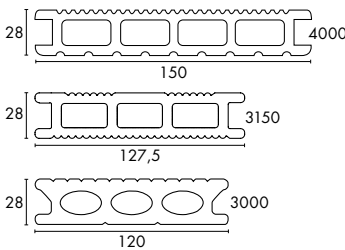


UPM ProFi® Deck Range

These instructions apply for UPM ProFi Deck 150, Terra 127 and Patio.

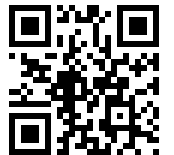


ADDITIONAL INFORMATION TO BE USED IN CONJUNCTION WITH INSTALLATION INSTRUCTIONS

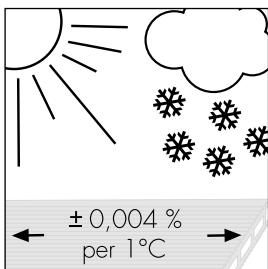


No special skills or tools are needed for installation. However, it is important to follow the instructions carefully. Failure to do so may lead to a reduced product performance and will invalidate the manufacturer's guarantee. If you are in doubt, please contact your UPM ProFi distributor's representative and / or visit www.upmprofi.com 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.

www.upmprofi.com/wpc-installation

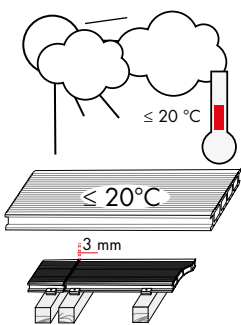


1.

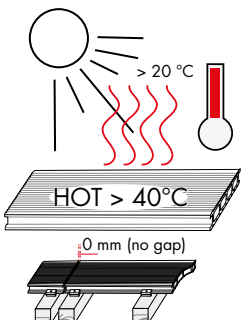


1. Thermal expansion gaps

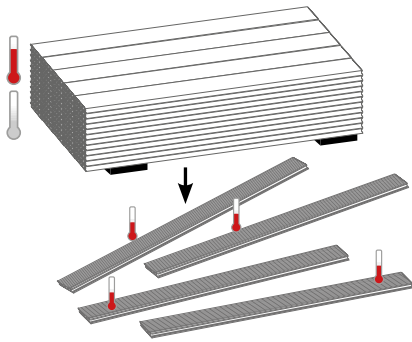
Composite deck boards will expand and contract slightly along their length with changes in temperature. UPM ProFi Deck boards installed during the early spring or winter, (i.e. when the boards are cold), will expand as the weather warms up. Expansion gaps must be left at the ends of the deck boards, 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, e.g. regarding the minimum distance of the decking to the wall of the 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) However, 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 °C (when temperature of the board is ≤ 20 °C) and leave no gap if the air temperature is above 20 °C (board is hot > 40 °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. Random staggering of joints as is often made with a timber deck is not recommended. 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.



2.

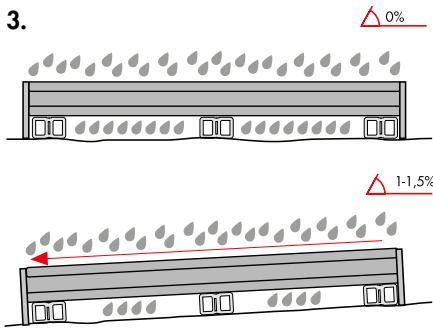


2. Equalising the boards temperature before cutting and installation

It is recommended to make a cut to even each board end, because the board lengths may vary a few mm between each other. 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.

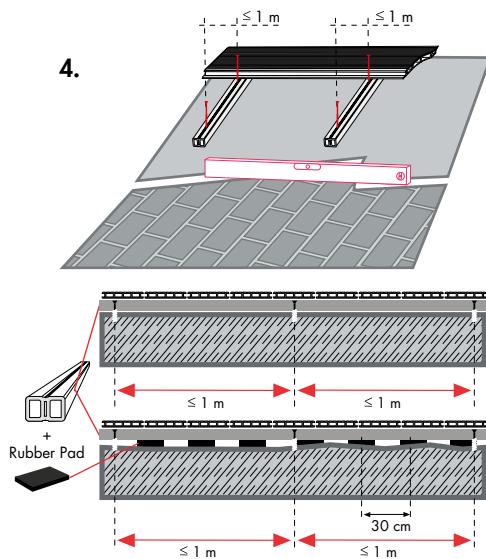
3.



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 and/or the 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.

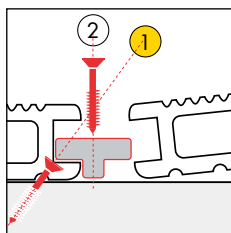
4.



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 hard flat surfaces. Any raised deck should be built on an aluminium 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. Fixing of support rails or joists to the ground is the most stable option. For larger deck areas ($\geq 20 \text{ m}^2$), support rails or joists must always be fixed to the ground. If this is not possible, the subconstruction must be made from support rails or timber joists which are connected to form a single floating frame. This construction method is mandatory for all roof terraces. 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.).

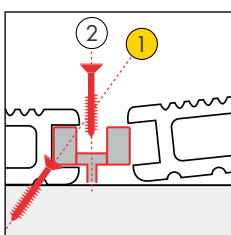
5a.



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.

b.

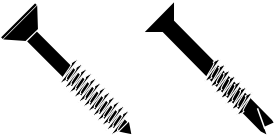


The T-Clip or Alu Rail must then be fixed over this single direct fixing. Direct fixing of a deck board with more than one screw must not be done as it will inhibit the normal thermal expansion and contraction and may cause distortion.

Warmer climates require installation with Alu Rail only to avoid the deck boards bending excessively when hot.

*only with UPM ProFi Deck 150

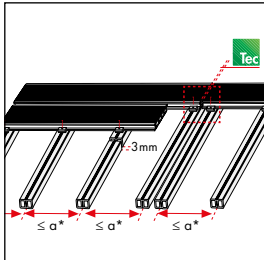
6.



6. Screws

Small headed 4x40 mm stainless steel screws must be used for fixing UPM ProFi T-Clips. Whereas A2 screw is sufficient for normal decks, A4 stainless steel quality must be used where there is an increased risk of corrosion (e.g. near the sea or next to a swimming pool). Self-tapping screws must be used with UPM ProFi Alu Support Rail (Please see separate screw info sheet at www.upmprofi.com). Please use the correct torque to ensure the screw head finishes level with the clip surface. Do not insert the screw too deep into the clip.

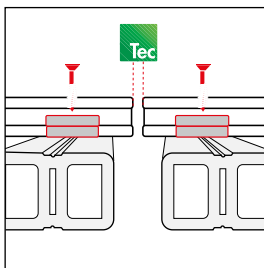
7.



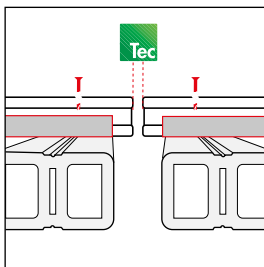
* max. spacing see Table 1

7. Joining ends of boards, T-Clip

Support both boards with their own joist (joists should be spaced at least 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.



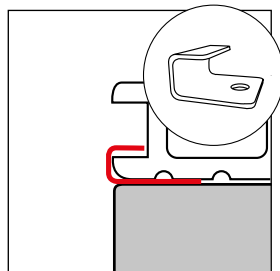
8. Joining ends of boards, Alu Rail

If installing standard 4 metre UPM ProFi Alu Rails, 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. 6 mm shorter for a 4 metre length) to ensure that the Alu Rail does not protrude from the end of the deck boards during the winter or 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.

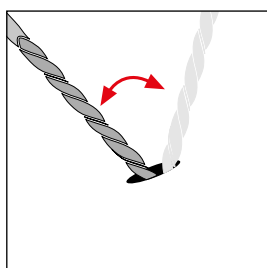


9. Fixing first / last deck boards

a) With UPM ProFi Start Clip

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. 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 (see chapter 5).

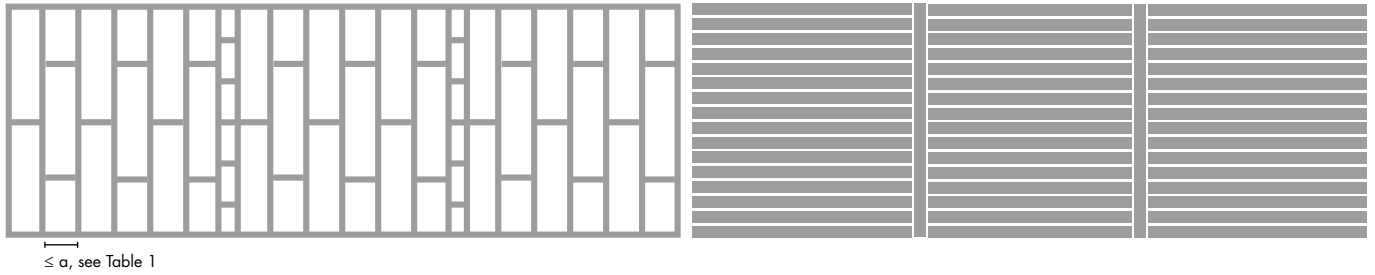
b.



b) Without UPM ProFi Start Clip

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 tightly. 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.



10. Optimizing expansion gaps in larger decks

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 joists / expansion gaps (e.g. by changing the board direction or using a framing board running at 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.

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 Care and Maintenance instructions at www.upmprofi.com

Table 1

JOIST SPACING (a)	ProFi Deck 150	Terra 127	Patio
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 is designed for one sided use only. If UPM ProFi Deck 150 or Patio boards should be installed in harsh environments (especially in hotter climates and areas with higher UV levels like high altitude locations) please visit 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.

