

Indoor Solid wood flooring Guide

PARADOR

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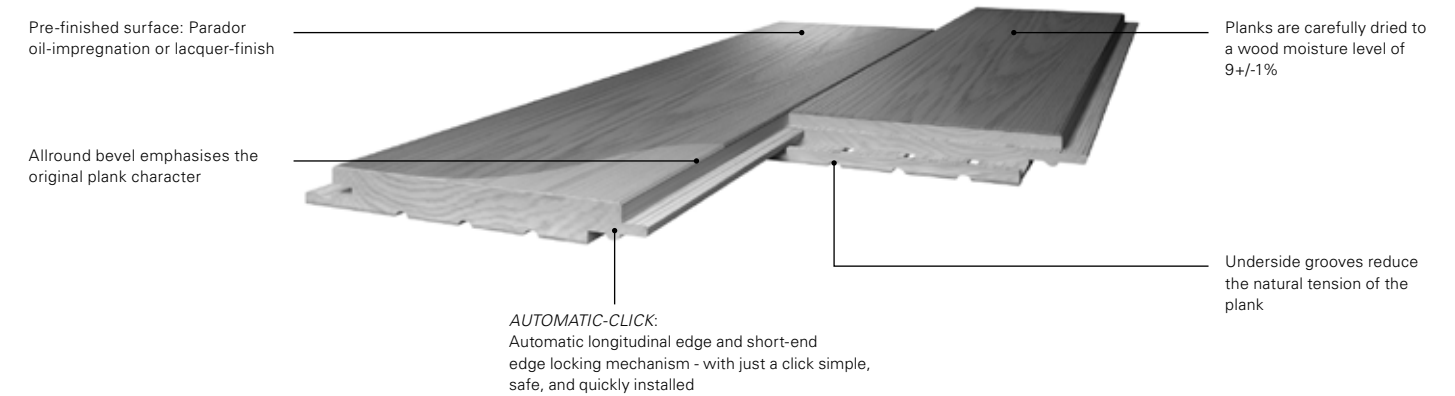
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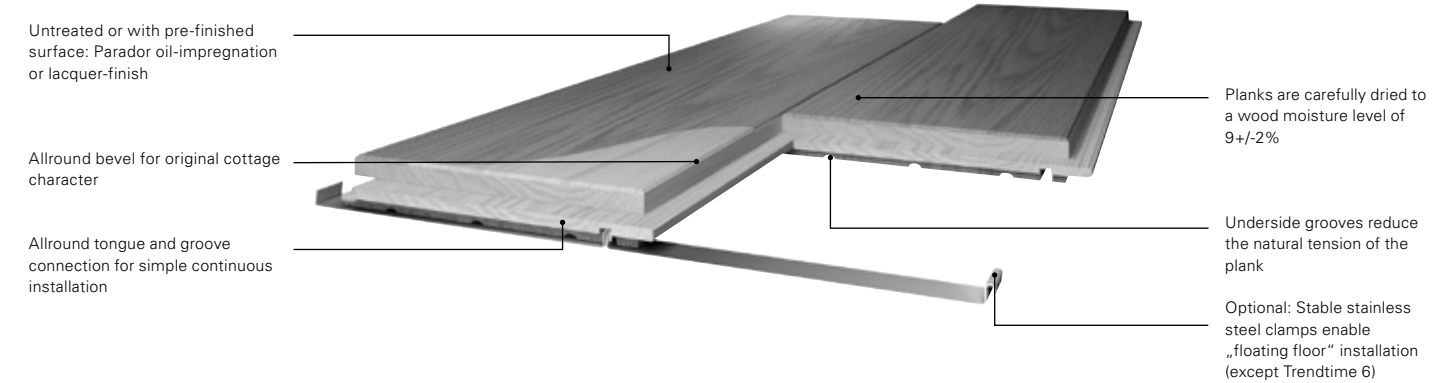
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Parador Solid Wood Flooring Technical Aspects

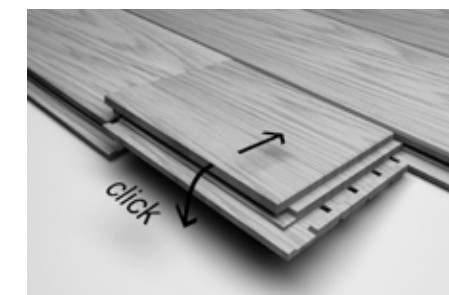
Solid wood flooring with patented *AUTOMATIC-CLICK* system



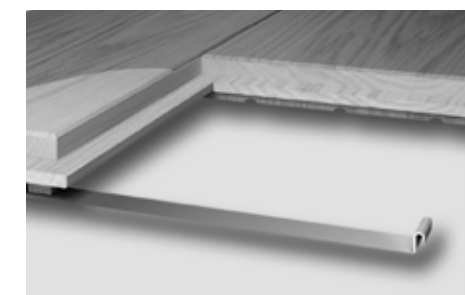
Solid wood flooring with tongue and groove connection



Finest technology



Patented click-mechanism
The patented *AUTOMATIC-CLICK* system with automatic long and end edge locking enables quick, trouble-free installation. And leads to a perfect result especially when gluing the whole area.



Highest stability in clamps
The special tongue and groove joint is used to lay solid wood floors simply and continuously. Besides classic installation using screws or the completely glued installation, there is also the option of laying the floor using clamps (except Trendtime 6).

Ranges of application

Bringing your ideas to life is both fast and easy with Parador Solid Wood Flooring. The tongue-and-groove profile that goes all around the Classic 5050 and Trendtime 6 planks and the patented *AUTOMATIC-CLICK*-mechanism of our Solid Wood Flooring Classic 5010, Trendtime 1 and Trendtime 2 stand out due to their perfect fit and convince users with ease of handling and installation. Using stainless steel clamps the 128mm and 137mm wide versions of the Classic 5050 planks can even be installed as a "floating floor." Parador's solid wood floorings combine naturalness with classiness and are very durable at the same time. The wide range of exquisite wood types in various formats and installation patterns and different styles is offering a suitable solution for any room and any style of living. Generally, you can put solid wood flooring by Parador in any room within the house. However, use of solid wood planks in winter gardens or rooms with moist atmospheres should be avoided. An exception to this is winter gardens that can be kept at a suitable climate throughout the year.

The right choice

One kind of solid wood flooring is not like the other. Prior to the actual purchase, you should check and consider which type of solid wood flooring is the best fit for your individual taste and requirements. An important aspect here besides the wood type, the optical demands on the style and the choice between tongue-and groove and click-connection products is the right choice of surface finish. At Parador we are offering you a choice between a natural oil-impregnation, the multi-layer lacquer-finish or you can also obtain a selection of planks untreated for surface finishing upon installation.

Differences

Whether you are choosing solid wood planks with a lacquer-finish or those with an oil-impregnation is (almost) purely a matter of personal taste. Here are the pros and cons at a glance:

Solid wood flooring with oil-impregnation:

The Parador oil-impregnation is a very powerful surface treatment, that – contrary to many other oil- or oil-wax-systems does not require any time-consuming maintenance or cleaning measures. Parador natural oil is a "high solid product" based on natural raw materials made from plants. The factory treatment means that the oil penetrates the wood and the open-pored wood surface retains its natural, resistant texture. The oil-system provides a ready-to-use surface, which means after the installation no maintenance measures are required on your part and after the cleaning the floor is immediately ready to use.

The major advantages of an oiled surface are that its mat and natural look is reinforcing the wood-character and it also offers the freedom to partially renovate the surface. This means, damaged areas can be mended individually as needed.

In contrast to lacquer-finished surfaces damages like scratches or dents may happen more easily, but on the other hand they are easily removed and will actually add to the natural patina of the wood. Removing soiling or spilled fluids like coffee or red wine from the oiled surface is just as easy as it is from lacquer-finished wood flooring. Please follow the instructions given in our care and maintenance leaflet. (See chapter Maintenance, cleaning and repair)

Solid wood flooring with lacquer-finish:

The Parador lacquer-finish provides our wooden planks with a well-balanced surface protection and a wonderfully elegant, semi-gloss finish at the same time. Optimum protection with high serviceability is present when the lacquer is hard enough to provide good abrasion resistance yet also offers enough elasticity so it won't crack with high loads. The Parador lacquer finish is perfectly balanced and provides excellent serviceability.

The right choice

Styles

The different styles refer to optical features of the wood only. With the choice of Select, Natur, Living and Classic Parador offers a suitable product for every taste. The Select-style refers to a calm, harmonious appearance, the Natur-style to a natural, well-balanced appearance and finally the Living-style with a vivid, log-grown look. The Classic style with our Solid Wood Flooring Trendtime is a mixture between Natur and Living. Classic offers a beautiful spectrum ranging from natural, wellbalanced all the way to a more rustic, vivid appearance of the wood. Keep in mind however that wood is a natural product! Each and every solid wood plank is a unique product provided by nature; therefore minor variations in colour, structure and in the presence of knots are actually proof of authenticity.

Hardness of wood types

We refer to hardness as the resistance that the wood shows against the load of penetration by an all-solid. The hardness depends mostly upon the wood type. The most common method to determine the hardness is the one named after Brinell. The Brinell-hardness HB in N/mm² is determined on a fixed moisture content of 12%. The higher the achieved value, the harder the wood.

Degree of Hardness Info

There is wood, and then there is wood. Especially with respect to the degree of hardness there are differences. In general the rule is: The higher the given value, the more loadable and more impervious the wood is. With a wood equilibrium moisture content of 12% the wood species listed below have the following values:

Wood type	Density g/cm ³	Brinell hardness N/mm ²	Hardness class
Maple	0,72	48	4
Beech	0,68	34	3
Oak	0,71	34	3
Fir	0,47	12	1
Nordic Pine	0,52	19	2
Cherry	0,58	30	2
Siberian Larch	0,59	25	2
Merbau	0,85	49	4
Pitch Pine	0,63	33	3
Thermo Ash	0,60	31	3
Walnut	0,60	31	3

Depending on the individual growing conditions, wood exhibits variations in the degree of hardness. Consequently these are only approximate values.

Hardness classes: 1 – very soft wood; 2 – soft wood; 3 – hard wood; 4 – very hard wood

Colour changes due to light exposure

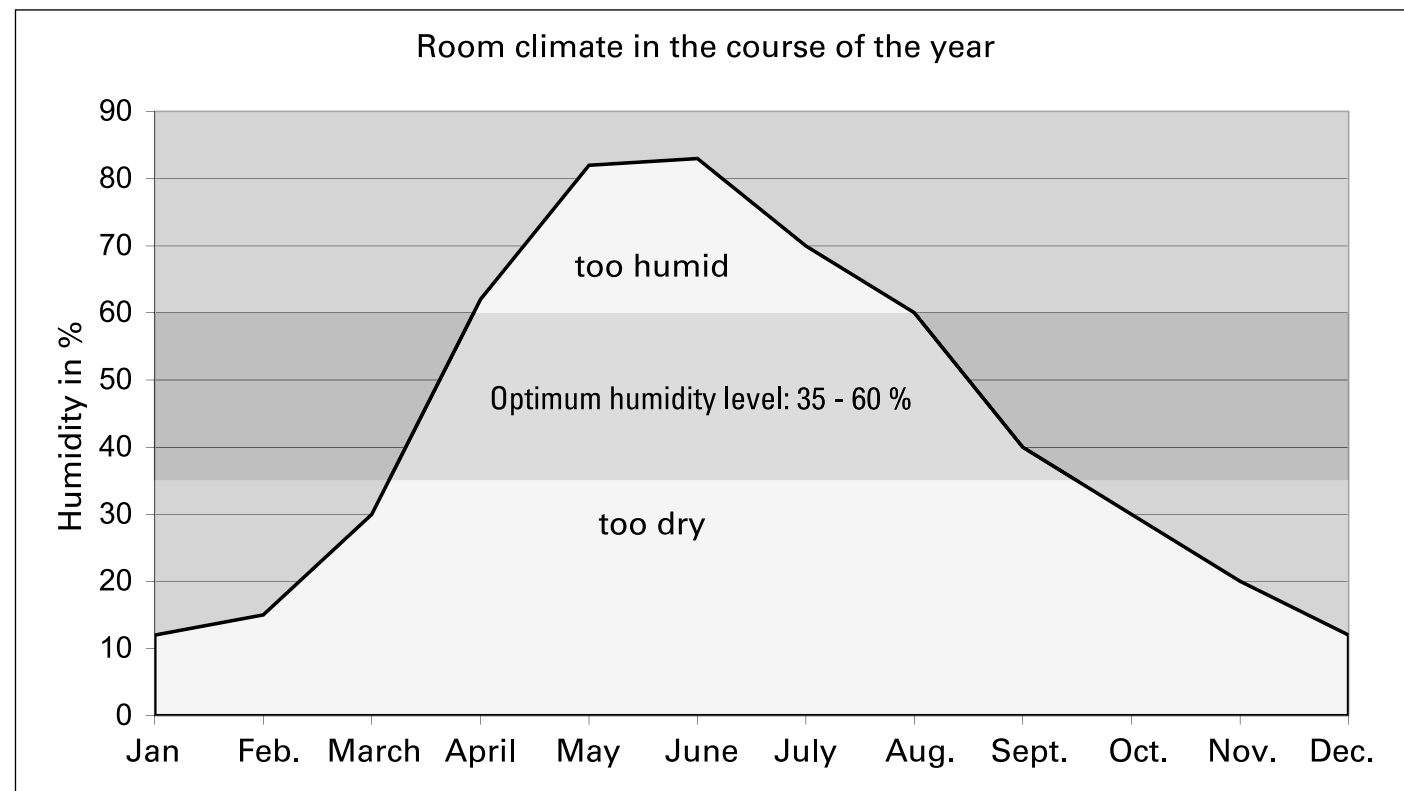
Daylight triggers certain chemical reactions in wood, which lead to colour changes. These colour changes do occur only at the wood surface. Most wood types will change their colour and become darker over time, others tend to develop a yellowish look. Overall, the flooring will get a more balanced and uniform appearance through this colour changing process. Minor variations in colour will thus be evened out automatically over time.

Solid wood flooring and room climate

Wood is a hygroscopic material, which means that it can take up and retain moisture. On the one hand this brings along its climate regulating capacities but on the other hand it also has the disadvantage that while retaining moisture it will swell (increase in volume) and when releasing the moisture shrink (decrease in volume). So therefore whether the wood will swell or shrink depends on the room climate. If the climate is too warm or too dry the wood will shrink (get smaller) if it is too humid it will swell (get bigger).

Especially during the winter months when air humidity indoors is often way too low (see chart) the natural shrinking process of the material can easily lead to open joints. On the other hand, when it is too humid and the wall spacing is insufficient or expansion gaps are missing altogether this can lead to a bulging surface.

Note: Beech wood has a significantly stronger shrinking tendency than most other common wood types. That is the reason why during the winter months when the room climate is too dry, Beech floors may possibly develop more prominent joints.



Installation at a glance

You can install solid wood flooring in four different ways: by screwing them on the sub-structure, by all-over adhesion, through floating-floor installation using either stainless steel installation clamps or with clickconnection. An advantage of all-over adhered solid wood planks is that they are comparatively low-noise, because vibrations and hollow areas are largely eliminated.

Floating floor installation with Click-connection



1. Unroll the underlay and put it on the prepared subfloor.



2. Center and align the planking area and cut the first row to size.



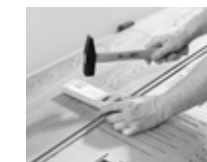
3. Use the spacer wedges to guarantee the wall spacing of 5mm per m planking width towards all walls and structural parts within the room. As for the longitudinal direction an expansion joint of 15mm towards all structural parts is sufficient.



4. The last plank of the first row is cut to the right size - don't forget to include the wall spacing. The cutoff piece is used as the starting piece for the second row.



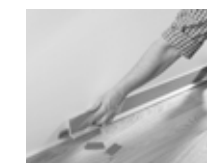
5. Start your next row from the left hand side like before. Simply click together the planks' longitudinal sides. The use of glue is not required here.



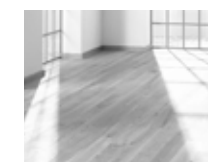
6. Join the short end sides together using a hammer and hammering block. During this process the longitudinal and short end joints will interlock automatically. Continue to install the rest of the room in this manner.



7. Use a cut-off piece to transfer the profile of the wall to the last row of planks.



8. Cover the gaps all around the flooring area with matching skirtings from Parador's wide selection.



9. You are done!



10. On a suitable subfloor you can also go for all-over adhesion as an alternative installation method which offers low build-up height and a low level of ambience sounds.



11. With regard to the clickconnection there are no differences to the „floating floor“-type installation.

More detailed information on all installation topics is starting at page 18.

Prior to installation please refer to and obey the rules of installation that are stated on the following pages. Paying attention to these rules and advice is a prerequisite to the success of your installation and also guarantees that your solid wood flooring will be a long-term asset.

Installation at a glance

Installation with screws



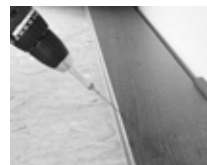
1. Center and align the planking area and cut the first row to size.



2. Use the spacer wedges to guarantee a wall spacing of at least 15mm towards all walls and structural parts within the room.



3. The first and last row of planks are screwed down vertically from the top. The screws should be placed about 15mm from the edge or alternatively you could use nails.



4. Above the tongue the planks are screwed at a 45° angle.



5. The last plank of the first row is cut to the right size - don't forget to include the wall spacing. The cutoff piece is used as the starting piece for the second row.



6. Join the planks together using a hammer and hammering block.



7. If desired, the Parador installation aid is a tool that will greatly facilitate the screwing process of your solid wood planks.



8. Being a combination tool, the installation aid can also be used as a metal heel bar to help with inserting the last plank pieces.



9. Use a cut-off piece to transfer the course of the wall to the last row of planks.



10. Cover the gaps all around the flooring area with matching skirtings from Parador's wide selection.



11. You are done!



12. On a suitable subfloor you can also go for all-over adhesion as an alternative installation method which offers low build-up height and a low level of ambience sounds.

More detailed information on all installation topics is starting at page 18.

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Installation rules

These installation rules and the step-by-step installation process that is shown here are universal. The package inserts however, may contain further, more specific or even deviating instructions or rules for a particular product that are mandatory and ought to be followed.

1. Inspection for material defects

Inspect your solid wood planks thoroughly for their quality prior to and during installation. Flooring planks with visible defects or damages must not be installed. The installation must take place under daylight conditions or with excellent artificial light to make sure that any possible damages or faulty planks can definitely be detected. Surface inspections are carried out best in a standing upright posture. Conditions of angular light or back light are not to be used for inspecting or detecting things like surface defects, problems with the surface flushness or scratches within the installed area.

2. Acclimatising prior to installation

The solid wood planks must acclimatise for a period of at least 48 hours at temperatures above 17°C and humidity between 50 - 65% in that room in which they are to be laid. That means the closed packages have to adjust to the climatic conditions in the room. If the climate in the storage location and the installation room are considerably different, the acclimatisation period should be longer. If the climate differences are very small the acclimatisation time can be shorter. Please store the packages flat on a base without opening them. Paying attention to these guidelines is especially important for new buildings, because humidity levels tend to be particularly high here.

3. No installation in areas subject to splashing water No installation in permanently moist rooms / wet zones

Solid wood planks must not be installed in areas where splashing shower water may get onto the floor. Standing water will permeate into the wood and can lead to permanent damages. Solid wood planks should not be installed in permanently moist rooms or wet surroundings (saunas, bathrooms etc.) because the danger of penetration with moisture can never be ruled out completely. If solid wood flooring is supposed to be installed in a bathroom, it is important to make sure that it is not installed in areas subject to splashing water (i.e. from shower, bathtub, lavatory or sink) and that the relative humidity in the room stays within the normal range between 50 and 65% continually. Any formation of puddles and moisture penetration must be avoided all around the corners of the room, for the joints as well as for the whole flooring area.

4. Condition of the subfloor

Any existing subfloor must be even, dry and sufficiently stable. Larger depressions should be evened out using standard commercial fillers. The surface of the subfloor should be free of cracks and without any breaks or tears.

Loose subfloors or insufficiently stable subfloors (PVC-/ textile flooring) need to be removed. Mineral subfloors/ screed need to be sufficiently dry.

It is always required to have the subfloor that will accommodate the sub-structure and the flooring tested and inspected by an expert/ flooring specialist (this should include professional measurement of residual moisture levels).

Please also refer to the information in the special chapter on Subfloors.

Installation rules

5. Moisture barrier with mineral subfloors

Generally, when installing on any dry, mineral subfloor a 0.2mm thick Polyethylene foil or alternatively Duo-Protect should always be used as a moisture barrier to prevent any residual moisture getting through to the backside of your solid wood flooring. The purpose of the Polyethylene-foil is that of a moisture barrier only and the joints of the foil need to overlap approx. 30cm and need to be glued together. In no way does the PE-foil act as waterproofing for the building!

See also the chapter on Underlays.

6. Keeping expansion joints / wall spacings

As stated before, depending on the climatic conditions the natural material wood will shrink or swell. That is why an installed flooring of solid wood planks requires sufficient spaces, called expansion gaps, towards all fixed constructional parts, i.e. walls, sustainer, heating pipes and the like. Furthermore, expansion gaps are required if the installation area exceeds certain defined values in length and width (see installation rule 8).

One of the most common installation mistakes is actually insufficient wall spacing. Often, this will only become evident during the summer months when higher temperatures and humidity levels lead to the swelling of the wood flooring.

With conventional installations (e.g. screwing on a sub-structure) the expansion gap/ wall spacing should be at least 15mm or more with very large areas. (see figure 6a)

When installing wood flooring with Click-connections or when using the installation clamps the expansion gap should be at least 5mm per m installation width.

The rule-of-thumb for solid wood planks with Click-connection or installation clamps is:

For every meter of installation width the flooring requires at least 5mm expansion space on both sides. (Example: Room width 4m = min. 20mm expansion gap on each side). Lengthwise an expansion gap of 15mm is sufficient.

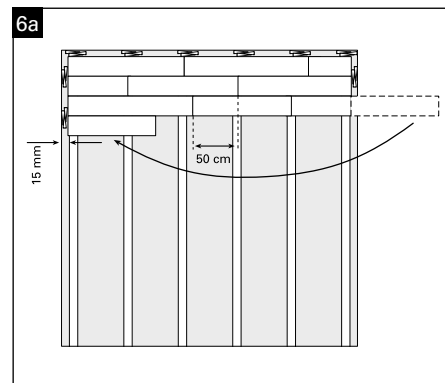
For solid wood flooring with Click-connection the maximum installation width is 5.50m and the maximum installation length is 10m.

With all-over adhesion an expansion gap of 15mm is sufficient.

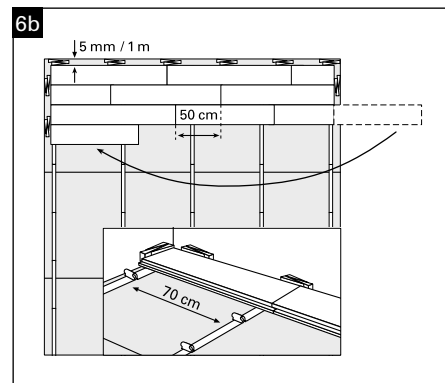
Even if the installed material abuts only on a single point in the room the „floating material“ may start to warp and press on. Popular areas where this is repeatedly seen are architraves, transition areas to stairs, heating pipes as well as end profiles.

Heavy pieces like for example kitchen islands and closets (movements of the flooring are possible in one direction only) require the expansion space on one side to be doubled. For heavy pieces and fitted furniture (e.g. fitted kitchens, built-in closets or aquariums) we recommend having them assembled prior to installation of the flooring. The flooring boards however should be laid to reach just under the base allowing easy dismantling of the flooring at any time. Furniture pieces that are positioned on top of a floating floor must not exceed 500kg in weight. Otherwise it is necessary to leave that particular area uncovered and install the flooring planks with appropriate expansion gaps around it.

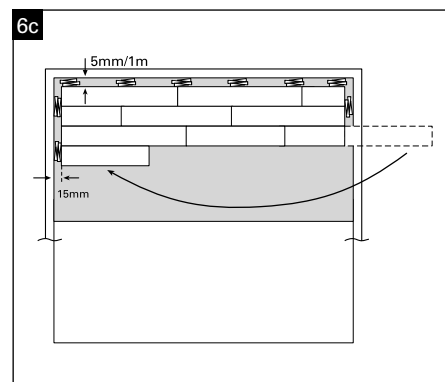
All along the walls the expansion gaps are covered with skirtings, in other places special flooring profiles are used. With metal architraves you can also use acrylic sealants. All of the above is part of and can be found within the Parador range of accessories.



Solid wood planks with tongue-and-groove connection



Solid wood planks with installation clamps



Solid wood planks with Click-profile

Installation rules

7. Layout of expansion gaps

Due to the fact that the solid wood flooring will shrink and expand depending upon the climate conditions – as described earlier – the following situations do require additional expansion gaps:

- With larger areas
 - With screwing (exceeding 7(W) x 10(L) m)
 - With Click- and Clamp installations (exceeding 5.5(W) x 10(L) m)
 - With angular areas
 - With installations that cover more than one room
 - With all-over adhesion on subfloors the existing structural expansion joints have to be adopted (see figure 7a and 7b)
- Liability for missing expansion gaps or joints is always with the installer.

8. Installation patterns and staggering of the joints

Solid wood flooring can be installed either in a symmetric (8a) or in a random, asymmetric pattern (8b). We recommend installation in a random pattern.

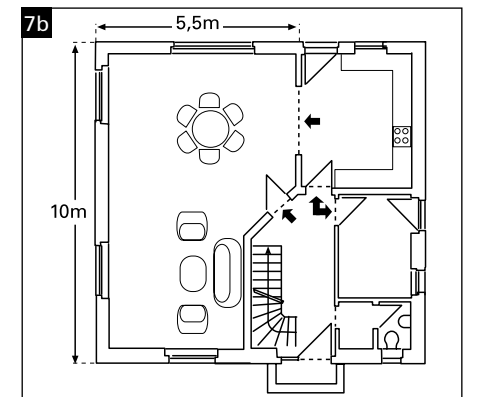
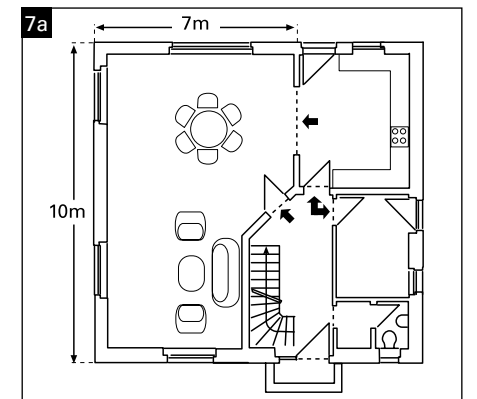
< 15cm = 30 cm (Trendtime 2 = 15 cm)

15-25 cm = 50 cm

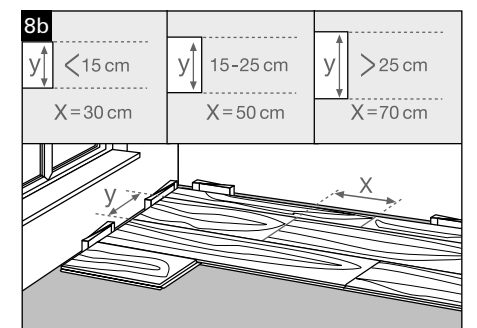
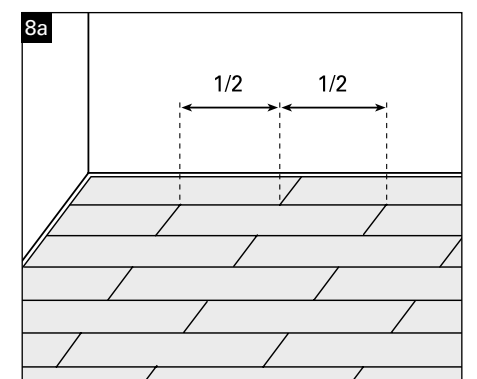
> 25 cm = 70 cm

During installation please make sure to mix flooring planks from several different packs in order to achieve an even, harmonious looking area.

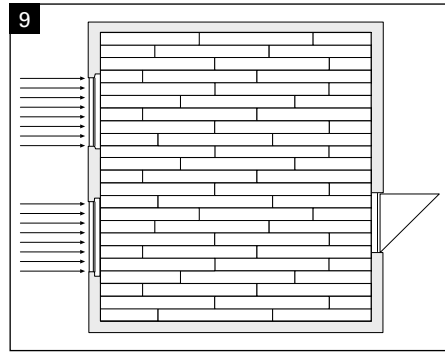
When working with tongue-and-groove planks it is imperative that the short-end joints are staggered at least 50cm, with Trendtime 2 a minimum staggering of 15cm is required.



----- = Expansion gap



Installation rules

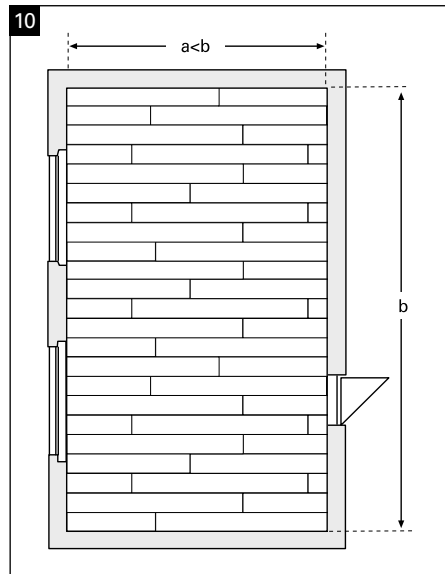


9. Installation direction / incidence of light

For optical reasons the longitudinal sides of the planks should be installed so that they run parallel to the incidence of light. That means, the longitudinal side runs in the same direction as the light. When several windows are present, please make your decision based upon the largest one of them. With extreme floor plans the decision for a certain installation direction can also be based upon the specific room layout. (See installation rule 10)

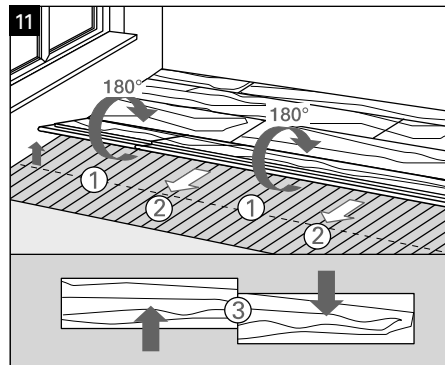
10. Installation direction / floor plan

Again, for optical reasons the longitudinal sides of the flooring should run across to the longitudinal side of the room. That will make the room look larger and also give it slightly more „square“ appearance so it won't look quite as narrow and tube-like.



11. Disassembly

For disassembly (Trendtime 1 and 2) lift up the complete row of planks and - holding it in a tilted position - pull it out of the previous row. Put it face-side down on the floor in front of you. Now you can disconnect the planks' short-end sides from left to right by lifting them up (as shown in the illustration). This will leave the interlocking mechanism undamaged and the planks may be re-used. Please note: Avoid the planks getting lodged as this may cause damage on the profiles.



Installation on subfloor heating

Solid Wood Flooring installed with SikaBond adhesives and with the allover adhesion method may now be laid on top of hot-water-type subfloor heating systems. (With the exception of the wood type Beech and Jatoba.)

Basic requirement for this construction is that the maximum wood surface temperature of 27°C is to be complied with at all times.

During the planning stage already the building owner should discuss and adjust with a heating contractor the suitable heat transfer resistance.

Please keep in mind that the use of a subfloor heating system in combination with fluctuating indoor humidity levels may lead to a more pronounced (exceeding the normal) appearance of joints and warping of flooring boards (see also the chapter on Solid Wood Flooring and room climate).

To prevent heat accumulation please note that carpets / carpet runners are not permitted on the solid wood flooring.

In addition that the generally recognised rules of the trade do apply.

Please also refer to page 35/36: Checklist for subfloor heating.

Requirements on the subfloor

- Basic requirements for installing solid wood flooring are that the substrate is stable, clean, dry and even.
- Irregularities exceeding 2mm per 1m have to be evened out with a suitable filler/ spackle.
- When installing on an old hardwood floor or on particleboard flooring any loose planks need to be screwed with the sub-structure to help silencing potential squeaks in the old floor. The new floorboards should be installed in transverse direction to the old boards.
- For both stability and health reasons, textile floors are not suitable as a substrate and have got to be removed.
- Installation on PVC-, CV- and linoleum-flooring is possible only if the floor coverings are glued-down over their entire surface and no loose areas are present.
- Screed floors must not exceed the following residual moisture levels:

	Anhydrite flow screed	Cement screed
without subfloor heating	max. 0,5 CM %	max. 2,0 CM %

Generally, moisture level measurements of screed floors should always be conducted with a suitable measuring device. For reasons of precaution a 0.2mm thick PE-foil should always be used as a moisture barrier on top of the screed floor (the individual foil strips need to overlap at least 30cm, overlaps are fixed with adhesive tape, all around the room the foil needs to run up the walls for several centimeters and can be trimmed down with a cutting knife after the skirtings have been installed). Alternatively, you could use Duo-Protect, a product that combines both transmission noise insulation and moisture barrier in one.

Parador Solid Wood Flooring with tongue-and-groove profile

Parador's solid wood planks are suitable for installation with screws on sleepers, old hardwood floors, particleboard flooring or OSB (min. 22 mm thick) and also for all-over adhesion on screed floors. Parador Solid Wood Flooring in the 128mm and 137mm wide versions can also be installed as a floating floor for example on Parador Duo-Protect using the special installation clamps. When solid wood planks are being installed with screws, we recommend using OSB or particleboard flooring as a sub-structure. Putting up your OSB or particleboard flooring, please make sure that these boards run across the direction that your solid wood planks are going to run.

Parador Solid Wood Flooring with Click-profile

Parador's solid wood planks with Click-profile are suitable for floating floor installations on screed or old hardwood flooring, particleboard flooring, OSB and for all-over adhesion on screed floors. We recommend installing the planks with Parador Duo-Protect or an alternative system with at least 0.2 mm PE-foil and for example Parador Uno-Protect, Akustik-Protect or Plan-Protect plus 0.2 mm PE-foil as underlays.

System-compatible underlays

Generally, between the subfloor and any floating solid wood flooring a suitable underlay has to be inserted. Underlays are useful for reducing transmission noise and ambience noise, evening out minor irregularities and provide the necessary moisture barrier for mineral subfloors.

For existing subfloors like for example dry flooring planks or particleboard flooring the only thing required is an underlay that provides transmission noise reduction. A moisture barrier must not be used in these cases, because this can promote the growth of mould fungus in the subfloor. With all mineral substrates (screed, concrete, tiles) the use of a moisture barrier is vital, otherwise the (residual) moisture coming from your subfloor can get to your flooring and that in turn may lead to cupping or crowning of your floorboards. Additionally, the use of a product for transmission and ambience noise reduction or a combination-product is required.

Parador is offering the right underlay for every purpose:

Uno-Protect

The highly resilient underlay for all dry substrates.

- Can be used on wood planks, particle boards, PVC floors, linoleum floors etc.
- Good impact noise insulation with a minimal material thickness of 2.5 mm (+22 dB improvement)
- High compressive strength and dimensional stability up to 20,000 kg/m².
- Impregnated against mould infestation.

Duo-Protect

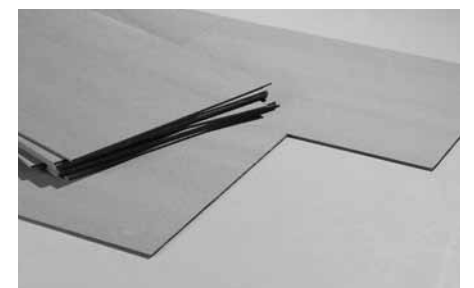
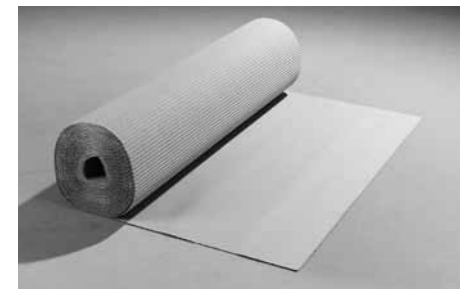
The 2-in-1 underlay with moisture protection and impact noise insulation combined.

- Especially for new construction: dual damp and moisture protection against residual moisture in concrete, screed and tiles.
- Good impact noise insulation with a minimal material thickness of 2.9 mm (+22 dB improvement).
- High compressive strength and dimensional stability up to 20,000 kg/m².
- Impregnated against mould infestation.
- Saves time: impact noise insulation and moisture protection can be installed in a single process.

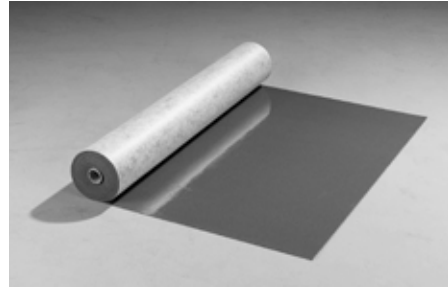
Plan-Protect

The practical impact noise underlay made of natural wood fibres.

- Can be used on wood planks, particle boards, PVC floors, linoleum floors etc.
- Good impact noise insulation with a material thickness of 5.5 mm (+19 dB improvement).
- Optimal levelling of slight uneven patches of floor combined with high compressive strength.
- A purely natural product made of wood fibres.



System-compatible underlays



Akustik-Protect 100

The high-tech acoustic mat offering ambient noise and impact noise insulation.

- Especially developed for use under floating laminate, engineered wood and solid wood flooring.
- Very good ambient noise insulation properties thanks to high inherent weight of 1.8 kg/m² with a thickness of only 1.8 mm.
- Optimal impact noise insulation - no additional impact noise protection is necessary.
- Aluminium-covered reverse side.

Akustik-Protect 200

The high-tech acoustic mat offering ambient noise and impact noise insulation.

- Especially developed for use under floating laminate, engineered wood and solid wood flooring.
- Very good ambient noise insulation properties thanks to high inherent weight of 2 kg/m² with a thickness of only 2 mm.
- Optimal impact noise insulation - no additional impact noise protection is necessary.

Akustik-Protect 300

The high-tech acoustic mat offering ambient noise and impact noise insulation.

- Especially developed for use under floating laminate, engineered wood and solid wood flooring.
- Very good ambient noise insulation properties thanks to high inherent weight of 2.8 kg/m² with a thickness of only 2 mm.
- Optimal impact noise insulation - no additional impact noise protection is necessary.
- Aluminium adhesive tape to seal the joints between the lengths and aluminium-covered reverse side for improved moisture protection from underneath.

Methods of installation

Solid wood flooring can be installed in four different ways: by screwing it onto a sub-structure, through all-over adhesion or by installing it as a floating floor using either the special stainless steel clamps or wood planks with a Click-profile. Here is a look at the different methods and their particular advantages:

With the **screw-on installation** each and every solid wood plank is being screwed onto the sub-structure (tier of beams or particleboard flooring). Between the sub-structure and the subfloor an underlay needs to be put in for transmission noise insulation purposes and also needed is a moisture barrier layer (only for mineral subfloors). Please refer to the attached Checklist for installation on flooring sleepers.

Advantages: No screed is needed and installation is fast. If needed, disassembly is easily possible, leaving the planks undamaged.

Like the name says, with **all-over adhesion** the solid wood flooring is completely glued onto the subfloor. Please pay attention to all information and instructions provided in the attached Checklist for all-over adhesion of Solid Wood Flooring.

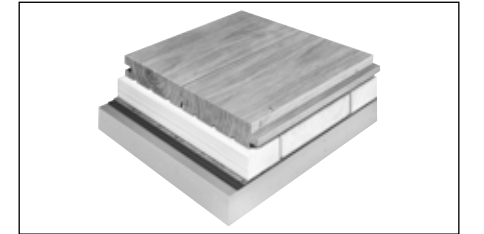
Advantages: No hollow sounds, no vibrations when the floor is being walked on and only minimal ambience sounds. The requirements on wall spacing/ expansion gaps are smaller and this installation method comes with the smallest build-up height.

The **floating floor installation** with stainless steel clamps (128 mm and 137 mm wide planks) connects the planks by means of clamps that are holding the floor together invisibly.

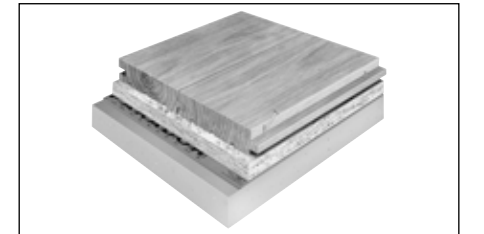
Advantages: If needed, disassembly is easily possible, leaving the planks undamaged; easy handling; no screws needed, low build-up height.

The **floating floor installation with Click-profile** uses solid wood planks featuring a patented *SAFE-LOCK*-profile on their longitudinal side and a press-button principle on their short-end sides to interlock.

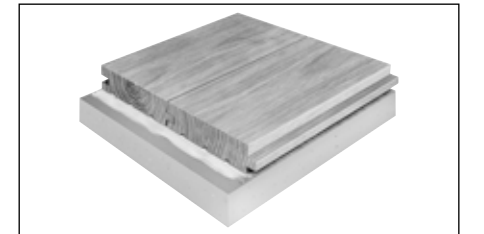
Advantages: fastest installation-technique, easy handling, no glue or screws needed, small build-up height, disassembly is easily possible, leaving the planks undamaged. The click-connection is also ideally suited for all-over adhesion.



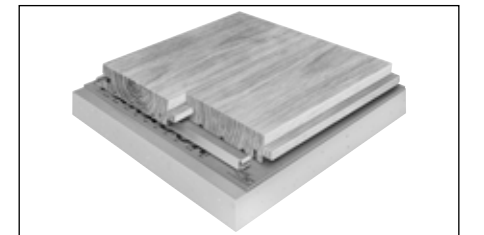
Installation on flooring sleepers



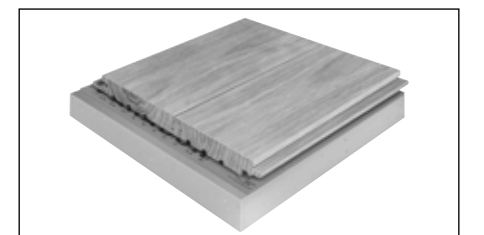
Installation on OSB or particleboard flooring



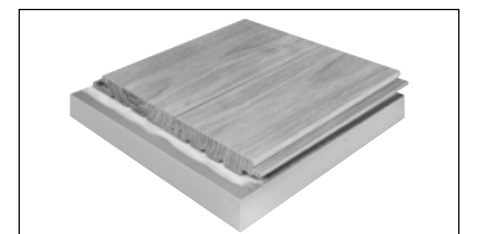
Installation by all-over adhesion



Floating floor installation with clamps

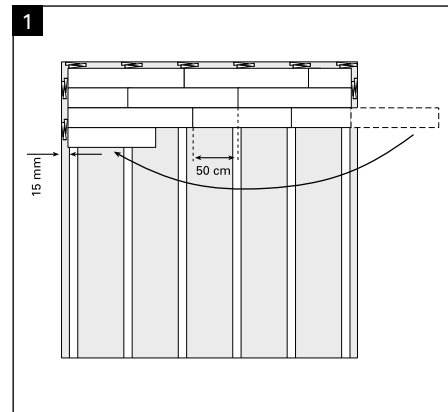


Click-installation as a floating floor

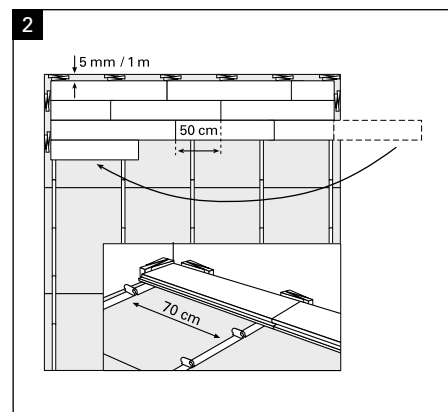


Click-installation with all-over adhesion

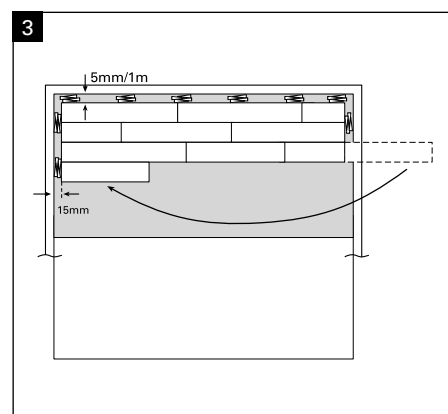
Installation



Solid Wood Flooring with tongue-and-groove profile



Solid Wood Flooring with clamp installation



Solid Wood Flooring with Click-profile

Preparations

Please note that solid wood flooring is a natural product whose originality and unique character is enhanced by the presence of little cracks, split or removed knots or variations in colour and texture. In a solid wood product these signs of nature can never be completely ruled out and depending on the different styles their appearance will be more or less prominent. Therefore we recommend that you buy about 5% more flooring than what you calculate. During installation this will allow you to cut off distinctive areas if you wish to do so. The resulting off-cut pieces can easily be used at the beginning or the end of one of the following rows.

Measure the width of the room transversely to the laying direction! If the width of the last row of boards turns out to be less than 5 cm, reduce the width of the first row, too, so that both are of equal width. The last element of each row should be sawn off, and the cut-off piece is used to begin the next row. With Classic 5050 solid wood planks the cross joints should be staggered by at least 50cm from row to row (see installation rule 8).

Solid Wood Flooring with tongue-and-groove profile/ installation with clamps

When installing on sleepers, the position of the cross joints does not necessarily have to be right on top of the sleepers. It is important though, to make sure that a cross joint that lies in between two sleepers is always followed by at least one full-length flooring plank (see illustration 1). If the floating floor installation with installation clamps (128 mm and 137 mm wide planks) is your method of choice, you will have to use the specifically designed Parador installation clamps (see illustration 2). For screw-on installations, Parador Solid Wood Flooring should always be installed using our specifically designed Parador screws. Generally, the planks have to be fitted using a hammering block (length of hammering block at least 50 cm) and a hammer or alternatively with the installation aid. Under no circumstances a hammer may be used to hit the planks directly.

Solid Wood Flooring with Click-profile

The flooring planks are simply clicked together and the short-end sides are fitted using a hammering protection device. Under no circumstances a hammer may be used to hit the planks directly.

Installation instructions Solid Wood Flooring Classic 5050 and Trendtime 6

Prior to installation please examine all boards for faults that are not „solid wood compatible“ (such as physical damages etc.) and use only boards that are in proper condition. The term „fault“ however, does not refer to any natural features or the natural characteristics of solid wood! During installation it is important to make sure that floorboards from different packages (at least 5) and different lengths are being mixed in order to achieve a well-balanced and harmonious appearance.

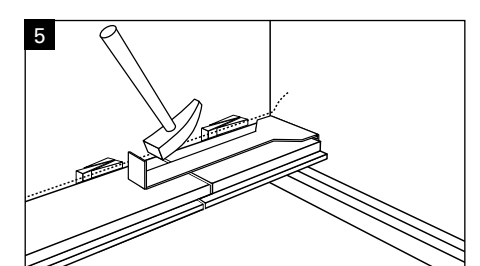
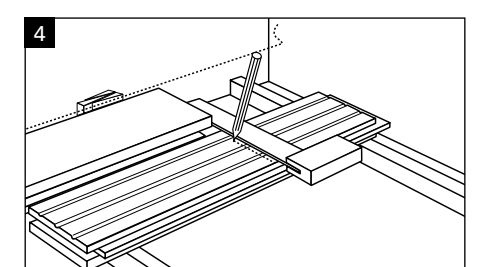
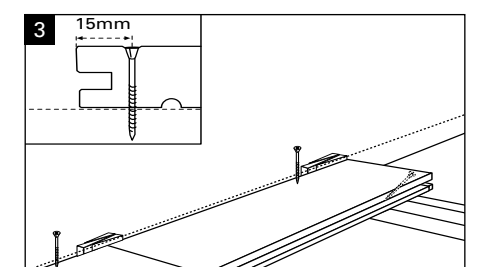
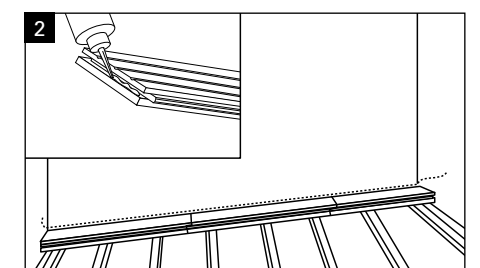
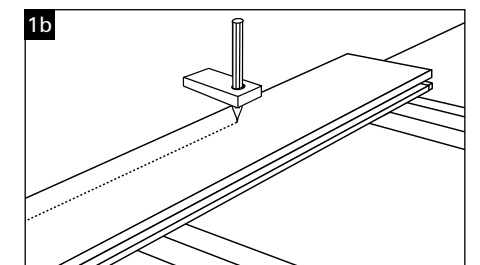
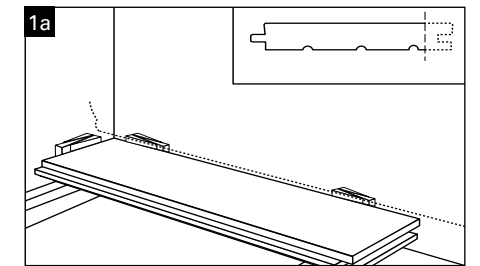
Installation sequence for screwing on sleepers, particleboard flooring, OSB, etc.

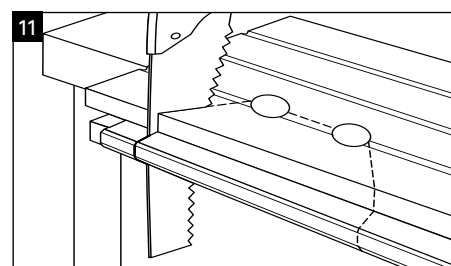
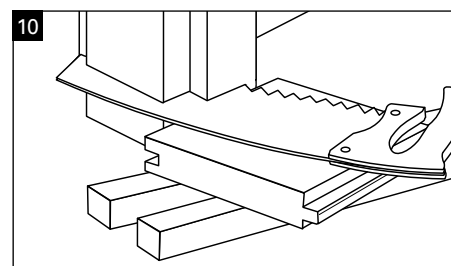
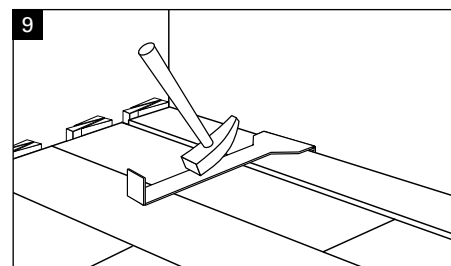
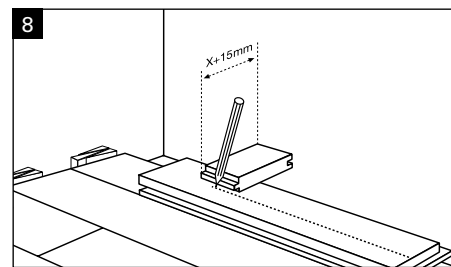
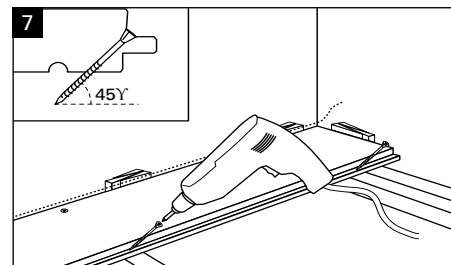
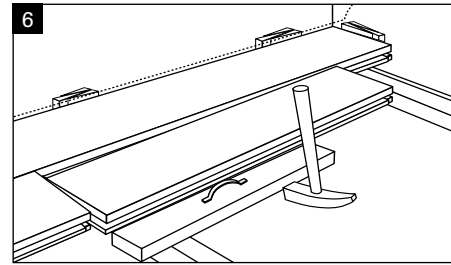
Fig. 1a/1b: Remember to measure the room before you start working on your first row (see Preparations, page 18). Position the cut-to-size floorboard with the tongue facing the center of the room. Use the Parador spacer wedges to ensure the required expansion gap of 15mm to the wall (see fig.1a). Irregular walls: Align the first row of floorboards at a right angle and follow the wall profile (see fig. 1b). Now you can saw the floorboard to size as needed.

Fig. 2: Start the first row by dry-fitting it and align it with a string. Make sure the floorboards are positioned at a right angle. In order to reduce the possibility of cross joints opening due to low humidity levels in the room, we recommend gluing the cross joints together. Apply a sufficient amount of glue to the upper part of the groove, but none into the longitudinal grooves of the floorboards. Immediately wipe off any glue that is squeezed out to the surface.

Fig. 3: Fasten the floorboards by inserting Parador specialty screws or nails vertically from the top with approx. 15mm distance from the (grooved) side of the floorboards. Countersink the screw heads and fill with wood putty (choose a colour that is slightly darker than your floor).

Fig. 4 + 5: Mark the length of the last piece in a row (placing the floorboard with its grooved side facing the previous row) and cut to length, don't forget to include the expansion gap! Have the top of the floorboard facing downwards when using a jig saw, let it face upwards when using a table saw. The cut-off piece can be used as the starting piece for the next row. Fit the last pieces of each row using the metal heel bar.





Installation instructions Solid Wood Flooring Classic 5050 and Trendtime 6

Fig. 6 + 7: Fit the floorboards together using a hammering block and hammer and secure the planks during the screwing process by pressing the previous floorboard towards it (if necessary use a broach or preferably use the Parador installation aid for solid wood flooring). Press-on techniques can also be very effective in evening out possible natural warping of individual floorboards to a large extent. The floorboard is then adequately fixed for the screwing process and the potentially necessary predrilling before that.

The floorboards are being screwed above the tongue in a 45°-angle (see Parador specialty screw 3.5 x 45 mm / 4.0 x 70 mm; use one every 35cm with particleboards and OSB-boards). During the screwing and predrilling process make sure that the tongue is not being damaged. For your convenience we recommend using Parador's self-cutting I-star head specialty screws for solid wood flooring. When using this specially designed product, we recommend that the screw is positioned with little pressure for several turns so that the special cutting head can actually provide the predrilled

hole. For inexperienced users and when working with very porous/ hard woods, we do however recommend conventional predrilling to avoid possible splintering. Throughout the installation it is imperative that you continuously check the proper alignment of all floorboards using a string (see fig. 2)!

Fig. 8 and 9: The last row of floorboards is cut to the required length, taking again the expansion gap into consideration. An off-cut piece is used to help with the measuring. Just like the first row of floorboards, the last one too, is fastened by screwing or nailing down the boards from the top and using the metal heel bar to fit in the pieces.

Fig. 10: How to shorten a door frame: place a piece of scrap board (on the suitable subfloor/ underlay) against the frame and saw the frame off along the board. For metal door jambs, use a jigsaw to cut out a previously marked piece of plank. As always, remember to provide an expansion gap (fill the expansion gap in front of a metal door jamb with Parador acrylic sealant).

Fig. 11: How to fit your floor around heating pipes: the diameter of the hole in the board should be 30 mm larger than the pipe itself. Mark the spot, drill the holes and saw off at an angle of 45° as shown in the illustration. Glue in the sawn off piece once the board has been laid, not forgetting to leave a wall space here either.

Be sure to remove all spacer wedges before you start installing the matching skirtings from the Parador skirting range to cover the expansion gaps!

Installation instructions Solid Wood Flooring Classic 5050

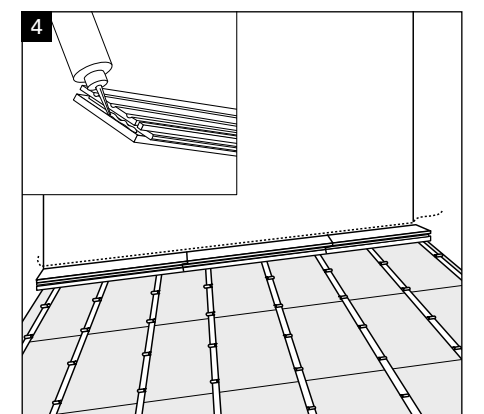
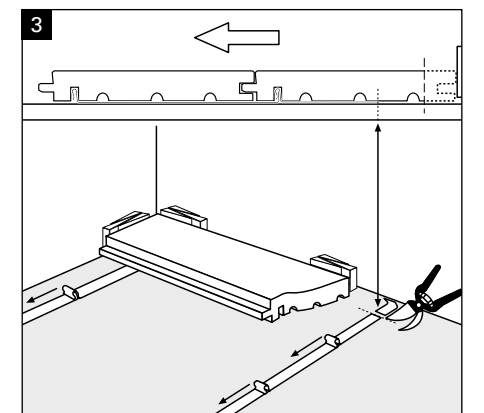
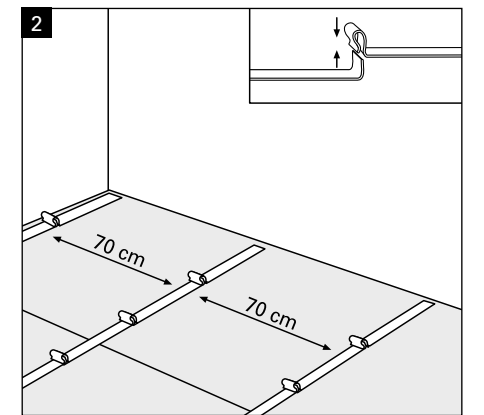
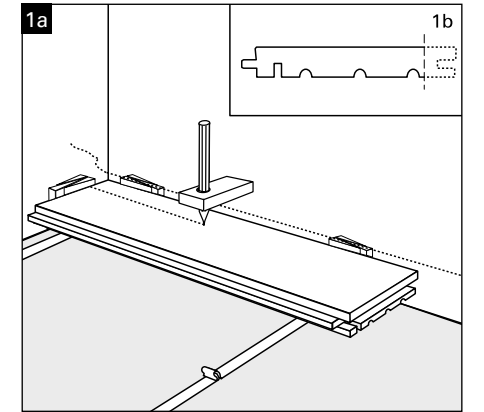
Installation sequence for floating floor installation with installation clamps

Fig. 1a/1b: Remember to measure the room before you start working on your first row (see Preparations, page 17). Position the cut-to-size floorboard with the tongue facing the center of the room. Use the Parador spacer wedges to ensure the required expansion gap of 5mm per m of installation width (see fig.1a). Irregular walls: Align the first row of floorboards at a right angle and follow the wall profile (see fig. 1a). Now you can saw the floorboard to size as needed.

Fig. 2: Push the clamps into one another creating chains, and lay out these chains with 70 cm distance from each other.

Fig. 3: Make sure the hook-sides of the clamps are facing the same direction that you are installing your floor. Shorten the first clamp.

Fig. 4: Align the first row with a string. Make sure the floorboards are positioned at a right angle. It is necessary that the short end joints are always glued together. Apply a sufficient amount of glue to the upper part of the groove, but none into the longitudinal grooves of the floorboards. Use a damp cloth to wipe off any glue that is squeezed onto the surface immediately.



Installation instructions Solid Wood Flooring Classic 5050

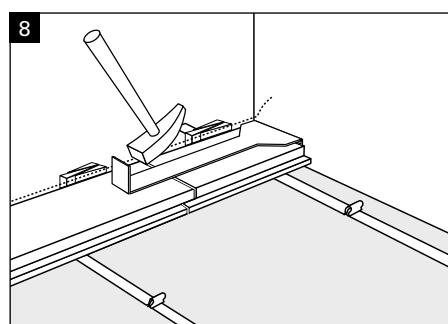
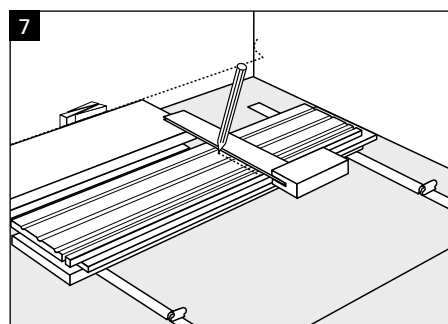
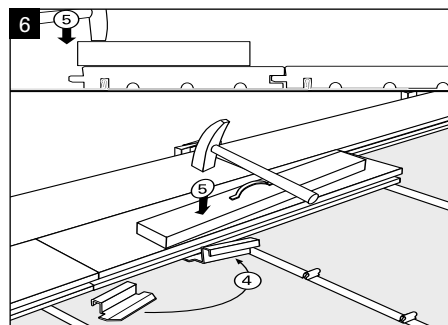
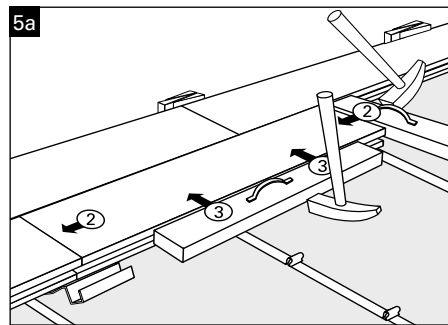
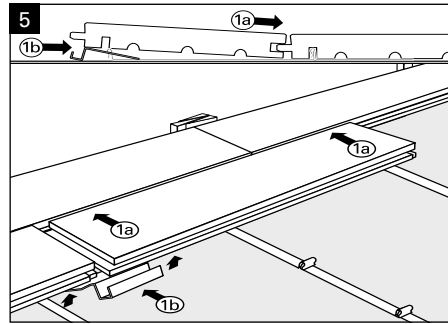


Fig. 5, 5a + 6: First of all position the longitudinal side of the plank on the previous row and slightly lift the right corner of the last previously laid floorboard (while doing so, slide the backside of the installation sheet under the plank in order to lock it in place, see fig. 5, step 1a and 1b). Next, join together the tongue-and-groove-joint at the short-end sides (see fig. 5a; step 2; be careful not to lift that right corner of the plank too high, since this may cause the clamp-connection to come apart.) Now, fit the floorboards together on their longitudinal sides using a hammering block and hammer (see step 3), use the hammer also to make sure that the short-end joint is closed tightly. Push the installation sheet under the clamp-connection to make it snap in (see fig. 6, step 4). Finally join the floorboards with the clamp using again the hammer and hammering block (see steps 4 and 5 - fig. 6). Every carton of 300 clamps also contains one of the installation sheets.

Fig. 7 + 8: Use a try square to mark the length of the last piece in a row (placing the floorboard with its grooved side facing the previous row) and cut to length. Don't forget to include the expansion gap! Have the top of the floorboard facing downwards when using a jig saw, let it face upwards when using a table saw. The cut-off piece can be used as the starting piece for the next row. Fit the last pieces of each row using the metal heel bar.

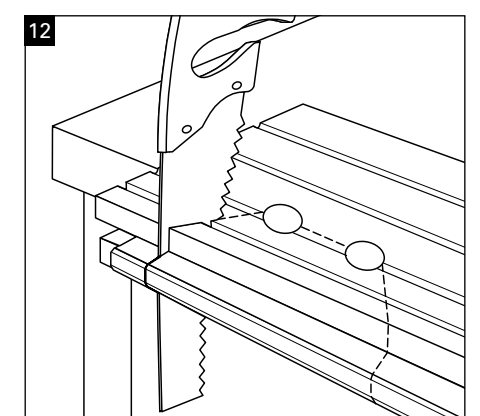
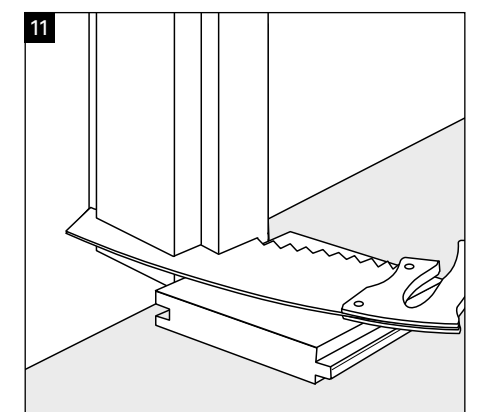
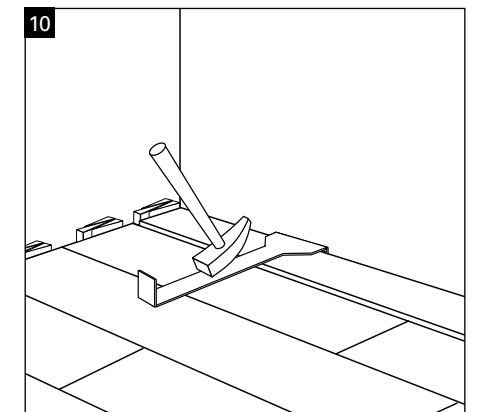
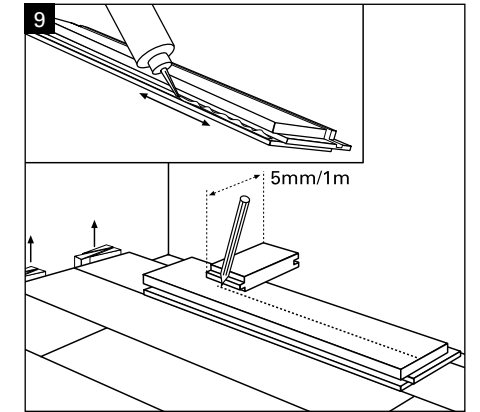
Installation instructions Solid Wood Flooring Classic 5050

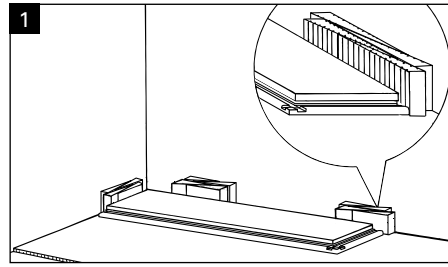
Fig. 9 + 10: The last row of floorboards is cut to the required width, taking again the expansion gap into consideration. An off-cut piece is used to help with the measuring. This last row of floorboards is also glued in. Use the metal heel bar to help insert the last pieces on the longitudinal side.

Fig. 11: How to shorten a door frame: place a piece of scrap board (on the suitable subfloor/underlay) against the frame and saw the frame off along the board. For metal door jambs, use a jigsaw to cut out a previously marked piece of plank. As always, remember to provide an expansion gap (fill the expansion gap in front of a metal door jamb with Parador acrylic sealant).

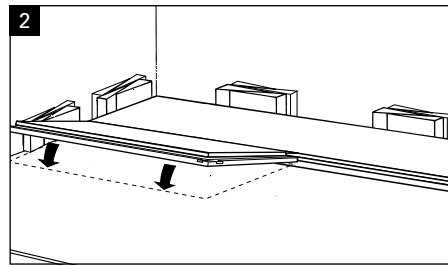
Fig. 12: How to fit your floor around heating pipes: the diameter of the hole in the board should be 35 mm larger than the pipe itself. Mark the spot, drill the holes and saw off at an angle of 45° as shown in the illustration. Glue in the sawn off piece once the board has been laid, not forgetting to leave a wall space here either.

Be sure to remove all spacer wedges before you start installing the matching skirtings from the Parador skirting range to cover the expansion gaps!





Installation instructions Solid Wood Flooring Classic 5010, Trendtime 1 and Trendtime 2



Prior to installation please examine all boards for faults that are not „solid wood compatible“ (such as physical damages etc.) and use only boards that are in proper condition. The term „fault“ however, does not refer to any natural features or the natural characteristics of solid wood! During installation it is important to make sure that floorboards from different packages (at least 5) and different lengths are being mixed in order to achieve a well-balanced and harmonious appearance.

Installation sequence for floating floor installation with Click-profile

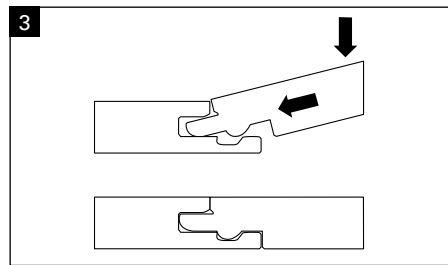


Fig. 1: If you don't have to narrow the width of your first row of planks anyway, begin by sawing off the longitudinal tongues of the entire first row of planks. Start laying the first row in the left hand corner of the room with the sawn edge facing the wall. Use the Parador spacer wedges to ensure the necessary distance/ expansion gaps to the wall: 5mm per m of installation width; for the longitudinal direction 15mm is required and appropriate for all lengths. If the wall is not straight see Fig.13. Lay out the first row in a straight line and let the short ends interlock, see fig. 7.

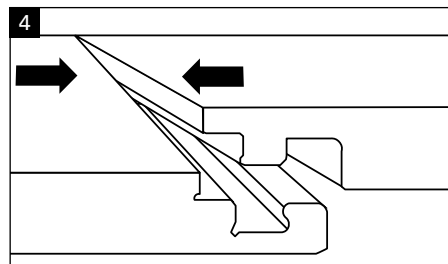


Fig. 2 + 3: Begin the second row on the left by clicking the longitudinal tongue of the first board into the groove of the first row. To do so, insert the tongue into the groove at an angle of approx. 25° and lower the board. As it is lowered the board snaps into place tightly giving you a press fit.

Fig. 4: The next board – and all the others that follow – is inserted lengthwise as described above and the end is positioned flush with the previous board before lowering. The floorboards must join together here!

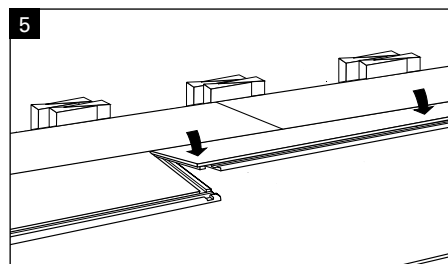
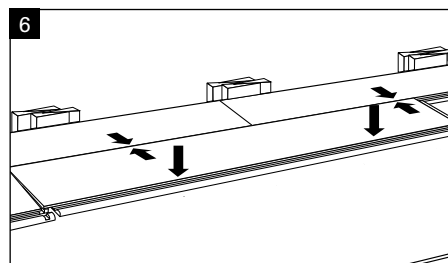


Fig. 5 + 6 + 7: The longitudinal joint is then locked from left to right along the entire board by simply pressing the two boards together and pushing downwards (fig. 3). Before locking the short end joint, always make sure that the longitudinal joint is locked completely along the entire length of the board. The short end joint is locked by knocking the two boards together with a hammer and hammering block. (Please ensure that the two short ends are lying closely together as locking is not possible otherwise, see fig. 4) Continue to install all other boards in this manner.



Installation instructions Solid Wood Flooring Classic 5010, Trendtime 1 and Trendtime 2

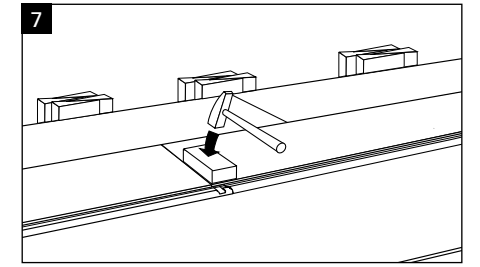


Fig. 8 + 9: To disassemble, lift off the entire row of boards and pull them out of the previous row diagonally. Then you can slide the short end joints apart. To do so, it is best to use a piece of residual board between the rows of boards and knock the boards apart with a hammer and hammering block. After just a few hits with the hammering block, the connection can be pulled further apart by hand. In this way, the locking mechanism remains intact and the boards can be reused.

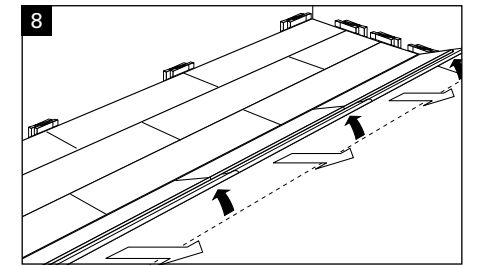


Fig. 10: Measure the end piece with a try square (lay down the board with the groove side facing the previous row) and cut to length. Don't forget the expansion space to the wall! If you are using a jig saw, have the top surface of the board face downwards, if you are using a table saw, let it face upwards.

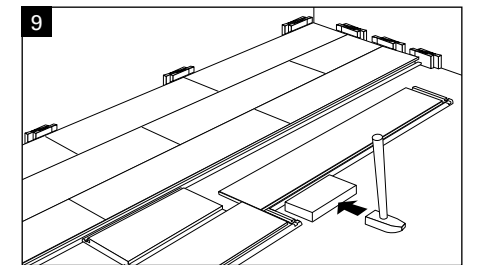
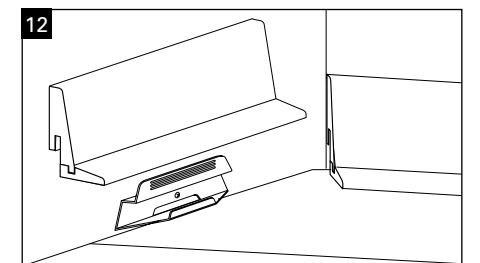
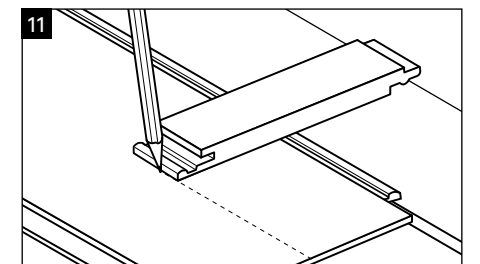
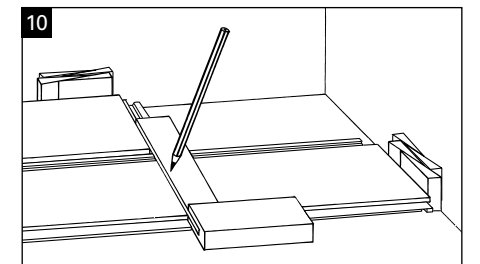
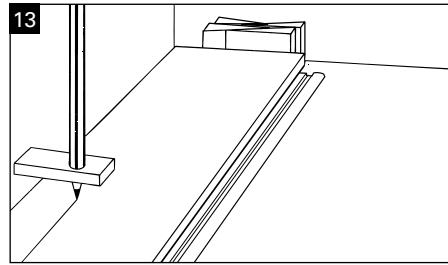


Fig. 11: Use a piece of residual board to help fit the last row. Remember to keep an expansion space of 5mm for every meter of installation width to the wall.

Fig. 12: The floor is ready for use as soon as the installation is complete. Remove the spacer wedges and attach the special Parador skirtings (SL17) for Solid Wood Flooring Classic 5010, Trendtime 1 and Trendtime 2 with patented Clip-technique.





Installation instructions Solid Wood Flooring Classic 5010, Trendtime 1 and Trendtime 2

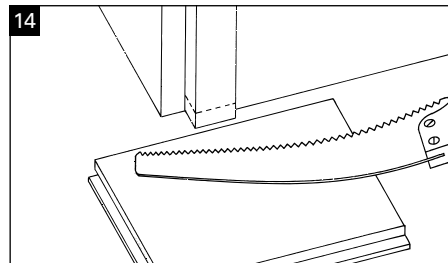


Fig. 13: If the wall is not straight: align the first row in a straight line and follow the course of the wall. Saw the boards off accordingly.

Fig. 14: How to shorten a door frame: place a piece of residual board (on the suitable subfloor/ underlay) against the frame and saw the frame off along the board.

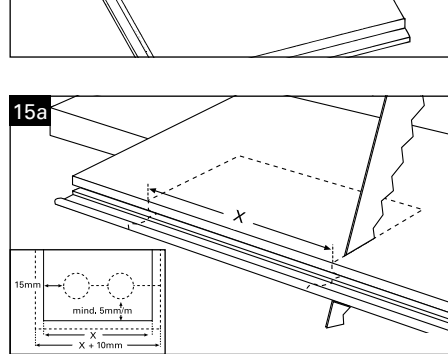
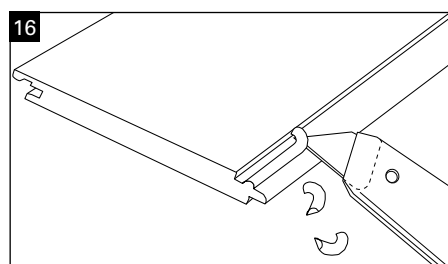
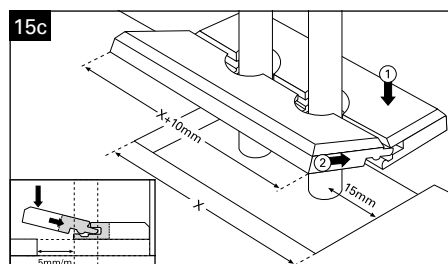
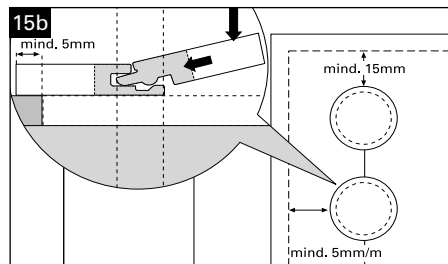


Fig. 15a + b + c: How to fit your floor around heating pipes: As with all other constructional elements, heating pipes too require an expansion space of 5mm per m of installation width (lengthwise 15mm regardless of length). Use two residual pieces of flooring and mark the drilling spot as shown in the illustration. The cover must not be fixed on the wood flooring and should be 5mm larger (all around) than the cut-out area in the floor. If desired, you can smooth or bevel the edges and treat the cutting edge with the Treatment Oil.

Fig. 16: Laying in inaccessible places: If the boards cannot be inserted diagonally and clicked together, it is recommended that you remove the catch-mechanism on the lower side of the tongue and glue the boards together. Apply the glue to the lower surface of the groove and slide the boards into one another lying flat (conventional tongue-and-groove principle) on the floor. For transitions and finishes (e.g. in front of doors etc.) we recommend that you use the Solid Wood Profiles that Parador has designed specifically for this purpose.



Maintenance, cleaning and repair

Thanks to their pre-finished surfaces Parador Solid Wood Floorings are easy to clean and maintain. The following advice on maintenance, cleaning and repair of your floors is supposed to make the good looks of your flooring last even longer and thus make you enjoy it even more.

Avoiding damage

As with all other floor coverings, your new solid wood floor should be protected from dirt particles by providing "walk-off zones" (outfitted with doormats/ carpet runners).

To protect the wood against scratches all chairs, tables and other movable furniture pieces need to be fitted with appropriate, soft felt glides.

Use only soft castors on office chairs, filing cabinets and wheeled containers.

Additionally, areas subject to heavy castor-traffic may be covered with special protective mats that are available in most stores specializing in office supplies.

Putting up additional wax-layers or adding other surface treatments to your solid wood flooring or to its edges is not necessary, because these measures are neither going to improve the looks nor enhance the serviceability of the flooring.

We recommend regular dry cleaning of your solid wood floor using a vacuum cleaner (brushes up!) and/or a broom.

Wiping of the floor with a damp cloth is necessary only for severe soiling.

With wiping, it is important to remember that the cloth always has to be extremely well wrung out so that never any puddles of standing water will form.

Maintenance

General advice on the maintenance of your solid wood flooring:

- Relative humidity between 50 and 65% is the optimum condition for Parador Solid Wood Flooring as well as for your personal well-being.
- Sand and dirt can act like abrasive paper on your floors and should be avoided.
- Liquids spilled and/ or standing on the floor have to be removed immediately.
- Damp wipe only.
- Do not use any scouring / abrasive cleansers, no waxes, hot steam cleaners or polishes. They will cloud the floors' visual appearance.
- Fit furniture, tables and chairs with soft felt glides. Use only soft castors on office chairs and cover the main castor-traffic areas with commercially available protective mats.
- Do not use steam cleaners.
- Brushed surfaces are more prone to dirt and soiling resulting in slightly increased care and maintenance efforts. Make sure to install extended „walk-off zones“
- With all textured surfaces cleaning measures should be carried out in the direction of the flooring's texture

Maintenance, cleaning and repair



Cleaning and maintenance of surfaces with lacquer-finish

Cleaning upon completion of building

- Remove dirt and dust from drilling and other loose particles directly with a broom or vacuum.
- Damp wipe with Parador Concentrated Cleanser (mixed in water, ratio 1:50)

Maintenance cleaning

- Remove dust, fluff and loose particles with a brush or vacuum cleaner.
- Wipe off localised dirt with a damp cloth.
- With severe stains, damp wipe your floor using water and the Parador Concentrated Cleanser. Take care, that no pools of water will form on the floor. Wring your cloth out well. (Mix cleanser and water 1:50)

Stain removal and leveling of slight scratches on lacquer-finished floors

- With a cloth apply a small amount of the Parador Intensive Cleanser to the respective surface, polish off dry after a few minutes. Repeat if necessary. Finally damp wipe.

Repairing severe scratches and damages

- The damaged areas can be repaired using a palette knife and a colour-coordinated repair paste from the Parador range of accessories.

Cleaning and maintenance of surfaces with oil-impregnation

Cleaning upon completion of building

- Remove dirt and dust from drilling and other loose particles directly with a broom or vacuum.
- Once the installation has been completed, damp wipe the floor thoroughly using a mixture of water and the Parador Intensive Cleanser (ratio 1:30).
- Next, mix the Parador Wood Floor Soap with water (ratio 1:40) and damp wipe the floor again in the lengthways direction of the planks.
- Always damp-wipe only, don't allow „puddles“

Maintenance, cleaning and repair

Cleaning and maintenance of surfaces with oil-impregnation

Maintenance cleaning

- Remove dust, fluff and loose particles with a brush or vacuum cleaner.
- For normal maintenance cleaning, mix Parador Wood Floor Soap with water in the proportions 1:40 and damp-wipe.
- Always use plain water to rinse out the wiping cloth before you dip it into the soap solution again.
- For partial soiling, you can also apply the soap solution with a cloth and use it to remove the dirt.

Intensive cleaning with severe soiling

If the floor is very dirty or is showing walking zones, you should dampwipe with Parador Intensive Cleanser first of all to remove old layers of soap (mixing ratio 1:30). After this cleaning, it is essential that the planks are wiped and thus treated again with the respective Wood Floor Soap (mixing ratio 1:40).

Refreshing and restoring

After some time, if the floor starts getting a dull appearance or is heavily used, it should be restored with Parador Treatment Paste.

- Refreshing and restoring can be done for the whole flooring area or just for certain parts.
- First of all the floor must be damp wiped with the Intensive Cleanser (mixing ratio with water 1:30).
- After a drying phase of at least 4 hours the floor is ready to be treated with the Treatment Paste. Note: The floor must be absolutely dry!
- Use a cotton cloth to apply a very thin layer of the Treatment Paste to the floor and work it in with a pad or a cotton cloth. For large areas a single-disk machine can be rented at specialised dealers. We recommend that you test on a small area how much of the paste the flooring actually absorbs.
- Use the treatment paste very sparingly. Use dry cotton cloths to take up any excess paste.
- The floor must not be walked on for approx. 4 hours. Only after approx. 24 hours will the oil be fully cured and the floor can then be used normally again.
- The first cleaning with Parador Wood Floor Soap should take place 4 days after restoration at the earliest, and before that time any dampness on the floor should be avoided.

Maintenance, cleaning and repair

Complete renovation / resurfacing

When you have decided to do a complete resurfacing of the solid wood flooring due to damages or other impairments and your floor planks have a lacquer-finish, you need to sand the entire flooring area. With oiled floors the resurfacing can also be done partially. Depending on the type of damage, each sanding process will take off approx. 0.5mm. This means, a solid wood floor can be sanded and resurfaced several times without any problems. For the necessary surface treatment after resurfacing you may use the Treatment Paste or you can use any product recommended by your specialised dealer. The market for surface treatments offers all kinds of materials, lacquer, oil- or wax-based products. You can basically use any system that the respective manufacturer of solid wood planks is recommending.

Tools, transport and storage



Tools

When you want to install solid wood planks, you should have the following tools and devices handy: tape measure or folding rule, cutter, adhesive tape, pencil, angle steel, jig or circular saw and hammer. Additionally you will need certain specialised installation accessories like for example our spacer wedges and the hammering block, the Parador installation aid, Parador specialty screws (when installing Classic 5050 flooring with screws) – all of the above are special Parador designs that your local dealer has available for you.

Transport and storage

Before you start the installation the closed original flooring packages should be stored in the room where they are being installed for at least 48 hours to let them acclimatise. Make sure that the packages are laying flat over their entire length on an even surface. Solid wood flooring is to be stored only in closed rooms with product-compatible climate.

Accessories

In order to not only make the newly installed flooring look good but to give the whole room the perfect finishing touch you will need skirtings to form an attractive transition to the walls, also for the transition between two rooms flooring profiles are needed as well as probably some pipe covers. The Parador range of accessories provides you with a wide arrangement of products for almost any application and room situation.

Frequently asked questions

1. What is the reason for open joints?

One of the most common reasons for open joints with solid wood floors is the room humidity indoors which is often too low (thus making the material dry out). It is very important here to stay within the recommended humidity ranges. During the heating period a humidity level of at least 50-65 % at temperatures between 20 and 22°C is considered ideal. If, during the heating period, the indoor humidity should fall drastically below these values, a humidifier should be used.

2. What is the reason for the warping of a floating floor?

Usually, when the floor is warping this is a sign that the flooring planks abut upon the wall somewhere or it could also be that one of the expansion gaps have become too small (heating pipe, door jamb/ architrave, flooring profiles etc.). Please check the expansion spaces all around the room to make sure the flooring has room to move in all directions. Even minimal contact in one area can lead to a warping of the floor in another.

3. What is the reason for dull or cloudy looking solid wood planks?

This problem is often caused by using a wrong cleaning product. Some cleansers leave a film that will build-up and over time can act like a foil on top of the flooring planks which in turn makes the whole floor look cloudy and dull. Please avoid all film-building cleansers and polishes as well as waxes. Preferably you should use the Parador Concentrated Cleanser or the recommended specialised cleaning and treatment products for oil-impregnated surfaces.

4. Is it possible to glue the tongue-and-groove connection together on the longitudinal side too?

Technically, gluing together the tongue-and-groove connection on the longitudinal side is wrong. This would lead to the formation of blocks, i.e. after a certain number of glued-together planks this would lead to a (very large) tear gap along the longitudinal side of the planks. Within a flooring area the tears usually appear after every 8-10 rows of planks.

5. Are warpage, bulging, cracks, visible joints, knocked-out knots and small open spots okay?

OK. And even proof of a solid and completely natural product.

6. How can I install a flooring plank that is heavily warped?

Usually with a warped plank, you would cut it in two pieces of equal length and use these as starting pieces at the end or beginning of a row. This will diminish the warping considerably.

7. Which sub-structure is the best for installation with screws?

Screwing is best on OSB or particleboard flooring, the major advantages being that the flooring bears on over its entire length and the screws can be put in anywhere.

Frequently asked questions

8. What is the minimum thickness of the OSB or particleboard flooring, that is required?

The boards need to be at least 22 mm thick (Trendtime 6 > 30mm).

9. What is the maximum moisture content of the sub-structure (e.g. sleepers)?

The moisture of the sub-structure must not be higher than the wood moisture content of the flooring planks (10% +/- 2%) that are installed on it.

10. Is it possible to install solid wood flooring on an old hardwood floor?

Yes – to do so, just screw any loose planks to the sub-structure to help silencing potential squeaks. The new floorboards should be installed in transverse direction to the old boards.

11. Why is it better to use screws for the installation than nails?

If any adjustments become necessary during the installation or planks have to be removed, this is only possible without damages and problems when the flooring has been installed with screws.

12. Why is a factory-finished surface better than one that is finished onsite by the customer?

Because it is more even, free of any dust particles and has a better bond with the wood also the surface is easier to clean and maintain.

13. Are the three different styles (Select, Natur, Living) that are offered comparable to the styles for engineered wood flooring?

No – the styles for solid wood flooring tend to be more natural and lively.

14. Why is it important that planks from several different packages are mixed during installation?

To achieve a well-balanced and harmonious overall appearance.

15. What is the life span of the solid wood planks?

Unlimited – as you can see in old castles and manor-houses.

Frequently asked questions

16. What are the most common maintenance mistakes?

- Humidity is too low
- Cleaning/ wiping with too much water (i.e. not damp!)
- Missing walk-off zones (carpet runners, doormats in front of entrances and patio/ porch doors)
- Infrequent use of treatment products
- Missing felt glides under chairs and tables

17. What are the most important things to remember with main entrance areas, patios/ porches and side entrances?

Usage of generously sized doormats to catch dirt and moisture.

18. Are colour changes something that has to be anticipated with a newly installed solid wood floor?

Like all natural materials solid wood planks too do react to UV-light. Most wood types will get darker and after a while will develop a beautiful natural patina that is only going to get more beautiful over time. Please keep this natural reaction in mind when using carpets and carpet runners on your solid wood flooring.

Acceptance protocol for installers

Mr. / Mrs: _____ Order number: _____

Street address: _____ Protocol number: _____

Place: _____ Date: _____

Installation date: _____

Item No.	Quantity (target)	Quantity (actual)	Product/Service
1	_____ m ²	_____ m ²	Removal of old floor coverings (in m ²)
2	_____ m ²	_____ m ²	Installation of flooring
3	_____ m	_____ m	Installation of profiles
4	_____ m	_____ m	Installation of skirtings
5	_____ pcs.	_____ pcs.	Adjustment of doors
6	_____ pcs.	_____ pcs.	Adjustment of door jambs
7	_____ pcs.	_____ pcs.	Removal / exchange of floor planks

Comments/ particularities: _____

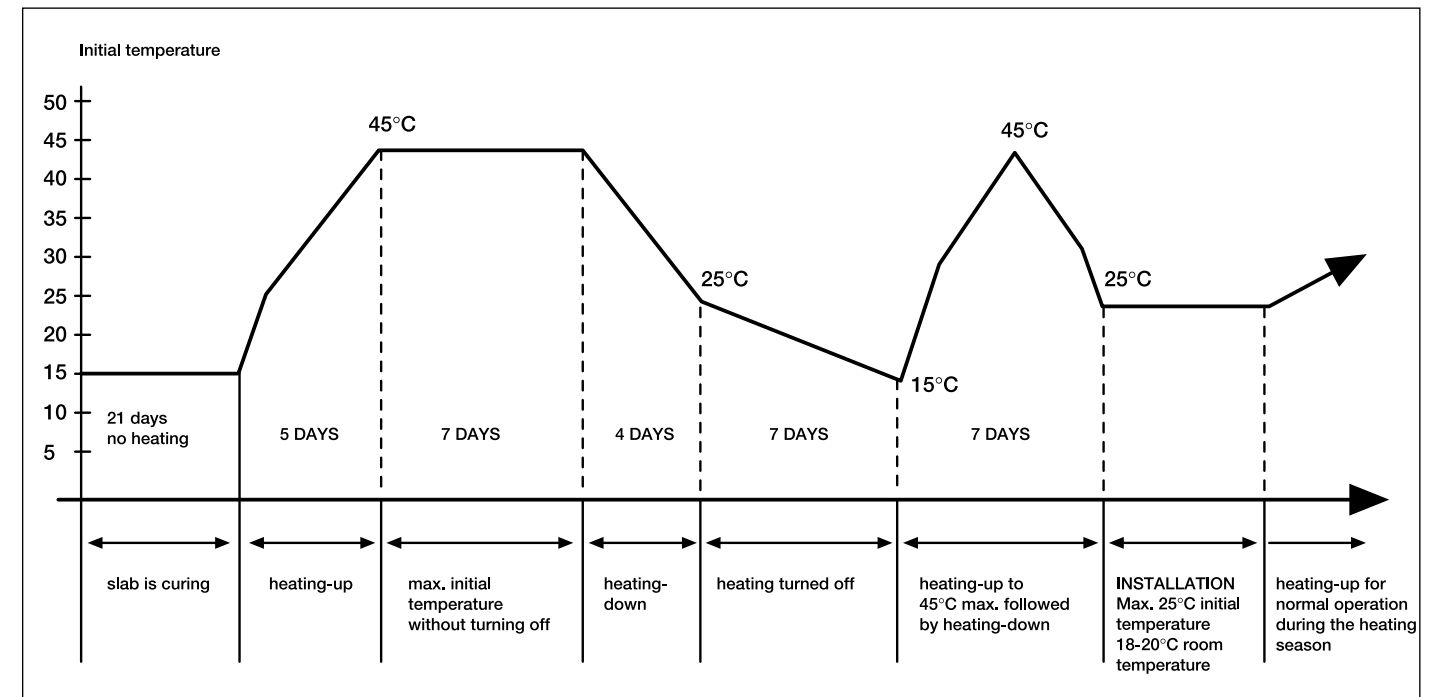
Surface inspections of the installed flooring area are best carried out in a standing upright posture. Conditions of angular light or back light or deviations from the normal usage situation are not to be used for inspecting. The flooring does not show any defects or damages. The Cleaning and Maintenance Instructions for the specific type of flooring that has been installed were delivered to the customer/ buyer.

Customer signature and/or buyer _____ Date, Place _____

Checklist for installation on hot-water-type subfloor heating

Generally, before installing the solid wood flooring all mineral substrates have to be heated up to the point where no more damaging moisture is escaping from the subfloor. This applies throughout the whole year regardless of the season. The cement floor/ slab has to be installed correctly according to the generally accepted rules of the trade (DIN = German Industry Standard). A curing period of at least 21 days has to be completed before the heating-up process can begin. For the heating-up process we recommend that you follow the chart on the bottom of this page or use the „Heating protocol“ on the next page as your guide. Please pay attention to any additional instructions/ tips that your composition floor layer or heating contractor may have.

Heating chart for hot-water-type subfloor heating system



Keep in mind that the optimum surface temperature of your solid wood floor should not exceed 25°C (maximum 27°C).

Heating protocol for hot-water-type subfloor heating systems (Sample)

With newly installed subfloor heating systems the completion of a heating protocol is imperative.

1. a) Work on the floor slab/ concrete floor was completed on _____.
- b) The floor material is cement screed , anhydrite flow screed .
- c) The average thickness of the screed layer is _____ cm.
2. a) The radiant heated floor construction was put into operation on _____ and was heated up with a daily temperature increase of 5°C (initial temperature) until 45°C were reached.
- b) This maximum temperature was kept for _____ days (should be: 7 days) without being lowered at night.
- c) From _____ until _____ (should be: 4 days) the initial temperature has been lowered daily by 5°C.
- d) From _____ until _____ (should be: 7 days) the heating system was turned off completely.
- e) On _____ the heating system was put into operation again and the initial temperature of 45°C was reached on _____.
- f) After the initial temperature of 45°C was reached, that initial temperature was reduced (max. 25°C) in steps of no more than 10°C per day until the room temperature had reached the correct levels required for the installation of solid wood flooring (i.e. approx. 18-20°C).
3. Throughout the heating-up and heating-down process have the rooms been aired without exposing them to draught? yes
4. The last residual moisture measurements on the marked test points showed _____ % residual moisture. (Permissible values: Anhydrite flow screed max. 0.3 CM %, Cement screed max. 1.5 CM %)
5. With this, we approve the installation of wear layers/coverings on the radiant heated floor construction.

For the building owner/contracting entity:

Place / Date / Signature / Company stamp

These instructions are for the information/ consultation of the floor installer / heating contractor and/or the building owner. They do not constitute a base from which warranty claims may be derived. In cases of doubt, the respective regulations of the heating contractor/ composition floor layer are to be followed.

Checklist for all-over adhesion of Parador Solid Wood Flooring

An installation alternative for Parador Solid Wood Flooring is all-over adhesion. Compared to the installation as a floating floor this method provides a number of advantages. Please note the following information/ recommendations:

- For all-over adhesion on the subfloor you must only use adhesives that are explicitly recommended for this purpose by the manufacturer. Use one- or two component (1-K or 2-K) Polyurethane-adhesives that do not contain any water or solvents. If using solvent-containing adhesives they should comply with DIN 281. Always stick to the manufacturer's instructions especially those on adhesive application.
- When it comes to adhesives, Parador recommends the products T-54 FC by SikaBond. T-54 FC is suitable for all other popular wood types like for example Maple or Beech. Please consult the manufacturer for more specific questions and follow the instructions and information of the technical data sheet for the product in question.
- Make sure the substrate is clean, dry, perfectly even, free of cracks and suitable for all-over adhesion, also the respective moisture levels must not be exceeded. Preparatory measures vary among adhesive manufacturers.
- Screed floors must not exceed the following residual moisture levels:

	Anhydrite flow screed	Cement screed
without subfloor heating	max. 0,5 CM %	max. 2,0 CM %
- For all-over adhesion an expansion gap of 15mm is sufficient.
- Existing expansion gaps in the substrate should be adopted. Additional expansion joints are needed with all door openings, between rooms, at entrances and every 15m (length- or width-wise). Please also refer to Installation rule 7 on page 11)
- As with all other installation methods, please follow the general installation instructions with all-over adhesion, too.
- Further information can be obtained on the adhesive manufacturer's website (e.g. www.sika.de) or you may also contact Parador's Applications Technology department.
- For installation of Solid Wood Flooring 5050 please use a notched trowel B11 as recommended by the Technical Commission for constructional adhesives (TKB). Please note: For installation of Solid Wood Flooring Trendtime 6 please use a notched trowel B17.
- After the first three rows have been bonded we recommend to weigh the newly installed area down. Objects suitable for this job are for example packages of flooring or adhesive pails. With this measure you are enhancing contact between the glued surfaces. Place weight on the final rows as well to push them into the adhesive layer entirely throughout the curing phase. The adhesive is fully cured and the floor surface may be walked on after 24 hours.
- If possible, please let the first three rows of flooring cure for 24 hours before continuing the installation. Make sure to carefully close all adhesive containers.

Checklist for installation on flooring sleepers

For an installation on sleepers a sub-structure (size of sleepers approx. 4.5 x 7 cm) is put up on the subfloor (screed or cement). The sleepers may be installed loosely (without fixation), or they may be fixed to the subfloor with brackets, or – for enhanced sound insulation – may be connected to form a subframe which rests on some sort of underlay. With this particular type of sub-construction the following wall spacings must be obeyed:

- Rooms < 6 m minimum distance to walls 15 mm
- Rooms > 6 m minimum distance to walls 5 mm per meter

The solid wood planks are then fixed onto the sleepers; the hollow sections between the sleepers are filled with insulation materials. Please keep in mind, that your actual flooring surface will come up in height by the thickness of the sub-structure plus the actual height of the wood planks. Position the sleepers on the subfloor at about 50cm distance from each other. The sleepers are laid floating on the previously installed moisture barrier and with this it is very important that they are in perfect horizontal alignment.

Any height deviations that the sleepers (or old beam ceiling) might have, would lead to bumps in your new wood flooring. For adjustment purposes use small pieces of plywood or the like (no wedges!) that can be glued or nailed under the sleepers. As a next step, insulation strips like strips of cork, coconut fibre or Plan-Protect are put up underneath the sleepers in order to reduce transmission noise. The insulation strips are required to run along the entire length of the sleepers and on the sides they need to run up all the way to the surface edge. The hollow areas between the sleepers are filled with insulation material. Ask your local specialized dealer for recommendations on good insulation materials.

Important:

The wood moisture content of the sleepers must not be higher than that of the solid wood planks that are being installed (10% +/- 2%). The sub-structure is screwed onto the flooring planks only – it must never be screwed/ fixed to the subfloor (screed or cement). Installation with screws on a subfloor of OSB-boards or the like requires a minimum board thickness of 30 mm (for Trendtime 6).

Many other topics all about modern home living, such as individual flooring concepts, creative wall and ceiling decoration, as well as useful accessories can be found in separate catalogues, available to order at www.parador.eu

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