

## DIRECTIONS FOR USE

# USING PROFILDECK® TO CREATE A HYBRID TIMBER AND PAVED TERRACE

*ALUMINIUM JOIST - HEIGHT 55 MM*



[www.jouplast.com](http://www.jouplast.com)



# DIRECTIONS FOR USE

## PROFILDECK® RANGE

### Aluminium joist - height 55 mm

One side for installing terrace paving and one side for installing wooden and composite decking.

### Profildeck® screw

Self-drilling screw. Secures brackets, adapter directly into the joist. Dimensions : 4.8 x 19 mm.

### Horizontal junction angle bracket

For reinforcing 90° joints. Slotted holes for accurate setting.

### Horizontal junction angle bracket for edge finishing :

Allow the decking edge finishing. Pre-drilled for easy screwing.

### Vertical junction angle bracket

To create step or a second terrace level. Slotted holes for accurate setting.

### Slab spacer

Creates a 3 mm drainage channel between paving elements. Tabs can be split easily.

### Adapter

Secures the Profildeck® joist to the «Essential» and «Elevo» riser head and clips onto all Jouplast® riser heads. (Except paving riser HD 8/20). Use the adapter to link to 2 joists together with the 4 fixing points.

Raises the height of the riser by 5 mm.

### Rubber tape

Fixes the paving slabs to the Profildeck® joist, as well as reduces noise and resonance when walking on the terrace.

To be positioned on the support rails of the slab side joist.

### Anti-condensation tape

Prevents increased Profildeck® joist and terrace moisture content. To be positioned on the support rails of the decking side joist.

### Decking board screw

Self-drilling screw. For fixing wooden decking boards to the joist.

Dimensions : 5.5 x 45 mm.



**Safety first ! Use protective glasses and safety gloves.**



#### VIDEO

*Click on the QR CODE or scan it, you will be redirected to the «Product» video.*



PROFILDECK®

## RECOMMENDATIONS

### › FOR PAVING INSTALLATION

#### DIRECTION OF LAYING

From an aesthetic perspective, it is better to lay cut slabs against walls (whole slabs on the outside).

#### › PLEASE NOTE :

Always follow paving manufacturer recommendations to ensure the suitability of paving products for use with riser pedestals and the number of risers per m<sup>2</sup> to use. Qualification of compulsory "SELF-SUPPORTING" slabs, of class T7, T11 according to standard EN 1339:2004-02.

### › FOR DECKING INSTALLATION :

#### DIRECTION OF LAYING

Before you begin, decide in which direction you will lay the boards. From an aesthetic perspective, wooden boards should be positioned parallel to the access wall.

#### › CHOOSE THE RIGHT DECKING BOARDS :

##### Board slenderness ratio \*

The slenderness coefficient is calculated as the ratio between the width [w] of the joist and its depth [d], i.e.  $w \div d$ . The higher the slenderness coefficient, the greater the risk of the joist warping \*. We therefore recommend a slenderness coefficient of between 4 and 6, depending on the type of timber used.

##### Board quality

Any idiosyncrasies noted on the boards could have negative consequences. Check for buckled, warped or curled boards, or boards with an irregular pattern in the wood fibre.

##### Drying the boards

Ensure that the board drying techniques used meet the requirements for the selected species.

AD: Air drying for naturally stable wood (e.g. IPE exotic wood).

KD: Kiln drying for wood requiring a more controlled drying environment.

We also recommend that the moisture content of the timber decking boards should be between 18% and 22% at the time of installation, otherwise there is a risk that the installation will degrade.

### THIS MUST BE VERIFIED WITH THE WOOD DISTRIBUTOR

\* Joint layout plan: the plan to follow when laying your paving.

\* slenderness ratio: Ratio between the thickness and width of the board.

### TOOLS

- › A tape measure.
- › A level.
- › A screwdriver.
- › A mitre saw or chop saw with a multicut or similar blade. Alternatively, an angle grinder with an aluminium or all-purpose disc (minimum diameter 125 mm) or a hacksaw.
- › A metal file for deburring cut ends.
- › Chalk or line marking spray.

### BEFORE STARTING :

Before starting work, it's important - essential even - to prepare a joint layout plan\* clearly showing:

- › **the cuts.**
- › **the spacing between joist centrelines.**
- › the quantity of accessories required : brackets, adapters, riser pedestal, etc...
- › the levels.
- › the joists connection joints. We do not recommend the use of joist lengths less than 800 mm. If, when you reach the end of the terrace, the length of joist is less than 800 mm, we recommend cutting the previous length of joist to 800 mm, so that the run to the end of the terrace can be finished with a longer section. The shorter cut section can then be used in the next run of joist.
- › Edge finishes must be considered and planned before the start of installation.
- › Ensure full decking board widths to avoid having to rip boards lengthways. We recommend you install only full boards.

### 1.1. MARK OUT THE TERRACE INSTALLATION AREA

- › Mark out the location of the future terrace on the ground.

Prepare the ground in one of two ways:

**Pro tip :**

- › Make sure the area is clean and the ground is stable.

**On uneven ground :**

- › Remove about 15 cm of topsoil.
- › Lay a geotextile membrane.
- › Lay a base layer of 0/31.5 grade aggregate..
- › Compact with a vibrating plate compactor (wacker).

**N.B.:**

- › Depending on the nature of the soil, a draining foundation layer can be laid upstream by depositing a layer of 30/60 or 40/80 crushed stone.
- › If the resulting surface is still uneven, we recommend laying a bed of quarry sand or 0/4 crushed sand. This will made it easier to install low riser pedestals.
- › We recommend using the vibrating plate compactor between each layer.

**On a concrete support :**

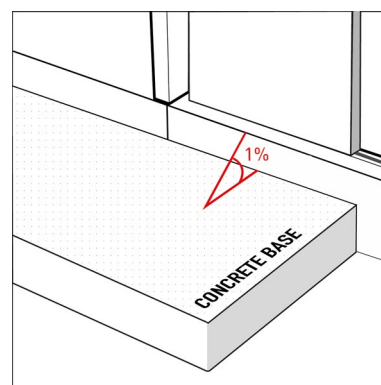
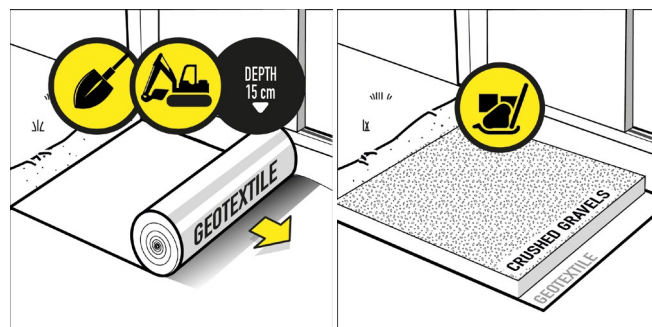
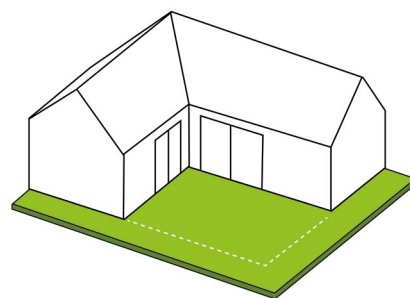
- › Remove any debris, stones, etc. that could make it more difficult to position and stabilise the riser pedestals.
- › Check that the levels are correct according to the layout plan and that there is at least 8.3 cm of clear space below the paving at the lowest point.

**NB :**

- › Riser pedestal (mini. 20 mm) + Aluminium joist + adapter + rubber tape = 8,3 cm.

- › Riser pedestal (mini. 20 mm) + Aluminium joist + adapter + the anti-condensation tape = 8,1 cm.

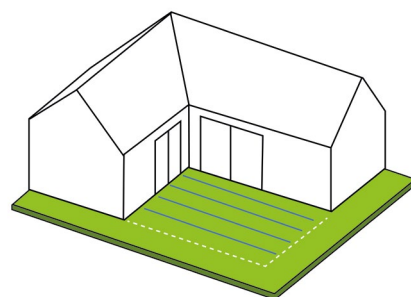
For a 20 mm ceramic slabs, the total height of the paved terrace is 10,3 cm.



Minimum slope percentage 1%

### 1.2. MARK OUT THE POSITION OF THE JOISTS

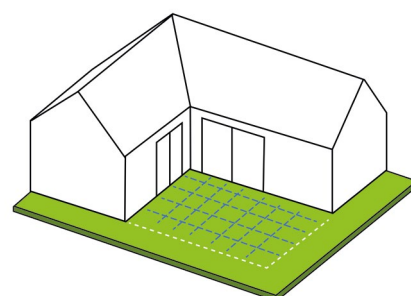
- › Use a chalk line to clearly mark the position of each line of riser pedestals at right angles to the recommended joist centreline spacing.
- › For paved sections: the spacing between joist centrelines is dictated by the size of the paving tile and/or its manufacturer's recommendations.
- › For timber sections: the centreline spacing distance depends on the thickness and type of timber chosen (50 cm on average).



### 1.3. MARK OUT THE RISER PEDESTAL POSITIONS ON THE GROUND.

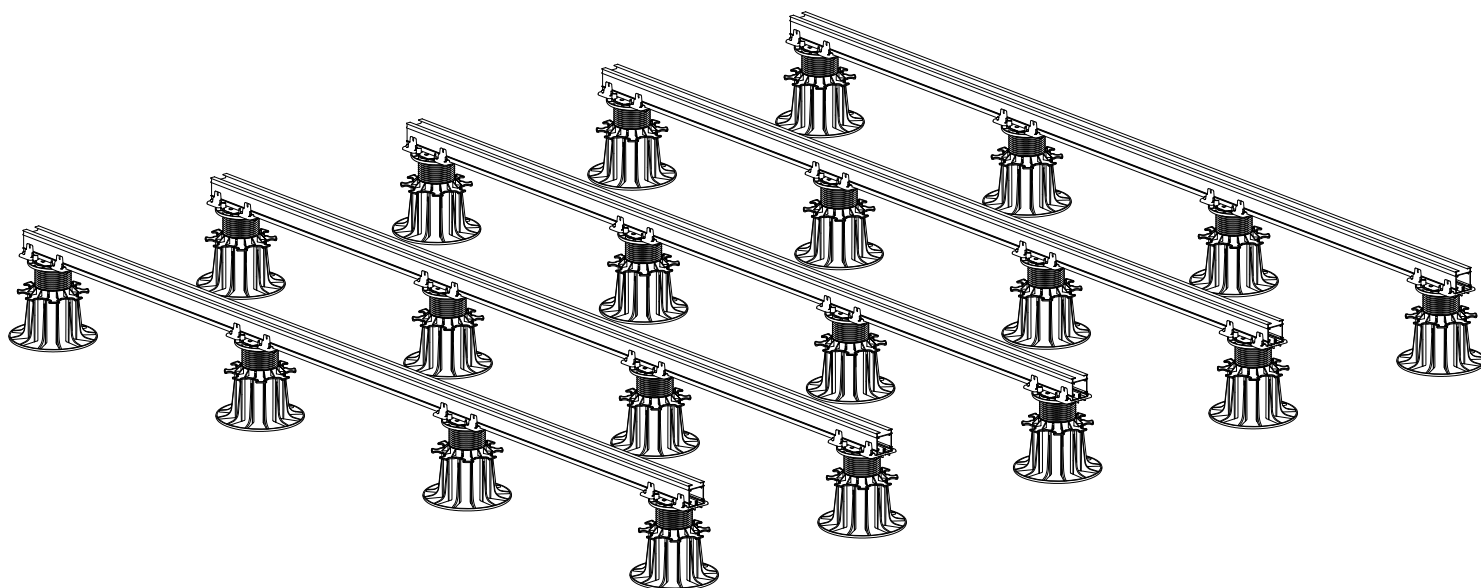
- › Use a chalk line to clearly mark the position of each line of riser pedestals at right angles to the recommended joist centreline spacing.
- › The recommended spacing distance for riser pedestals is 80 cm. [i.e. 4 riser pedestal per joist, including the ends.]

For terraces with public access, the recommended distance varies from 50 cm to 65 cm.



\* Spacing between joist centrelines: the distance between the centrelines of two joists.

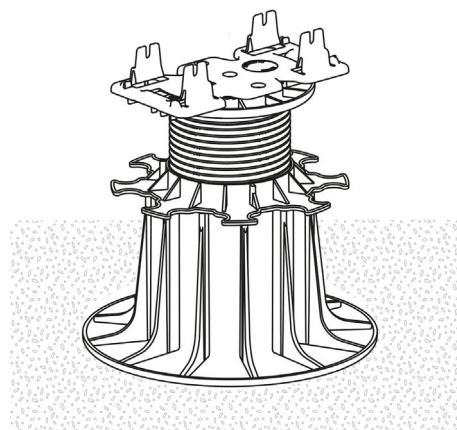




### 2.1. POSITION THE JOISTS AND RISER PEDESTALS

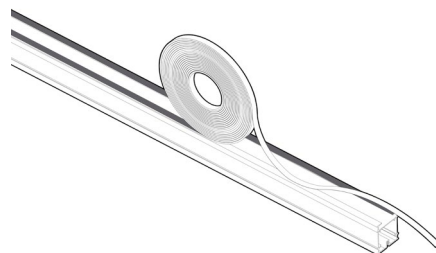
- › Choose your starting point from your layout plan.
- › Place the first Profildeck® joist in the location shown on the plan.
- › Clip the adapters onto the riser pedestals.
- › Clip the joist to the riser pedestal at each end by pushing the joist until it clicks into place - then set the level using the nut.
- › Then clip the joist into the intermediate riser pedestals and adjust the height to your desired level.
- › Maintain the centreline spacing between riser pedestals as recommended in § 1.3.
- › Set the levels and position string lines, stakes or other markers using the first Profildeck® joist installed as your reference, and repeat the operation for all other joists.

*N.B.: remember to take account of features like inspection covers, junction boxes, skimmer inlets, door thresholds, etc.*



### 2.2. APPLY THE SELF-ADHESIVE RUBBER TAPE

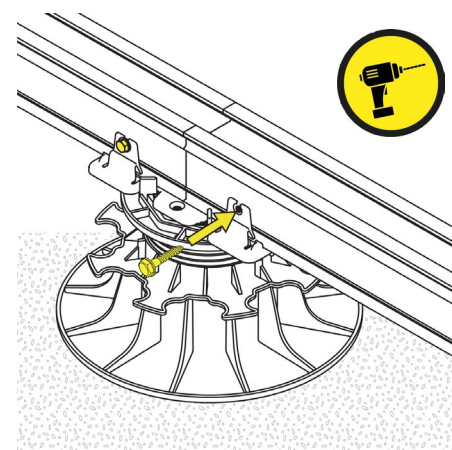
- › As you progress, and ensuring that the joist is clean and dry, apply the self-adhesive rubber tape to the face on which the paving will be laid.



### 2.3. JOINING ALUMINIUM JOIST

- › Joists lengths greater than 3 metres should be connected using the adapters.
- › Position a riser pedestal fitted with an adapter beneath each joint.
- › Screw the adapter to the joists at all 4 fixing points using self-tapping structural screws. We recommend leaving a gap of 2 mm between joists to allow for expansion.
- › Repeat for each joist joint.

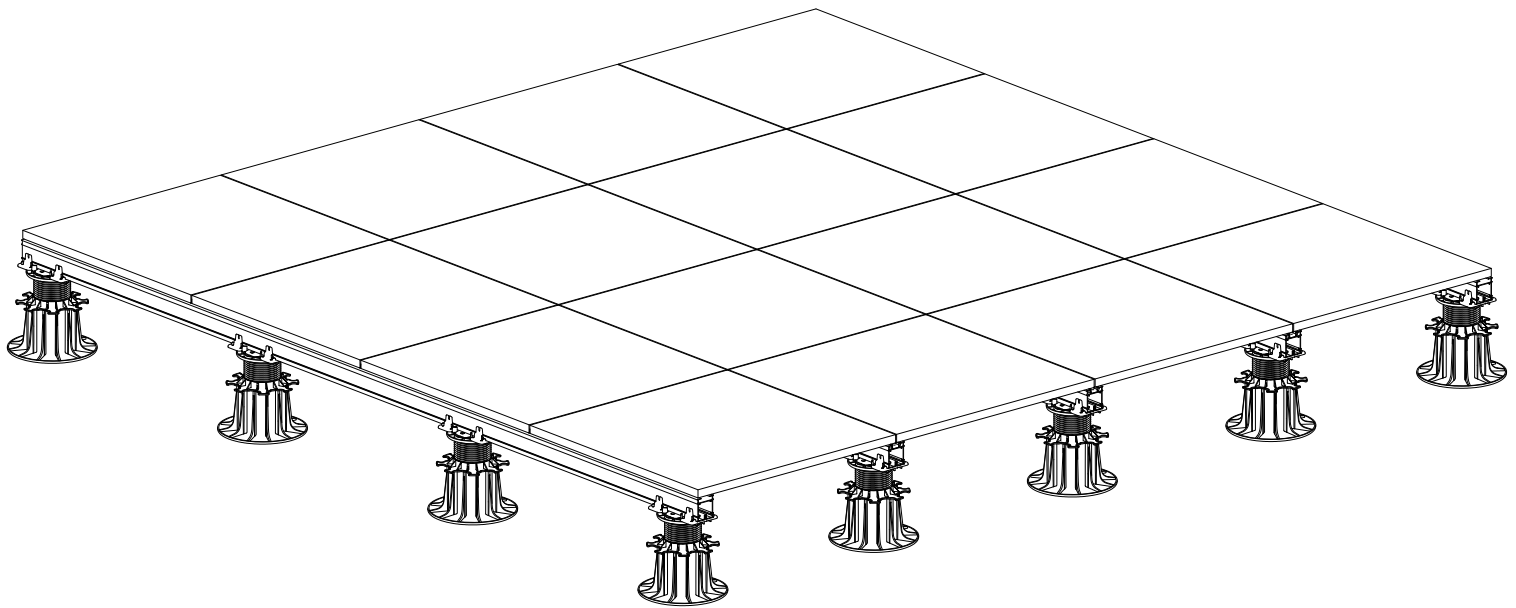
*N.B.: the torque rating\* for our Profildeck® screws is 2.5 Nm ±0.5. As a guide, a torque rating of 2.5 Nm normally corresponds to position 8 on the adjuster of a 20-position 18-volt drill/driver.*



\* Torque rating: the parameter used to measure the rotational force of a screwdriver.

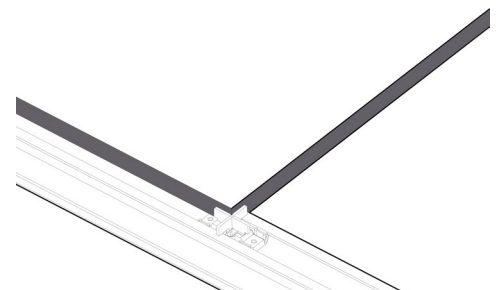
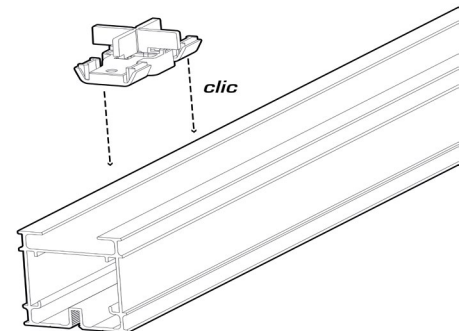
## 3

## LAY THE PAVING



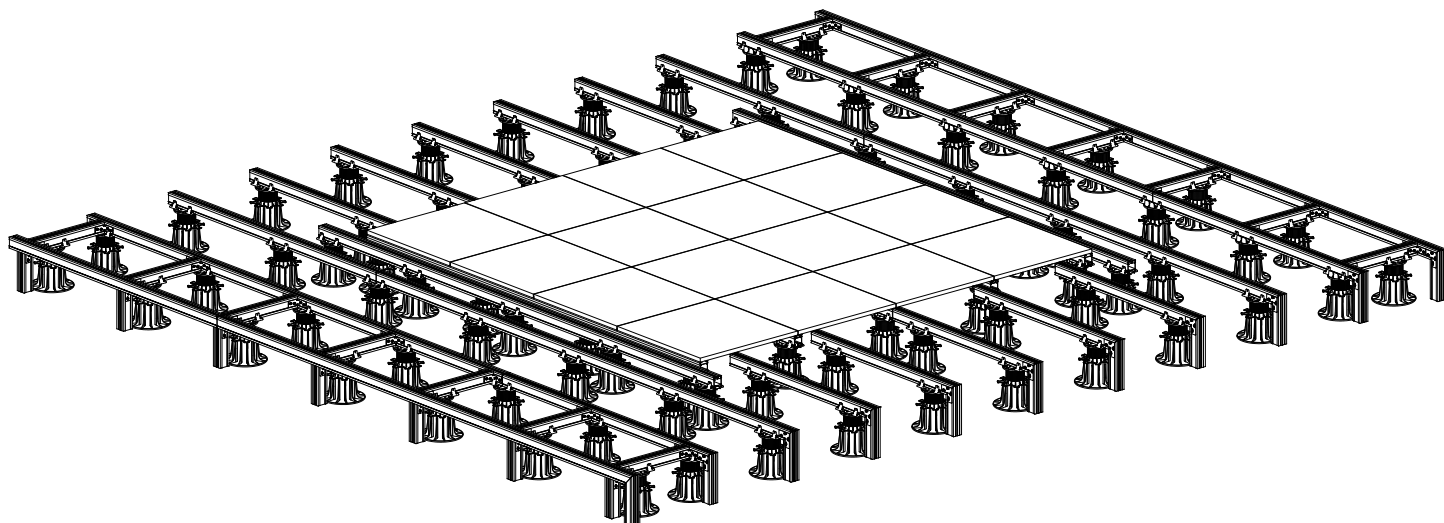
### 3.1. USE THE SPACER

- › Lay the paving, starting at the corner of the layout plan.
- › As you progress, click the spacers into the central rail of the joist.
- › If you are laying your paving in a staggered pattern, break off any tabs that are not required.
- › Readjust the centreline spacing distance and level as you progress.



## 4

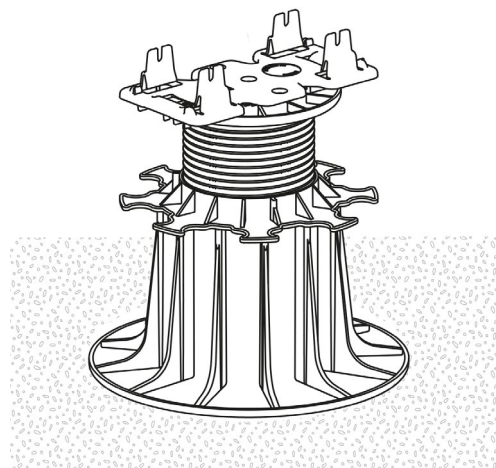
## BUILDING THE DECKING SECTION



## 4.1. POSITION THE RISER PEDESTALS

- › Use the timber face of the joists to build a second structure around the paved section.
- › Choose your starting point from your layout plan.
- › Then position the joists and riser pedestals as explained in section 2.1.

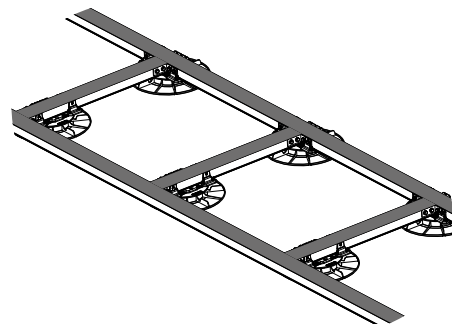
*N.B.: When drawing your installation plan, make sure that you use only full decking board widths to avoid having to rip boards lengthways. We recommend you install only full boards.*



## 4.2. CREATING 'LADDER' EDGE STRUCTURE

- › We recommend that 'ladder' structures are installed at terrace edges.
- › To do this, use horizontal brackets to attach braces\* (approx. 50 cm long) between the edge joist and the adjacent internal joist.
- › Step the riser pedestals supporting the edge joist slightly back to ensure that they are not visible once the terrace is complete.

We recommend leaving a gap of 2 mm between joists to allow for expansion.



*N.B.: the torque rating\* for our structural screws is 2.5 Nm  $\pm$ 0.5. As a guide, a torque rating of 2.5 Nm normally corresponds to position 8 on the adjuster of a 20-position 18-volt drill/driver.*

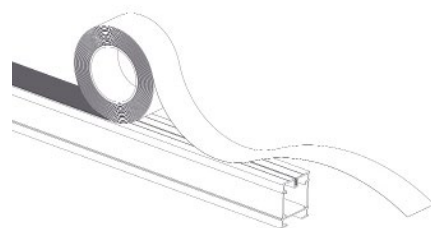


## 4

## BUILDING THE DECKING SECTION

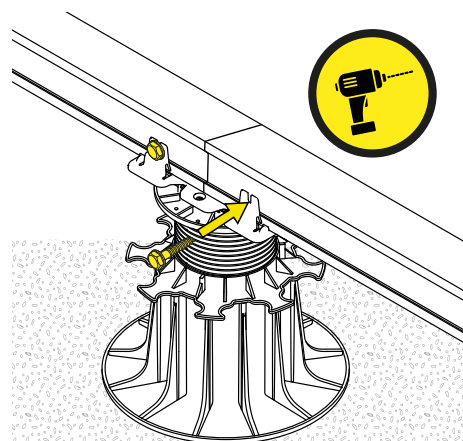
### 4.3. APPLY THE SELF- LA BANDE ANTI-CONDENSATION

› As you progress, and ensuring that the joist is clean and dry, apply the self-adhesive anti-condensation tape to the face on which the timber will be laid.

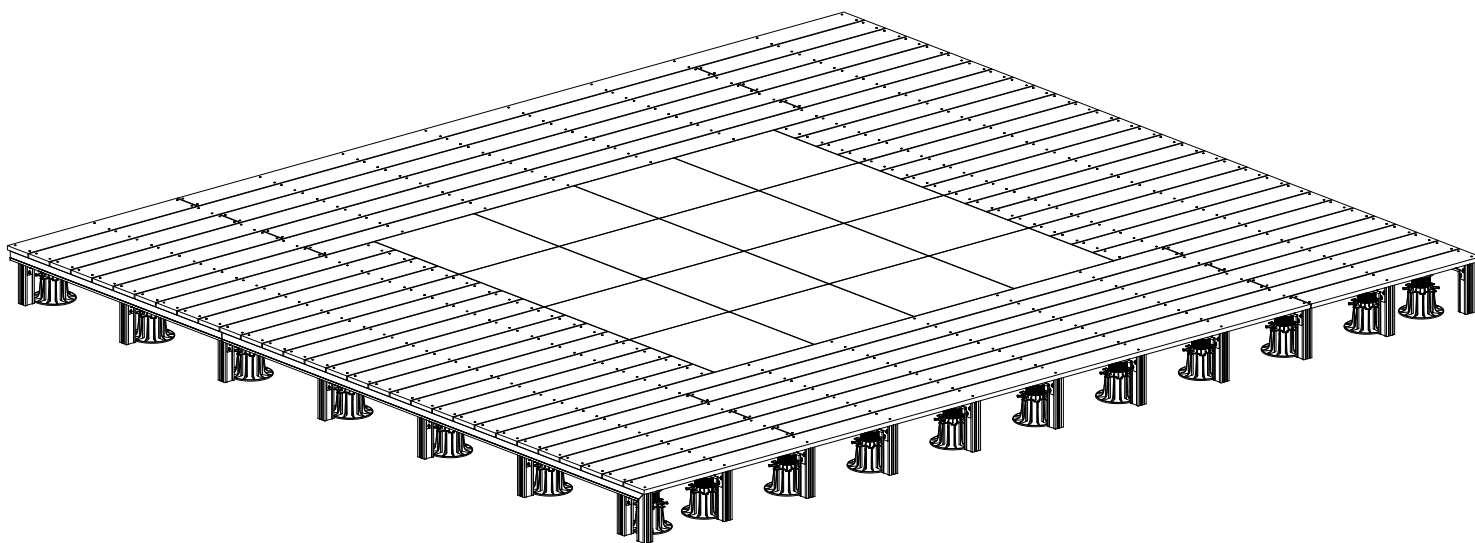


### 4.4. JOINING ALUMINIUM JOIST

› See § 2.3



## OPTION 1 - SCREW FIXING OF DECKING BOARDS



### 5.1. USING PROFILDECK® SCREWS TO FIX TIMBER DECKING BOARDS

- › Lay the timber decking\* boards leaving a regular and consistent space between boards (using spacers).
- › Screw through each board using the special Profildeck® screws.

**Pro tip :**

The torque rating\* for these fixing screws is 7 Nm. As a guide, set the adjuster of a 20-position 18-volt drill/driver to position 18.

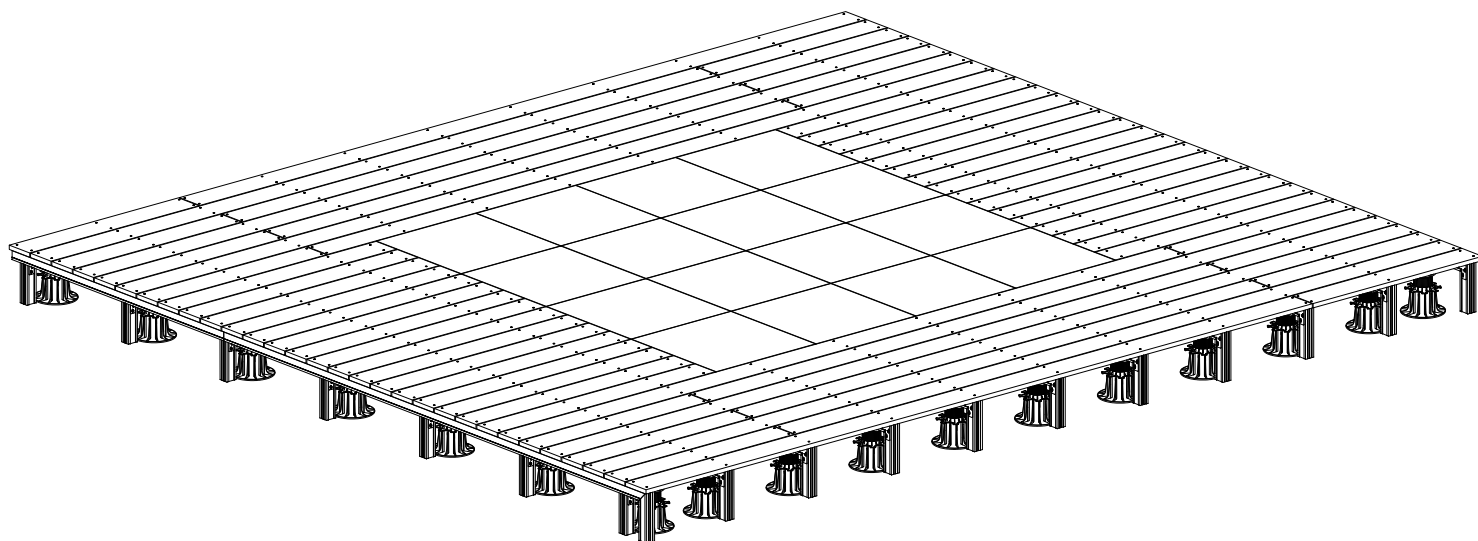
When laying composite decking boards, use the fixings recommended by the manufacturer, checking that the screws concerned are suitable for use with aluminium joists. Screws must be threaded for their full length. Minimum screw length: 15 mm.

\* Timber decking: exterior structure covered with boards laid on joists fixed to stable base structures (riser pedestals, packers, beams, etc.).

## 5

## LAY THE DECKING BOARDS

## OPTION 2 - SECRET SCREW FIXING OF DECKING BOARDS WITH THE FIXEGO® SYSTEM



## 5.2. USING THE FIXEGO® FIXING SYSTEM®

To lay decking boards with no visible fixings, use the FIXEGO® system (see installation instructions):

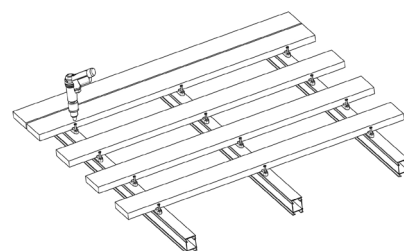
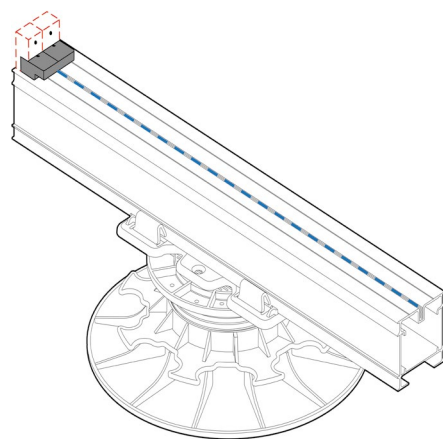
- › Attach a cleat at the end of each joist. N.B.: the cleat must be centred on the longitudinal axis of the joist, and 5 mm from the end of the joist (a vertical cleat can be used as a template for this distance).
- › Pre-drill with a 3 mm diameter metal bit.
- › Screw in the cleat (using screw 4 x 25 mm screws).

*N.B.: cleats are used only to start and finish the deck. Follow the FIXEGO® installation instructions and recommendations.*

**Pro tip:**

*When securing cleats to joists, set the adjuster of a 20-position 18-volt drill/driver to position 20.*

- › Before using the FIXEGO®, we recommend pre-drilling the Profildeck® joists with a 4 mm diameter metal drill.



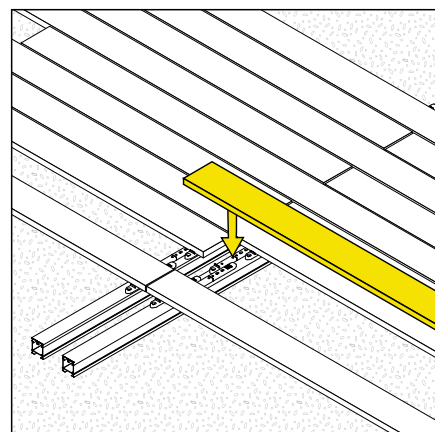
**Where decking boards are butt-jointed end-to-end**, we recommend installing twin joists: one to support the end of the first board and a second, parallel to the first, to support the end of the next board (see diagram).

We also recommend offsetting the riser pedestals beneath the joists.

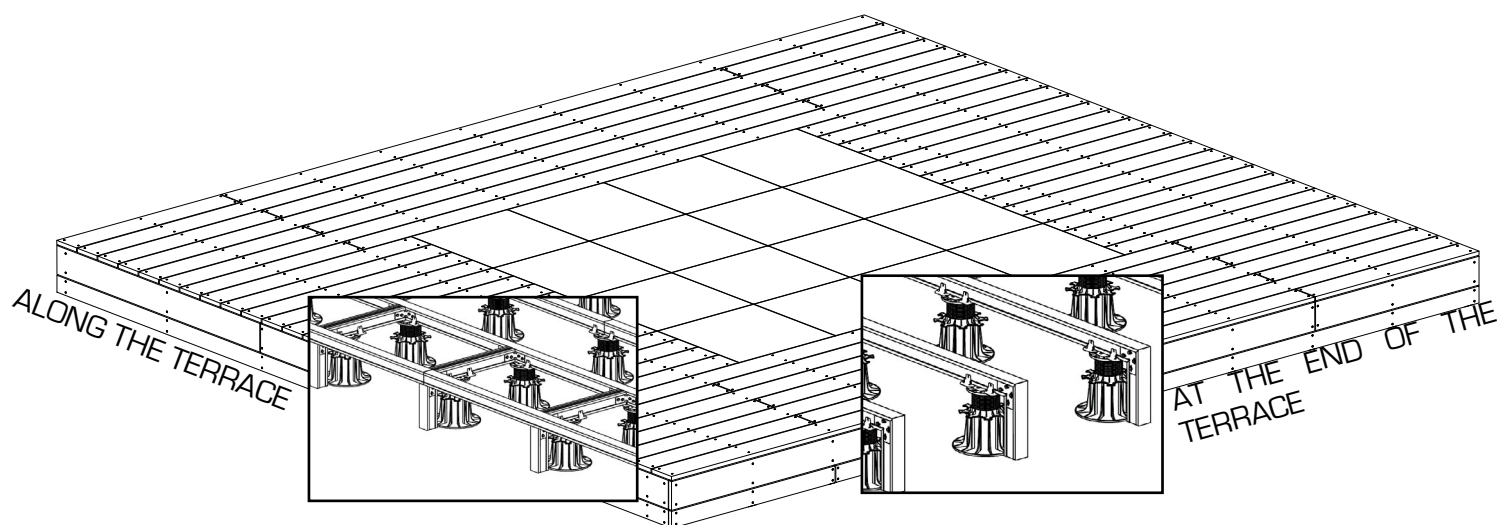
- › 6 x 30 mm FIXEGO® system screws are included in the kit.
- › Pre-drill with a 4 mm diameter metal bit.

**Pro tip:**

*For driving FIXEGO® system screws, set the adjuster of a 20-position 18-volt drill/driver to position 15.*



Twin joists



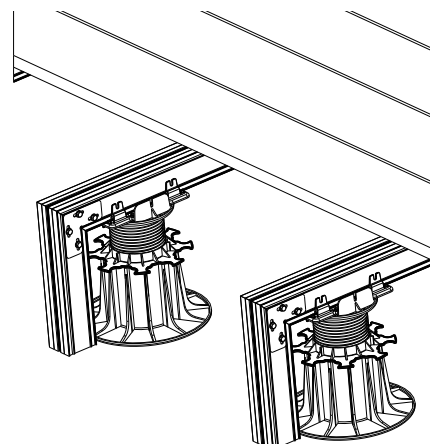
### 6.1. FINISHING AT THE END OF THE ALUMINIUM JOIST

- › Cut the horizontal joist at 45°, from top to bottom.
- › Cut a piece of joist to the measured height at 45° (leaving 5 mm for rainwater drainage).
- › Use 2 vertical brackets to join the 2 joists (timber fixing side facing outwards).
- › Use decking screws to attach the decking boards used to provide the vertical edge trim.

#### Pro tip :

Where the height below the decking is less than 300 mm, it is not necessary to use an lateral riser support.

Where the height below the decking is more than 300 mm, we recommend the use of an lateral riser support (attached to the face of the riser pedestal).

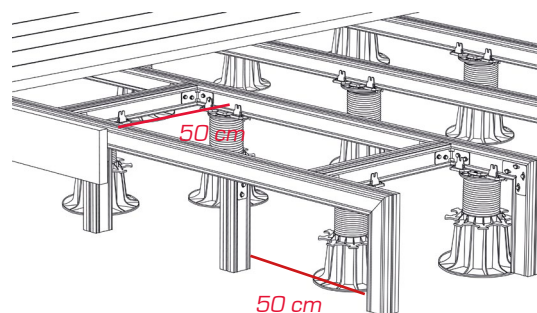


### 6.2 ALONG THE ALUMINIUM JOIST

- › Use horizontal brackets to attach braces\* (approx. 50 cm long) between the edge joist and the adjacent internal joist.
- › Step the riser pedestals supporting the edge joist slightly back to ensure that they are not visible after the edges have been finished.
- › Use horizontal brackets (for edge finishing) to vertically fix measured lengths of joist (leaving 5 mm for rainwater drainage) with the timber fixing side facing outwards).
- › Screw the boards in place using decking screws (N.B.: the vertical joists must be spaced at 50 cm).

#### Pro tip :

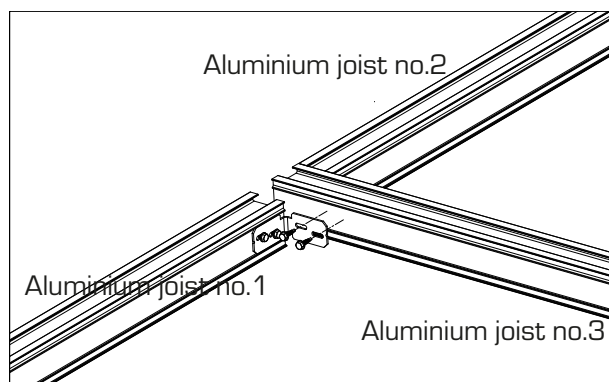
Prepare and fix the short joist sections to the main joist structure in advance, because it will be difficult to secure the brackets in such a limited space.



## BUTT JOINTING OF ALUMINIUM JOIST

› If it is not possible to join 2 joists using an adapter, the joint can be made using horizontal brackets. e.g.: against a wall (see diagram).

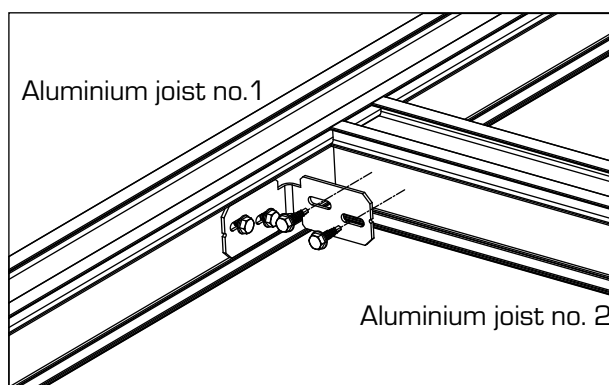
We recommend leaving a gap of 2 mm between joists to allow for expansion.



Special application : Butt jointing of profiles with horizontal brackets

## USING HORIZONTAL BRACKETS

- › To connect 2 joists at 90° to each other.
  - › To attach braces\* (for reinforced structures).
  - › To create L-shaped terraces.
  - › To create U-shaped terraces.
  - › Locate the horizontal bracket between the outer rails of joist no. 1.
  - › Use 2 structural screws to attach the horizontal bracket to the joist through the slotted holes, but do not tighten at this stage.
  - › Locate joist no. 2 against the horizontal bracket and secure using 2 Profildeck® screws.
  - › Adjust the position of the joists and tighten all 4 Profildeck® screws.
- We recommend leaving a gap of 2 mm between joists to allow for expansion.



### Pro Tip

Tighten Profildeck® screws to a torque rating of 2.5 Nm. As a guide, set the adjuster of a 20-position 18-volt drill/driver to position 8.