FLOORSTOCK
WOOD FLOORING MACHINERY TOOLS

Wood flooring general installation guidelines

This information should be used as a guideline only. It is the responsibility of the installer to ensure floors are prepared and installed correctly, inclusive of the sub floor, site conditions and chosen floor finish. These guidelines should be used in conjunction with any manufacturers guidelines, and the current BS8201 code of practice for installation of wood flooring.

Site conditions:

- Buildings should be weather tight prior to delivery of materials, and the site conditions should be suitable for wood flooring. Relative humidity levels should be between 45% and 65% RH and temperature should be between 15°C and 27°C.
- Adequate ventilation should be allowed, in order to prevent build ups of moisture and to avoid excess movement. Wood is hygroscopic and will change its size during the seasons. Typically, wood will expand during the summer months due to an increase in humidity levels, and shrink during the colder seasons, due to heating and lower humidity levels. It is normal for small gaps to appear during the winter and this should not be considered either a fault with the product or the installation.
- Upon delivery, wood flooring should be allowed to acclimatise in the area where the floor is to be installed. A minimum of 72 hours is recommended to allow equilibrium with the site environment. Wood should be stored off the ground and away from direct sunlight, walls and radiators, to avoid unnecessary moisture or heat.

Underfloor heating:

- Guidance should always be sought from the manufacturer of the UFH with regard to suitability, performance and control.
- Underfloor heating should be fully commissioned at least 2 weeks prior to installation of the flooring.
- Sub floor surface temperature should not exceed 27°C as this will have a detrimental effect on the flooring.
- Post installation the underfloor heating should be increased by no more than 3°C per day up to a maximum of 27°C. Excessive fluctuation should always be avoided to prevent shrinkage or delamination.
- Where appropriate, temperature and humidity recording devices may be installed which will monitor site conditions and provide evidence in the case of a potential issue.

Subfloor guidelines:

- The subfloor must be clean, dry and flat, with a maximum deviation of 2mm under a 1.5 metre straight edge. (UK: 3 mm under a 2 metre straight edge).
- Deviations are measured as gaps under the straight edge. The surface must be smooth.
- Any minor irregularities must be corrected using a suitable levelling compound prior to installation.
- Timber subfloors should have adequate ventilation, be free of rot, be of sound construction and level. Timber subfloors should be checked for dryness prior to installation in accordance with BS8201. Where appropriate, a suitable thickness floor grade plywood should be fitted prior to installation.

Concrete screed:

- Either the Tramex meter or the Hygrometer should give an accurate reading for the depth of the screed (please refer to the relevant meter instructions). It is possible to use a temperature/humidity room meter which will give a humidity reading for the room as a whole.
- A reading greater than 2.5%CM (~ 4% Tramex) for a concrete subfloor indicates that a suitable damp-proof membrane must always be installed – either a 2 coat/2 part liquid layer or, in the case of a floating floor, a properly installed heavy duty, non-permeable plastic layer (make sure the ends of the plastic are continued up into the walls to fully protect the wooden floor).
- If using UFH a reading greater than 1.8%CM (~ 3% Tramex) for a concrete subfloor indicates that a suitable damp-proof membrane must always be installed.
- It is recommended to glue engineered boards to screed containing UFH pipes as this will give a better transfer of heat.
- Although there is not an exact comparison between moisture content by weight and relative humidity, a concrete screed with a moisture content equal to or below 2.5%CM (1.8%CM if using UFH) and a room relative humidity of 45% - 65% (at time of fixing) should indicate suitable conditions for laying wooden flooring.

  It is important to note that due to differences in size, number and distribution of pores in the concrete, the range of 2-3%CM may still exceed 75% RH – in which case further drying time or a DPM will be necessary.
- Laitance is always present on new concrete bases and screeds and must be removed. Laitance is friable and can therefore either delaminate under traffic conditions and impact or it may easily dust away under abrasion from traffic. The heavier the use of the floor, and the greater the temperature fluctuations that the floor is subjected to, the more important this is. Laitance is a major cause of dusty and damaged concrete floors.
- Removal of any laitance is vitally important before any DPM or adhesive is used.

Anhydrite (Gypsum) Screed

- In all cases, Anhydrite type screeds should be sound, smooth and dry. All laitance should be removed during the initial grinding stage, however, checks should be made prior to proceeding with the application of any primer or adhesive. If laitance still exists, this should be mechanically removed by further grinding/sanding and the dust fully removed. It is imperative that checks are also made to determine the moisture content of the floor and this should be carried out using a Hygrometer. An anhydrite screed must have a moisture reading of equal to or less than 0.5%CM before it is suitable for installing a wooden floor. If excess moisture is found in the anhydrite screed subfloor (i.e. a meter reading > 0.5%CM), further time should be allocated to enable the screed to reach an acceptable level of dryness.
- NEVER apply a vapour proof membrane over a Gypsum based screed as these types of screed could potentially rot.
- If using UFH a reading greater than 0.3%CM for the anhydrite screed indicates that more time is required to dry. This may be accelerated by the use of the UFH system.
- We would usually recommend gluing engineered boards to screed containing UFH pipes as this will give a better transfer of heat. When fixing wooden flooring it is important to use an elastic adhesive.

General recommendations:

- Always ensure the customer is aware that fluctuations in humidity and temperature can have an adverse effect on the wood floor. It is recommended that temperature levels of between 15°C and 25°C are maintained, and RH levels remain between 45% and 65%. These ranges will ensure a stable timber environment and avoid any unnecessary issues.