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## V4 15mm Engineered Installation

### Before goods are delivered to site

Before V4 15mm engineered 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 45-65%, 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 65% RH). The boards should be kept in the room 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 flooring remains in packaging until installation commences.

### Installation basics

As part of your warrantee conditions, it is essential to acclimatise your product prior to installation. V4 15mm engineered hardwood flooring may be installed either by fully bonding to suitable sub-floors or Installed as a floating floor. Alpine engineered and Urban Nature may be used over under floor heating.

### Provision for expansion

**Expansion spaces of minimum 12mm or more must be left wherever the floors meets obstructions including all walls, door frames, thresholds, structural support, 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.**

Floating floors must not exceed eight lineal metres continuous running width or 12 lineal metres in length. If a floor area exceeds these dimensions expansion break(s) may be formed within the main body of the floor. The provision for expansion must be judged by the installer taking into account environmental humidity, floor size and timber specie.

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 excess heat such as from hot water pipes below floors.

## 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. The installer is the last line of quality control. This product may include up to 3-5% of boards which do not meet the normal tolerances or grade.

**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, dry, free of laitance and other substances which may impair adhesion (e.g. Bitumen adhesive residues etc). Mineral based sub-floors must be <75% equilibrium relative humidity & <65% relative humidity for glue down of engineered flooring Anhydrite must be < 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.

Wooden sub-floors must not be more than 2% higher in moisture than the Alpine 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-floor before flooring can be installed. The moisture barrier must 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.

## Evenness of sub-floors

The maximum permissible departure from the underside of a 2 lineal meter straight edge is 2mm. 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 suspended floorboards, levelling may be achieved by overlaying the existing sub-floor with a sheet material such as WBP grade Plywood or OSB. The sheet material must be securely fixed to the wood based sub-floor with the ends of sheet staggered. Ensure adequate provision for expansion between sheets of plywood using washer joints.

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 and 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.



(/wp-content/uploads/2013/05/1.png)Fully-bonded installation(e.g. Concrete, sand-cement screed or wood based sub-floors)

Alpine engineered 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.

**Tip:** For UFH hot water system imbedded into concrete full bond is recommended as it improves the TOG rating.

## Important Notes

- Previous floor coverings and the adhesive residues used to adhere floor coverings to sub-floors must be removed before bonding of wood flooring.
- Ensure screeds are of adequate cohesion strength of 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.
- 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.
- 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.
- Concrete slabs if fully bonding down engineered flooring must be <65% relative humidity. Testing of subfloors must comply with BS8201 Code of practice for wood based products & BS 8204 Screeds, bases and in situ floorings



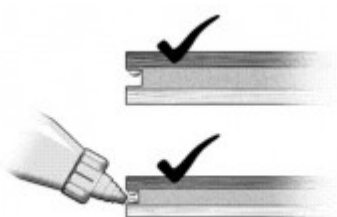
(/wp-content/uploads/2013/05/10.png)Floating installation

Alpine 15mm engineered wood flooring may be installed as a floating floor. This is achieved firstly by laying a 3mm or thicker purpose made underlay at 90° to the planned direction of the flooring, then laying the flooring and bonding the interlocking boards at the tongue and groove joints with a D3 grade moisture resistance PVA adhesive.



## (/wp-content/uploads/2013/05/8.png)PVA adhesive application

The adhesive is applied to the upper or upper and lower horizontal portion of the groove. Do not inject adhesive into the base of the of the groove (e.g. as the groove edge of the boards face upward vertically) as this may prevent the tongue and groove joints from closing. (See Illustration).



(/wp-content/uploads/2013/05/glue-300x1141.jpg)

**NOTE: Its is strongly recommended that both header and length joints be bonded with PVA to avoid potential gapping as wood expands and contracts**

**NOTE: Floating Zigzag Herringbone must be bonded with PVA on all 4 joints**

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 if on joists of 400mm centres) and free from excessive deflection under loading).

It is strongly recommended that a purpose made impermeable moisture barrier is used below floating wood floors. The moisture membrane may in the form of 1200 gauge polythene damp proof membrane for concrete which is laid over the sub-floor before the underlay, then flooring is laid. Alternatively an underlay which incorporates a moisture resistant barrier may be used. In either case the moisture membrane is taken vertically up the wall and trimmed off above the finished level of the wood floor surface. All moisture barriers must be taped at the joins with a purpose made jointing tape. Polythene damp proof membranes are overlapped by 200mm or greater before joins are taped.

- L-shaped halls are better suited to fully bonded installation than floating.
- If installing as a floating floor in L-shaped areas, in commercial use, or over under floor heating ensure that the joints are double bonded with adhesive applied to the upper and lower portion of the groove.

- Where necessary use flooring straps to achieve closed joints.

**Tip:** 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.

## Floor protection

- During the life of the floor ambient humidity must be maintained within the range of 45% to 65% 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 &/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 wood floor.

## 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.