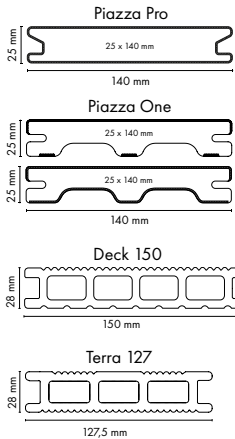


# UPM ProFi Decking Installation Instructions

## Part 2: Text



These instructions should be used in combination with UPM ProFi Decking Installation Instructions: Part 1: Diagrams. It is important to follow the instructions carefully. Failure to do so may lead to reduced product performance and will invalidate the manufacturer's guarantee.

The instructions should be seen as being in addition to and not a replacement of local and national building regulations which must always be followed.

These installation instructions are for UPM ProFi Piazza Pro, UPM ProFi Piazza One, UPM ProFi Deck 150, UPM ProFi Deck 150 UV+, and UPM ProFi Terra 127

More detailed information concerning roof terrace, stair and pool edge installation can be found in UPM ProFi Decking Installation Instructions: Part 3 available on [www.upmprofi.com](http://www.upmprofi.com)

If you are in doubt, please contact your UPM ProFi distributor's representative and/or visit [www.upmprofi.com](http://www.upmprofi.com) for further information.

### 1. Planning

See Deck Planner & Technical Data Sheets at [www.upmprofi.com](http://www.upmprofi.com)

- 1.1** UPM ProFi's Deck Planner enables you to optimize the design of your deck, as well as create a list of all the materials needed. It will also show you where double support rails or joists are needed.
- 1.2** In addition to offering superior low maintenance properties compared to timber, composite decking has other different properties. The deck boards will expand and contract slightly along their length with changes in temperature (typically 6 mm for a 4 m board during a 40°Celsius temperature change). It is also normal that the relaxation of residual production stress may result in a small shortening of the deck boards in the first years after installation. Typical values are less than 0,5mm for Piazza Pro, approximately 1,5 mm for Piazza One & Deck 150 and up to 3 mm per m for Terra 127.
- 1.3** A detailed expansion table can be found in the Technical Data Sheet (downloadable from [www.upmprofi.com](http://www.upmprofi.com)).
- 1.4** Plan your deck so as to minimize the number of board-end joints / expansion gaps e.g. by changing the board direction or using a framing board running at a 90° angle to the main area (for details see also 5.6).
- 1.5** If uninsulated metal components (e.g. hand rails) in direct contact with the ground are installed adjacent to capped composite decking such as UPM ProFi Piazza Pro or One, it is possible in warm dry weather conditions that electrostatic charges generated while walking on the deck may result in shocks when touching these items. This can be avoided by ensuring that e.g. the hand rail is not in direct contact with the ground or using non-conductive materials such as plastic or wood, or by installing UPM ProFi Rubber Strip (please note that additional ventilation points might be needed, see chapter 2.3).

#### 1.4



Gaps can be minimized by planning the deck board direction



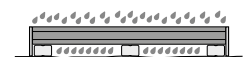
Gap size is reduced when 90° framing boards are used

### 2. Inclination, Drainage & Ventilation

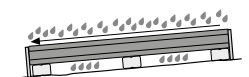
See section 1 in UPM ProFi Decking Installation Instructions: Part 1: Diagrams

- 2.1** As all UPM ProFi deck products have a very low rate of moisture absorption, they can be installed horizontally with no incline. However, installing the boards at a gradient (e.g. 1 – 1,5 %) results in faster deck drying and the run-off rainwater will help to wash away dust.
- 2.2** As with all decks, UPM ProFi decks must be well ventilated and installed on a sub-structure that enables a free flow of air under the deck and good drainage of rainwater. Please note local building regulations and generally accepted practices concerning for example, the minimum distance of the decking to the wall of the building, and the possible need for drainage channels between a house wall and the decking edge.
- 2.3** When using UPM ProFi Alu Rail and/or Rubber Strip, it is mandatory to create additional ventilation in the deck to ensure a free flow of air underneath the deck. For example, if the deck is installed alongside a wall, ventilation grills must be installed along the whole length of the wall before the first row of deck boards.

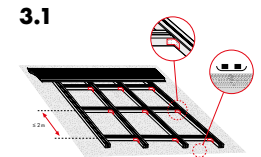
#### 2.1



#### 2.1



If the edges of the deck which are not adjacent to a wall are closed, then sufficient ventilation grills must be added along the deck edge to enable the free flow of air under the deck. Failure to do so may result in distortion and weakening of the decking over time. To ensure sufficient drainage in cases of heavy rain, depending on the deck size, it may be needed to add drainage grills at the deck edges. Please note local building regulations.



### 3. Substructure

See section 2 in UPM ProFi Decking Installation Instructions: **Part 1: Diagrams**

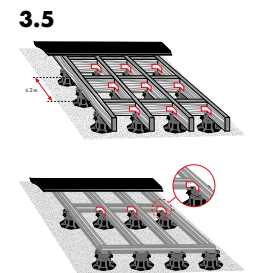
**3.1** To prevent movement of the deck during its lifetime, UPM ProFi Decking must always be installed on a rigid sub-structure frame.

**3.2** Different sub-structure options exist depending on the deck design. The frame itself must be installed on a well draining hard load bearing surface e.g. concrete blocks, impacted stones, or concrete.

**3.3** No matter what length, each deck board must be supported by at least three joists/support rails. Double joists/support rails (spaced 40 mm apart) must be installed at points where the ends of two deck boards meet.

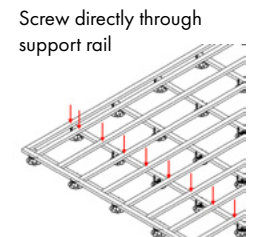
#### 3.4 Ground level decks

UPM ProFi Support Rail or UPM ProFi Alu Support Rail Small (if deck height is restricted) may be used when installing directly onto the ground: Alu Support Rail Small may not be used for raised decks. To correct slight unevenness in the ground, UPM ProFi Rubber Pads may be used under UPM ProFi Support Rail only if the max distance of rubber pads does not exceed 30 cm (center to center). With UPM ProFi Support Rail and UPM ProFi Alu Support Rail Small, the rigid sub-structure frame must be made by fixing the support rails / joists to the ground at no more than 1 m intervals. (e.g. fixing with bolts into the concrete).



#### 3.5 Raised decks

UPM ProFi Support Rail, Alu Support Rail Large or suitable timber joists (eg dried hardwood durability class 1) may be used for raised decks. They may be installed on eg UPM ProFi Feet or concrete blocks. An inter-locked rigid sub-structure frame must be made by screwing together the support rails / joists and the cross members with angle brackets. The distance between cross-members must not exceed 2 m (centre to centre).



Screw directly through support rail

When UPM ProFi support rail is used for raised decks, the spacing of e.g. adjustable feet may not exceed 40 cm centre to centre for public use and 50 cm centre to centre for private use. If allowed by local conditions, counter-battens can be installed as an alternative to cross member installation. They should be installed in 90° underneath the joists and fixed to them by screwing.

**3.6** UPM ProFi deck boards must not be used above ground level installations, unless built on a solid load bearing surface: e.g. a concrete balcony or roof terrace.

See UPM ProFi Decking Installation Instructions: Part 3. ([www.upmprofi.com](http://www.upmprofi.com)) for further instructions concerning roof terraces.

#### 3.7 Joist Spacing

Due to the different mechanical properties of the different decking boards, the max joist span as described in Table 1 must be kept. Failure to do so may result in board distortion. When laying the boards diagonally to the joists, the spacing has to be reduced by 10 cm.

Joist spacing (a)	Piazza Pro	Piazza One	Deck 150	Terra 127
Residential	40 cm	35 cm	40 cm	35 cm
Commercial	30 cm	-	40 cm	-

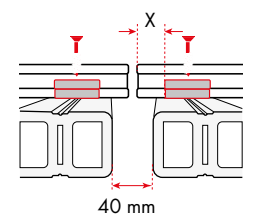
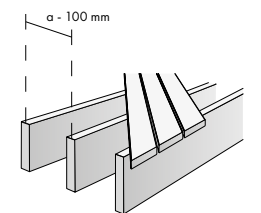
Piazza One and Terra 127 are designed for residential use only

#### 3.8 Joist Overhang

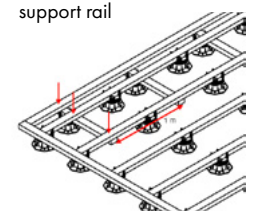
For Piazza Pro and Deck 150 the maximum recommended overhang (X) of a board end is 50 mm, and 30 mm at maximum for Piazza One and Terra 127.

#### 3.9 Frame Edge with Alu Support Rail Large & Feet

A special edge construction is needed when the frame is built on feet, so that UPM ProFi Piazza One deck ends can be fixed flush with 3 cm overhang or to install UPM ProFi Rail Step. Short cross members (~60 cm) should be installed underneath the main support rails at angle of 90°. The cross members should be connected to the main support rails by screws and the outer end should be installed on a foot. The final edge support rail can then be installed on the cross members so that it is flush with the bottom of the feet. This should be made part of the rigid frame by the use of angle brackets.



Screw directly through support rail



## 4. Preparing to install the deck boards

See section 3 in UPM ProFi Decking Installation Instructions: **Part 1: Diagrams**

### 4.1 Inspection & cutting to length

Before installing the deck boards it is important to check for possible colour variations between different batches. If they exist, it is best to mix the different batches together. If in doubt please contact your local dealer before installing.

**4.2** As the boards are cut to length while still moving in the production process, to ensure perfect square ends and exact length requirements, it is recommended to trim the board ends before installation. It is important that the boards are cut at approximately the same temperature, otherwise the lengths will vary slightly when the temperature equalizes. Deck board end trimming at the edge of the deck is best done after installation using a circular saw with guide rail. For perfect finishes we recommend to chamfer the cut edges of the boards.

**4.3** Before installation, the ends of UPM ProFi Piazza One deck boards may rise slightly. This has no effect on the deck properties and the boards automatically become flat again with installation on the rigid sub construction frame.

**4.4** The boards can be cut and shaped in the same way and with the same tools as for timber decking.

### 4.5 T-Clips, Wing Clips & Alu Rail

The design of UPM ProFi deck boards enables installation with UPM ProFi clips or alu-rails, avoiding unsightly screw heads on the surface of the boards. Both methods allow the natural thermal movement of the boards and create a gap of 6 mm between the board widths. Both systems also allow the de-installation of single boards if needed. UPM ProFi Alu Rails provide a closed surface which prevents leaves, food or other items falling through. In the case of Deck 150, the Alu Rail also strengthens the board edges and provides a stronger structure for commercial and hot country applications. Additional ventilation points are needed when installing with Alu Rail. (see 2.3). The following table shows which clips and alu-rails should be used with which boards.

Fixing options	Piazza One	Piazza Pro	Deck 150	Terra 127
	Wing Clip	T-Clip	T-Clip	T-Clip
	Alu Rail for Piazza One	Alu Rail for Piazza Pro	Alu Rail for Deck 150	-

### 4.6 Screws

It is important to use the correct screws. Use of other screws may lead to product failure and could invalidate the manufacturer's guarantee. Low-quality screws may cause stains on the deck.

Start Clips & direct fixing on UPM ProFi Alu Support Rail Large or Small

- fully threaded self drilling stainless steel screws A2 quality (e.g. 4 x 30 mm)

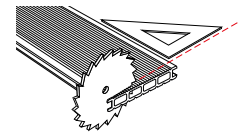
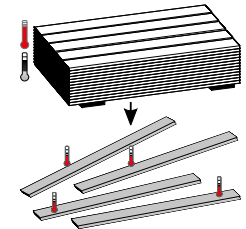
T-Clips, Wing Clips & Alu Rail on UPM ProFi Alu Support Rail Large & Small

- UPM ProFi A4 4 x 26 mm stainless steel screws (included in special T-Clip & Wing Clip for Alu Support Rail boxes and available separately for Alu Rail)

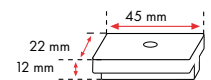
T-Clips, Wing Clips & Alu Rail on UPM ProFi Support Rail

- UPM ProFi A4 4 x 40 mm stainless steel screws (included in T-Clip & Wing Clip boxes)

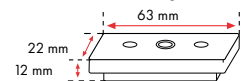
**4.7** The correct torque and tool speed (max. 500 RPM) should be used to ensure the screw head finishes level with the clip surface. Do not insert the screw too deep into the clip.



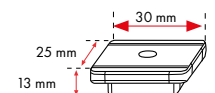
T-CLIP Small



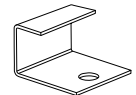
T-CLIP Large



Wing Clip



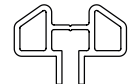
Start Clip



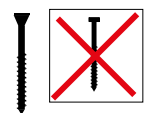
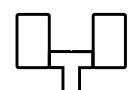
Alu Rail for Piazza One



Alu Rail for Piazza Pro



Alu Rail for Deck 150



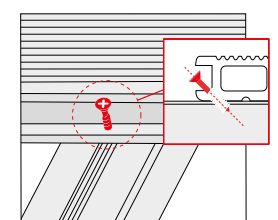
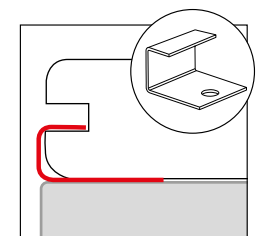
## 5. Installing the Deck Boards

See section 4 in UPM ProFi Decking Installation Instructions: **Part 1: Diagrams**

### 5.1 Installing the first boards

Screw the start clips onto the ends of the support rails / joists. If using UPM ProFi Alu Support Rail or timber joists, pre-drill using a 3 mm drill bit. Install the first deck board by sliding the bottom tongue into the start clips, ensuring that the board ends are correctly aligned and that the board is lying at a right angle to the support rails / joists.

**5.2** Fix the middle of the other side of the deck board with one screw directly through the bottom tongue to the support rail / joist. (for Piazza One pre-drilling is recommended,  $\varnothing$  3 mm). This single direct fixing of each deck board to the joist will ensure that normal thermal expansion and contraction can occur at both ends, but that the board itself stays in place. Failure to do so may result in movement of the deck boards and uneven opening of gaps. Complete the installation of the deck board by fixing the bottom tongue to the sub-structure with the appropriate clips or alu-rail screwed into each support rail/joist.



**5.3** Slide the second deck board bottom tongue under the clips / rail. Ensure the deck ends are aligned and if necessary use a rubber mallet or clamps to ensure a close fit to the neighbouring board. Insert the direct fixing screw on the other side of the deck board and attach clips / rail to that side also. Repeat the process with the remaining deck boards.

### 5.4 Laying deck boards end to end

Where two deck boards are installed end to end, each board end must be supported on its own support rail / joist and fixed with its own clip / alu rail. These double support rail / joists should be spaced 40 mm apart, and if installing with alu rail, the end of the alu rail should be slightly shorter (5 mm) than the deck board.

To allow for board relaxation and thermal movement, the following gaps should be left when two 4 m boards are installed end to end. Expansion tables for all lengths can be found in the Technical Data Sheets at [www.upmprofi.com](http://www.upmprofi.com).

Deck board temperature	Piazza Pro	Piazza One, Deck 150, Terra 127
> 20 °C	3 mm	0 mm
≤ 20 °C	6 mm	3 mm

To minimize gap size it is recommended not to lay deck boards end to end which are longer than 4 m.

If the whole length of the deck can be built by laying two boards end to end, and a wider expansion gap at the outer ends of the deck is acceptable, the boards can be installed with no gap where the ends meet, and the single direct fixing screws can be fixed where the boards meet instead of in the middle of the boards.

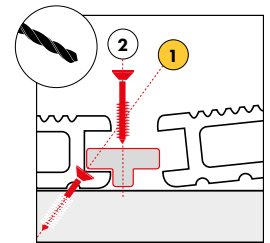
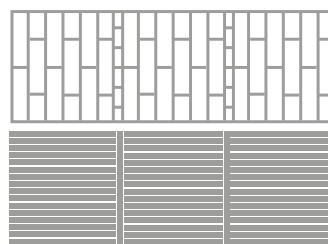
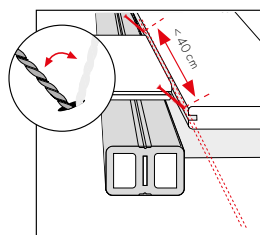
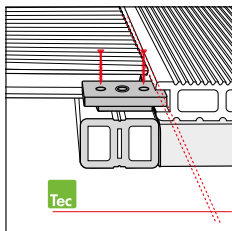
Random staggering of joints, as is often used in timber decks, is not recommended, as it may lead to unequal expansion gaps and complicates double support rail/joists.

### 5.5 Installing deck boards next to walls

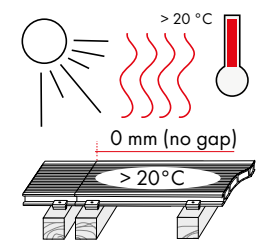
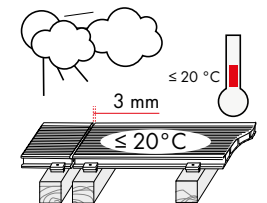
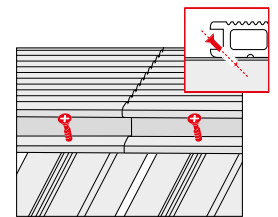
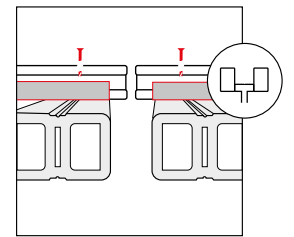
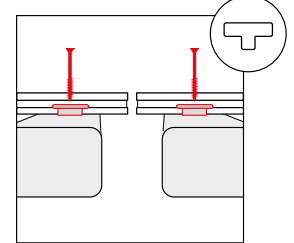
When deck boards are installed next to walls, please always leave a gap of 20 mm between the wall and the whole construction. Wider gaps may be needed for ventilation or to be in line with local building regulations as described in section 2.

### 5.6 Minimizing gap size with framing boards

The amount of thermal expansion / contraction is directly proportional to the length of the boards and to the amount of temperature change experienced. The opening of gaps can be minimized by adding a framing board at a 90° angle to the main direction of the decking boards. 90° framing boards can easily be installed by using T-Clip Large for Piazza Pro, Deck 150 & Terra 127. For Piazza One oval holes may be used instead of using clips.

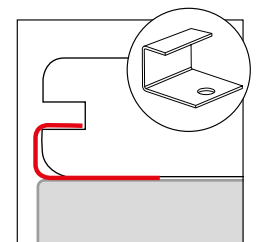


**1** 1 x in the middle of each board



### 5.7. Fixing last deck boards

Before installing the last two rows of deck boards, first screw the start clips onto the correct position of the support rail/joist ends. Then loosely install the last two decking boards and tilt the inner edges upwards to provide enough space for inserting the appropriate final T-Clips, Wing Clips or alu rails. Then press down the boards so that they are well aligned and screw down the clips/alu rail.



## 6. Finishing the deck

See section 5 in UPM ProFi Decking Installation Instructions: **Part 1: Diagrams**

### 6.1 Cover Strips

Matching colour Cover Strips are available for finishing the sides of all UPM ProFi deck boards. Being flexible, they can be installed around curved deck surfaces. The Cover Strip is attached by screws into the frame. The spacing between the screws must not exceed 300 mm. A 3 mm gap should be left at the ends of cover strips to allow for expansion if they are installed at a temperature below 20 °C.

### 6.2 Rail Step

For a robust and professional finish, UPM ProFi Rail Step is available in matching colours for the Deck 150 system. A double support rail / joist is required at the end of the deck to support both the rail step and the deck board ends. Start Clips should be screwed into the edge of the frame at 60 cm spacing and the correct height to fit the Rail Step tongue. T-Clip large can be used to fix both the other edge of the Rail Step and the end of the deck boards. Remember also one direct fixing screw through the bottom tongue in the middle of the Rail Step.

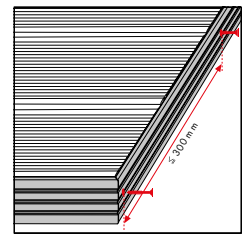
### 6.3 Rubber Strip

To create a closed deck surface and avoid leaves and other materials falling through the deck board gaps, a yacht deck like look can be achieved with UPM ProFi Rubber Strip. Press the rubber strip into the gap between the deck edges with a roller. To prevent shrinking, do not pull/stretch the rubber strip, and leave the end slightly longer than required. After several days the ends can be trimmed to length. Rubber strip should not be used in the joints where deck board ends meet, and additional ventilation points are required when using rubber strip. (See section 2). Please note that the use of alu rail and/or rubber strip does not create a water proof deck surface.

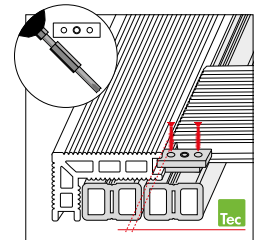
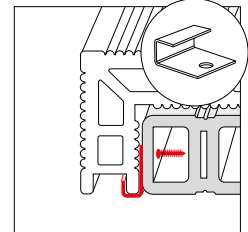
### 6.4 End Caps

UPM ProFi End Caps with patented locking teeth can be also used to finish a deck made with Deck 150. They are available in matching colours and fit both the deck boards and the Rail Step. If alu rail has been used in place of clips, and end caps are to be used, the alu rail always must be cut 10 mm shorter than the deck board length.

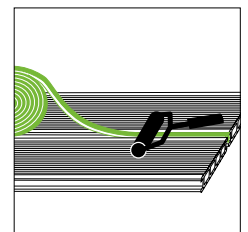
6.1



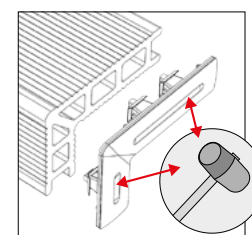
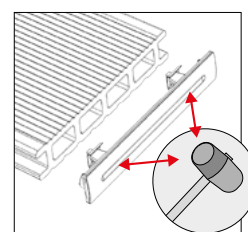
6.2



6.3

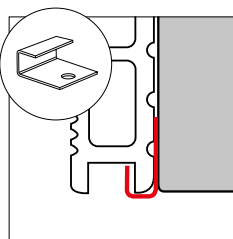
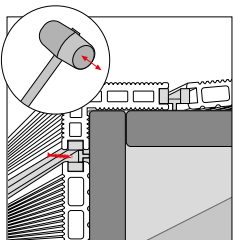


6.4



## 7. Stairs

See section 6 in UPM ProFi Decking Installation Instructions: **Part 1: Diagrams**



### Using Rail Step for fast and professional stairs

UPM ProFi Rail Step is a patented reversible profile designed for installation of stairs together with Deck 150 boards. The bottom of the first stair riser is made by cutting a Deck 150 board to 82 mm wide and installing it with a start clip at the bottom edge and alu rail at the top edge. The top edge of the deck board and the Rail Step are then joined with alu rail and screwed into the frame. The stair tread is completed with a deck board and rail step that has been turned 180 degrees which are also joined by alu rail and screwed to the frame. T-Clips must not be used for stair construction. Remember also one direct fixing screw through the bottom tongue in the middle of each deck board and Rail Step. More information concerning stair construction can be found at [www.upmprofi.com](http://www.upmprofi.com). Always follow local building regulations.

## 8. Cleaning and Maintenance

Although very similar, the colour shades and pattern differ slightly between UPM ProFi Piazza Pro and Piazza One.

UPM ProFi deck products have been designed with closed surfaces that offer greater resistance to spills and stains. However, as with any outdoor flooring surface, periodic cleaning and correct care is needed to ensure that the deck retains its beauty for many years. Please follow our Cleaning, Maintenance and Use Instructions at [www.upmprofi.com](http://www.upmprofi.com)



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

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For the most update version, please visit [www.upmprofi.com](http://www.upmprofi.com)

