



macht den Boden.



# INSTALLATION GUIDELINES



## tiloFIX

full spread gluing,  
suitable for 4h moisture protection

# 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 check to ensure that the installation system, type of installation and area of application match your specific needs and that these installation guidelines are appropriate. tilo Tynyl can meet the necessary requirements. 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 the full-spread gluing of the tiloFIX 4h moisture protection installation system. This type of installation means that the product is bound to the subfloor (e.g. screed) across its entire surface using an adhesive. For a tight joint, the floor boards must additionally be glued on the upper side of the tongue with a D3 white glue according to EN 204.

## Area of application

Suitable for living spaces with an average indoor climate with 40 to 60 % relative humidity and between 16 and 24° C. The floor surfaces may be slightly exposed to spray water for a maximum of 4 hours. Not suitable for wet locations, such as shower rooms or similar (permanently damp, permanently wet, standing wetness).

## 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.

### **Expansion joints**

We recommend discussing the need for and the positioning of the required expansion joints (large surface areas, oddly shaped rooms, unusual construction conditions, etc.) with an appropriately trained professional. Any expansion joints can be covered using suitable covering profiles.

Expansion joints determined by the on-site subsurface (e.g. where screeds from different rooms meet) must be reflected in the flooring too.

### **Recommended surface area**

The maximum installation size for quasi-rectangular areas without expansion joints is 6x6 m.

### **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.
- Alternatively 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

Screeds that are not standard (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.

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)

tilo Elastic EC 1 PLUS hybrid adhesive for parquet floors, prefinished floor panels and rigid boards, D3 white glue according to EN 204

### **Observe the application instructions of the adhesive**

Always observe the application instructions provided by the adhesive manufacturer. Apply tilo Elastic EC 1 PLUS hybrid adhesive to the prepared subfloor using the notched trowel recommended in the application instructions. Remember to take into consideration the airing times and working times of the adhesive. Do not apply fresh adhesive over adhesive that is already dry, otherwise the overlap will show later. Completely remove any dried adhesive. Immediately remove any adhesive applied to the top surface by mistake.

### **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. 5 mm between the planks and the wall.

#### **Step 2: Second plank**

Apply undiluted D3 white glue according to EN 204 to the upper side of the short end tongue. To achieve a tight joint of the elements use the glue as thickly as possible. Line up the second plank precisely with the first plank, levering it into the short end of the first plank. To lock the tiloFIX locking system, lift the plank to approx. 20°. Guide the short end tongue into the short end groove and lower the plank while keeping the short end joint tight. Remove any adhesive applied to the top surface by mistake with a damp cloth while the adhesive is still wet.

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**

Apply undiluted white glue to the upper side of the longitudinal tongue. As before, make sure to apply the cold glue as thickly as possible to achieve a tight joint of the elements. 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. Do not lower the planks completely.

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

From now on, apply the undiluted white glue to the upper side of the short end tongue as well as to the upper side of the longitudinal tongue. Lever the next plank into the short end of the partially lowered plank and push it into the longitudinal groove. Lift the plank slightly to make pushing it in easier. Ensure that the short end of the locking system is closed and push near the short end of the locking system. Close the longitudinal locking system by pushing and gently tapping while the planks are tilted. Continue in this manner until you reach the last plank of the second row. Cut this plank to the appropriate size. Make sure to leave an expansion joint between the plank and the wall.

### Step 7: Lowering the second row

For the full spread gluing, lower the planks by lightly tapping them with the tilo tapping block. The gentle tapping supports the positive locking of the locking system. This helps the joint to seal as tightly as possible. The tiloFIX locking system can be damaged if the plank is not lowered carefully enough.

### 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 must only be walked on once the adhesive has hardened completely. Remove the installation wedges and fix the skirtings to the wall using tilo Clipstar or screws; never secure them to the flooring.

We recommend an edge distance of approx. 5 mm that must subsequently be sealed using a permanently elastic material. Please note that the permanently elastic joints require maintenance and must be replaced regularly.

The professionally correct gluing of the installation system in combination with a full spread gluing of the floorboards to the subfloor guarantees you 4h moisture protection.



# 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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