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Solid Installation

Before goods are delivered to site

Before Solid wood flooring can be delivered to site all wet trades (e.g. concreting, plastering, and decorating) must be finished, and the building must be weather tight and thoroughly dried out. (Please note that plaster may take several months to dry satisfactorily, concrete and screeds may take substantially longer depending on thickness. The relative humidity must be in the range 45-60%, with ambient temperature in the range of 18 to 24°C. If necessary employ a dehumidifier to maintain suitable conditions.

Acclimatisation of materials

As part of your warrantee conditions, it is essential to acclimatise your product prior to installation. Providing that site conditions are correct before the boards arrive on site, the boards should be stored prior to laying in warm dry conditions (i.e. similar to those which will prevail when the floor is laid and in use: 45 to 60% RH). The boards should be stored in the room(s) where they are to be laid for a minimum of three days, to allow them to acclimatize to the ambient temperature and humidity. The flooring must be well protected against damage or marking from other building operations. It is recommended that the solid wood flooring is open to its surroundings providing that the site conditions are at a similar condition to what the flooring will be kept at during normal living conditions. It may be that if boxed the ends of the boxes can be opened up to allow better acclimatisation.

Installation basics

Solid wood flooring may be installed by fully bonding, stick down method to suitable sub-floors or Secret-Nail fixing to suitable wood based sub-floor. This product is **not** recommended for installation as a floating floor. Never apply adhesive to the long tongue and grooves joints on the edges of the boards. **V4 Woodflooring does not recommend solid wood flooring for use with under floor heating.**

Provision for expansion

Expansion spaces of a minimum of 15mm or more must be left wherever the floors meets any obstructions including all walls, doorframes, thresholds, structural supports, fireplaces etc. These expansion gaps can be covered using the skirting, or edge trim (e.g. Scotia, Quadrant). It is recommended that an expansion break is always

employed where rooms join. T-Section threshold strips can be used for this purpose. Alternatively where wood floors meet other floor coverings a suitable Reducer threshold strip may be used.

Tip: When installing skirting boards on top of installed solid wood flooring leave a small gap between the skirting and the solid wood flooring. (Similar to the thickness of a plaster's trowel. To fix a skirting tight to flooring can cause the floor to buckle.

In large areas it is recommended that additional expansion spaces be allowed by the inclusion of Teflon spacers between boards at regular intervals across the floor (Further details on request), or one or more expansion breaks may be created within the main body of the floor. The precise combined provision for expansion must be judged by the installer taking into account environmental humidity, floor size, moisture content of wood at time of installation and timber specie.

Tip: If nailing down a solid wood floor to a large area another method of fixing is to start from the centre of the room and insert a slip tongue into groove, this will give you a starter row with a plank with two tongues. Nail in both directions this will help reduce the maximum movement factor. It is known that a floor nailed, movement is first towards the tongue, so by starting in centre this will half the movement towards nail by 50% however it is important that the correct provision for expansion is still left. (For advice on how to do this please contact V4.)

Where practical install floor parallel to the longest walls so that the direction of greatest potential expansion (i.e. across the grain) does not coincide with the direction of greatest dimension of the floor, esp. in large areas.

Header-joints are to be staggered by a minimum of two board widths. Flooring must not be exposed to artificial heat sources such as from heated pipes at shallow depth below screeds, or suspended pipes below floorboards. Pipes must be thoroughly insulated, and floor temperature must not exceed 22°C.

Important

To achieve the desired mix of colours, shades and other characteristics in the final floor, and to avoid clusters of characteristics such as knots, the contents of multiple packs should be mixed during installation. Samples must be taken as a guide only and colour/shade and other characteristics will vary. Before installation commences rack out a small section of boards for the client approval. This product may include up to 3% of boards which do not meet the usual tolerances or grade, which should be defect cut or set aside as waste.

The installer is the last line of quality control. DO NOT INSTALL BOARDS WITH OBVIOUS DEFECTS.

Condition of sub- floors

All sub-floors must be dry, sound, and of load-bearing strength. In order to prevent creaking it is essential that wood based sub-floors must be of load bearing strength (e.g. typically 22mm thickness on joist or battens at 600mm centres 18mm thickness if on joists of 400mm centres) and free from excessive deflection under loading.

Moisture condition of sub-floors

Concrete slabs and sand-cement screeds must be sound and dry. Mineral based sub-floors must be < 65 % equilibrium relative humidity or if anhydrite based subfloor < 0.3% moisture content. Sub-floors at ground level or below must contain an effective damp proof membrane to protect flooring from ground water in compliance with British Standards. If there is any doubt that the sub-floor meets the required standard for moisture or the sub-floor does not have an effective integral damp proof membrane, a suitable surface applied damp proof membrane must be installed.

Testing of concrete subfloors must be carried out as BS 8201 Code of practice for flooring of timber, timber products and wood based panel products & BS 8204 part 1&2. See additional information on testing.

Wooden sub-floors must not be more than 2% higher in moisture than the solid wood flooring. When installing wood flooring at ground floor level (or below) above a ventilated cavity (e.g. floorboards suspended on joist), it is essential that a purpose made moisture barrier building paper is installed over the sub-sub-floor before flooring can be installed. The moisture barrier must be taken up the walls by 30mm at the perimeter, and all joins overlapped by a minimum 200mm and taped with a water proof jointing tape. Failure to comply with requirements for sub-floor moisture may result in cupping and excessive expansion which is not covered by the warrantee.

Tip: Check airbricks outside of property to make sure that they are clear and not blocked. Blocked airbricks can cause excessive build of moisture in crawl space causing possible failure of flooring.

Evenness of sub-floors

The maximum permissible departure from the underside of a 2 lineal meter straight edge is 3mm. Failure to keep to these tolerances may result in squeaking or deflection which may produce undue stresses on the joints, cause gaps between flooring elements and with fully bonded floors may result in inadequate contact between flooring and adhesive.

If levelling is required over sand-cement screed or concrete sub-floors it is recommended that a rapid curing high strength water-powder mix cementitious levelling compound is employed instead of a powder + liquid latex emulsion. If

levelling wood based sub-floors prior to fully bonding wood flooring, a purpose made fibre reinforced levelling compound must be used. Ensure that levelling compounds are fully cured and thoroughly dried before installation commences.

In some cases such as over floorboards, levelling may be achieved by overlaying the existing sub-floor with a sheet material such as 12mm WBP grade Plywood or OSB. (Do not use chipboard) The sheet material must be securely fixed to the wood based sub-floor with the ends of sheet staggered. Ideally flooring should be laid so that the plank runs parallel to the longest edges of the sheet material. Sheet materials may be fixed either by screw fixing, or fixing every 150mm with ring shank nails. Ensure adequate provision for expansion between sheets of plywood using washer joints.

Tip: Leave the thickness of circular saw blade between all plywood sheeting and a minimum of 12mm expansion around perimeter and all obstructions.

If levelling is required above an epoxy resin surface moisture barrier, it is recommended that an additional application of epoxy is applied and a purpose made aggregate is applied onto the freshly applied epoxy. Once cured any aggregate which is not fully adhered to the epoxy is removed by vacuum. This produces a sandpaper like surface which provides a strong mechanical key between epoxy and levelling compound. Always check the mutual compatibility of moisture barriers, primers, aggregates, levelling compounds and adhesives before installation. See manufacturer's product data sheet for further information.



Fully- bonded installation(e.g. Concrete, sand-cement screed or wood based sub-floors)

Solid wood flooring may be installed direct to concrete or sand-cement screed sub-floors, or to suitable wood based sub-floors (e.g. Plywood, OSB) by fully-bonding with a purpose made permanently flexible adhesive (e.g. 1 component Polyurethane or SMP).

The adhesive is applied to the sub-floor only using a V-notched trowel, which creates ridges of adhesive which the flooring is bedded into when laid. Always use the trowel type which is recommended by the manufacturer of the flooring adhesive for the type of wood flooring being installed, and replace worn trowels. Tip: When installing flooring uplift occasional boards after placement and examine the residues of adhesive on the underside of the board to ensure the board is making full with the bed of adhesive. A minimum of 80% coverage of adhesive on back of planks is essential.

Important Notes

- Previous floor coverings and the adhesive residues used to adhere floor coverings to sub-floors (e.g. Bitumen) must be removed before bonding of wood flooring by way of scrubbing.

- Ensure screeds are of adequate cohesion strength before installation.
- Avoid accelerated drying of new screeds as this can lead to poor cohesive strength, especially over under floor heating.
- Always check the recommendations of the applicable adhesive manufacturer, esp. regarding other sub-floors. e.g. asphalt, anhydrite etc. Do not glue directly to asphalt
- Some chipboard products have a moisture resistant treatment which can seriously impair adhesion. A layer of plywood may be laid over and securely fixed to the chipboard before installation may commence. Don't forget to leave expansion with plywood.
- Any residues of adhesives which come into contact with the face of the board must be removed whilst wet, as cured residues are not removable.



Secret nailed installation to suspended wood based sub-floor, Ply or OSB (not chipboard)

Solid hardwood flooring may be installed to suspended wood-based sub-floors by secret-nail fixing. This is achieved by placing nail fixings through the tongue at 45 degrees and into the suspended sub-floor at regular intervals of 150 to 200mm, all along the length of the board, plus one nail 50mm from the end of each board. Nail fixings are to be placed using a purpose made floor nailer and 50mm serrated floor nails.

In addition to the secret nail fixings through the tongue side of each board, starting row one at the perimeter of the room can be face nailed or alternatively fully bonded to the sub-floor to secure the groove side of the board that is not linked into an adjoining tongue.

Wood based sub-floors must be of load bearing strength (e.g. Typically 22mm thickness on joist or battens at 600mm centres, 18mm if on joists of 400mm centres).

It is strongly recommended that a purpose made moisture resistant building paper is installed over the wood based sub-floors before flooring is installed. The moisture barrier is taken up the walls by 30mm at the perimeter, and all joins overlapped by a minimum 200mm and taped with a water proof jointing tape.

If boards are to installed by both adhesive bonding and secret nail fixing (Dual method) it is recommended that a seamless building paper moisture barrier is laid over the existing suspended wood based sub-floor, and a thin layer of WBP plywood is fastened through the building paper to the wood based sub-floor. Alpine hardwood flooring is then bonded and secret nailed to the plywood. (Note: It is recommend that

two different installation methods are not used as one adjoining area without an expansion break; such as a lounge with suspended wood based sub-floor secret-nail fixed, leading into a conservatory with stick down method over concrete sub-floor).

Important Notes

- Never apply adhesive to the tongue and groove joints of the long edges on solid wood flooring.
- Wood based sub-floor must be securely fastened to the sub-floor (i.e. we do not recommend fixing of this product to floating wood based sub-floors e.g. floating chipboard over concrete).
- When overlaying sub-floors with sheet materials stagger the end joints. Leave gaps between ply/OSB sheets for expansion similar to thickness of circular saw blade with minimum 12mm expansion around perimeter and all obstructions.
- When installing flooring above suspended wooden sub-floors which have been levelled with wood based sheet materials, ensure that the secret nail fixings penetrate the sheet material are securely anchored into the wood based sub-floor.
- Chipboard is not a suitable nailing base to secret nail flooring as nails may/can work loose and result in creaking over time.

Floor protection

- During the life of the floor ambient humidity must be maintained within the range of 45% to 60% RH and 18 to 24°C. This includes during periods when the property is unoccupied such as during holidays. Please note that high humidity may lead to warping and other issues, whilst excessive drying caused by high temperature and/or low humidity may lead to splits and warping.
- Always have internal and external entrance matting at all entrances to the property; this will help prevent abrasive particles being carried onto the floor, and will extend the life of the floor finish.
- Use self-adhesive felt pads on flat furniture feet to protect the floor from excessive scratching, and use felt based castor cups under wheeled furniture.
- A purpose made polypropylene floor mat must be used below wheeled office chairs. (Note: Heavy scratching will break the seal of the lacquer causing damage to the timber by ingress of dirt and moisture from cleaning.
- Stiletto heels may damage wood floor finish and cause compression marks on some wood species, and are not recommended for use on wooden floors.

Cleaning

- Daily/weekly cleaning consists of sweeping with a soft broom or dust attracting flat head mop.
- Floors can be periodically cleaned with an almost dry wrung out mop, avoiding use of excess moisture.
- **NEVER WET MOP WOODEN FLOORS.** All spills must be wiped up immediately with an absorbent kitchen towel.

Disclaimer & further information

The combination and order of products used for sub-floor preparation can vary according to specific conditions of the site and sub-floor. This information is not intended to be exhaustive, or a how to guide for the novice, but will serve as a guide only to the experienced installer. Further information is available in request.