



HTL SOLID FLOORING – INSTALLATION GUIDE

Solid timber flooring offers beauty, durability and is an environmentally sound option. These guidelines must be followed to ensure your floor provides the service you expect. If you are laying your own floor we recommend seeking professional advice, particularly if you have doubts about the specific situation in which you intend to lay your floor.

SITE EVALUATION

- Check the crawlspace under the floor area to where the flooring is being installed. Ensure there is enough ventilation throughout the crawlspace to allow air to move. Any area where excessive moisture is apparent a moisture barrier of sealed black polythene needs to be laid on the ground below the installation area.

WOODEN SUB FLOORS

- When installing new flooring over an existing wood floor, a minimum thickness of 18mm is required. When installing a particleboard sub floor an allowance of 3mm between sheets needs to be made for expansion. To prepare a wood sub floor, nail any loose areas and sand any high spots from the floor allowing for not more than a 3mm variation in an area of a 3.0m radius. Wood sub floors, for example timber battens or joists should have a moisture content (MC) of between 8-12%. When fixing over joists, joist spacing is subject to NZ Standards specifications.

CONCRETE SUB FLOORS

- As a minimum any concrete sub floor must be allowed to cure for a month per inch of thickness after the building has been completely enclosed prior to the installation of a timber floor. Concrete sub floor must be tested for moisture and installation should not proceed if the moisture reading exceeds 70% RH. Concrete floors should be acid washed, shot blasted or diamond ground to ensure the removal of impurities such as lime etc from the concrete. A minimum strength of at least 17 Mpa must have been achieved prior to the installation of any timber flooring. The surface of the concrete must be level to within 3mm in a radius of 3.0m. Approved especially suited levelling compounds may be used to level a concrete sub floor. Allow levelling compounds to dry properly before installing the timber floor. Concrete moisture sealants of recognised suitability should be used. These are usually in the form of a two pot epoxy resin. If in doubt, please contact the HTL office.

PRE INSTALLATION STORAGE

- Flooring should be stored “in strip” for a period of up to three weeks in the conditions of installations (with air conditioning or under floor heating on if relevant), provided that the timber is already within 2% of the required moisture content level. Never place the material directly on a new concrete floor or outside while awaiting installation.

UNDER FLOOR HEATING



- A minimum timber thickness of 19mm should be used where under floor heating is installed. The underfloor heating should be turned on preferable two weeks before to timber flooring is installed, this is to assist with warming to temperature and drying the concrete slab. Check for any 'hot spots' that would potentially cause problems after installation. The under floor heating should be turned off two-three days before to installation.
- Two days after installation it can be turned on, SLOWLY raise the temperature over seven days NOT EXCEEDING 21-22 degrees (Celsius). It is not suitable to fix T&G flooring direct to a heated sub floor. The presence of a 12mm underlay board provides some insulation for the T&G flooring from the higher temperature of the slab, it also provides a means to fix the T&G to the floor without the mechanical fixing piercing the slab. It is important the underfloor heating system, whether 'Florad' or similar piped water design or electrical wiring is not pierced by mechanical fixing. For this reason glue only is used to fix the underlay board to the slab.
- Maximum floor width 9m. Larger areas need to be broken up with expansion mouldings. For best performance the heating system should be operating at all times, all year round to avoid the floor cooling and taking on moisture from the environment. If the underfloor heating does not run at a constant temperature all year round, more movement should be expected in the timber flooring, with gaps appearing and closing up from season to season.

LAYING THE FLOOR

- As a natural material, timber is prone to movement with variations in moisture content, heat and relative humidity in the environment. As a guide, allow the expansion perimeter of the floor gaps to be at least 2mm per metre of flooring. For example, an 8m long floor will need a 16mm expansion joint at each end plus the appropriate width allowance.
- Diamond grind the entire floor area to remove surface layer, high spots and construction debris to ensure the best starting surface. Fill any low spots with a recommended self levelling compound.
- Seal concrete slab with an appropriate VBS vapor barrier to the manufacturer's, restrict traffic and allow six-eight hours to dry.
- Acoustic underlay should have been tested and approved for use with timber flooring. Timber flooring has an extremely high tensile strength which requires an acoustic that will adhere firmly and not break apart when stress is applied to it. Lay acoustic underlay to slab, over the VBS moisture barrier fixed with direct stick adhesive. Note, acoustic layer should not be pierced by mechanical fixing.
- Check the moisture content of the timber flooring and ensure it is at the desired level for the installation environment.
- 12mm overlay flooring must never be glued directly to concrete. It should either be laid over the top of either an existing wooden floor or a plywood sub base that has been fixed to the properly prepared concrete sub floor.



(03) 544 6006 sales@htlgroup.co.nz www.htlgroup.co.nz

SPECIALISED ENGINEERED WOOD PRODUCTS



- 19mm full thickness solid strip flooring can be applied directly onto a properly sealed and prepared sub floor or alternatively can be either nailed or glued to joists.
- Fixing can be done using nails and/or glues. The floor should be cramped and weighted while fixing and during the glue curing.
- Flooring glues must be the proper recognised proprietary agents. Check compatibility with your moisture sealant agent if used. Seek advice, as off the shelf glues are not appropriate.

FINISHING

- The flooring should be sanded, trowel filled to fill in gaps and nail holes. There are a range of coating products, ranging from oils and waxes to water and mineral based polyurethanes providing clear or tinted finishes. Refer to manufacturer's specifications and spread rates.
- After the final coat, restrict all traffic for 48 hours, then allow only light, clean traffic for seven days to allow coatings to fully harden.

IMPORTANT NOTE

- Solar heat of internal heat build up can create heat in excess of 30-40 degrees (Celsius) which will buckle any floor.
- Areas near glass doors or walls of glass are particularly vulnerable and must be protected by shade glass or a form of screening, either external or internal.

GENERAL CARE AND MAINTENANCE

- DO'S
 - Place good quality mats both sides of entrance doors to prevent dirt, stones and moisture to damage the floor.
 - Place felt protectors under all chair, table and furniture legs.
 - Fit roller chairs with soft rubber wheels.
 - Move appliances and furniture by sliding them slowly on upturned carpet.
- DON'T'S
 - Wax the floor.
 - Allow stiletto heels, pebbles or grit on the floor.
 - Use steel wood on the floor.
 - Use soap or detergents or pour water on the floor.
 - Use ammonia based cleaners or extremely wet mops on the floor.

DISCLAIMER

While every attempt has been made to ensure the accuracy of these guidelines, they are intended as a guide only and subject to change as the industry standards change or new products are introduced. They are never intended to replace expert direction. If in doubt, contact the HTL office or local timber



(03) 544 6006 sales@htlgroup.co.nz www.htlgroup.co.nz

SPECIALISED ENGINEERED WOOD PRODUCTS



flooring specialist, ideally a member of the New Zealand Wooden Floor Association. No liability is assumed for reliance on these guidelines.

OTHER REFERENCES

- www.branz.co.nz
- NZ Building Standards NZ3604
- Branz Bulletin 374 Laying timber strip flooring over concrete slabs
- Branz Bulletin 380 Timber internal linings
- Branz Bulletin 390 Laying timber strip flooring over timber joists

Good morning Alice .

I have read through and my only concerns would be the references to HTL if you need any further advice contact the office. Is there anyone on staff qualified to advise in installation?

The other potential issue I see is Kate has done a very good job with all of the information but are we putting too much information in there? Halswell finish their information with

Installing a wood floor is a lot more complicated than it appears. Given the cost of the timber alone - any damage done is not as simple as running to the hardwood store for a replacement piece, the cost of that one replacement piece could run into a few hundred dollars with freight and machine set ups often associated with special runs/orders.

Installing the floor requires specialist tools specifically for timber and it takes a lot of experience to become competent enough to ensure a successful installation. All wooden flooring will need to be on the job site and allowed to acclimatise before the install can begin. This can take up to 3-4 weeks depending on the timber species used. This is a very important part of the installation as the timber flooring needs to reach equilibrium moisture content (EMC) with the job site conditions to ensure a long lasting, high quality installation.

Testing for moisture also requires special tools and the sub floor must also be tested. In addition, you'll need to know how to centre the room, how much space should be left for expansion gaps etc. The sub-floor must be level which often requires special fillers/coating. There must also be a moisture barrier between the sub-floor and timber. Any moisture issues at all will result in damage over long term to the timber flooring.

Installing a wood floor is NOT recommended as a DIY project. It really is a case of doing your homework and ensuring you have found a professional, in the long run it will save you money, time and potential headaches.

The reason I say this is although we cover our collective butts with the disclaimer at the end of the all if the information, I would hate someone to rely on our information and have issues arising from such.



(03) 544 6006 sales@htlgroup.co.nz www.htlgroup.co.nz

SPECIALISED ENGINEERED WOOD PRODUCTS