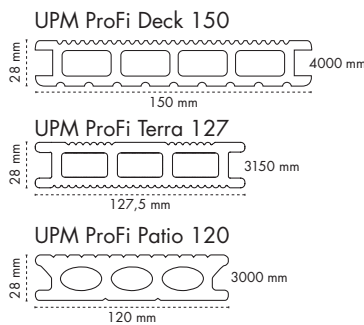


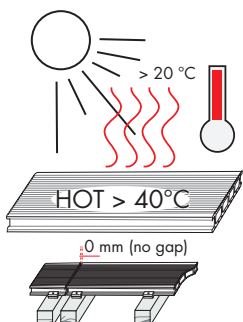
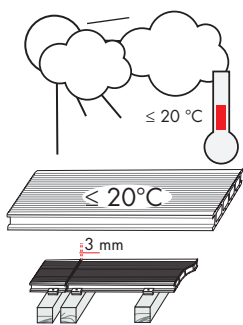
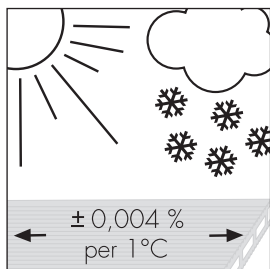
# Installation Instructions for UPM ProFi® Deck 150, Terra 127 and Patio 120

## Ins



**It is important to follow the instructions carefully. Failure to do so may lead to a reduced product performance and will invalidate the manufacturer's guarantee. 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. Note! Please ensure that you meet the requirements of the local building regulations. Please be careful not to scratch new boards when using sharp edged tools or other implements during installation.**

1.

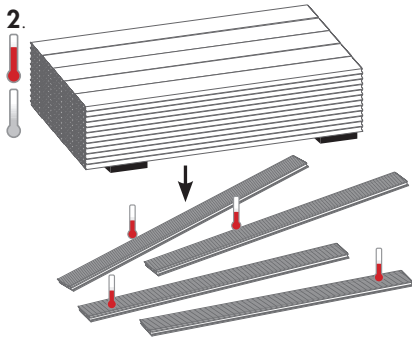


## 1. Thermal expansion gaps

Composite deck boards will expand and contract slightly along their length with changes in temperature. UPM ProFi deck boards installed during the early spring or winter, (when the boards are cold), will expand as the weather warms up. Expansion gaps must be included at the ends of the deck boards, whether it is where the ends of two boards meet, or where the end of a board is laid up to a wall or other fixed surface. Please note the local building regulations and the generally accepted practice, e.g. regarding the minimum distance of the decking to the wall of a building and the possible need for drainage channels between house wall and decking edge, see also chapter 3. A detailed expansion table can be found on the Technical Data Sheet (downloadable from [www.upmprofi.com](http://www.upmprofi.com)). It is normal for the length of WPC deck boards to shorten approximately 1 mm per 1 meter when they have cooled down following the first warm days after installation. Therefore, a rough guide is to leave a 3 mm gap at the ends of 4 m long boards if installed at air temperatures equal to or below  $20^\circ\text{C}$  (when temperature of the board is  $\leq 20^\circ\text{C}$ ) and leave no gap if the air temperature is above  $20^\circ\text{C}$  (assuming the board is hot  $> 40^\circ\text{C}$ ), as boards installed in hot weather will contract when they cool. Use an infrared thermometer to measure the surface temperature during installation.

The amount of expansion per degree change in temperature is proportional to the length of a board. Butt joints should be avoided in extreme environments with very strong differences in temperature. The expansion gaps can be made into part of the deck design: see the reference photos on [www.upmprofi.com](http://www.upmprofi.com).

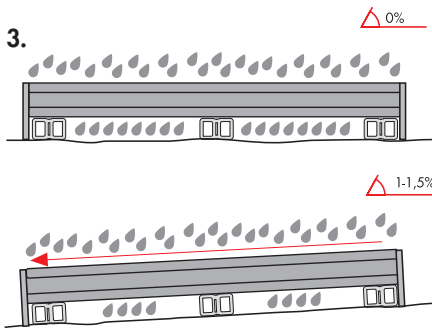
Random staggering of joints, as is often made with a timber deck, is not recommended, as it might lead to unequal expansion gaps. Note, that each deck board end must be supported with its own joist.



## 2. Before cutting and installation: Batch control and equalising the board temperature

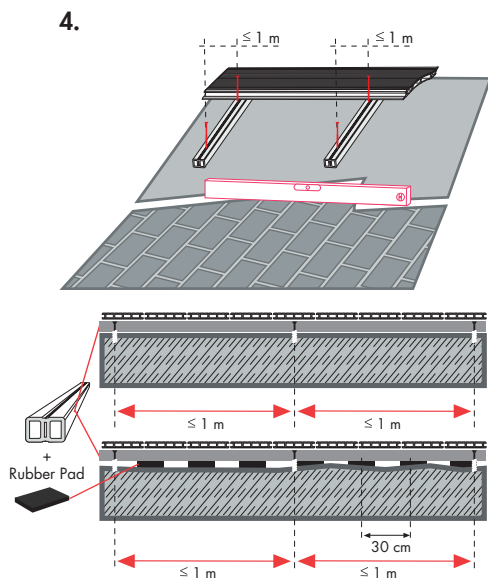
Before starting the installation different batches of deck boards need to be checked on possible colour variations. If in doubt please contact your local dealer before starting. Make a rectangular cut to even each board end. To ensure that all deck boards are at the same temperature when cutting and installing, it is important to open the pack and spread the boards out before starting to install. Cutting of the boards to length should ideally be done at the same time. If the boards are not at the same temperature when cut to length, they will end up at different lengths when the temperature has equalized. If allowed by local conditions, it is recommended to cut the boards after installation using a circular saw with guide rail.

**Note:** Always mix boards from the pallet/pallets before installation.



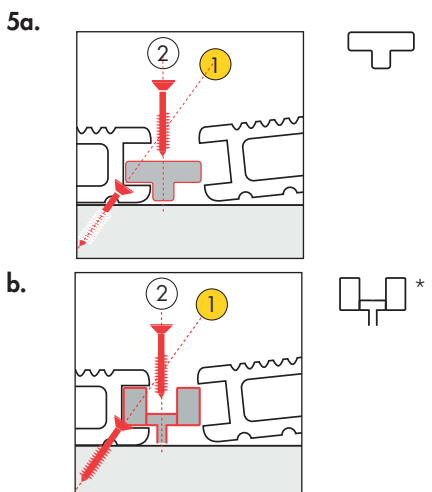
## 3. Inclination & Ventilation

As 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. To ensure the ground has good drainage and the deck is well ventilated please observe normal terrace building procedure. This is specifically important if the planned deck is to have a closed surface by using either UPM ProFi Alu Rail for Deck 150 and/or Rubber Strip. When the surface of the deck is to be closed, then ventilation points must be created to allow the deck to ventilate naturally. This is particularly relevant where decks are exposed to high humidity i.e. swimming pools, garden ponds or wet areas. If installing up to a wall or other fixed surface, please leave a gap for ventilation of minimum 20 mm (30 mm if the deck is entirely surrounded by walls or fixed surfaces).



## 4. Subconstruction

UPM ProFi deck boards have high impact resistance even during cold winters. However, the boards are more flexible than timber. Therefore the joist spacing of the subconstruction for the different products and uses is limited (see Table 1). UPM ProFi Support Rail or UPM ProFi Alu Support Rail Small must only be installed on flat, permanently load bearing surfaces. Any raised deck must be built on Alu Support Rail Large or timber frame. UPM ProFi deck boards must not be used above ground floor applications, unless built on a solid load bearing surface: e.g. a concrete balcony or roof terrace. In any case, the subconstruction must be built as a rigid framework with cross-members (see picture 10). The maximum distance of cross-members must not exceed 2 m (centre to centre). The joists must be suitably anchored e.g. by fixing the support rails with bolts into the concrete at intervals of 1 m to prevent movement of the deck during its lifetime (not possible for roof terraces). Butt joints must be covered by deck boards and connected with each other. If timber joists are to be used, we recommend dried hardwood durability class 1 (for installation please note generally accepted codes of practice – particularly regarding water drain etc.). If Alu Support Rail Large is used in combination with adjustable feet, cross-members must be screwed to the feet. Building regulations must be followed, and specialist advice should be sought for roof terraces and other raised decking.



## 5. a/b Fixing of deck boards

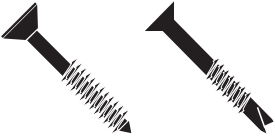
UPM ProFi T-Clips or alu rail\* must be used to allow the normal thermal expansion and contraction to occur. However, the repeated expansion and contraction over time may result in deck boards slightly shifting from their original location. **It is therefore mandatory to fix one screw directly through the bottom tongue at the middle of each deck board.** This single direct fixing of the deck board to the support rail will ensure that the expansion & contraction can still occur at both ends, but that the board itself stays in place. The fixing screws of the different boards in a row should be screwed into the same support rail.

The T-Clip or alu rail must then be fixed over this single direct fixing. Direct fixing of a deck board with more than one screw must not be done as it will inhibit the normal thermal expansion and contraction and may cause distortion.

Warmer climates (south of 43rd latitude northern hemisphere) require installation with alu rail only to avoid the deck boards bending excessively when hot (allowed for UPM ProFi Deck 150 and Patio 120 only).

\*only with UPM ProFi Deck 150

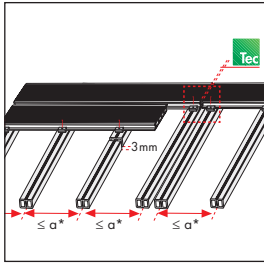
6.



**6. Screws**

UPM ProFi A4 4x40 mm stainless steel screws must be used for fixing UPM ProFi T-Clips or alu rail. On UPM ProFi Alu Support Rail Small/Large the deck boards must be fixed with UPM ProFi A4 4x24 mm / A2 3,9 x 22 mm screws. Please use the correct torque and tool speed (max. 500 RPM) to ensure the screw head finishes level with the clip surface. Do not insert the screw too deep into the clip. Note: If needed, additional UPM ProFi screws for direct fixing or T-Clip large installation can be purchased separately.

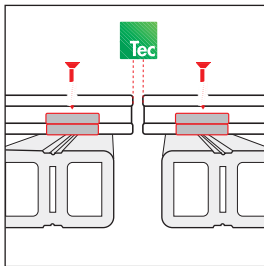
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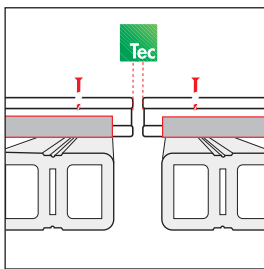
\* max. spacing see Table 1

**7. Joining ends of boards, T-Clip**

Support both board ends with their own joist (joists should be spaced 4 cm apart). Leave an expansion gap between the two boards (see chapter 1: Thermal expansion gaps). Fix each board end with a separate T-Clip.



8.



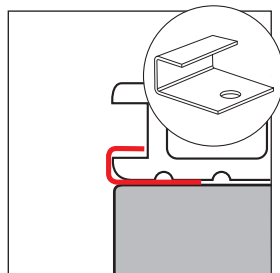
**8. Joining ends of boards, Alu Rail for Deck 150**

If installing standard 4 metre UPM ProFi Alu Rail, 4 metre UPM ProFi deck boards should be used. Two support rails must be used where two boards meet, and the ends of the meeting alu rails must be fixed to each support rail. Expansion gaps between boards and the alu rails must be left as described above.

Please note that you should cut the alu rail shorter than the deck boards it is joining together, (e.g. 3 mm shorter on each end for a 4 metre length) to ensure that the alu rail does not protrude from the end of the deck boards during colder months. When additionally using UPM ProFi End Caps\*, the alu rail always must be cut 10 mm shorter, no matter of what length the deck board is.

\* available only for UPM ProFi Deck 150

9a.

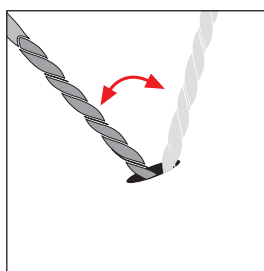


**9. Fixing first / last deck boards**

**a) With UPM ProFi Start Clip for Deck 150, Terra 127 & Patio 120**

First attach one start clip onto each UPM ProFi Support Rail or joist. Then slide the first row of deck boards into the start clip tab and continue installation according to the instructions above (see chapter 5a/b). Before attaching the last row of boards of the terrace, first screw the start clips onto the allocated place of the joists ends. Then slide the last board into the start clips. The T-Clips between the last two rows of boards are inserted from the side and then attached above each support rail. Please note direct fixing of each deck board.

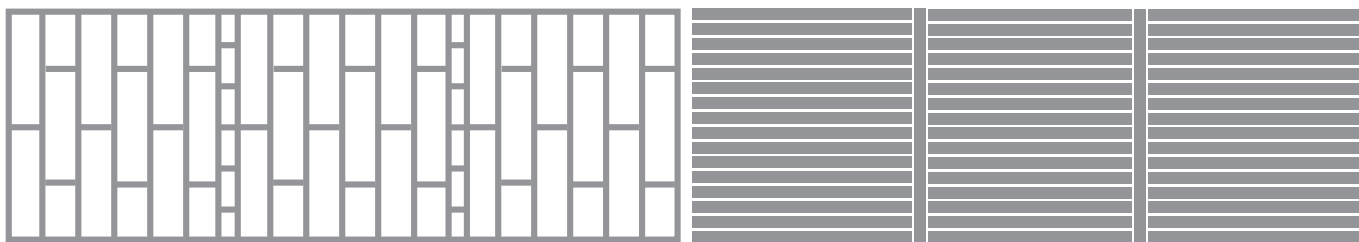
b.



**b) Without UPM ProFi Start Clip for Deck 150, Terra 127 & Patio 120**

If no start clips are being used at the edges of the deck, oval holes must be drilled through the bottom tongue of the outer edge of the deck board. The board is then screwed directly to the support rails through these holes. The holes can be made oval by moving a 4 mm drill bit from side to side. Do not tighten the screws too much. The boards must have room to expand and contract according to the outside temperature, so the screw should move freely within the oval hole.

10.



≤ a, see Table 1

**10. Optimizing expansion gaps**

In larger decks, where 4 m or longer boards are laid end to end, the following tips will help optimize expansion gaps:

- a) Be sure to build a subconstruction as a rigid framework with cross-members.
- b) Be sure to follow the thermal expansion guideline described in chapter 1 of this guide.
- c) 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).
- d) As a last resort it is also possible to place the direct fixing screw at the end of a board. This will force the expansion/contraction to the other end of the board. Sufficient space must be left at the other end: the wider gap may be concealed by UPM ProFi Cover Strip.
- e) The larger the deck size, the bigger the distance of the deck up to a wall or other fixed surface must be kept.

**11. Cleaning and Maintenance**

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)

**Table 1**

JOIST SPACING (a)	Deck 150	Terra 127	Patio 120
Residential	40 cm	35 cm	35 cm
Commercial	40 cm	-	30 cm

UPM ProFi Terra 127 is designed for residential use only. UPM ProFi Patio 120 is designed for one sided use only.

If UPM ProFi Deck 150 or Patio 120 boards should be installed in harsh environments (especially in hotter climates south of 43rd latitude northern hemisphere, and areas with higher UV levels like high altitude locations) please visit [www.upmprofi.com](http://www.upmprofi.com) or contact your UPM ProFi distributor for further information.

UPM ProFi Terra 127 is not designed to be used in harsh environments.

