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WOOD FLOOR INSTALLATION OVERVIEW

This information will give you an overview of points to consider when installing a wood floor. It cannot cover every specific eventuality and should be referred to for guidance only. Engineered flooring can be installed (usually with adhesive only) onto both concrete or timber sub floors. The installation of a Solid floor requires adequate joists and / or an 18mm timber base for a glue and nail/screw installation.

Moisture & humidity levels

Ultra-Interior wood floors are delivered to site with an 8% - 10% moisture content which is the ideal level for normal living conditions in the UK. Site conditions are extremely important as timber is hygroscopic, in simple terms the flooring can absorb any moisture that is present in situations of high levels of moisture and humidity. The reverse will apply in an environment of high temperature and very low humidity, which will cause the timber to dry out.

Moisture and humidity are the biggest factors of movement in flooring, if these instructions are not adhered to you may experience issues with movement. It is also important to remember that a small degree of movement within a wood floor is perfectly normal and to be expected. This may show in times of seasonal change with signs such as minor gaps between the lengths of the boards and should not be regarded as a fault.

Before introducing the flooring to site, the following should be checked and recorded where necessary

- All wet trades complete and the areas checked as being fully dry.
- All windows and doors to be installed.
- Heating and air condition systems commissioned and operating checked and recorded.
- Room temperature of between 15°C - 22°C checked and recorded.
- Concrete sub floor and screeds measure 2% or below in moisture content, checked and recorded.
- Relative humidity of 40% - 60% checked and recorded, ideally at approx 50% at time of laying.
- When the points above are achieved and can be maintained, the environment should be at an equilibrium with the flooring which can then be introduced to site. It is good practice for the flooring to be in this environment a couple of days prior to installation. Unless otherwise advised by us, the flooring should be laid horizontally in the middle of the room away from any opening external doors and windows. Where a floor arrives in packs, the packaging may remain intact for this period.

The sub floor preparation

- The slab/screed should not exceed 2% moisture content. In any case it is best practice to apply a liquid damp proof system and is essential to do so if the moisture level exceeds 2% up to a maximum of 10%. Slabs measuring above 10% will need additional attention and time to get them to a suitable level to progress.
- It is essential any mineral deposits or laitance are removed from the surface as part of the sub floor preparation.
- The sub floor should be level to within 3mm over 3m. If there is unevenness or undulation the concrete slab may need additional levelling using a self-levelling compound.
- Depending on the specific products used, it may be necessary to use a primer agent between this and the damp proof system to aid adhesion. With all products, follow the manufacturer's instructions.
- If the existing sub floor has a bitumen coating, this will need a primer or damp proof system applying to allow adhesion of the flooring.
- Do not use damp proof systems on anhydrite screeds, all moisture should be purged out as these are gypsum based and any moisture kept in the screed will break down its structure.
- On timber sub floors the moisture content of its material should be a maximum of 12% and within 4% of the moisture content of the flooring you are fitting on to it.
- If fitting onto an existing floorboard base it should be made sound and secure. The new floor should be installed at 90° to the existing base or a minimum of 9mm ply skin can screwed to the existing base and the direction of the new floor can then be fitted in the direction of the original. It is good practice to use a moisture paper between the old floor and the ply skin or use a modern moisture resistant flooring grade sub floor material suitable for taking and holding a flooring nail.
- Joists need to be sound and secure, they are best fitted on to using the method above. Use an 18mm sub floor material if fitting a solid floor. Ensure that the crawl space or voids under the joists maintains adequate ventilation.
- Any hot water pipes need to be lagged sufficiently so as not to allow excessive heat to reach the underside of the flooring board.

- For specific advice on installing acoustic underlay systems, please call to discuss your individual project.

Installation of the wood flooring

- Ensure the sub floor is prepared as detailed above.
- Allow up to 10% for cutting and fitting waste of the flooring boards.
- Timber is of course a natural material and an industry accepted margin of up to 5% is accepted as material that may not be suitable for its intended purpose and is filtered out by the fitter. It is the responsibility of the installer not to install any material thought to be defective. It is not possible for the Ultra-Interior to consider a claim for materials installed which have visible defects or damage prior to installation.
- Engineered flooring can be installed direct to concrete or timber sub floors using an MS Polymer adhesive. Follow the adhesive manufactures instructions.
- Solid floors should be installed onto timber sub floors only, using both adhesive and nail/screw fixings. Nail at maximum 200mm centres and 50mm from the ends of the boards.
- It is essential that expansion gaps of 15mm are applied around the perimeter and any other fixed object such as pillars and radiator pipes. All floors will move a certain amount even under correct installation. In warmer weather windows tend to be open and humidity will increase thus causing the floor to absorb the increased moisture, this will cause the flooring joints to become tighter and close up. In winter months, the heating will raise the temperature, this will make the floor dryer thus making the boards shrink slightly, and consequently the joints between the boards may increase.

Installations with Under floor heating systems

- The sub floor should be fully dry and prepared as per the notes in the sub floor preparation section.
- Have a qualified Engineer from the heating company survey and fully install the system and issue certification that the system is fully operational with controls to ensure the underside surface of the wood floor cannot exceed 27°C.
- A temperature of 27°C is the maximum temperature that the underside of the floor should be allowed to reach. Temperatures above this, combined with potential shift in humidity levels will significantly reduce the moisture content of the board and compromise its shape and structure, resulting ultimately in a failed floor.
- The heating engineer should set the system up - for instance have the regulator set to a water temperature that is commensurate with achieving an underside floor surface temperature that will not exceed 27°C. Thermostats with floor probes should be installed to measure and regulate the temperature of the underside surface of the flooring so as not to exceed 27°C.
- The heating system should be commissioned and run 3 weeks prior to a flooring installation, ensuring the temperature is gradually increased slowly over this period and then back down again.
- Whilst the flooring is being installed the system should be off. Once glues and finishes have cured the heating should be turned up gradually 1 - 2 degrees per day.
- Remember room temperature settings are not floor temperature settings - it is important the customer takes responsibility for controlling and monitoring their heating system and environment.
- As well as heating and temperature settings, the customer should also monitor humidity levels within the property using a humidity reader instrument and maintain this level between 40% - 60% relative humidity.
- Whilst the heating system is on, under no circumstances should the floor be covered over with any protective sheeting or items such a rugs, as these will trap the heat in and result in failure of the flooring.
- In summary, the following should be monitored and maintained.

  - Room temperature 15°C - 22°C.
  - Underside surface of flooring temperature controlled so as not exceed 27°C.
  - Relative humidity maintained between 40% - 60%.
