

HempWood® Engineered Flooring Installation Instructions

IMPORTANT: Read the following instructions entirely before opening packaging or starting the installation.

The installer/owner has the responsibility to determine if the job site's subfloor and environmental conditions are suitable for the installation of engineered flooring. The manufacturer cannot control and is not responsible for site conditions.

Check all boards before installation for visual or structural defects. This product is manufactured in accordance with industry standards which permit a defect tolerance not to exceed 5%. Defects may be either natural or from manufacturing. Where possible defects should be addressed by cutting out and using the boards as cut-offs for the ends of runs.

If there are an excessive number of defective boards they should be set aside. Defects should be notified in writing to the point of purchase retailer of the flooring before installation. Allowing sufficient time for an inspection by the retailer prior to proceeding.

Temperature and humidity control of the space the timber is to be installed in must be maintained year-round. The temperature range should be controlled 60 to 80°F (15 to 25°C). The relative humidity range at all space temperatures must be maintained in the range 35% to 55%. Use humidifiers and/or dehumidifiers to maintain the required humidity range.

The job site must be fully enclosed and the exterior finishing complete. Gutters and downspouts must be in place and sound and all exterior grading should divert water away from the foundation prior to installation. All interior wet trades (i.e. paint, drywall, concrete, tiling, etc.) must be completed prior to installation.

Deliver all material to the job site to acclimate for at least 72 hours or as long as it is necessary to meet the proper requirements prior to installation.

- Store material in the same environment that it is to be installed.
- Do not store material directly on a concrete floor, near windows or vents.
- Material must be checked with a moisture meter to ensure that it is in moisture equilibrium with the job site environment.
- Record all moisture readings.

COLOR VARIATION

Timber is a natural material and variations in color and tone are to be expected. For the optimum finish, mix different colors and tones to create a blended and natural-looking floor.

ACCLIMATION

Ensure that the temperature and humidity control system is operational and the temperature and humidity of the installation area have been established for at least two weeks before installation.

The product in the cartons has been conditioned at a temperature of **65-75 °F** (22C) and 50-60% RH. Allow the material to acclimate for at least 72 hours before installation. Use material from 2 or 3 cartons at a time to ensure a good blend of Color is maintained.

Warning: *Installation and/or location of the engineered flooring in temperature/humidity conditions outside of recommended ranges may result in the floor expanding/contracting which may in turn cause warping/cupping in wet/hot conditions or splitting/cracking in dry/cold conditions. Any sharp increases/decreases in temperature or RH can affect the stability of your product. To ensure a successful installation, please ensure temperature and humidity levels are maintained within the optimum conditions at all times.*

HEATING SEASON-LOW HUMIDITY, DRY. (Drying/shrinking of Floor) All heating methods create dry, low humidity conditions. Humidifiers are recommended to prevent shrinkage or gapping in floors due to seasonal periods of low

humidity outside of recommended parameters. In this environment, the product may contract if humidification is not provided.

NON HEATING SEASON AND COASTAL OR WATERFRONT AREAS- HIGH HUMIDITY, (Swelling of floor) During the non-heating season proper humidity levels should be maintained by using an air conditioner, dehumidifier or by turning on your heating system periodically during the summer months. In this environment the product may expand and peaking may occur if excessive humidity is present for extended periods of time.

Note: Prior to installation, testing should be performed after the HVAC system has been in operation for a minimum of 14 days. Excess moisture on any flooring substrate which is not identified and corrected prior to installation will cause floor covering to fail. Warranties DO NOT cover products installed over improperly prepared subfloors, substrates or environmental related deficiencies.

SUBSTRATE PREPARATION

Site Conditions

- Flooring should be the last item installed for all commercial or domestic applications. All other trades must be completed before the flooring can be installed.
 - Ensure site is thoroughly clean and all debris is removed.
 - The subfloor must be flat (level to maximum variation of 4mm (3/16") over a 3m (10') radius) and structurally sound.
 - All installations require the use of:
 - 1) a suitable vapor barrier to be installed directly on the substrate. Ensure joints overlap by at least 200mm (8"), are taped securely with waterproof tape and are folded up all walls and vertical obstructions by 50mm (2").
- OR:
- 2) a 2mm (3/32") cushion underlay or 2 in 1 underlay is required on top of the vapor barrier. This should be installed by butting the edges together (no overlap) and then taping again. (See sections below for specific requirements).

For Wooden Subfloors

- Check moisture content of the wood subfloor using an invasive wood moisture meter (Delmhorst RDM3 invasive moisture meter is recommended). **If moisture content is over 12%, the manufacturer recommends the engineered flooring not be installed.**
- Check subfloor is dry year-round, has no mold, contaminants and is well secured. Nail or screw every 15cm (6") along joists to avoid squeaking. Rectify if required.
- Check subfloor is level. If not level, sand down high spots and fill low spots with an underlayment patch and allow to dry.
- **Use a vapor barrier (perm rating of greater than or equal to 0.7)** to cover entire installation area.
- Installations also require a 2mm (3/32") cushion underlay or 2 in 1 underlay which is required on top of the vapor barrier. This would be installed by butting the edges together (no overlap) and then taping again.
- DIY installers should confirm the suitability of the timber subfloor and crawl space with an industry professional.

For Concrete Subfloors

- Ensure concrete slab is fully cured and has been thoroughly dried by the HVAC system. For new concrete, the HVAC system will need to operate for about 60 days to remove humidity in the concrete.
- All uneven areas in the subfloor must be filled with cementitious leveling compound (refer to manufacturer's instructions), and ground to conform to minimum requirements of 4mm (3/16") deflection over a 3m (10') radius. The compound must be left to dry completely before installation of the flooring.

- Check moisture content of floor and wall concrete using a Tramex concrete moisture encounter meter 2004, Tramex CRH or Tramex CRM Expert. **If reading is above 4.5, the manufacturer recommends that the engineered flooring should not be installed.**
- **It is the owner/installer's responsibility to ensure the concrete is under 4.5 moisture content before installation.** Warranties DO NOT cover products installed over improperly prepared concrete subfloor where the moisture content is over 4.5. **Important:** Do not install on concrete unless you are sure it stays dry year-round.
- **Use a vapor barrier (perm rating of 0.7 or less)**

Hydronic Floor Heating (if applicable)

- Engineered flooring can only be installed over hydronic radiant heating systems. Electrical heating elements embedded in concrete normally are not suitable as hot spots can develop under the floor.
- The temperature of the floor must be controlled to a maximum of 25°C (77°F).
- The heating system shall be in operation at recommended temperature for at least 7 days prior to installation, shut off 4 hours prior to installation and then returned to operation once installation is complete.
- As heating systems create dry heat, it is essential that the ambient relative humidity in the installation environment be maintained between a range of 35-55% (a humidifier/dehumidifier may assist in maintaining humidity levels).
- Please follow heating system manufacturer's instructions. The owner/installer is responsible for ensuring all the required environmental conditions are met before installation of the Engineered Flooring.

INSTALLATION

Nail Down Installation

- The manufacturer recommends the Husky 3-in-1 floor nailer gun combined with the 18 gauge, 1 ¼ inch cleat. The correct pressure may vary but will work best at about 90 PSI. HempWood is a natural material subject to various factors; installers should always conduct a pre-installation test to ensure the correct pressure and visual appearance before proceeding with the actual flooring work.
- Flooring should be square with the space and perpendicular to the joists. Leave a 12 to 15mm (1/2" to 5/8") expansion space from base plate or wall.
- Starter rows shall be held firmly in place by gluing or blind nailing. Once starter rows are secure, additional rows shall be cleated directly above the tongue at a 45-50 degree angle to the face.
- Ensure cleat head rests cleanly in the "nail" pocket. Cleats shall be placed no closer than 3 inches from the ends of each plank and placed at 6-8 inch intervals.

Floating installation

- Flooring should be square with the space and run perpendicular to the length of the room. Leave a 12 to 15mm (1/2" to 5/8") expansion space from base plate or wall and any other vertical obstruction to maintain 'floating' integrity.
- Good quality waterproof wood glue is recommended for bonding the planks together on all four sides.
- Starter rows shall be held firmly in place by a straight temporary guide board (When fixing this board do not compromise your moisture barrier).
- Check each section regularly for gapping before moving on. Weigh down floor if necessary.
- Allow the completed floor to rest undisturbed.
- Do not allow foot traffic or heavy furniture on floor for minimum of 24 hours before removing the wedges.

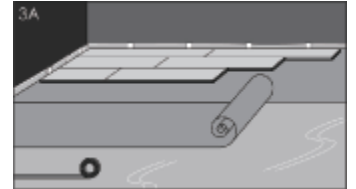
Glue Down Installation

- The manufacturer requires a premium moisture cured urethane adhesive such as Sika T55 or Bostik (or an approved equivalent) to adhere the material to the substrate.
- (Note: SikaBond Adhesives should be applied to Primer MB within a period of 12 to 36 hours. Any application of SikaBond after 36 hours requires that the primer be abraded and solvent wiped.)

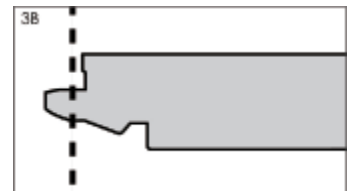
- Flooring should be square with the space and run perpendicular to the joists. Leave a 12 to 15mm (1/2" to 5/8") expansion space from base plate or wall. Starter rows shall be held firmly in place by wedging or blind nailing. Once starter rows are secure, install HempWood® flooring per the adhesive manufacturer's instructions.
- Weigh down floor if necessary.
- Allow the completed floor to rest undisturbed. Do not allow foot traffic or heavy furniture on floor for minimum of 24 hours before removing the wedges.

STEP BY STEP INSTALLATION

1. Install a 2mm (3/32") pad or 2 in 1 underlayment pad; following the manufacturer's instructions over the pre-installed vapor barrier/retarder (see section on sub-floor preparation). Be sure to tape all underpad seams with duct tape. See diagram 3A.



2. Begin the first row with a whole plank. First saw off the tongue on both the long and short side. You will continue to remove the tongue for any machined edge that directly lies against a wall or obstruction. See diagram 3B.

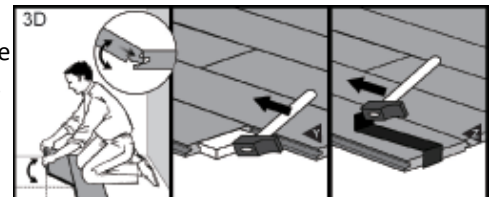


3. Put the plank with sawn off sides against the walls. Put spacers between the planks and wall. This will ensure that your expansion joint is wide enough: 15mm (1/2" to 5/8"). See diagram 3C.



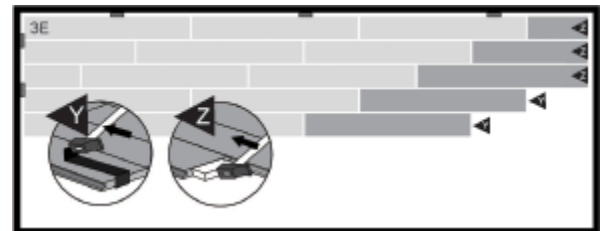
4. Install the board's one plank at a time, making sure to angle the boards correctly and ensure the locking system is fully secured.

5. Use a tapping block to tap the locking system firmly on the side and end of the boards. Where the tongue has been sawn off for the boards next to the wall, use a pull-bar to tap into position. See diagram 3D.



6. Place the planks in a random position and always ensure that the end joints are staggered at least 250mm (10"), this is to provide strength to the combined floor.

7. You can use the left-over pieces (cut-offs) from the first row to start the following row – these must be a minimum of 250mm (10"). See diagram 3E



8. When an entire row has been completed, review the row to ensure there is no gapping and that all locking mechanisms are fully engaged (all planks are perfectly flat). Note: Never hammer planks without using a tapping block or damage to the boards may result.

9. Place a weight (e.g. a carton of planks) on the completed boards to stabilize them. Continue to use this method to install the whole floor.

INSTALLATION TIPS

- Allow for clearance underneath doors. Check that doors will open later by ensuring that the clearance over the substrate is at least the floor thickness plus 8mm (3/16").
- Open a minimum of 3 boxes and blend different shades together for a natural finish.
- Ensure starting line is straight and fixed.
- Stagger end joints of boards from row to row at a minimum of 250mm (10"), to strengthen the entire floor and create a random pattern finish.

- Do not fix, install cabinets or walls on top of the floating floor install these first and cut expansion gaps in the floor around the fixture.
- Because the humidity of a room can vary due to differences between seasons, the floor must be able to expand and contract in all directions. To facilitate this, an expansion space and contraction allowance of 12 to 15mm (1/2" to 5/8") should be provided at all walls of fixed vertical obstructions. I.e. Kitchen islands etc. It may be necessary to add a quarter round to conceal possible gapping.
- Fix baseboards over the moisture barrier. Never fix baseboards to the floor itself, but allow the floor to expand and contract underneath the baseboard.
- **For commercial and higher traffic applications, it is recommended that the Natural Collection & Antique colors be used only.**

FLOORS WIDER THAN 6m (20ft)

On floors wider than 6m (20 ft), intermediate expansion joints may be needed. For more information, contact your local flooring agent or representative.

POST-INSTALLATION PRECAUTIONS

- Never steam mop or wet mop floor surface area EVER.
- Protect floor from scratches arising from furniture and chair feet by means of felt or plastic protector pads.
- Avoid bringing dirt, water and sand from outside by use of a walk-off doormat.
- Make sure there is a controlled humidity in the range of 35-55% at all times in the room, if necessary use a humidifier/ dehumidifier
- Keep nails trimmed on animals.
- Periodically rearrange rugs and furniture to allow even aging of the floor coating Color.
- Use area rugs in high-traffic areas.
- Never use wax, oil, soap or other household cleaners on your floor.
- Do not use plastic films or other non-breathing type coverings as this can cause the floor to become damaged from humidity buildups.
- Due to the unforeseen happening, it is recommended that the owner keeps some spare cartons of flooring sealed and dry in a storage area for possible future board replacement.

MAINTENANCE

- Vacuum or sweep to remove dust and dirt prior to cleaning.
- Use hardwood floor cleaner and maintenance products to keep flooring clean.
- Any mirror scratches or damage can be repaired using a natural almond stick or orange oil.

PRODUCT WARRANTY

1. The manufacturer offers a **10-YR** Limited Structural Warranty on residential and **5-YR** on commercial applications from the date of purchase.
2. The manufacturer offers a **5-YR** Residential Limited Wear Warranty and a **5-YR** Commercial Limited Wear Warranty from the date of purchase
3. The manufacturer will replace defective products only. This warranty excludes all other costs associated with installation of the product.
4. Flooring Warranties DO NOT cover materials with visible defects once they are installed.
5. This warranty applies only if the flooring has been installed according to specific manufacturer's installation guidelines. Any deviations from the guidelines (particularly with regards to subfloor preparation and moisture barrier) will result in a claim being rejected.

For full warranty details including exclusions and claims procedures, please refer to your reseller.