

**tilo**

# powerFIX



INSTALLATION GUIDELINES  
FLOATING INSTALLATION  
DRY INDOOR AREAS

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

# Preface

Thank you for choosing high-quality flooring products from tilo. All of our products undergo thorough quality control checks and meet high standards of quality.

These installation guidelines provide important information and tips to ensure that the floor is installed correctly. Read each step carefully. tilo can only honour the relevant warranties if the flooring has been installed correctly.

## **Differences between tilo installation guidelines**

tilo installation guidelines differ depending on the installation system (powerFIX, tiloFIX, simpleFIX, tongue and groove), the type of installation (floating or full-spread gluing) and the area of application (dry indoor areas, 4h moisture protection or damp locations). Please ensure that the installation system, type of installation and area of application match your specific needs and that these installation guidelines are appropriate. More information can be found on our website [www.tilo.com](http://www.tilo.com).

## **Rooms with large windows**

Please note that in rooms large windows in particular, changes in colour caused by UV light cannot be ruled out completely and are therefore product-specific. Shading may be necessary

# Before you start

These guidelines describe a floating installation of the powerFIX installation system for tilo parquet. Products installed in this manner are laid on top of the subfloor without being affixed to it. A gap is left along each edge of the floor to allow for expansion and shrinkage caused by the climatic conditions. Heavy furniture, covering profiles and fixed installations must not impede floor's ability to "float".

## **Area of application**

Suitable for living spaces with a regular room climate with 40 to 60 % relative air humidity and between 16 and 24 ° C. Not suitable for damp locations and wet locations.

## **Important information**

We recommend that installation is carried out by an appropriately trained professional. Only a professional is able to sufficiently assess the readiness for installation of the subsurface and, in particular, the physical structure of the construction and its environment. Professional installers are familiar with the rules of the trade and the standards that must be complied with for successful installation.

Prior to installation, the product should be inspected for possible defects in adequate light conditions. Any subsequent damage caused by installing a product with errors that could have been identified beforehand will not qualify for compensation. Small variations in colour and texture are a characteristic feature of the wood and are unavoidable.

The Installation requires a small amount of force. The locking system may be damaged if the installation is not performed properly.

### **Points to note before installation**

We recommend that the product is stored, unopened, in the rooms in which it will be installed (at a temperature between 18 and 24 °C) for as long as possible, until complete acclimatisation has taken place. 48 hours is usually sufficient for temperature equalisation. Humidity equalisation can take considerably longer, however.

The product should only be installed in rooms in which floor surface temperatures are maintained at between 18 °C and 29 °C and relative air humidity is maintained at between 40 to 60 % in order to avoid excessive swelling and shrinkage of the materials. The ideal climate is 20 °C with 50 % relative air humidity.

Please ensure that all structural tasks have been completed before the installation. Dust and construction waste may damage the product. In particular, ensure that all work that could introduce moisture (e.g. painting) is completed.

### **Humidity**

The relative air humidity should be between 40 % and 60 %. During the heating period, particularly in the event of excessive surface temperature or insufficient relative air humidity, gaps may appear between the individual elements.

### **Polyethylene foil**

Always install at least 0.2 mm thick polyethylene foil, with vapour barrier properties, under the flooring elements. This foil not only protects against moisture but also, most importantly, creates a smooth surface to enable unimpeded floating of the floor. The strips must overlap by at least 20 cm. Better still, seal the edges against moisture with an adhesive tape. Pull the foil approx. 3 cm up the walls.

### **Cork roll, Optima Aquastop**

When using products without integrated impact sound insulation, appropriate impact sound insulation must be installed. We recommend tilo cork roll (2 mm) or tilo Optima Aquastop (2 mm). tilo Optima Aquastop combines impact sound insulation with an integrated moisture barrier - installing a polyethylene foil is therefore not necessary in this case. Underlay that is too soft must not be used.

### **Expansion joints**

We recommend consulting appropriately trained professionals to determine the necessity and placement of expansion joints (e.g., for large surface areas, irregularly shaped rooms, or special construction conditions). Any required expansion joints can be covered with suitable covering profiles. These profiles should only be fixed loosely to avoid impairing the floor's floating installation.

Expansion joints specified on site in the substrate (e.g., adjoining screeds in different rooms) must be incorporated in the same position. Dummy joints (i.e., trowel cuts) must be bonded to form a rigid connection (e.g., by resin injection). Structural expansion joints must be continued through the finished floor surface.

### **Installation size**

An expansion joint must be installed in rooms that are bigger than 10 m in the lengthways direction of the planks and bigger than 8 m in the transverse direction of the planks.

## Underfloor heating

Prefinished floor panels are suitable for low temperature / warm water radiant heating systems. Prior to the installation the subfloor must be heated up in accordance with the standards (for further information, especially for installation over electric underfloor heating systems, see "TI\_025\_Richtlinien\_Verlegung\_auf\_Fussbodenheizung\_en.pdf"). The maximum temperature of the surface must not exceed 29 °C, even at the edges of the room and under carpets and furniture. The heating should be equipped with flow temperature regulation. Electric floor heating systems are only suitable with surface temperature control (gentle heating characteristic).

## Readiness for installation

Readiness for installation of the subsurface must be tested in accordance with DIN 18356 "Laying of parquet flooring and wood block flooring" or DIN 18365 "Flooring works" and finished accordingly. ÖNORM B2236/ÖNORM B5236 must be used respectively. This means, for example, that the subsurface must be clean, free from cracks, sturdy, flat and dry. Small areas of unevenness (drops of paint, plaster residues, etc.) and textile floor coverings (carpets, needle felt, etc) must be removed.

Permissible screed moisture, without subsequent moisture, according to the CM method valid for unmodified standard screeds:

- For cement screed: < 2.0 % CM (with underfloor heating < 1.8 % CM)
- For anhydrite screed < 0.3 % CM (with underfloor heating < 0.3 % CM)
- Please ensure compliance with the relevant national standards.
- Additionally, the ERH method (=Equilibrium Relative Humidity) can be applied for measuring the screed moisture.
- For cement screed according to ERH method: without underfloor heating ≤ 65 % rLF; with underfloor heating ≤ 60 % rLF

Modified screeds (e.g. rapid screed, unknown equilibrium moisture content or modified in any other way), must be measured using the ERH method. In that case or if both CM and ERH methods are used, the measurement of the ERH method is deciding if the screed is sufficiently dry. In Austria, it is common practice to confirm the screed's readiness for floor installation with the screed installer or the additive manufacturer.

The unevenness of the subsurface may not exceed the values shown in Line 4 of Table 3 of the latest version of DIN 18202 "Flatness tolerances". As a rule of thumb, at a measuring length of 1 m, the unevenness of the floor may not exceed 3 mm. Flatness tolerances at measuring lengths of more or less than 1 m can be found in the diagram contained in the standard.

## Usage

Please note that material-dependent changes may lead to bulging of the installed floor. Cracks, gaps or splinters can also appear. Joint-like edge formations can pose a risk of injury to humans and animals.

# Installation guidelines

## Tools required

installation wedges, tapping block, pull bar (we recommend the tilo installation set), hammer, bracket, hand or electric saw (jigsaw, circular saw or chop saw)

## Polyethylene foil and impact sound insulation

Lay the 0.2 mm polyethylene foil (see above) and check whether impact sound insulation is required.

## Determining the direction of installation

Determine the direction of installation and measure the room. If the last row will be less than 5 cm wide, cut the first row narrower. Make sure to take into account any unevenness in the wall.

### Step 1: First plank

Work from left to right. Lay the first plank in the left corner of the room with the tongue side facing the wall. Use the installation wedges to make sure there is an expansion joint of approx. 10 mm between the planks and the wall.

### Step 2: Second plank

Line up the second plank precisely with the first plank, laying it flush against the short end of the first plank. To lock the powerFIX locking system, gently tap on the short end of the locking system from above using the tilo tapping block. We recommend gluing the short end joint using D3 white glue according to EN 204, especially when installing over underfloor heating.

Ensure that the lengthwise edges are flush. If correction is required, either lift up the planks or lightly tap them with the tilo tapping block until they are flush.

### Step 3: Completing the first row

Continue in this manner until the last plank of the first row. Cut this plank to the appropriate size. Make sure to leave an expansion joint between the plank and the wall.

### Step 4: Second row

The second row can be started off using the offcut from the first row, if the short end offset is at least 30 cm. If not, cut the first plank of the second row as appropriate. Make sure to maintain a short end offset of at least 30 cm.

### Step 5: First plank of the second row

Lever the offcut into the longitudinal groove of the first row. To lever the plank in, tilt it to approx. 20° and insert the longitudinal tongue into the longitudinal groove. Lower the plank completely by tapping gently with the tilo tapping block on the longitudinal side. The gentle tapping supports the positive locking of the locking system. This helps the joint to seal as tightly as possible. The locking system along the long side can be damaged if the plank is not lowered carefully enough.

### Step 6: Second plank of the second row

Lever the second plank of the second row into the longitudinal groove of the first row. At the same time, press the short end of the second plank tightly up against the short end of the first plank. Lower the plank by gently tapping it with the tilo tapping block.

### Step 7: Locking the powerFIX locking system

To lock the short end of the powerFIX locking system, gently tap on the short end of the locking system from above using the tilo tapping block. In order to seal the short end joint of the powerFIX locking system as tightly as possible tap again on the exposed short end using the tilo tapping block, after the locking system is in place.

### Step 8: Continuing the installation

Continue to install the rest of the rows of planks as described.

### Step 9: Last row of planks

When cutting the last row of planks, make sure to take into consideration the necessary distance from the wall and install them as described. Use a pull bar to ensure that the longitudinal locking system seals as tightly as possible. Close the short end of the locking system as described above.

### Step 10: Finishing touches

The floor can be walked on immediately after installation. Remove the installation wedges and the excess polyethylene foil. Fix the skirtings to the wall using tilo Clipstar or screws; never secure them to the flooring.



# Tips and Tricks

## **Sawing direction for wood material**

In order to achieve a clean cut, saw from the top side to the underside using a handsaw, or if using an electric jigsaw or circular hand saw, cut from the underside to the top side.

## **Cut-outs for heating pipes or similar**

Drill a hole with a diameter approx. 2 cm larger than the diameter of the pipe. Working from the hole outwards, cut out a V-shape towards the edge of the plank. Install the plank and glue the V-shaped plank piece back in. Attach a pipe sleeve.

## **Installation of floorboards under door frames**

Lay a loose plank face-down against the door frame and saw the door frame off along the length of the plank using a backsaw.

## **Removing the locking mechanism**

If the planks cannot be levered in due to on-site conditions (sliding under door frames or runners etc.), remove the protruding "bulge" of the lower locking element. The locking system is now equivalent to a tongue and groove system and must be glued. Thus, the planks can simply be pushed into the connecting groove without the need to lever them in.

## **Keep flooring at its best**

Avoid putting your tilo floor under excessive stress. For example, attach felt pads to the feet of furniture. Use suitable casters for swivel chairs and place mats underneath them. Place doormats in front of and behind the entry door in order to provide protection against dust, sand and other abrasive contaminants.

This information is provided with the intention of offering you advice based on the best of our knowledge, on the basis of our trials, experiences, tests carried out, applicable standards and the rules of the trade. Should you require any additional information, our technical and commercial advisors will be happy to assist you. Always consult our advisors for advice before starting any large-scale projects. We assume no liability for any errors and reserve the right to carry out technical modifications.

Please visit [www.tilo.com](http://www.tilo.com) for further information and updates.

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