Lindner

Installation guideline Raised floor

MR-SB-02

1. Table of contents

2. Explanations to this guideline

Dear customer

Thank you for choosing a product of the Lindner Group.

This guideline gives a description of the required work steps in words and by means of pictures.

Furthermore, it contains important instructions and information on the installation of our hollow floor systems. Please read and respect this guideline carefully in order to ensure a smooth installation.

Please also pay attention to all safety and warning notices.

For reasons of clarity, not all detailed information to every single step could be shown.

Texts and pictures published in this document are exemplary. No warranty is taken for completeness and therefore no claims in this context may be filed. Please do not hesitate to contact us in case you should have any questions or if we can be of further assistance for you.

The installation by trained and professional installation staff is mandatory.

Please keep this guideline thoroughly!

The information in this guideline corresponds to the current state of our knowledge and shall inform about the installation of our products. It is therefore not intended to guarantee certain characteristics of the products or their suitability for a specific application. Hence, buyers and users have to autonomously evaluate the suitability of our products for the demands which are subject to the respectively prevailing conditions. We are pleased to assist you, if you have any questions or queries concerning the possibilities of application and use of our floor systems.

2.1 Used warning notices

⚠ WARNING *Type of danger and its sources* *Consequences* ➲ *Measures for avoidance.* ➲ *….*	Marks a danger which can immediately lead to an **injury**.
ATTENTION *Type of danger and its sources* *Consequences* ➲ *Measures for avoidance.* ➲ *….*	Marks a danger which can cause **damage or destruction of the product**.

2.2 Symbols

 Notice on avoidance of material damage	 Admissible action
 Non-admissible action	 See text
 See picture	 See separate installation guideline acc. to directions
 Optional building parts, to be ordered on request	 Remove packaging or building part and dispose properly.
 Test / measure	

3. General indications / installation conditions

Indications
Please read the following instructions thoroughly before installation! The installation of raised floors requires special experience and should only be done by “instructed professionals”. The floor areas have to be sectioned resp. arranged sensibly before the starting the installation. An installation plan has to be drawn. According to the raised floor type and covering, adequate expansion joints have to be planned and maintained strictly.

- The delivered material has to be checked on quantity, identity, quality and completeness. Complaints cannot be accepted after installation of the floor. Damage has to be reported immediately in order to maintain claims.
- The materials have to be stored in dry, air-conditioned rooms (20 ± 5 °C, 40 to 65 % relative air humidity). Do not store outdoors and protect it from humidity.
- In order to avoid deformation of the panels, they have to be stored on a level surface.
- The material should be acclimated at least 48 h inside the premises of installation before installing.
- When de-piling the pallets, make sure to only put the panels top side on top side and bottom side on bottom side in order to avoid rubbing off the batch labelling of the bottom side onto the covering on top of the raised floor panel.

ATTENTION
• The admissible climate during installation is 20 ± 5 °C and the admissible relative air humidity is 40 to 65 %.

- The installation may only be started if the admissible climate for the installation is reached and the facade is closed.

- The subfloor has to be dry, even, solid as well as free of cracks, craters and chemical substances (grease, oil). The overall drying has to be advanced insofar as that no considerable shrinking of the building has to be expected anymore.

- It is generally recommended to seal the subfloor in order to ensure a proper gluing of the pedestals. Before sealing, the subfloor has to be vacuum-cleaned.

- 2C sealing has to be used with air-conducting floors. All rising building elements have to be sealed up to the top edge of the raised floor. Openings in the ceiling have to be closed permanently elastic and air-tight.

- The subfloor has to be sufficiently resistant to abrasion. Any floated up layers of fine mortar or loosely adherent parts must be removed before installation.

- The subfloors have to be sufficiently load-bearing and able to absorb all occurring loads. The subfloor has to be within the levelness tolerances acc. to the DIN 18 202, table 3, line 2 (latest edition) or the properties are regulated by additional agreements.

- With glued pedestals a tear-off test acc. to AGI a20 has to be executed with uncertain adhesion properties of the subfloor (e.g. PVC covering, primer or screed) in order to determine the strength of the substrate. A minimum

strength of 110 N is necessary. This is determined by pulling off the glued pedestal from the subfloor.

- The room has to be checked on rectangularity in order to avoid small cut panels.
- Before starting the installation, the floor areas have to be sectioned resp. arranged sensibly. We recommend drawing a lay-out plan. If requested, we can provide a plan for you.
- Cut panels as well as cut-out panels are generally to be supported sufficiently with pedestals and/or profiles.
- The fixed heights in the different levels have to be checked before the installation (e.g. height level, elevators and staircase).
- Details on execution of electrical outlets, bridging etc. are to be planned project-based.
- The installer has the responsibility to keep his workplace safe in order to eliminate causes for accidents and damages.
- A sealing tape (wall connection tape) has to be provided at all rising building elements.
- A protection covering (e.g. wood fibre panel) has to be placed on the raised floor after its installation in order to avoid damaging by subsequent trades.

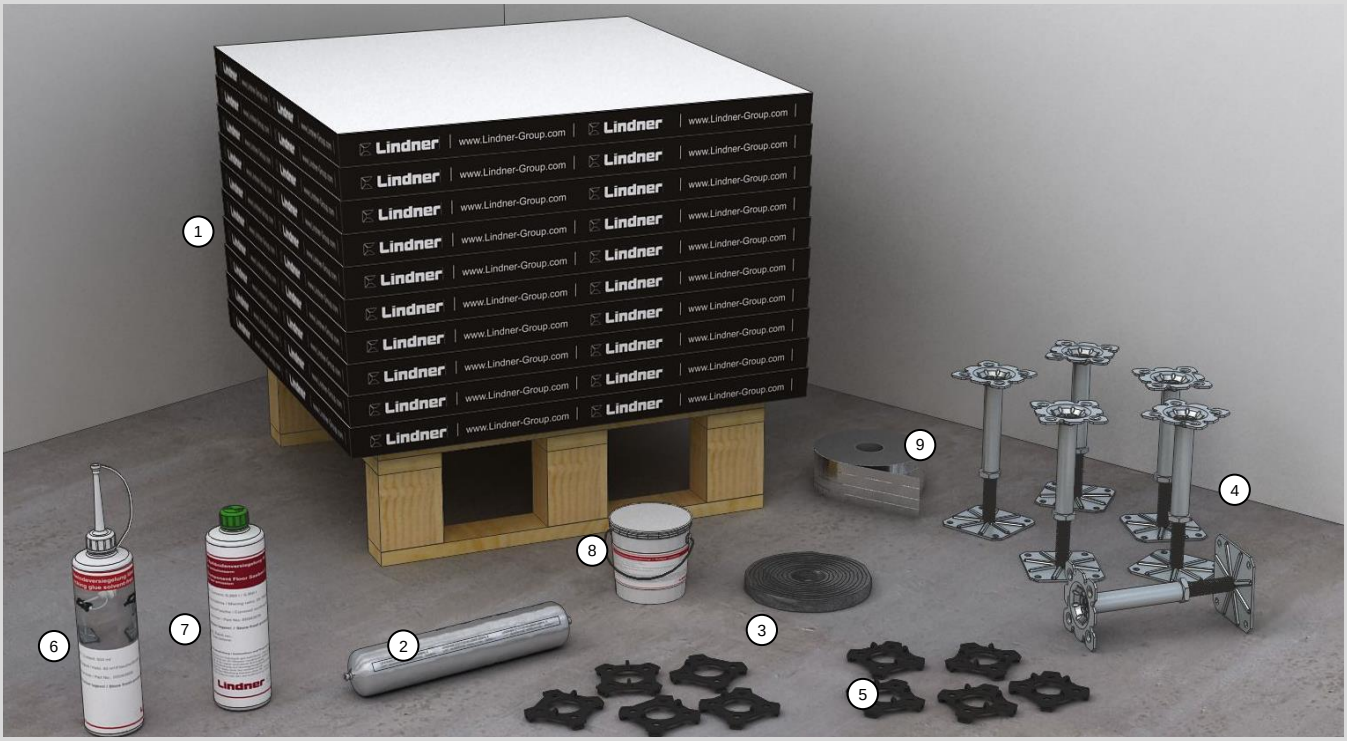
⚠ WARNING

Missing or changed parts impair the function of the raised floor and can cause material resp. personal damage.

➲ Do not change or remove any attached parts.
➲ Mount all shown and needed parts in this guideline

Please consider product specification sheets as well as safety data sheets for the use of glue and sealing.

4. Floor components



Picture 1 Components for the installation of raised floors

1. Raised floor panels stacked on a wood pallet
2. Lindner pedestal glue
3. Wall connection tape
4. Raised floor pedestal
5. Gaskets with 4 or 2 knobs, conductive or non-conductive
6. Lindner Locking glue solvent-free
7. Lindner Subfloor sealant 1C
8. Lindner Edge sealant solvent-free
9. Aluminium compensation pads 0.2 mm, 0.5 mm

4.1 Optional parts

These parts can be ordered optionally.

Picture 2 Optional parts

(10) Lindner Subfloor sealant 2C
(11) Wall connection from mineral wool
(12) Stringers RO, RL, RM
(13) Cable tray clamps
(14) Drilling screws for stringers
(15) Bracing eyes
(16) Gaskets corner lock
(17) Bracing M6 – M12 with threaded bolt
(18) Panel with cut-out for inserts
(19) Panel screwing
(20) Bridging profiles CL, CS, CM, CH
(21) SW 90 pedestals
(22) Hammer head screws
(23) Sound dampening pads
(24) Earthing clamps

Indication

- The shown optional building parts are not being processed in this guideline. Application and execution is being explained in detail drawings or installation guidelines of different systems.

5. Necessary tools

Picture 3 Tools for installation

1. Rotating laser optionally levelling device or hose levelling instrument (without illustration)
2. Vacuum cleaner
3. Broom for cleaning and/or application of the subfloor sealant
4. Band saw
5. Caulking gun for 600 ml tube bags
6. Raised floor water level
7. Square
8. Vacuum suction lifter
9. Spike lifter with applied carpet coverings
10. Line
11. Wedges from plastic or wood
12. Folding metre stick
13. Pen for marking
14. Cutter
15. Cordless screwdriver
16. Brush
17. Sprayer to apply subfloor sealant

6. Floor installation

6.1 Cleaning and sealing of subfloor

Picture 4 Cleaning of the subfloor

Picture 5 Application of the subfloor sealant

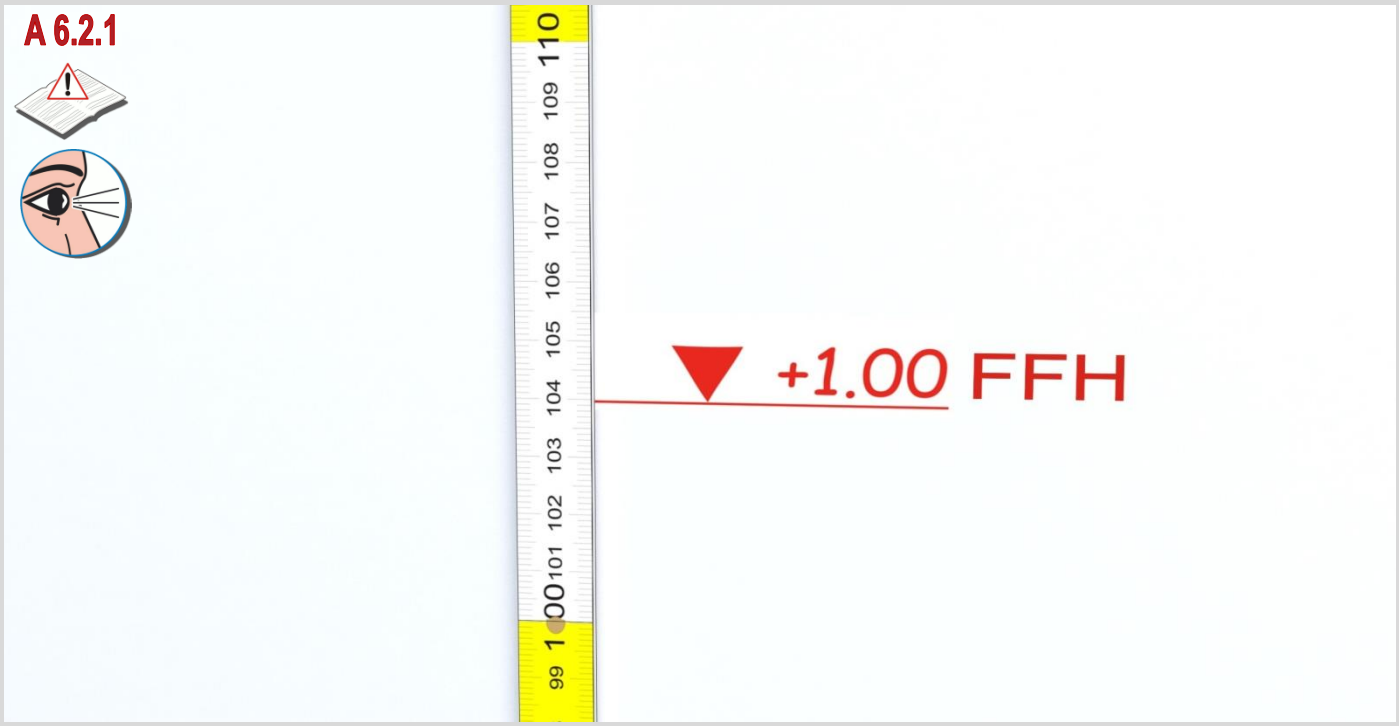
Work steps:

A 6.1.1 The subfloor has to be vacuum-cleaned before installation.

A 6.1.2 Apply the subfloor sealing if necessary (processing acc. to information of the respective manufacturer of the sealant). See also indications below.

Indications
• The subfloor has to be dry, level, solid as well as free of cracks, crates or chemical substances (grease, oil). The overall drying has to be insofar as that no considerable shrinking has to be expected anymore. • The subfloor has to be sufficiently resistant to abrasion. Any floated up layers of fine mortar or loosely adherent parts must be removed before installation. • We recommend sealing the subfloor with a 2-component sealing or a similar material with air-conducting floor systems. Please see the respective documents of the manufacturer for information on the processing. • Safety data sheet has to be considered.

6.2 Fixing and checking of height reference points



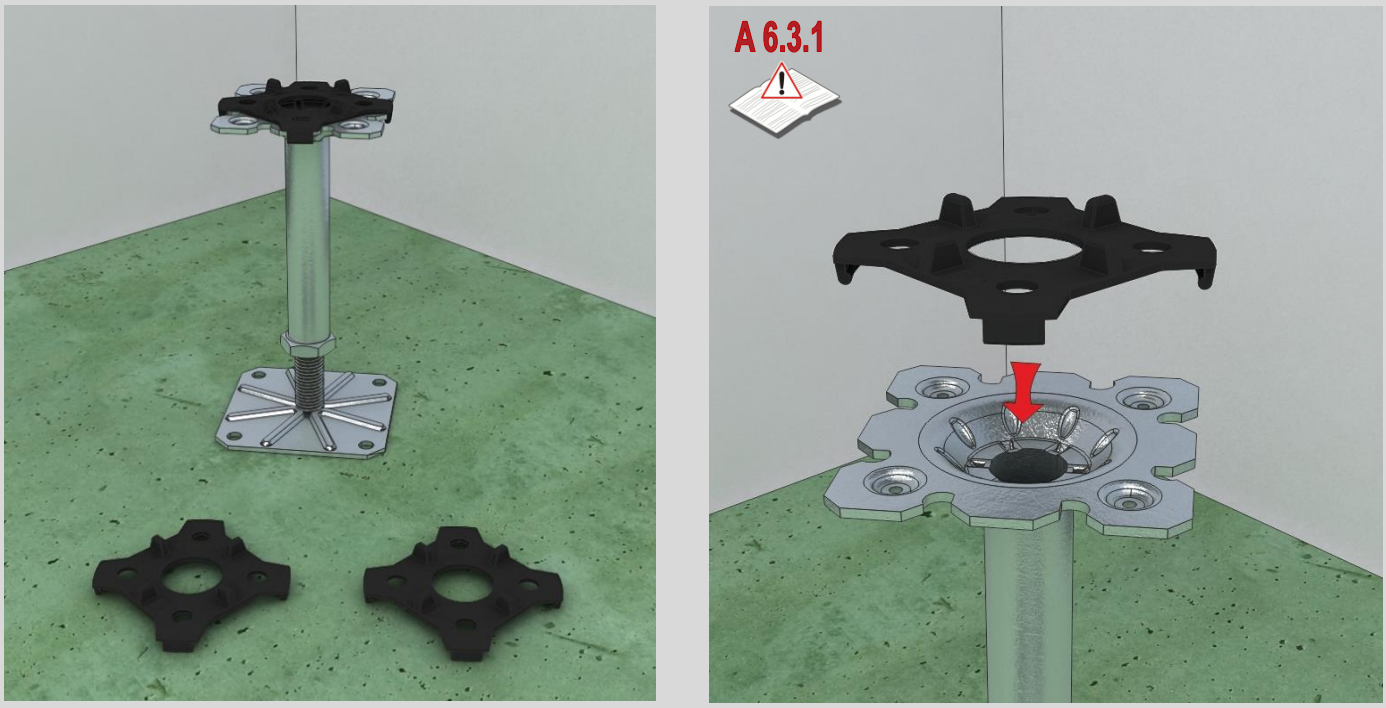
Picture 6 Height reference points

Work step:

A 6.2.1 Fix height reference points (e.g. height level, elevators or staircase).

Indication
• Height reference point means 1 m above the upper edge of the finished floor (FFH) incl. covering. The starting pedestal has therefore to be lower by the thickness of the covering and the panel (as shown exemplary in the Picture).

6.3 Preparation of pedestals for installation



Picture 7 Assembly of raised floor pedestal

Work step:

A 6.3.1 Clip in gaskets without knobs in the corner, with 2 knobs in the peripheral area and with 4 knobs in the main area.

6.3.1 Preparation of gaskets without knobs

Picture 8 Prepare gaskets

Work step:

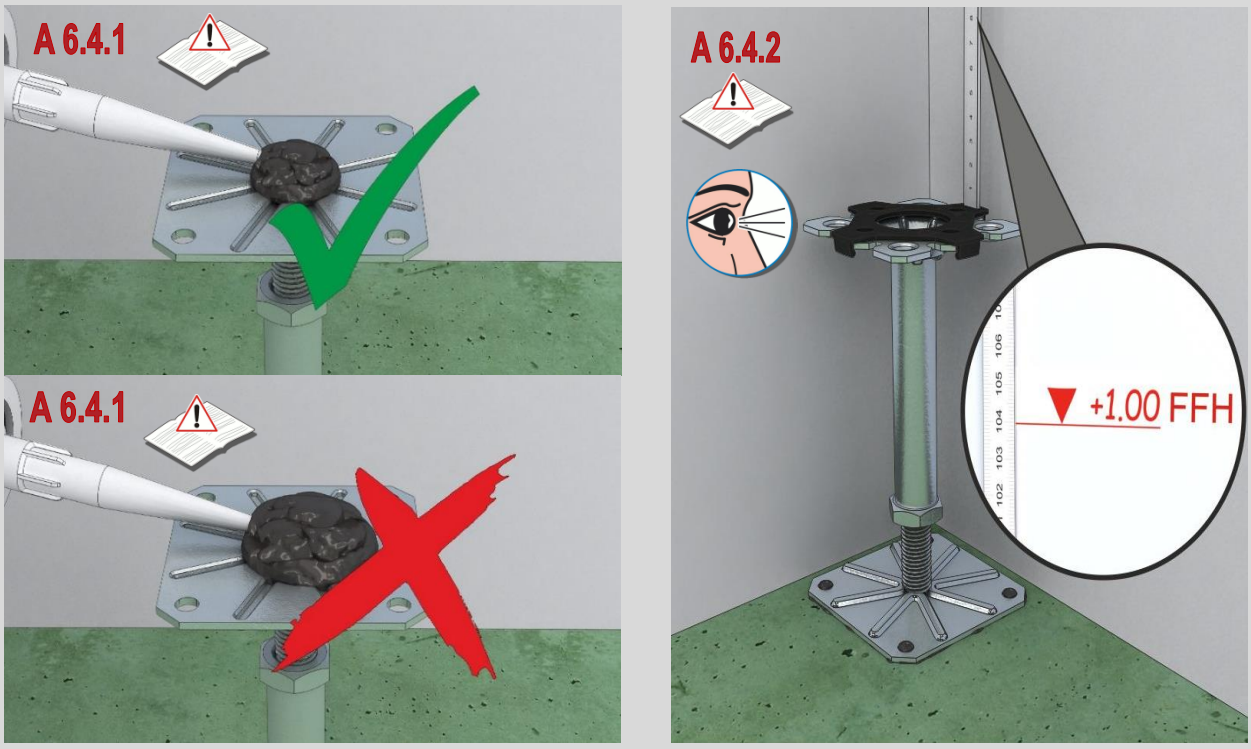
A 6.3.1.1 Remove the respective knobs with a cutter if gaskets with 2 or no knobs are needed.

⚠ WARNING

Inappropriate use of a cutter can cause incised wounds or severe injury.

➲ Always cut away from the body.

6.4 Adjustment of the first pedestal



Picture 9 Installation of the reference pedestal

Work steps:

A 6.4.1 Apply pedestal glue to the lower side of the pedestal base (approx. size of a walnut) by using a caulking gun. Please see the documentation of the respective manufacturer for information on the processing of the pedestal glue.

A 6.4.2 Turn around the pedestal and place it at reference point.
Level pedestal to the required height with a levelling instrument (hose levelling instrument, levelling device, laser or similar).

Attention: Consider thickness of panel!

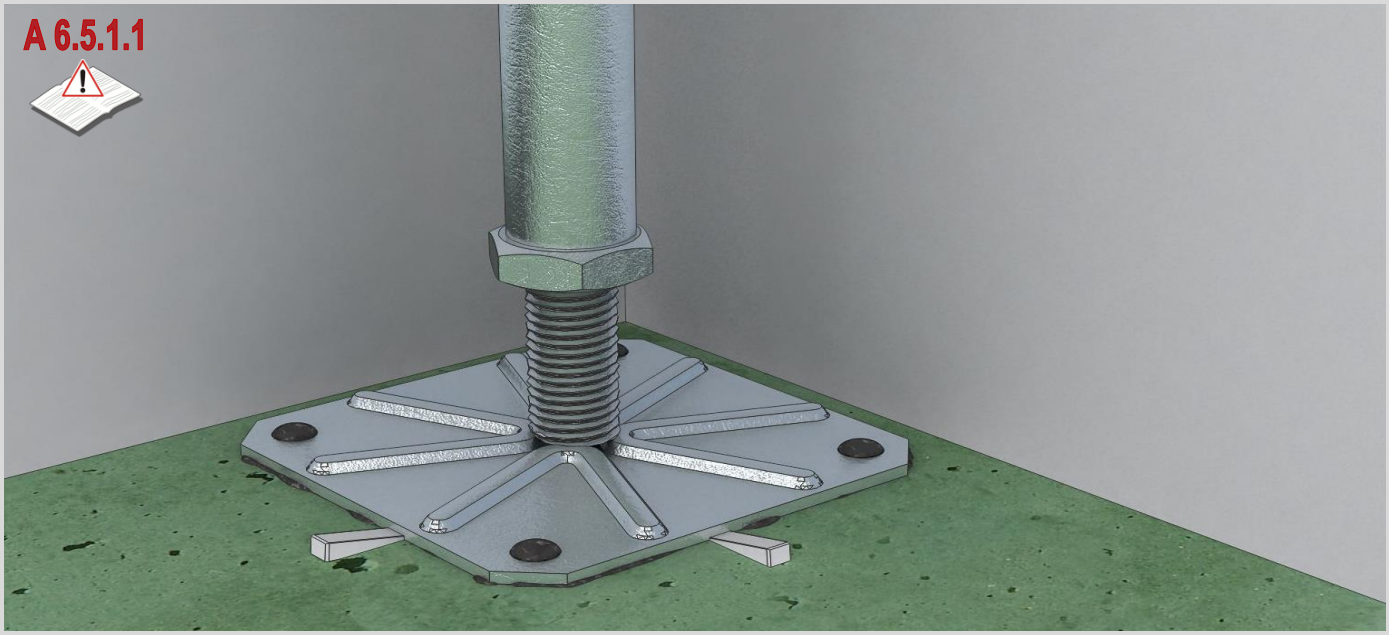
A 6.4.3 Let pedestal dry acc. to the information of the manufacturer of the pedestal glue.

Indications
• The installation of the substructure has to be done corresponding to the valid installation plan. • The installation of the floor system should only be executed by instructed professional staff. • In terms of the admissible loads, attention has to be paid, that the grid dimension of the pedestals (different acc. to system) is not exceeded!

6.5 Special cases / measures

The work steps presented in this chapter have to be applied acc. to the situation on site or rather to the static requirements. They are not part of the general installation.

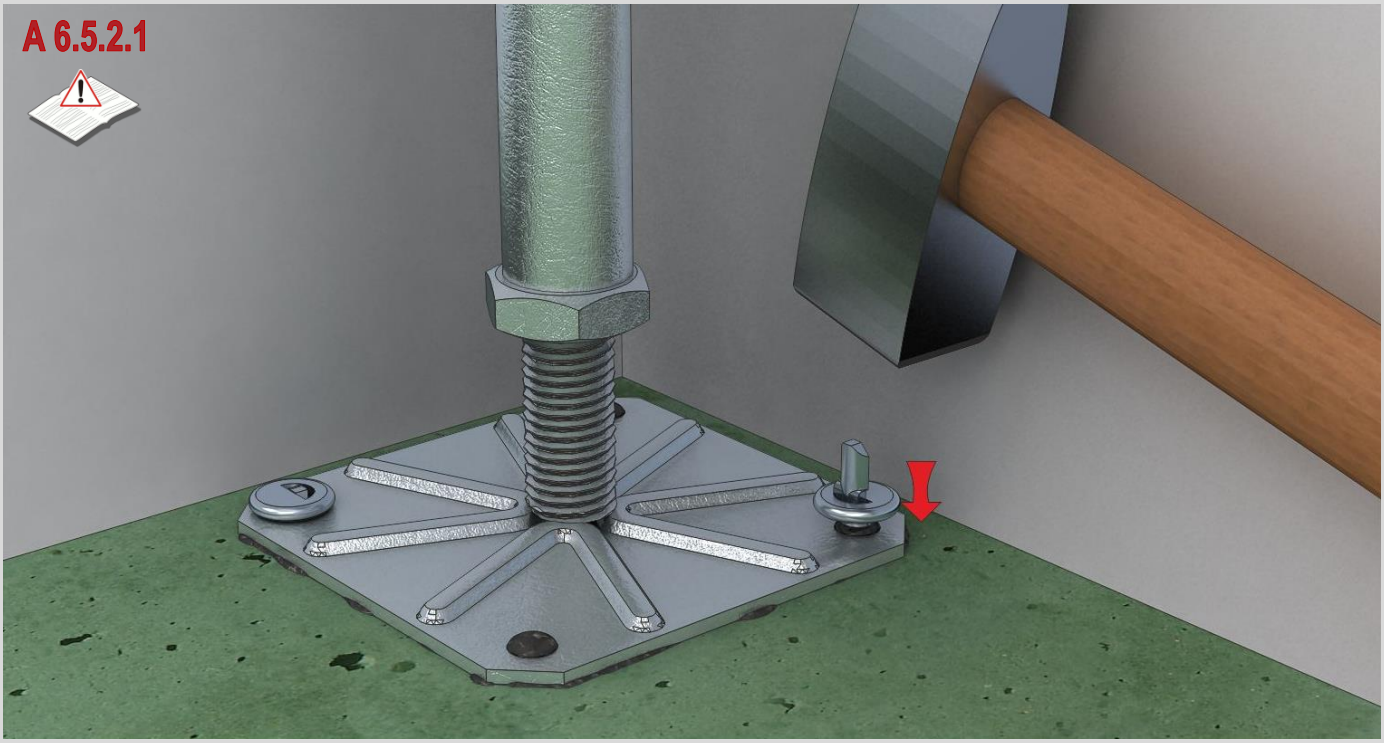
6.5.1 Compensation of unevenness of the subfloor



Picture 10 Compensation of unevenness of the subfloor.

Work step:

A 6.5.1.1 Compensate large unevenness by means wedges.



Picture 11 Doweling of pedestal base

Work step:

A 6.5.2.1 Additional doweling of the pedestal with the subfloor by means of respective connection technology acc. to the static requirement (seismic safety, bracings).

Indications

- The doweling has to be carried out in diagonal holes (see picture 11).
- The directly following pedestal is to be doweled to the holes that are shifted by 90°.
- The doweling is done after the complete curing of the pedestal glue.

Picture 12 Installation of the sound dampening pad

Work step:

A 6.5.3.1 Sound dampening pads can be used with increased requirements to the impact sound improvement. These are glued in between the base plate and the subfloor.

Indications

- It is recommended to glue the sound dampening pads with pedestal glue to the base plates before start of installation of the raised floor in order to prevent a slipping of the pedestal with the installation of the raised floor.
- The maximum nominal load with the use of sound dampening pads is 3 kN.

6.6 Adjustment of the raised floor pedestals for the first raised floor panel

Picture 13 Installation of the following pedestals for the first raised floor panel

Work step:

A 6.6.1 Install the following two raised floor pedestals with the required grid dimension and level the pedestals on height by turning the adjustment nut as described in the installation step 6.3 and 6.5.

6.7 Apply wall connection tape to raised floor panel

Picture 14 Gluing of wall connection tape

Work steps:

A 6.7.1 Unroll wall connection tape and glue it with the adhesive side flush to the upper edge of the raised floor panel (two sides on corner panels).

A 6.7.2 Cut the wall connection tape acc. to the edge length of the panel.

Indications
• A wall connection tape has to be glued to panel edges with connection to a wall. • A mineral wool stripe can be used instead of the wall connection tape (e.g. for fire protection reasons). See information sheet “Implementation wall connection NORTEC and LIGNA”

⚠ WARNING
Inappropriate use of a cutter can cause incised wounds or severe injury. ➲ Always cut away from the body.

6.8 Installation of the first raised floor panel

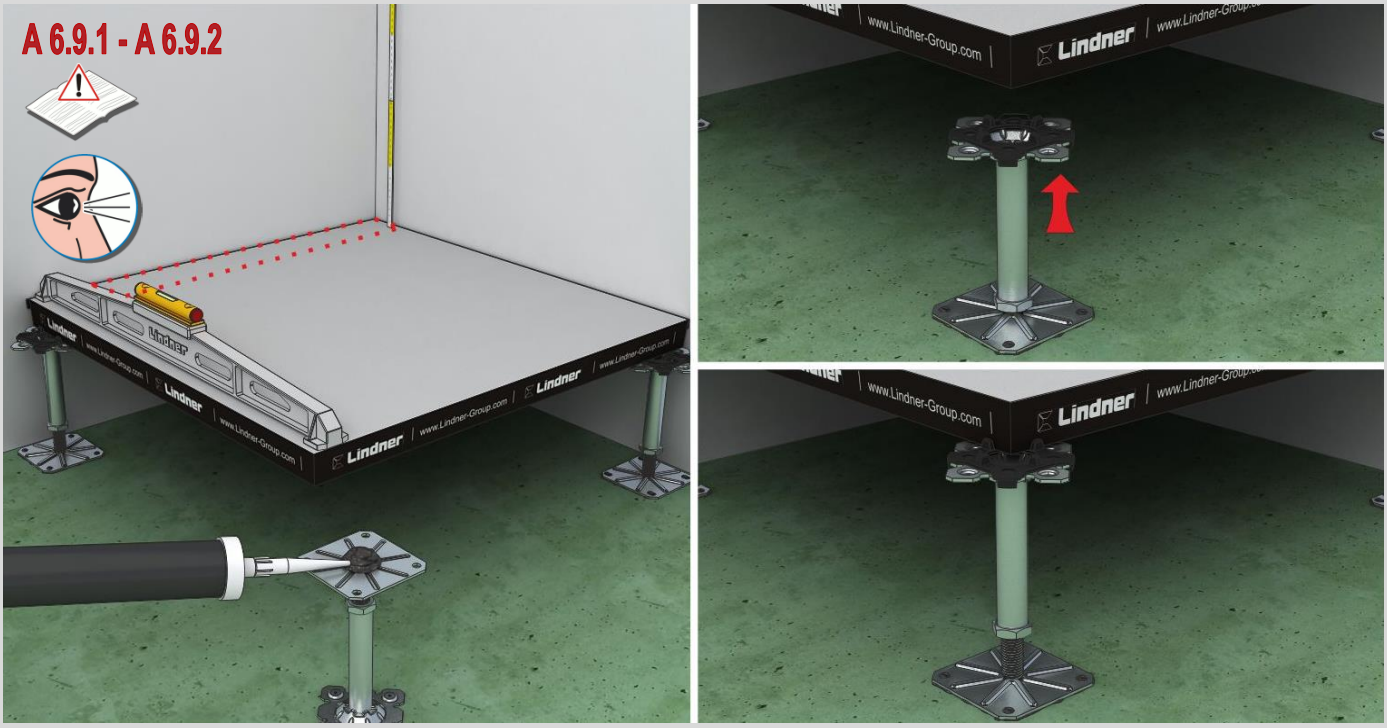
Picture 15 Lay out the reference panel on the installed reference pedestals

Work step:

A 6.8.1 Place reference raised floor panel on the installed raised floor pedestals.

Indication
• Consider the direction of the covering with factory-applied coverings.

6.9 Installation of the first raised floor panel



Picture 16

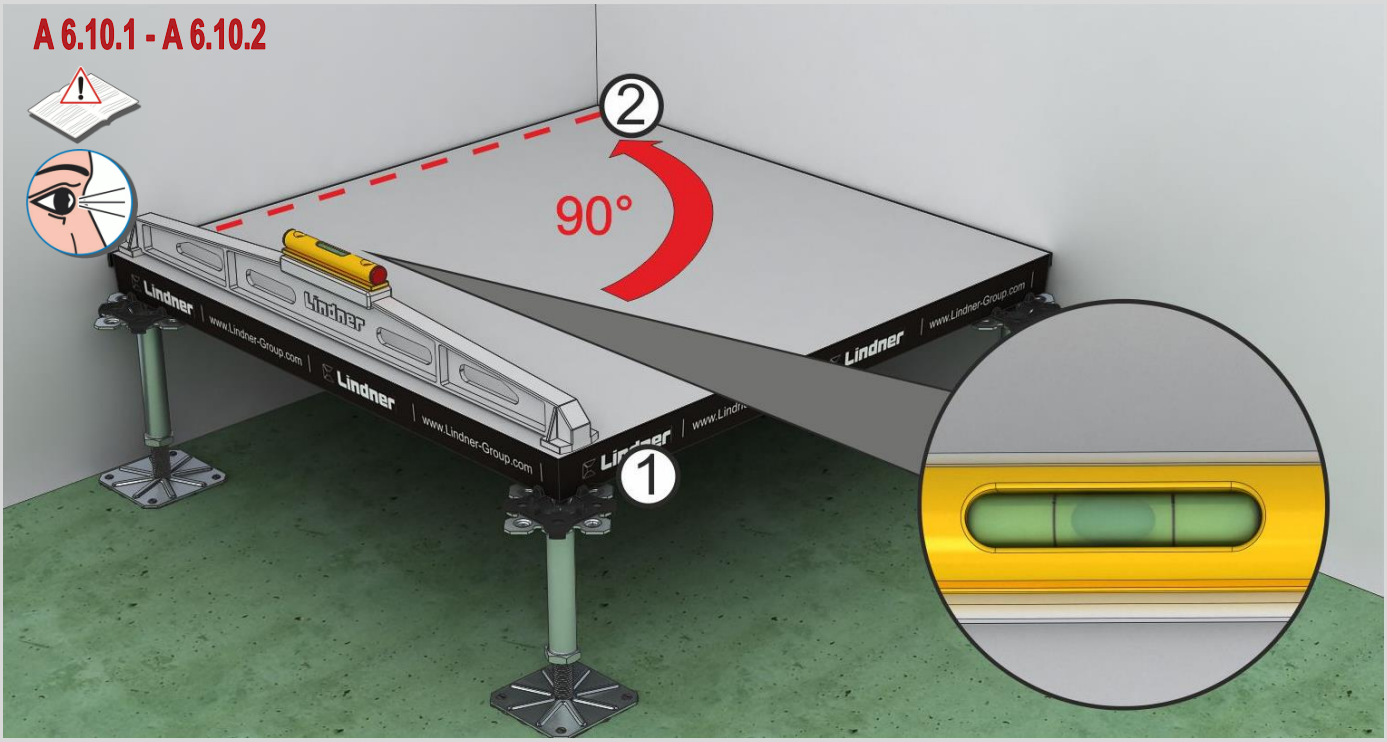
Work steps:

A 6.9.1 Install pedestal at the yet unsupported corner  as described in installation steps 6.3 to 6.5.

A 6.9.2 Adjust pedestal height with adjustment nut.

Indication
• With uneven walls it is recommended to start with the second panel row moved to the inside of the room by roughly half a panel width (300 mm). The wall panels of the first row are then cut panels.

6.10 Levelling of first raised floor panel



Picture 17 Levelling of reference panel

Work steps:

A 6.10.1 Check and eventually adjust reference panel in both directions with the raised floor water level.

A 6.10.2 Check again the levelling on height to the reference point and readjust the pedestal if necessary.

6.11 Secure raised floor pedestals against height displacement

Picture 18 Variant 1 – Threaded bolt at upper pedestal part

Picture 19 Variant 2 – Threaded bolt at lower pedestal part

Work steps:

All pedestals of the reference panel including pedestals in the further installation steps have to be secured against height displacement after exact adjustment.

A 6.11.1 Variant 1 Threaded bolt at upper pedestal part.
Apply locking glue on the thread.
See picture 18.

A 6.11.2 Variant 2 Threaded bolt at pedestal lower pedestal part.
. Pour locking glue into the pedestal head from above.
See picture 19.

See the current data and safety data sheet for information on the processing of the Lindner Locking glue.

6.12 Setting up reference points for installation of a row of panels

Picture 20 Stretching of a line for the first row of panels

Work steps:

A 6.12.1 Setting up a line for the installation of the first row of panels parallel to the wall or rather to the first pan

A 6.12.2 Checking of the alignment of the line.

ATTENTION
Do not use coloured lines! This causes contaminations of applied coverings.

6.13 Installation of first row of panels

Picture 21 Install first row of panels

Work steps:

A 6.13.1 Install further raised floor pedestals and panels of the first row as described in the installation steps 6.3 to 6.12.

A 6.13.2 Check and eventually adjust the installed panel with a raised floor water level in both directions.

Indication
• Align panel edges along the set-up line.

6.14 Check row of panels

Picture 22 Control of the first row of panels

Work step:

A 6.14.1 Check permanently as described in installation step 6.10 and 6.16.

Indication
• **Important:** Make sure that the first row of panels is adjusted accurately as the further installation of the floor is based on it!

6.15 Installation of further rows of panels

Picture 23 Installation of the second row of panels

Work steps:

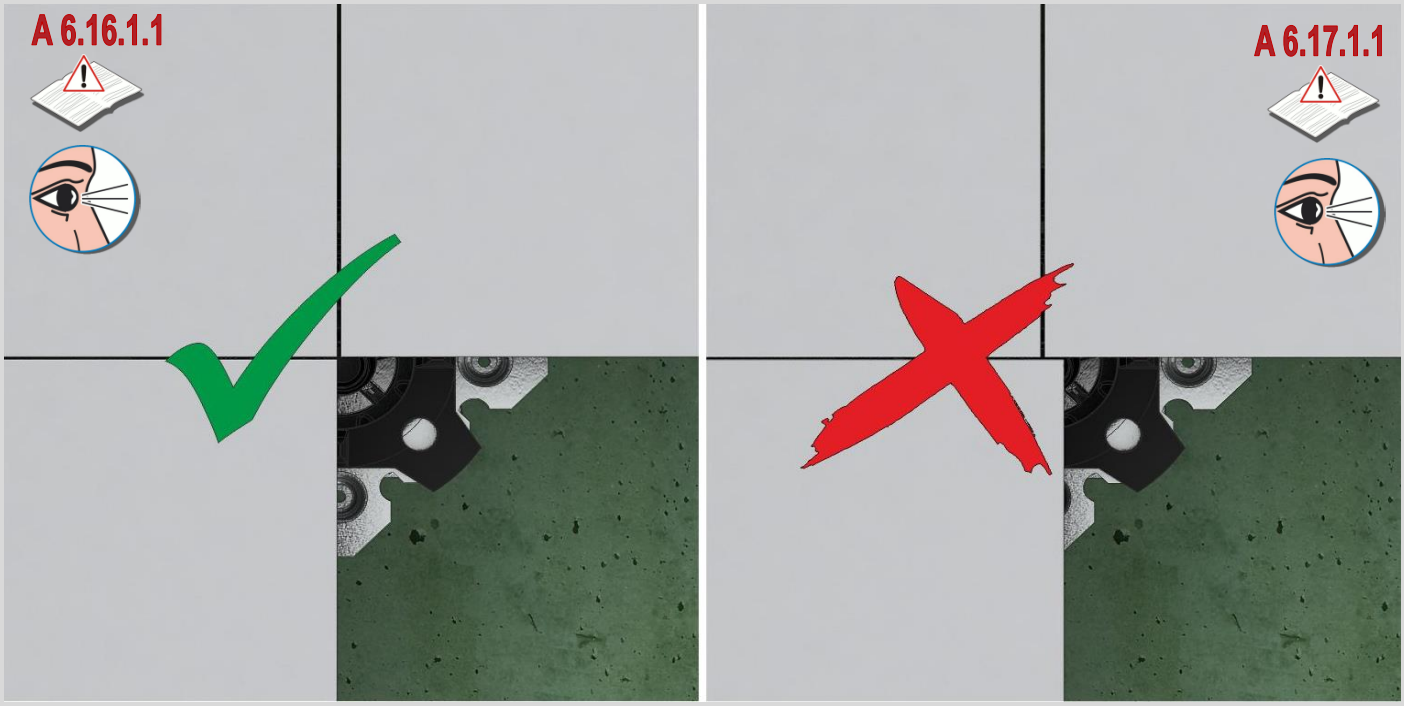
A 6.15.1 Install and check second row of panels as described in the installation steps 6.3 to 6.12.

A 6.15.2 Install and eventually readjust if necessary the first panel of the second row as described in installation step 6.10.

6.16 Check shift of grid and height tolerances

The work steps described in this chapter have to be executed during the entire installation.

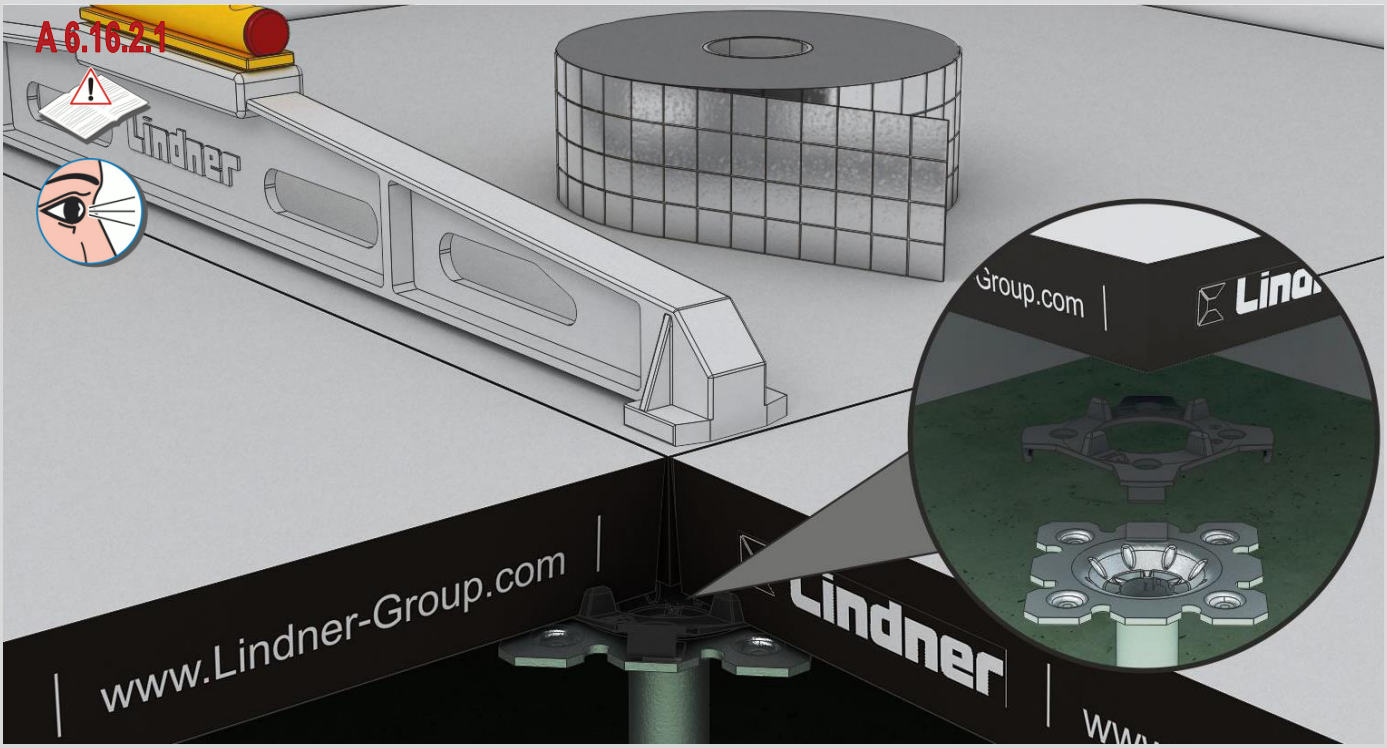
6.16.1 Shift of grid



Picture 24 Control shift of grid and height tolerances

Work steps:

A 6.16.1.1 Check and eventually adjust the shift of grid in order to eliminate any shift of grid.



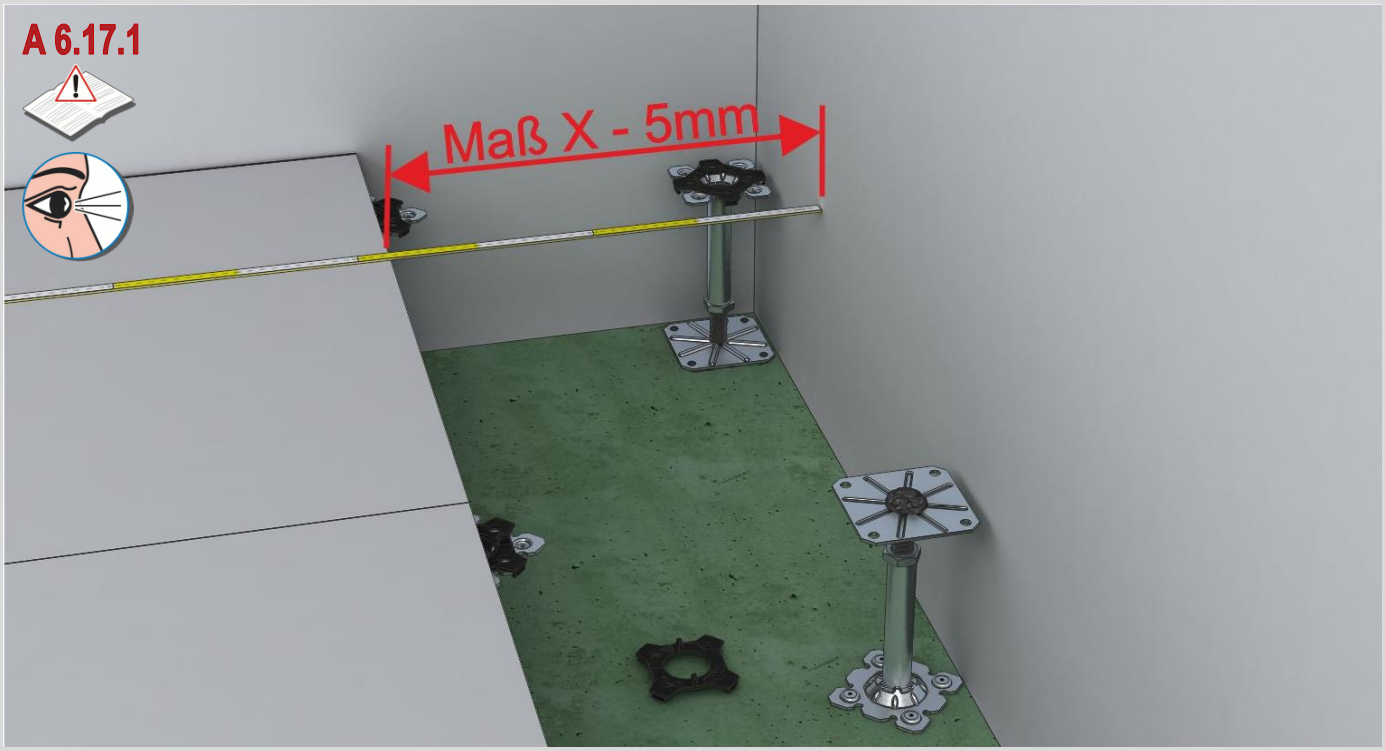
Picture 25 Height compensation with aluminium pads

Work step:

A 6.16.2.1 Compensate possible panel tolerances with aluminium pads.

Indication
• The aluminium pad has always to be installed below the gasket in order to avoid a moving of the panel. • In case of slight height compensations (fine adjustment up to 0.5 mm), the aluminium pad can also be glued on top of the gasket.

6.17 Measuring of cut panels

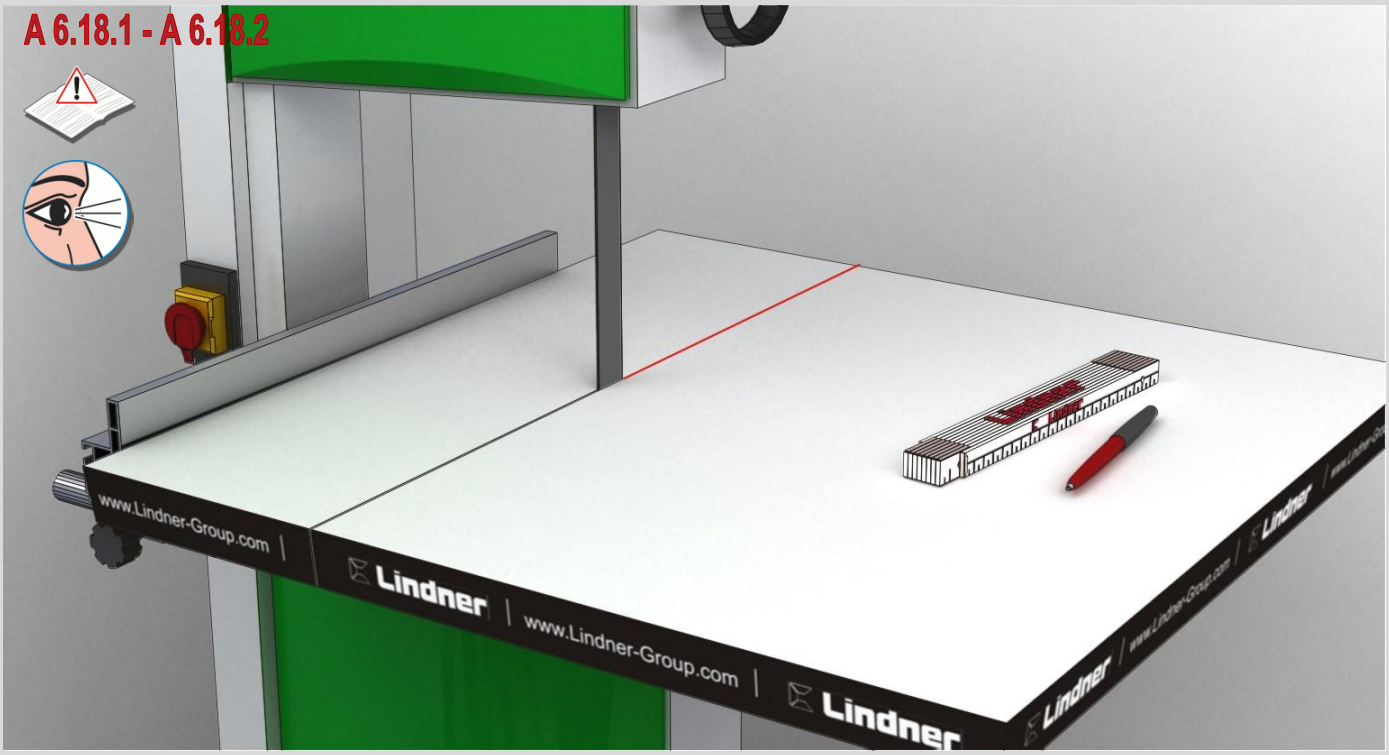


Picture 26 Determine cut panels

Work step:

A 6.17.1 Measure the size of the cut panels in order to determine the required panel format.

6.18 Preparation of cut panels



Picture 27 Preparing cut panels

Work steps:

A 6.18.1 Mark the required dimension of the cut panel on the raised floor panel and the required cutting line.

A 6.18.2 Cut the panel along the cutting line with a band saw.

⚠ WARNING

Inappropriate use of the band saw can cause incised wounds or severe injury.

➲ The accident prevention regulations have to be kept with the use of band saws.

6.19 Application of wall connection tape

Picture 28 Seal cut edge and apply wall connection tape

Work steps:

A 6.19.1 Apply edge sealant with a brush to the cut edge for dust binding. The adhesion of the wall connection tape is guaranteed by this.

A 6.19.2 Apply wall connection tape along the cut edge

A 6.19.3 Cut wall connection tape exactly to the length of the panel with a cutter.

Picture 29 Install the peripheral pedestals

Work steps:

A 6.20.1 Install the peripheral pedestals acc. to installation steps 6.3 to 6.5.

A 6.20.2 Adjustment of the pedestal acc. to installation step 6.4.

6.20 Inserting cut / peripheral panel

Picture 30 Insert cut panel

Work steps:

A 6.21.1 Insert the cut panel carefully and with slight pressure into the raised floor grid.

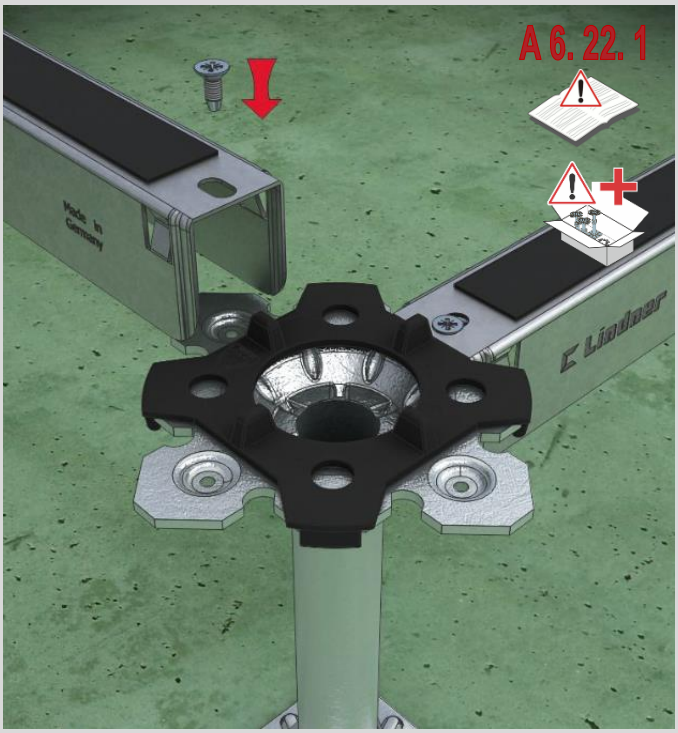
A 6.21.2 Check panel on proper placing, shifts in height, height tolerances and eventually adjust.

A 6.21.3 Secure pedestals against height displacement as described in installation step 6.11.

Indication
• **Important:** The panel may only touch the wall with the wall connection tape.

6.21 Horizontal stiffening

Picture 31 Stringers



Picture 32 Optional screwing

Work step:

A 6.22.1 Insert stringer at pedestal head.

Indications
• Stringers type RL and RM can also be used to increase the load bearing capacity (depending on the floor system). • The stringers can be optionally screwed to the pedestal head.

Picture 33 Installation of electrical outlet

Work step:

A 6.23.1 Insert and fix electrical outlet for the accommodation of data and electrical connections acc. to information of the manufacturer in opening which has been cut in the factory or on site.

Indications

- Raised floor panels with integrated outlet (ventilation, electrical), do not conform the original specifications of the loading bearing capacity.
- Also installation parts can be dimensioned weaker than the actual floor system.

6.23 Ventilation outlets

Picture 34 Installation of ventilation outlet

Work step:

A 6.24.1 Insert and fix ventilation outlets acc. to information of the manufacturer in factory-milled opening.

6.24 Bracings and further accessories

Indication
• There are no installation steps for the bracing of the raised floor area included in this installation guideline. These are necessary in order to take up the horizontal loads which are affecting the floor system. They have to be planned and installed specifically for each project. • Furthermore there are no work steps for further accessories included. • Please do not hesitate to contact us in case you should have further questions or if you require any assistance help.

6.25 Disposal

Please consider an environmentally compliant disposal of packaging, adhesives, sealants and accrued waste with installation acc. to local regulations!

Please search for possibilities of recycling or appropriate disposal.