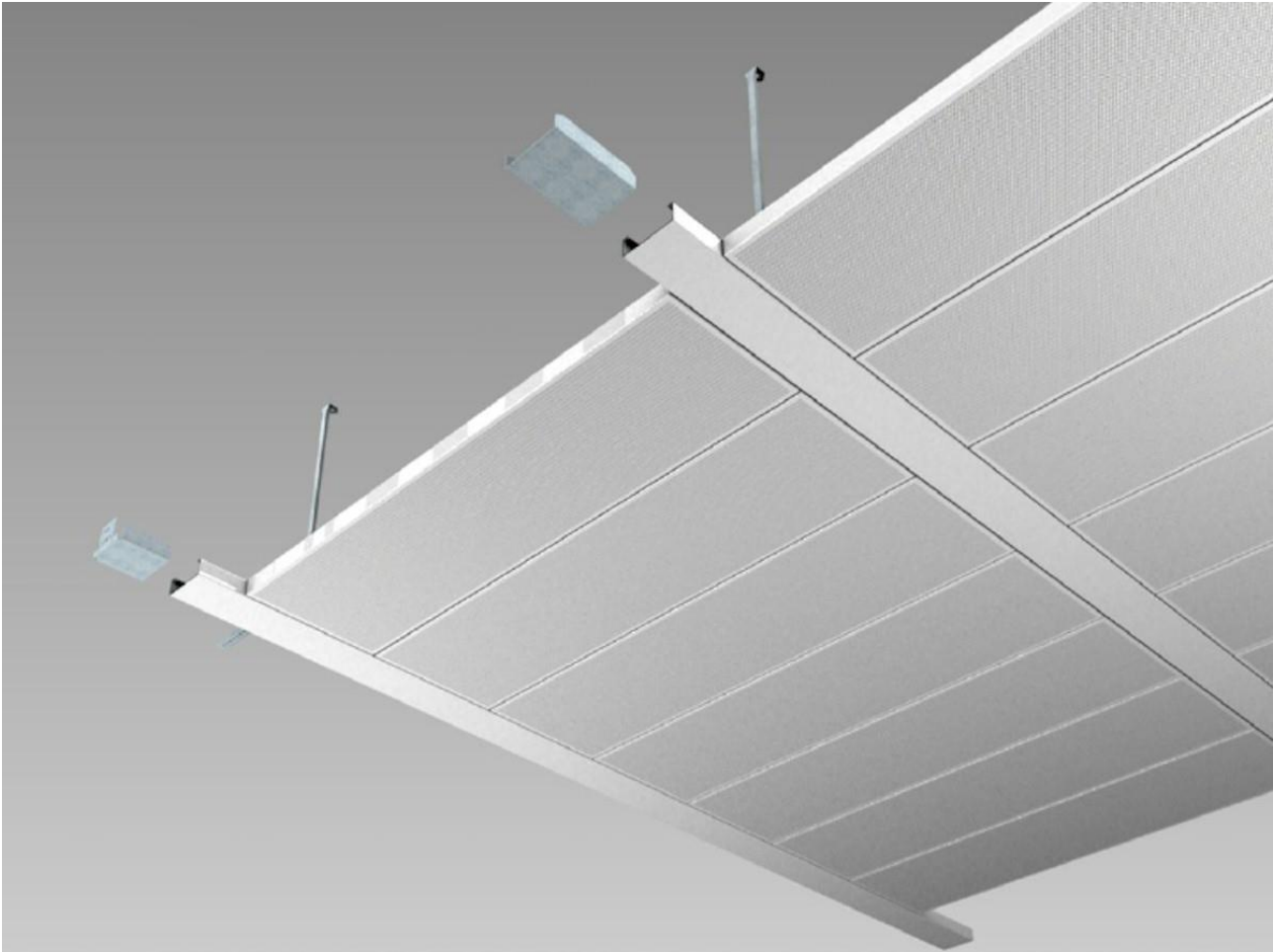


LMD-B 100

Linear Post Cap ceiling
Ceiling panels – Lay-In Type
Standard installation

Illustration 1



1. LMD-B 100 metal ceiling panel
6. L-angle
8. Vernier hanger upper section
9. Vernier safety split pin
54. C-post cap
55. Vernier hanger lower section
56. Longitudinal connector for C-post cap
57. Wall connecting bracket
78. Self-drilling screw

Index of contents	Page
1. Safety instructions	3
2. Additional documents	3
3. Preparation of installation	4
3.1. Constructional precondition	4
3.2. Storage information/delivery of the material	5
3.3. Disposal of residual material	6
3.4. Surface protection	6
4. Structural condition for installation	6
4.1. Partitions	6
4.2. Raw ceiling	7
4.3. Determining the type of fastening	7
5. Fixings	8
5.1. Raw ceiling	8
5.2. Massive walls	8
5.3. Plasterboard partitions	8
6. Wall connections	8
6.1. Installation of wall connection profiles	8
7. Installation of substructure	9
7.1. Vernier suspension	9
7.2. Installation of C-post cap	11
7.3. Installation of bracing	12
8. Installation/Removal of ceiling panels	13
8.1. Installation of metal ceiling panels	13
8.2. Removal of metal ceiling panels	14
9. Cut panels	15
9.1. Custom-fit panel with factory-provided U-turn-up	15
9.2. Custom-fit panel with factory-provided Z-turn-up	16
9.3. Preparation of cut panels	17
9.4. Securing custom-fit panels by means of hold-down sheets	18
9.5. Edging of custom-fit panels on site	19
9.6. Securing custom-fit panels by means of a U-profile	20
9.7. Cutting of custom-fit panels on two sides (recommendation)	21
9.8. Incorrect types of custom-fit panels	22
10. Preparation of cut-out	22
11. Installation of lighting units/ventilations or other fixtures	23
11.1. Securing ceiling panels	24
12. Constructions not covered by this installation guideline	25
13. Check list	26

1. Safety instructions

- The installation has to be carried out with the necessary carefulness so that neither oneself nor another person is endangered by the installation and so that every other kind of damage is avoided
- Necessary measures concerning the security on site, e.g. barriers and protective equipment, have to be taken
- The national regulations for operational safety have to be regarded
- The assembly operation is fully liable for the conformity of the system
- The metal ceiling may only be installed by qualified persons with the necessary technical knowledge, training, instructions and qualifications
- The centre distances, minimum supporting surface and fixing of the ceiling panels have to be constantly checked during the installation of the ceiling system. The minimum supporting surface has to be guaranteed in spite of installation/removal or moving of single ceiling panels
- Changes on the ceiling system or the use of foreign material cause variances of the technical characteristics of the metal ceilings and have to be agreed upon with the manufacturer
- Other ceiling systems and combinations with other types of ceilings may only be used in accordance with the manufacturer
- Basically it is only allowed to use materials according to the corresponding manufacturer's instructions
- The installation has to be carried out corresponding to this instruction. This document is without entitlement of completeness. Variances have to be clarified with the manufacturer
- Metal ceilings are, without a former clarification with the manufacturer, not adapted for the support of additional loads or for the fastening of partitions
- It is strongly recommended to fill out the check list for every component and to keep it with the documents for building structure
- Standard metal ceilings are only applicable for interior rooms. Additional requirements, for example the use in outdoor or swimming baths, have to be treated severally and have to be prearranged project-oriented

2. Additional documents

Additional to this installation guideline, the following documents can be consulted if required:

- DIN EN 13964
- TAIM – Instructions for installation and application (<http://www.taim-ev.org>)
- Installation Guideline Plafotherm® B 100
- Installation Guideline LMD-B 100/110/111 Type 4/5
- Cleaning instruction for metal ceilings

3. Preparation of installation

3.1. Constructional precondition

3.1.1. Surroundings

It is the task of the client to make sure that the access to the construction site is sufficiently accessible for 40 t-vehicles.

Only specifically authorised assembly personnel are allowed to open or close the ceiling until the approval of the ceiling. These assemblers have to possess specialised knowledge and appropriate tools.

The client has to make sure that the place of installation is in close proximity provided with an appropriate location for stock and detrital container as well as an electrical connection.

3.1.2. Preface

For the installation of metal ceilings, minimum requirements concerning structures, logistics, adjustment of the building services, environment, climate etc. have to be respected.

To permit an orderly installation, certain basic prerequisites have to be secured before the assembly starts. These are not part of the scope of services of the Lindner AG or the installation company and have to be fulfilled by the client.

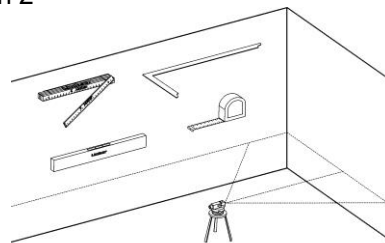
Scopes of application and demands on metal ceilings are specified in the 'TAIM' guidelines (editor TAIM e.V.) and are met by Lindner metal ceilings, as far as nothing else is agreed upon. 'TAIM' guidelines are available on demand.

Requirements and applications which deviate from this, for example special requirements concerning security, special conditions of the operation and the climate, surfaces, additional loads, wind loads etc., have to be regarded by the client within his planning.

3.1.3. Benchmarks

Benchmarks of height and determination of axes have to be provided by the client. These have to be dimensioned in such a way that no measured lengths exceeding 30 m per storey will be necessary for the marking for the ceiling installation.

Illustration 2



3.1.4. Environmental conditions

If no special specifications have been agreed upon, DIN EN 13964 table 7, class A and the environmental conditions of a relative air humidity up to 70% and a relative temperature up to 25°C mentioned in it are considered as agreed. It is only allowed to start the installation of the metal ceilings if the room is dried and the facade is closed. Condensate formation in the ceiling void has to be obviated by the client. High humidity has to be subsequently obviated to avoid corrosion or mildew on mineral surfaces.

As far as further demands occur due to the application in exterior areas, high air humidity or low strain of chloride, these have to be extensively specified and agreed upon.

3.1.5. Integration of benchmarks and the handling of constructional tolerances on site

Illustration 3

Finished buildings and their benchmarks often diverge from their intended position according to the plan. It is advised to arrange such an inspection according to the national norms and rules, to create reflected ceiling plans and plans for the order, which are based on actually existing dimensions and to retain and evaluate discrepancies in measurement concerning the planning, ordering and installation of the ceiling at the earliest.

The integration of benchmarks, for example of facade grids or pillars, has to be tested in due time.

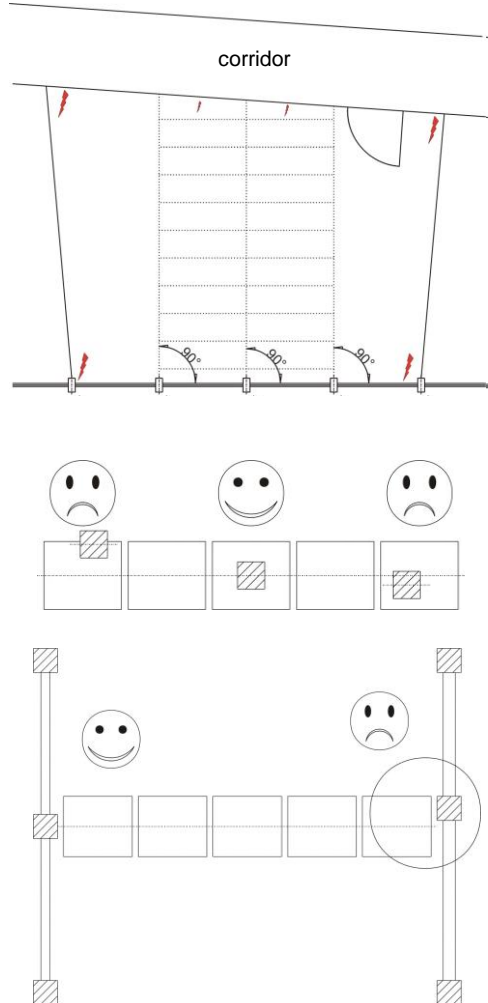
It is possible that position and alignment of the facade pillars etc. do not exactly conform to the condition according to plan.

In conjunction with the precise alignments of the metal ceilings this can appear visibly unpleasant and if it is disregarded it can result in complaints.

Custom-fit, special panels or other measures may be reasonable.

The consequences of the above-mentioned inspections, for example the direction of installation, definition of the alignments, position of custom-fit panels and so on, have to be detected and defined by the assembly operation in cooperation with the planner of the building and is not among the manufacturer's area of responsibility.

It is advised that the assembly operation notifies the planner of the building as soon as possible about discrepancies in measurement and that the assembly operation effects an approval for the solution that has to be realised.



3.2. Storage information/delivery of the material

Illustration 4

Please check all materials thoroughly for damages before the installation starts. We have to reject claims in an inbuilt condition.

Do not store the metal panels outdoor and protect them against moisture and insolation!

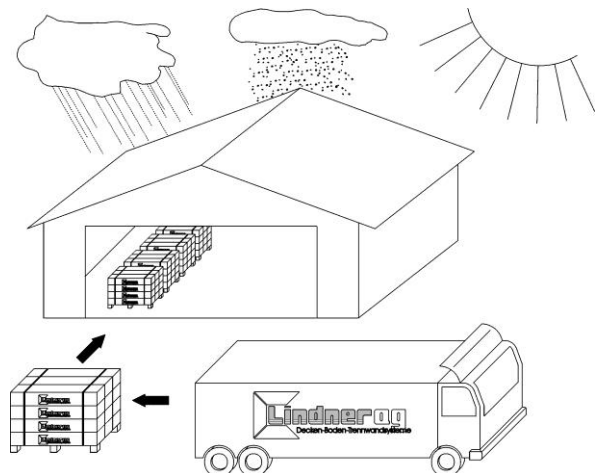
If metal panels are delivered on pallets or in wooden boxes, the panels have to be stored there until installation.

The metal panel packages have to be stored holohedral, even and dry, as well as with the direction of the arrow upwards.

Maximum three rows of packages may be stacked one upon the other. The second row has to be stacked rotated 90° to stabilise the stack

If a longer period of storage is planned, the manufacturer has to be previously asked.

The following annotations concerning the protective foil have to be regarded.



3.3. Disposal of residual material

The disposal of metal ceiling waste does not pose an unusual threat with possibly sharp-edged components provided that the waste is handled with adequate care and appropriate personally well-fitting protective equipment is worn (for example protective gloves, safety shoes, helmet, safety glasses etc.).

Metal ceilings do not contain harmful substances which endanger the health according to the guideline 67/548/EWG.

Waste has to be disposed according to the respective regionally-binding regulations (for example the law of circular flow economy and the waste management law, packaging ordinance etc.).

Basically it is not allowed to dispose construction waste, which is contaminated with harmful substances, at domestic refuse dumps. This construction waste has to be transported to facilities for special waste which are built for that purpose.

Nationally and regionally-binding regulations have to be adhered to e.g. packaging ordinances, whereby all packages have to be returned to the economic cycle.

Separation of waste generated on site is recommended to avoid collateral mixing. The separation of the waste generated on site has to be anticipated and has to be coordinated for each individual case.

Regionally valid waste codes have to be respected.

3.4. Surface protection

3.4.1. Powder-coated ceiling panels

To protect the surface, powder-coated ceiling panels are packaged back-to-back.

Adjacent visible sides are protected against scratches by means of foam strips during the transport.

These have to be removed before the installation of the panels.

3.4.2. Ceiling panels with protective foils

To protect surfaces which are not powder-coated, the surfaces are furnished with protective foils.

Steel sheet:

The protective foil can be removed from steel sheet after 4 – 5 months after the delivery of the ceiling panels.

Aluminium/stainless steel:

With aluminium/stainless steel ceiling panels with transparent foil (not UV resistant), the foil should be removed within 4 weeks after delivery.

With aluminium/high-grade steel ceiling panels with non-transparent foil, for example white or black (UV resistant), the foil should be removed within 3 months after delivery.

Due to the influence of strong UV radiation (for example in the area of the facades) these periods can be shorter.

Please notice that the expiration of this period may make it difficult to remove the foil properly and as a consequence of this, it may be possible that residues from the foil respectively adhesive will remain on the surface of the panels. In this case great cleaning effort has to be expected.

For cleaning works the cleaning instructions have to be regarded.

Please consult the manufacturer for the removal of adhesive residues with detergents.

4. Structural condition for installation

4.1. Partitions

Are the partitions to which the ceiling will be installed to sufficiently stable to bear the respective occurring loads?

→ no →

Call the
construction
management

↓
yes
↓

Shall the ceiling be fastened to massive walls? → yes → see part 4.2

↓
no
↓

Shall the ceiling be fastened to plasterboard partitions? → yes → see part 4.2

↓
no
↓

Shall the ceiling be fastened to other light weight partitions or bulkheads? → yes → Call the manufacturer

4.2. Raw ceiling

Is the structural condition for installation known?

→ no → Call the construction management

↓
yes
↓

see part 4.3

4.3. Determining the type of fastening

Depending on the strain on the ceiling system, the structural condition for installation and the type of fastening (for example anchors), the fastening distance has to be defined. Thereby do not overload anchors, suspension, connectors, profiles and panels! (Necessary load securities have to be respected). National directions have to be observed.

Only anchors or fasteners with a valid verification (for example a building-authority approval, see the respective national rules as well as the "TAIM" guidelines) have to be used.

→ no → Call the manufacturer

↓
yes
↓

If all conditions are met you can start with the installation of the ceiling system!

5. Fixings

Safety instruction:

- Depending on the strain on the ceiling system, the structural condition for installation and the type of fastening (for example anchors) the fastening distance has to be defined!

5.1. Raw ceiling

Safety instructions:

- Only anchors approved by ETA or a building authority may be used
- The anchor has to be precisely fixed according to the instructions of the anchor manufacturer!

5.2. Massive walls

Safety instructions:

- Only anchors approved by ETA or a building authority may be used
- The anchor has to be precisely fixed according to the instructions of the anchor manufacturer!

5.3. Plasterboard partitions

Safety instructions:

- For the installation to plasterboard partitions special anchors with a test certificate have to be used!
- The anchor has to be precisely fixed according to the instructions of the anchor manufacturer!
- The installation to plasterboard partitions has to be executed directly in the metal substructure!

6. Wall connections

6.1. Installation of wall connection profiles

Notice:

- Standard distance between the fasteners is max. 625 mm. Depending on additional loads, condition of the walls and special requests, the standard fastener distance is smaller

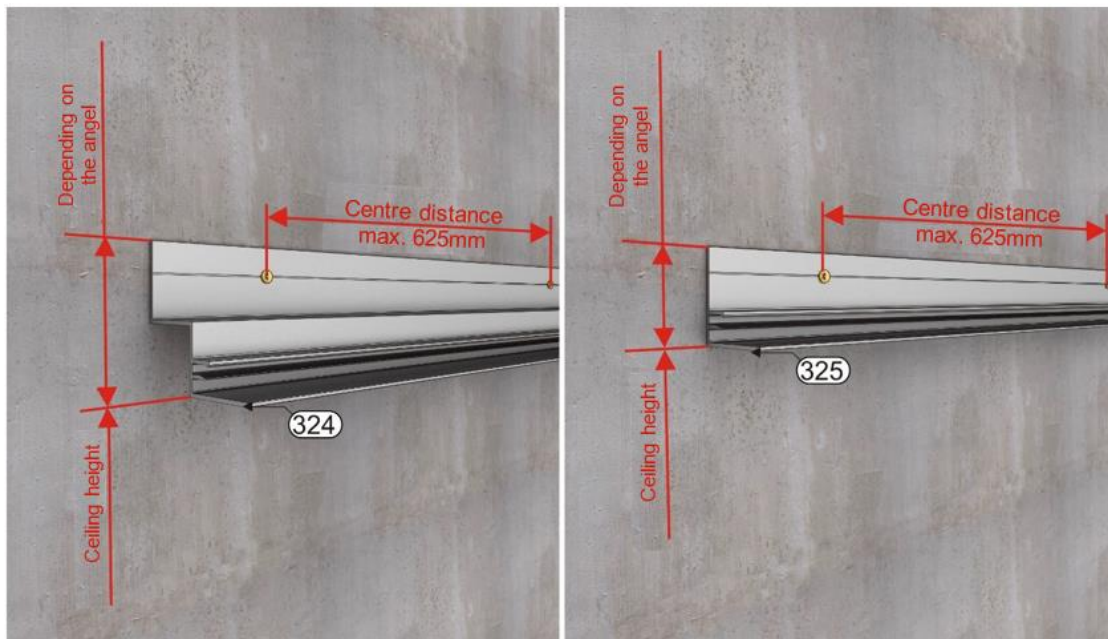
6.1.1. Materials

Pos. No. 325		Pos. No. 324		
L-angle (00098195) Aluminium, RAL 9010		Shadow gap trim (00098281) Aluminium, RAL 9010		Anchor Type depending on structural condition for installation

6.1.2. Installation process

- Level out the preset ceiling height and mark it circumferentially
- Mark the top edge of the perimeter trim (Pos. No. x) (for example with a chalk line)
- Mark the location of the drill hole
- Drill a hole for the anchor and fix the perimeter trim (Pos. No. x) with the anchor
- The edges of the perimeter trim profiles (Pos. No. x) have to be blunted or according to requirements they have to be cut cleanly to miter

Illustration 5



7. Installation of substructure

7.1. Vernier suspension

7.1.1. Materials

Pos. No. 8

		
Vernier hanger upper section Type depending on required length	Anchor Type depending on structural condition for installation	

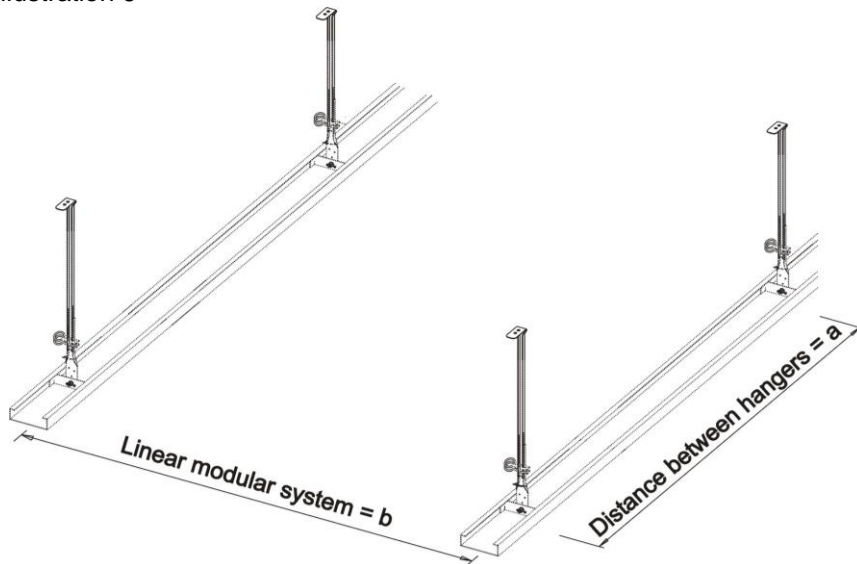
7.1.2. Fastening distances: centre distance to distance between hangers

Notice:

- The following recommendation for the centre distance does only correspond to standard ceilings with a maximum panel length of 3000 mm without additional loads, as far as nothing else is specified. Intermediate sizes have to be adapted to the ratio (grid/hanger distance)

Centre distance / Hanger distance					
Grid b in m	up to 1.00	up to 1.50	up to 2.00	up to 2.50	up to 3.00
Hanger distance a in m	2.00	1.40	1.10	0.90	0.75

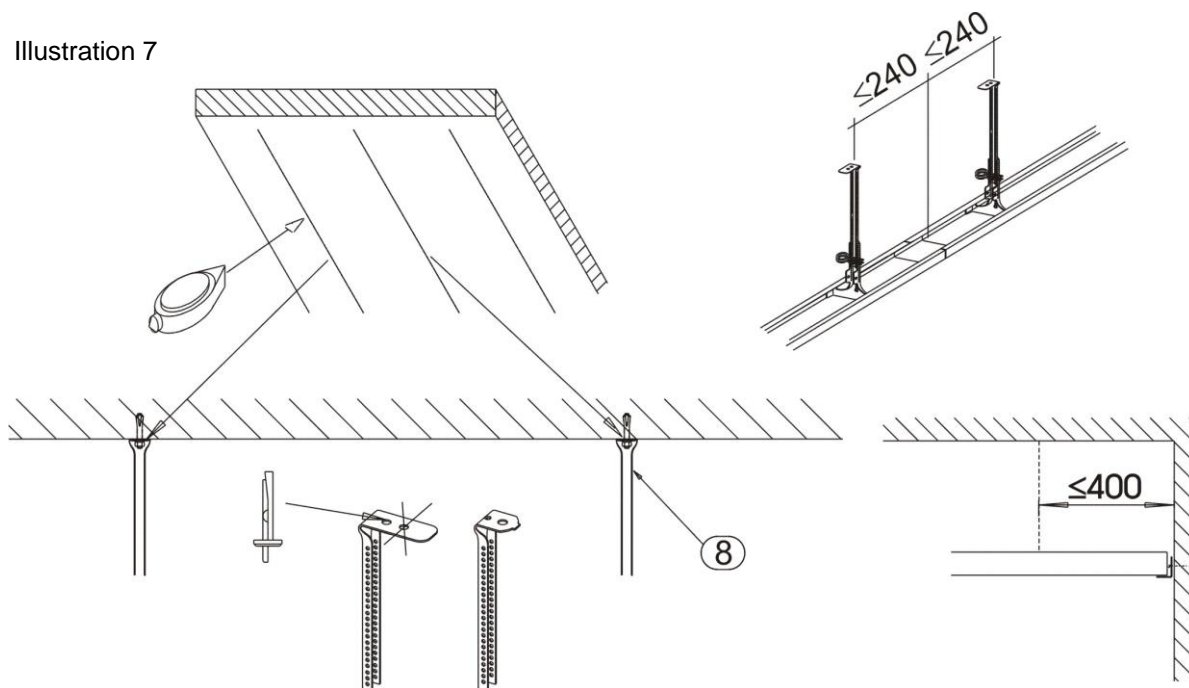
Illustration 6



7.1.3. Installation process

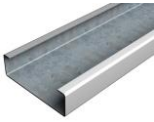





- Mark centre distance for C-post cap grid (Pos. No. 54)
- Determine fastening point for vernier hanger upper sections. The fastening distance between partition and first hanger must not exceed 400 mm and the distance between the junction of C-post caps and first hanger must not exceed 240 mm
- Drill a hole for the anchor
- Fasten vernier hanger upper section (Pos. No. 8) with the anchor according to the instruction of the manufacturer

Illustration 7



7.2. Installation of C-post cap

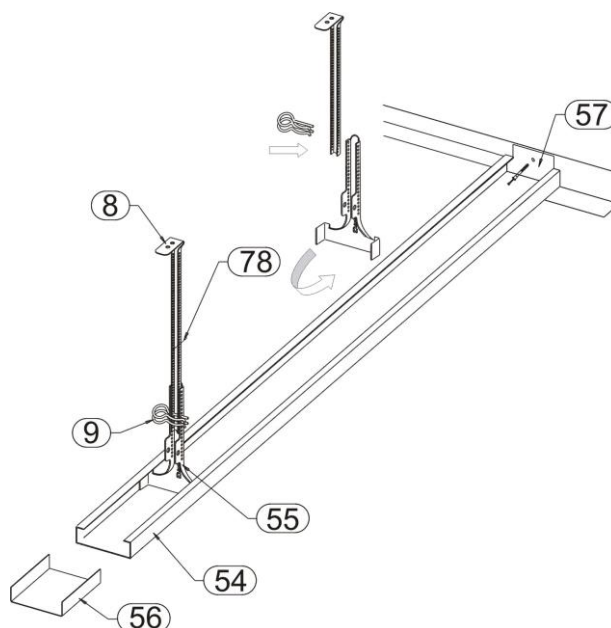
7.2.1. Materials

Pos. No. 54 	Pos. No. 55 	Pos. No. 9 
C-post cap Depending on design	Vernier hanger lower section Depending on C-post cap	Vernier safety split pin (00026789)
Pos. No. 57 	Pos. No. 56 	
Wall connecting bracket Type depending on design	Longitudinal connector Type depending on design	Anchor Type depending on structural condition for installation

7.2.2. Installation process

- Cut the C-post cap (Pos. No. 54) to the required length
- Insert wall connecting bracket (Pos. No. 57) at the ends of the C-post caps
- Insert vernier hanger lower section (Pos. No. 55) in the C-post cap (Pos. No. 54) at the suspension points
- Align C-post cap (Pos. No. 54) horizontally and vertically for the preset ceiling height
- Fasten the vernier hanger lower sections (Pos. No. 55) by means of two vernier safety split pins (Pos. No. 9) to the vernier hanger upper sections (Pos. No. 8)
- If a C-post cap (Pos. No. 54) has to be extended, a longitudinal connector (Pos. No. 56) has to be inserted in the area of the C-post cap abutment
- Please consider that maximum height tolerances according to DIN EN 13964 for the height adjustment of the ceiling as well as additional deflection resulting from other components to be installed in the course of installation have to be respected (profiles, connectors for top layer, permitted additional loads)
- Fasten wall connecting bracket (Pos. No. 57) by means of an anchor to the partitions

Illustration 8






7.3. Installation of bracing

Notice:

- The fastening of perforated angles on vernier hanger upper sections must not exceed a distance of 3000 mm
- This bracing by means of perforated angles does not serve as fastening structure for partitions on C-post caps
- Additional bracings for the fastening of partitions have to be preset separately according to static requirements by the manufacturer

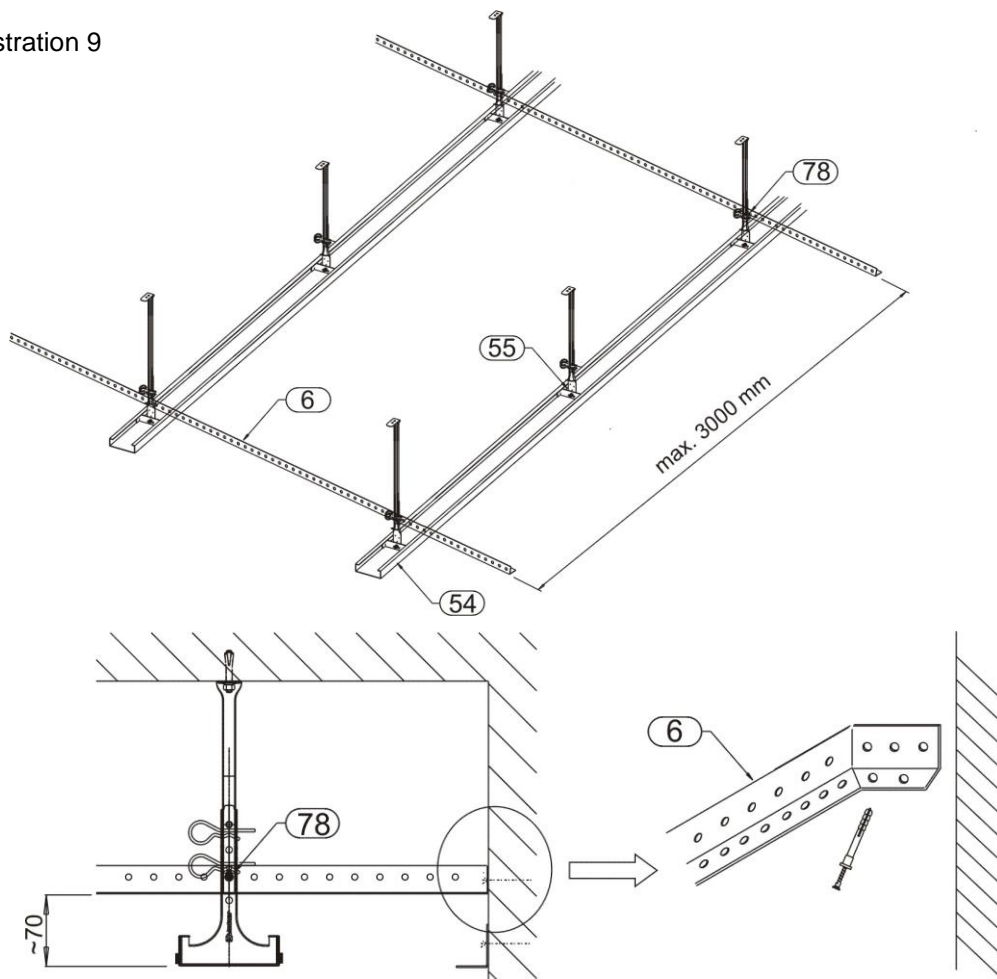
7.3.1. Materials

Pos. No. 6	Pos. No. 78	
		
Perforated angle (00091260)	Self-drilling screw (00027524)	Anchor Type depending on structural condition for installation

7.3.2. Installation process

- Cut perforated angle (Pos. No. 6) to the required length
- For the fastening on partitions the perforated angle (Pos. No. 6) has to be recessed and bent 90° to miter
- Fix perforated angle above the post caps (Pos. No. 54) by means of a self-drilling screw (Pos. No. 78) to the vernier hanger lower section (Pos. No. 55)
- Fix perforated angle (Pos. No. 6) by means of an anchor to the partition

Illustration 9



8. Installation/Removal of ceiling panels

Safety instruction:

- Use only stable ladders or scaffolds!

8.1. Installation of metal ceiling panels

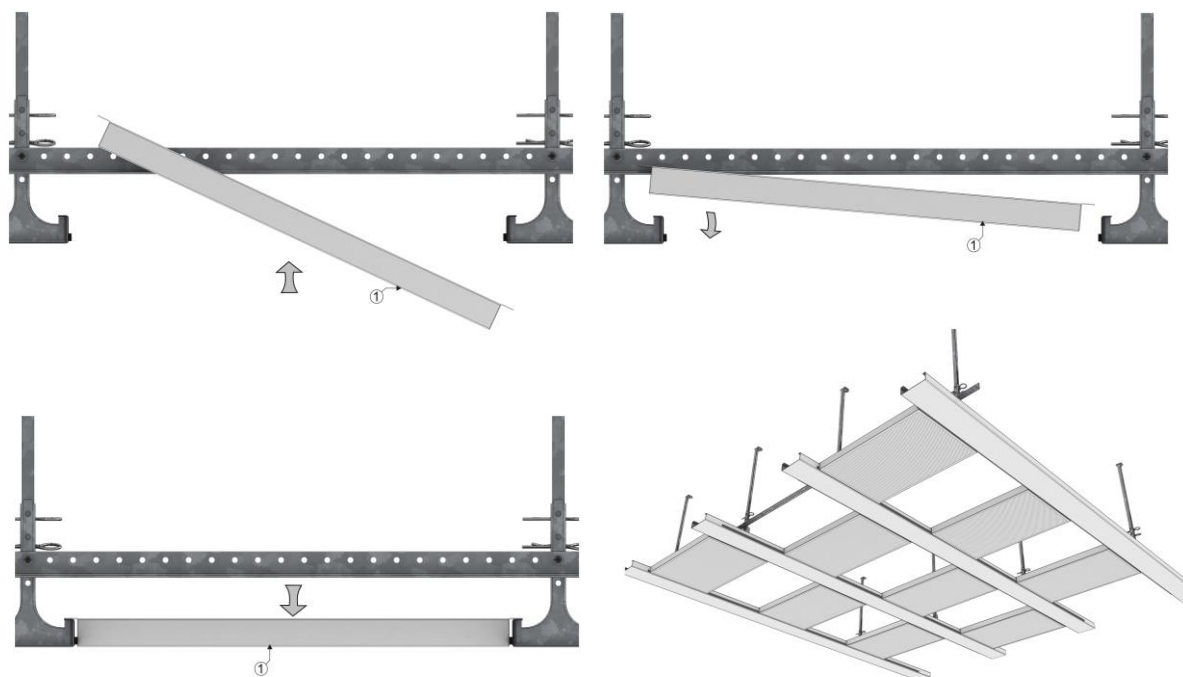
8.1.1. Material

Pos. No. 1			
Ceiling panel		Cotton gloves	

8.1.2. Installation process

- Clean cotton gloves should be worn
- Remove the protective foil of the ceiling panels (Pos. No. 1) if applied
- Lift ceiling panels (Pos. No. 1) inclined over the post cap (Pos. No. 54)
- Lower ceiling panel (Pos. No. 1) slowly and deposit it on the C-post cap (Pos. No. 54)
- Unbalanced loads on the C-post cap (Pos. No. 54) caused by wrong arrangement of the ceiling panels (Pos. No. 1) have to be avoided (right arrangement – see illustration 10)
- Check the joint for rectangularity and a consistent width of 3 mm
- Pay attention to an even run of the longitudinal joint through the entire room!

Illustration 10



8.2. Removal of metal ceiling panels

8.2.1. Material

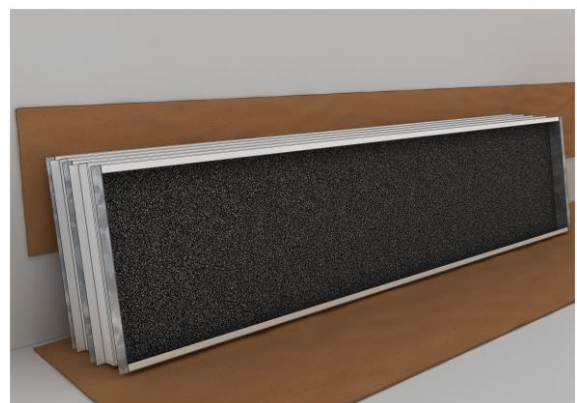
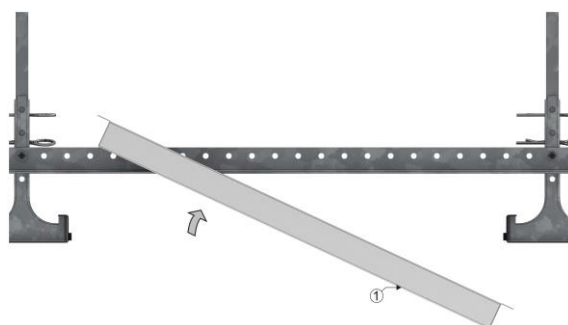
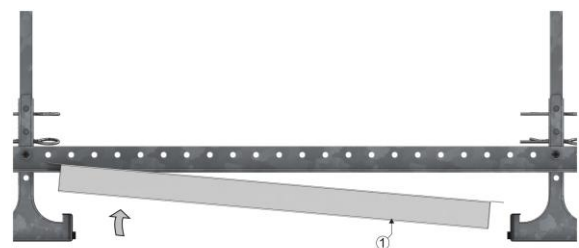
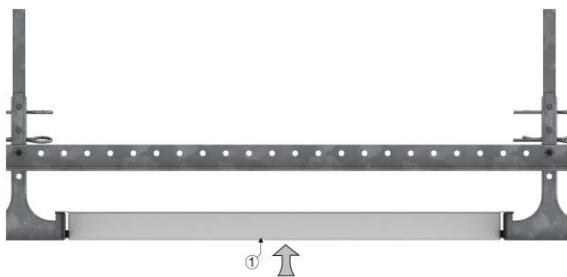


Cotton gloves

8.2.2. Removal process

- Clean cotton gloves should be worn
- Lift the ceiling panel (Pos. No. 1)
- Lower ceiling panel inclined in between the C-post caps (Pos. No. 54)
- Unbalanced loads on the C-post cap (Pos. No. 54) caused by wrong arrangement of the ceiling panels (Pos. No. 1) have to be avoided (right arrangement – see illustration 10)
- Lower the ceiling panel (Pos. No. 1) carefully and store it secure from damages

Illustration 11



9. Cut panels

Safety instruction:

- Depending on the kind of tool for the preparation of cut panels resp. cut-outs inside the panel, the respective safety regulations have to be respected (e.g. safety glasses, protective gloves etc. have to be worn)!
- Depending on the type of perimeter trim, the necessary minimum supporting surface of the custom-fit panel (Pos. No. 608) has to be respected.
If one type of perimeter trim is unmentioned, please confer with the manufacturer.
- The custom-fit panel (Pos. No. 608) may not detach itself from the perimeter trim or the substructure by means of moving it. A minimum area of support has to be guaranteed. If necessary, the custom-fit panel has to be secured against movement with additional security measures.

9.1. Custom-fit panel with factory-provided U-turn-up

Notice:

- The custom-fit panel (Pos. No. 608) is provided with an additional U-turn-up which keeps the panel in place and prevents it from movement and slipping off the post cap.

9.1.1. Material

Pos. No. 608



Custom-fit panel

Illustration 12



9.2. Custom-fit panel with factory-provided Z-turn-up

Notices:

- The ceiling panel Pos. No. 1 is used as custom-fit panel Pos. No. 608.
- 2 fastening clamps (Pos. No. 157) have to be installed with ceiling panel widths exceeding 600 mm

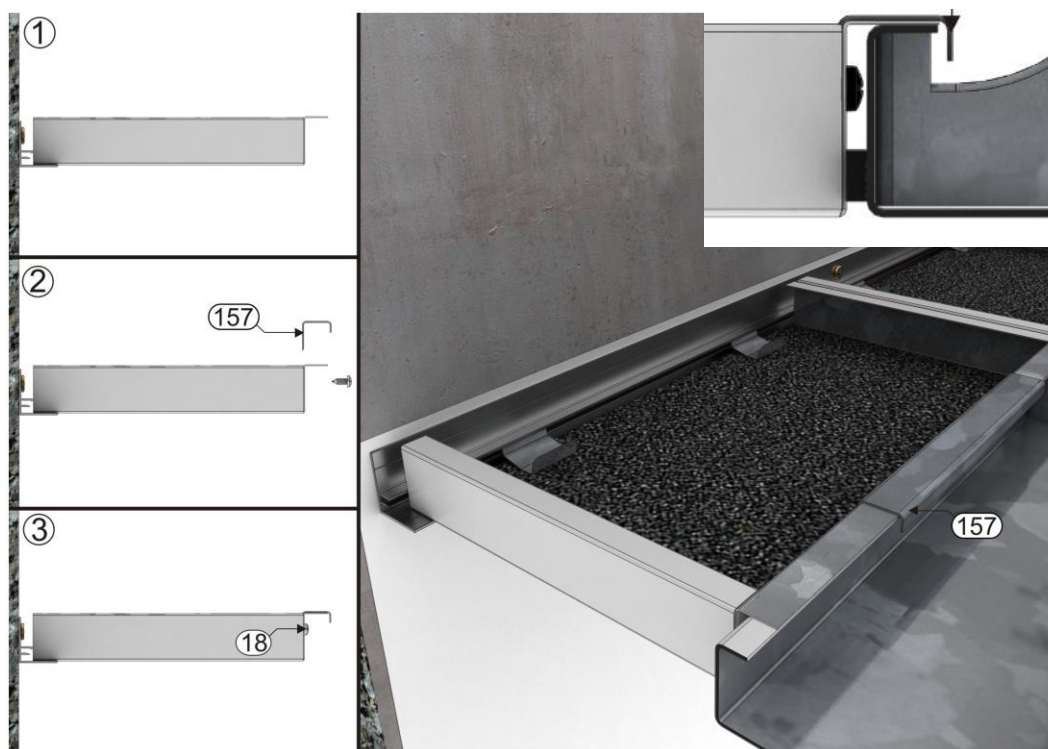
9.2.1. Material

Pos. No. 1		Pos. No. 157		Pos. No. 18	
Ceiling panel		Fastening clamp (00036227)		Self-drilling screw (00027521) SBS 3.9x11	

9.2.2. Installation process

- Apply fastening clamp (Pos. No. 157) onto Z-turn-up of ceiling panel (Pos. No. 1)
- Screw fastening clamp (Pos. No. 157) by means of self-drilling screw (Pos. No. 18) to ceiling panel (Pos. No. 1)
- Install custom-fit panel (Pos. Nr. 608) as described in section 9

Bild 13



9.3. Preparation of cut panels

9.3.1. Material

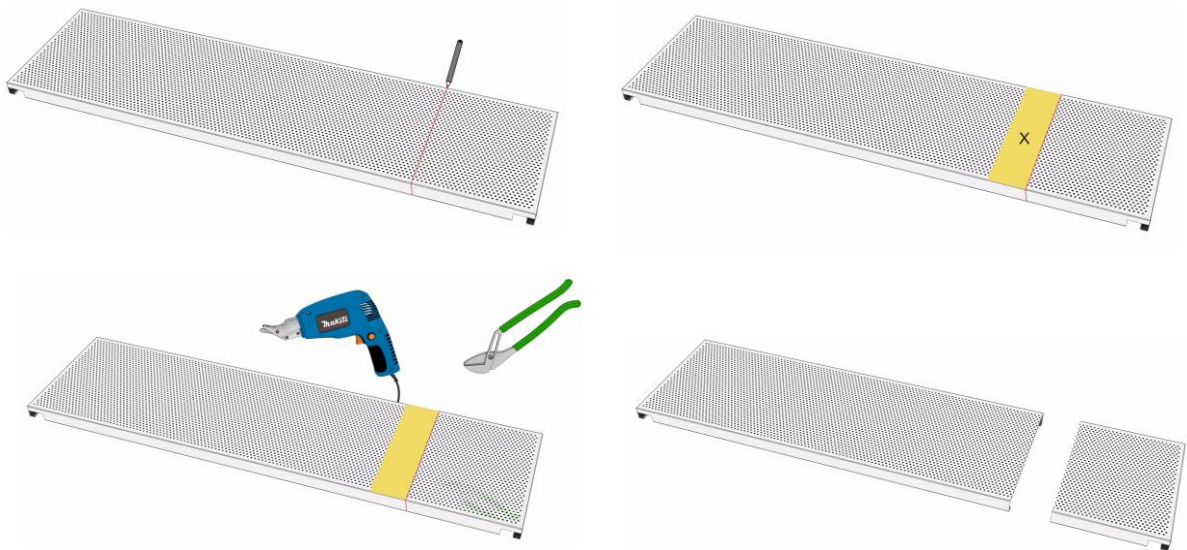


Cover tape

9.3.2. Installation process

- Determine the length of the custom-fit panel (Pos. No. 608) considering the necessary minimum supporting surface depending on the type of perimeter trim and mark it on the custom-fit panel
- Affix the cover tape „X“ along the intended cut
- Cut the custom-fit panel with an electric or alternatively with a non-electric metal-shear
- Pay attention that the custom-fit panel (Pos. No. 608) is not deformed
- Deburr the cutting edges
- If necessary, the ceiling panel can be turned-up with a bending machine on-site if a respective notch is created
- Remove the cover tape „X“
- Install the custom-fit panel (Pos. No. 608) (see chapter 8.1)

Illustration 12



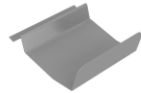
9.4. Securing custom-fit panels by means of hold-down sheets

Safety instruction:

- Maximum panel width 625 mm.

9.4.1. Material

Pos. No. 327

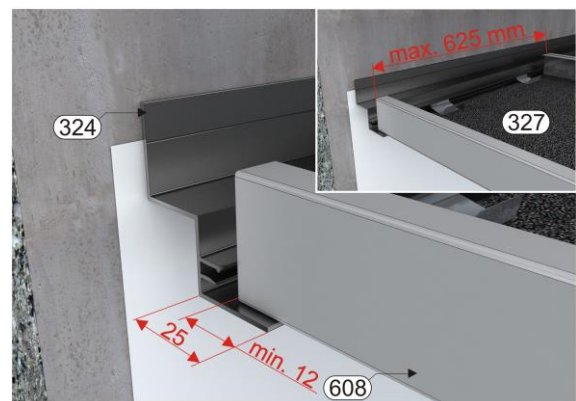


Hold-down sheet (00041671)

9.4.2. Installation process

- Determine the length of the custom-fit panel considering the minimum supporting surface
- Cut the custom-fit panel (Pos. No. 608) according to chapter 9.1
- Secure custom-fit panel (Pos. No. 608) against camber and movement by means of hold-down sheets (Pos. No. 327)

Illustration 13



9.5. Edging of custom-fit panels on site

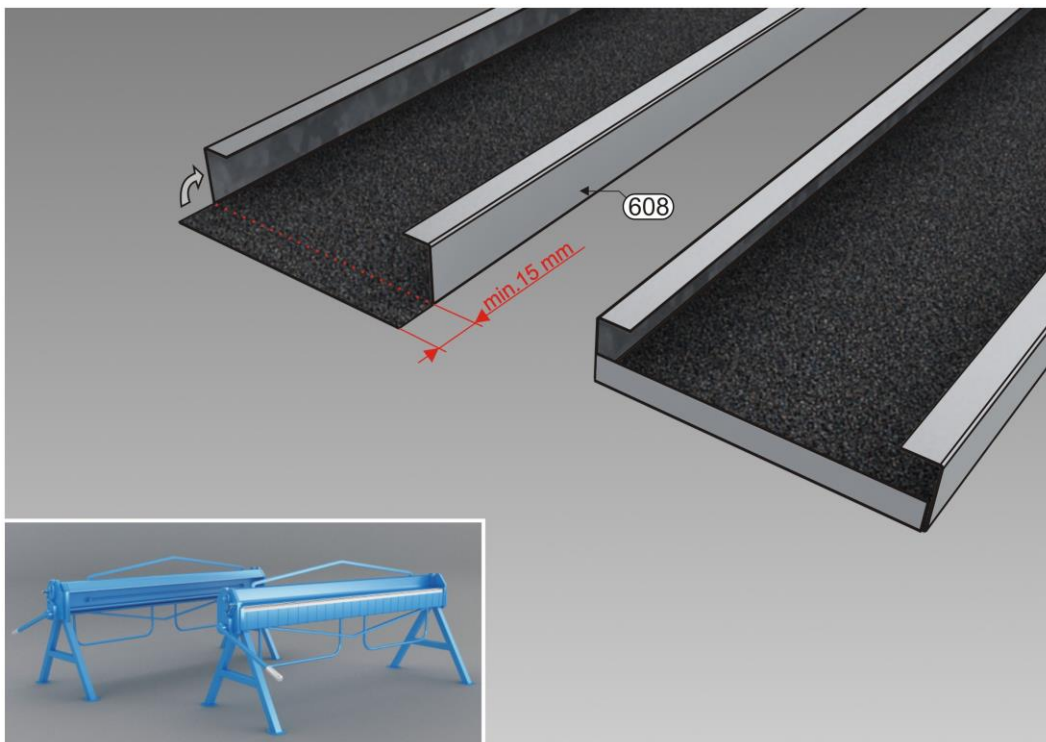
Safety instruction:

- Short side turn-up of custom-fit panel (Pos. No. 608) must be at least 15 mm.

9.5.1. Installation process

- Determine the length of the custom-fit panel considering the minimum supporting surface and the height of the additional turn up
- Cut the custom-fit panel (Pos. No. 608) as described in chapter 9.1
- Notch the longitudinal C-turn-up of the custom-fit panel (Pos. No. 608) according to the height of the turn-up
- Prepare the turn-up of the custom-fit panel (Pos. No. 608) on the short side by means of a bending machine

Illustration 14





9.6. Securing custom-fit panels by means of a U-profile

Safety instruction:

- U-profile (Pos. No. 156) is dimensioned for a longitudinal panel C-turn-up of 30 mm. Confer with the manufacturer concerning other turn-up heights.

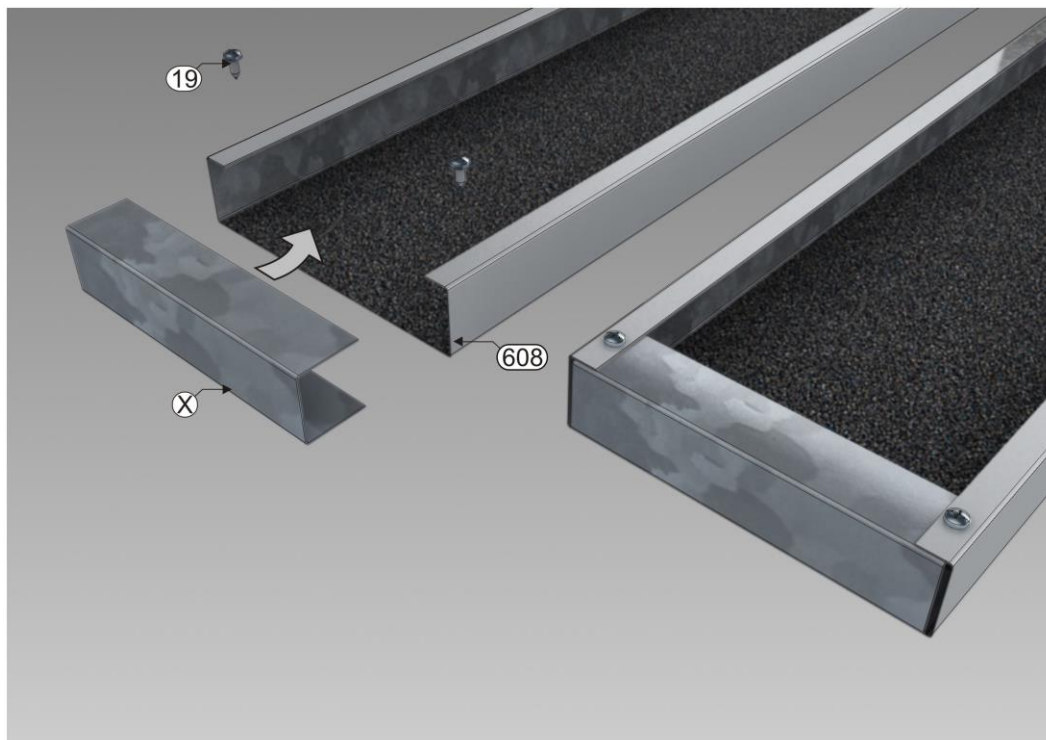
9.6.1. Material

Pos. No. 156		Pos. No. 19		
U-profile (00088716) 27x28x27x0.6x3000		Self-drilling screw		

9.6.2. Installation process

- Cut the custom-fit panel (Pos. No. 608) as described in chapter 9.1
- Cut the U-profile (Pos. No. 156) to the required length; width of custom-fit panel minus 5 mm
- Insert and fix the U-profile (Pos. No. 156) in the custom-fit panel (Pos. No. 608) by means of two self-drilling screws (Pos. No. 19)

Illustration 15



9.7. Cutting of custom-fit panels on two sides (recommendation)

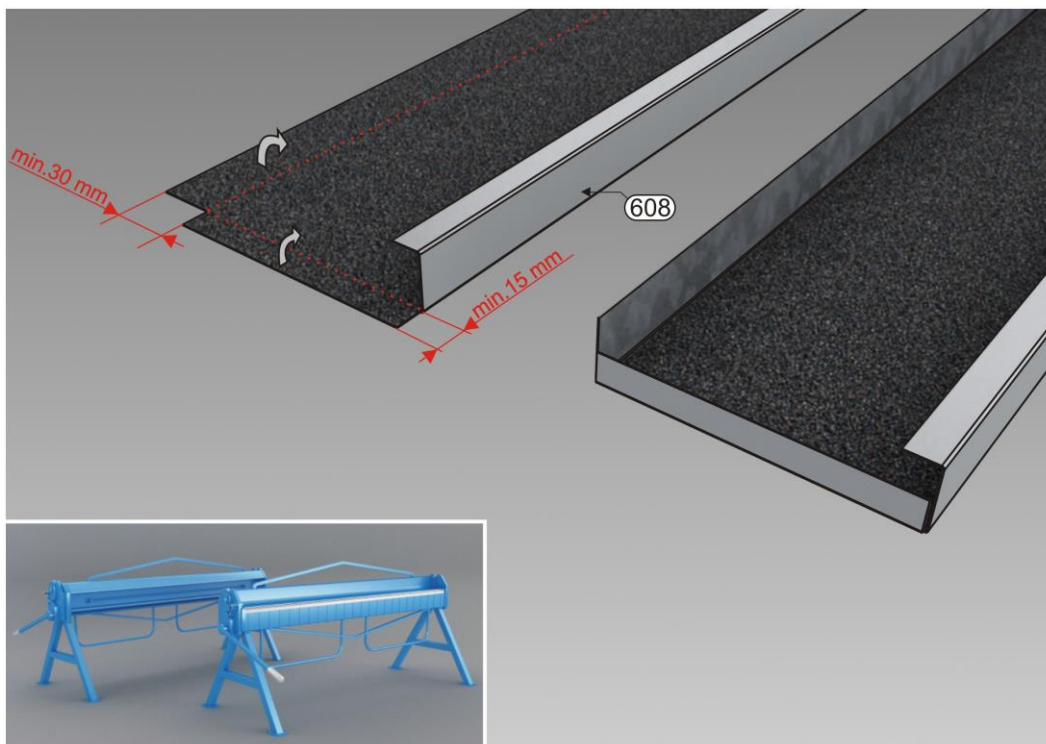
Safety instructions:

- Depending on the size of the custom-fit panel, the custom-fit panel (Pos. No. 608) which is cut on two sides can be secured against camber and movement by means of hold down sheets (Pos. No. 327).
We recommend preparing custom-fit panels exceeding a panel length of 625 mm (Pos. No. 608) with a turn-up on both sides.
- The turn-up of the custom-fit panel (Pos. No. 608) on the short side must be at least 15 mm.
- The longitudinal turn-up must be at least 30 mm.

9.7.1. Installation process

- Determine the length/width of custom-fit panels considering the minimum supporting surface and height of the additional turn-ups
- Cut the custom-fit panel (Pos. No. 608) as described in chapter 9.1
- Notch the longitudinal C-turn-up of the custom-fit panel (Pos. No. 608) according to the height of the turn-up
- Prepare the turn-up of the custom-fit panel (Pos. No. 608) on the short/long side by means of a bending machine

Illustration 16

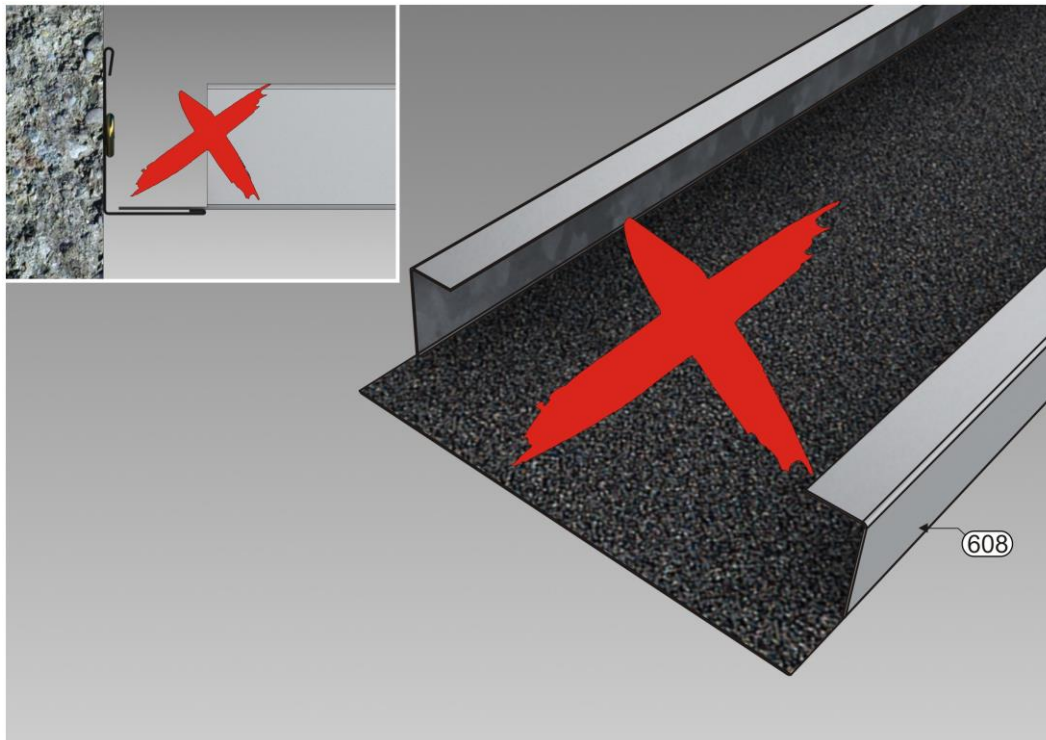


9.8. Incorrect types of custom-fit panels

Safety instruction:

- Basically it is not allowed to use custom-fit panels (Pos. No. 608) which are notched on the longitudinal C-turn-up but not subsequently turned up.

Illustration 17



10. Preparation of cut-out

Safety instruction:

- Depending on the kind of tool for the preparation of cut panels resp. cut-outs inside the panel, the respective safety regulations have to be respected (e.g. safety glasses, protective gloves etc. have to be worn)!

10.1.1. Material

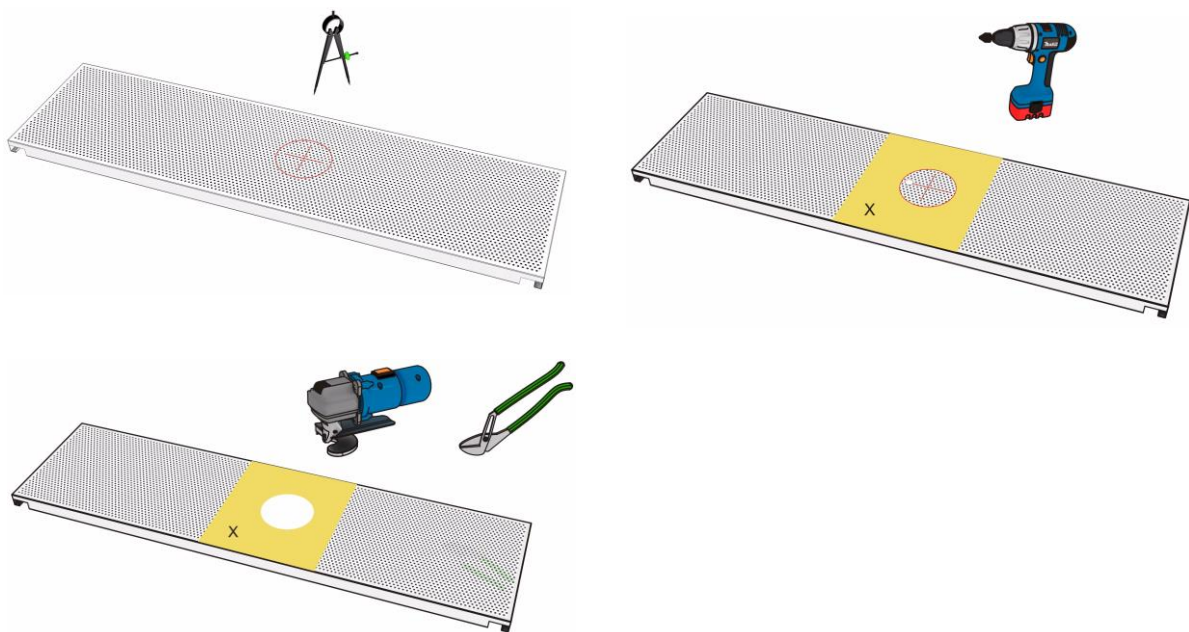


Cover tape

10.1.2. Installation process

- Mark the centre of the cut-out
- Mark the diameter with dividers or a template
- Affix the cover tape „X“ along the intended cut
- Drill a hole with a diameter of approximately \varnothing 40/50mm in the middle of the cut-out with a hole saw
- Afterwards, create the cut-out with an electric or alternatively with a non-electric metal-shear
- Remove the cover tape „X“

Illustration 18



11. Installation of lighting units/ventilations or other fixtures

Safety instructions:

- Additional fixtures, fittings and loads have to be suspended separately. The planner of the building has to specify the fastening of additional loads fastening elements, cables, sprinklers, integrated lighting units, loudspeakers, ventilation grille, as well as the preparation of cut-outs. These specifications have to be considered for the installation by the assembly operation!
- Ceiling panels with fixtures have to be secured against removal, swing-down mechanism or movement.
- The installation and the electrical connection of lighting units may only be executed by expert staff!

Notices:

- Our ceiling systems in standard configuration are statically designed to support the top layer (considering the safety factor 2.5). The support of additional loads which result from e.g. recessed light fittings has to be clarified in individual cases
- It is neither permitted that lighting units or other fixtures are solely supported by the top layer nor is it permitted to fix them to the top layer, parts of the substructure or suspension without taking further actions
- If lighting units are to be installed into a light-weight ceiling top layer (resp. into suspended ceilings) by an electrician on site, the electrician has to obtain the approval of the ceiling manufacturer by specifying the intended method of fastening as well as the weight of the lighting unit

- The suspension of lighting units or other fixtures has to be designed rigid in compression to ensure security during operations like the replacement of illuminants or the installation of protective casings
- Furthermore an approval of the ceiling manufacturer has to be obtained if lighting units are to be integrated in the metal ceiling top layer and the respective loads shall be directly transferred to the metal ceiling panel

11.1. Securing ceiling panels

11.1.1. Material

Pos. No. 19

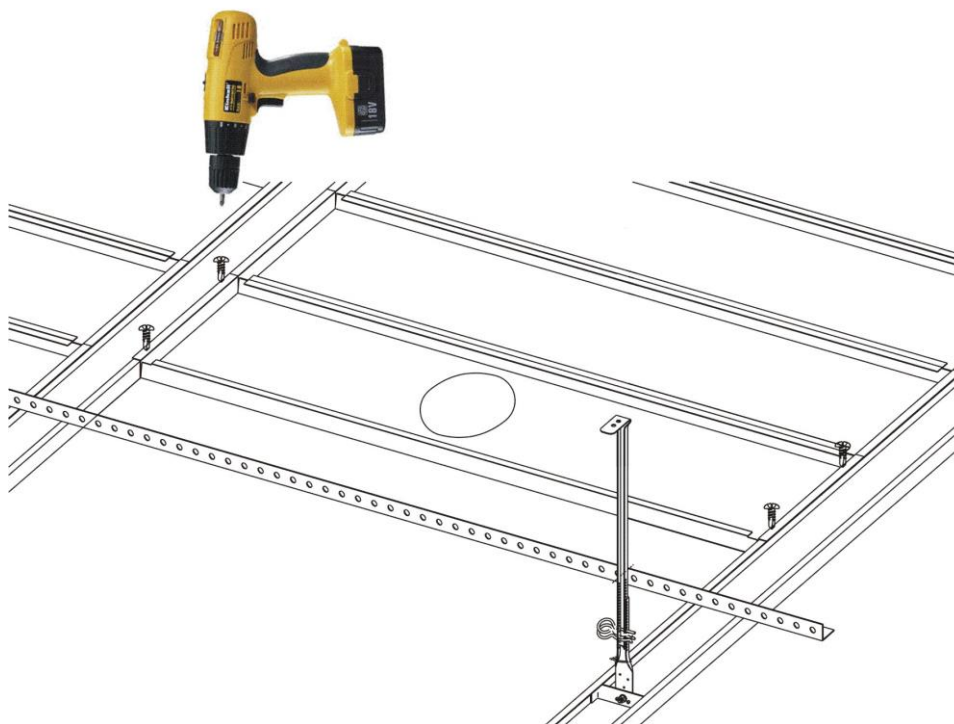


Self-drilling screw

11.1.2. Installation process

- Align the ceiling panel with the cut-out precisely to the preset joint design
- Secure ceiling panel in all four corner regions by means of a self-drilling screw against displacement and removal (as shown on the following illustration)

Illustration 19



12. Constructions not covered by this installation guideline

Constructions not covered by this installation guideline, other types of ceilings and combinations of different ceiling types may only be executed after consulting the manufacturer.

13. Check list

For your own assurance it is recommended to fill out and retain a checking card for every component.

BV:	Plane:		Component:														Axes:			
Project number																				
Type of accomplishment	Metal ceiling F0	Metal ceiling F30	Metal ceiling F90	M. honeyc. baffle c.	Bulkhead by C-p. c.	Platothem® Heated and chilled ceiling														
																		OK	Date	Inspected by:
Mark the achieved accomplishment with a „X“	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Ceiling height and cutting check verified																		<input type="checkbox"/>		
Suspension distance maintained and checked distance:mm																		<input type="checkbox"/>		
Approved anchor used for application and existing base material type:																		<input type="checkbox"/>		
Anchor visually checked for correct installation																		<input type="checkbox"/>		
Rough grate / post cap / dimension between axes maintained and checked distance:mm																		<input type="checkbox"/>		
Precision grate / lateral carrier section / dimension between axes maintained distance:mm																		<input type="checkbox"/>		
Mineral wool platings inserted correctly and checked																		<input type="checkbox"/>		
Nearby connections achieved and checked according to detail																		<input type="checkbox"/>		
Built-in components additionally suspended from the raw ceiling and checked according to the declaration of the PL																		<input type="checkbox"/>		
Installation guidelines of the producer maintained																		<input type="checkbox"/>		
Material storing checked																		<input type="checkbox"/>		
Cut panels in the perimeter checked according to the correct cutting																		<input type="checkbox"/>		
Fastening clamp inserted correctly																		<input type="checkbox"/>		
Centre/frieze suspension mounted correctly according to the declaration of the PL																		<input type="checkbox"/>		
Function of the ceiling panels checked																		<input type="checkbox"/>		
Ceiling surface with the same colour, exactly aligned, without soiling																		<input type="checkbox"/>		
For the bulkhead by C-p. c: Necessary bracing mounted acc. to requirements																		<input type="checkbox"/>		

Signature PL:
(Only for confirmation, unless the PL himself inspects)

Signature BL/VA:

This recommendation shall serve as a guideline to the assembler.

The application always has to be examined in individual cases due to the fact that no site-related inspection occurred.

The details given therein represent the state-of-the-art and shall inform about our products and their field of application. They are given to the best of our knowledge. No responsibility is taken for the correctness of the information given in this guideline. The relevant standards especially DIN EN 13964 as well as the TAIM standards shall be considered.

Subject to technical alteration in the course of progress.

Drawings and Illustrations are illustrative.

All rights reserved.

Contact:

Lindner SE | Ceilings

Bahnhofstraße 29 | 94424 Arnstorf | Germany

Phone +49 8723 20-3679

ceilings@Lindner-Group.com | www.Lindner-Group.com

Publisher:

Lindner SE | PM Ceilings

Bahnhofstraße 29 | 94424 Arnstorf | Germany