

18mm/21mm Engineered Installation

Before goods are delivered to site

Before 21mm and 18mm 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°C to 24°C. If necessary employ a dehumidifier to maintain suitable conditions)

Acclimatisation of materials

As part of your warranty conditions, it is essential to acclimatise your product prior to installation.

Providing that site conditions are correct before the boards arrive, 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 stored in the room(s) where they are to be laid for a minimum of three days, to allow them to acclimatise 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 material is kept in the packaging until installation commences.

Installation basics

21mm and 18mm Engineered hardwood flooring may be installed either by fully bonding to suitable sub-floors or Installed as a floating floor.

Engineered hardwood flooring may be used over underfloor heating.

Provision for expansion

Expansion spaces of 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.

Maximum Span

Floating floors must not exceed eight lineal metres continuous running width or 12 lineal metres in length. If a floor exceeds these dimensions, expansion break(s) may be created 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 species.

Where practical install a 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, especially in large areas.

Fitting Pattern

Header-joints are to be staggered by a minimum of two board widths and boards must be laid in a random staggered formation.

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.

Important

To achieve the desired mix of colours, shades and other characteristics in the final floor, and 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 3-5% 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 not exceed 75% equilibrium relative humidity or <0.3% Moisture content for anhydrite.

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 engineered 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 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 warranty.

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 the epoxy is fully cured any aggregate which is not fully adhered to the epoxy is vacuumed off. This produces a sandpaper like surface which provides a strong mechanical key between epoxy membrane and levelling compound. Always check the mutual compatibility of moisture barriers, primers, aggregates, levelling compounds and adhesives before installation.

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

21mm and 18mm engineered 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° 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 with no gaps.

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 wall by 30mm at the perimeter, and all joints overlapped by a minimum 200mm and taped with a water proof jointing tape.

If boards are to be 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.

The hardwood flooring is then bonded and secret nailed to the plywood.

(Note: It is recommended 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 of engineered flooring when secret nailing engineered.

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.

Do not fit directly to joists or battens.

Chipboard is not a suitable nailing base to secret nail flooring as nails may/can work loose and result in creaking over time

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

21mm and 18mm 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).

Concrete subfloors if fully bonding engineered flooring must be < 65% relative humidity.

All subfloor testing must comply with BS8201 Code of practice for installation of wood based products & BS 8204 Screeds, bases and in situ flooring.

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 trowels which are worn.

Tip: When installing flooring uplift occasional boards after placement and examine the residues of adhesive on the underside of the board to ensue the board is making full with the bed of adhesive.

Tip: When fully bonding make sure that the groove is facing you when inserting planks into the glue. This will help avoid getting adhesive trapped under tongue of flooring causing gaps to appear as it cures. It is much easier to remove any excess adhesive up to groove than tongue.

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.

Bitumen / Mastic Asphalt sub-floor are not suited to fully bonded / stick down installation. (Note: Consider floating installation over these sub-floors)

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 chipboard and securely fixed to

the chipboard before installation may commence. (Leave expansion on 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.

Floating installation

21mm and 18mm 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.

The adhesive is applied to the 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.

It is strongly recommended that a purpose made impermeable moisture barrier is used below floating wood floors on concrete bases.

The moisture membrane may be in the form of a 1200 gauge polythene damp proof membrane which is laid over the sub-floor before the underlay, then flooring installed.

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.

Maintenance & 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.)

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 cloth, avoiding use of excess moisture.

DO NOT WET MOP THE FLOOR.

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.

Installation with Underfloor Heating

Underfloor heating beneath wood flooring presents special problems because of the wide range of temperature to which the flooring is subjected. During the summer or when the heat is turned off for long periods, high atmospheric humidity causes an increase in the moisture content of wood flooring which has been specially dried for heated conditions. This produces lifting or distortion if the floor has been too tightly jointed at the time of laying. When the heat is turned on again, the moisture content decreases, therefore a greater seasonal moisture content variation is to be expected with underfloor heating than with other forms of heating.

Follow the guidelines detailed in this section in conjunction with the installation guides for engineered floors.

Do...

Avoid accelerated drying of new concrete/screeds over UFH as this may lead to poor cohesive strength of the sub-floor.

Check the cohesive strength of screeds before adhering.

Ensure that screeds, concrete, etc are $< 65\%$ RH before installation commences.

Employ a suitable surface applied moisture barrier (e.g. moisture suppressant primer) where necessary.

If levelling is required above a suitable primer moisture barrier, apply a purpose-made fine graded aggregate over the second coat (on one coat membranes) OR third coat (on two coat membranes) immediately after application.

Allow to cure then vacuum off all loose aggregate; (This will aid adhesion between primer and levelling compound).

Then use a rapid dry formulae, water-mix (i.e. instead of latex mix) levelling compound, as these are typically stronger and develop strength quicker.

Ensure that levelling compounds are fully cured and dry before installation commences (see manufacturers technical data-sheets).

Use a purpose made, permanently flexible adhesive such as 1-part polyurethane, or Silicon Modified Polymer, when adhesive fixing.

Fully-bond, rather than use, liquid battens, type adhesive systems with UFH.

Ensure full contact between the underside of the flooring element and adhesive.

Maintain suitable ambient humidity 45 to 65% RH. (Monitor with a domestic hygrometer).

Employ floor temperature sensors below the floor with electric under floor heating systems.

Do not...

mywoodflooring do not recommend solid wood floorings for UFH applications or high movement hardwood species such as Beech and Maple.

Do not allow humidity below 45% RH, or above 65% RH. (A small domestic humidification unit can be employed to avoid low humidity during the winter heating cycle if necessary.

Do not allow the floor temperature to exceed 27°C, (including under rugs).

Do not use thick insulating rugs. (Note: as this will lead to high floor temperatures).

Selection of species for use with underfloor heating

Selection of species for use in floors subject to underfloor heating should be limited to those with particularly small thermal and moisture movement or should be as recommended by manufacturers who have extensive experience in the supply of flooring to be used over underfloor heating.

Construction which permits an air space directly under the floor should be avoided as this can cause undesirable temperature fluctuations but advice on this should be taken from the manufacturers of the underfloor heating.

Precautions prior to installation where underfloor heating is to be used

Before floor laying begins, the following procedure should be followed:

The screed should be dried in accordance with BS8201:2011.

Once the screed is dry to a maximum level of <75% RH, or <65% RH for floors directly bonded to the screed, the underfloor heating should be commissioned in accordance with the underfloor heating manufacturers guidelines where available.

Where no guidelines are indicated the following protocol should be followed:

a) Heating up. The flow temperature should be heated to a specific temperature as follows:

- 1) Day 1: 20°C
- 2) Day 2: 30°C
- 3) Day 3: 40°C
- 4) Day 4: 50°C or the maximum planned operating temperature. This should be maintained constantly for a minimum of 7 days.

b) Cooling Down. The flow temperature should be cooled to a specific temperature as follows:

- 1) Day 12: 40°C

2) Day 13: 30°C

3) Day 14: 20°C

4) Day 15: The underfloor heating should be switched off.

At least 4 days should elapse before final moisture readings are recorded (If more than 7 days elapse between the last cooling-down day (day 14) and the start of laying, the underfloor heating should be run at a minimum operating temperature of 40°C for 2 days.

The underfloor heating should then be switched off for at least 4 days before a further moisture check is carried out prior to laying.

With some adhesives it is necessary to allow the screed to cool before laying the floor but the ambient humidity and temperature conditions within the area should always be maintained, and it might be necessary to have the moisture content of the screed at a lower level than 65% RH. The adhesive Manufacturer's recommendations should be followed.

Testing of UFH services

The flooring installer should ensure that all services (not only heating services) running beneath the floor have been tested fully by the services installer before laying starts.

Provision for expansion

As a guide only allow a minimum 12mm expansion wherever the floor meets obstacles including perimeters walls, structural supports, hearths etc.

Create additional expansion breaks in doorways using suitable profiles such as T-section thresholds or other transition strips.

Create additional expansion breaks in large floors. Where practical install flooring 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, esp. in large floors.

The precise combined provision for expansion must be judged by the installer taking into account environmental humidity, moisture content of wood at time of installation, timber species and size of the floor.

Precautions prior to handover

Means of keeping the flooring dry and stable in the period between laying and handing over should be provided.

Start up schedule

Where underfloor heating is involved, particular attention should be paid to ensure that the top surface temperature of the wood flooring should not exceed 27 °C.

Some electrical underfloor heating systems are not compatible with timber flooring and the manufacturer of the timber flooring should always be consulted before installing over underfloor heating systems, particularly regarding the moisture content, species of the timber and specific installation guidelines.

It is most important that electrical UFH systems must be overlaid with a fibre reinforced smoothing compound of not less than 5mm no direct contact of any electrical matting should come into contact with the wood floor itself.

Please seek the advice of the UFH manufacturer's instructions to confirm compatibility with wood flooring.

Important notes

Always check the mutual compatibility of moisture barriers, primers, aggregates, levelling compounds and adhesives before installation.

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