

# UNDERSTRUCTURES AND NATURAL WOODS - INSTALLATION GUIDELINES

Instructions about Preparation of Soil and Installation of the Substructure are to be applied both to Natural Woods and Composite Woods - Ultrashield and Décowood.

While for all specific instructions about Composite Woods, please see next pages.

Not only about great quality and look. The procedure for installing your decking highly contributes to meeting the expectations of the customer. Carefully following the installation guidelines significantly limits the risk that the wood, a natural living element, might move, therefore compromising the overall tightness of the floor. We recommend that you read carefully the following requirements. If you encounter any questions or concerns during the design or installation, please do not hesitate to contact us and we will be happy to offer you all the assistance needed. The general instructions about the installation of joists are suitable for hardwood as well as Ultrashield and Décowood. The specific instructions for Ultrashield and Décowood installation are in the next few pages.

## STORAGE

Déco profiles must always be stored horizontally, on stable, flat surfaces, taking care not to allow materials to protrude beyond the support surface and not to load them with additional weights. Uneven surfaces such as ground or grass, or otherwise unstable surfaces, are not suitable.

Déco profiles are supplied packaged, strapped and protected with film on special pallets to allow the materials to rest correctly; if the pallets are repaired, the same conditions must be repeated. It is compulsory to store the materials under cover, away from direct sunlight, rain and humidity, in dry and ventilated places. Failure to comply with the storage instructions will result in the guarantee being invalidated.

## PREPARATION OF THE UNDERSTRUCTURE

Joists must be as straight as possible. It is mandatory that all ends of the boards are placed on and fixed to a joist, designing and assembling the understructure as a result, by doubling the joists where two ends meet. This is because the heads of the boards are the most sensitive area for the movement of the wood and it is important to be well anchored to the substructure, being them fixed with two screws or clips.

### 1. INSTALLATION ON AN UNSTABLE GROUND (FIG. 1)

In case of installation on an unstable ground (Fig.1) it is necessary to dig the ground according to the dimensions of the joists that will be used and perfectly level the surface. Then, spread a layer of fabric to prevent the regrowth of the grass. In order to stabilize the surface upon which the joists will be laid, it is necessary to use concrete beams sized 40x40cm or similar. It is recommended to build a double frame with two perpendicular rows of joists, the first with 50cm distance (according to the strength of the first frame), the second with a distance of about 30cm (in case of installation with clips) or about 45 cm (in case of installation with screws): this will make the structure perfectly stable. In order to achieve the best stability, Déco recommends to build the substructure in durable wood, even in case of different heights and uneven soil. This recommendation applies in case of installation of hardwood decking as well as Ultrashield or Décowood.

### 2. INSTALLATION ON A PIERCEABLE GROUND (FIG. 2)

The ground floor must be made flat with a slope of about 2 cm per linear meter. To correct an uneven slope you can use "compensation heels" - that is wooden pieces derived from the same joists and fixed to the ground and/or the joists. The distance between joists must be no more than 30 cm in case of installation with clips and about 45 cm in case of installation with visible screws.

Joists must be fixed to the ground with bolts at least every 50 cm.

### 3. INSTALLATION ON AN UNPIERCEABLE GROUND (FIG. 3)

If the joists cannot be fixed to the ground (e.g. terrace with waterproof sheeting), build a structure with braces (Fig. 3) or a double frame (see above 1st point).

## INSTALLATION OF DECKING

For a proper installation of decking, it is important to wash the boards before proceeding. This is to ensure that the tannins in the wood is released therefore preventing it from staining the areas adjacent to the pavement. A tolerance of 3% in the dimension of boards is acceptable. Because of that, before installation all boards must be cut at 90 degrees in order to uniform lengths. There are two ways to install decking: with visible screws and with clips.

### 4. VISIBLE SCREWS (FIG. 4)

Visible screws are undoubtedly the most secure method because they allow the boards to anchor directly to the substructure. Despite the overall look is considered less attractive by some, this remains the preferred method.

The procedure is as follows:

- Install the first row of boards, which must be perfectly straight.
- Once having installed all the boards, it will be necessary to use a chisel (or any suitable object to act as a lever) to space the boards evenly at 5 mm.
- It is always necessary to make a pilot hole (Fig. 4.1) and countersink before installing the screws. These must be at a distance of approx. 2 cm from the ends and the sides of the boards in order to avoid cracks in the wood (Fig. 4.2).
- The boards are then installed with the convex side towards the previous ones and firstly fixed with screws only at the ends. The end has to be pushed to the board, this way also determining the correct distance between the two strips (no less than 5 mm) (Fig. 4.2).
- Finally screw the boards to the joists (Fig. 4.2), using a wiretap to draw a perfectly straight line and this way improve the look of the pavement (Fig. 4.3).

### 5. CLIPS (FIG. 5)

The clips do not allow the boards to be directly fixed to the joists, thus exposing the flooring to the risk of movements. This type of installation is therefore recommended only with proven stability woods. Moreover, the inspection and / or replacement of damaged boards will be very difficult with this type of installation.

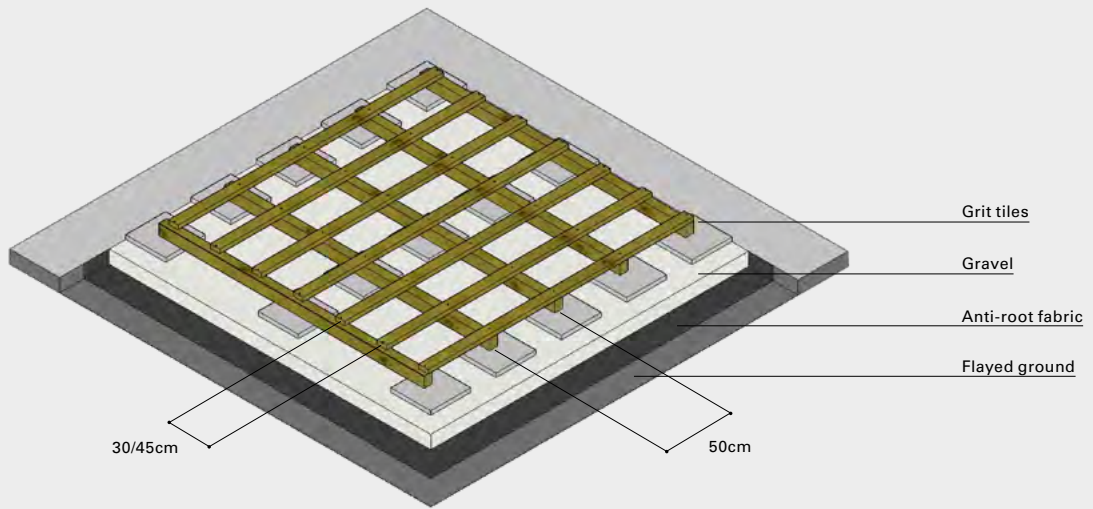
The procedure is as follows:

- Install the first row of boards, which must be perfectly straight and secured with screws on the very outer side (Fig. 5.1).
- Insert the clips into the groove, ensuring that they are properly seated (Fig. 5.2).
- Tighten the clips to the underneath joist (Fig. 5.1).
- Proceed this way with the further rows, then check every 3 or 4 boards that the distance between the first and the last ones is always the same along the whole line. Otherwise you should review the parallels.
- Complete the deck and fix the outer side of the last board with screws.
- A possible pattern is shown in Fig. 5.3.

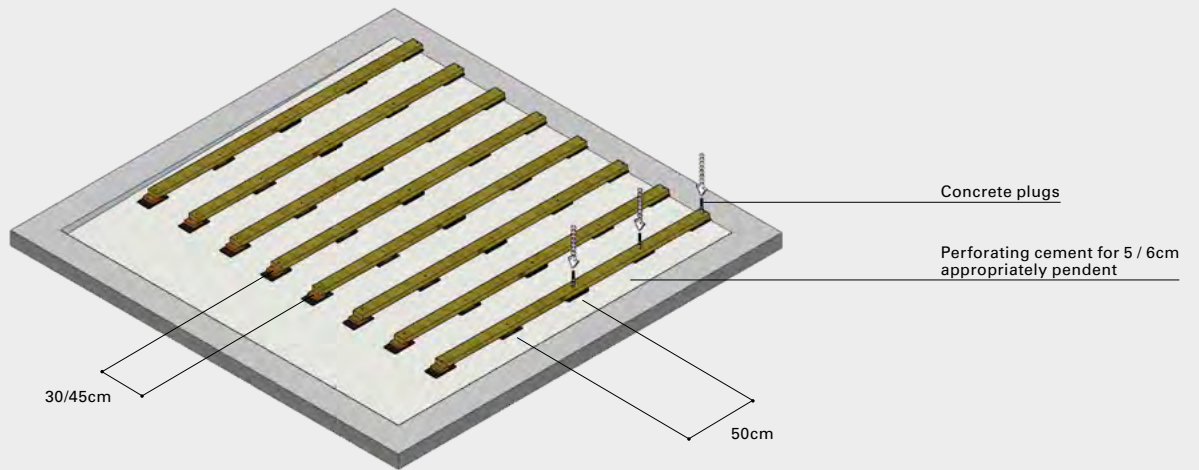
### OILING (OPTIONAL)

Once decking is installed, it is recommended to apply two coats of exterior oil, 72 hours one after the other. This operation, to be repeated every 6 months/1 year depending on weather conditions, it is necessary to preserve the colour of the wood and prevent it from cracking, especially on the ends of the boards. On the other hand, the lack of this kind of maintenance does not affect the stability of the floor at all.

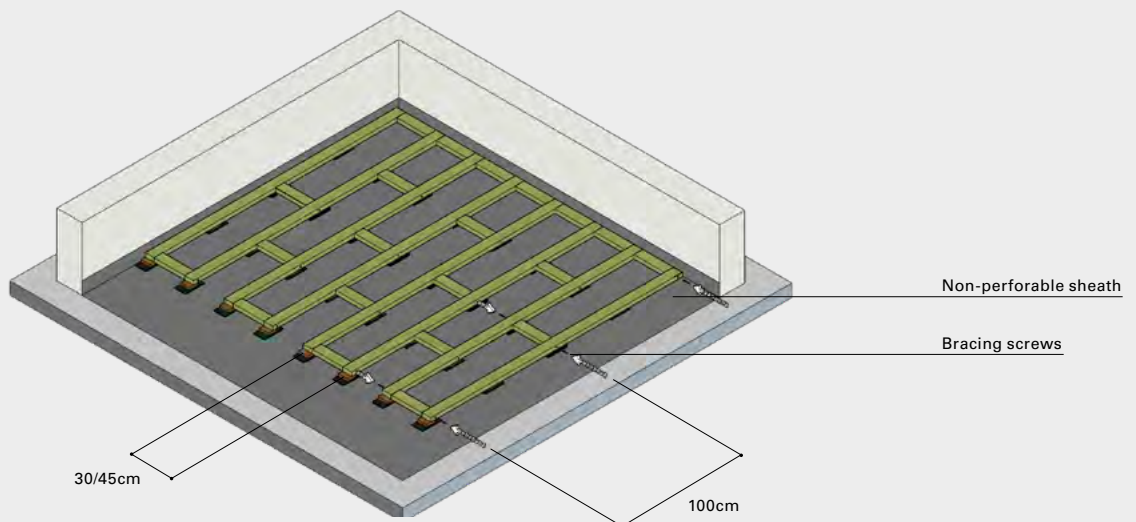
**1** INSTALLATION ON UNSTABLE SURFACE



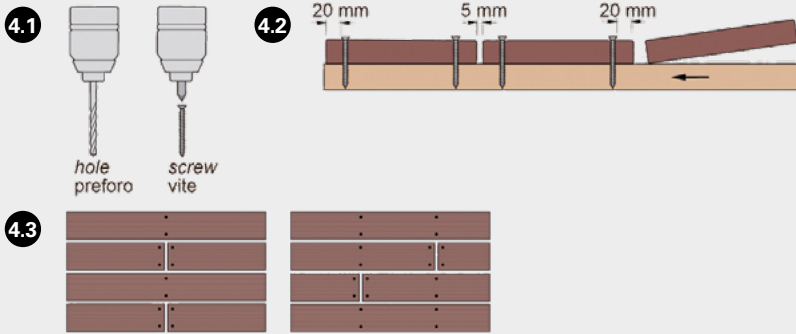
**2** INSTALLATION ON CONCRETE



**3** INSTALLATION ON WATERPROOF SHEETING

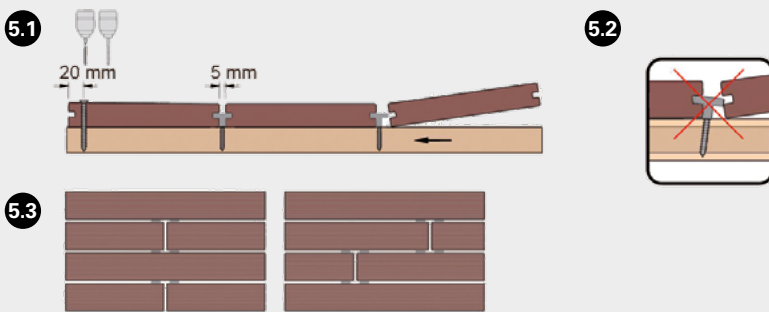


#### 4 INSTALLATION WITH VISIBLE SCREWS



Boards must be fixed with screws in correspondence with each joist. Every board end must be fixed with two screws. If necessary, double the joist.

#### 5 INSTALLATION WITH CLIPS



Boards must be fixed with screws in correspondence with each joist. Every board end must be fixed with two screws. If necessary, double the joist.