

# Kährs®

## **KÄHRS EUROPEAN HARDENED TIMBER FLOATING INSTALLATION INSTRUCTIONS** KÄHRS WOODLOC® 5G & 2G



## CONDITIONS FOR INSTALLATION

Ensure all work follows relevant NZ Building Codes, such as NZS AS 1884-2013 and Acceptable Solution E3/AS1, with exception where Kährs instructs their specific standard. Kährs European Hardened Timber flooring is considered an Alternative Solution.

### General

Kährs European Hardened Timber floors are only intended to be installed in a climate-controlled indoor environment.

Wood is a hygroscopic material, which means that wood adapts to seasonal and interior changes in humidity. This causes wooden floors to expand when the relative humidity is high and contracts when it low.

It is the relative humidity (RH) that controls how wood-based floor materials are affected. Excessive variations in temperature and humidity can cause permanent damage to the floor.

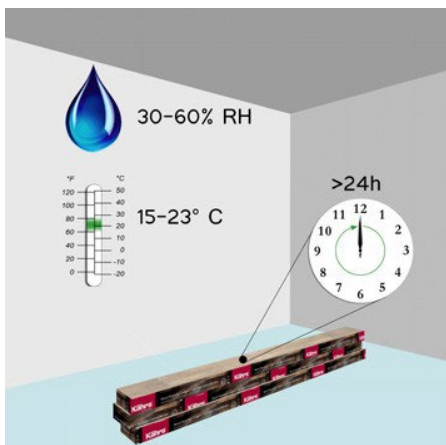
The room and material temperature at the time of installation should have a temperature of 15-23 °C. The humidity in the room should be between 30-60% RH.

Note that moisture levels in newly built premises often remain relatively high by the time wood floors are installed. In these cases, it is important that the correct RH is ensured before installation can take place.

The wooden floor should be installed when all other work is completed, e.g. painting, wallpapering, tiling and when the construction site has the right RH. This is to avoid damage, dirt damage and unnecessary moisture related damage on the floor.

### Acclimation of the floor bundles

Before installation, wooden floors must be acclimated in the space where the floor is to be installed, for at least 24 hours. Faster temperature rise is obtained if the floor bundles are not laid in a single pile but are divided into several smaller ones. However, do not open the packaging of the floor bundles until the installation is to begin.



## Kitchen Cabinetry and Fixings

For the best finish, install stone waterfalls, kickers, and end panels after laying your Kährs floor. The wooden floor can be placed under appliances, provided that appropriate drip protection is installed on top.

Kitchen cabinets are generally very heavy, especially when combined with heavy countertops made of materials like stone, stone composite, concrete, or other mineral-based substances. In such cases, the wooden floor should not be installed beneath the heavy cabinetry, as this can prevent the floating floor from moving freely with changes in climatic conditions. Cabinets should be installed directly on the subfloor.

If you still prefer wooden flooring under the cabinetry, the floor must be compartmentalised and installed as a separate flooring raft section with control joints separating from the rest of the floor. An alternative is to use chipboard of corresponding thickness under the kitchen fittings. Another option is to drill holes in the wooden floor so that the support legs rest directly on the subfloor—don't forget to allow for movement joints around the support legs.

If you're installing a wood-burning stove, protect the floor from radiant heat, sparks, and embers, as excessive drying from radiant heat can damage wood flooring. It's recommended to install the wood stove on top of a hearth and ensure that expansion space is provided around it.

Please note that under Kährs' warranty terms, floors are not replaced or repaired beneath furnishings, kitchen islands, wardrobes, wood-burning stoves, and similar installations.

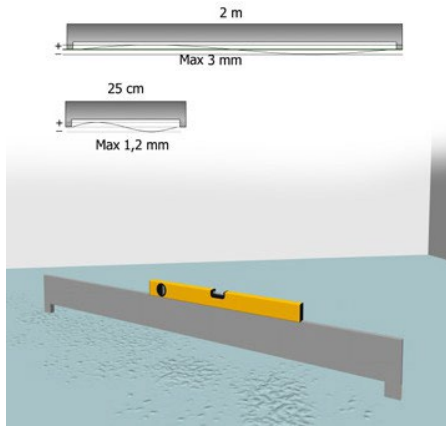
### Requirements for subfloors

Refer to NZS AS 1884-2013 for requirements on moisture barriers and leveling for compliance.

The subfloor must be dry, level, clean and firm. Hardened Timber Flooring is not suitable to be laid over existing carpets and these must be removed before installation.

Never leave sawdust or other organic residues on concrete subfloors. This is because the moisture coming from below remains under the vapour barrier and can give rise to unwanted mould growth.

Check that the subfloor is flat and level over measured lengths of 2 m and 25 cm. If any unevenness exceeds 3 mm over 2 m and 1.2 mm over 25 cm, the floor must be levelled first. Kährs also accepts a measured length of 1 m. The tolerance in this case is 2 mm.



All subfloors should be assessed in accordance NZS AS 1884-2013.

Concrete subfloors should be tested according to ASTM F2170 and should not exceed 75%RH. Above this, a moisture barrier should be installed. For floating floor installations, a clear 150 µm polyethylene builders' plastic should be installed.

For timber sub floors it should be measured according to AS/NZS 1080.1 and AS/NZS 2098.1 and should be 10-14% MC. It is recommended to lay perpendicular to the floorboards.

On the following subfloors, regardless of age, it is mandatory to have an approved age-resistant vapour barrier, e.g. polyethylene foil. This should always be installed as close to the floor surface as possible. It is important that it is installed according to the supplier's instructions.

- Concrete floor that lies directly on the ground (slab on earth).
- Over a hot or humid room (e.g. laundry room).
- Flooring over crawl space foundations.
- Lightweight concrete floors over floor heating systems.

An underlay should be installed on top of the vapour barrier to support the locking system, reduce the impact sound and increase walking comfort. Belgotex supplies Aqua Performance and Aqua Elite underlays, see [www.belgotex.co.nz](http://www.belgotex.co.nz)

Belgotex Aqua Elite and Aqua Performance underlays act as both vapour barrier and underlay.

### Installation planning

Measure the width of the room and calculate how wide the last row of boards will be. If it is less than 30 mm wide, you should also saw the first row of boards, so that the first and last rows of boards are about the same width. Do not forget to count on the expansion gap!

Installation is started at the long side that has the most doors. If there are doors on the short sides of the room, it is also easiest to start a new row of boards from that side. The boards can be laid both from the left and right and backwards. If the floor width and length exceed the specified maximum dimensions of 13 m width x 13 m length, the floor must be divided by an expansion joint.

Be careful with the planning so that the maximum floor width and floor length do not exceeds the maximum width and length of your floor, see table below:

Product	Type of joint	Max Width	Max Length
Veneer floor HDF-core 7-10 mm	Woodloc 5G & 2G	13 m	13 m

### Installation of Kährs wood floors on underfloor heating

A minimum 150 µm clear polyethylene builders' plastic is mandatory over heated subfloors. Joins must be overlapped 300 mm, fully taped joints with a tape equivalent to the moisture barrier. Plastic should be covered up the walls 5 cm. The vapour barrier should be placed as close to the floor as possible.

Regardless of the choice of floor heating system, it must be ensured that the surface remains flat and stable, even over time, to avoid e.g. noise and flex.

When installing on underfloor heating in grooved subfloors (e.g. chipboard or EPS) with heat distribution plates, the wooden floor must be installed perpendicular to the loops of the underfloor heating. If this is not possible, it is necessary to first cover the subfloor with a board material. If the heating coils are embedded in the substrate, no extra consideration needs to be given to the installation direction.

The surface temperature of the floor must never exceed 27°C. This applies both during installation, at start-up of the heating system, and after the installation is completed.

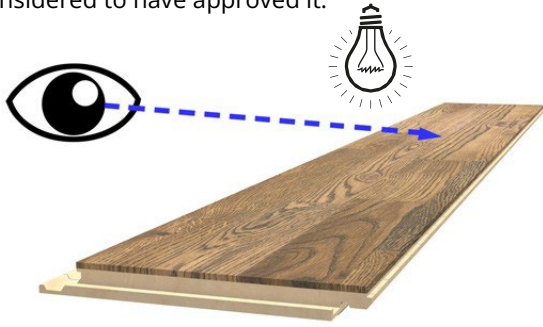
### Inspection

It is always easier to rectify faults if they are discovered early. It is important to always inspect the product during installation. If faulty products are discovered regarding, for example, appearance or other design elements that do not correspond to what is described in the product sheet, it is important that a complaint is made before you install the floor. Defective products are of course replaced, as long as they have not already been installed. Boards with obvious faults that are detectable before installation must not be used.

Please note that wood floors naturally exhibit variations in color, grain structure, and other inherent features. While these may seem like deviations from the norm on individual boards, they are intentional and approved design elements in an installed floor surface. Always ensure that inspection and installation are carried out under good lighting conditions!

Differences in colour, knots and other design between the boards in 1-strip floor can be large and place higher demands on the installation. Therefore, open several packages and mix the floorboards to get an even spread of colour, grain and other natural features over the entire floor surface. Avoid, for example, placing boards with a large colour difference next to each other. However, never leave bundles open if you take a break in the installation.

Carefully inspect every board before installing because once it has been laid, regardless of whether you lay it yourself or hire a floor layer, you as the buyer are also considered to have approved it.



**Installation direction, max widths & Lengths**

We recommend installing in the longitudinal direction of the room. In the case of long narrow spaces, such as hallways, the floor must be laid in a longitudinal direction to ensure that the floor lies flat against the ground and gives a more pleasing aesthetic appearance.

**Movements joints in wood floors**

Indoor climate variability will result in expansion with increases in humidity and contraction with decreases in humidity. Consequently, it is necessary to allow for a consistent and continuous expansion gap around the entire perimeter.

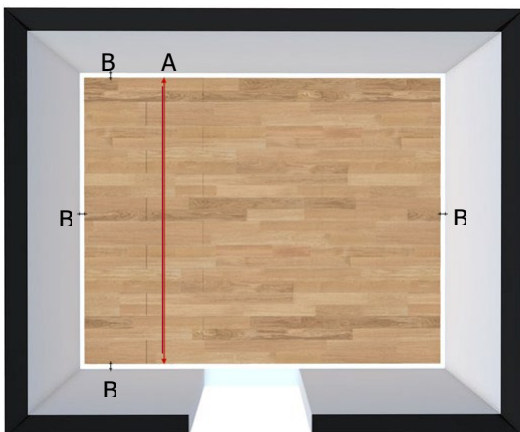
Kitchen cabinets must not rest their weight on top of the floor. It is best if the kitchen carcasses are installed first then the flooring. Expansion gaps can be hidden under kickers, skirting, end panels, scotia or trims.

The flooring must not be fixed to the subfloor in any way. Silicon must not be applied between the flooring and skirtings etc. as this will restrict the movement of the floor, accept where E3/AS1 applies and then Finsa low modulus silicon must be applied 1.5 metres out from sanitary appliances or fixtures. It may be necessary to reduce flooring raft size by installing control joints when provisions for E3/AS1 are required.

Failure to specifically use Finsa silicone may void your warranty.

Heavy objects like slate pool tables, fish tanks and pianos will impede the floors' ability to move and therefore rooms where very heavy objects are located should also be isolated with control joints.

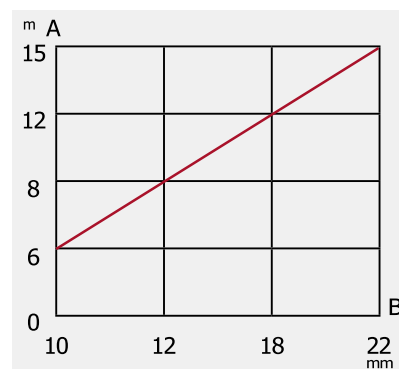
Remember that the width of the expansion joint is the sum of the movement joints of the two connecting surfaces!



The size of the movement joint in mm is calculated using the formula: 1.5 mm x meter floor width. The size of the movement joint should never be less than 10 mm.

The floor must be able to expand at, for example, thresholds, door frames, heat pipes, columns, stairs, tiled floors and other parquet floors. It is important to ensure that even the climate-induced shrinkage in winter is covered by the skirting. Regions located at high altitudes and subzero winter temperatures in conjunction with RC air conditioning generally produce very low relative humidity conditions.

Graph shows: A wood floor's movements as it absorbs and emits moisture. The climate in the bundles corresponds to 20 ° C and 40% RH upon delivery.



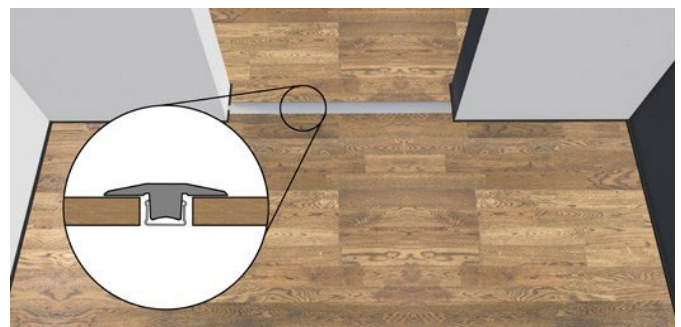
Veneer floor HDF-core, Woodloc 5G & 2G

Note that the maximum width of the floor is based on a rectangular floor surface. For a more challenging room design, it may be necessary to contact a floor installer or dealer to go through any specific conditions. L, J or U-shaped areas of flooring may require control joints.

**Door openings**

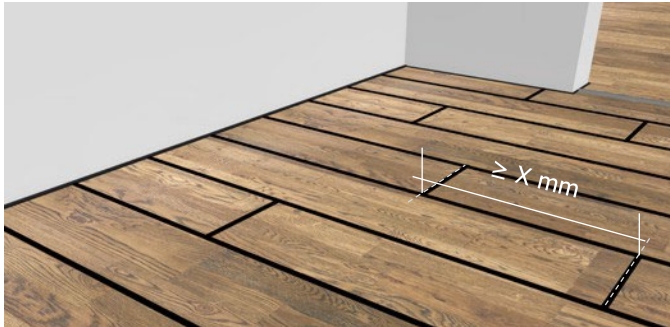
When installing through doorways or narrow passages, the floor raft must be divided by an expansion joint, which is then covered by a cover strip or moulding.

The cover strip can also be removed, then refitted, when the floor has been installed with an expansion joint under the cover strip position. If the cover strip is too high, the door can be trimmed accordingly.



### End joints

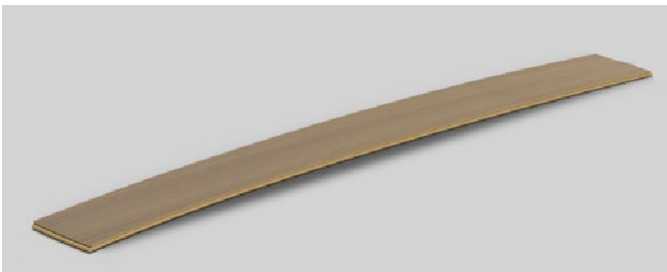
A proper staggering, according to the table below, of the end joints in adjacent rows, must be present to keep the floor flat during climate variations and for optimal appearance of the floor. Even small areas must be installed staggered, i.e. all floor areas must have end joints in every row. In long narrow areas, such as halls, it is particularly important.



Product	Type of joint	End joint displacement $\geq X$
Veneer floor HDF core 7 – 10 mm	Woodloc 5G & 2G	300 mm

### Bowing

We aim to manufacture boards that are slightly convex lengthwise to make the floor easy to install.



### Gluing joints

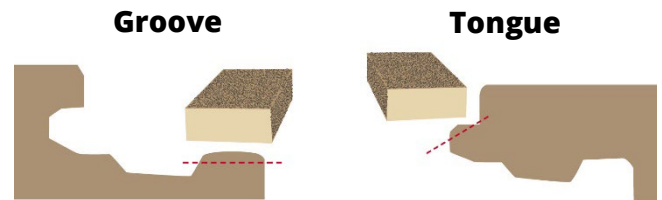
PVA adhesive should not normally be required to glue boards together because of the glueless locking system Woodloc®. However, in connection with door jambs or radiators, installation is sometimes easier if 1/3 of the groove locking edge is chiseled or cut off. A exterior PVA adhesive must be applied to the horizontal underlip (see illustration). This means that board can be tapped into place. Be careful not to apply too much PVA or it will push the boards apart from each other.



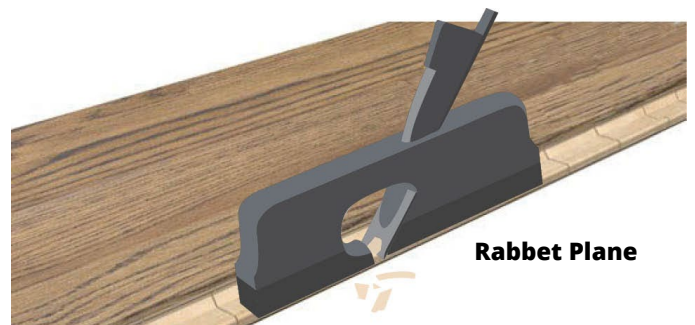
### Advanced version

Using a coarse grit wood sanding block or plane re-profile along the length of the tongue with an approximate 30 - 45° angle. Reduce the height of the tensioner by approximately half, along the entire length of it.

This will retain the locking system enabling the boards to be clicked together horizontally. Cross-linking PVA must be applied to ensure joint strength.



### Modified Click System



### Gluing to the subfloor

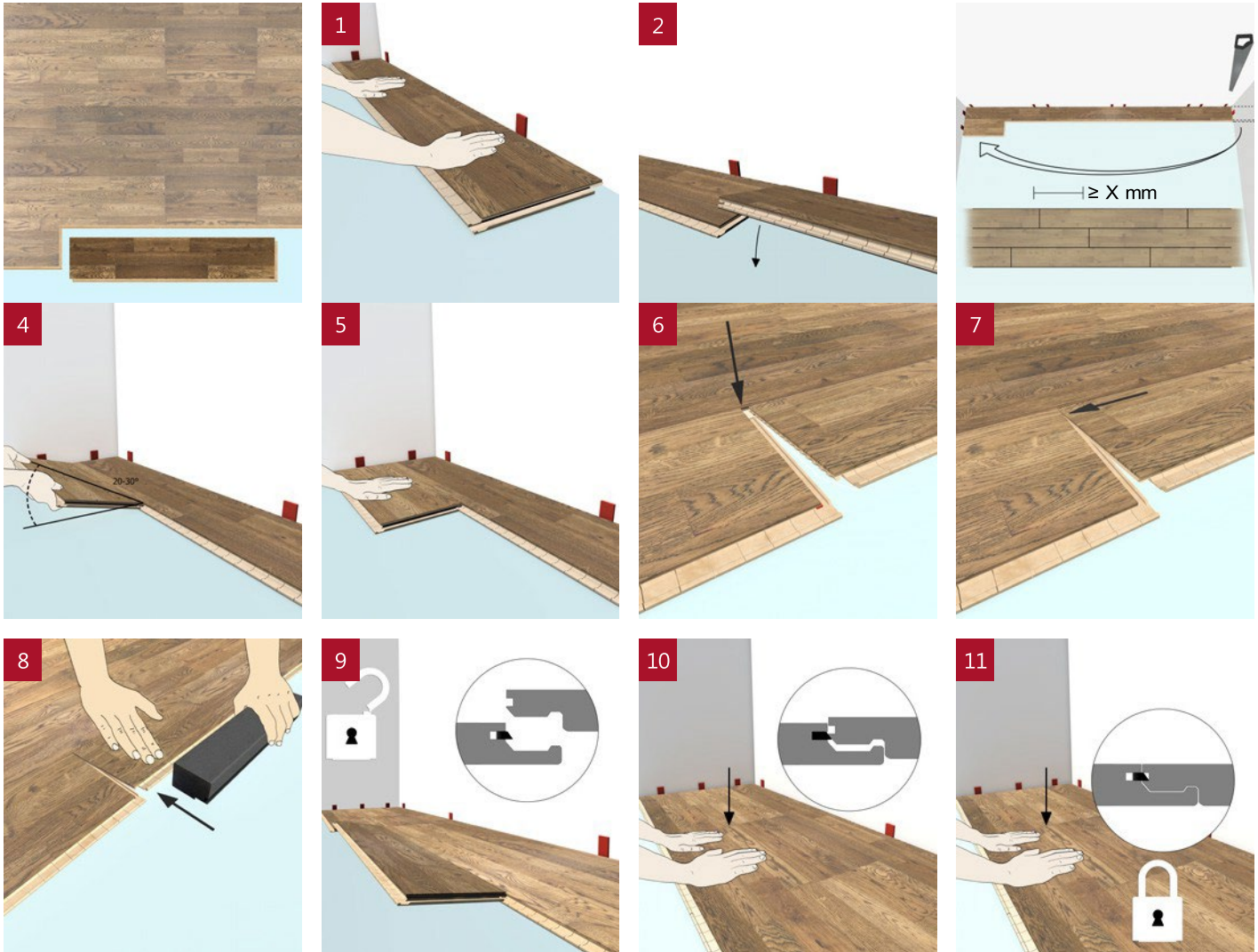
In cases where you want to glue the wooden floor to the subfloor, it is important that the requirements for subfloors are met and that the right glue for the purpose is used.

Consult your adhesive manufacturer's recommendations so that you use the right adhesive and notched trowel which is suitable for direct sticking wooden floors. It is often the properties of the subfloor that determine which adhesive you should use. Follow adhesive manufacturer's instructions carefully.

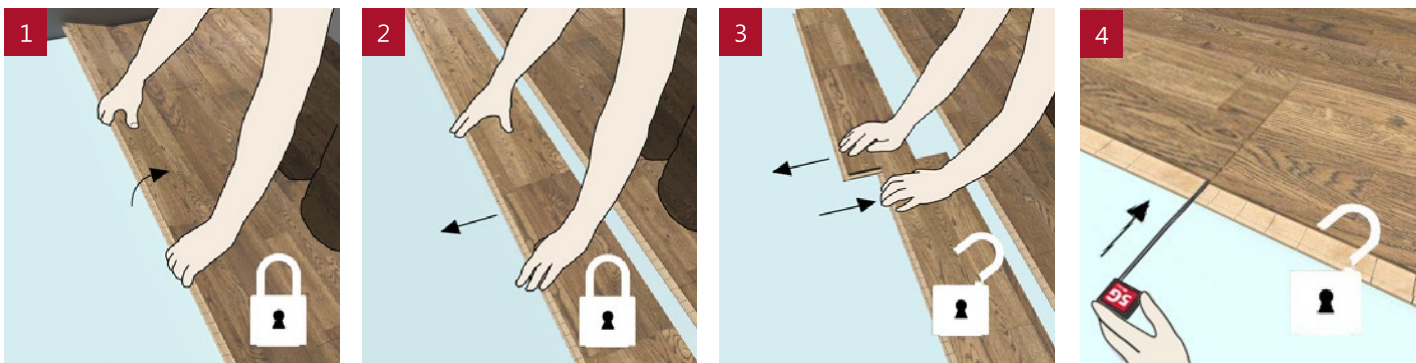
Before installation can begin, it is important to ensure the adequate protection from subfloor moisture has been provided by the installation of an appropriate moisture barrier applied to the subfloor, the type of adhesive and the amount applied adhesive per m<sup>2</sup>.

# INSTALLATION

## Woodloc 5G



## Dis-engaging Board Process



## WHAT TO CONSIDER AFTER INSTALLATION

Temperature and relative humidity in the room

The temperature in the room where the floor is installed should be between 15-23 C °.

The relative humidity (RH) should always be between 30-60% to avoid unwanted climate-related damage and movements in the wooden floor, e.g. cracks, gaps, noise, cupping etc. In summer you may therefore need to dehumidify the air, while in winter it may instead be necessary to increase the humidity in the air. Extremes of low or high relative humidity, permanent shape changes of the wooden floor can occur.

It is important that even in empty and uninhabited spaces, ensure that the temperature and humidity are climate controlled and maintain a timber friendly environment. This is especially important when installing in connection with e.g. new constructions or major renovations.

When installing floors in so-called module production, it is important that the above criteria are ensured both immediately after installation, as during storage and assembly of the modules.

Not only do wooden floors perform best, but humans also benefit from indoor air maintained within this optimal range of relative humidity.

### Skirting

Note that the dimensions of the skirting or trims must never control the size of the expansion gaps. In the case of large floor areas, the skirting must be chosen on the basis of the required size of the movement joints and not the other way around.

One solution for a situation that requires a large skirting board: In new buildings, a simple way of permitting additional floor movement is to "stop" wall panels immediately above the floor surface. If the wall panel is 13 mm plasterboard, for example, this provides an additional 13 mm movement allowance. This allows a thinner skirting board to be used than would otherwise be necessary.

### Protective covering

If further work is to be carried out in the room where the floor has been installed, the floor must be protected with a moisture permeable material (e.g. paper). Make sure it does not discolour the floor. Note that some commonly used types of paper do not allow moisture to pass through and have a wax coating that may be transferred to the wood floor. This causes undesirable gloss variations.

White goods generally do not have large enough wheels to avoid damage if they are pulled over the floor. In these cases, a hard board material is usually needed as protection to avoid damage to the planks surface.

Under wheeled furniture, such as office chairs, permanent protection against point load and abrasion is needed, for example a transparent plastic mat or the like, which is commonly used for this purpose. Alternatively, hard wheels can be replaced with EN 12529 compliant soft castors wheels.

### Tape

Never tape to the floor surface, skirting or moulding, but only to the protective cover. Many tapes adhere so tightly to the floor surface that the varnish releases when the tape is removed. The longer the tape is allowed to be attached, the greater the risk that it adheres harder to the varnish.

### Colour change

Wood is a natural material that gradually matures to its natural colour, this change occurs fastest at first. To avoid an uneven colour change, rugs and mats should not be laid on the floor during the first months after installation of the Timber floor.

Extreme UV light has the ability to bleach your soft furnishings over time and it can also bleach floor coverings, including natural wood floors. In the situation of windows that allow intense midday sun to shine on the floor, provisions for the floor's protection must be made like curtains, blinds, UV blocking films.

The floor should also be protected from extreme radiant heat sources like summer midday sun, combustion or radiant heaters. Remember, a timber friendly environment (15-27°C & 35-65%RH) must always be afforded your wood floor.

### Compliance E3/AS1

In general, the floor does not need to be sealed. Although your Kährs flooring is equipped with excellent moisture resistant surface properties, additional precautions are recommended in areas prone to water splashes, such as laundries and toilets. In such cases, the floor must be sealed around the perimeter to prevent moisture gaining access under the flooring raft. To comply with E3/AS1, Finsa low modulus silicone must be applied between all vertical surfaces (skirtings, kickers, end panels, etc.) and the Kährs flooring 1.5 metres from sanitary appliances and fixtures, otherwise the remaining perimeter of kitchens typically do not require this perimeter treatment. Free and unrestricted movement must be provided around the entire perimeter, where possible. Failure to use Finsa silicone may void your warranty. In the case of E3/AS1 requirements, additional control joints may be necessary to allow for adequate expansion.

### Wet areas - expansion Gap waterproof sealing

The expansion gap around the perimeter should be filled with a low-density foam backer rod.

Silicone Application:

Apply a layer of clear, Finsa low-modulus silicone over the foam around the perimeter, ensuring that it creates a watertight barrier. This will prevent water from seeping underneath or along the sides of the flooring.

This treatment will help safeguard your flooring from potential water damage in high-risk areas.

## MAINTENANCE AND PROTECTION

For optimal protection of your Kährs floor, put:

- Pieces of felt under the chairs.
- Replace hard office chair castor wheels with soft castors or install a protection mat under the chair according to DIN EN 12529 (type 'W' for soft castors)
- A doormat if the floor is installed at all external entrances.
- Kährs recommends the use of Bona timber floor cleaning solutions and mops.

Dilute the cleaner with water and clean the floor with a damp microfibre cloth. BEWARE! Avoid excessive use of water. Excessive use of cleaning solutions can lead to a build up of soap on your floor, it is recommended to use neat water from time to time to strip back these built up residues.

Do NOT varnish, sand, polish etc. the Kährs flooring. Products with wax, citrus or eucalyptus oil, soap or polish may leave behind residues.

Do NOT wash microfibre pads or cloths in a washing machine that's used fabric softener as this will permanently clog the microfibers and subsequently the mop pad will spread the fabric softener across the floor surface causing greasy footprints to become more obviously visible.

Your Kährs floor has a moisture protective surface. Spills should still be immediately cleaned up or within 24 hours.

Pet accidents should be immediately mopped up.