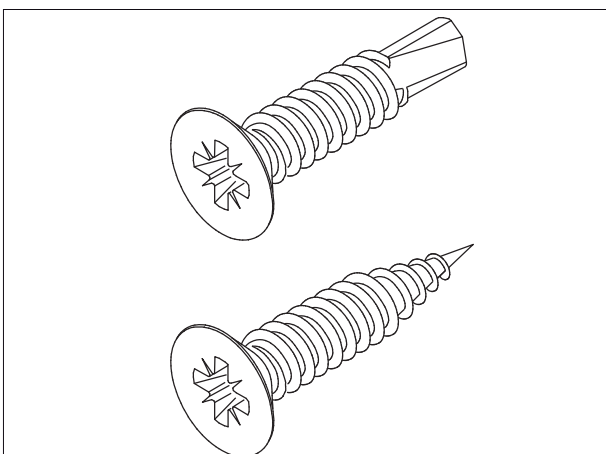
Pic. 26

- Place the screw clip in the desired position. Predrill the hole for the metal sheet screw, pic. 26




Pic. 27

- Install the drill with a metal screw and screw, observe torque, pic. 27



Pic. 28

- Typical commercial metal sheet screws, pic. 28
- Only countersunk head screws can be used
- Screws with a drill bit do not have to be pre-drilled.

 Same assembly also possible on wooden subconstruction panels.



## Machining

### Drill holes

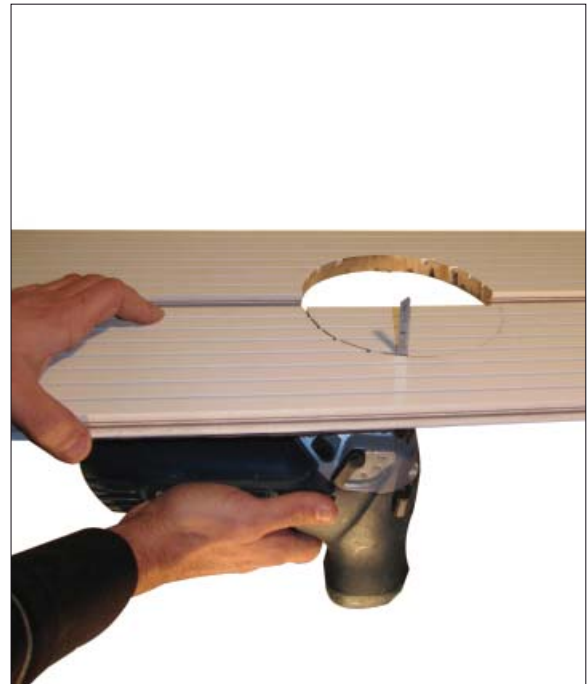
- Drill with applied stencil
- When drilling into installed ceiling, fix stencil with pins into the grooves
- For TOPAKUSTIK®-types with fine ribs, tape down the visible surfaces and drill carefully so that the ribs do not break. (Use test piece)



Pic. 29

### Cut-outs before installation

- Using a jig saw from the reverse side of the element delivers a neat cut.



Pic. 30

### Shadow joint alongside

- Plane the plank with hand plane to ready width.



Pic. 31

### Cut shadow joint (Pic. 32)

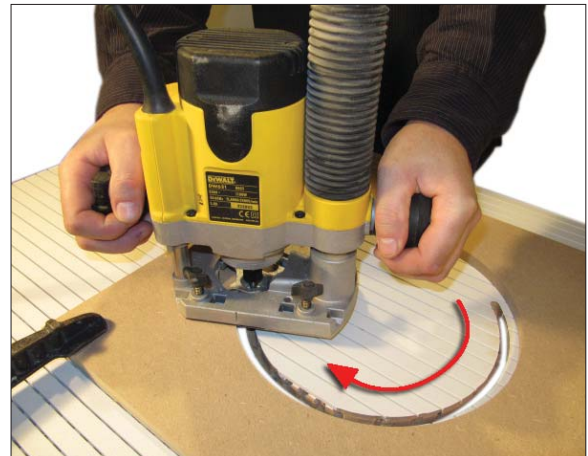
- Use sharp tool
- If necessary, drive (left) backwards
- Protect wall
- Pre-cut room corners with jig-saw
- Tears on the element edges can be avoided by using tape on the cutting edges



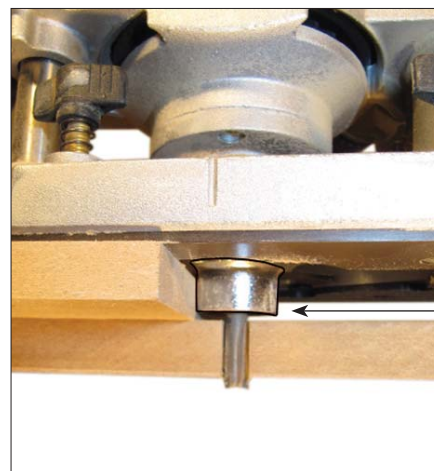
Pic. 32

## Cut-out hand router

- Produce stencil to cut-out size e.g.. MDF 10 mm.
- Take care when fixing the stencil to the groove, that it does not shift.
- Use router with thrust ring according to Pic. 33+34.
- Insert milling cutter Ø 10 mm.
- For types with fine ribs, stick covering tape onto cutting surface so that the ribs do not brake.
- When starting the cut-out, carefully position the milling cutter and start in a circular way to the right. Pic. 33



Pic. 33

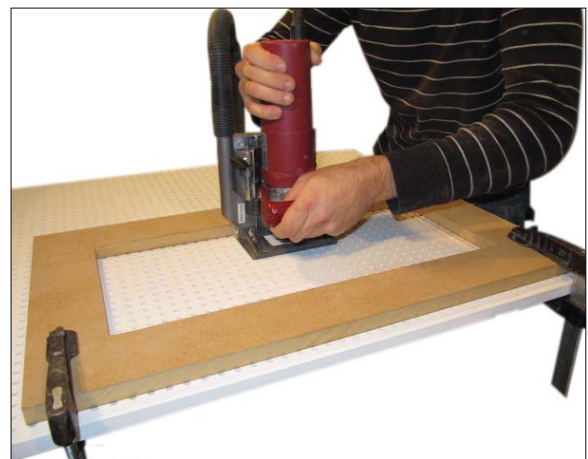


Thrust ring

Pic. 34

## Angular cut-out with shadow joint cutter (Pic. 35)

- Produce stencil with cut-out size.
- Take care when fixing the stencil on the groove, that it does not shift.
- For types with fine ribs, stick covering tape onto cutting surface so that the ribs do not brake.
- When starting the cut-out, carefully position the milling cutter .
- Trim the cut-outs in the corners with a jig saw from the rear side.



Pic. 35

## Access panel for W-System

- Open and shut the access panel with rotary latch according to Pic. 36, 37 + 38
- Open and shut with allen wrench between the grooves, key Ø 3 mm
- For 2 mm width grooves a hole of Ø 3 mm has to be drilled.

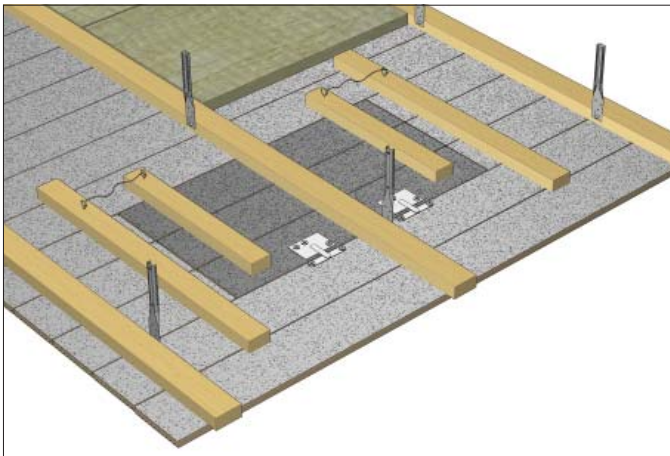


Pic. 36

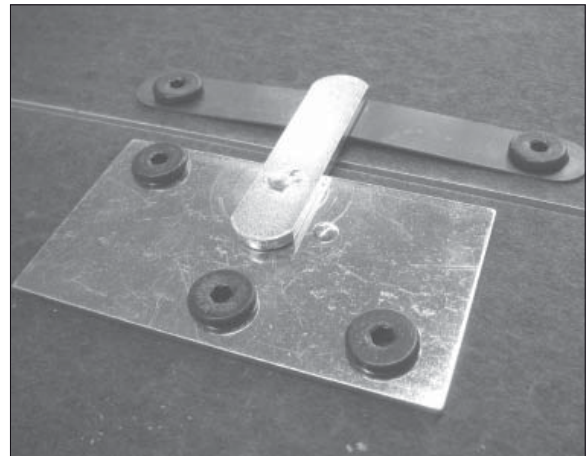


Pic. 37

### Open access panel downward (With latch set)



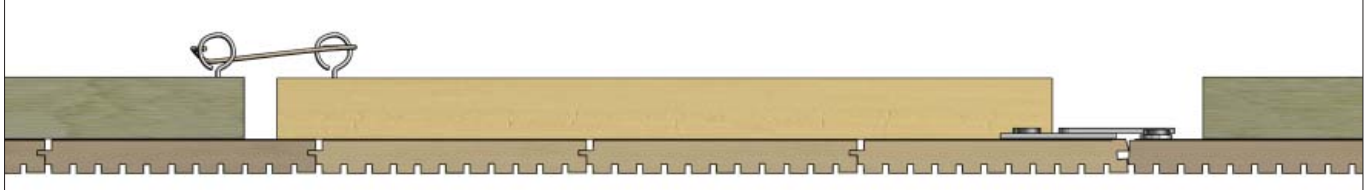
### Latch Set



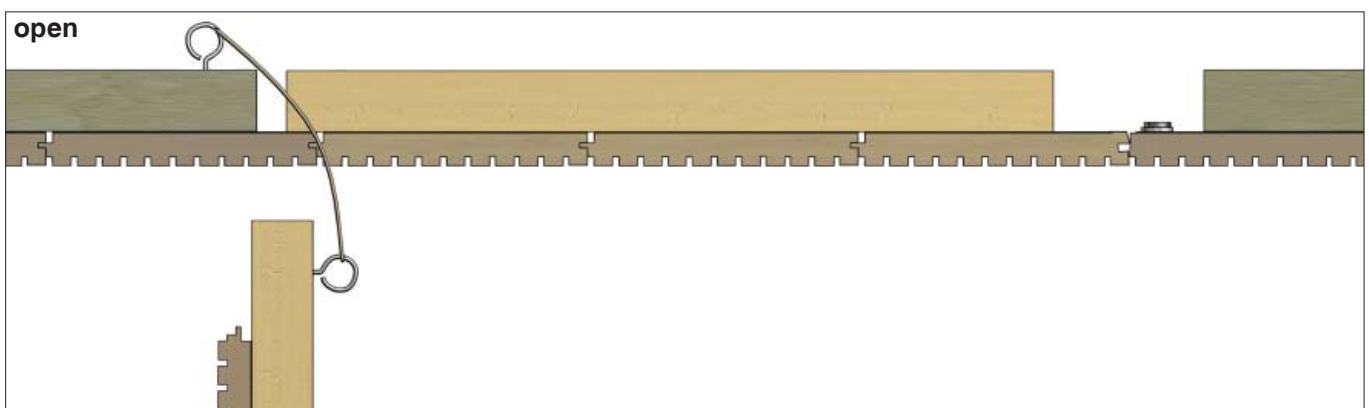
Pic. 38

<b>Latch set</b>	<b>24.6001</b>
Rotary latch	1 Pc.
Lock plate	1 Pc.
Screws	5 Pcs.
Cords with ring screws	1 Pcs.

**locked**

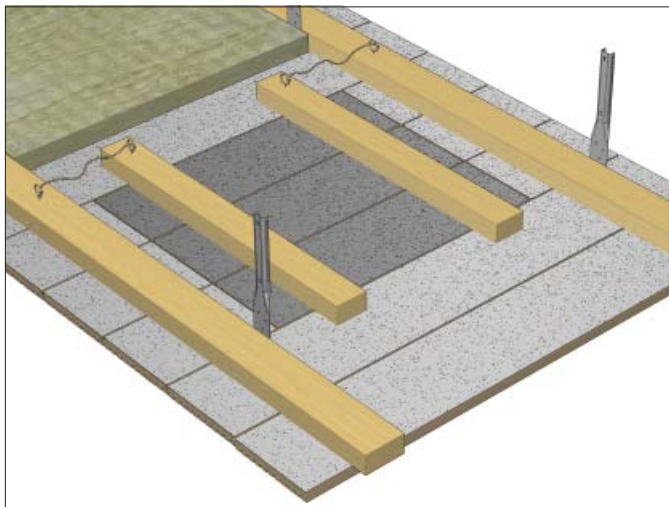


**open**

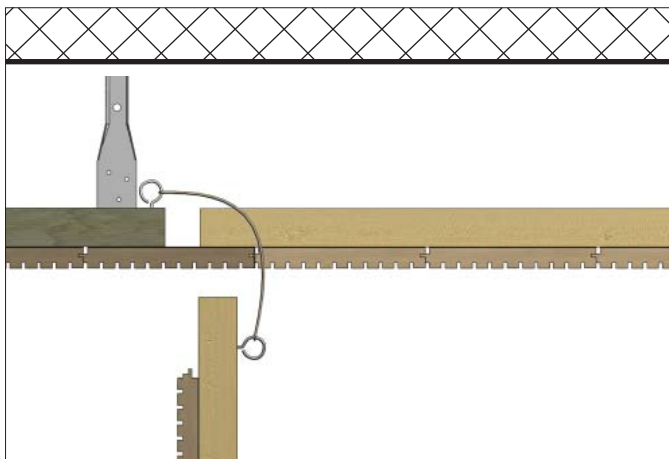
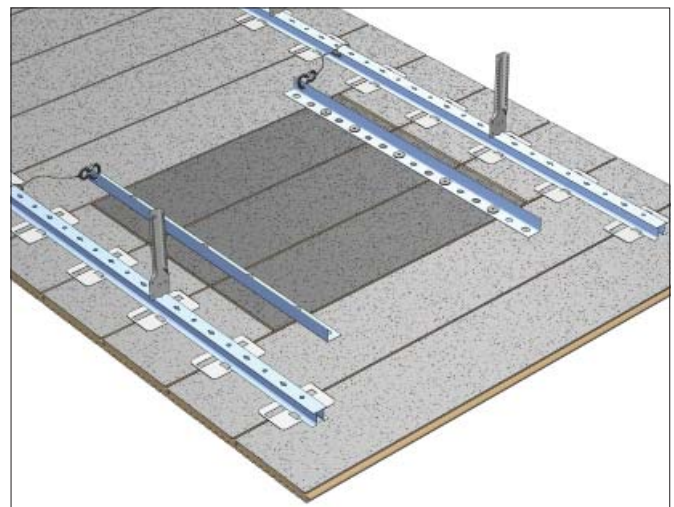




## Access panel for W-System opening upwards

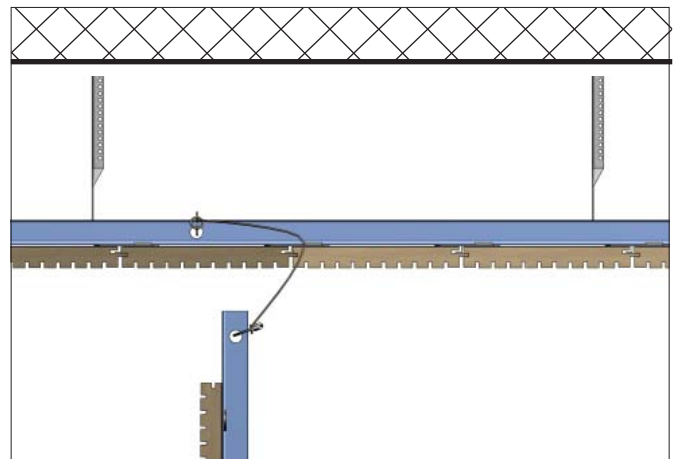


## Access panel for H-System made of L-profiles Opening upwards



### Design to lift and insert

- Access panel produced out of 3 planks, max. 450 mm in length
- Nail down 2 slats from front through the grooves to the rear side
- Cut access panel to exact length
- Cut off tongue alongside edge
- Install cord with ring screws



### Design with H-profiles to lift and insert

- Access panel produced out of 3 planks, max. 450 mm in length
- Fix 2 steel angles to the rear side with special screws
- Cut access panel to exact length
- Cut off tongue alongside edge
- Fix cord to H-profile and steel angles
- (snap hooks)

## Please read carefully before starting installation!

### Storage at building site

- TOPAKUSTIK®-elements in general have to be protected against humidity and have to be stored absolutely dry.
- Store elements lying flat on dry wood or pallets.
- Protect elements on all sides with plastic foil against humidity.
- Please observe especially in new building the dampness coming from the concrete floor !

### Acclimatise

- The elements are to be acclimatised inside the installation room 3-4 days before installation. Take care that all elements are exposed evenly to the room air.

### Veneered elements made of natural wood

- Veneered elements are made of naturally grown wood and are inherently subject-related variations in color and structure. Even veneers within a tribe may have some differences. Therefore, these elements have to be sorted harmoniously on their structure and color before mounting.

### Stiffeners

Removable ceiling covers with TOPAKUSTIK®-panels must be stiffened on the back in order to ensure flatness of the elements over time.

This for the following reason:

- The bending caused by the panel own weight can be «still acceptable» at installation.
- The bending increases over time caused by fatigue of the material.
- Different climatic conditions in the installation room and in cavities lead to an uneven shrinking and swelling and deformation of panels is promoted..

### Cleaning

- With damp cloth and mild cleaning detergent.
- Eraser for pencil lines.
- Clean with vacuum cleaner, dust extraction on contaminated surfaces and acoustic arrangements. Use only vacuum cleaner **mouthpiece with a soft brush** (scratches).

### Liability

Please observe in general the specific characteristic of the wood material. Damages or faults, which have an impact on the processing or are caused by an overloading of the TOPAKUSTIK®-Elements, exclude claims against us.

### Complaints

All complaints are to be announced immediately after delivery and before start of installation by mail.

### Further development

Technical changes as well as further developments are reserved

### Shrinkage and swelling (Expansions and Contraction)

In the standard design, the TOPAKUSTIK®-elements are made from MDF (medium density fibreboard). These panels are processed with a moisture content of 8-10%.

According to Standard DIN 68750/66754 resp. SIA 164/1 wood material shall be installed as follows:

- Air moisture	min. 35%	-	max. 60%
- Room temperature	min. 18°C	-	max. 30°C
= absolute air moisture	5,5 g/m³		18 g/m³
= resulting wood moisture of	7%		10,5%

### Balanced climate

Considering these standards one has to expect a material-**dilatation of 1,5 mm in 1000 mm.** ( $10,5\% - 7\% = 3,5\%$  x 0,04% Swelling measure per 1% change)

Therefore TOPAKUSTIK®-elements shall be separated with gaps of 3-6 mm corresponding to the element size. Separating the single elements by less than 3-6 mm can lead to:

- at increasing room moisture = closing of gaps and the elements can deform concave or convex
- at sinking room moisture = the gaps become wider.

**Rule of thumb:** The installation shall occur under a balanced room climate how as it is to be expected during operational phase.

TOPAKUSTIK®-planks are fully jointed systematically in width. Installation at high humidity can lead to a slight opening of the plank joints under dry conditions. In this case the planks have to be separated by 0.5 mm. For swimming pools the planks can be equipped with a special dilatation profile in the factory. The installation under too dry conditions (winter) can lead to a slight deformation (concave/convex) of the planks when reaching high (probably normal) air moisture.

## Production Tolerances

- Planks:** The TOPAKUSTIK®-plank is delivered with a industrial clean angular cut.  
The length tolerance is +/- 2 mm on the total length. If requested. the planks can be trimmed to fixed measure (Tolerance +/- 0.25 mm per m<sup>1</sup>, only recommended for plank length up to approx. 2 m > material dilatations)
- Panels:** TOPAKUSTIK®-panels are produced accurately on computer controlled machines in the factory (Tolerance +/- 0.25 mm per m<sup>1</sup>).

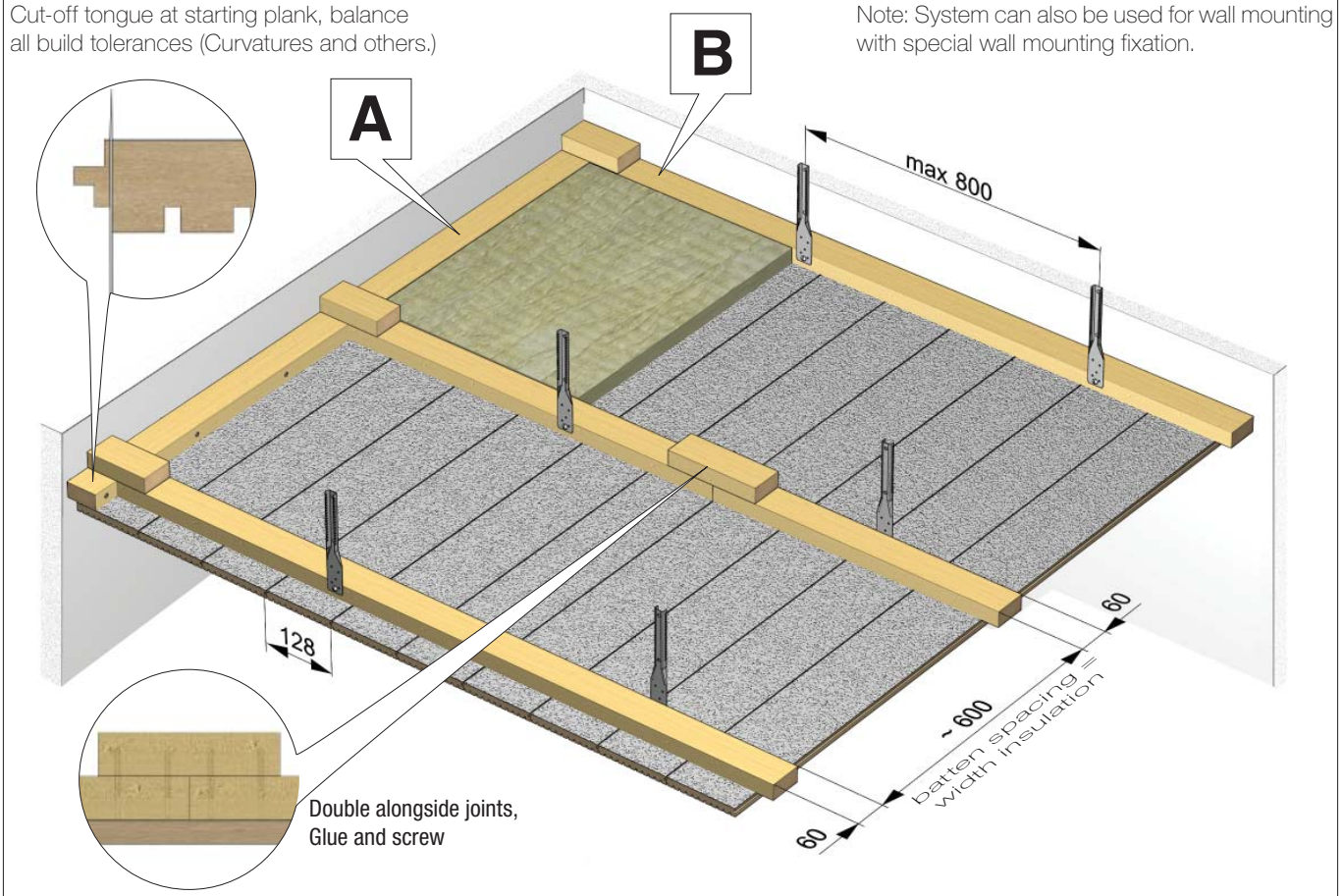
The TOPAKUSTIK®-elements leave the production with above listed (small) measure tolerances. Depending on the type, the surface is increased two to three times by grooving and perforation of the TOPAKUSTIK®-elements. TOPAKUSTIK® reacts to changing room humidity at installation site very fast with changes in measures (> shrinkage and swelling) (>acclimatisation) S. 3.0.1.



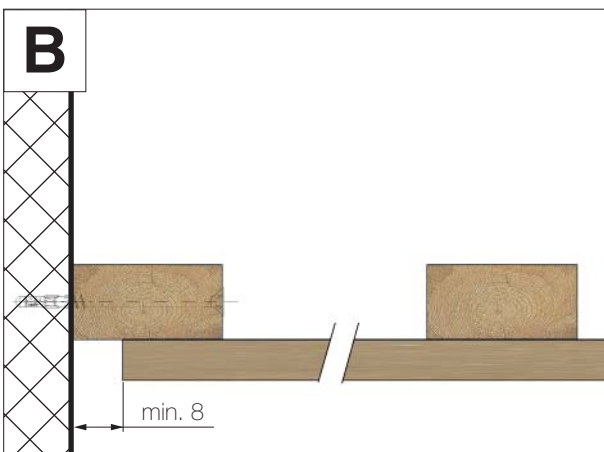
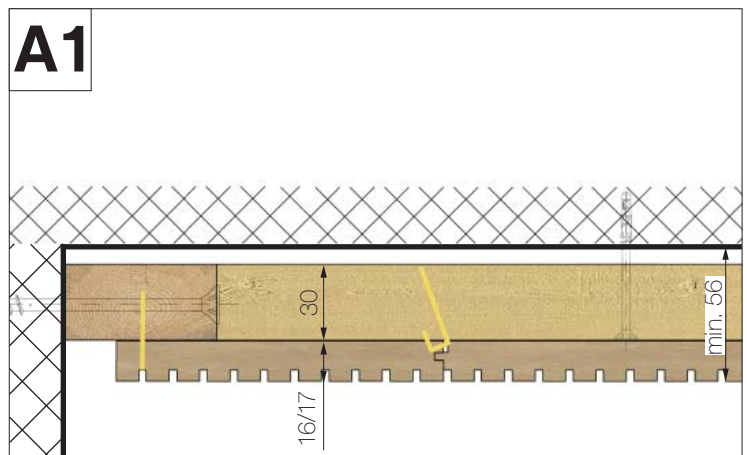
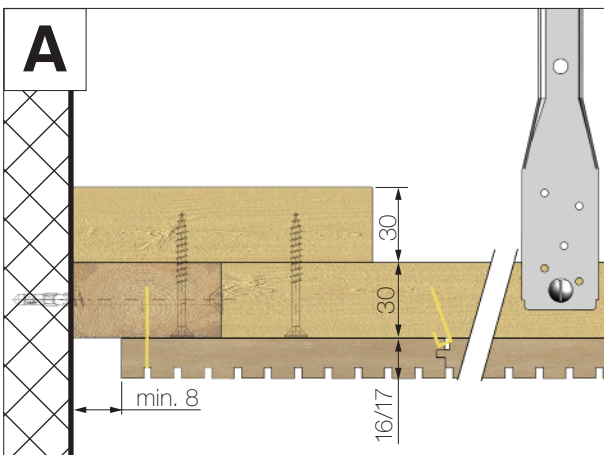
## TOPAKUSTIK® W1-System with slatted grid

Cut-off tongue at starting plank, balance all build tolerances (Curvatures and others.)

Note: System can also be used for wall mounting with special wall mounting fixation.



## Wall connection



## Installation on transverse wood lath (wood moisture max. 10%)

### Substructure:

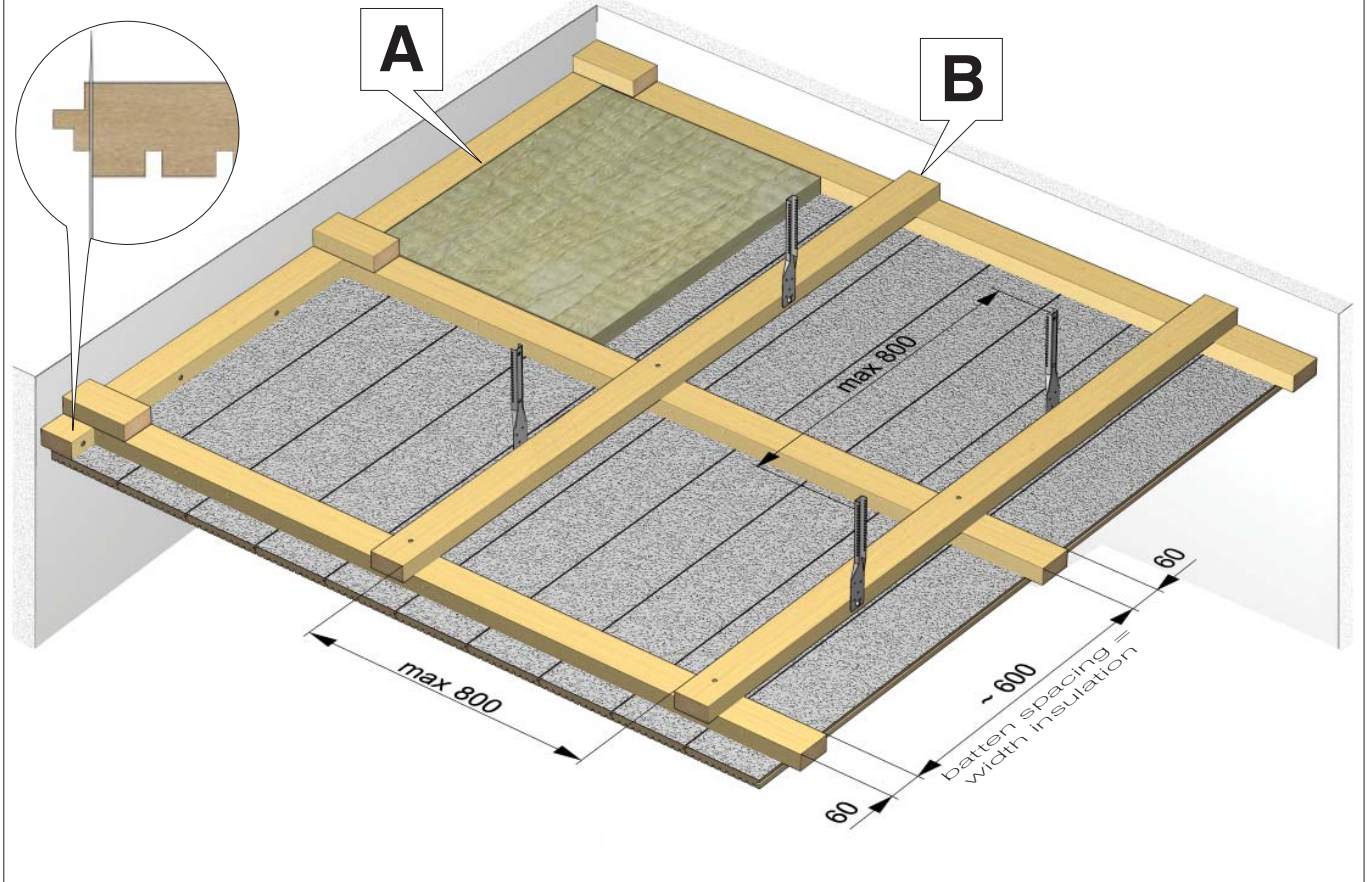
TOPAKUSTIK®-plank (without increased fire resistance requirement) are fixed on perfectly installed transverse wood battens made from planed, dry spruce tree laths 60/30 mm.

For installation of the wood battens with Nonius suspension (suspension positioned offset left and right of batten). Suspension distance 800 mm, TOPAKUSTIK®-element joints positioned on transverse battens.

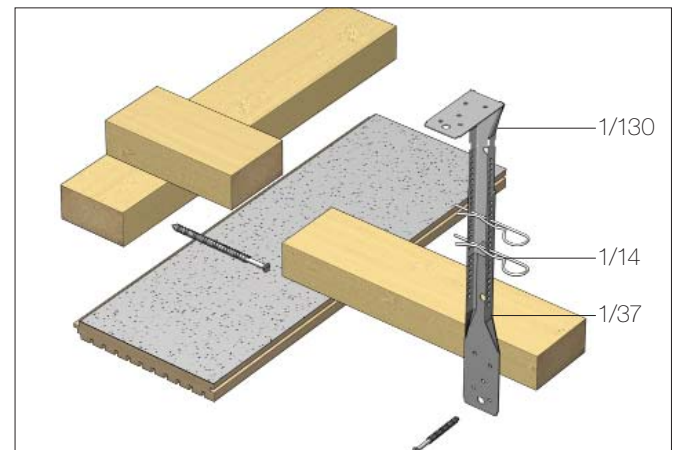
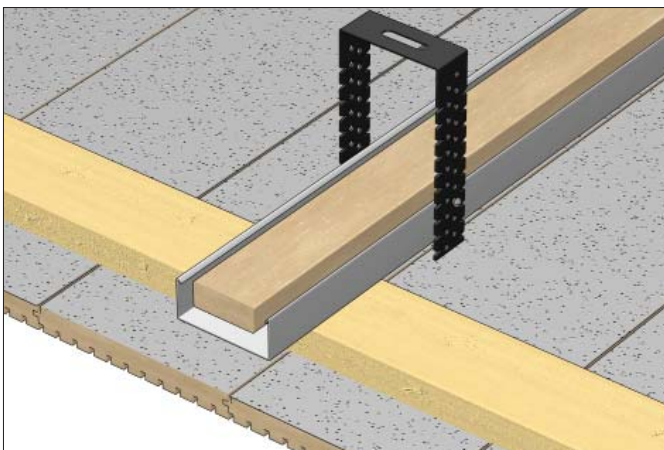
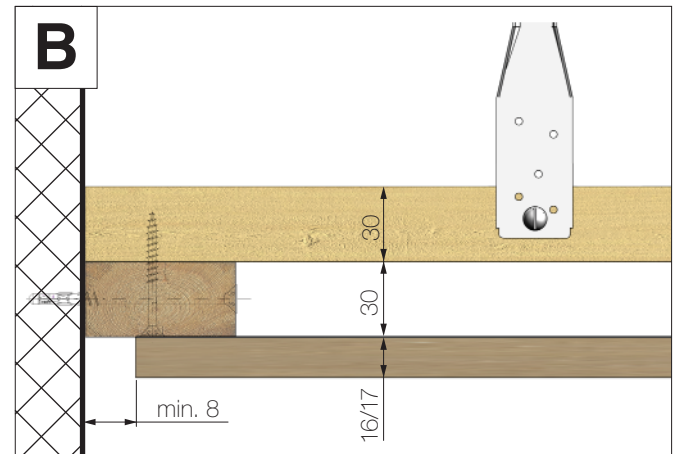
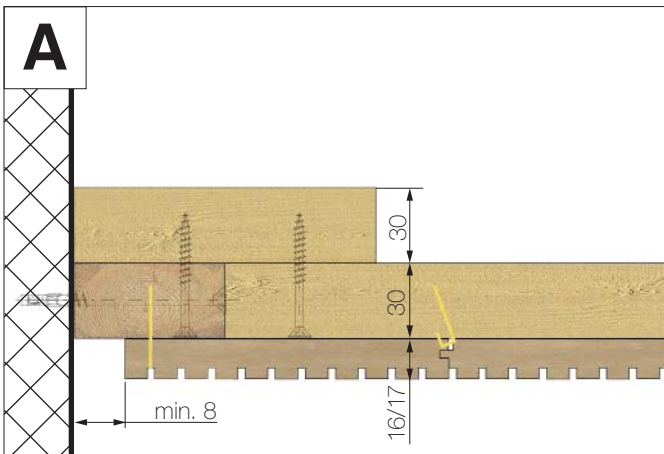
**Please observe shrink/swell behaviour (see «Important Information» Page 3.0.1 and 3.0.2).**

## TOPAKUSTIK® W2-System with counter grid

Cut-off tongue at starting planks balance all build tolerances (Curvatures and others.)

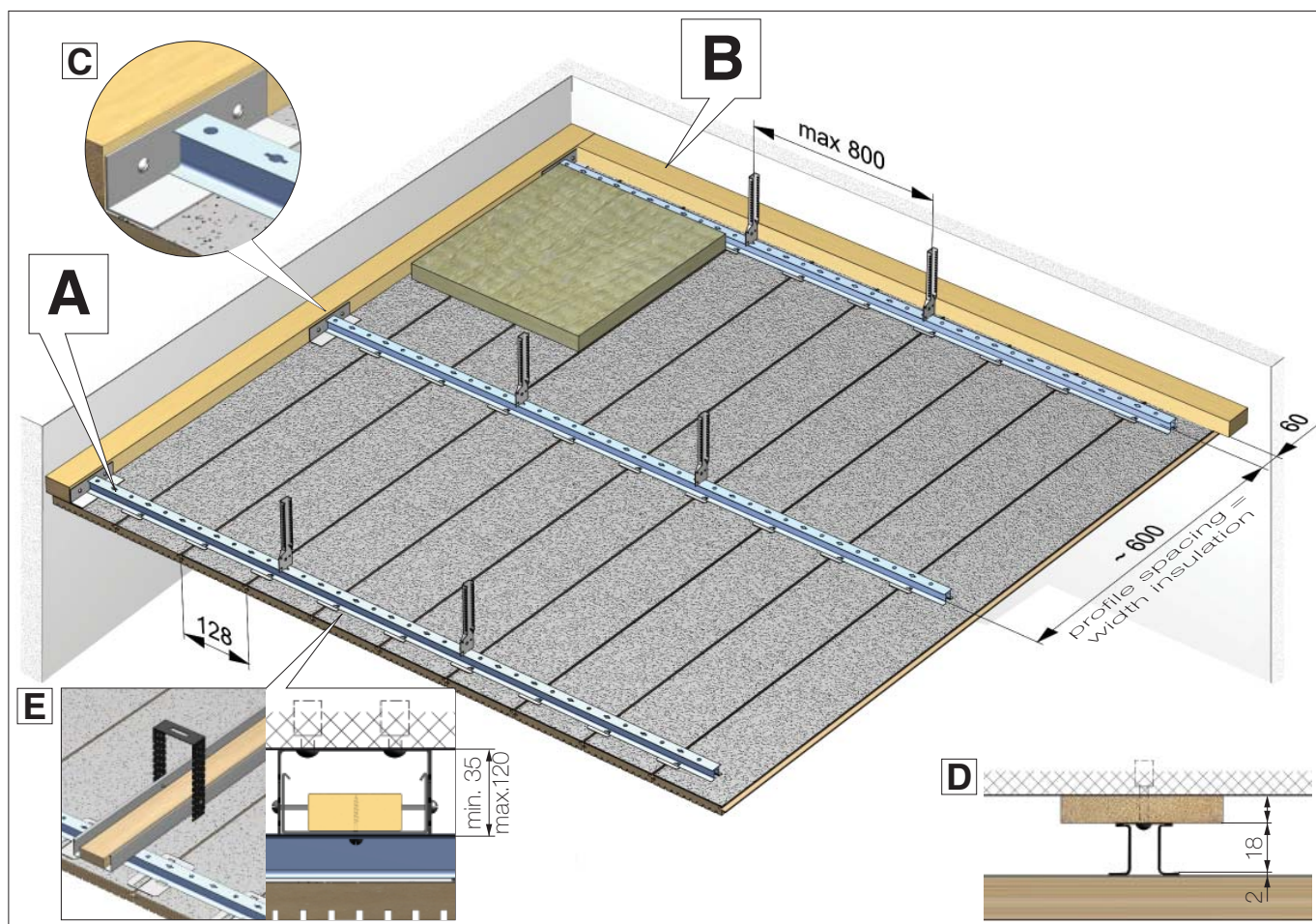


## Wall connection

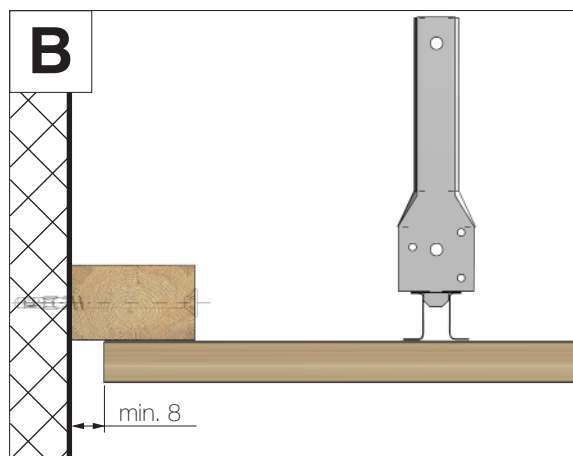
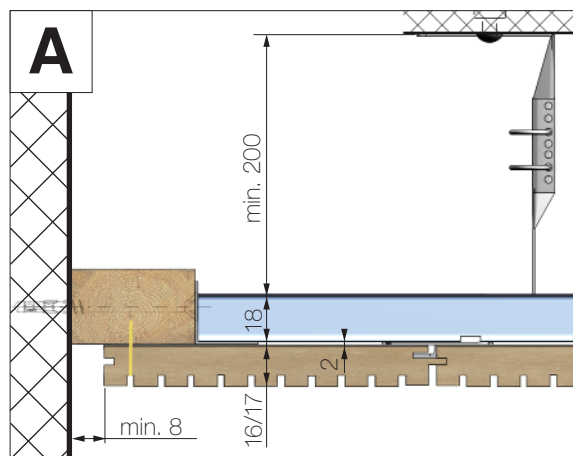




## TOPAKUSTIK® H1-System with metal substructure



## Wall connection

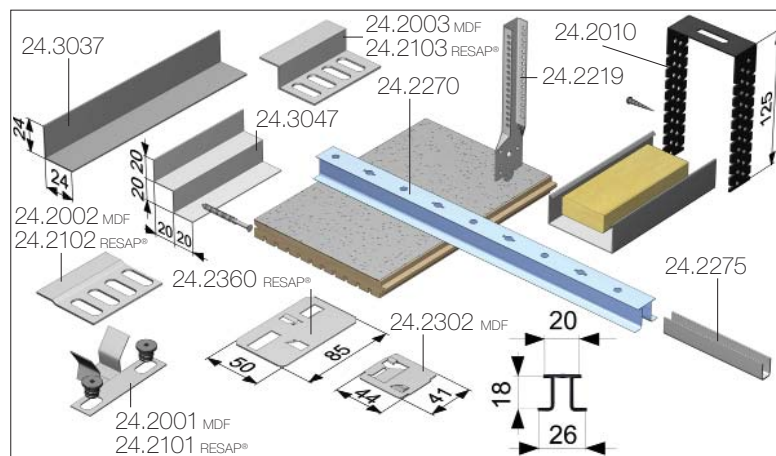


### Installation with metal substructure and rotary clips

TOPAKUSTIK®-planks (Width 128 mm) are on the quick-build rails with rotary clips. Installation of the quick-build rails with Nonius suspensions, distance 800 mm. Please observe the shrink-/ swell behaviour of the TOPAKUSTIK®-plank. At every second plank row the rotary clip has to be fixed with a pop rivet to the quick build rivet. Nail start- and end plank to the wall connection rail.

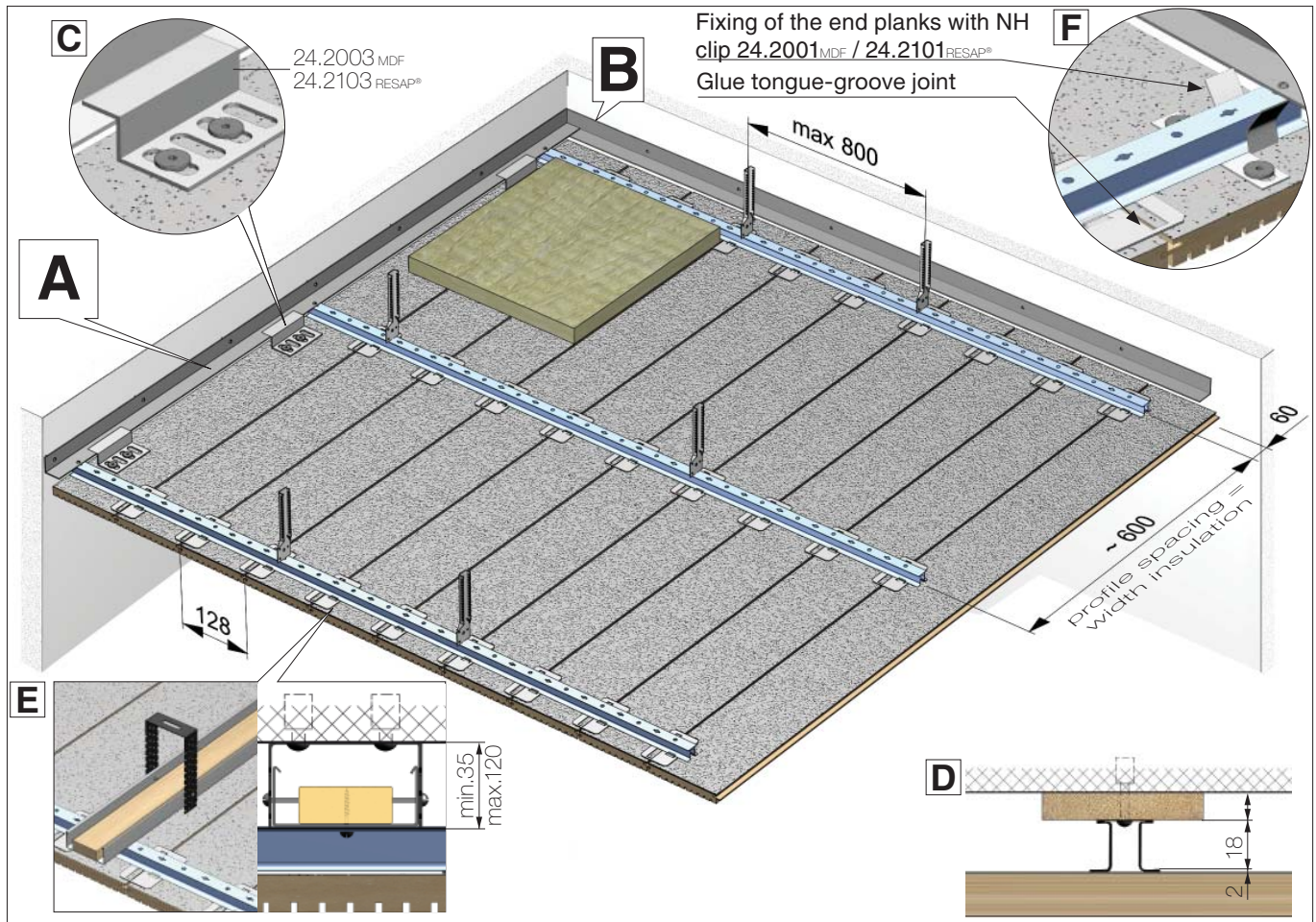
The following listed accessories can be obtained from us.

- H-rails 18x26mm in 3000 mm length (24.2270)
- Nonius-subpart (Unit. = 100 pc) (24.2219)
- Connector to H-rails (Unit.= 20 pc) (24.2275)
- Rotary clips (Unit. = 100 pc) (24.2360 <sup>RESAP®</sup>, 24.2302 <sup>MDF</sup>)

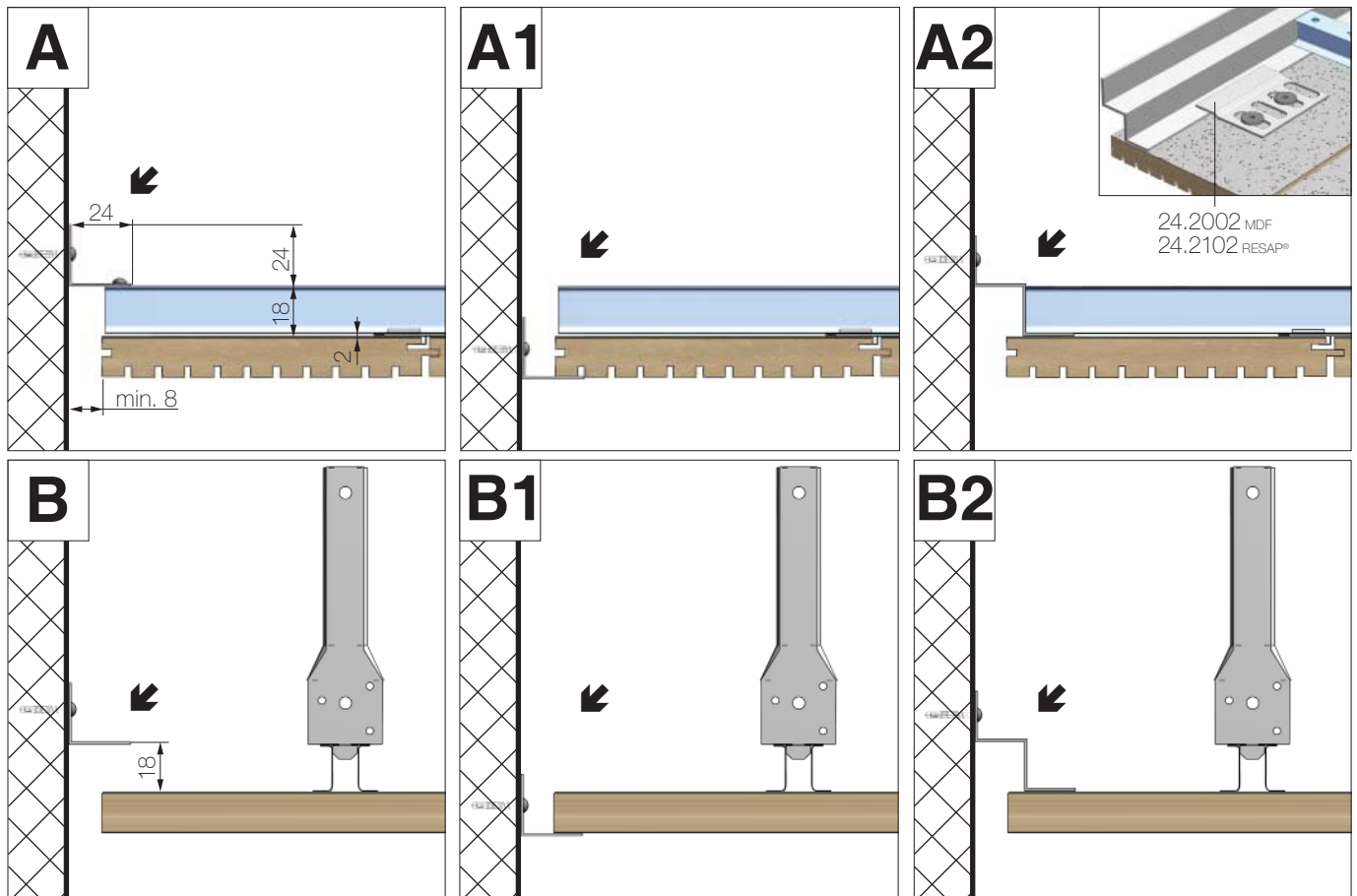




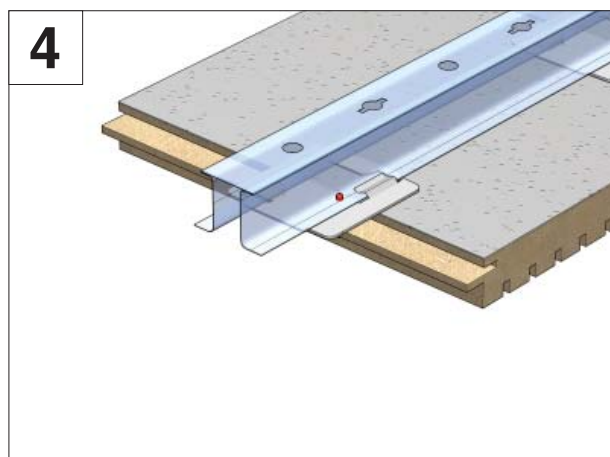
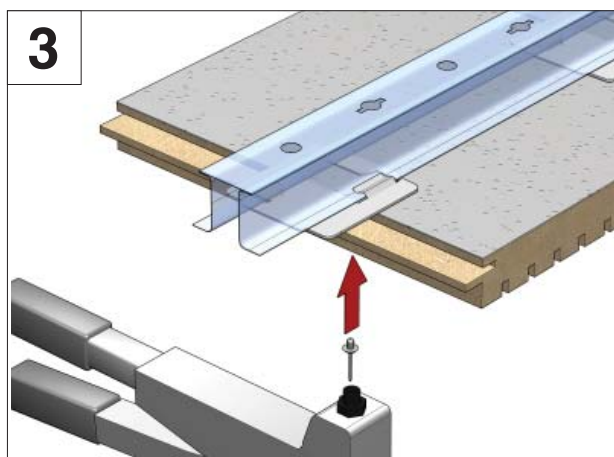
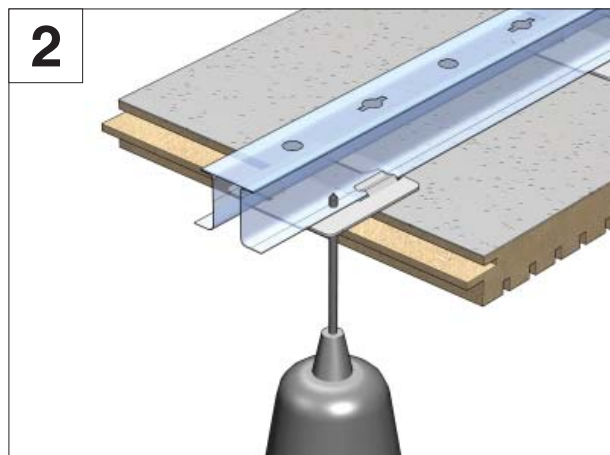
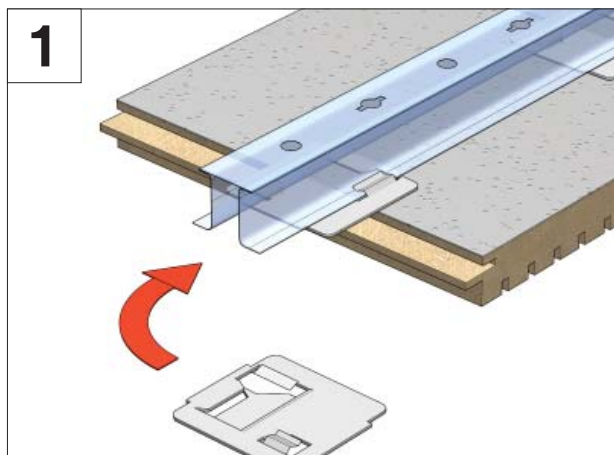
## TOPAKUSTIK® H1-System with metal substructure



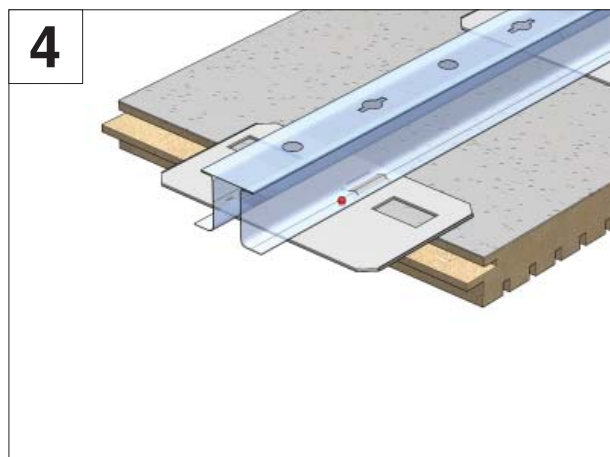
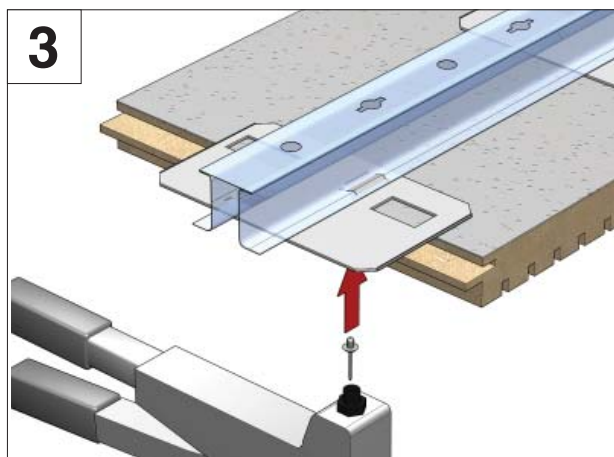
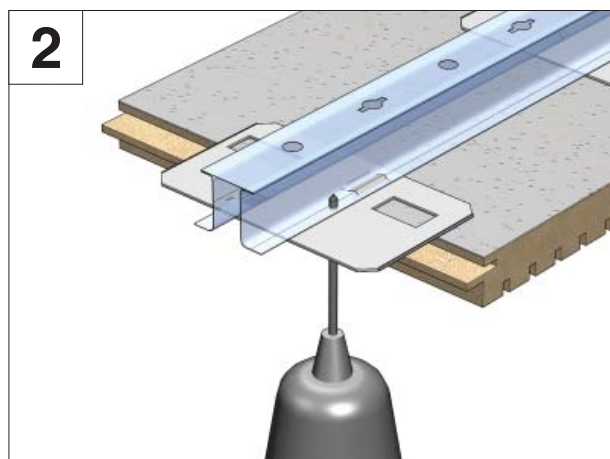
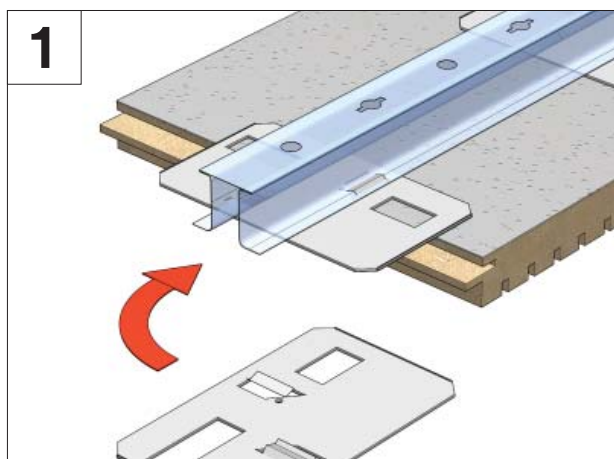
## Wall connection



## Installation with NH Clip Type H 1 + 2 for MDF plank



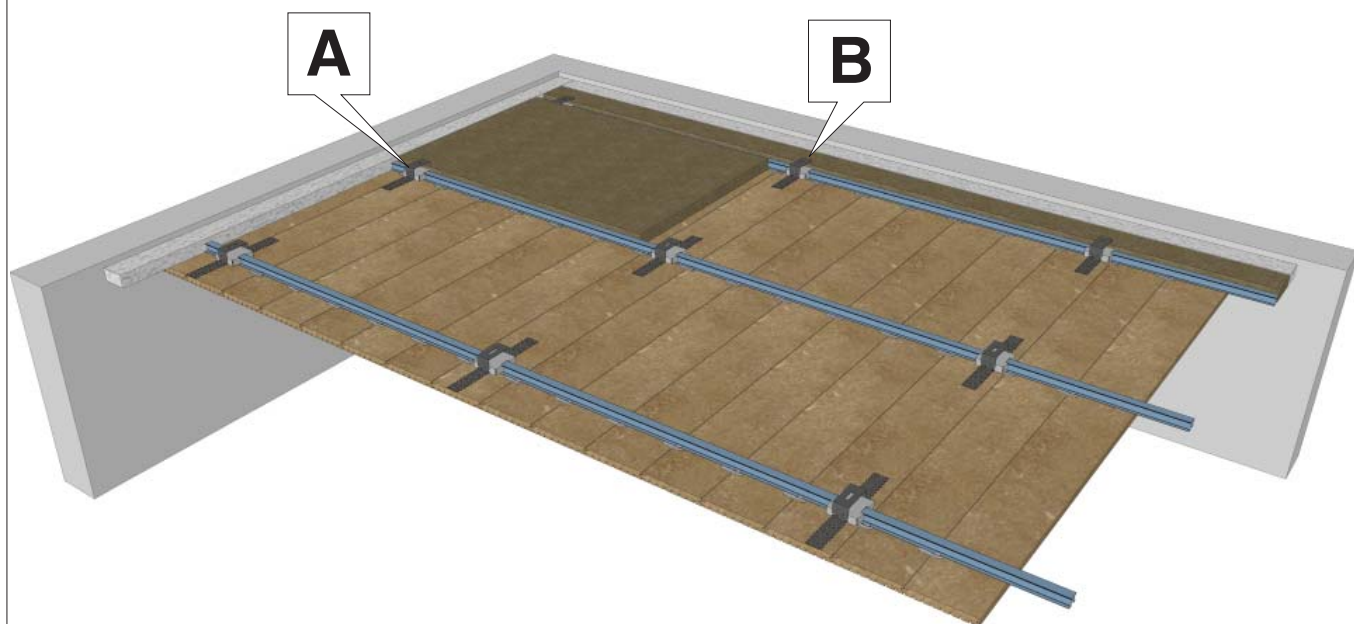
## Installation with Clip Type H1 + H2 for inflammable RESAP® core-plank and heavy base plates



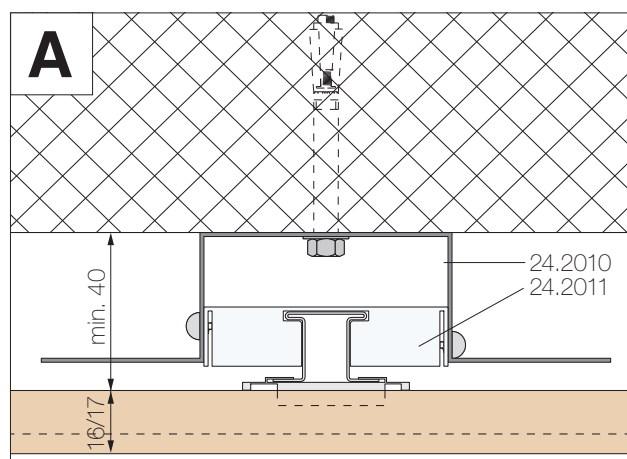


## Supplementary assembly details for H1 / H2 system

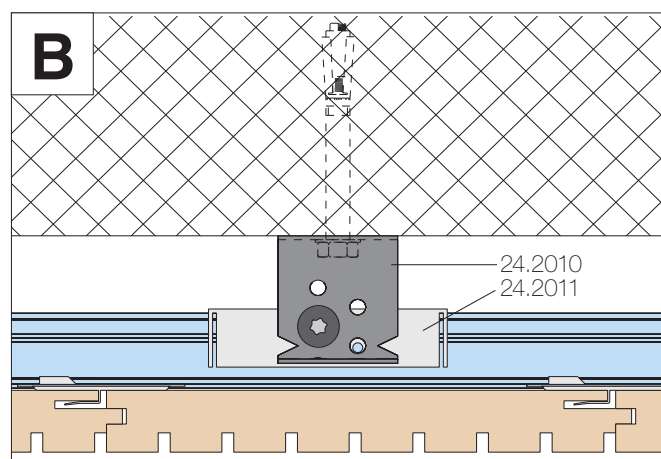
Installation with low mounting height, use hanger for low suspension levels (24.2010) and special H-profile holder (24.2011).  
Note: System can be used also for wall mounting.



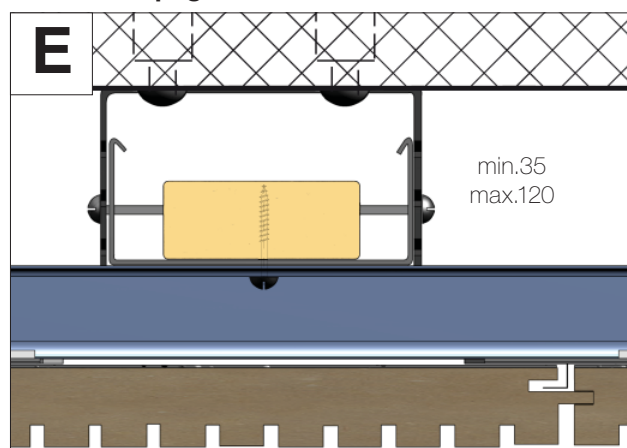
**Detail Hanger & profile holder in the elevation**



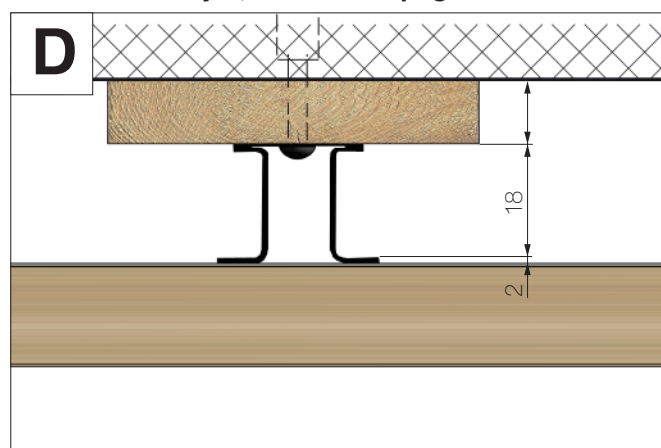
**Detail Hanger & profile holder in the side elevation**



**Installation of the H-Profile with CD profile, detail E on page 6.0.1 / 7.0.1**

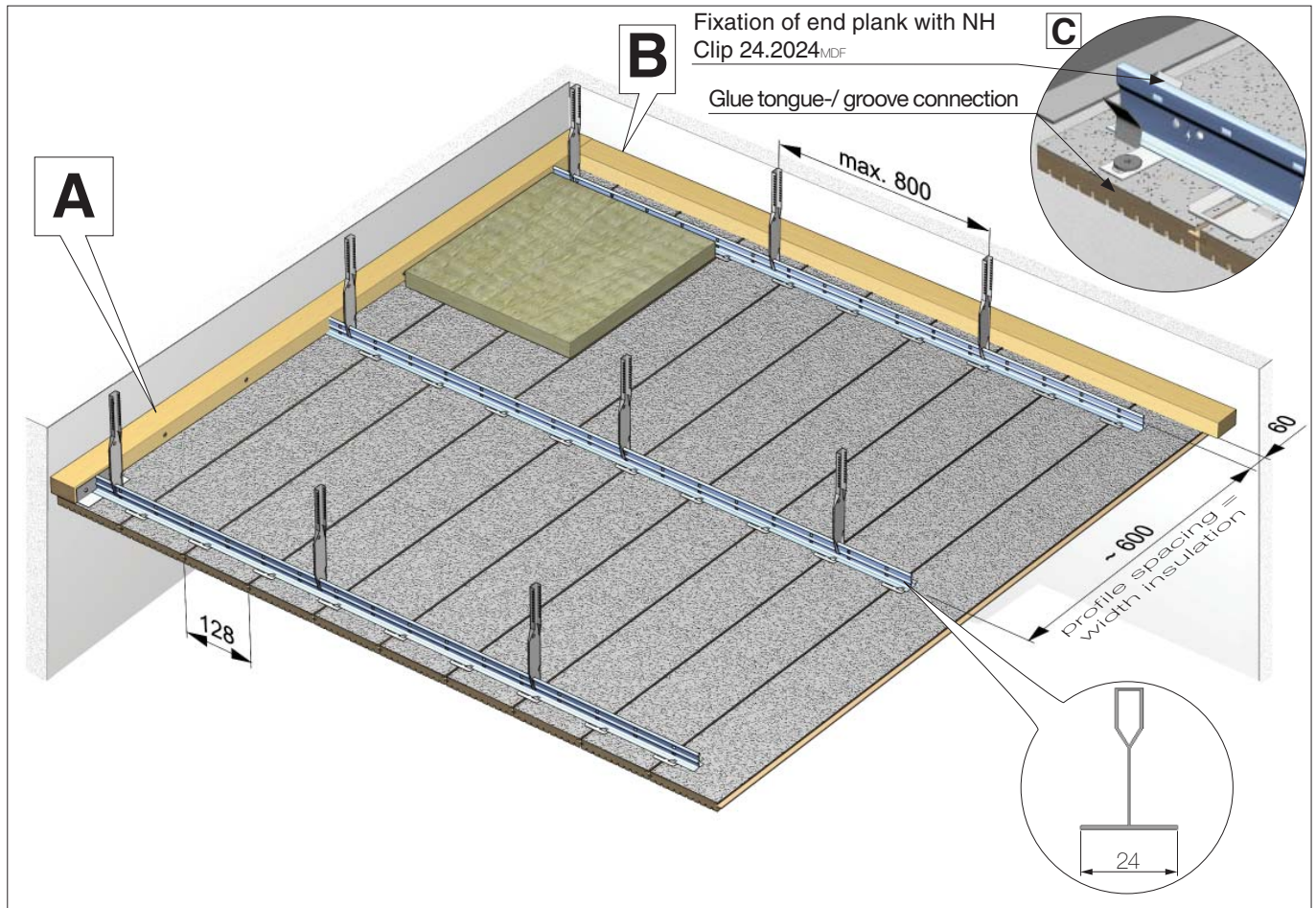


**Direct mounting of the H-Profile with shifter intermediate layer, detail D on page 6.0.1 / 7.0.1**

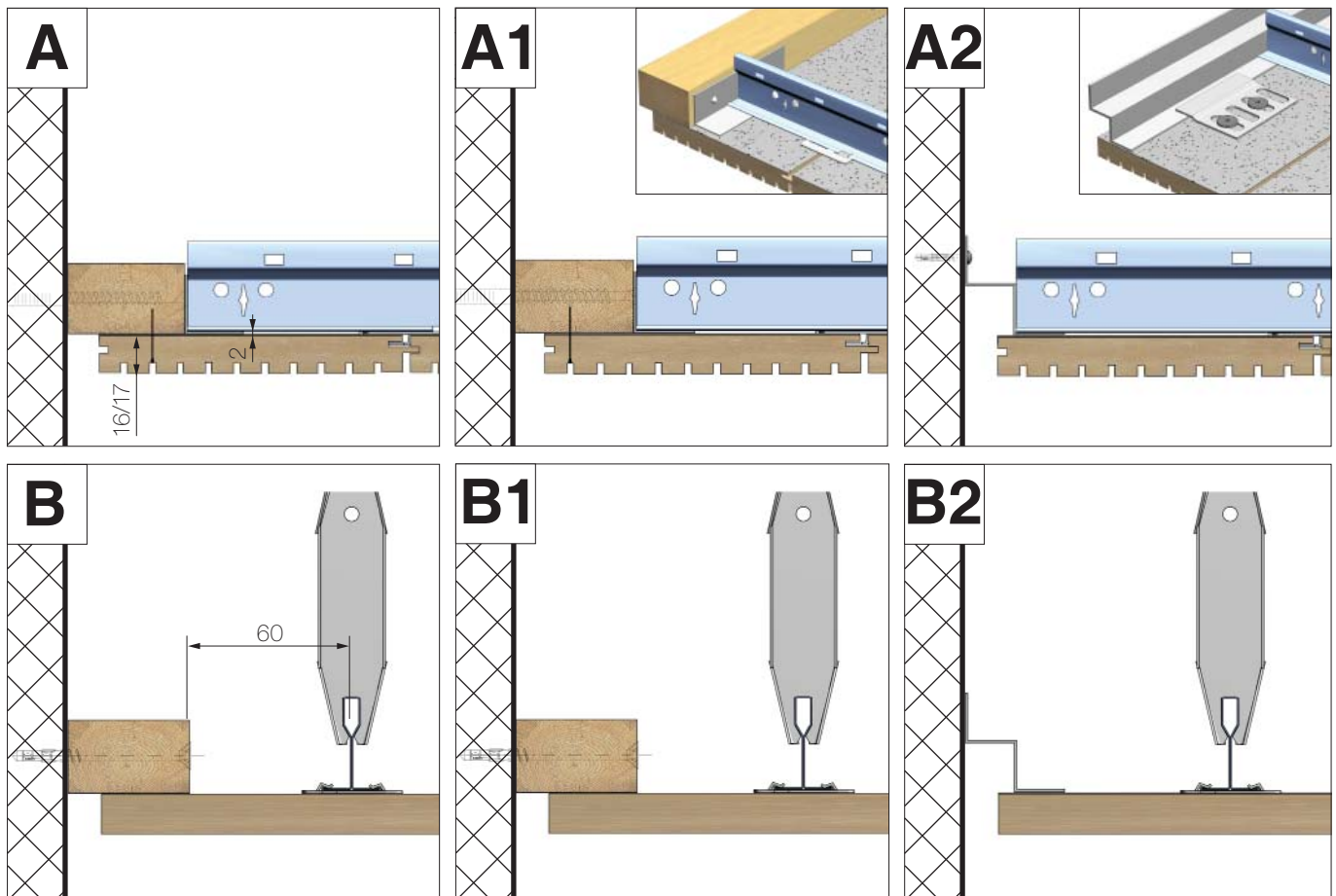




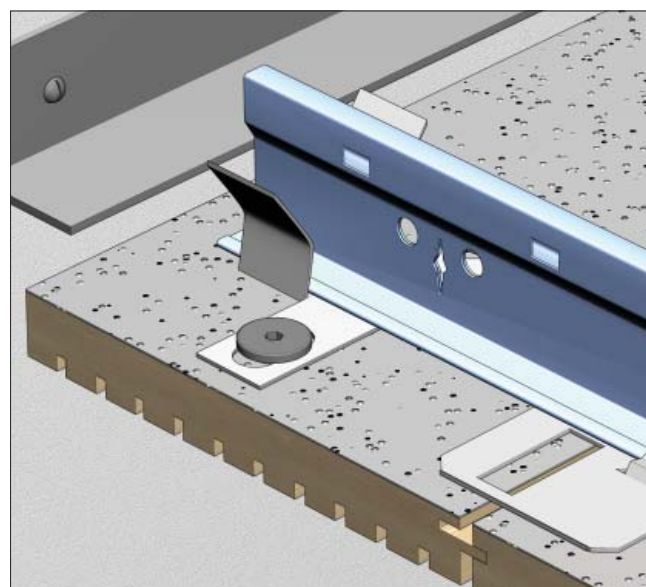
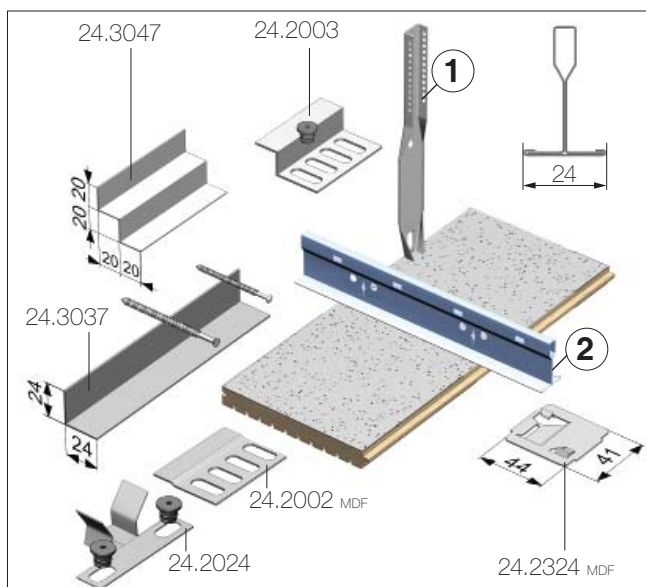
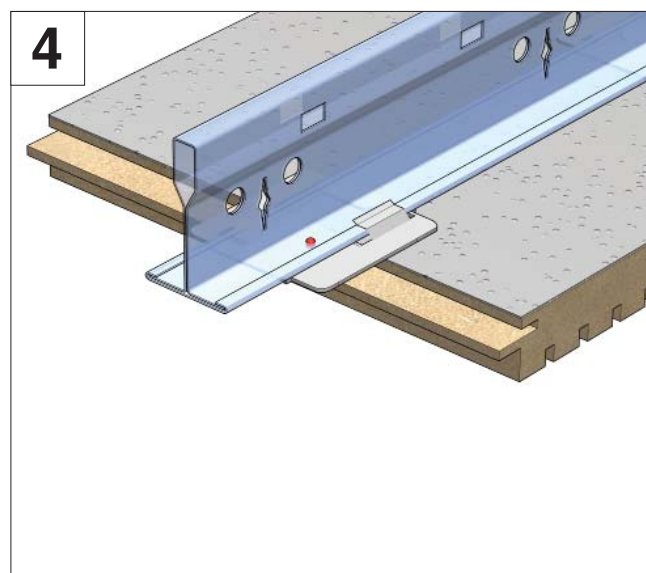
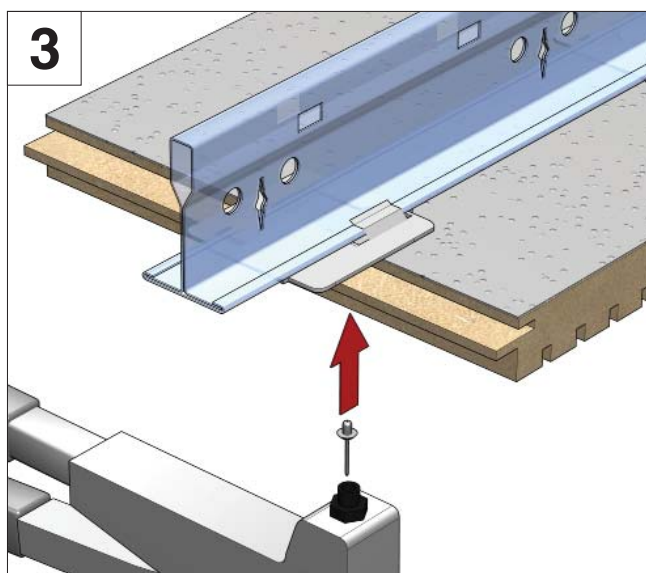
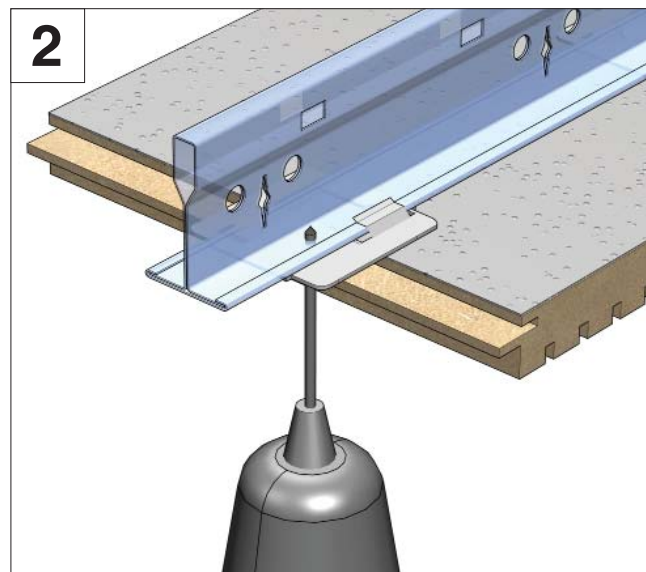
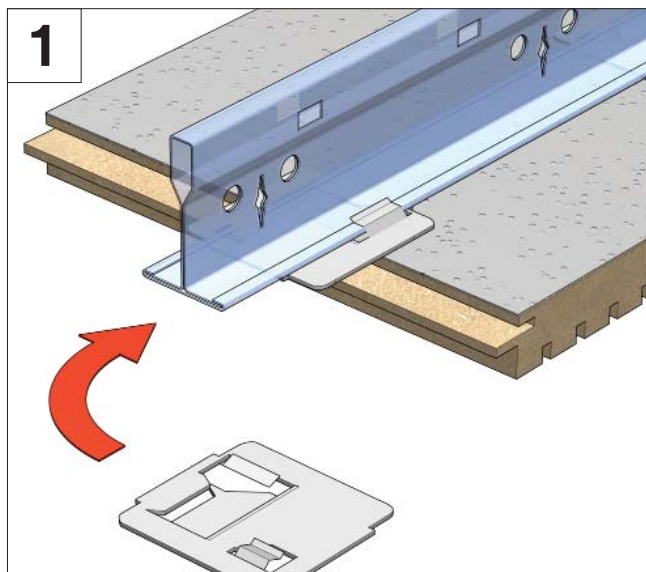
## TOPAKUSTIK® T1-System



### Wall connection

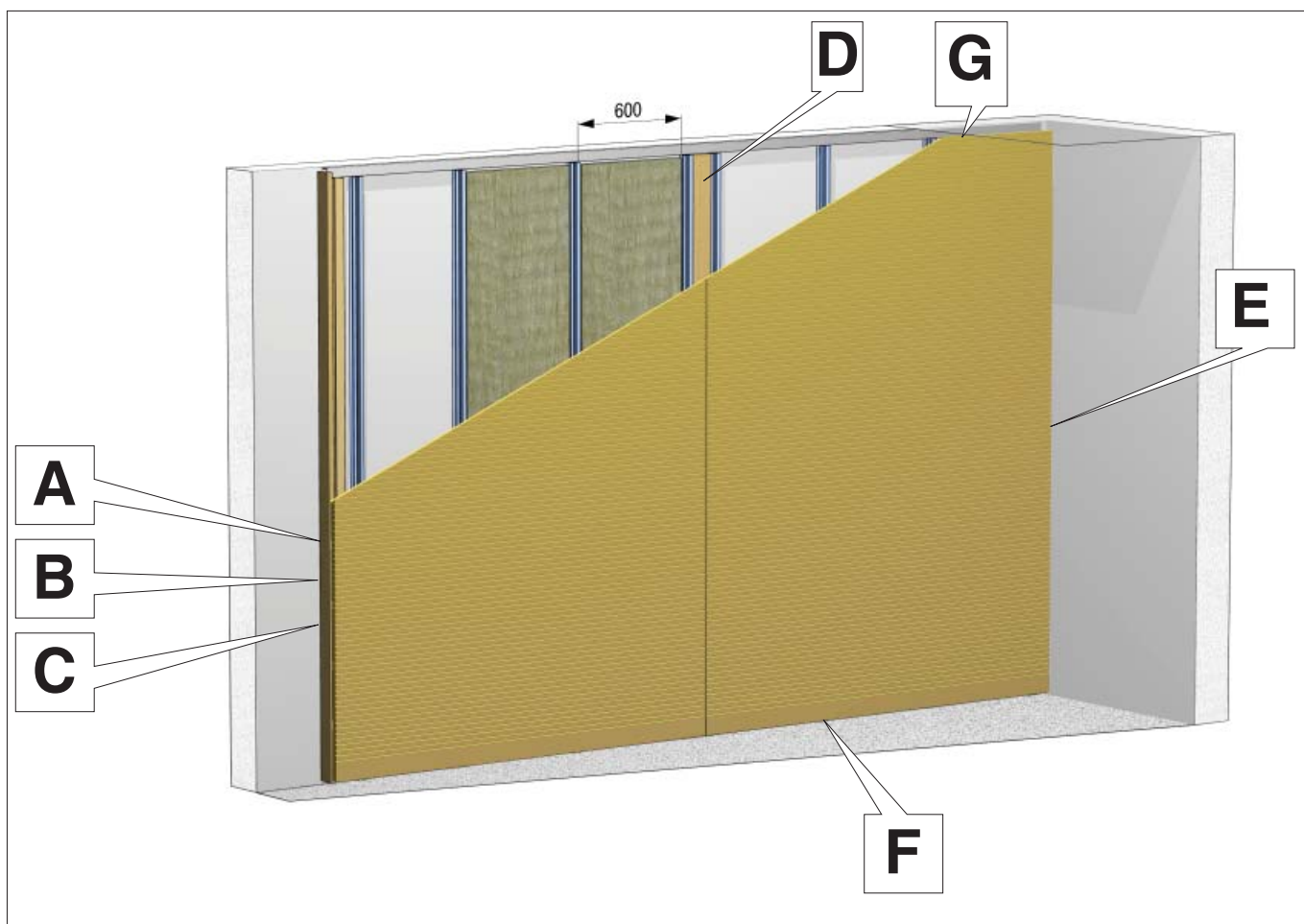


## Installation clip for T1-System, only for MDF planks

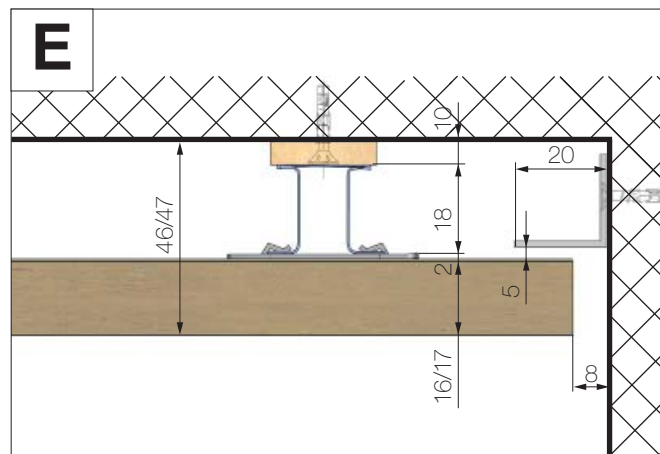
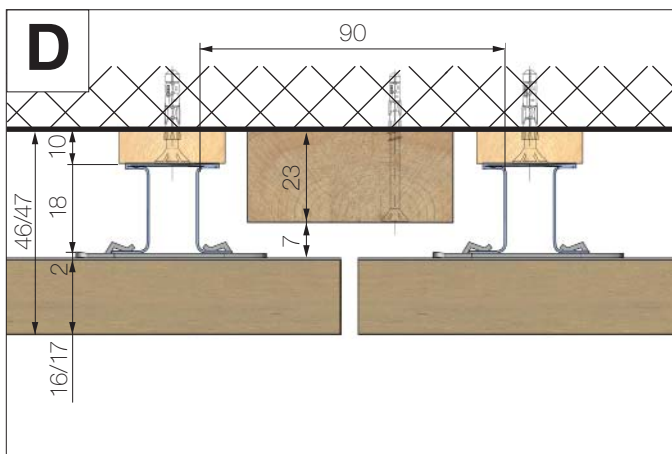
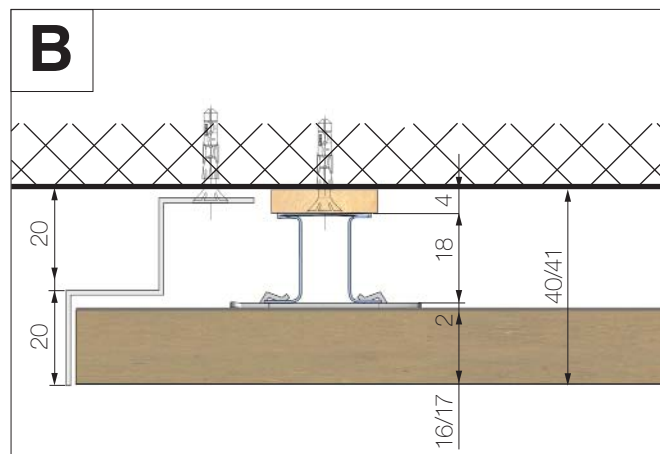
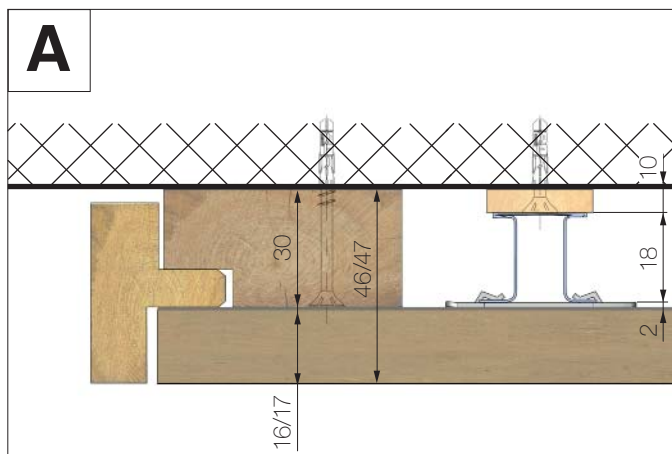


Suspension no. 1 and profile no. 2 are no NH products  
(Not in stock).

## TOPAKUSTIK® H5-System - Walls – Planks installed horizontally

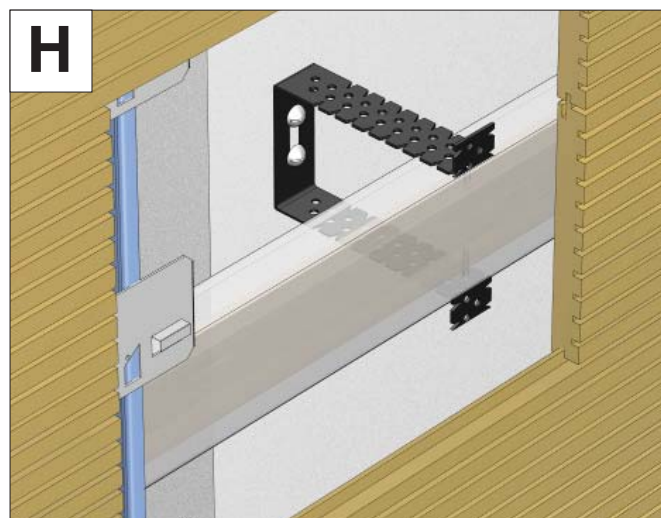
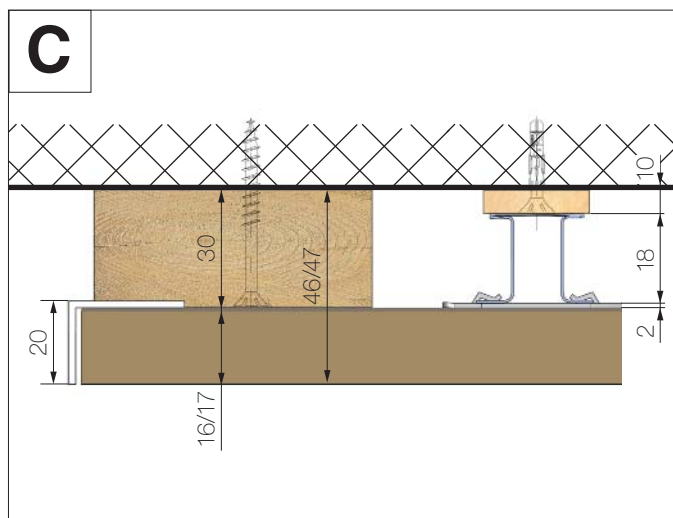


### Edge ending and wall connection

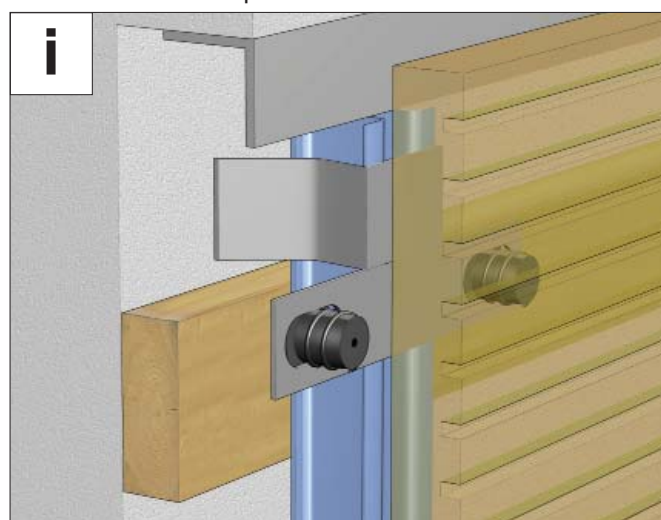
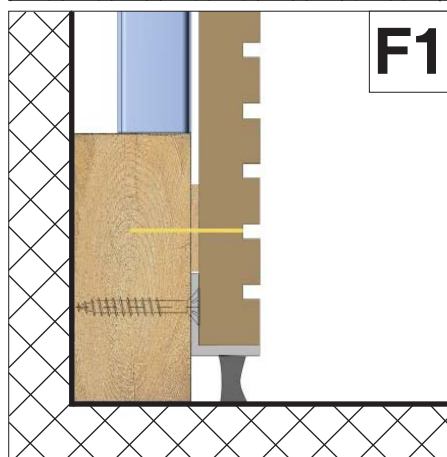
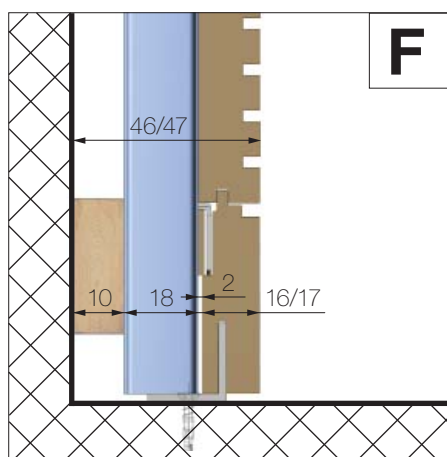
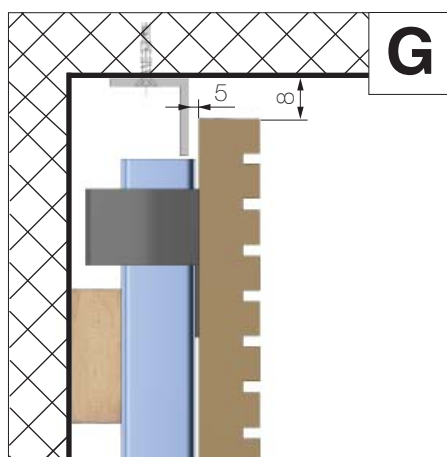




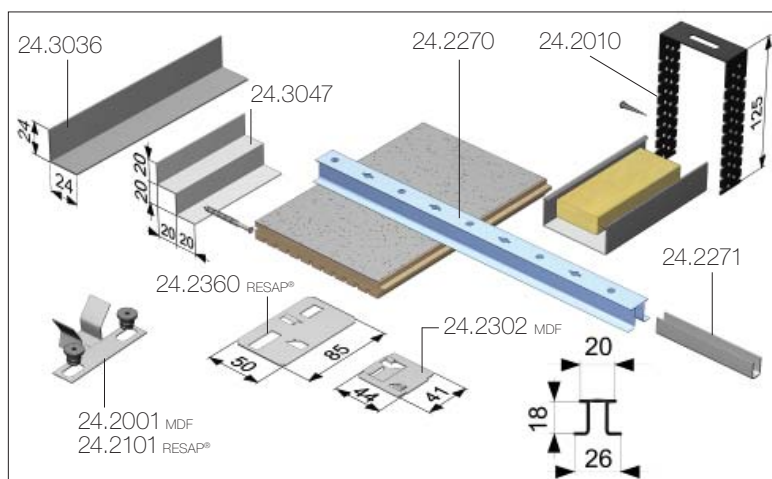
### TOPAKUSTIK® H5-System with edge ending and connection detail



Substructure with spacer

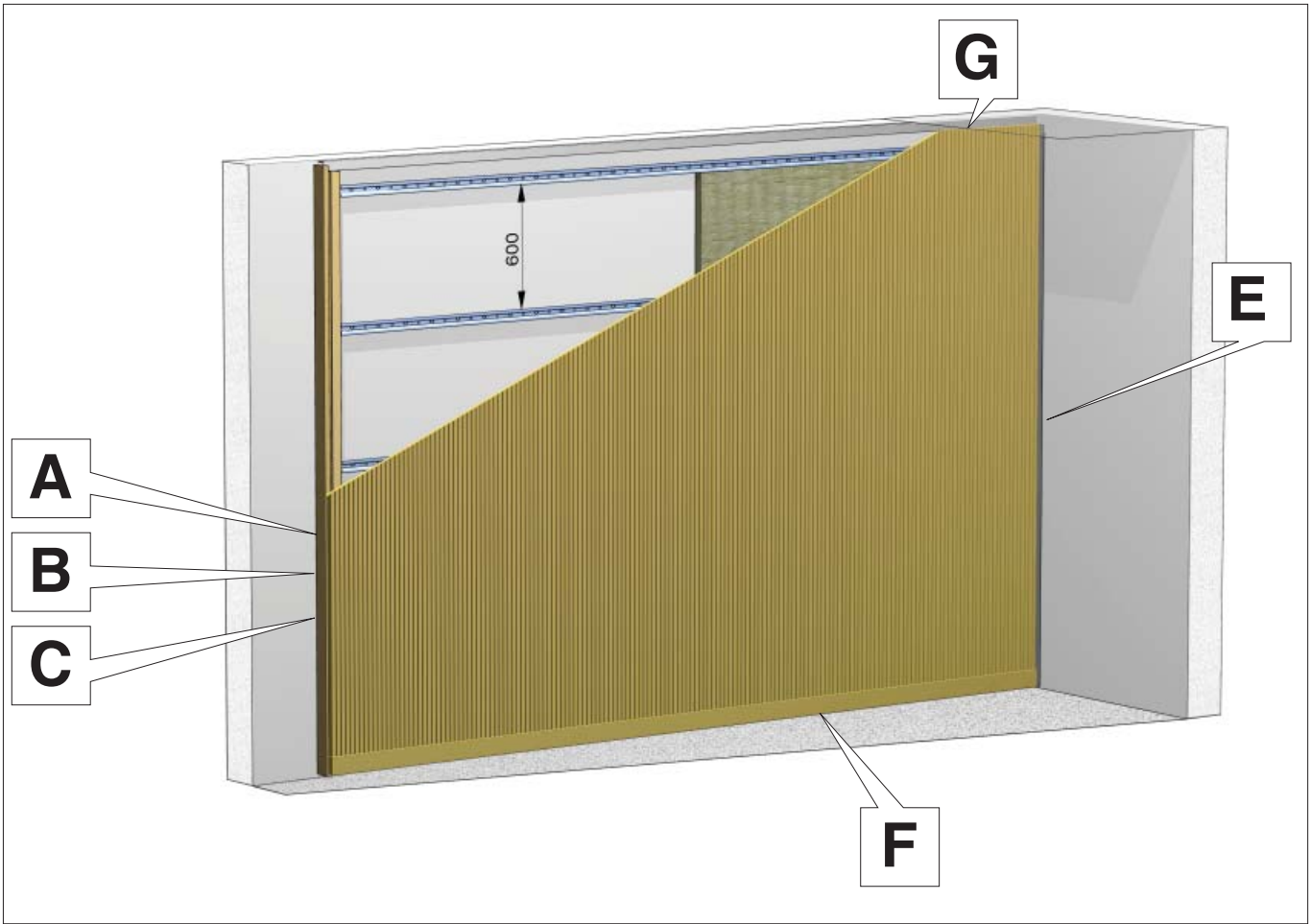


### Fixation of end plank with clip

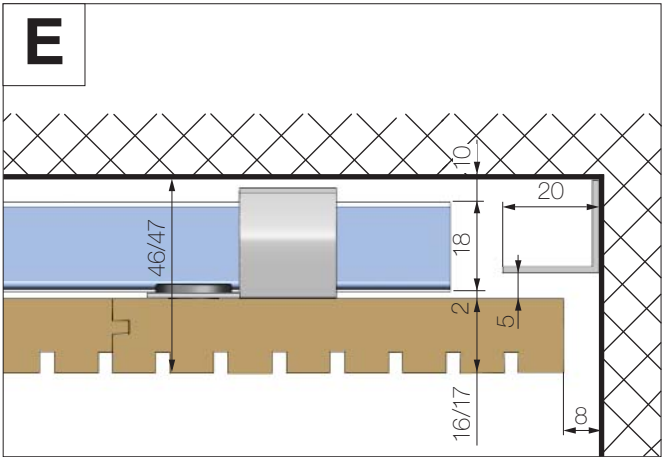
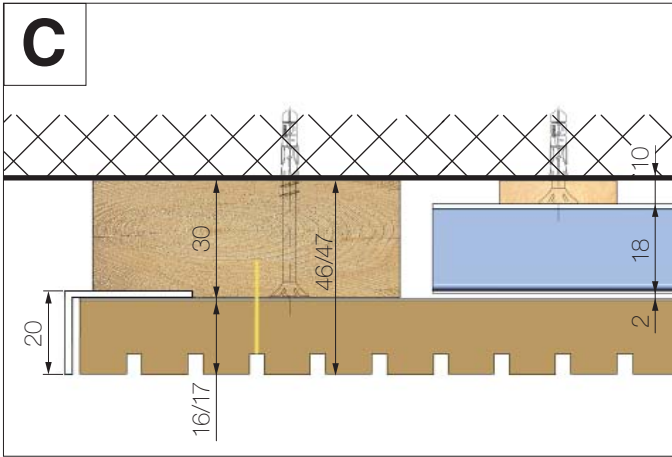
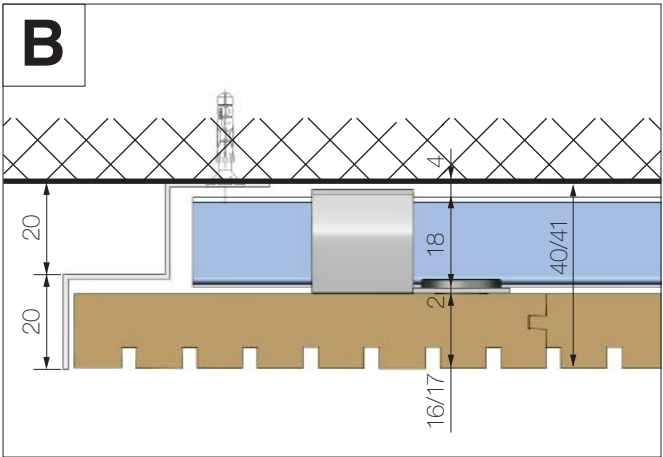
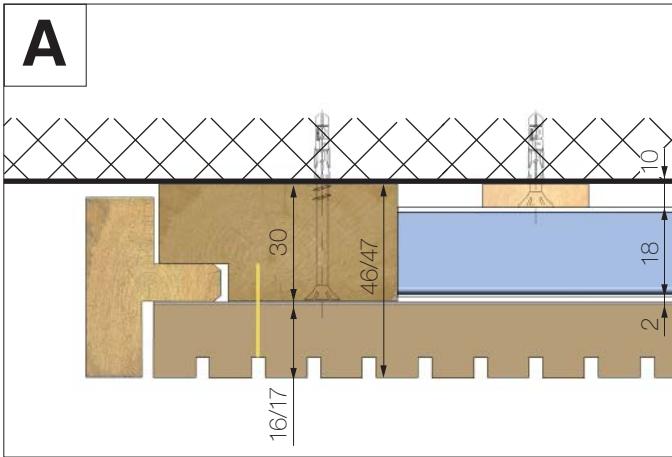




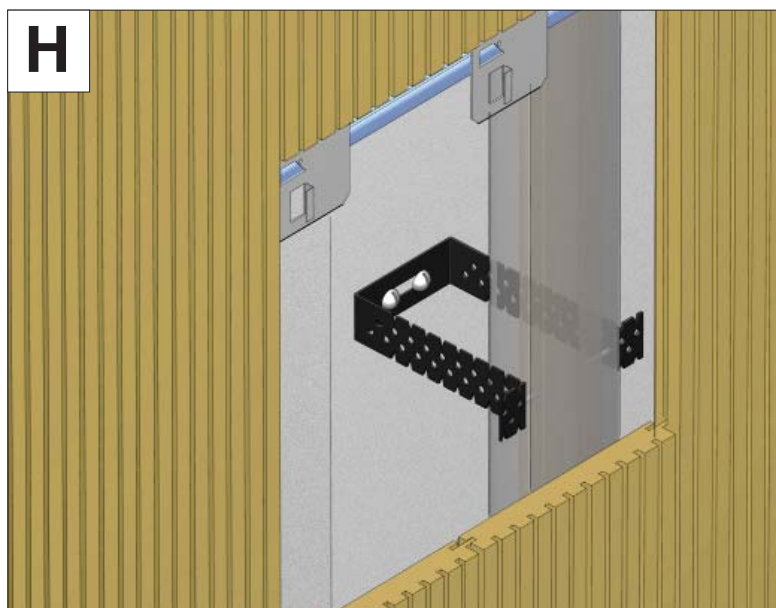
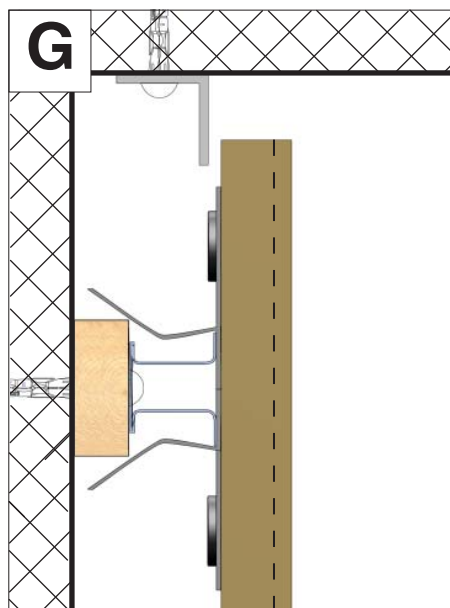
TOPAKUSTIK® H6-System - Walls – Planks installed vertically



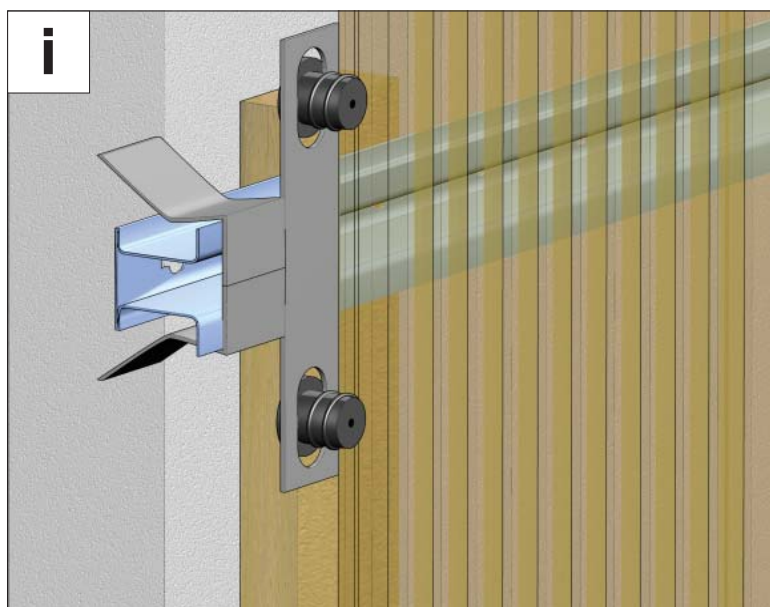
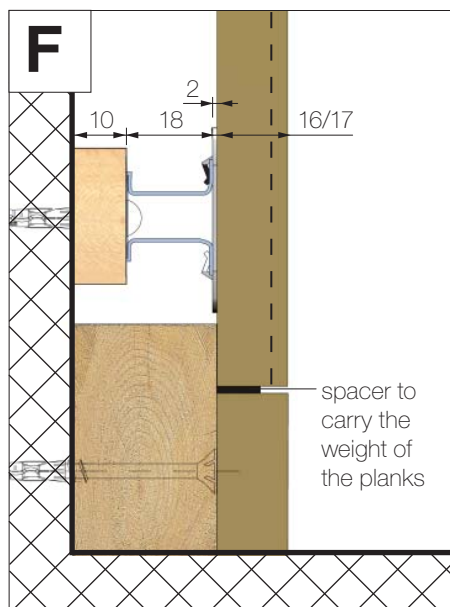
Edge ending and wall connection



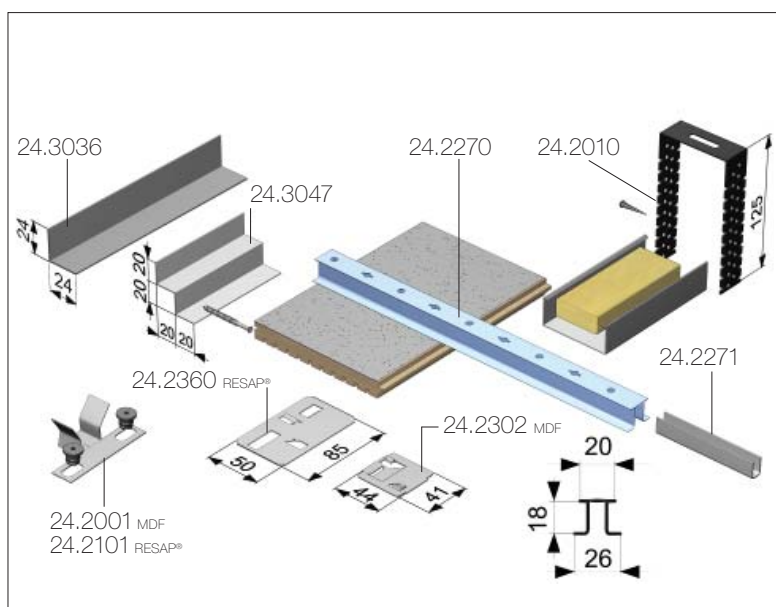
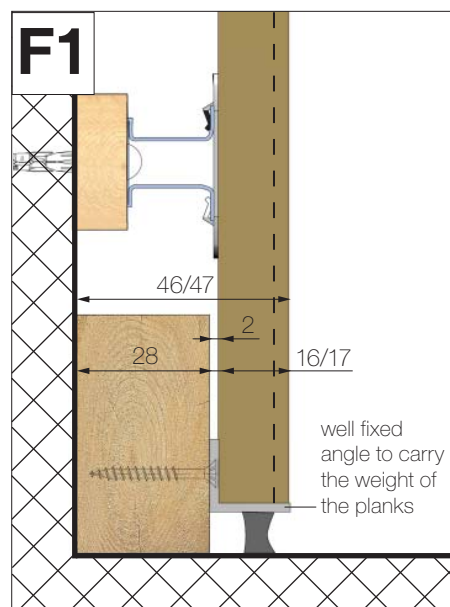
## TOPAKUSTIK® H6-System with floor and ceiling connections



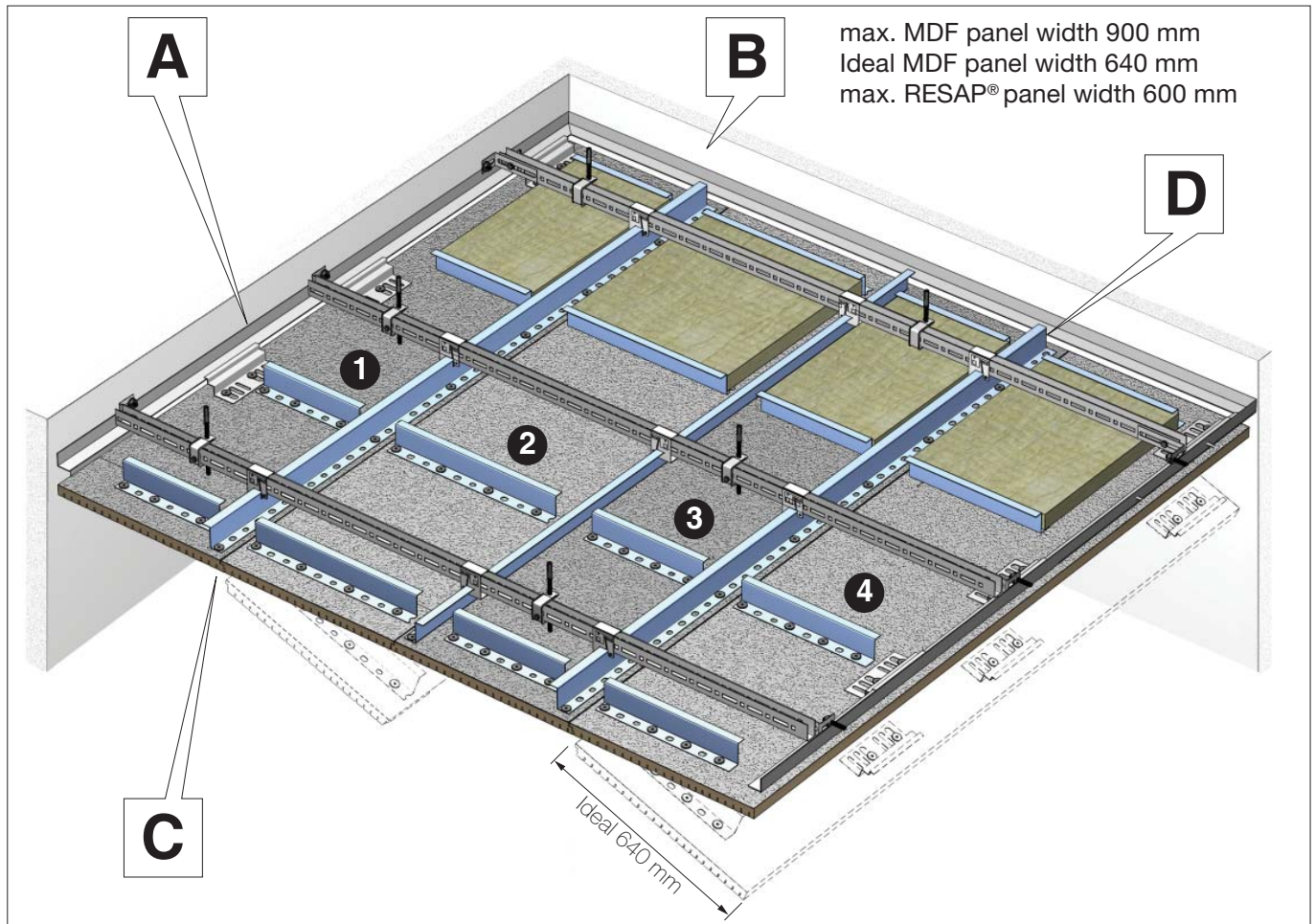
Substructure with spacer



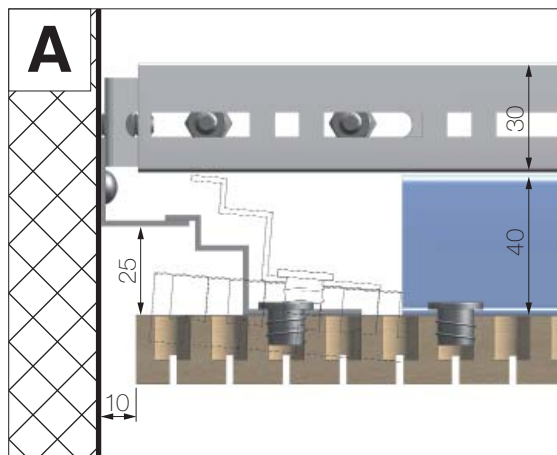
Fixation of end plank with clip



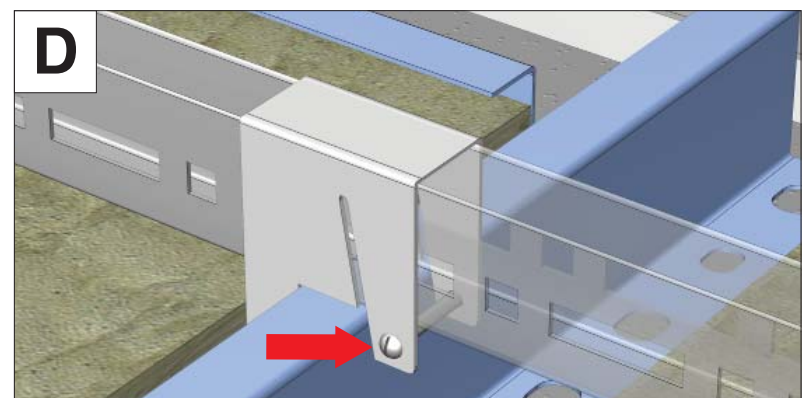
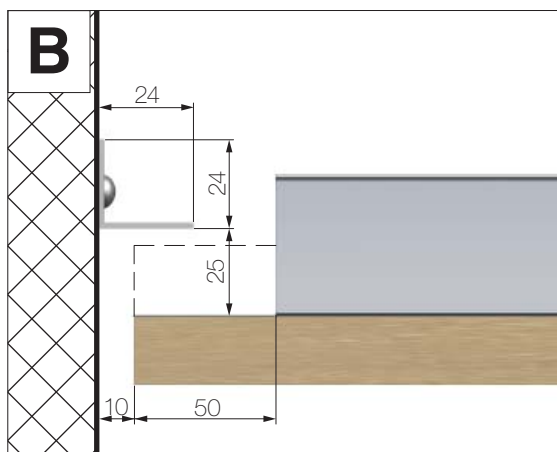
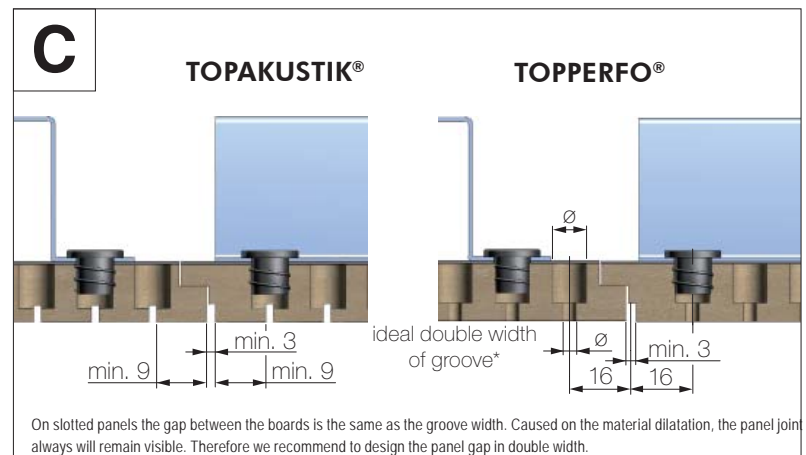
## TOPAKUSTIK® / TOPPERFO® Z1-System for universal use




## Wall connection

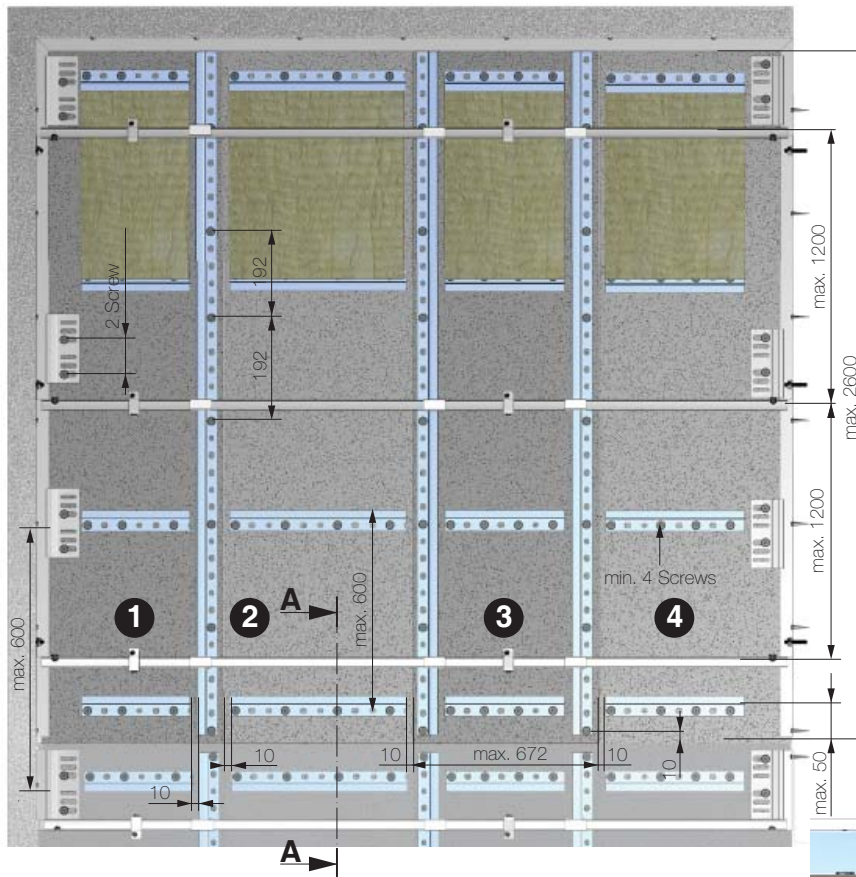


### Butt joint typical detail



 Fixed panels have to be tightened in at least 2 positions with screws through the attachment clamp.





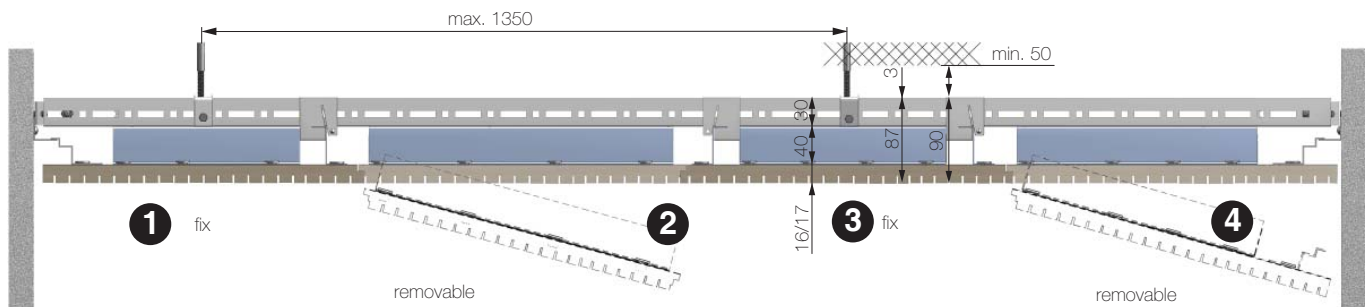
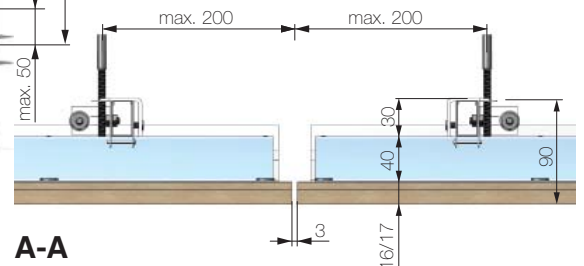
## Z-Profile

**i** Stiffen panels at a distance of 500-600 mm transversal with the Z-profiles.

The Z-profiles are delivered in production length of 5 m, trimmed on-site and permanently fixed by the NH-patent-screws into the perforation of the TOPAKUSTIK®-panels.

Transverse stiffening for panel length  
 > 1000 mm 3 pc.  
 > 2000 mm 4 pc.  
 > 3000 mm 5 pc.

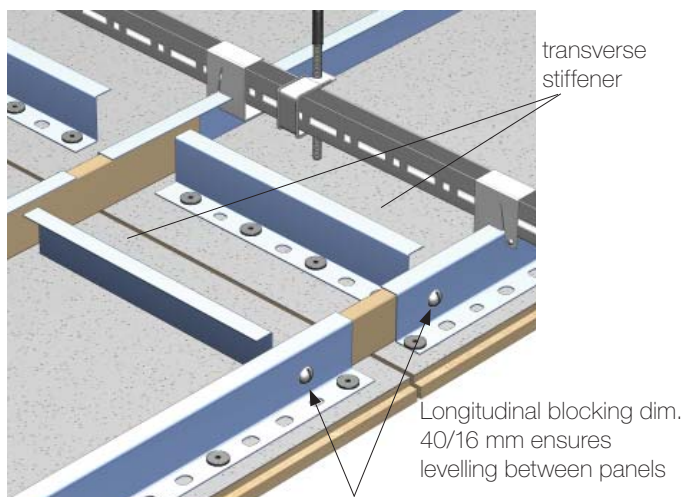
**!** Stiffen counter grid diagonally. This avoids «Floating» of the ceiling construction.



**i** With the TOPAKUSTIK® Z-System for ceilings, every other panel can be removed easily by gently lifting.

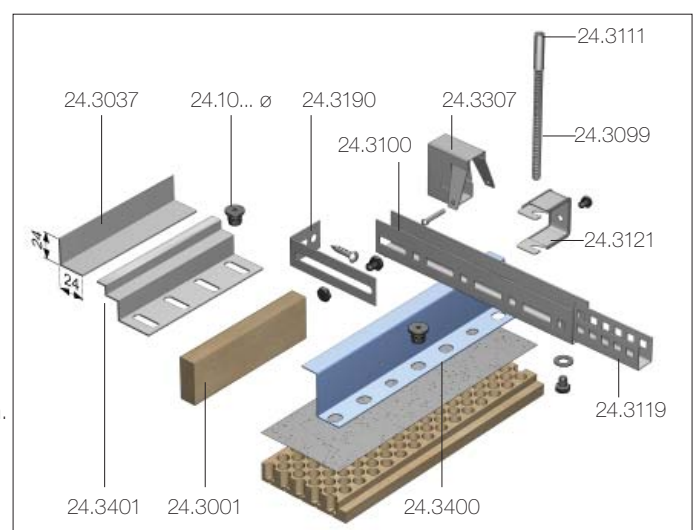
**i** The fixed TOPAKUSTIK®-panels can be removed also by loosening and pushing back the Z-suspension, however with a slightly higher effort.

## Transverse joint with blocking

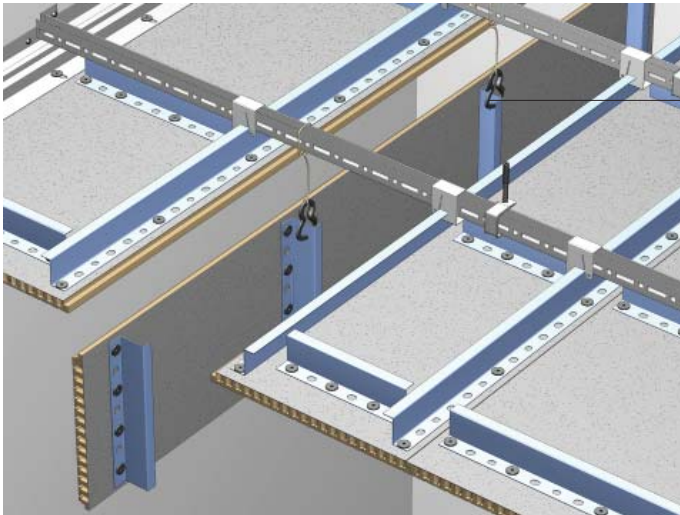


On transverse joints, the longitudinal Z-Profiles have to be connected together with #24.3001

## Typ GEMAGRID



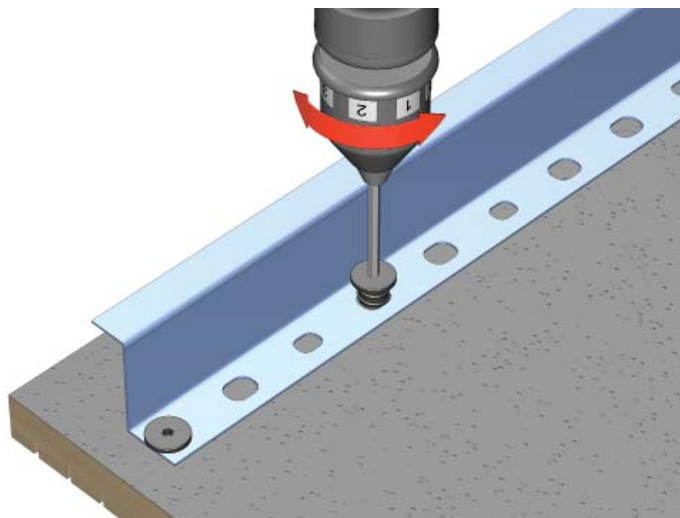
## Panels with safety cord



24.3402 Nylon safety cord with snap-hook for panel weights up to 25 kg with two cords

24.3403 Safety wire rope with snap-hook for panel weight up to 40 kg with 2 cords

## Installation information for screw joints

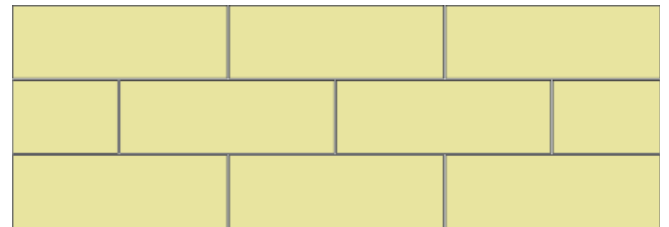


- Set correct torque
- Do not strip the thread
- At best try slug test

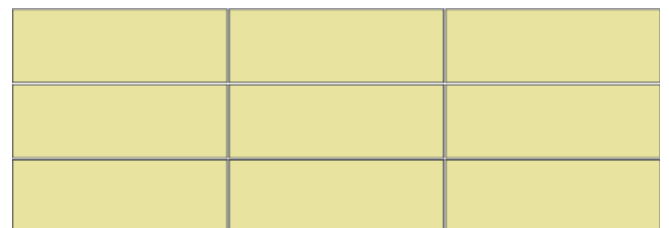
## Design patterns:

The execution with off-set joints allows a small material dilation without it showing. The combination of a gap width of approx. 3 - 6 mm provides a clear and neat alignment

## English



## Parallel



## Please note:

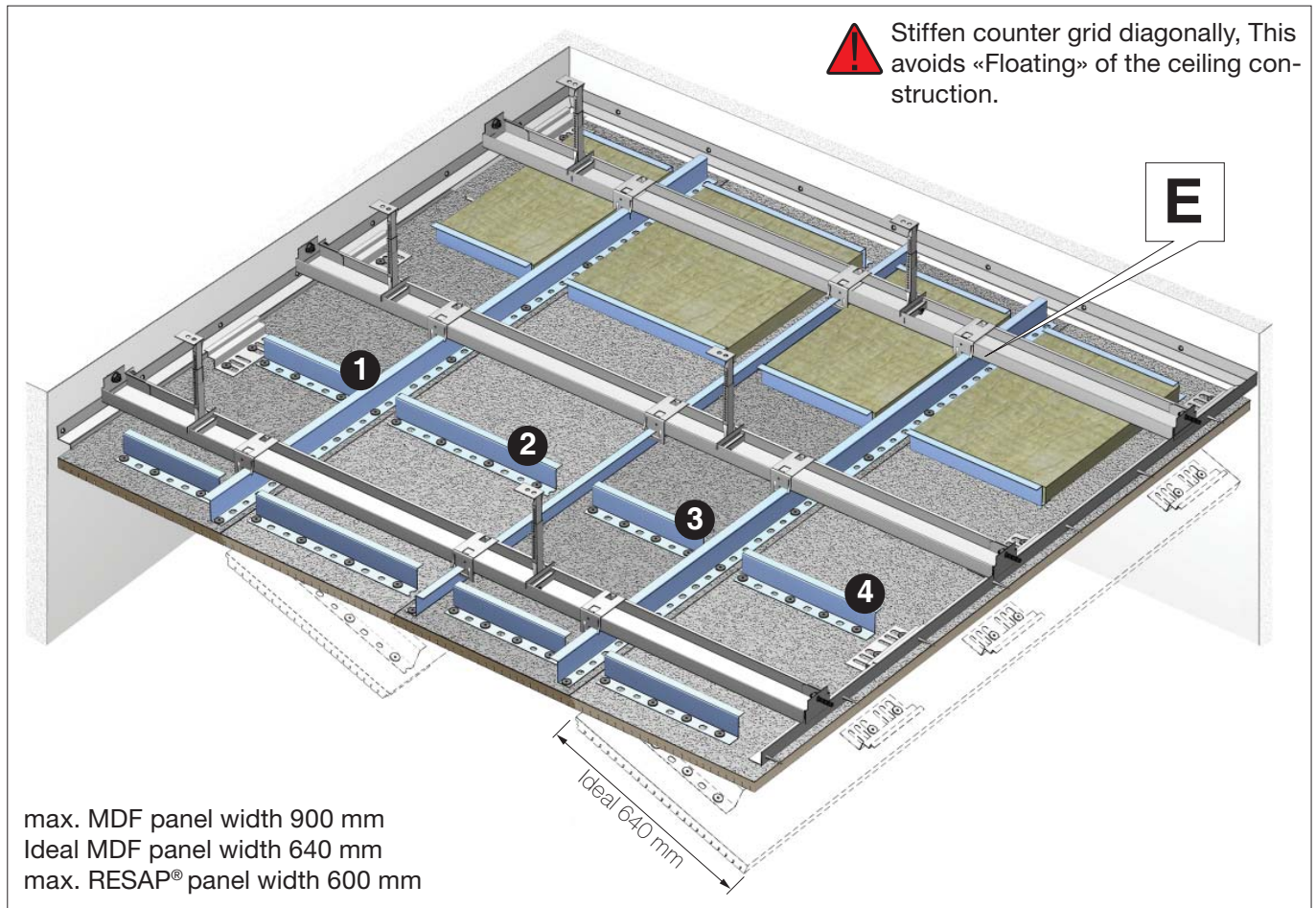
The fixing system with Z-profiles and the U-primary grid documented on pages 11.0.1 - 11.0.2 is checked for a professional installation with TOPAKUSTIK®- and TOPPERFO®-panels. For installation of the Z-profiles on the TOPAKUSTIK®-panels, the torque has to be set correspondingly, so that the threads are not stripped.

For non-compliance to the information described here any liability is refused.

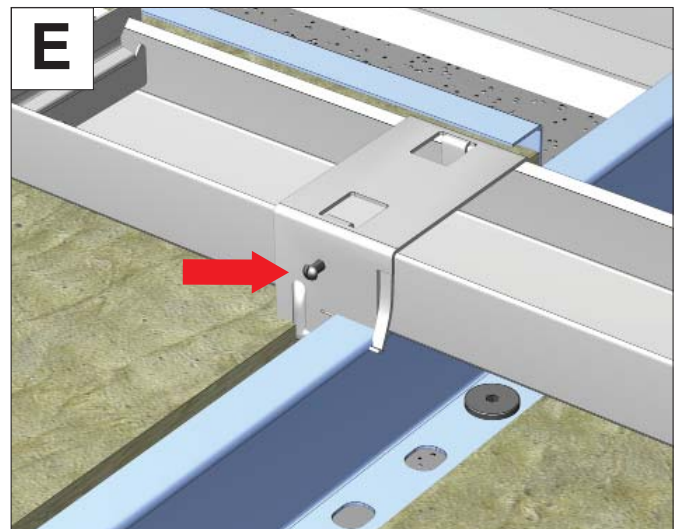
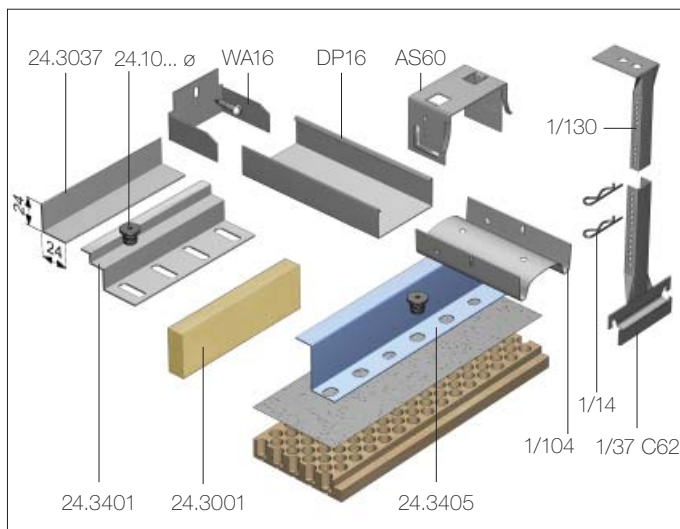
For parallel transverse joints, we recommend to additionally bolt the longitudinal stiffening rails for the permanently installed panels, see page 11.0.2. With this you achieve a stiffening of the ceiling construction.




**TOPAKUSTIK® / TOPPERFO® Z2-System for universal use - Sukow + Fischer Type 108**



### Type Suckow + Fischer Type 108

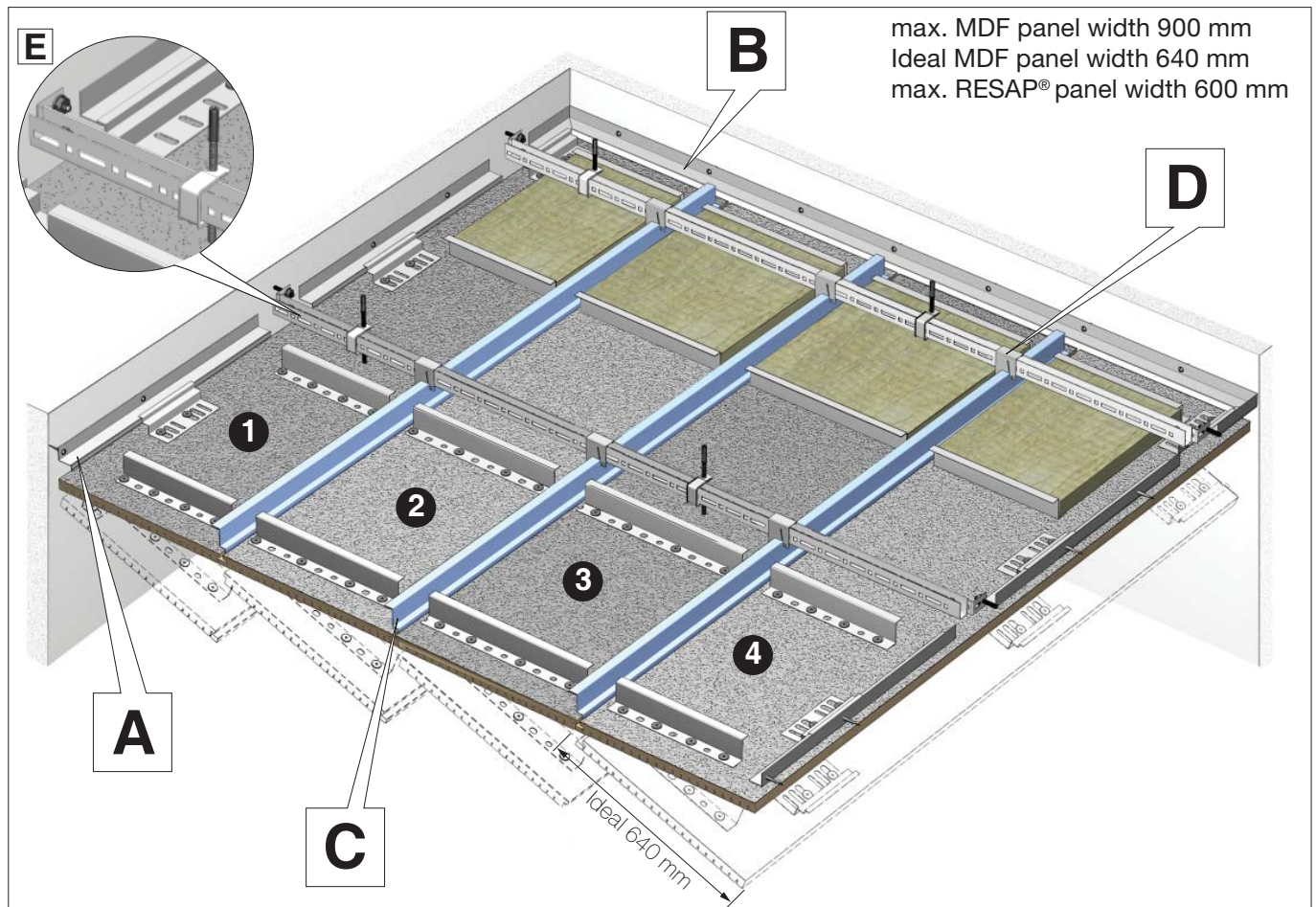


 Fixed panels have to be connected in at least 2 positions through the attachment clamp to the DP16 profile.

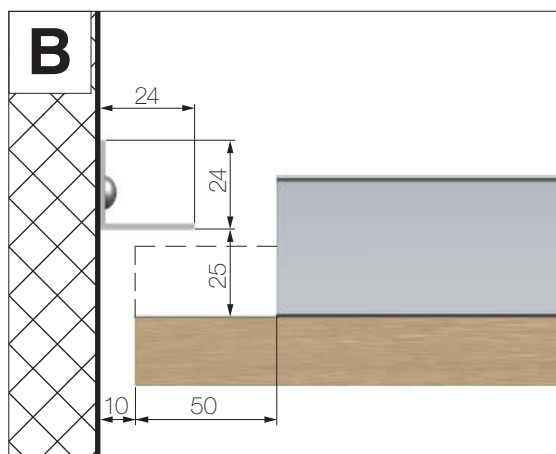
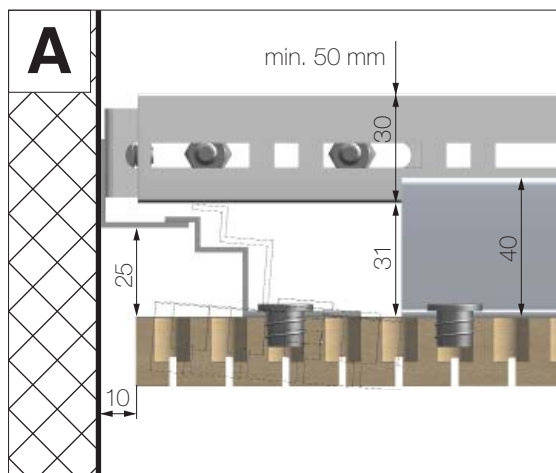
**Please take the other details for this system from pages 11.0.1 - 11.0.3.**



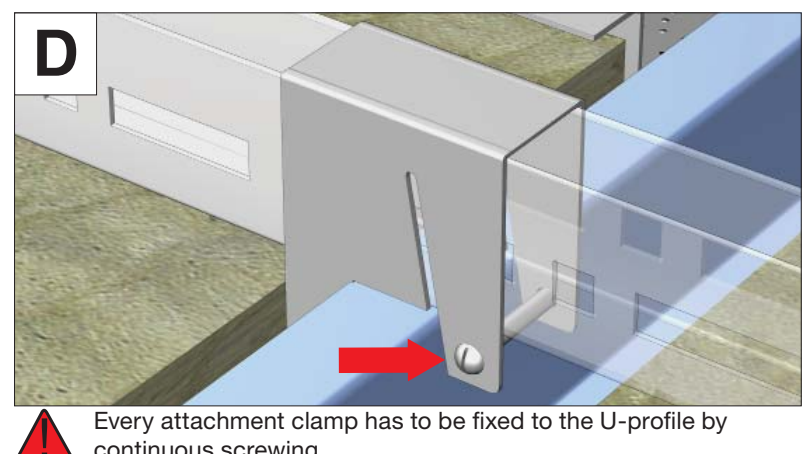
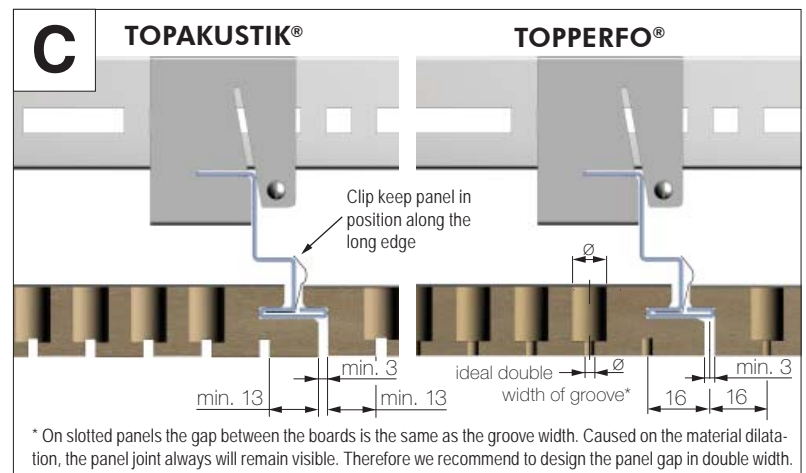
## TOPAKUSTIK® / TOPPERFO® G1-System for universal use



### Wall connection

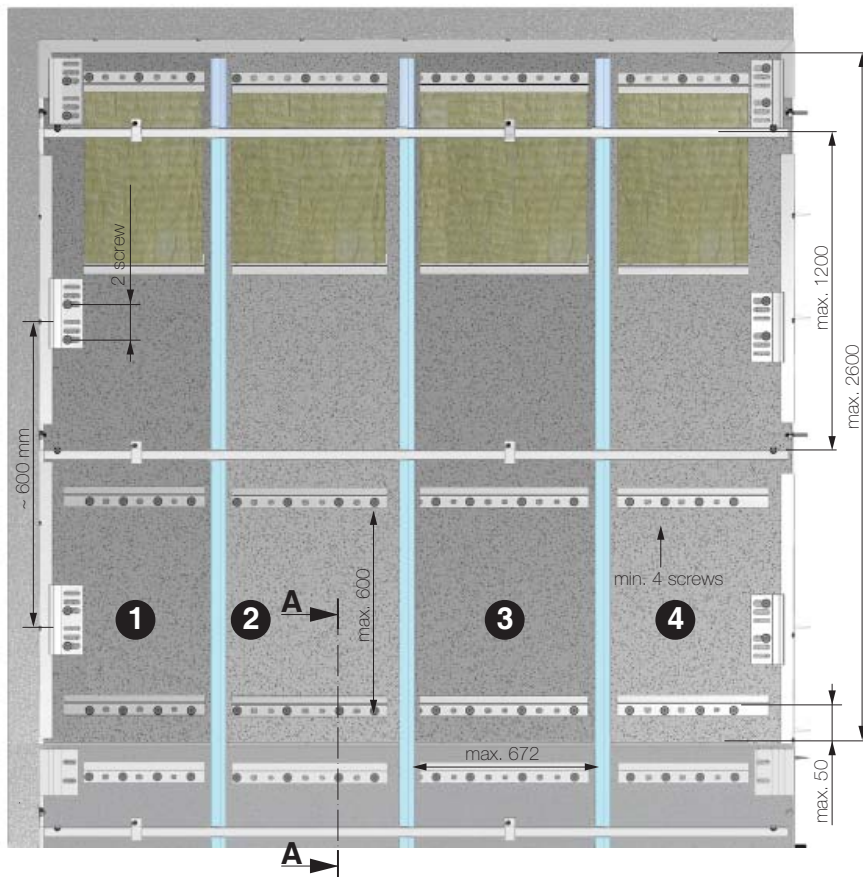


### Butt joint typical detail



Every attachment clamp has to be fixed to the U-profile by continuous screwing.

13.0.1



## G-Profile

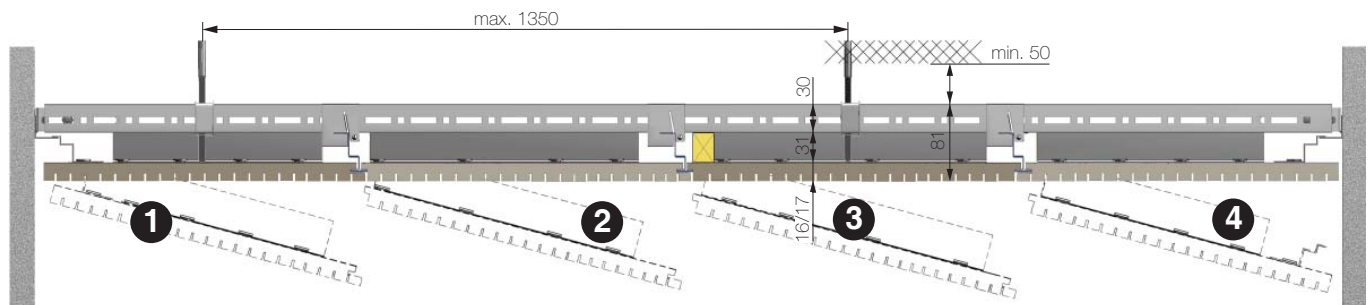
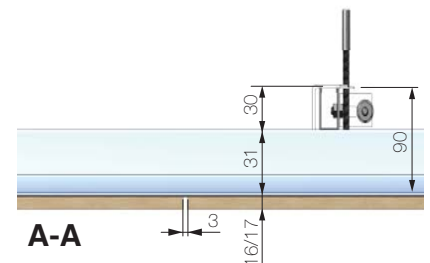
**i** Stiffen panels at a distance of 500-600 mm with the profiles.

The Z-profiles are delivered in production length of 5 m, trimmed on-site and permanently fixed by the NH-patent-screws into the perforation of the TOPAKUSTIK®-panels

Transverse stiffening for panel length  
 > 1000 mm 3 pc.  
 > 2000 mm 4 pc.  
 > 3000 mm 5 pc.

Small panles up to 640 mm also can be reinforced with L-profile 2500 x 20 x 25 x 1.5 mm. Part # 24.8002

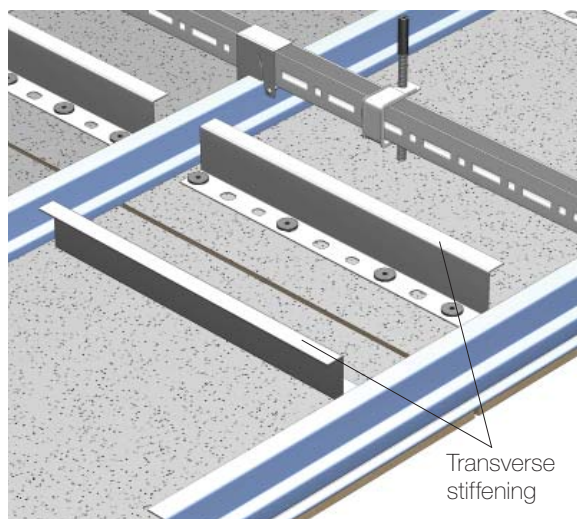
**!** Stiffen counter grid diagonally. This avoids «Floating» of the ceiling construction.



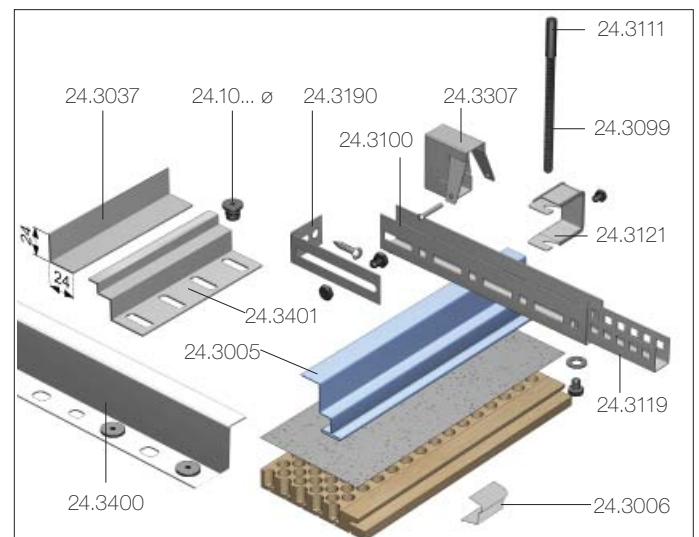
**i** With the TOPAKUSTIK® G-System every panel can be removed easily by gentle lifting.

**i** The TOPAKUSTIK®-panel in the G-System can be secured by inserting a distance rail against lifting.

## Transverse joint with blocking

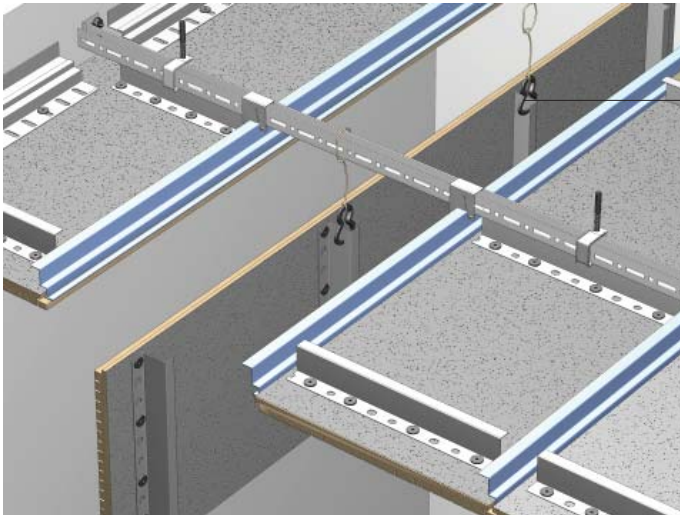


## Type GEMAGRID





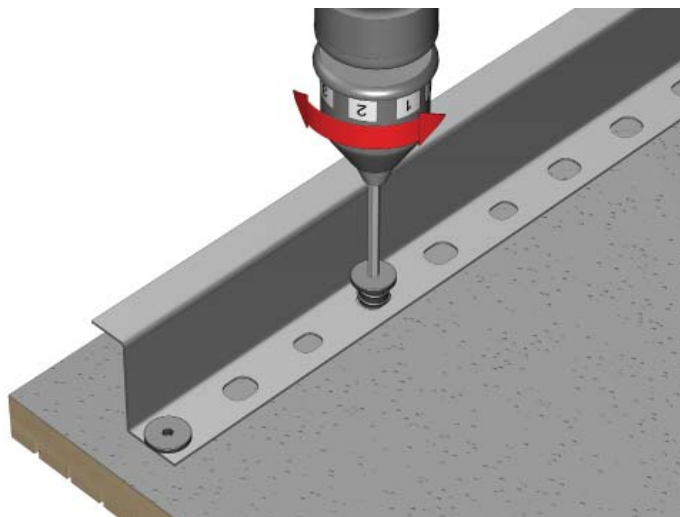
## Panel with safety cord



24.3402 Nylon safety cord with snap-hook for panel weights up to 25 kg with two cords

24.3403 Safety wire rope with snap-hook for panel weight up to 40 kg with 2 cords

## Installation information for screw joints

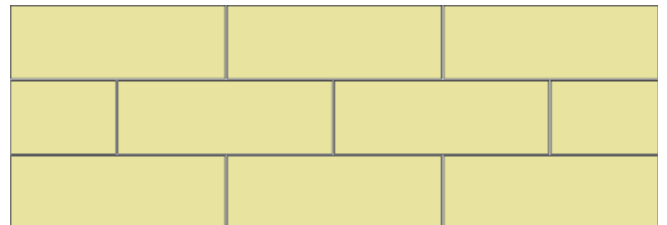


- Set correct torque
- Do not strip the thread
- At best try slug test

## Design patterns:

The execution with off-set joints allows a small material dilation without it showing. The combination of a gap width of approx. 3 - 6 mm provides a clear and neat alignment .

## English

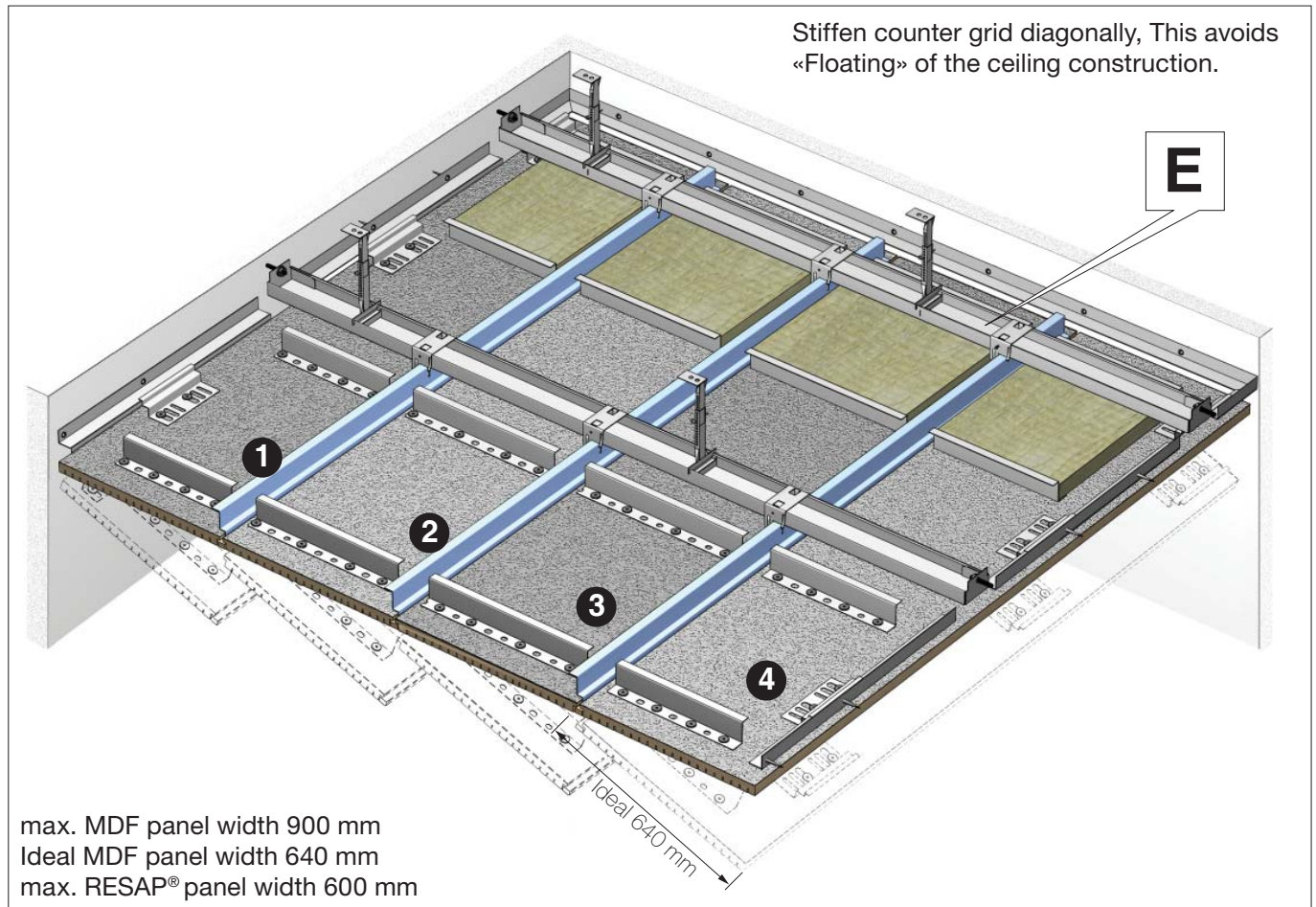


## Please note:

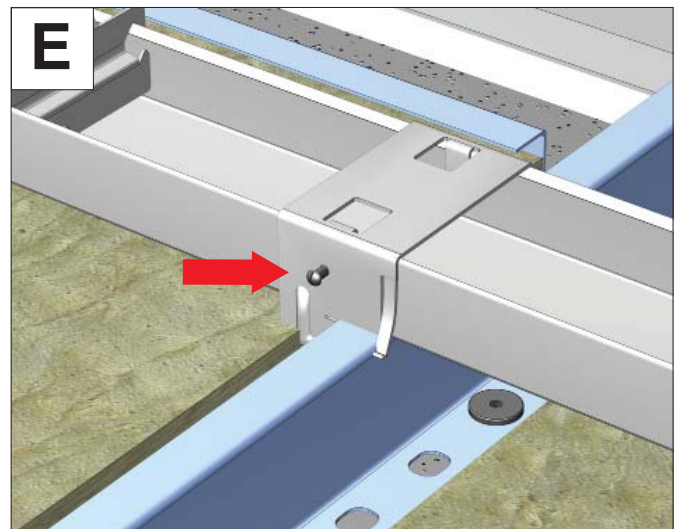
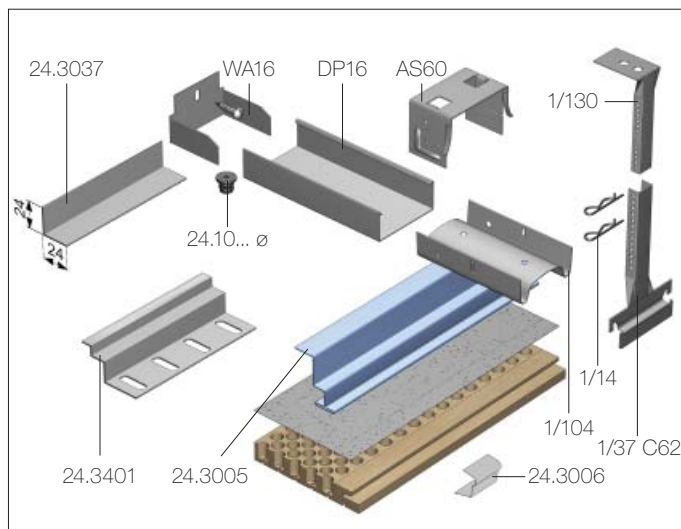
The fixing system with G-profiles and the U-primary grid documented on pages 13.0.1-13.0.2 is checked for a professional installation with TOPAKUSTIK®- and TOPPERFO®-panels. For installation of the G-profiles on the TOPAKUSTIK®-panels, the torque has to be set correspondingly, **so that the threads are not stripped.** For non-compliance to the information described here any liability is refused



## TOPAKUSTIK® / TOPPERFO® G2- System for universal use - Sukow + Fischer Type 108



### Type Suckow + Fischer Type 108

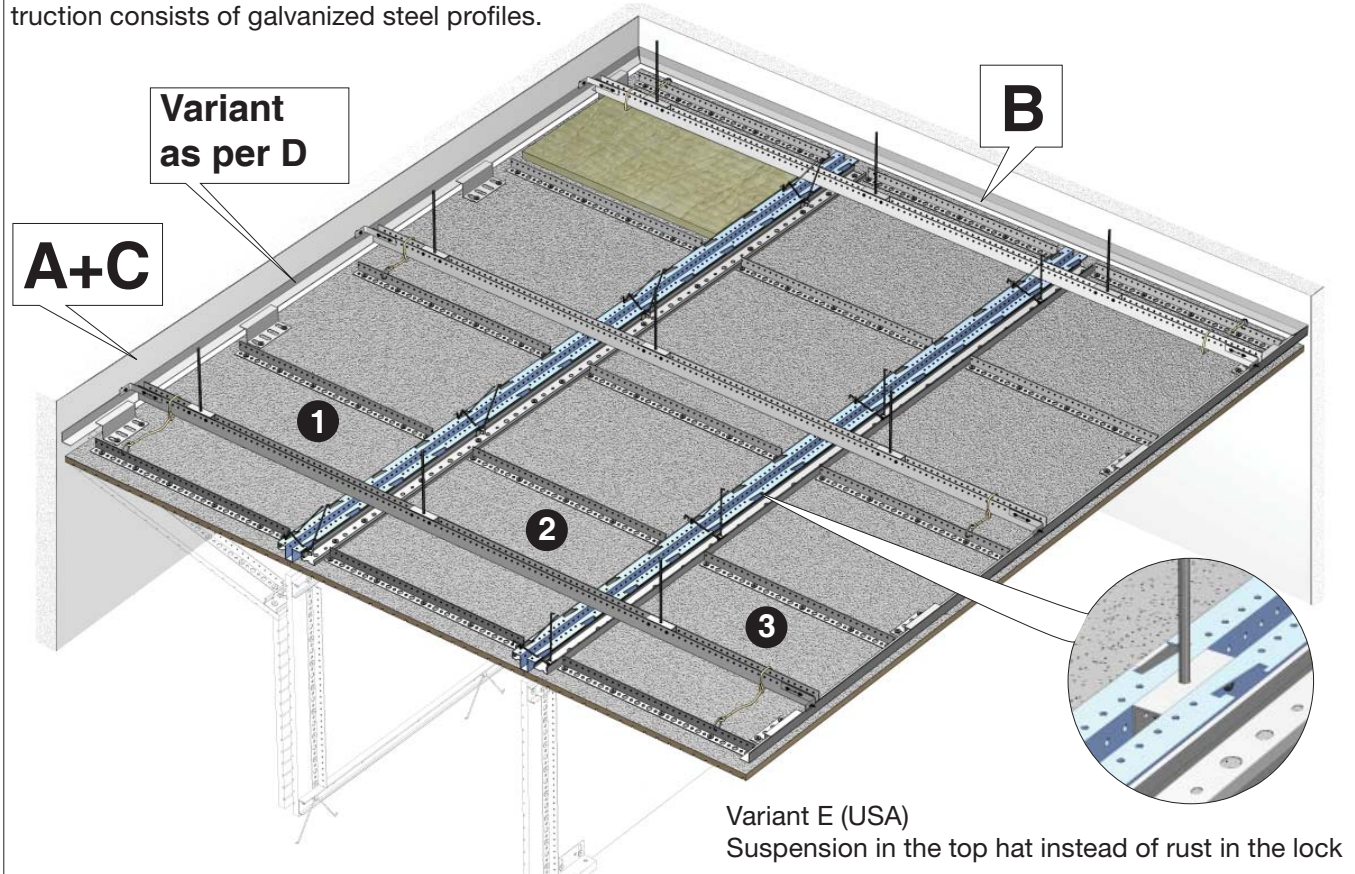


All attachment clamps have to be fixed to the DP16 profile.

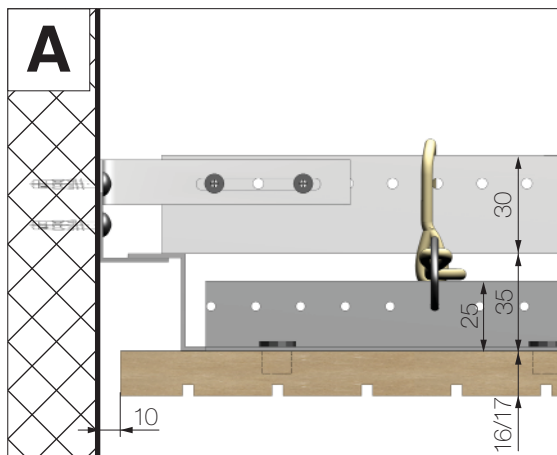
Please take the other details for this system from pages 13.0.1-13.0.3.

## TOPAKUSTIK® / TOPPERFO® S11 System for removable ceiling panels

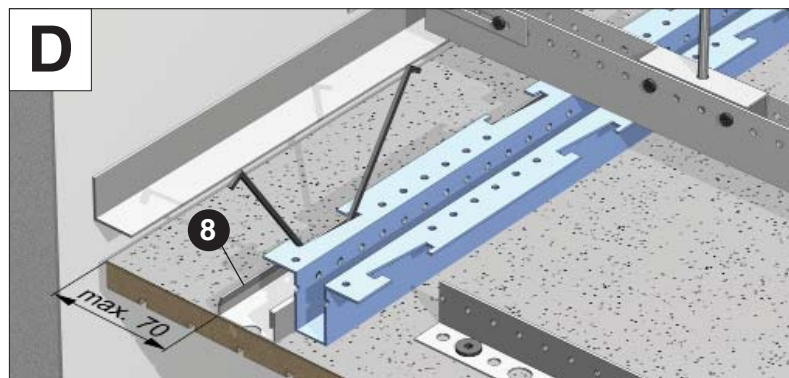
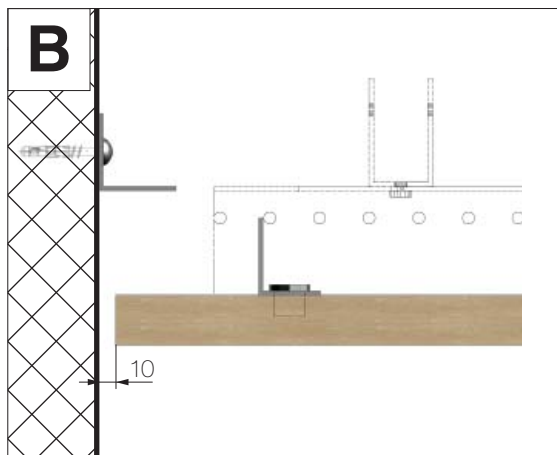
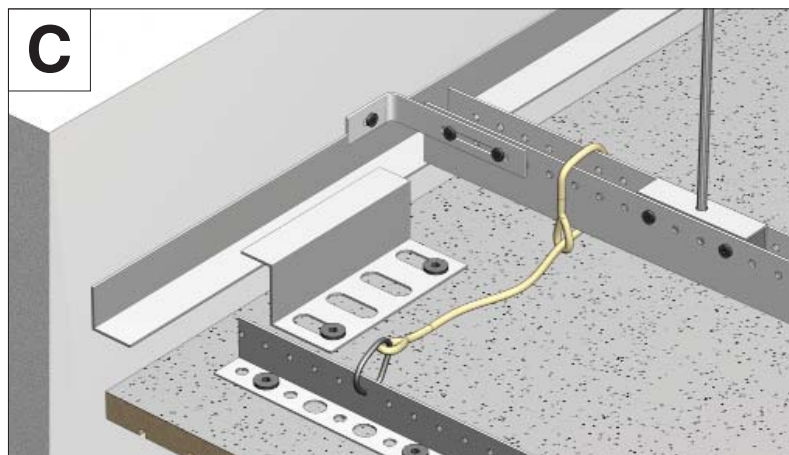
The TOPAKUSTIK® S 11 System is a ceiling construction where each panel can be removed separately. The panels are fixed with steel springs and safeguarded against falling (earthquake-safe). The entire construction consists of galvanized steel profiles.



Wall connection with support bracket and safety cord



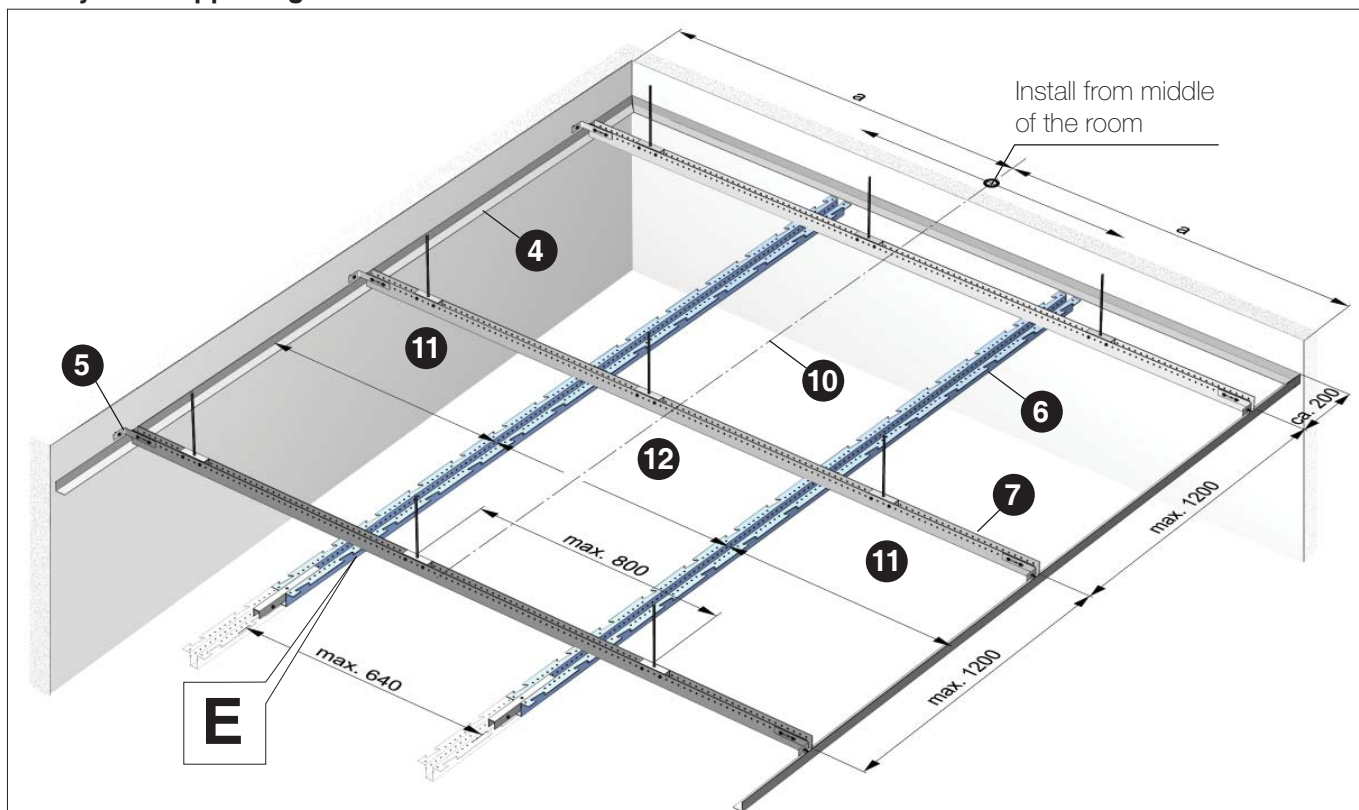
Wall connection with support bracket



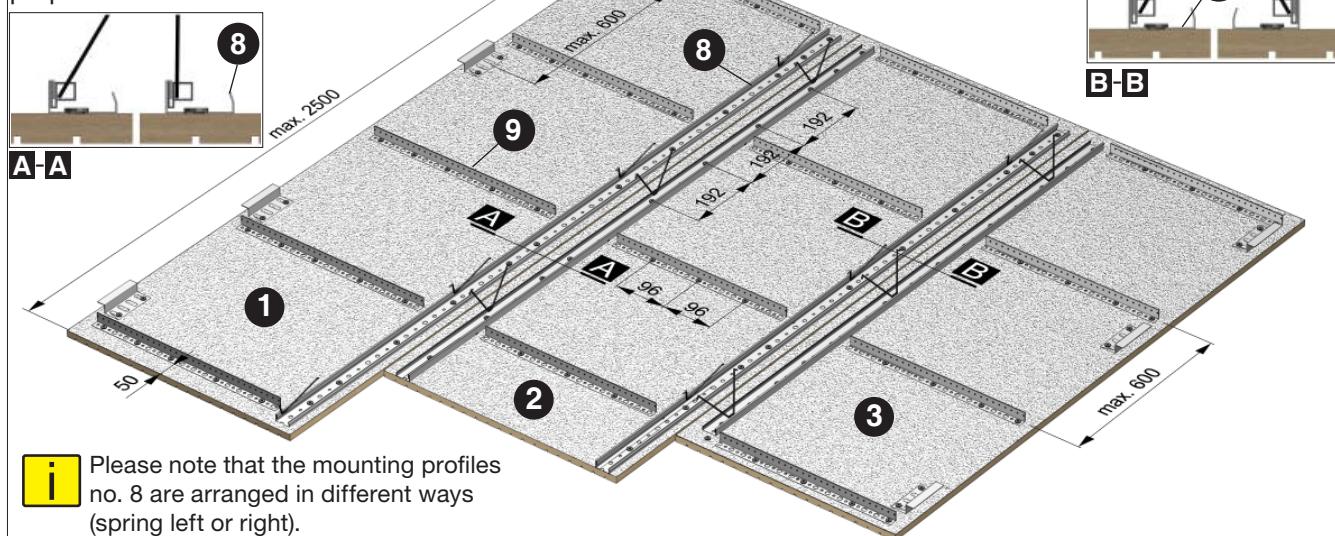
**Variant:** For wall connection the panels can also be mounted with a cap profile instead of the support bracket (as per details A + C).



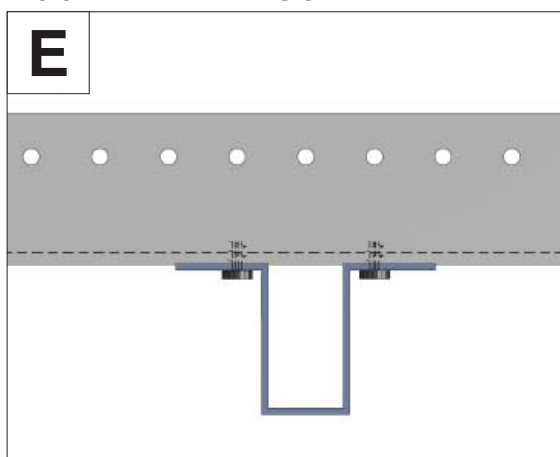
## S11 System supporting construction



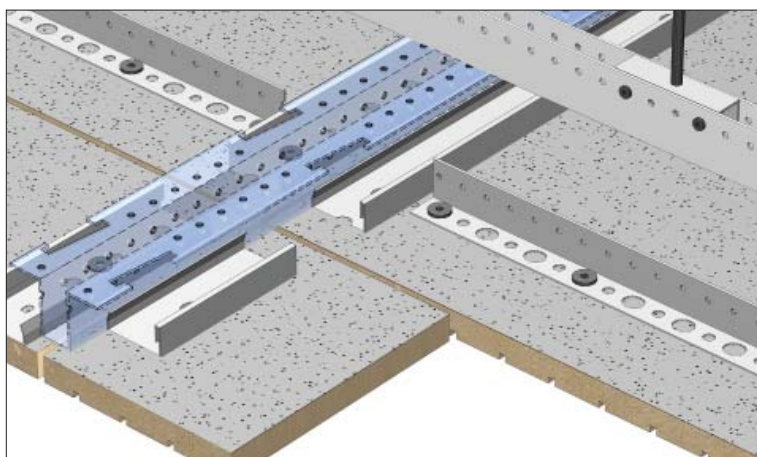
Ceiling panels with mounting profiles and transverse reinforcement, prepared for installation.



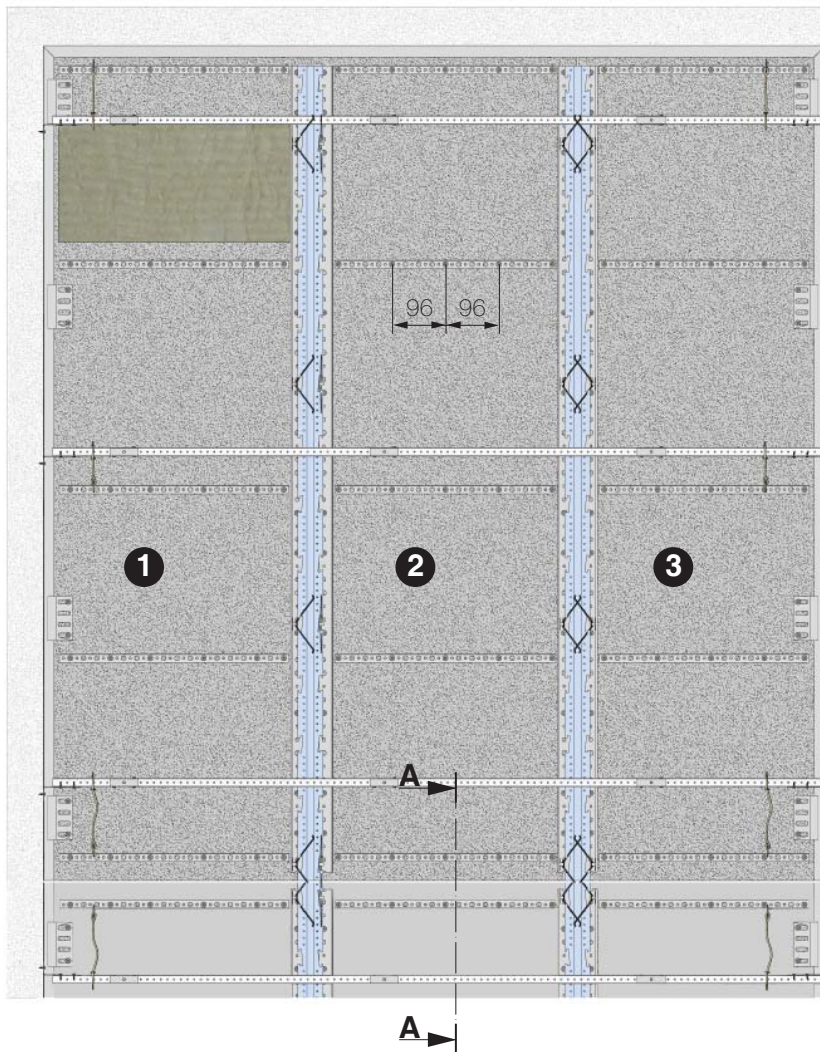
**Screw connection between cap profile and ceiling grid**



**Transverse and longitudinal butt joint**







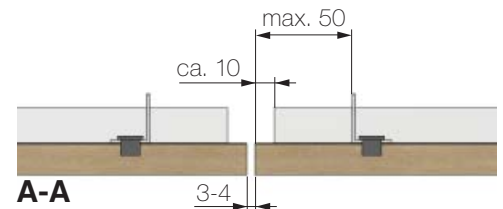
## Angle profiles (9)

**i** Cross-brace panels at distances of 500-600 mm using the angle profiles.

The angle profiles are delivered in standard lengths of 2,496 running millimetres, cut to size on site, and fixed in the perforation of the TOPAKUSTIK® panels using the NH patented screws.

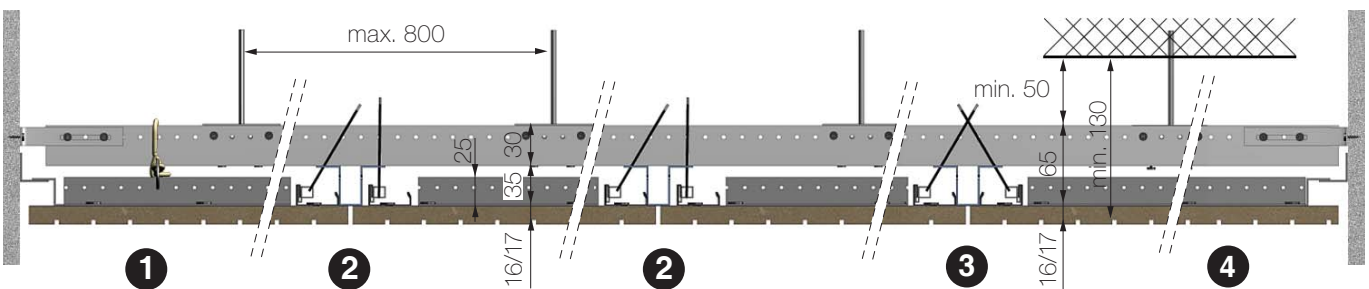
Cross-bracing for slab lengths of  
 > 1000 mm 3 pce.  
 > 2000 mm 4 pce.  
 > 2600 mm 5 pce.

**!** Diagonally brace counter-grid. This prevents the ceiling construction from «floating».

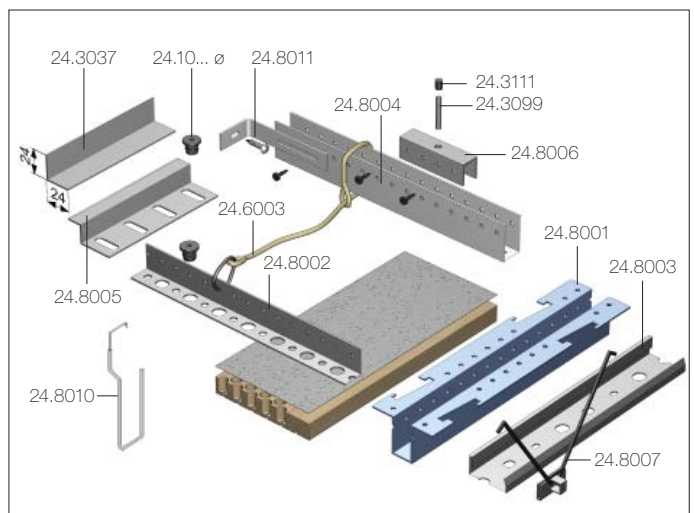
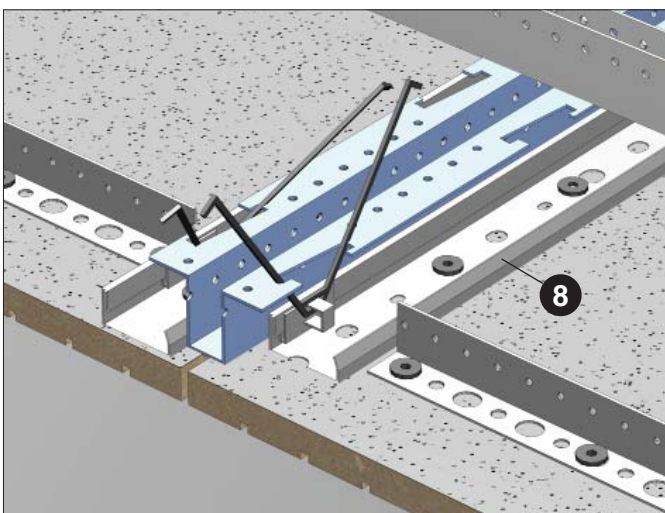


## Torsion springs:

- Distance between the springs on MDF boards = ~600mm,
- Distance between the springs on RESAP® boards = ~450mm



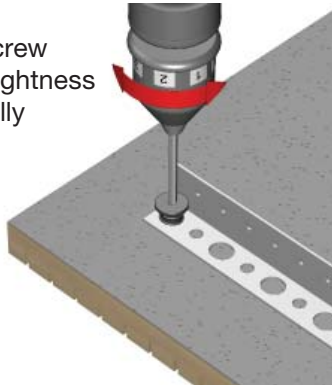
## Cross-bracing with butt joint



## Mounting instructions for screw connection



- Set torque correctly
- Do not overtighten screw
- If necessary, check tightness of connection manually



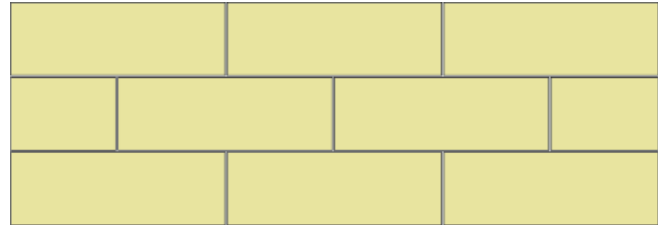
### Please note:

The attachment system documented on pages 15.0.1-15.0.3 using angle and cap profiles and the U primary grid has been certified for professional installation with TOPAKUSTIK® and TOPPERFO® panels. When mounting the angle profiles onto the TOPAKUSTIK® panels, the torque on the power screwdrivers must be set accordingly to **prevent the screws from being over-tightened**. All warranty claims are rejected if the instructions given here are not complied with.

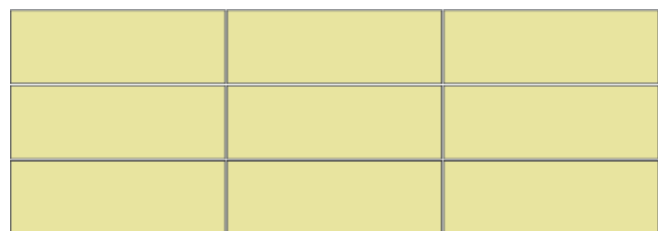
### Layout types:

Layouts with offset joints more desirable to allow for material expansion and contraction with minimal visual impact. When combined with joint widths of approx. 3 - 6 mm the visual appearance is clean and consistent.

### Englisch



### Parallel



## Mounting the TOPAKUSTIK® Panel System S11

### Step 1

Check room size and angles, are the walls parallel or conical?

Determine ceiling height. Maintain a space of at least 150 mm from the lowest point of the raw ceiling or lines/cables to the lower edge of the visual ceiling.

### Step 2

Mount the edge bracket (4) at the corresponding height (p. 15.0.2)

### Step 3

Determine the dimension between axes (10) of the room width, dimension (a) should be equal on the right and left-hand side. (p. 15.0.2)

### Step 4

Determine position and height of the counter-grid (space max. 1,200 mm). Determine space of the threaded rods and mount. Attach counter-grid to the threaded rod. cap profile (6) under counter- Tightly screw the grid. The space between the counter-grid (12) No. 1+3 is determined based on the panel width. The perforated grid of the profiles is 16 mm and made to fit the TOPAKUSTIK® panels.

Align cap profile spaces (6) with the side walls

### Step 5

Cut all longitudinal (8) and transverse (9) profiles as specified on page 15.0.2 and then screw into panels.

### Step 6

Glue insulation onto rear of panels.

### Step 7

Mount ceiling panels starting from middle, and continue to the left and right. Suspend panels by compressing the spring and insert laterally as shown in Pic. 5 + 6 , p. 15.0.6

### Variant on Step 7

Instead of the support angle, the wall connection panels can also be mounted with the cap profile as shown in Pic. D, page 15.0.1.

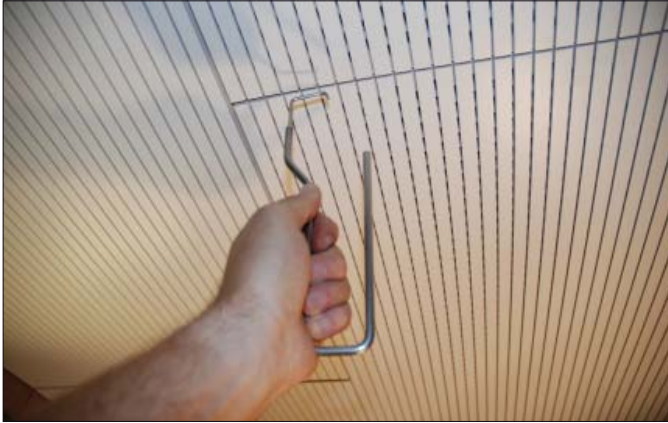
### Step 8

Wall Plate - Panels. No. 1 + 3

Determine the dimensions of the wall connection panels cut wall connection panel to correct width, mount support bracket and cord. Mount ceiling panels. (p. 15.0.1)



## TOPAKUSTIK® - paneel system S11 opening



Pic. 1

Insert offset handle into the butt joints at the panel corners as shown in Pic. 1. and rotate 90°.



Pic. 2

Pull ceiling panel downwards using the offset handle as shown in Pic. 2 until your hand fits into the opening.



Pic. 3

Pull ceiling panel down along the entire length, as shown in Pic. 3 (approx. 100 mm) until the element rests on the spring clip.



Pic. 4

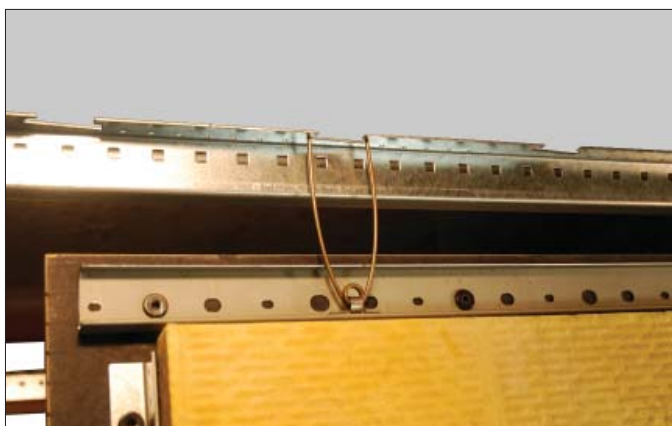
Then pull down on the other long side as shown in Pic. 4 until the entire panel is suspended horizontally from the spring clips.



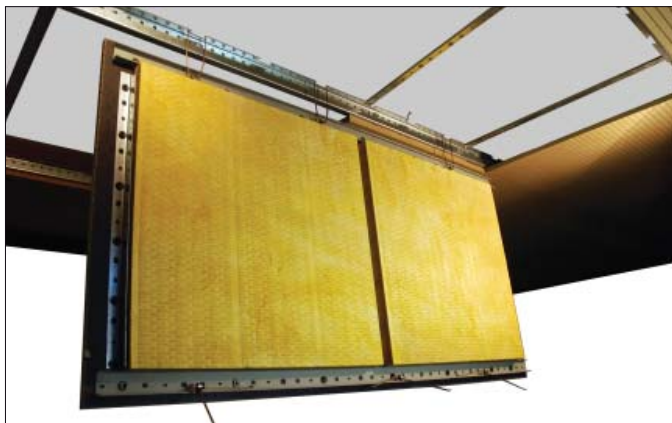


Pic. 5

Folding down the ceiling panel Disengage spring clips on one long side as shown in Pic. 5 + 6 (squeeze together) so that the element can be folded down.



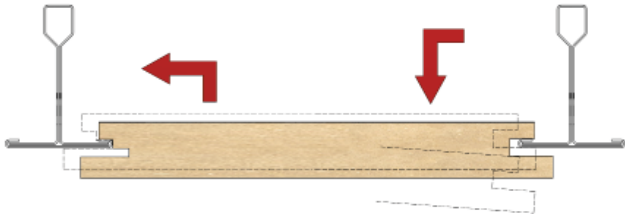
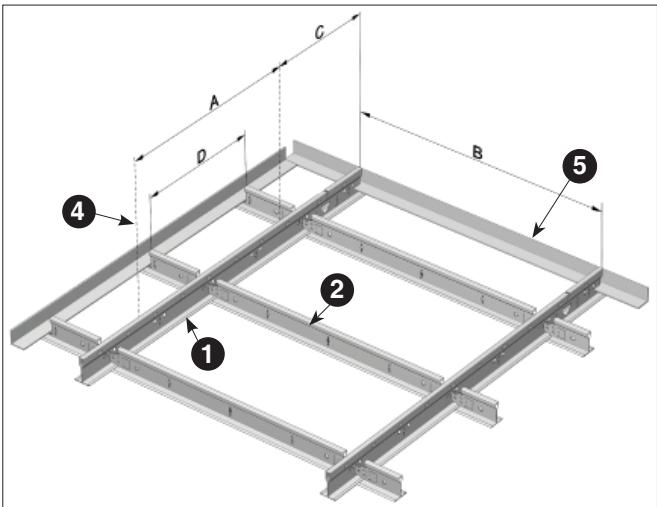
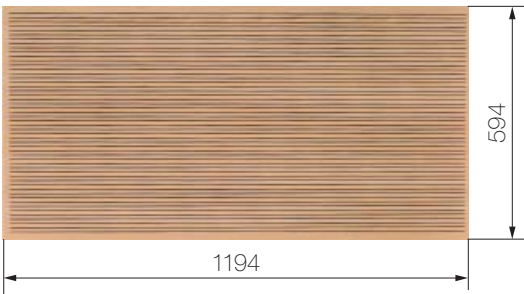
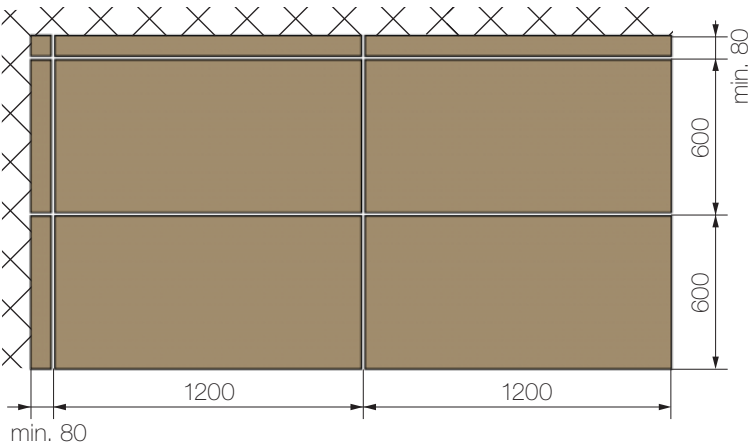
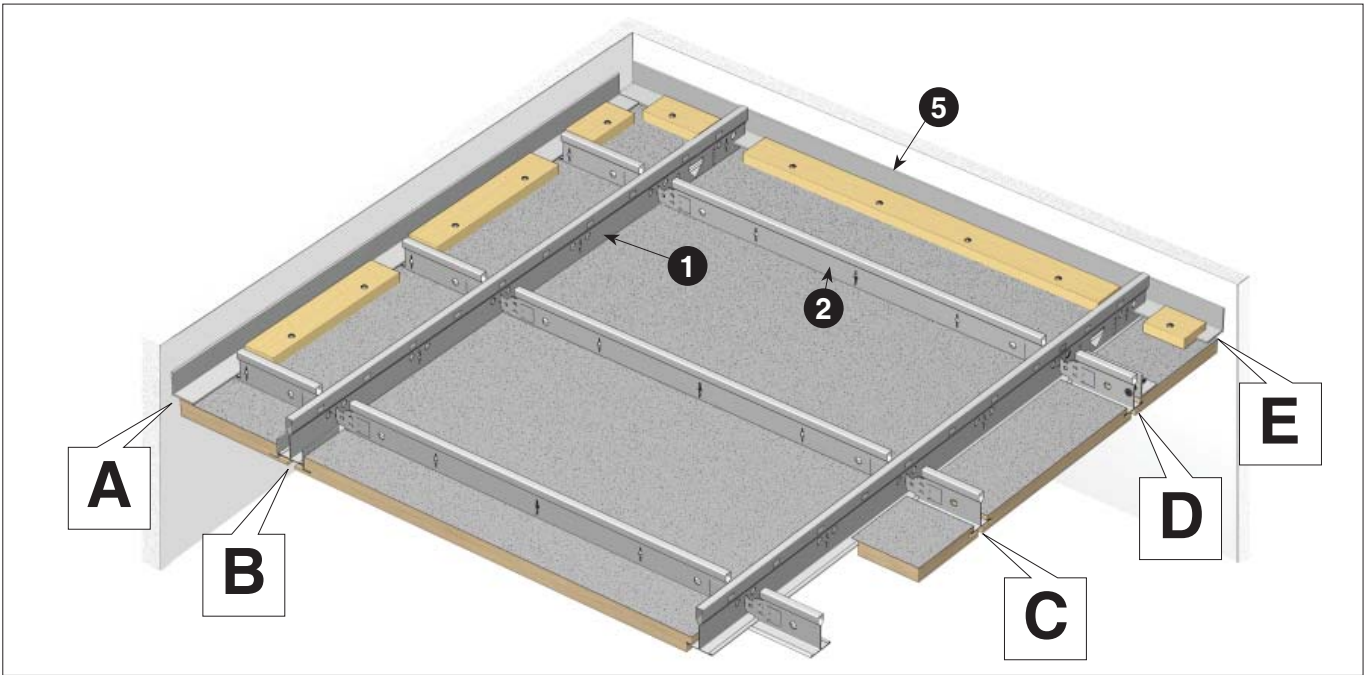
Pic. 6



Pic. 7

Let panel hang from the spring clips on one long side, as shown in Pic. 7. Extremely simple handling in the event of revisions or when installing additional cables/lines.

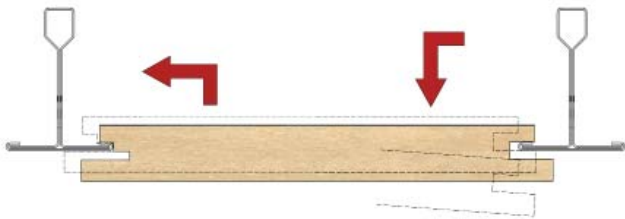
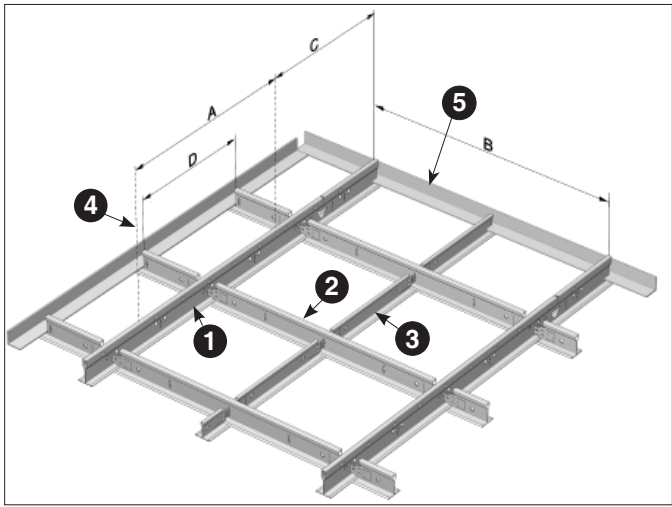
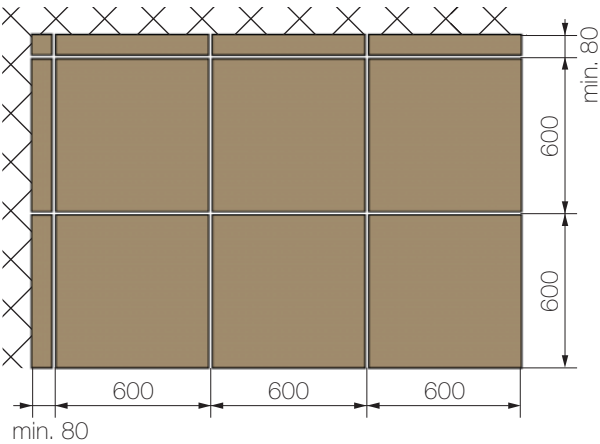
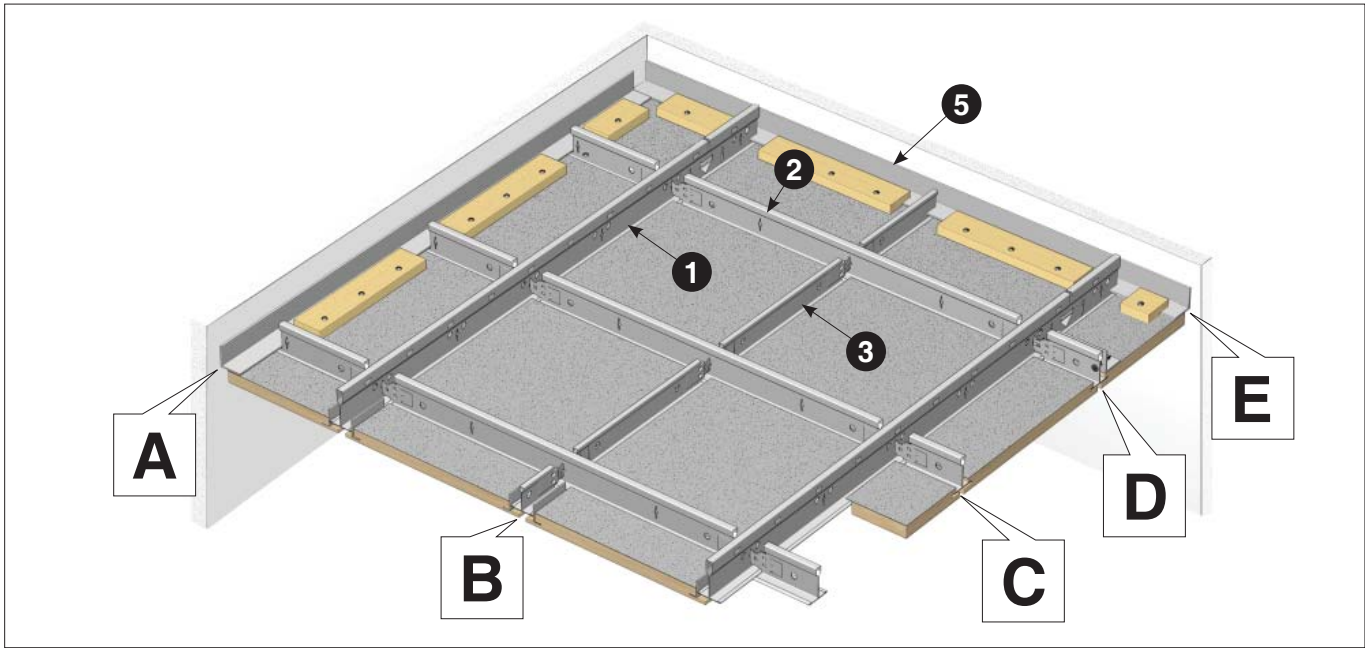
Sixty-System 120/60



Sign:	Space (mm)
A	1200 Standard
B	1200
C	max. 400
D	600

Materials required for the Donn DX24 substructure (per m2 of ceiling area). All specifications are approximate values without cuttings.			
No.	Description	Item designation	Module 600 x 1200
1	Bearing rail	DX24 XH 370	0,83 m
2	Cross-rail, long	DX24 XM 120	1,67 m
4	Suspending bracket		0,70 piece
5	Wall bracket		depends on room dimensions (approx. 0.4 running meters/m²)

Sixty-System 60/60

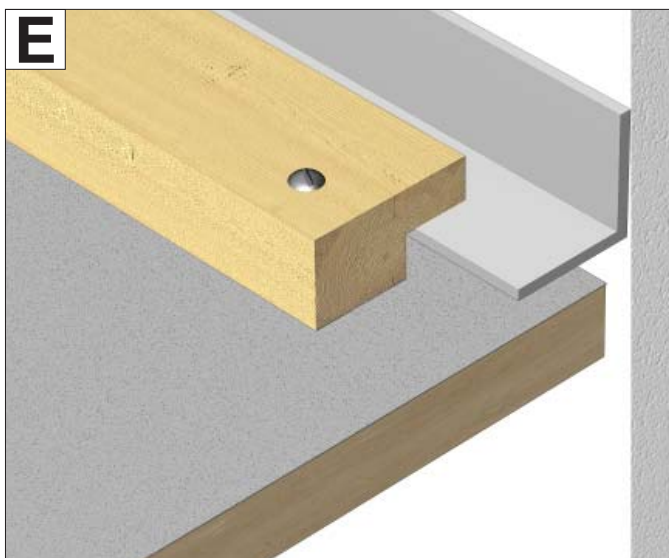
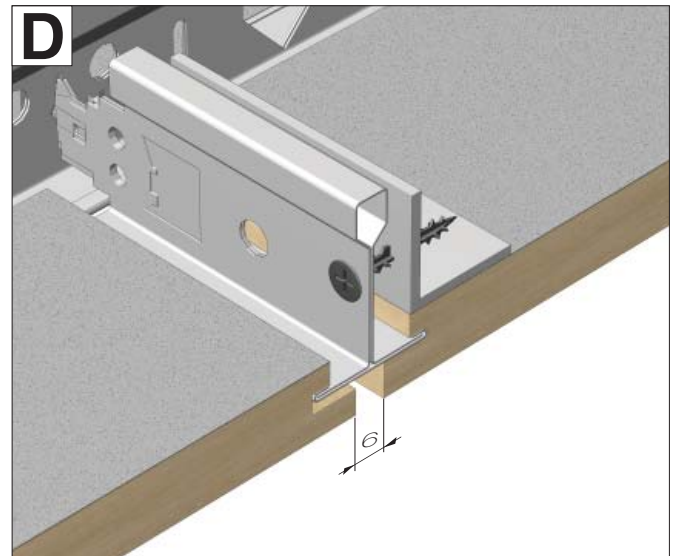
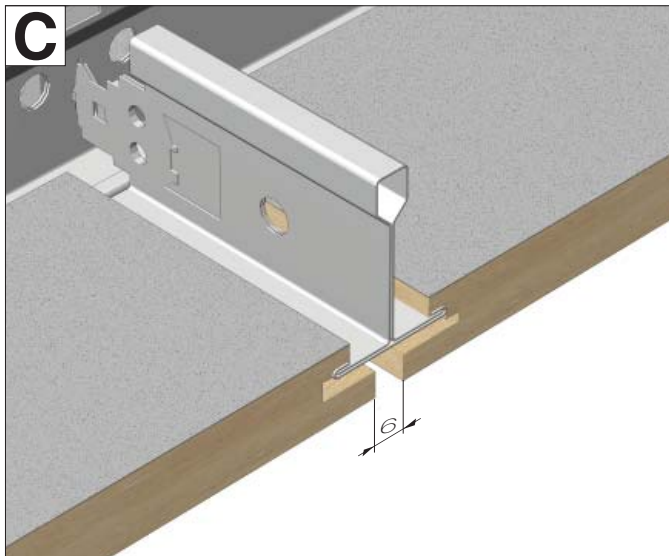
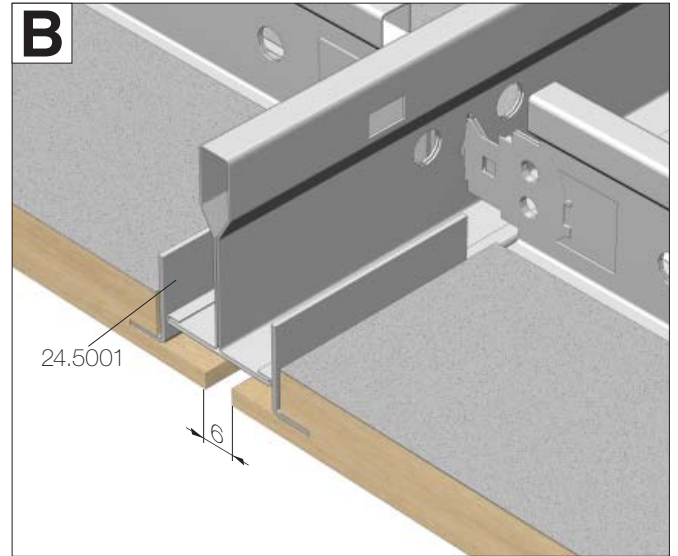
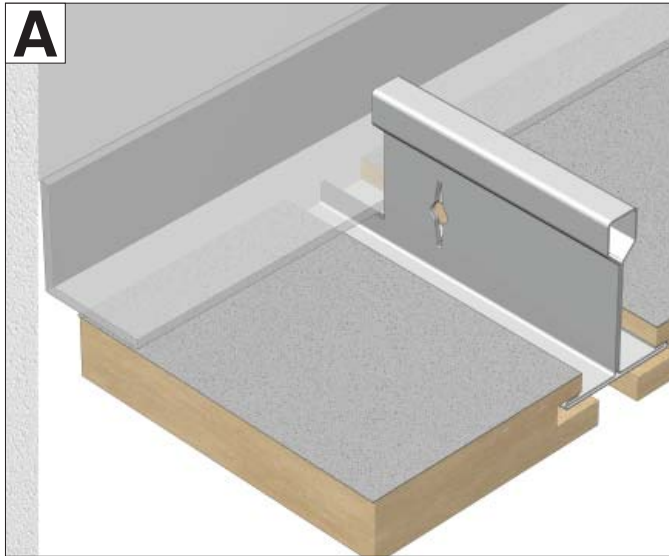


Sign:	Space (mm)
A	1200 Standard
B	1200
C	max. 400
D	600

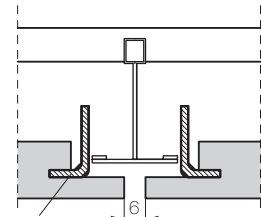
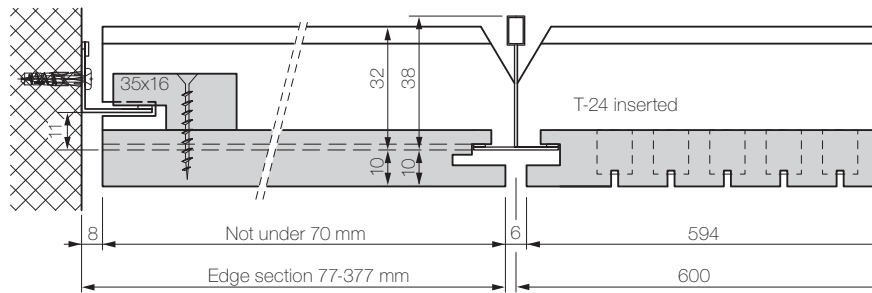
Materials required for the Donn DX24 subconstruction (per m² ceiling area). All specifications are approximate values without cuttings.			
No.	Description	Item designation	Module 600 x 1200
1	Bearing rail	DX24 XH 370	0,83 m
2	Cross-rail, long	DX24 XM 120	1,67 m
3	Cross-rail, short	DX24 XS 60	0,83 m
4	Suspending bracket		0,70 piece
5	Wall bracket		depends on room dimensions (approx. 0.4 running meters/m²)



Details refer to the previous pages

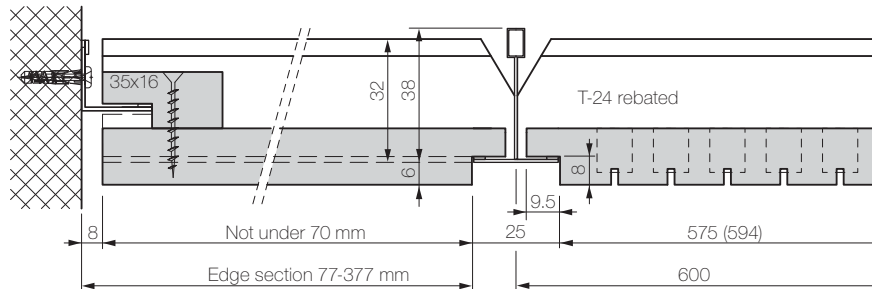


## Type D

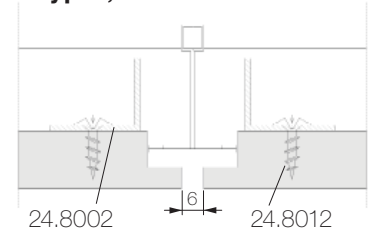


Reinforcement for the transverse edges Size: 559 x 19/11 mm

## Type B24

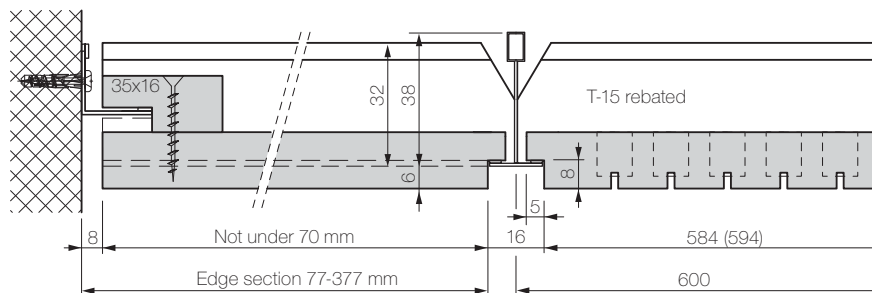


## Typ D, alternative detail

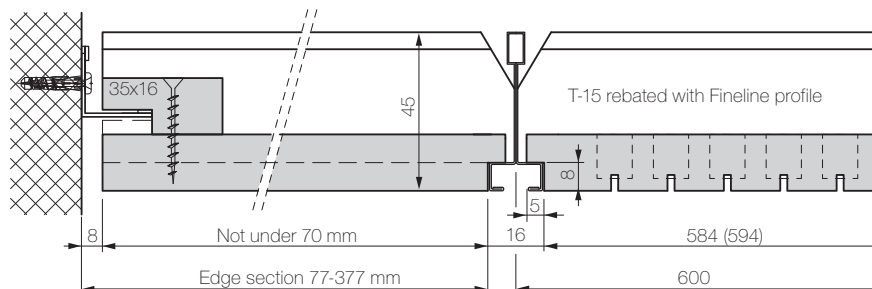


Universal angle, L = 2496 mm

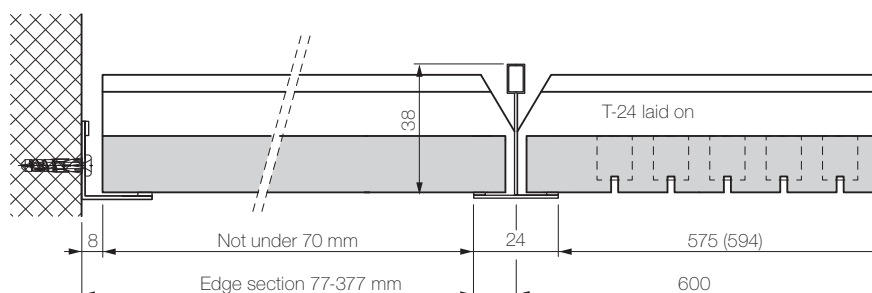
## Type B15



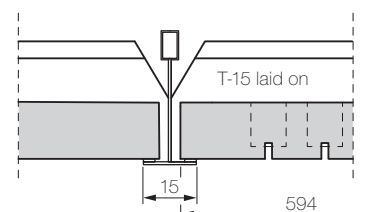
## Type C15



## Type A24



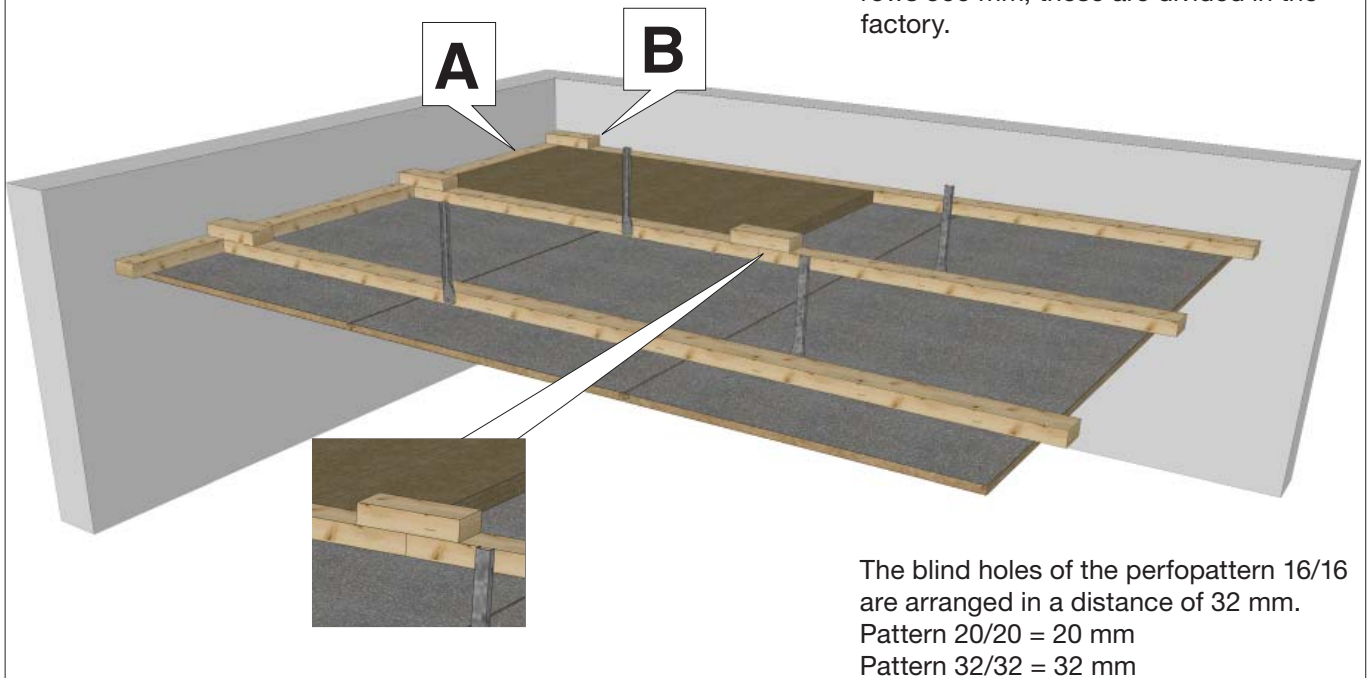
## Type A15



## TOPPERFO® SL1-system ceiling mounting with slatted grid

The perforation must be set back at the factory, if the panels will be scribed to the wall on site.

Blind holes are always along the long panel edge (in cross-direction to the grid), max. distance between blind hole rows 500 mm, these are divided in the factory.



### Wood-Installation on transversal grid (wood moisture max. 10%)

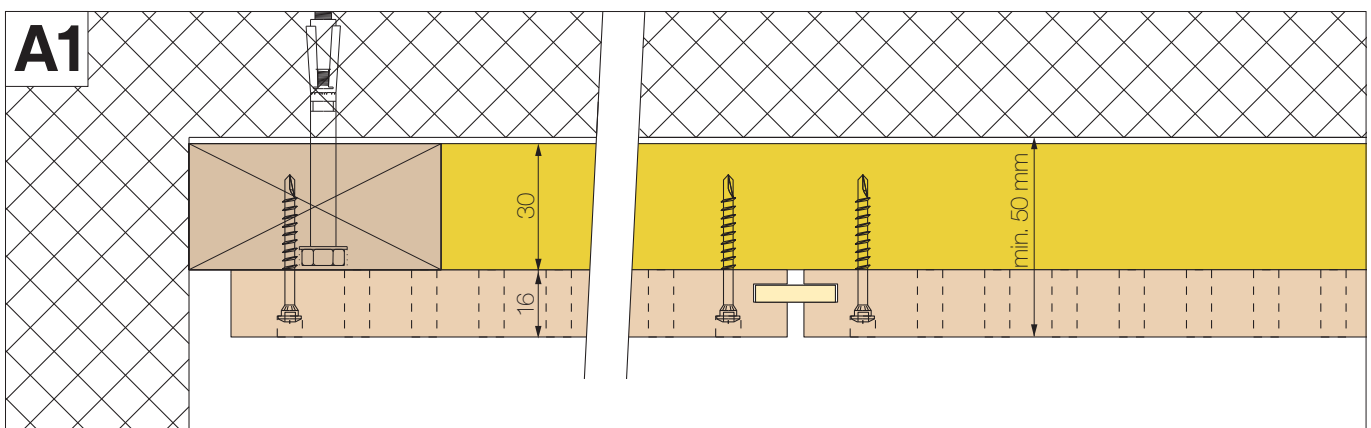
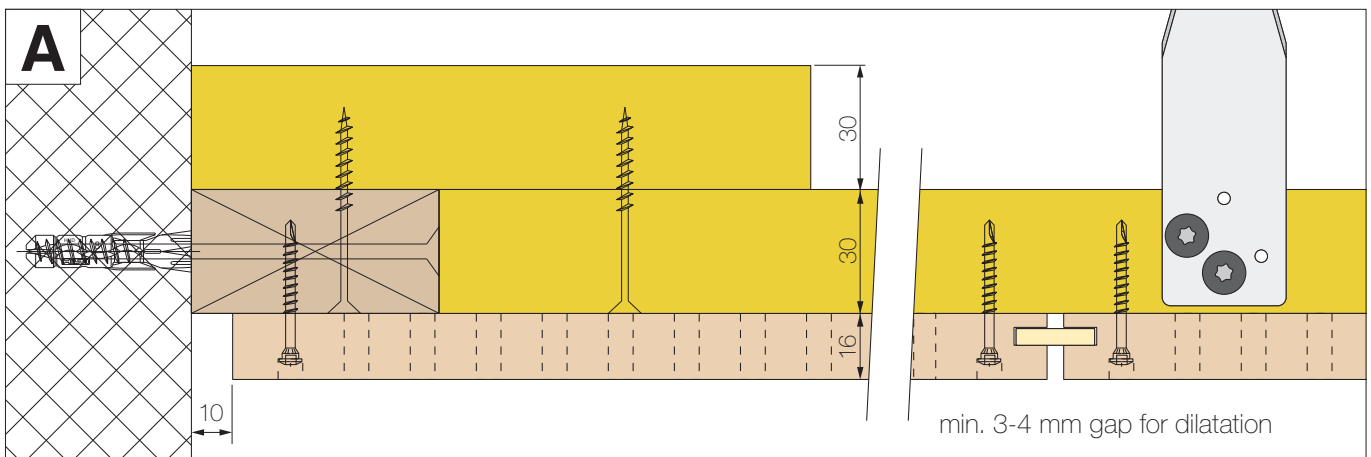
Sub-construction: TOPPERFO® panels (without increased fire protection requirement) are fastened to a perfectly installed transverse lathing of planed, dry spruce boards 60/30 mm.

When installing the slats by means of a Nonius hanger (hangers are offset left and right with the grid).

Hanger spacing 800 mm, arrange TOPPERFO® element impacts on the transverse plate.

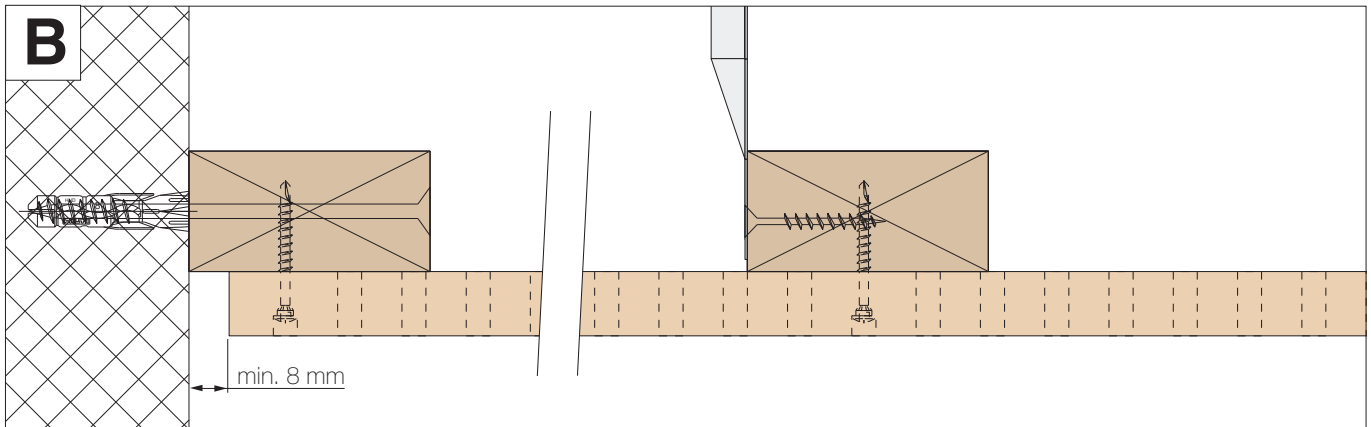
Consider fading/swelling behaviour (check <important notes> page 3.0.1 and 3.0.2)

## Wall connection



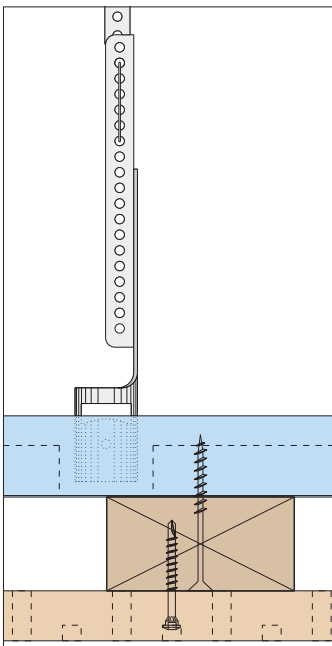


## TOPPERFO® SL1-system ceiling mounting with slatted grid

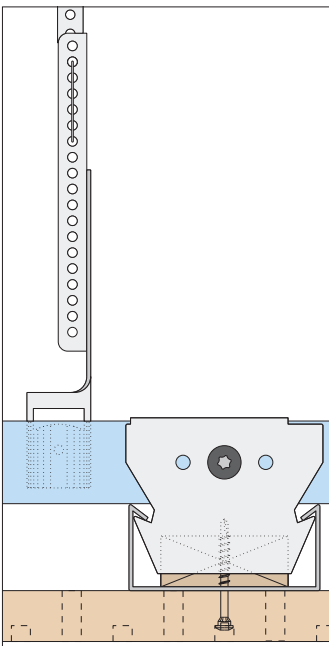


### Substructure versions Ceiling:

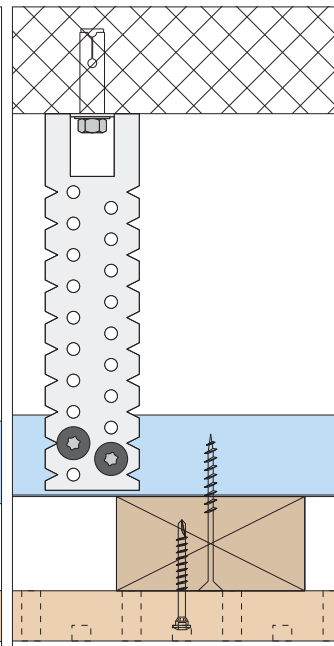
**Metal-wood countergrid with Nonius hangers**



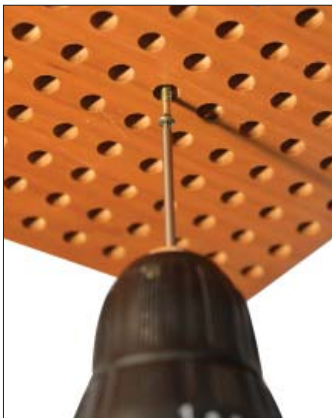
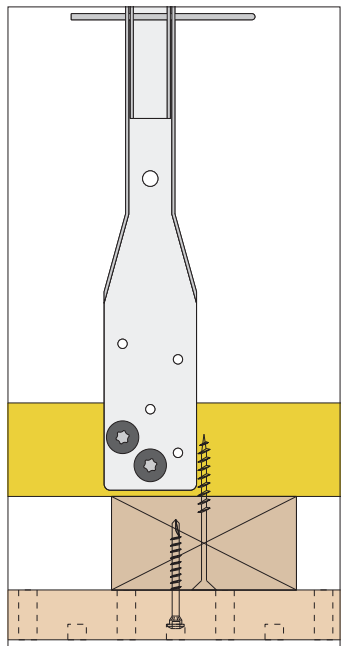
**Metal counter-grid with Nonius hangers**



**Metal-wood counter-grid with direct suspension**



**Wooden countergrid with Nonius hangers**



For assembly, press the panels well to the substructure, screw in with the bit attached.



Please note:

- Set the torque correctly
- Do not jigging the screw
- If needed make a slug test
- Tighten the head slightly, do not scuttle into the plate

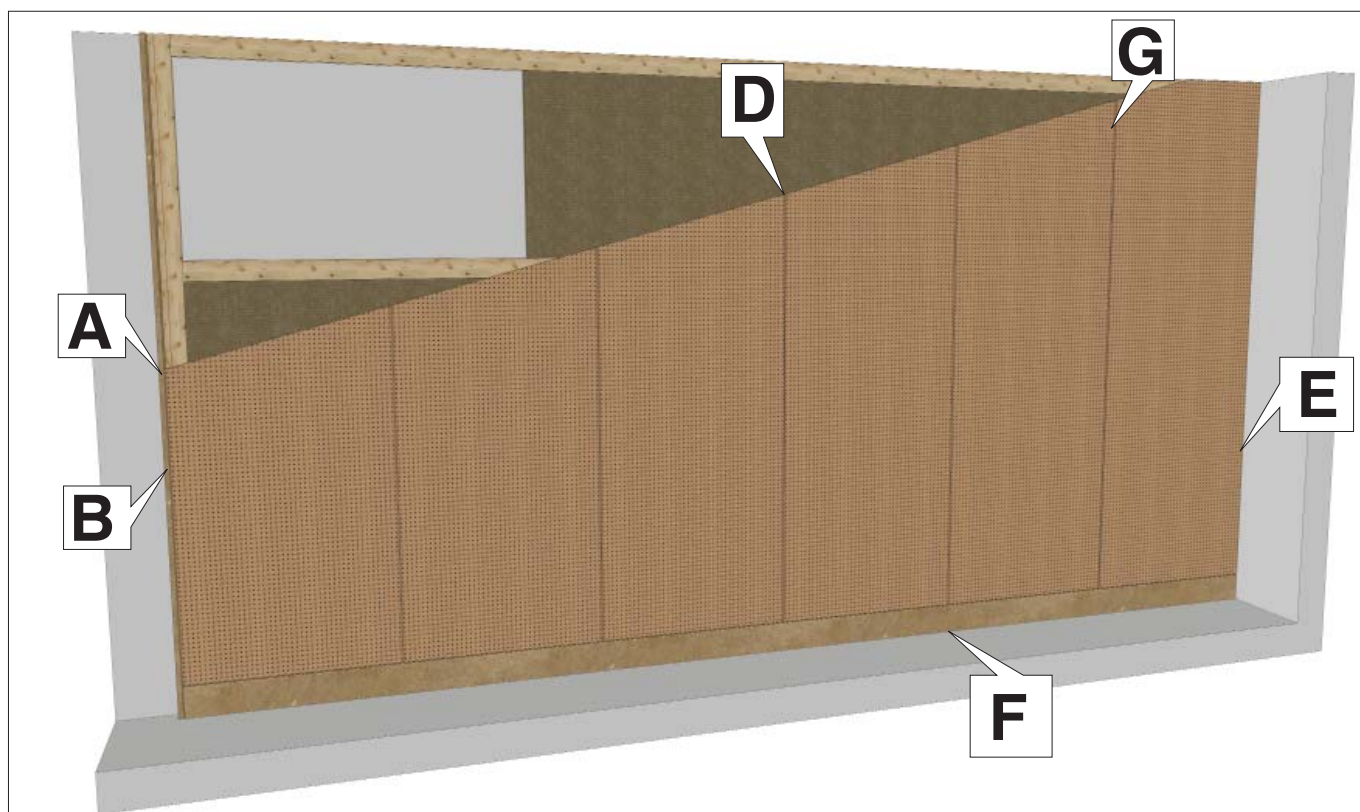
### Overview NH-Systemscrews

**Article:** 24.1045 = hole  $\varnothing$  4-5 mm Packing size 200 pcs. without shank, with drillbit

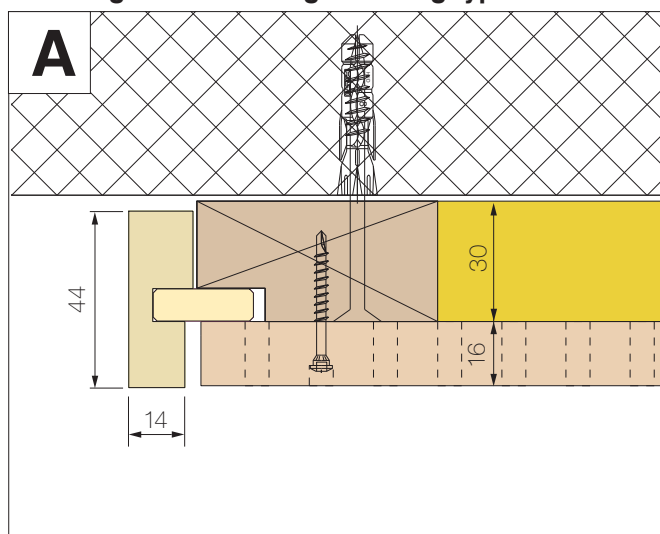
**Article:** 24.1056 = hole  $\varnothing$  5-6 mm Packing size 200 pcs. with shortshank 3mm and drillbit

**Article:** 24.1060 = hole  $\varnothing$  6 mm Packing size 500 pcs. with shank 10 mm and drillbit

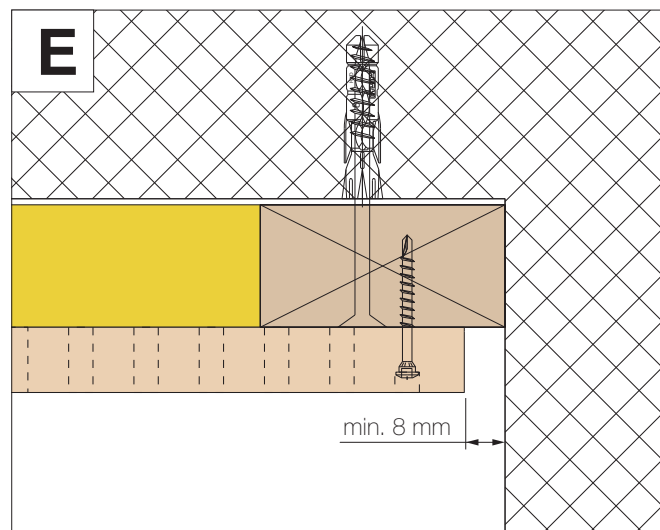
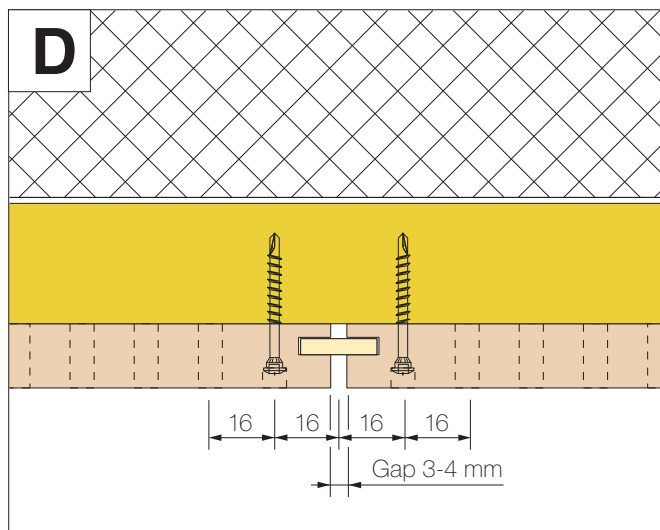
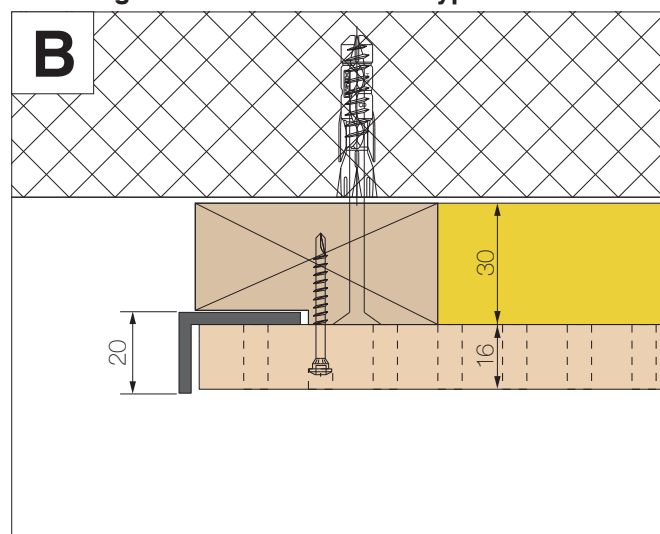
**Screw requirement (first rule) = 15 pcs/m<sup>2</sup>**



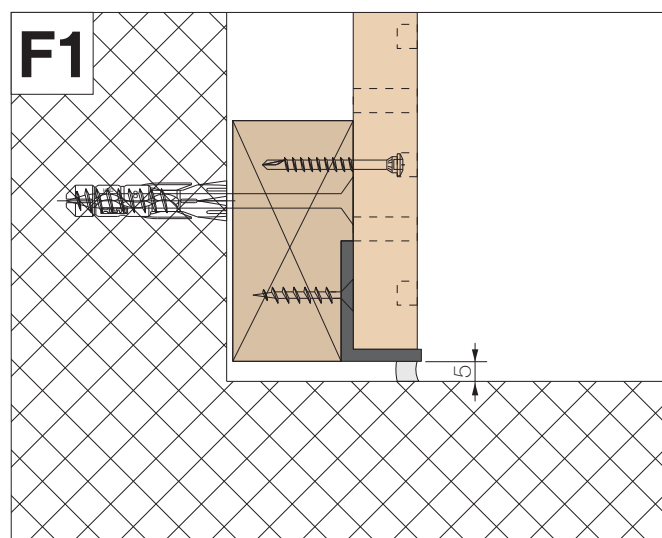
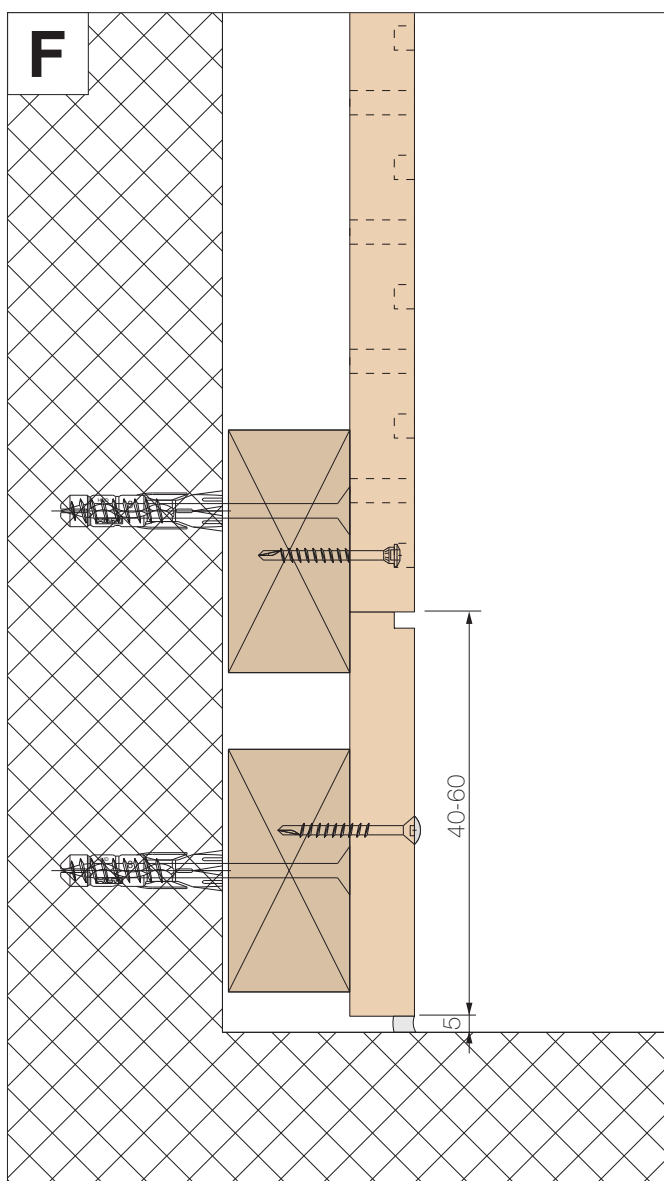
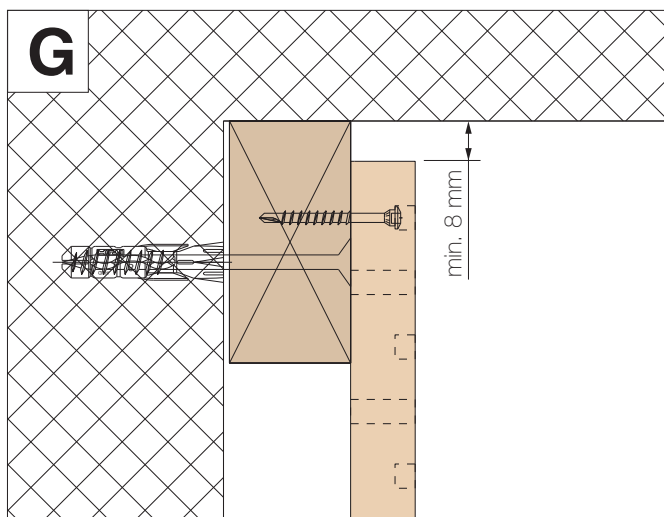
Finishing detail with edge molding type 1



Finishing detail with wall corner type 26



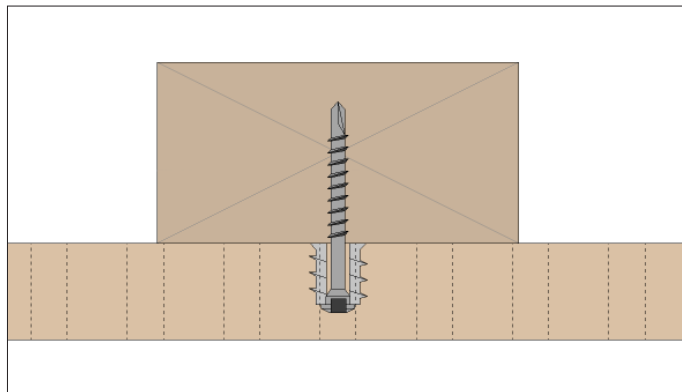
## TOPPERFO® SL2-system wallmounting with slatted grid





TOPPERFO® SL3-system mounting option with inserts placed on rear side of the panel

This solution is suitable for asymmetrical panel formats, graphic perforations, etc.

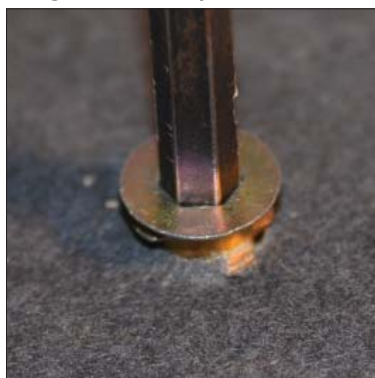


Sectional drawing of a possible assembly with inserts turned in at the back and the system screw in the face.

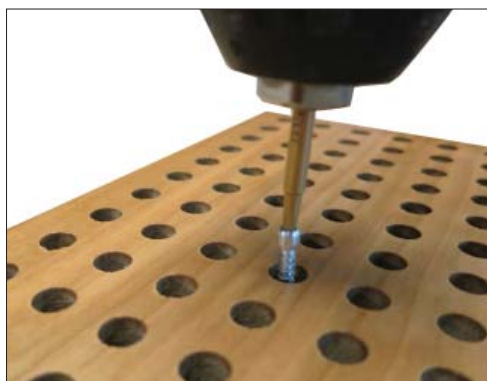
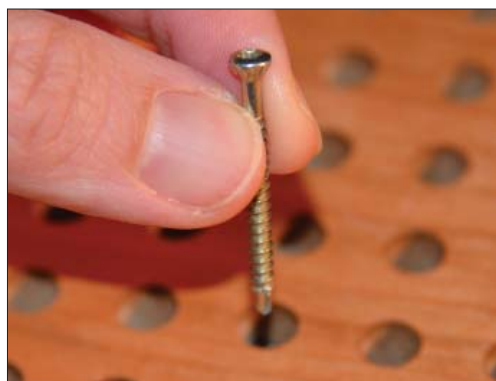


Inserts in galvanized steel for hole sizes  $\varnothing 6 + 8$  mm  
 Inserts  $\varnothing 6$  mm = part # 24.1600,  
 Inserts  $\varnothing 8$  mm = part # 24.1800,  
 Mounting each with screw type: 24.1060 = hole 6 mm  
 VPE 500 pcs with shank 10 mm and drillbit

Insert will be fixed on the panel rear with a hexagon wrench justified directly through the fleece.

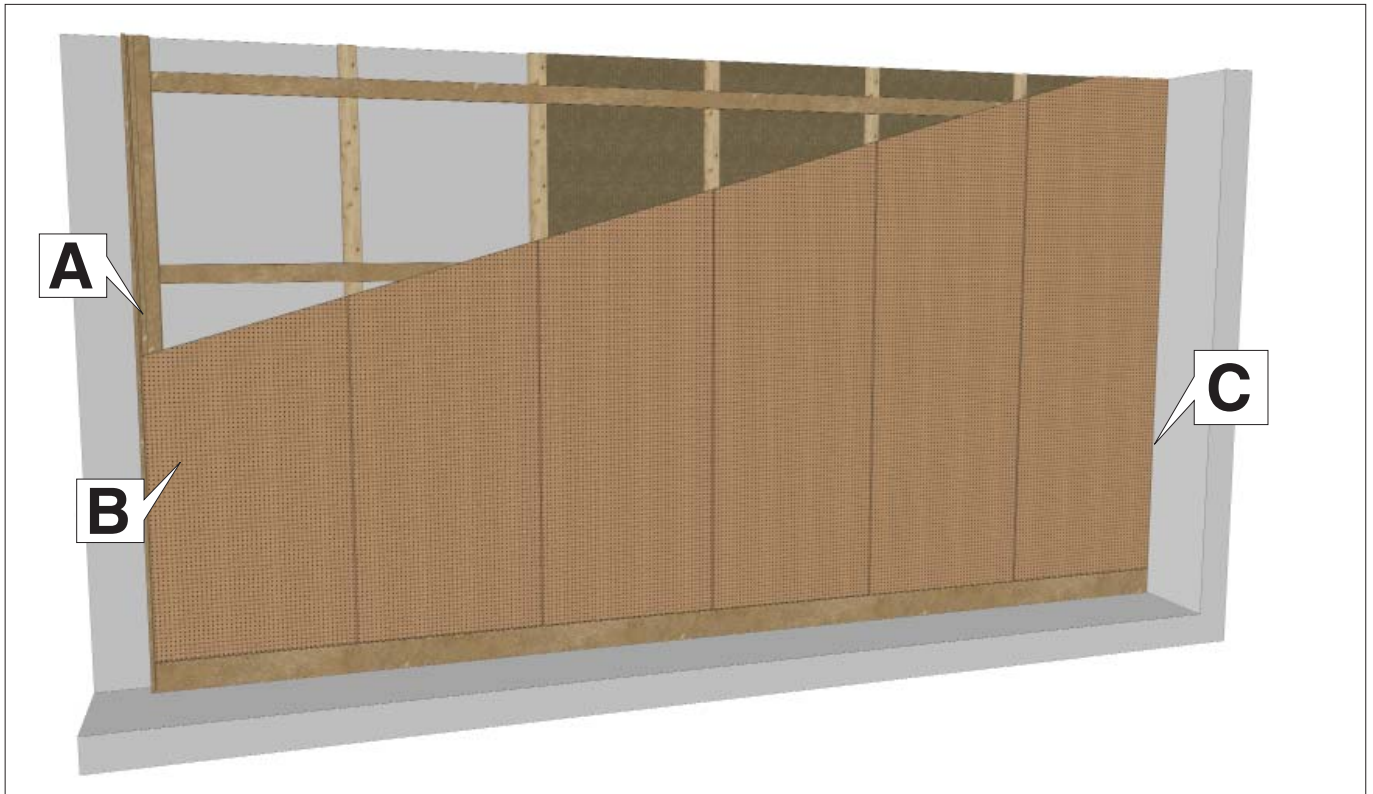


The screw can then be inserted and tightened from the visible side.

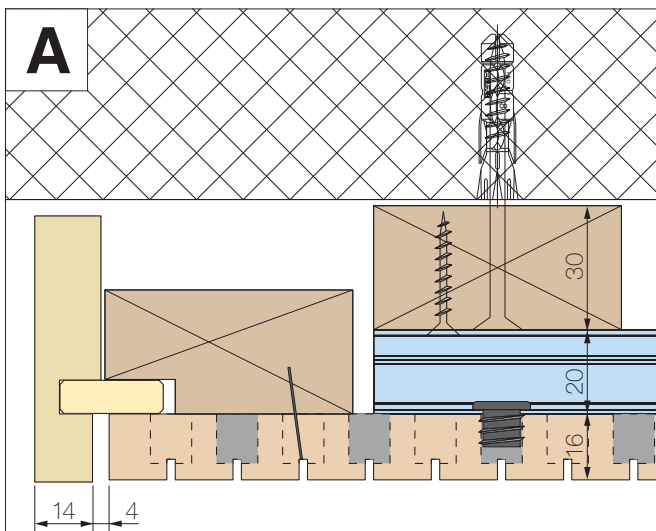


This image shows a full page of blank graph paper. The grid consists of small, equal-sized squares formed by thin, light gray lines. There are no margins, text, or other markings on the page. The grid covers the entire area from edge to edge.

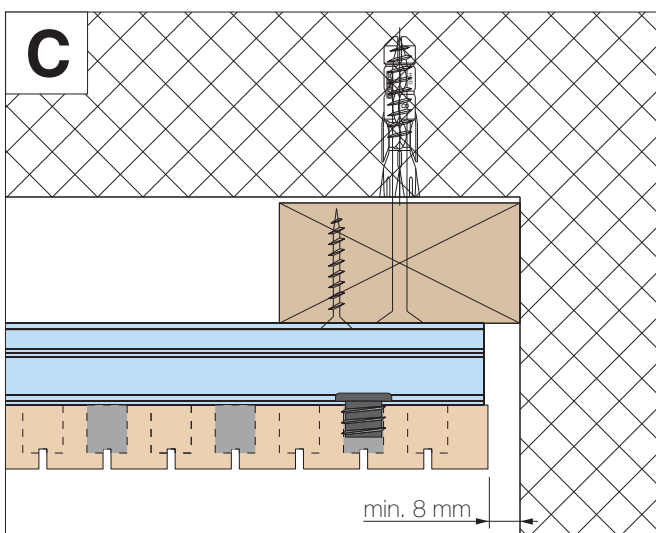
## EpM-system mounting profile for wall mounting



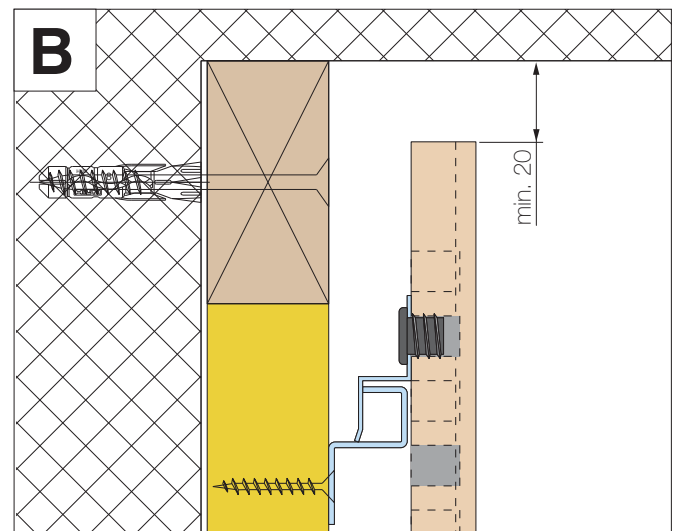
Finishing detail with wall corner type 1



Detail wall connection



Ceiling connection min. 20mm gap for installation



### Substructure + Panel mounting:


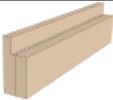




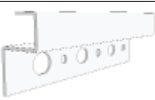
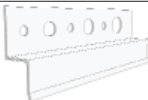
Basic grid in dry, planed spruce cleats 60 x 30 mm or CD steel profile 60 x 27 mm.

Cleat with rebated joint for the suspension profiles are available in the fire classes B2 / B1 / A2 and as a steel profile.

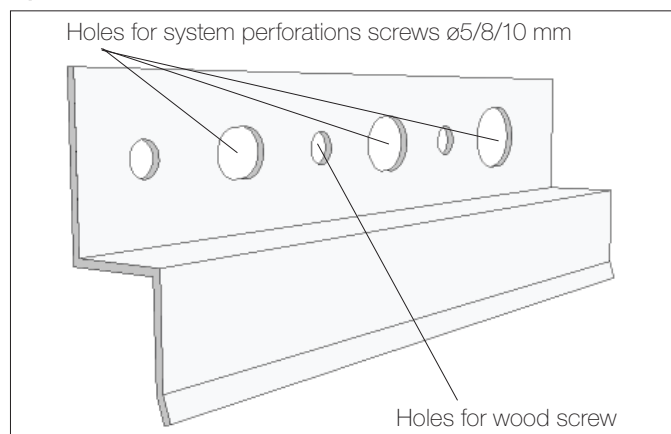
Installation of the EpM profile by means of system perforated screws  $\varnothing$  8/10 mm in rear acoustic perforation or wood screws 4 x 16 mm in non-perforated panel areas.



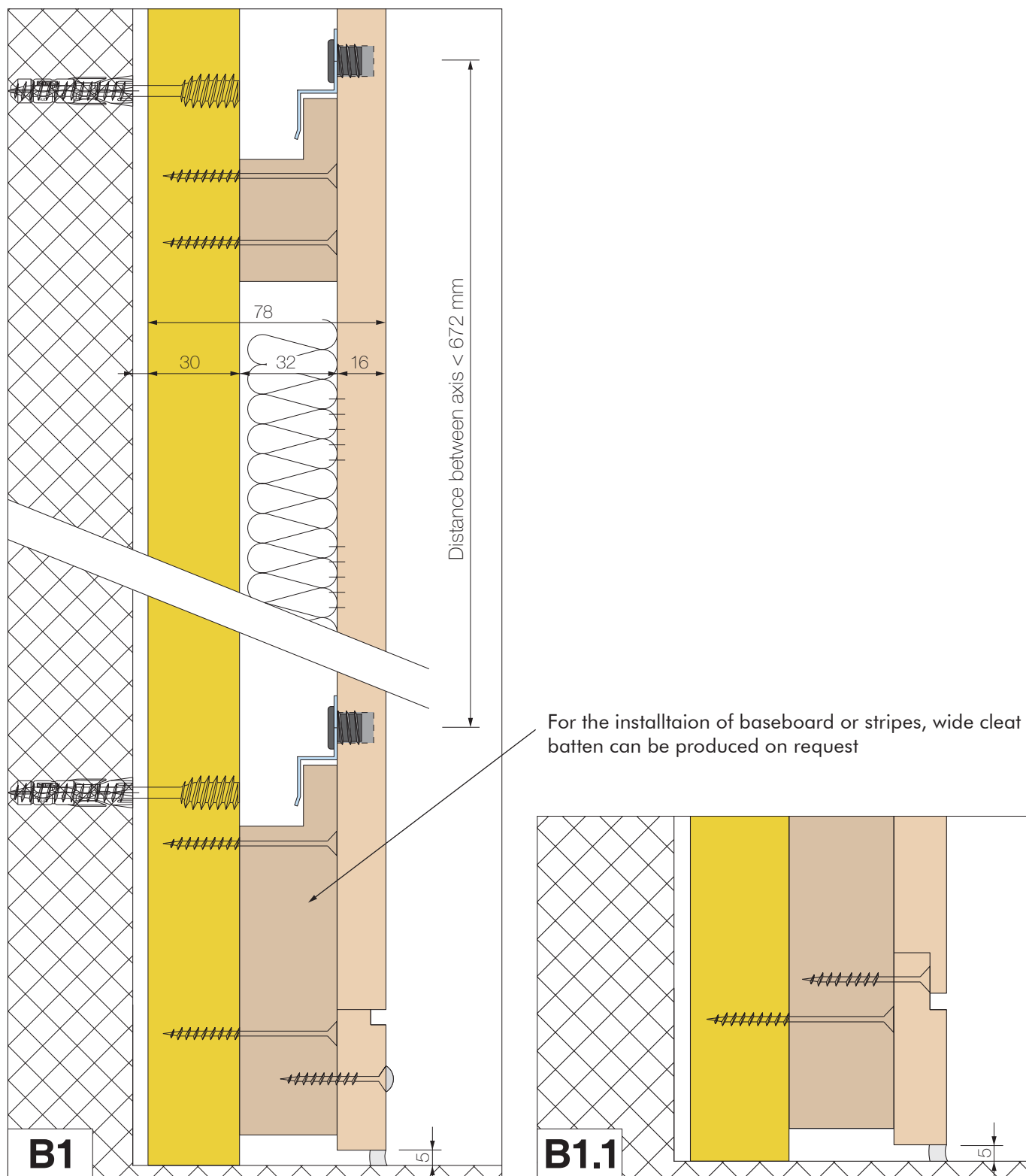
## Cleat - versions / EpM Basicprofile / EpM Hook-in-profile:

Picture	Label	Type Number	Length
	Cleat with rebated joint 4000 x 60 x 32 mm, MDF D-s2, d0	24.4011	4000 mm
	Cleat with rebated joint 4000 x 60 x 32 mm, MDF B-s2, d0	24.4012	4000 mm
	Cleat with rebated joint 3000 x 60 x 32 mm, RESAP® EN A2	24.4013	3000 mm
	Cleat with rebated joint 4000 x 60 x 16 mm, MDF D-s2, d0	24.4014	4000 mm
	Cleat with rebated joint 4000 x 60 x 16 mm, MDF B-s2, d0	24.4015	4000 mm
	Cleat with rebated joint 3000 x 60 x 16 mm, RESAP® EN A2	24.4016	3000 mm
	EpM Base profile steel	24.4017	2500 mm
	EpM-hook-in-profile	24.4010	2500 mm

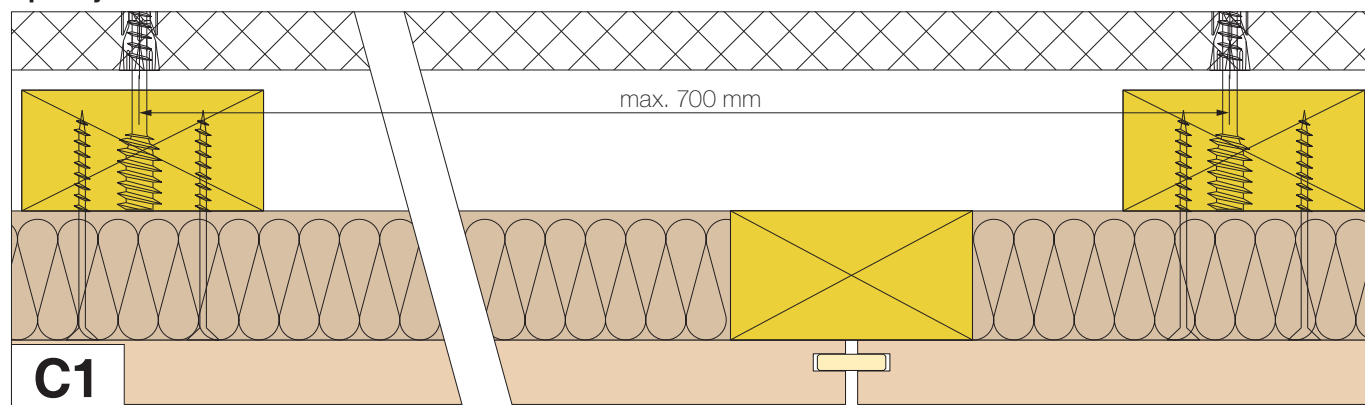
### EpM Profil Part #24.4010



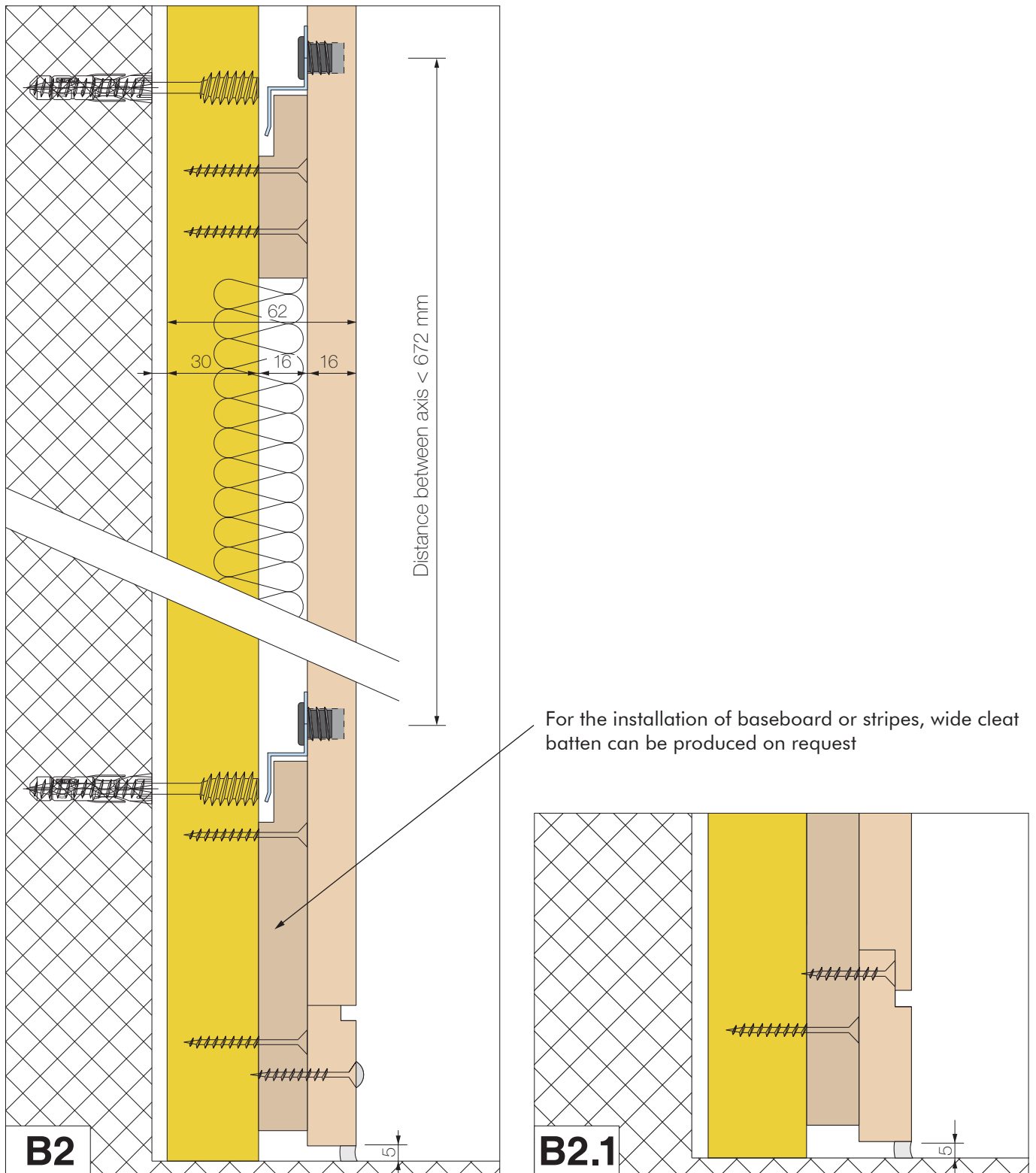
## EpM-system side section Option with basic grid in wood and 32 mm cleat with rabbeted joint



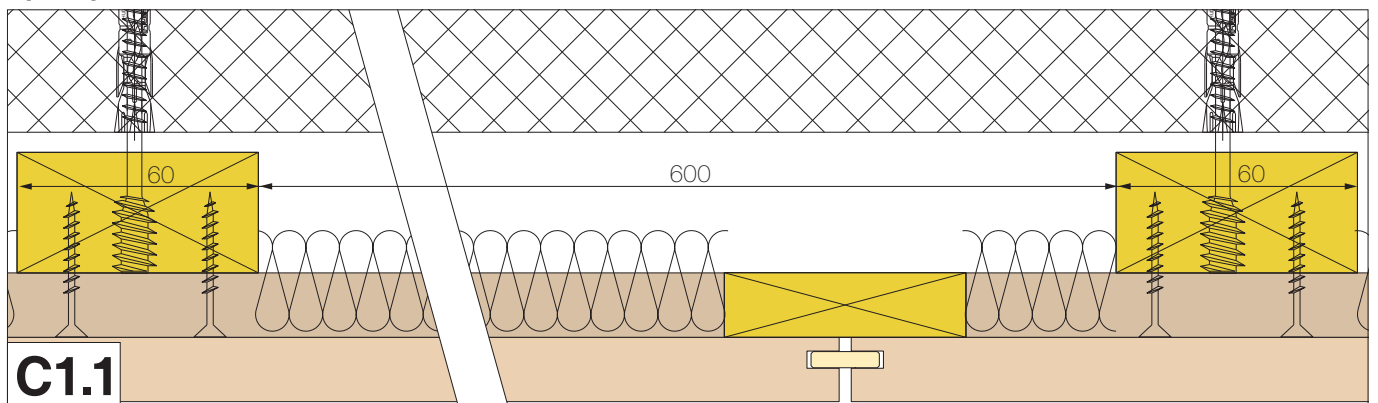
## EpM-system horizontal section



## EpM-system side section Option with basic grid in wood and 16 mm cleat with rabbeted joint

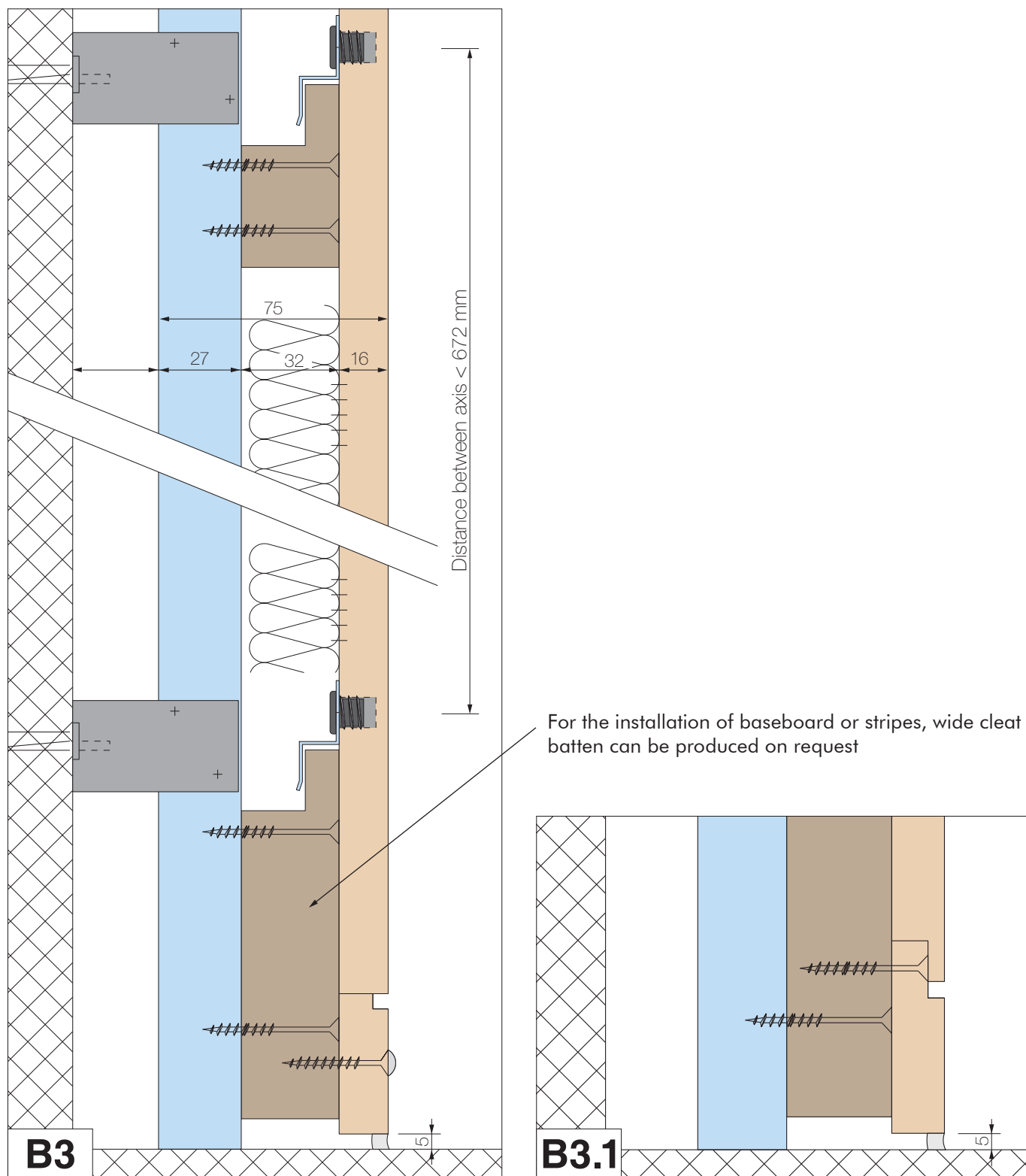


## EpM-system horizontal section

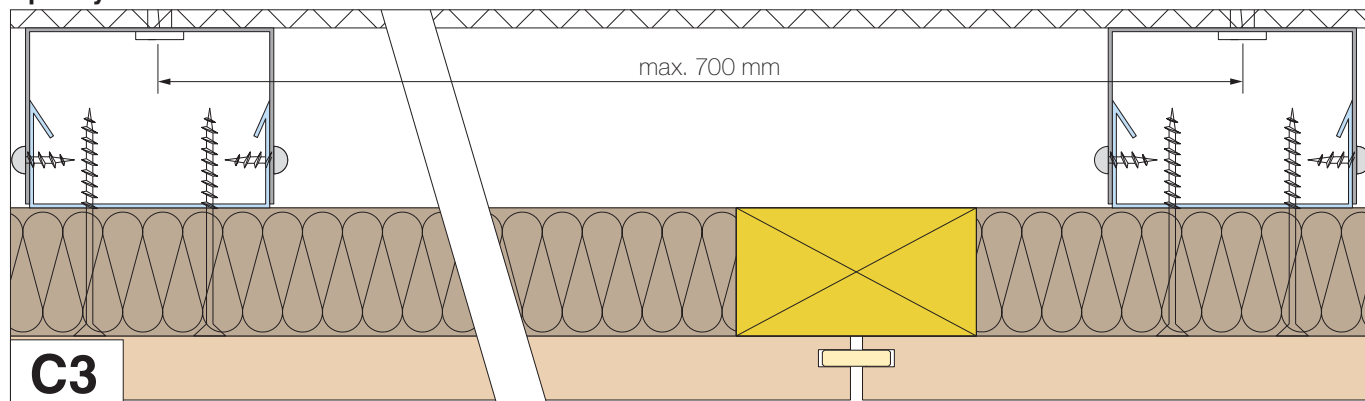




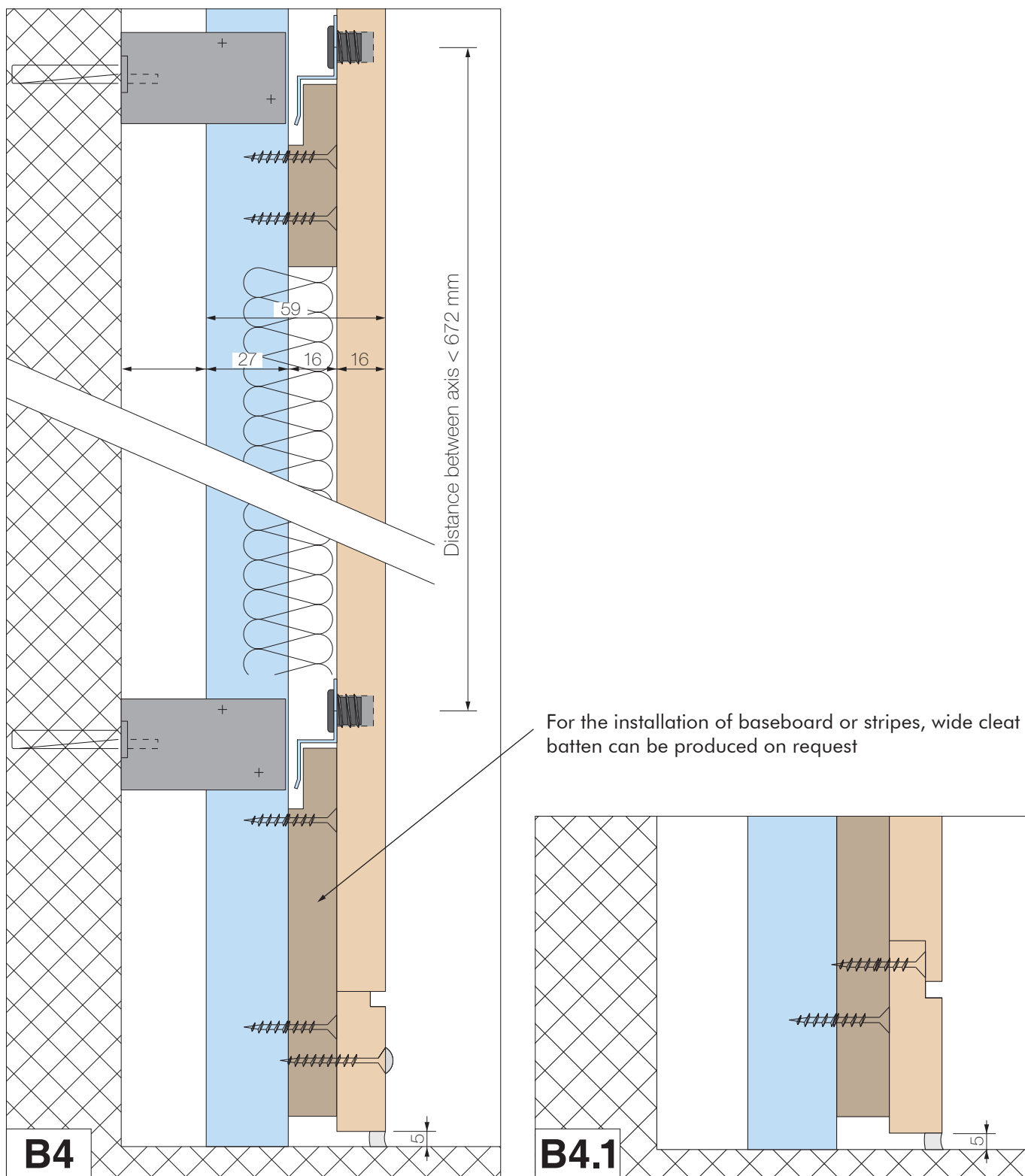
## EpM-system side section Option basic grid in steel (CD profile 60/27 mm) and 32 mm suspension strip



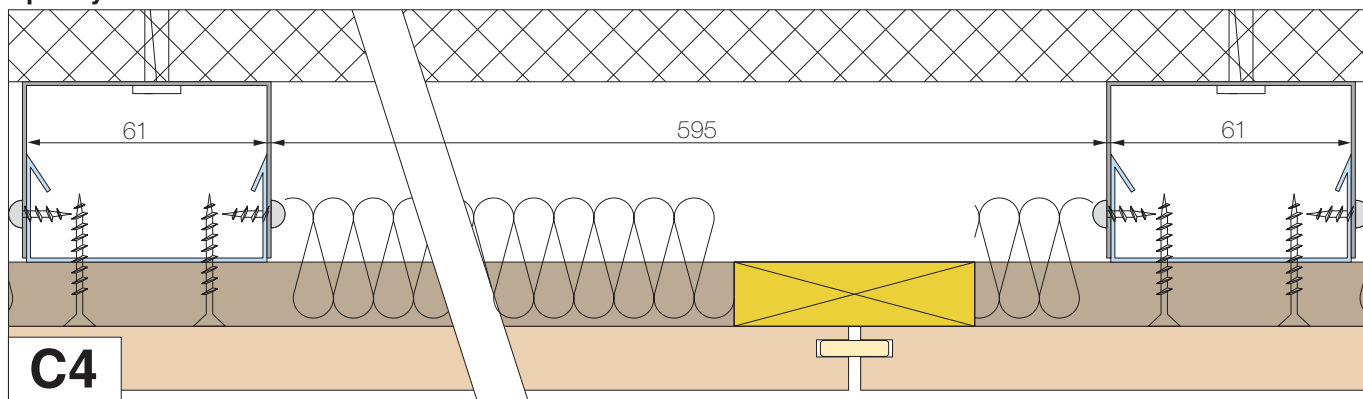
## EpM-system horizontal section



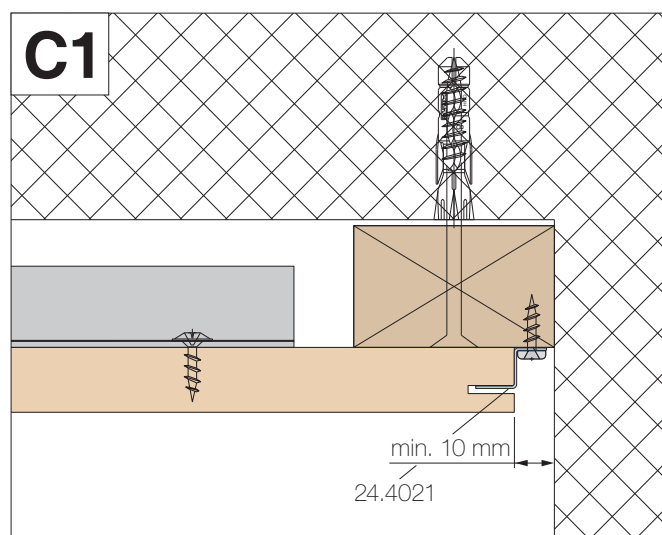
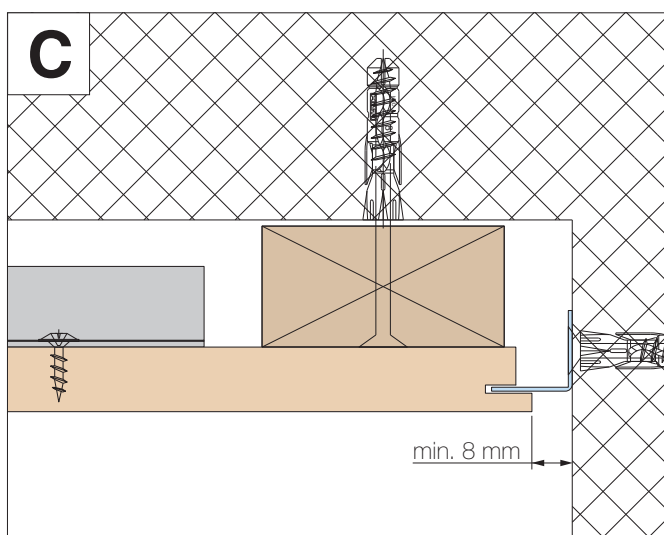
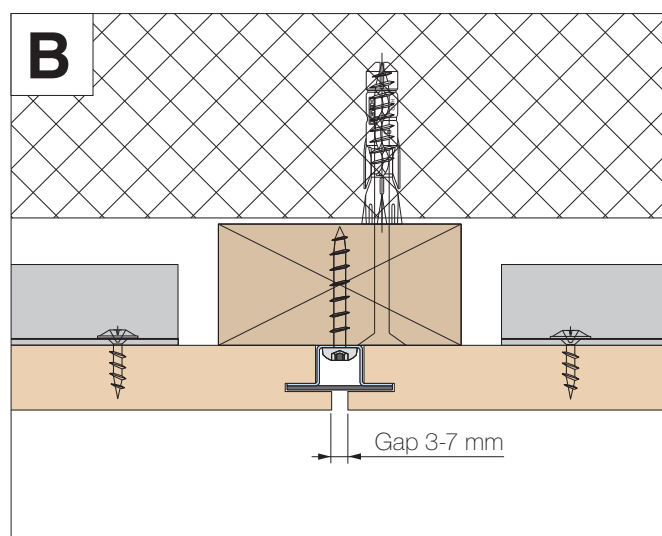
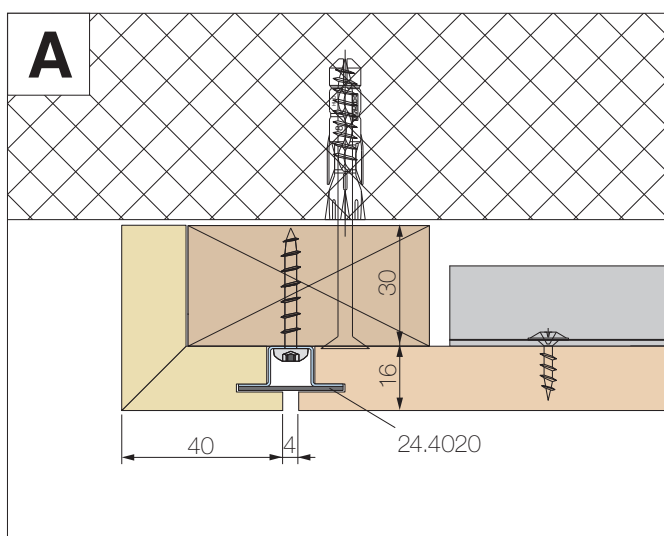
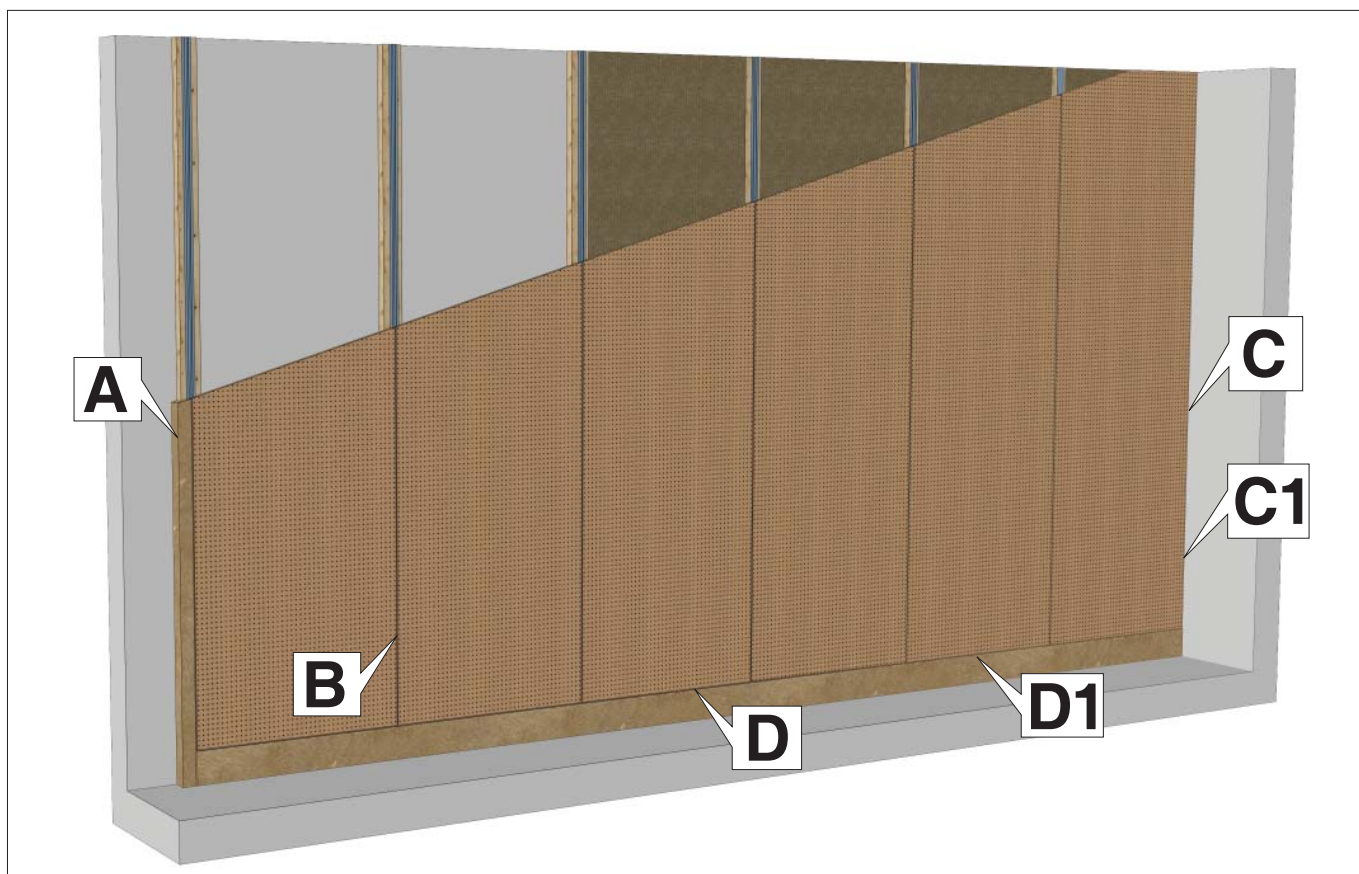
## EpM-system side section Option basic grid in steel (CD profile 60/27 mm) and 16 mm suspension strip



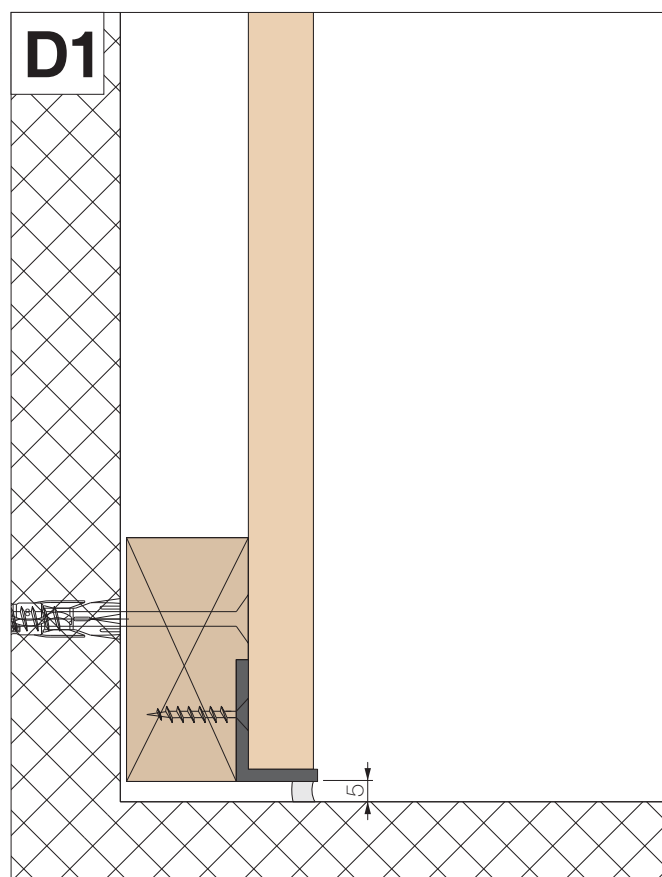
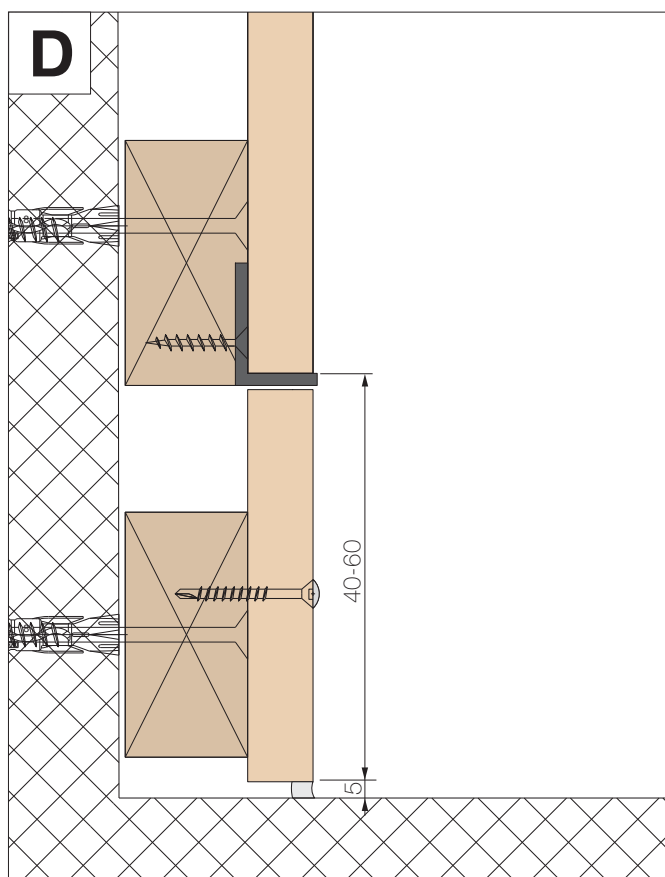
## EpM-system horizontal section



## Hat-profile for wall installation







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