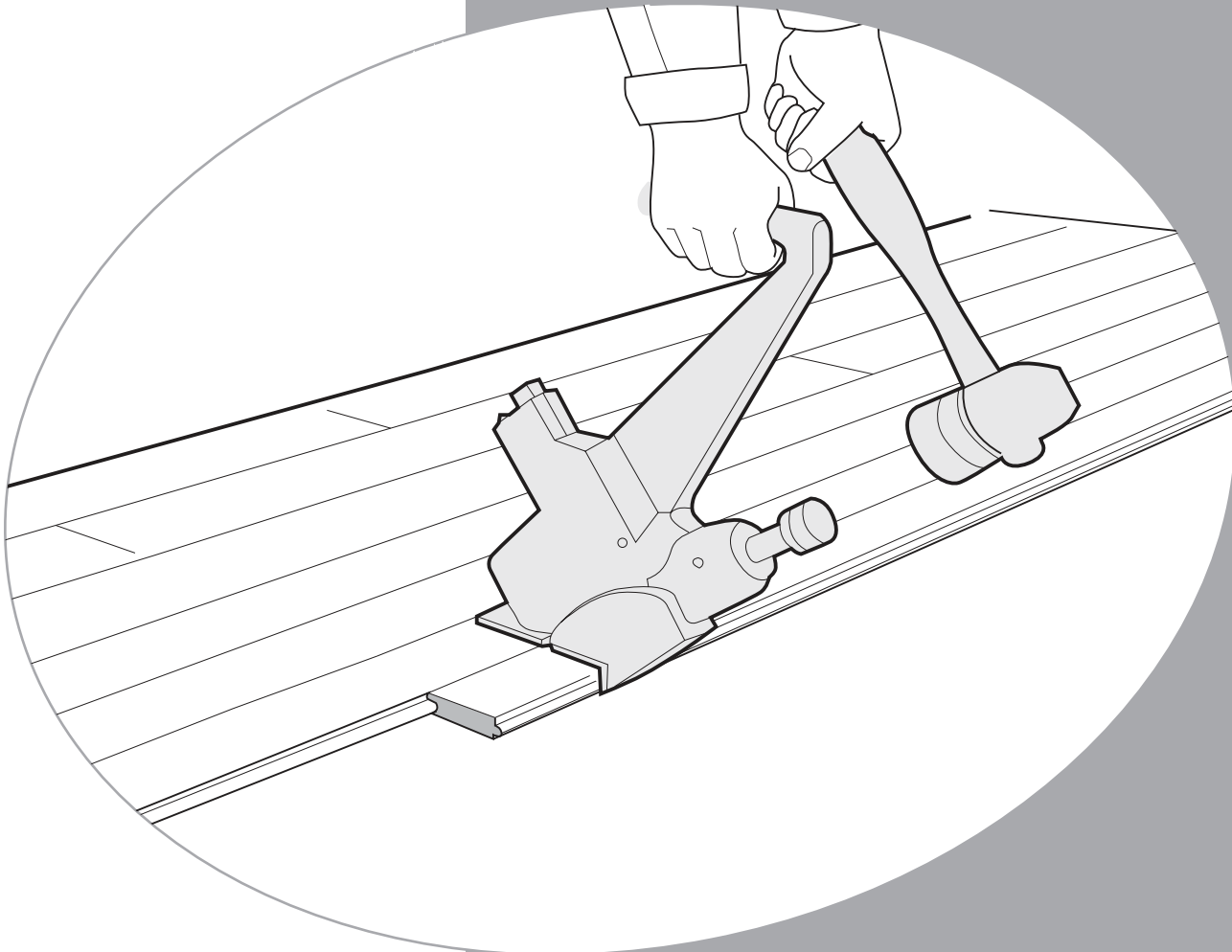


FER·MA®



American & Exotic Collection

Installation Guide Solid Hardwood / Bamboo



INSTALLATION INSTRUCTION FOR SOLID STRIP AND PLANK FLOORING

FERMA WOOD FLOORING ("FERMA") recommends installation by experienced professionals who subscribe to installation standards as set forth by NOFMA, NWFA ...

CAUTION: WOOD DUST

Sawing, sanding or machining of wood products can cause respiratory, eye and skin irritation. The International Agency for Research on Cancer has classified wood dust as a nasal carcinogenic in humans. If using power tools, a dust collector is recommended, as is a dust masks NIOSH approved. Avoid contact with the eyes or skin when in proximity to wood dust. Use of a protective device for the eyes is also recommended.

PURCHASER/INSTALLER RESPONSIBILITY

The purchaser/installer should inspect all of the flooring before installation. Being a natural product, hardwood rarely will be perfect. Industry standards of manufacture allow for grading deficiencies up to 5%. This 5% may be composed of natural or manufacturing deficiencies. The purchaser/installer should carefully examine the flooring for color quality and finish. **DO NOT INSTALL IF THE PRODUCT IS NOT ACCEPTABLE.** Seller should be contacted immediately. Installation of flooring denotes acceptability.

It is noted that stain-putty filler is an accepted part of the installation procedure throughout the industry.

It is the purchaser/installer's responsibility to determine the suitability of the job site environment and sub-surfaces involved. (See below) Installation must follow recommendations of the construction industry and the material's manufacturer as well as local codes. Reference is made to NWFA requirement for minimum job site conditions and substrate requirements.

FERMA declines any responsibility for job failure or non-acceptability from or associated with subfloor/substrates or job site environmental deficiencies.

PRE- INSTALLATION PROCEDURES

- The building should be closed in (doors and windows in place) Paint and masonry work must be dry.
- Basements and crawlspaces must be dry and well ventilated. Crawlspaces must be a minimum of 24" from the ground to bottom of joists. A ground cover of 6-8mil poly should cover the soil in the crawlspace 100%. Seams lapped at least 12" and sealed. Edges should be lapped up the perimeter walls 3"-6" to divert moisture to the outside. This vapor barrier is REQUIRED.
- Perimeter venting is necessary to provide for cross ventilation. Minimum combined venting should be equal to at least 1.5% square feet of the crawlspace or exceed where applicable. Local codes prevail. No dead walls allowed impeding cross flow of air movement.
- The installation site should have at or near environmental living conditions 68F – 72F temperature, 40%-60% relative humidity, prior to, during installation and or until site is occupied. These conditions will allow for acclimation of wood to the proper environmental conditions. Moisture testing is still necessary.
- Solid wood products must be installed on grade or above grade. FERMA does not recommend a solid product be installed below grade.
- Exterior grading must drop at least 3" in 10 feet or according to local codes. All gutters and downspouts must be in place and divert run-off away from structure.
- Flooring must be stored in a clear dry environment. Do not deliver materials to a site that is not environmentally controlled. This means building must be closed in, windows and doors on, all wet work complete, heat air or equivalent environmental controls functioning, temporarily or permanently. Moisture control is necessary for at least 7 days prior to delivery.
- The wood subfloor must NOT exceed 12% moisture content. The difference in moisture content between the subfloor and the hardwood flooring must NOT exceed 4%, preferably 2% for exotic and larger plank. A reliable moisture meter should be used to measure and determine accurate moisture contents.
- Acclimation time for solid wood floor is determined by the moisture content of the subfloor and the wood at time of delivery. Allow flooring to acclimate to subfloor with no more than 4% difference in moisture contents (2% is preferred).
- Exotic woods such as Brazilian Cherry (JATоба) may need longer acclimation period.

RECOMMENDED SUBFLOOR SURFACES

Joist spacing 24" o.c. 7/8" plywood
Joist spacing 19.2" o.c. 3/4" plywood preferred
Joist spacing 19.2" o.c. 23/32" OSB acceptable (Exposure 1)
Joist spacing 16" o.c. 3/4" plywood preferred
Joist spacing 16" o.c. 5/8" plywood minimum

Exterior grade rated panels preferred. Exposure I for OSB rated panels is acceptable. For plywood, CDX APA rated is minimum acceptable.

Use of minimum standards will result in minimum performance of flooring.

SUBFLOORS NOT ACCEPTABLE

Do not install solid wood flooring over particle board, wafer board, pressed wood or fiber board. These products do not have adequate nail holding capacity. Installation over inadequate subflooring will result in poor performance and will void any warranties.

Subfloors must meet industry standards for flatness. Standards are 1/8" in 6' or 3/16" in 10'.

OVER CONCRETE INSTALLATIONS

FERMA does not recommend glue down of solid wood products over concrete.

* Plywood subfloor systems that are attached to concrete must be secured and installed per industry standards.

* Plywood subfloor floating systems are acceptable: minimum 2 layers 5/8" installed at right angles to each other.

* Screed system is acceptable. (For further details, consult NWFA or NOFMA)

A moisture barrier is always recommended over concrete when installing solid wood flooring.

Moisture testing is necessary. A Calcium chloride test is recommended. A result of 3 lbs per 1000sf. in 24 hours is the acceptable, maximum allowable level.

PH testing should also be done. PH 5-9 is satisfactory, 7 is neutral as reading above 9 requires corrective action.

GENERAL INSTALLATION TIPS

- If installing with manual fastening machine, be sure proper adapter plate is used as well as proper length fasteners.
- If using pneumatic fastening machines, be sure to use the proper adapters as well as fasteners. Air pressure settings may have to be adjusted to properly set the fastener used. Failure to observe and regulate pressure could result in severe damage to the flooring tongues.
- 15lb roofing felt tar paper is recommended to be used as a buffer between the subfloor and hardwood flooring.
- Remove any molding, base, thresholds. Reinstall after floor has been installed.
- Longest outside wall is generally used to start. If possible align first rows parallel to starting wall. 3/4" expansion space is required at all vertical surfaces.
- Installation of wood should be perpendicular to joist system. This will assist in maintaining dimensional stability.
- Planks 4" and wider should be glued at end groove with PVA wood glue.
- End joints of adjacent rows should be staggered at least 6" minimum for pleasing appearance.
- Lay out floor avoiding H joints and butt joints, begin installation.
- Nailing schedule should fasten boards 6-8" apart with minimum 2 nails per board. Ends to be nailed 1"-3" from each end.
- Last 2 rows may need to be cut to size and face nailed.
- Putty filling of nail holes is an acceptable part of the installation of hardwood flooring.
- Replacing molding, base, and threshold.

Leave warranty and cleaning instructions with customer. Be sure job site is clean.