CleverChoice
Innovative Flooring Solutions

Product Guidelines
Installation Instructions

NOTE TO OWNER/INSTALLER: BEFORE INSTALLATION, PLEASE READ ALL INSTRUCTIONS THOROUGHLY. FAILING TO FOLLOW ANY OF THE FOLLOWING CONDITIONS MAY VOID THE WARRANTY
Before installation, the floor MUST be inspected for:

- QUALITY—Check quality and verify the materials as requested.
- QUANTITY—Verify that the quantity is correct before the start of any installation.
- COLOUR/FINISH—Verify that the material is the colour, finish and sheen level requested.

Ensure your house's temperature is maintained at 18-26°C before, during, and after installation throughout the year.

Before installation of the flooring, the installer/owner must determine that the job site, environment and subfloor meet all applicable State licensing & building standards and all requirements stipulated in these installation Instructions, which can be accessed by QR Codes printed on every carton.

1. Product Selection

Every residential and commercial environment is slightly different, in the way it is positioned for sun & UV exposure, airflow and moisture levels and general design layout. All will have an impact on the performance of the flooring you choose and the way you install it.

Bamboo, European & Australian Timbers are beautiful, naturally grown, real timbers harvested from the finest trees. Grain, feature, grade & colour vary from batch to batch. Your flooring may differ from the in-store sample, depending on the time of harvest and manufacturing, and depending on the age and position of the display sample in the store. Every floor will be unique in its features and appearance.

European Oak, Ash & Australian Timbers can be installed as a floating floor by either joining the T&G boards together using a Cross-Linked water-resistant PVA glue on boards with a Tongue and groove profile. However, Oak, Ash & Australian Timbers are natural products and will expand and contract during seasonal humidity and temperature changes. Vertical movement and squeaking are to be expected with the floating floor option. The Direct stick or Dual-Bond method is recommended for a more solid and traditional feel, and to minimise & avoid bouncing and squeaking occurring.

Laminate, Hydro, Hybrids and vinyl Planks have between 4 to 18 HD timber prints, protected with a durable, strong wear layer offering a real timber look and feel, with gloss, embossed and EIR technology. These flooring products are more consistent with controlled colour tones and grain features, mixed in your cartons. Every residential and commercial environment is slightly different, in the way it is positioned for sun & UV exposure,

2. Weight Restrictions

Weight Restriction over a properly installed floor up to 200kg/m2 is the maximum recommended weight capacity for all Clever flooring products. When positioning furniture or heavy objects, ensure the base or feet are placed and positioned in the centre of the boards and not directly over the joins to prevent damage from occurring. Keep in mind that heavy objects over a large area can restrict the natural movement of your flooring, resulting in squeaking, gapping, cupping and board failure. **NO built-in cabinetry is to be installed over a floating floor installation, as this will result in board failure.**

3. Wastage

When measuring the area for your flooring, ensure you add 5 to 10% for Straight plank & 20 to 25% for Chevron & Herringbone to the overall measurement, depending on the size and shape of the dwelling. This is to cover the off-cuts & minor damage during transport & installation. For natural Oak, Ash and Australian Timbers, you can choose to increase your wastage, which gives you more boards for selection options during installation, to have the ability to manipulate the timber grade, features and colour variation appearance.

4. Local Climate

Your flooring is a natural living product, and its stability and performance are controlled by the environment. Before installation starts, ensure to investigate your local temperature and humidity to help you control your indoor environment for optimum performance & site conditions should be prepared 24 hours before your flooring is installed, to set the indoor temperature consistently between 18°C to 27°C with a relative humidity of 40% to 60% and more importantly should be constant and not vary more than 2°C in 48 hours.

5. Environmental Conditioning

For optimum performance, 24 hours before your flooring is installed, set the indoor temperature consistently between 18°C to 27°C with a relative humidity of 40% to 60% and more importantly should be constant and not vary more than 2°C in 48 hours.
In extreme weather conditions, allow extra time for the unopened cartons to be stored and conditioned in the same room or area of installation for a minimum of 48 hours. A home weather station (thermometer and hydrometer) is to be used to monitor the temperature and humidity of the installation environment. The use of internal cooling & heating systems such as air-conditioning, ducted heating and fireplaces, etc. must be monitored & regulated to prevent excessively dry environments. This will affect the performance of the floor if not controlled, and will prevent thermally induced dimensional changes. All windows, patio & bi-fold doors, and conservatory windows should be shaded or covered both during the conditioning period, the installation and for 24 hours after the installation has been completed or until blinds, etc. have been installed, to minimise this effect.

6. Extreme Temperatures

Should your floor be exposed before installation to extreme temperatures under 17°C or over 28°C during storage or transport, ensure the boards are stored in a controlled environment for at least 24-48 hours. The floor should never be exposed to extreme temperatures and humidity for extended periods, as this will affect the long-term performance of your flooring and may cause board damage. Ensure the cartons are not stacked directly on bare slabs and away from external walls to prevent excess moisture from entering the cartons. For easy installation and optimum performance, install the flooring as soon as the cartons are opened, as the boards will acclimatise to the floor once installed.

7. External Property Inspection | Locality & Dwelling Environment

The flooring can be affected by many external factors. Flooring can be damaged by the home's external environment; what happens under, over and around your home will affect your floor's performance. Please check for any water run-off, sources of ground moisture and relative humidity (RH) or temperature factors that may be influenced by overhanging tree canopies, sloping ground, sun direction, etc. This site inspection should include checking for soil or debris built up higher than weep holes or underfloor ventilation of the subfloor. These external factors are very important to consider when selecting the correct floor to suit your environment and ensuring your floor performs to optimum levels.

8. Building Site Conditions

For new home installations, other wet trades are to be completed, and weather conditions must be considered during installation. For the exterior of the building or dwelling, all gutters, downpipes and drainage systems should be in place and operational before laying the floor. Similarly, groundwork needs to be sufficiently completed to ensure water drains away from the building and that no pooling of water occurs either adjacent to slabs and footings or beneath the building. Before the product is delivered to the site, the building should be weather-tight with all windows, doors and seals in place. Wet trades, including plastering, tiling, painting and plumbing, should be complete, and the building should be given time to dry out from the higher levels of moisture released from these trades.

9. Safety Equipment & Tools

Warning - using tools can be dangerous. Always take care and keep away from children. Select the correct type and size of tool for the work being carried out. Please wear and use all required PPE and safety equipment for the tools being used. If cutting indoors, dust extractors must be used.
Tools to consider: 2-3m spirit level/straight edge, hand saw, chisels, pulling tool, utility knife, drop saw, table saw, electric planer, router, circular saw, jigsaw, multi-tool / undercut saw, moisture meter, pencil, spacers, tape measure, dust extractor, grinders, sanders & mixers to list a few.
Silica dust is a real hazard in plank flooring, and it's important to have the right mask. Cloth masks or basic nuisance-grade dust masks will not offer enough protection against silica. It is recommended that workers using hand-held water-fed equipment wear a full-face respirator with a P3 class filter or a full-face PAPR with a P2 class filter. Fit testing is essential to make sure the respirator works correctly and is comfortable to wear with any other PPE that may be needed for the task. This may require seeking advice from suppliers or manufacturers. The PPE you select must also be appropriate for other risks that might arise when working with silica-containing products, such as eye protection, aprons, footwear and gloves, hard hats, and Personal hearing protection.

10. Receiving your goods

Upon delivery, check for transit damage before receiving or taking off the truck. If there is damage, please record this on the con note before signing for the goods, and also take photos to be sent through as evidence. Failure to do this will result in you accepting the goods in good working order. Check that the correct flooring has been supplied as per your purchase, before opening cartons or installing. If you are not satisfied that the flooring does NOT match your purchase. Stop! Contact Clever Choice immediately to discuss your concerns.
Once installation commences, you accept the flooring, and Clever Choice will take no responsibility for exchange or replacement.

IMPORTANT: PRE-INSTALLATION CHECKLIST Before installing this material, check
1. Has the product been acclimatised correctly?
2. Is this the correct
- Product?
- Colour?
- Dimensions?
- total quantity?
3. Does this stock match the customer's expectations?
4. Have you read and are you following the installation recommendations?

Check all planks in daylight before and during installation. Planks with minor defects can be used for cuts. Any defects must be reported back to the store of purchase for an immediate replacement or refund. Claims relating to surface/visual defects may not be accepted after installation.

11. Subfloor Preparation & Testing

Existing floor coverings

All existing floor coverings must be uplifted, and as much as possible of the old adhesive must be removed from the subfloor. Special care must be taken on very old floors, as some products may contain asbestos. The removed floor coverings should be reclaimed and recycled where possible, provided there is no heavy contamination.

Substrates: All substrates must be structurally sound, dry, clean, flat and smooth with minimal deflection. Substrates must be free from excessive moisture, alkalis, solvents, paint, wax, grease, oil, asphalt sealing compounds and other extraneous materials. Mechanically remove from the subfloor (e.g. diamond grind / Sand) old adhesives, dirt, paint, varnish, wax, oils, solvents, curing agents and any other foreign matter or contaminants that could cause staining or interfere with the adhesion of the new primer or adhesive. Do not use products containing petroleum, solvents or citrus oils to prepare substrates, as they can cause staining and expansion of the new flooring

In most instances, subfloors are going to be concrete slabs or sheet floors of plywood or particleboard. Underlay, which could be acoustic, can provide an intermediate layer. Other subfloors suitable to some product manufacturers also include existing timber floors, Masonite, resilient flooring and ceramic tiles (or similar). For the specifics relating to the preferred installation method. In accordance with the National Construction Code (NCC), engineered or plank flooring is not, in most instances, to be installed in wet areas (the bathroom, toilet and laundry). Kitchen and food preparation areas are not deemed to be wet areas in Australia. A wet area floor covering can experience periodic wetting and needs to prevent penetration of

water into the subfloor. Due to the nature of engineered or plank flooring being a jointed product, its use in wet areas is not encouraged by BRANZ, although some homes do have engineered or plank flooring in wet areas with sealing to the floor edges.

Construction Moisture
It is essential to ensure that all free water, which can affect adhesion, is allowed to evaporate from the base. The rate of drying is influenced by many factors, including the design of the base, ambient temperature and humidity, concrete quality, amount of construction water used, surface finish attained, use of special concrete additives and especially the thickness of the base. Exact drying-out times can not be provided due to these variables; however, as a guide, allow one month per 25mm for the first 50mm and an increased time for each millimetre above this thickness.

Moisture Testing
Plank flooring should only be laid on subfloors that do not suffer from rising damp or hydrostatic pressure, and where the moisture level does not exceed 75% RH. The hygrometer is the only method of test accepted by Clever Choice, and only readings taken over at least 72 hours should be considered to represent the moisture content of the subfloor. Subfloor with an RH over 75% will invariably cause the failure of the bond between the substrate and the planks, and in some cases, discolour the flooring. IT IS A REQUIREMENT OF AUSTRALIAN STANDARDS 1884 – 2012 THAT A MOISTURE TEST IS CONDUCTED.

A concrete slab's moisture level should ideally be below 75% Relative Humidity (RH) (ASTM F2170) or have a moisture content of 3.5% to 4.5% or less before installing flooring. In Australia, compliant in-slab testing generally requires levels below 80% RH or 4-5% moisture content depending on the floor finish.

Key Moisture Guidelines for Concrete:
Relative Humidity (RH): The most accurate, industry-standard method (ASTM F2170) recommends under 75%–80% RH for most floor coverings.

Moisture Content (MC): 3.5% to 4.5% MC is generally considered dry enough.

Calcium Chloride Test: Measures Moisture Vapor Emission Rate (MVER); 4.5 lbs. or less per 1,000 sq. ft. in 24 hours is acceptable.

Irrespective of whether the floor is floated or a direct adhesive fixed, steps need to be taken to prevent possible moisture uptake into the flooring from the concrete subfloor. Moisture absorption from beneath the floor can result in greater levels of expansion, resulting in buckling, adhesive bond failure and a cupped or crowned appearance.

All slabs, where engineered or plank floors are installed, should have under slab moisture retarding barriers that comply with applicable AS standards. These barriers separate the concrete from possible sources of moisture that may delay or could prevent the concrete from drying adequately. Provided they are installed correctly, water vapour transmission throughthem is minimal. It has been shown that such barriers form close contact with the slab, preventing moisture movement between the barrier and slab. Puncturing, gaps, or in-ground piers can result in localised areas of higher moisture and slab edge dampness also needs to be considered.

With normal house slabs (usually 20MPa compressive strength) laid in accordance with applicable standards and for a 100mm thick slab drying from one surface only, moisture levels should have reduced sufficiently after three months of drying, following the slab being protected from the weather, to be able to consider floor installation. It is longer for thicker slabs unless drying is from both sides of the slab. However, it is still advisable to take precautions due to the variability in both slab drying rates and slab construction (thicker beams). Note that the water-cement ratio and placement of the concrete also have a direct bearing on the permeability of the slab and can result in moisture fluctuations in the slab over time. Therefore, both applied and plastic sheet moisture vapour retarding barriers are recommended for use with all floor installations, and this added protection also allows most floors to be installed after two months, under adequate drying conditions for the slab.

It must also be taken into account that a slab that is many years old is not necessarily a dry slab. Higher strength concrete more often used in high rise developments is less permeable and presents less risk. Elevated slabs present less risk than slabs that are on ground. A slab that is below grade, cut into an embankment or where the slab is near the same level as patios or the ground level outside, presents the greatest risk to moisture effects.

With additions to houses, the joint between new and old slabs also presents a high risk and needs to be attended to in order that moisture and moisture vapour do not affect the floor.

At the time of floor installation of an adhesive fixed engineered or plank floor, the installer will generally not be aware of what the actual water-cement ratio was (or if water had been added on site), how well the below slab moisture vapour barrier was installed, how well the concrete was placed or what slab thickenings may be present. The weather, including wind, temperature and humidity variations, also influences drying. Therefore, regardless of the age of the slab, moisture levels when adhering to a slab, require further assessment prior to laying to ensure these levels are not excessively high. With an applied moisture vapour retarding barrier there is generally an upper moisture limit to which they will provide protection and they will not protect against hydrostatic pressure.

Slab moisture is assessed with concrete moisture meters, in-slab relative humidity tests and above slab relative humidity testing. Such measures along with assessments of the risks outlined above are necessary for all slabs.

When moisture meters are used, new slabs may give readings with a concrete impedance moisture meter of about 6% a few days after placement. Within 3 months, the readings may be down to about 4% and after two years, readings may settle to below 2%. Once a slab is known to be reducing in moisture content in this manner and at least 2 months old, other means of protecting against possible slab moisture can be employed. For a floor that is adhesive fixed to a slab and as indicated, an applied moisture vapour retarding barrier provides the added safeguard against uncertainty over future moisture fluctuations. Note however, that a slab that is, for example, 6 years old and giving readings of perhaps 4% to 5% is considered a higher-risk slab because after this period of time moisture meter readings should have been lower. Note also the limitations of concrete moisture meters. They measure moisture near the top of the slab and once a floor is laid, moisture levels generally increase toward the top of the slab.

In-slab relative humidity measurement is a method of slab moisture assessment that is becoming more established and is considered to provide a more accurate assessment of the potential for slab moisture to affect a floor. The test takes into account that in a new slab that is drying, moisture increases toward the top

surface of the slab once an engineered floor is laid. In-slab relative humidity remains relatively high in all slabs and information suggests that in-slab relative humidities of about 80% are at a level where timber-based flooring products can be considered. Some specific applied moisture vapour barriers will, however, be suitable when the in-slab RH is above this. In-slab relative humidity requires holes to be drilled in the slab, the holes plugged and readings with a hygrometer taken some time later (72 hours to meet US standard ASTM 2170). The in-slab RH measurement therefore provides guidance on the level of slab moisture protection needed.

Therefore prior to laying a direct adhesive fix floor, slab moisture needs to be assessed and, when down to suitable levels, an applied moisture vapour retarding barrier or 4in1 adhesive with built in moisture barrier is to be used.

With floating floors an underlay and moisture retarding layer is a standard recommendation. Many engineered and plank flooring products have specific underlays that are to be used, and which also contain an integral moisture retarding layer. Floating floors are part of the DIY market and in many instances slab moisture will not be assessed. If this is the case, then 200um plastic sheeting should be used for slab moisture protection. With this, the plastic sheeting is overlapped by 300mm and joins taped with a water-resistant tape, the plastic at the floor perimeter being brought up to at least the height of the floor. Also, if the underlay has no plastic layer of at least 150um and with joints lapped with 'peel and stick' joining, or there are other potential concerns that slab moisture could affect a floor (e.g. a below grade slab), then 200um plastic should also be used.

New Concrete & Screed bases

The most common cause of failure in these types of substrates is moisture, either construction moisture or the lack of an effective moisture barrier on direct-to-earth subfloors. Failure to adequately control the moisture can subsequently result in debonding of smoothing/levelling compounds and adhesives, and may cause adhesive-related staining of the floor covering. In most instances, A cementitious smoothing/levelling compound of at least 3mm thick must be applied before the installation of the Vinyl planks or 6mm Hybrid planks. If the subfloor is level within the tolerances listed below, then a skim coat must be applied to fill grout lines, cracks, and holes and smooth out the area. All other floor types are also recommended for optimum performance. The smoothing/levelling underlayment supplier will advise the correct product to use from their range that suits both the end-use application and subfloor construction.

Existing Concrete & Screed bases

If laid directly to the ground, existing concrete and sand/cement screed bases, as described in BS 8204, must contain an effective DPM(Damp Proof Membrane). If one is not present or is suspect, a suitable surface DPM should be applied. In all instances, A cementitious smoothing/levelling compound must be applied before the installation of the Vinyl planks or 6mm Hybrid planks. If the subfloor is level within the tolerances listed below, then a skim coat must be applied to fill grout lines, cracks, and holes and smooth out the area. All other floor types are also recommended for optimum performance. The smoothing/levelling underlayment supplier will advise the correct product to use from their range that suits both the end-use application and subfloor construction.

Ceramic & Quarry Tile / Terrazzo

Terrazzo has a dense, hard surface, which is normally impervious. Ceramics can have a heavily glazed surface, which is quite common with these types of flooring and must be sound and firmly fixed, with all loose and powdery grout removed from the joints. The surface should be washed & regressed to remove

any surface contaminant, and any cracks cleaned out and filled with a suitable resin-bonded sand & cement mixture. The surface may also need some mechanical abrasion to ensure the smoothing/levelling underlayment bonds to the surface. A cementitious smoothing/levelling compound of at least 3mm thick must be applied before the installation of the Vinyl planks or 6mm Hybrid planks.
If the subfloor is level within the tolerances listed below, then a skim coat must be applied to fill grout lines, cracks, and holes and smooth out the area. All other floor types are also recommended for optimum performance. The smoothing/levelling underlayment supplier will advise the correct product to use from their range that suits both the end-use application and subfloor construction.

Expansion joints
Expansion joints are incorporated into buildings to permit movement without cracking. These joints must extend through the floor covering. Proprietary expansion joint covers are available that blend with the flooring and disguise the joint. Filling the expansion joint with a sealant that is not specifically designed for expansion joint filling or floor smoothing underlayment will lead to floor failure and is not recommended.

Timber substrate
New or existing timber suspended floors should be constructed of either Yellow Tongue Chipboard or Plywood, or specifically manufactured for flooring. The spacing of the supportive joists should follow the manufacturer's recommendations about the board's thickness. Yellow Tongue Chipboard & Plywood floors are widely used as load-bearing substrates; however, for Vinyl planks, this type of substrate should be overlaid with Hardboard or Plywood sheets conforming to EN 636-3 with a minimum thickness of 5.5mm. The sheets should be laid with staggered joints. The Hardboard or plywood should be fixed to the existing floorboards using adhesive & suitable annular ring shank nails of a minimum of 20mm length, Staples or suitable countersunk wood screws. Fixings should be at 100mm centres along the edge of each sheet, with a fixing line 12mm from the edge and thereafter at 150mm centres throughout the entire area of the sheet. Sheets should be conditioned on-site by loosely laying them individually or loosely stacking them in the temperature and humidity conditions that will prevail in the environment, for at least 24-48hours before fixing. The chipboard sheets' moisture content should not be less than 8% or greater than 12% when tested using an electrical resistance moisture meter.

Existing wooden floors
Existing wooden floors may have received a preservative treatment that will cause poor bonding, due to a chemical interaction between the preservative and the adhesive. In such cases, adhesives should not be used directly on this. All loose boards should be firmly nailed to the joists, and any worn or broken boards replaced. The floor should be sanded to remove high spots and any hollows or cracks filled with a suitable flexible underlayment. Especially for vinyl planks, the existing wooden floors should then be overlaid with suitable flooring-grade plywood of a minimum thickness of 5.5mm, which conforms to EN636-3. The sheets should be laid with staggered joints. The Hardboard or plywood should be fixed to the existing floorboards using adhesive & suitable annular ring shank nails of a minimum of 20mm length, Staples or suitable countersunk wood screws. Fixings should be at 100mm centres along the edge of each sheet, with a fixing line 12mm from the edge and thereafter at 150mm centres throughout the entire area of the sheet. Sheets should be conditioned on-site by loosely laying them individually or loosely stacking them in the temperature and humidity conditions that will prevail in the environment, for at least 24-48hours before fixing.

Suspended wood subfloors (with a minimum of 400mm cross-ventilation space underneath) – and the ground surface of a crawl space must be covered with a suitable vapour barrier.

Painted or epoxy-coated floors
Epoxy and polyurethane surface coatings should be removed to ensure that no breakdown of the subfloor occurs after the installation of the planks. Painted floors will impair the adhesion and should be removed before the application of the floor covering. Mechanical methods, such as grinding or blasting, are the most suitable methods for removing the coatings. A cementitious smoothing/levelling compound of at least 3mm thick must be applied before the installation of the Vinyl planks or 6mm Hybrid planks. If the subfloor is level within the tolerances listed below, then a skim coat must be applied to fill grout lines, cracks, and holes and smooth out the area.
All other floor types are also recommended for optimum performance. The smoothing/levelling underlayment supplier will advise the correct product to use from their range that suits both the end-use application and subfloor construction.

Application Tips
Close attention must be paid to subfloor levelling; level, smooth subfloors will vastly improve the aesthetic appearance and performance of any finished flooring installation.

Floor Level
Using a laser level, slip gauge or 2/3m straight edge, check that the subfloor is flat, smooth and level with tolerance, and surface regularity should not deviate more than

Vinyl Planks 2, 2.5, 4.5 & 5mm / Hybrid 6mm & 7.5mm	- 2mm over 2m
Hybrid 8mm, 9mm & 10mm, Laminate, Hydro, Bamboo, European Oak, Ash & Aussie Timbers	- 4mm over 2m

The tile grout line size needs to be filled as described above

Vinyl Planks	All
Hybrid 6mm, 7.5mm & 8mm	<=4mm
Hybrid 9mm & 10mm, Laminates, Hydro, Bamboo, European Oak, Ash & Aussie Timbers	<=8mm

Roughness or unevenness of the subfloor may telegraph through the new floor covering, resulting in an unsightly surface and excessive wear on high spots. This unevenness may also compromise the integrity of the locking system, causing joint failure, which may void the warranty.
Correct any changes in levels by either grinding the surface of the concrete slab, sanding the surface of the timber subfloor and/or using the recommended timber or concrete levelling compound, known as a flood coat or skim coat, as this removes high and low spots. On a yellow tongue floor, tighten screws below the surface and sand the joint's level. After levelling, wait for the manufacturer's recommended time to allow the compound to dry completely before laying your floor. This will prevent moisture-related issues from affecting the performance of your flooring. Using a moisture meter, check the yellow tongue or strip timber flooring subfloors are below 10% moisture content, and concrete slabs have been cured with the moisture content being less than 5% and relative humidity below 75%. High results or suspected dampness in your concrete slab must be checked using a moisture meter, using "plugs" drilled into the slab. Keep a record of the moisture content of the subfloor on your installation checklist.
Clever Choice is not responsible for damages or performance issues as a result of the resilient substrate.

WARNING: Do not sand, dry scrape, bead-blast or mechanically chip or pulverise existing resilient flooring, backing, lining felt, asphaltic "cutback" adhesive or other adhesive. These products may contain asbestos fibres and/or crystalline silica. Avoid creating dust. Inhalation of such dust is a cancer and respiratory tract hazard. Smoking by individuals exposed to asbestos fibres greatly increases the risk of serious bodily harm.

Unless positively certain that the product is a non-asbestos-containing material, you must presume it contains asbestos. Regulations may require that the material be tested to determine asbestos content. RFCI's Recommended Work Practices for Removal of Resilient Floor Coverings are a defined set of instructions addressed to the task of removing all resilient floor covering structures.

12. Subfloor Heating

Laminates, Hydro, Hybrid, European Oak & Australian Heritage can be installed over under-floor heating. Max 27°C **DO NOT install Bamboo & Vinyl Planks over subfloor heating.** Installation over

Subfloor heating may cause moisture issues such as checking, cupping, shrinkage or expansion and will void any warranty if a regular temperature is not controlled.

13. Underfloor Heating

Make sure that the temperature in the room is at least 18°C during installation. The initial floor temperature should not exceed 21°C for 24 hours before and 48 hours after installation.
Thereafter, the temperature should be gradually increased by no more than 2.8°C per day to the desired setting of 27°C. Install the 3.5mm under-floor heating mesh, then apply 10mm liquid screed. The Clever range of underlays or Adhesive products to be installed, before finishing with the below suitable products

Classic | Magnitude & Profuse
Hydro | Merit & Prograng
Shield | Everlast & Everlast Herringbone
Hybrid | Ocean, Superior, Scenic, Chevron Immortal
Timber | Pure, Meadows, Meadows Herringbone, Beauty, Beauty Herringbone, Natura, Luxury
Timber | Australian Heritage
Vinyl | Robust & Touch

Bamboo & Vinyl Ocean, Resolute & Voyage Planks are NOT suitable

Follow the instructions below when installing underfloor heating systems.
Coldbuster Floor Heating User Manual
Coldbuster Floor Heating - In-Screed Heating Installation Manual

14. Additional Surface Moisture

Applicable to Vinyl, Hybrid and Hydro flooring only - Hydro and Hybrid flooring have moisture protection elements added to the core board for extra stability and durability. Water protection applies only to surface-level liquid in small areas; these products are not waterproof sealers. This surface protection does not include protection from continuous water exposure, flooding or extreme wet mopping. Surface water protection applies to surface water only, and not water that enters the core of the board, from the subfloor or runoff from wet areas. Keep this in mind when you are installing your flooring throughout your home.

15. Undercutting

Undercut all architraves, benches and plasterboard to the total height of both the underlay or adhesive and flooring. If skirtings are not being removed, they can also be undercut to allow the floorboards clearance under them for extra natural expansion and contraction coverage, to allow optimum performance.

16. Expansion Gap & Contractions Coverage

Expansion gap and contraction coverage are essential when it comes to Plank flooring installation. This is determined by the quality and materials of board construction, board dimensions, absorption rate and whether installed as floating, Dual Bond or Direct Stick. **The larger the space, the larger the expansion gap and contraction coverage should be**, as the floor needs more space to expand and contract with temperature. This includes around fixtures and cabinetry, like kitchen islands, built-in robes, etc, to allow the flooring to move naturally in both directions (expansion and contraction depending on seasonal temperature and humidity changes). Failing to do this may result in gaps appearing from under skirting or scotia, between boards, cupping or buckling during temperature changes. This is one of the most important parts to get right during any installation for optimum performance. Not required for Vinyl Planks.

	ExpansionGap(minimum)	**ContractionCoverage(minimum)**
Hybrid 9mm &10mm	3mm	3mm
Shield 10mm	7mm	7mm
Hybrid 6mm, 7.5mm & 8mm	7mm	7mm
Hydro 12mm	7mm	7mm
Classic Laminate|European Timber	9mm	9mm
Australian Timbers	9mm	9mm
Bamboo 14mm Ultimate	5mm	12mm
Vinyl 2, 2.5, 4.5 & 5mm	0mm	0mm

17. Raft Size

With floating floors, the boards are not fixed to the subfloor but fixed to each other. This, therefore, creates a panel of flooring that is also called a raft (a raft floats, and these floors float on an underlay). The movement of a raft is significant, and the rafts will seasonally expand and contract in both width and length. Therefore, you need to consider not only what is happening to the boards but what is happening to the rafts. With floating floors, we speak of compartmentalisation, and this is making the floor into several smaller rafts joined together by expansion or control joints, using trims. The reason is that if we did not, the movement of one raft area could interfere with the movement of another raft area. An understanding of this is very important and is shown diagrammatically, where each raft will shrink and swell in both directions from the centre of the raft. Also, heavy objects such as kitchen benches cannot be laid on top of floating floors as they hold the floor in that location, and all expansion and shrinkage is from that fixed point rather than the centre of the floor. The weight also causes greater vertical movement near the bench. Each raft will expand in width and length due to seasonal weather changes. If the floor is not separated into enough individual rafts, then the movement of the one-floor area can affect the adjacent area and result in buckling, separation at board joints and flooring moving out from beneath skirtings. Where seasonal movement is greater, then a greater allowance for raft movement is needed, with wider skirting boards used or smaller rafts being created.

Install internal expansion/contraction H trims to every doorway to avoid exceeding the above raft sizes.

Each room in the house will generally have its own relative humidity and temperature conditions. If the floor is installed outside these guidelines, it will have too much weight and restrict the natural movement of the floor. This could cause issues like bouncing, cupping, splitting and/or squeaking. Factors that influence the raft size are quality and materials of board construction, board dimensions, absorption rate and click or locking strength. Installing the floors as a direct stick allows for an increased raft size. Not required for Vinyl Planks

Floating Installation	Width (maximum)	Length (maximum)
European Oak & Ash 12 & 14 & 20mm	8m	12m
Australian Timbers 14mm	8m	12m
Bamboo 14mm	8m	12m
Classic Laminate 8mm & 12mm	8m	12m
Hybrid 6mm	8m	12m
Hybrid 7.5mm & 8mm	8m	20m
Hydro Merit & Pro Grand 12mm	8m	20m
Shield Everlast 10mm	8m	20m
Hybrid 9mm & 10mm	10m	20m

Direct Stick or Dual-Bond Installation	Width (maximum)	Length (maximum)
European Oak & Ash Timber 12 &1 4 & 20mm	10m	20m
Australian Timbers 14mm	10m	20m
Vinyl 2, 2.5, 4.5 & 5mm	Unlimited	Unlimited

Install internal H trims in ALL doorways to avoid exceeding the raft sizes. Installing H or C trims between each room is necessary to allow boards in each room to move independently without being put under pressure. Doorways are the most common area for Raft issues, such as bouncing and squeaking or board separation. If the floor is installed outside these guidelines, it will have too much weight and restrict the natural movement of the floor. This could cause issues like bouncing, cupping, splitting and/or squeaking.

18. Board Moisture Content

The boards are manufactured with between 8%-10% moisture content in the boards to suit the average Australian climate and standard living conditions. Your floor will expand and contract as the moisture level within the boards changes as the environment, temperature and humidity change. Always check the boards before installation, and ensure they are within tolerance and measure correctly. **Do not install the boards if they are outside these tolerances and the manufactured board measurements due to transport or storage before installation.**

19. Board Selection

During installation, inspect boards for defects or damage, and remove any boards from the installation area if they have a visual defect or damage. These imperfections can be cut out and still be used as your start and finish of a row. It is our position that you, the installer and/or homeowner, accept the appearance and take responsibility for any visual variation or imperfections in boards you choose to install and not separate for cuts or replacement. Any defects should be reported to Clever Choice immediately for inspection and/or replacement. Your flooring is a natural product and has variations in shade and grain. Boards should be installed from several cartons at the same time to ensure a good colour and shade mixture.

20. Doorways & Max Raft Size

Install your C & H trim base plates, ensuring they are fully secured between all rooms. Any room that exceeds the raft size will require an H Trim to be installed in the room for floating or an expansion gap filled with colour-match caulk or silicone(Silikon 700 or Flex-Pro MS) for Direct Stick or Dual-Bond. When installing boards from room to room, leave the minimum gap to the C & H base plate. This will allow the floor to naturally move freely. Colour-matching trims are available so that they can be installed to blend in with the floor for a pleasing appearance.

21. Solid Objects

Ensure your kitchens or built-in units are installed before the flooring is installed. They are not to be installed on top of your flooring, as the weight of these structures will restrict the natural movement, causing such problems as gapping, cupping or creaking. When installing your flooring up to solid objects, including pipes and any other permanently fixed objects, ensure to follow the minimum expansion and contraction requirements.

22. Base plates of trims

C & H Base plates are to be installed in all doorways, against fixed objects, kitchens, sliding doors, etc. They can be glued and/or screwed into place in all required areas as mentioned above before the flooring is installed to ensure they remain secure and allow for natural movement.

23. Acoustic, Thermal & Moisture Barrier Underlays

Hybrid flooring is manufactured with an acoustic and thermal underlay attached to the back of the boards. Additional underlay is not required for this product. However, if additional acoustic levels or heights are required, Clever Cork 3mm or 5mm can be installed to achieve this.

A moisture sealer or 200-micron Builders plastic is to be installed under every floating floor to avoid performance issues.

Clever Choice supplies the highest quality 2mm to 5mm EVA foam, 3mm to 5mm Cork, and 3mm to 20mm Rubber Acoustic underlays to suit all floating floor and direct-stick dual-bond applications to suit all building acoustic requirements. Denser and thicker underlays provide higher acoustic and thermal reductions. Clever Choice foam underlays are manufactured with a built-in moisture barrier to protect against rising dampness/moisture and control the stability of your floor. An extra moisture barrier is recommended if you suspect you may have rising damp/moisture issues or for new slabs. Installation as a floating floor requires an underlay mat to be installed directly over the bare-level subfloor before the flooring is installed to create an acoustic and thermal layer. Lay the underlay moisture barrier side down, spanning from wall to wall, going under the already cut plasterboard to create a complete moisture seal. They lay the next row butting up to the previous row, ensuring there are no gaps or overlaps. The overlapping moisture membrane needs to be sitting flat under the 2nd row to join the 2 together using the included tape. For additional moisture protection, also apply a wide adhesive tape to the joins to create a complete seal. Acoustic Test Reports

24. Laying Direction

Although your floor can be installed in any direction, as a rule, floors are generally installed parallel to the longest walls or runs, which tends to make a room appear larger and the flooring perform better during natural movement. If the room is irregular in shape, it may be necessary to square up the planks, off the most important wall or a specific feature.

25. Click Floating Floor Installation

Classic Laminate, Hydro, Hybrid & Bamboo flooring are manufactured with a click profile. This profile of flooring is designed so the flooring boards can simply click together without the use of adhesives. Selected products are manufactured using a drop-end lock, which is quicker and easier to install. While not required, it is recommended to apply a cross-linked water-resistant PVA glue to the drop-end lock joins to reduce the chance of movement and squeaking during the natural movement process. The NEW 5G end click reduces this and doesn't require glue.

26. Tongue & Groove (T&G) Floating Installation

European Oak, Ash & Australian Timber boards are manufactured with a Tongue & Groove profile. It is required that you apply cross-linked water-resistant PVA glue to both the side and end tongue, top & bottom, before installation, to maximise adhesion and avoid board separation and squeaking. Install the boards by sliding the tongue into the groove tightly until no gap is present on both sides and ends. Using a damp, warm rag, wipe off any excess glue that squeezes up through the top of the board immediately as you finish each row. Use flooring strap clamps as per the manufacturer's guidelines to hold the boards tight together while the glue dries. This will ensure there are no gaps between boards after installation is complete.

27. Direct Stick - Timber

European Oak, Ash & Australian Timbers are recommended to be adhered directly to the subfloor to create a more solid traditional timber feel while reducing movement, bounce & squeaking. Firstly, select the appropriate moisture sealer and adhesive to suit the type of subfloor you are installing over. Apply as per the manufacturer's instructions and start installing your boards.
Products excluded and not recommended for direct stick include Bamboo, Hydro, Hybrid & Laminate. Stairs are the only exception to this rule.

28. Direct Stick - Vinyl Plank

Once the start point has been established, depending on the size of the area and the type of Hard Set adhesive (Clever Resilient Adhesive), it may be necessary to section off the area so that no Hard Set adhesive can be applied to areas that can be laid within the open time. Always follow the approved adhesive manufacturer guidelines. Spread the hard-set adhesive using a suitable trowel to the manufacturer's recommendations, ensuring that the correct notch size is maintained throughout the installation. If the notch trowel shows signs of wear, it should be renewed. Always read the manufacturer's application instructions, as these can change from brand to brand. When a section has been laid, except for the perimeter, it should be thoroughly rolled in both directions with a 45-68kg articulated floor roller. Repeat for each section until the main field of planks has been laid. It is adventurous to leave the last full plank and the cut at the perimeter without adhesive until all planks have been cut to size. Maintaining a clearly defined straight line over long distances can be difficult and often leads to inaccuracies. Once the wall edge has been fitted and loosely laid, turn the plank inwards so as not to lose its position. Spread the adhesive right up to the edges. When the adhesive is ready, lay the perimeter plank. Wipe up excess adhesive as your work progresses. Roll well with a min 68 kg articulated roller. Use a small hand roller in the inaccessible areas. Repeat the process for all 4 walls. Finally, the whole floor should be given a second rolling, approximately one to four hours later. In areas subject to direct sunlight or extremes/fluctuations in temperatures, always use an approved polyurethane, epoxy or suitable high-temperature adhesive. This is just guidance; please contact the adhesive manufacturers for their recommendations.

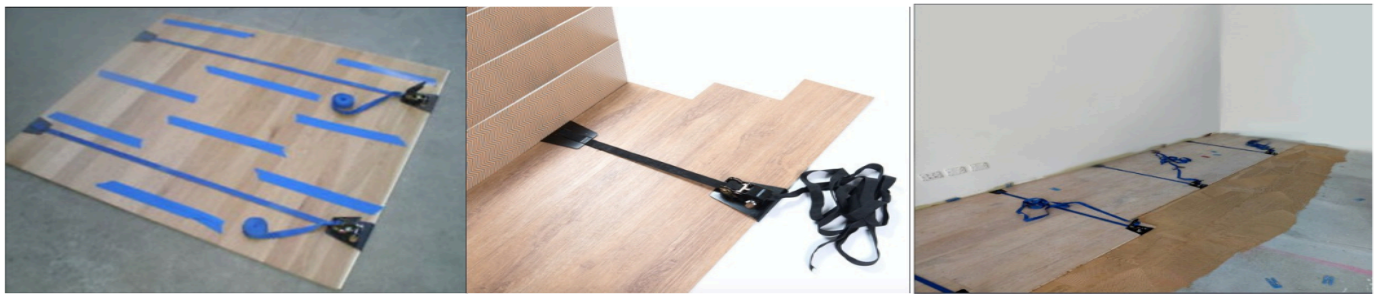
29. Dual-Bond

The dual-bond installation method is used when you require sound reduction or have to meet a certain level of acoustic rating. Clever Choice can supply site-specific reports to indicate the levels that can be achieved with all ranges of flooring and underlays. Once you have an approved underlay, either cork or rubber, first select the appropriate moisture sealer and adhesive to suit the type of subfloor you are installing over. Apply as per the manufacturer's instructions and start installing your underlay, free of any gaps and not overlapping. European Oak & Australian Timbers are recommended to have adhered directly to the underlay to create a reduction in sound transfer & a more solid traditional timber feel while reducing movement, bounce & squeaking. Products excluded and not recommended for dual-bond include Bamboo,

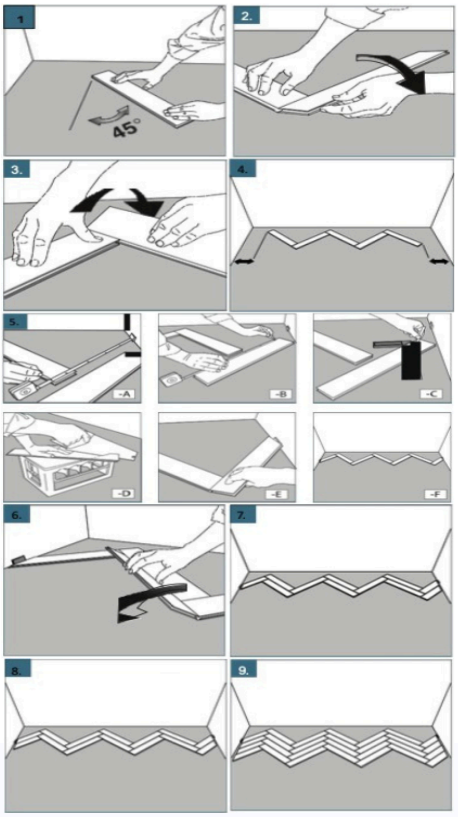
Hydro, Hybrid and laminate. Apply the appropriate adhesive to the top of the already installed underlay, as per the manufacturer's instructions and start installing your boards.
NOTE: The installed adhesive must be protected from other trades to prevent dust, debris or traffic from interfering with the adhesive's performance.
CAUTION: Always maintain a tidy worksite (remove dangerous items and slip/trip hazards). Be sure to keep any spare planks in case there is a future unforeseen need for a replacement.

30. Clamping T&G Flooring

Install approx 1m wide of flooring, either as tongue & groove floating, direct stick or dual-band as per the previous instructions. Connect each row of floorboards to properly fix the tongue and groove connections as much as possible. Use floor clamps to ratchet tight until firm and the gaps between floorboards close.
Note: Do not over-tighten the floor clamps. These clamps are heavy-duty, but overtightening can cause damage & problems. Place strips of blue painters' tape across the newly installed rows of flooring, spaced approx 500mm apart, and overlap the previous sections of boards by one or two rows. This will hold the boards tightly together until the adhesive completely dries. Release the tension and remove the clamps. Repeat cycle. Remove the tape once the flooring adhesive has cured, as per the manufacturer's installation instructions for cure time. See maintenance guidelines to remove any adhesive residue.



31. Herringbone



SPC herringbone flooring is designed to be installed as a "floating" floor. Do not secure the planks to the subfloor.
1. Getting started. Choose a wall to start at and begin installing at the left corner. Start with an A-panel and place it with its long side marking facing the left wall at an angle of 45°. Make sure that the distance between the left wall and the panel is less than the length of one panel.
2. Connect the next panel. Continue with a B-panel. Press the long side of the B-panel at an angle against the short side of the previously installed A-panel. Fold down the B-panel flat to the floor to lock the panels tightly together. Check that the grooves on the two panels form a continuous line.
3. Connect additional panels Next panel is an A-panel. Again, press the long side of the new A-panel at an angle against the short side of the previous B-panel and fold down. Continue like this with as many panels as may fit along the starting wall.
4. Centre the first row. Check that the first row of panels is centred along the starting wall. Make sure that the distance to the walls on both sides is less than the length of one panel. If not, add a panel on the right side.

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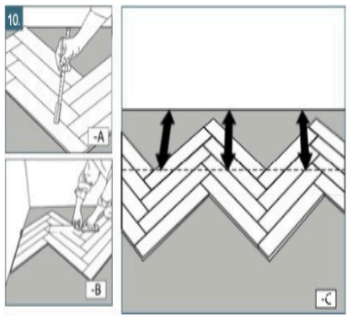

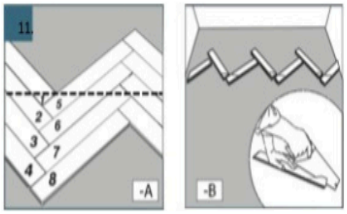

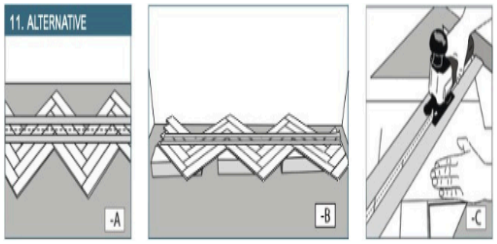

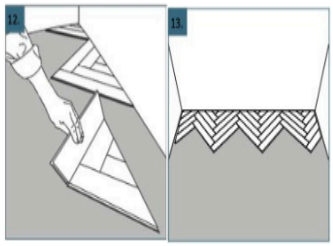

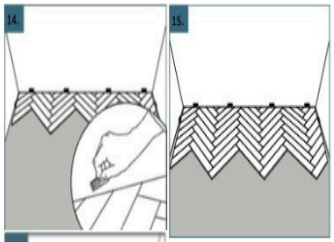

5. Cut the end panels to size. Measure and cut the end panels to size using a fine-toothed saw. Finish the first row with the cut end panels. Make sure that you leave a gap of 10mm to each wall.
6. Start the second row
Start the next row with an A-panel. Place the new panel against the previous row and fold it down.
7. Install the A-panels. Continue from the left to the right and install all the A-panels in the second row. Finish with a piece of the panel cut to size (step 5).
8. Continue with the B-panels. Now work in the opposite direction, from the right to the left and install all the B-panels in the second row. Finish with a piece of panel cut to size (step 5)
9. Complete four rows Install additional rows to complete four full rows.
10. Adjust the starting rows
The first four rows have to be cut parallel to the wall. Measure and mark where to cut the floor panels at a fixed / parallel distance to the wall
11. Dismantle and cut.
Number the panels from 1 to... This will allow you to keep the panels in order. Dismantle the panels and cut them to size along the previously marked line.
11. Alternative way to cut the first rows
Leave the left-end panels uninstalled. Tape along the marked line and place the flooring on top of a few flooring packages. Cut along the marked line. Then put the adjusted rows into place. Complete the first rows by installing the remaining end panels. Start with the end panel in the last row and finish at the first row, gluing inside the groove.
12. Install the starting triangles. Connect the cut starting panels to form triangular shapes, one by one. Start installing the triangles from the left corner. It is recommended to use glue to fix the smallest parts of the triangles into place by applying a small quantity of
13. Install a few more rows. Connect the triangles by installing a few additional rows of panels. Start each row from the left to the right with the A-panels, finish with the cut piece of the panel (step 5) and then install all the B-panels in the row. Finish with the left end panel, cut to size.
14. Put in spacers Put in spacers between the flooring and the wall to ensure an expansion gap of 3-10mm depending on the product type.
15. Subsequent rows
Start each subsequent row by installing the A-panels from the left to the right and complete the row by laying the B-panels from the right to the left.

16. Last row: Measure and cut the panels in the last row to size. It is recommended to use glue to install the smallest pieces of the panels. Apply a small quantity of glue inside the groove.
17. Spacers and skirting Remove the spacers and cover the expansion gap with skirting boards or beadings.

32. Cutting & Staggering Boards & Ends

A Dropsaw, Jigsaw, Guillotine or Blade (for Hybrid & Vinyl to score and snap) can be used to cut boards. The end joints in adjacent rows need to be more than 400mm apart to create strength in each row. The end of each row must not be shorter than the width of the plank, for stability. If your last plank is shorter than the width, it is advised to re-cut the first plank in the row. The remainder of the plank from your first row can be used as the first plank of the next row, as long as it is longer than the width of the plank. Stagger the planks so no pattern is visible. You may need to adjust your off-cut or have 2 or 3 off-cuts to allow rows to be staggered to avoid a pattern forming.

33. Laying Boards

The boards are easier to install with the tongue sides facing away from the wall. Starting in one corner of the room, place spacers between the plank and the wall, one spacer on the width and one spacer at each end where one plank joins another. Ensure there is enough clearance for boards to pass under during natural movement. When laying the planks for the first row, place the first plank flat and against the spacers. (not required for vinyl planks) The next plank laid must be elevated at a 45°angle to allow the Click to slip into the groove of the first plank. Once flat, push and gently tap the planks together, ensuring they "click" in tight and sit level. For the second and consecutive rows, elevate the plank on the long side at a slight angle to allow the click to slip into the groove. The next plank should be laid the same way, but with the click on the left side of the plank falling just next to the previous plank. Once flat, you can lift and lock the planks together until they "click" in tight. When you reach the final plank in the row, place a loose plank the opposite way, allowing for the expansion gap at the end of the last laid plank. Mark the plank where they join. Trace a cutting line along the middle plank and cut along that line. Install the plank you just cut it into position. Insert spacers between the wall and the last plank laid to ensure the floor doesn't shift during installation. Check that the skirting or scotia will cover the board by the minimum coverage allowance as mentioned previously to allow for natural movement. To allow natural movement around obstacles (pipes, solid built-in units, etc.), use a pencil to trace around the object. For the final row, measure the space between the 2nd last row laid and the wall, allowing for your expansion gap. Mark these measurements out on your board. Place a straight edge on top, using a pencil, and draw a line along the board. Cut the board on the line. and install it in place. Repeat this process until the whole area is completed.

34. Fitting Scotia and/or Skirting

Remove all spacers from the perimeter of the flooring. Ensuring the flooring has not moved and you have even expansion gaps around the perimeter of the floor, ensuring the minimum coverage of the boards is achieved. Make any adjustments needed before installing the skirting or scotia. Fit the skirting or scotia to the walls, sitting flat on the floor, but not hard enough to restrict movement. Nail the scotia or skirting to the wall surface (not through the flooring).

Floating Installation - **DO NOT** apply silicone to the skirting, scotia or benches of a floating floor installation, as it will restrict the natural movement and cause the boards to bounce, squeak, separate or become damaged.

SPECIAL NOTE - ONLY Vinyl Planks, Direct Stick Engineered Timber, Hybrid 9mm & 10mm can be finished around the perimeter with a silicone bead to cover the 3mm expansion gap due to its extremely high dimensional stability and click strength. Silicone(Silikon 700 or Flex-Pro MS) is recommended due to its Movement capability +/-25%.

35. Fitting Finishing Trims

Measure and cut the colour-matching top trims to size. Install the top plate of finishing trims to neatly finish off in all doorways, against fixed objects, kitchens, and sliding doors. Adhesive can be applied only in the channel to add extra strength and reduce movement & noise if required. **Ensure not to apply any adhesive to the flooring, as this will restrict the natural movement and result in board failure.**

36. Fitting Stairs & Slip-Resistant Tape

Ensure all existing floor covering is removed before starting. If the current staircase has a bullnose, either pack out the riser level with the edge of the bullnose or cut off the bullnose before you start. The existing stair tread edge will need to be squared off if rounded on the edges to avoid any flex or movement. This will avoid the chance of damage or cracking. Also, need to ensure each tread is level.
Once your staircase is prepared & ready, start at the bottom riser and work your way onto the bottom tread. It is recommended to use a flooring adhesive to adhere the stairnoses and boards to the solidly constructed, square and level staircase. When fitting boards to each step, it is recommended to ensure the leading edge is hard up against the riser and an adequate amount of adhesive is applied for extra strength and to avoid flex and movement. Where the stairnoses are installed to a top landing leading into a room of flooring, remember to make allowances for natural movement. An expansion trim could be installed between the top stairnose and the floating floorboards if the flooring is running in either the same or a different direction. For European Oak & Australian timbers that are installed as a direct stick or dual-bond, a 5mm gap can be filled using a colour-matched liquid caulk to avoid an H trim at the top of the stairs.
Slip-resistant tapes and coatings are available to be applied to the stairs after installation to comply with Australian Slip rating standards.

37. Checking Door Heights

Check door and doorframe clearances to ensure that doors will move freely without contacting the flooring surface and causing damage.

38. Clean-Up & Go back over this list

Sweep and/or vacuum the floor and clean up any leftover mess. Go through this guide to ensure all steps have been followed and completed.

39. Protection

When installed, protect all Clever Choice floors from heavy rolling loads, other trades and appliances by using Clever Guard floor protection, sheets of plywood or MDF. When replacing appliances or moving heavy furniture over the flooring, place the Clever Guard over the floor. Without moving the panel, slide or roll the object over it. Follow with additional panels as needed, as this prevents scratches and dents. Under building conditions, it's important to remember that builders' dust can get under the Clever Guard if it is not correctly installed. Breathable floor protection can be used to completely cover the flooring to avoid direct sunlight and building debris from coming into contact with the surface. Ensure not to place items ontop of the protection, which will restrict natural Vapour.

Further Information

Further information on any aspect of the guideline can be obtained from www.cleverchoice.com.au
Clever Choice (Paxwood Pty Ltd)
Phone: (07) 5526 7399
Email: admin@cleverchoice.com.au