



Unfinished Solid Hardwood Flooring Installation Guidelines

This document covers all unfinished solid wood flooring inclusive of plank, herringbone, chevron, and parquets. Please read carefully. Some products (species, widths, and flooring types) are not suitable for some environments and site conditions. Please consult a flooring professional familiar with your environment and site conditions prior to installation. It is always best practice to hire or consult an installation professional that has been certified by the National Wood Flooring Association (NWFA).

Woodworking is inherently dangerous. Please follow all tool manufacturer's safety recommendations, common sense, and industry-standard safety precautions. Warning: drilling, sawing, milling, and sanding wood products produces wood dust, a substance known by the State of California to cause cancer.

PRODUCT SPECIFICATIONS:

Saroyan's standard unfinished solid wood flooring products come in various thicknesses and should be nailed, stapled, or cleated to an appropriate OSB or plywood subfloor. Glued-down installations and installations over radiant heating systems are not recommended or warranted. It is typically an unfinished, tongue and groove, end-matched product available in various length structures. Installing unfinished hardwood flooring requires less time to install (as compared to a factory-finished floor), but will require the additional steps of sanding, staining, and finishing after the installation is complete. It is highly recommended that a trained flooring professional executes the sanding and finishing processes. Saroyan's solid wood flooring is manufactured from natural wood; color, grain pattern, and character will vary from board to board. The installer should take care in the placement of each board to ensure good distribution of lengths and natural variation during the installation. Upon receipt of flooring, the purchaser should document square footage, moisture content, dimensions, milling, and grade. For best results, it is highly recommended that a trained flooring professional executes the preparation, installation, and the entire finishing process.

INSTALLER/OWNER RESPONSIBILITIES:

Hardwood floors are a product of nature; therefore, they will show variations in color, grain pattern, and natural character. These wood floors are manufactured in accordance with accepted NWFA standards, which permit a defect tolerance not to exceed 5%. The defects may be of a manufacturing or natural type.

- The installer assumes all responsibility for final inspection of the product's quality. This inspection of the flooring must be done before installation. Carefully examine flooring for color, grade, milling, dimensions, and overall quality before installing it. If there are questions of acceptability, contact the seller immediately and cease installation.



- Prior to installation of any hardwood flooring product, the installer must determine that the job/site environment and the subfloor involved meet or exceed all standards as stipulated in the installation guidelines as well as guidelines provided by the National Wood Flooring Association (NWFA) ([Technical Guidelines | NWFA](#)).
- Saroyan accepts no responsibility for product failure resulting from subfloor or job site environmental deficiencies.
- Installation is deemed acceptance of the product; thus, no claims will be honored.
- The use of filler or putty during installation should be accepted as normal procedure.
- When flooring is ordered, it is important to account for overages needed from losses due to cutting, grading, and installation. For installations with islands, irregular perimeter walls, flooring run on a diagonal, or parquet flooring; it is suggested that you ask your supplier for a cutting allowance on these or other unique installations. Since Saroyan flooring is made to order, needing to order additional material later will delay your project and potentially result in a wood shade mismatch.
- Should an individual piece be doubtful as to grade or manufacturing tolerance, the installer should not use the piece.
- Saroyan accepts no responsibility for product failures resulting from post-installation sanding, staining, or finishing.

PRE-INSTALLATION PROCEDURES — Job Site Inspection:

- Hardwood flooring should be one of the last products installed on a job. All work involving moisture (concrete, plumbing, acoustical ceilings, drywall taping, painting, stone or tile installations, etc.) should be completed prior to installation. This product can be installed on or above grade only.
- Glue-down and floating installations are not warranted with any Saroyan solid wood flooring product.
- Installations in structures that have planters attached to adjoining walls require that not only the floor, but all surfaces must match the moisture guidelines mentioned below.
- All gutters and downspouts must be in place. Exterior grading must be complete with surface drainage directing water away from the building.
- The building must be sealed with all outside doors and windows in place.
- Basements and crawl spaces must be dry and well ventilated in accordance with NWFA guidelines ([Technical Guidelines | NWFA](#)). Black six mil. plastic is required to cover soil in a crawl space.
- Subfloor must be checked for moisture content using a calibrated moisture meter or calcium chloride test.
- Permanent air conditioning and heating systems must be in place and operational. The installation site should maintain a room temperature of 60°- 80° F and relative humidity



of 35% to 55% for 14 days prior to installation, during installation, and until occupied, to allow for proper acclimation of the flooring product and system.

- Flooring must be kept inside, placed in the room of installation, and allowed to acclimate prior to installation. Acclimation time will vary depending on site conditions and can range from days to weeks. See current NWFA guidelines ([Technical Guidelines | NWFA](#)). A maximum of 2% difference in moisture content between flooring and subfloor is required (4% for products <3") for installation.

PRE-INSTALLATION PROCEDURES — Subfloor Guidelines and Preparation:

All subfloors and subfloor systems must be structurally sound and must be installed following their manufacturer's recommendations. Saroyan warranties do not cover any problems caused by inadequate substructures or improper installation of said substructures. See NWFA guidelines for details ([Technical Guidelines | NWFA](#)).

ACCEPTABLE SUBSTRATES

- Appropriate OSB (23/32") or plywood (3/4") subfloors. These subfloors must be suitable, and rated for, all wood floor installations. When installing an approved subfloor, refer to specific structural panel and manufacturer's instructions for joist spacing and nailing requirements.
- Existing wood flooring. Install product at 90° to existing plank long axes.

Direct to concrete installation is not recommended and will not be warranted. Saroyan recommends engineered hardwood flooring for these installations. Solid hardwood flooring may be installed over concrete in conjunction with a properly installed plywood subfloor between the flooring and concrete. See NWFA guidelines for details ([Technical Guidelines | NWFA](#)).

SUBFLOOR INSPECTION

- **LEVEL/FLAT** - Within 1/4" in 10' span and/or 3/16" in 6' span. Sand high areas or joints. Low areas can be filled with a recommended leveling compound for wood subfloors. Subfloor irregularities and undulation may cause wood flooring to become difficult to install.
- **STRUCTURALLY SOUND** - On wood subfloors, nail or screw any loose areas that squeak. Replace any water-damaged or compromised subflooring or underlayment. The subfloor should also stay clean and free of debris that would interfere in the installation.
- **DRY** - Moisture content of OSB or plywood subfloor must not exceed 13% on a calibrated wood moisture meter or read more than a 2% difference than moisture level of the product being installed (4% for products <3" wide).

SUBFLOOR DETAILS



Make sure subfloor is dry and well fastened per manufacturer's recommendations to avoid squeaking or popping before the floor is installed. Level any raised subfloor panel edge joints by sanding. When installing over existing wood floors, install the new flooring at a 90° angle to the existing plank long axes. Moisture content of wood subfloors should meet NWFA guidelines ([Technical Guidelines | NWFA](#)). In general, wood subfloors should not exceed 13% moisture content. When measured, the difference in moisture content between the wood flooring and the wood subfloor cannot exceed 2% (if product is <3" a 4% difference is acceptable). It is best practice to take moisture readings in a minimum of 20 locations for up to the first 1,000 SF and an additional 4 readings per 100 SF thereafter (average results).

FINAL ROOM PREPARATIONS

As part of your subfloor preparation, remove any existing base molding, quarter round/shoe molding or transitional moldings. These items can be replaced after installation of the floor. All door casings and jambs should be notched out or undercut to allow for proper expansion space for the floor.

NAIL, STAPLE, AND CLEAT INSTALLATION

TOOLS AND ACCESSORIES NEEDED FOR INSTALLATION:

- Appropriate personal protective equipment
- Fastening gun (pneumatic or manual; use fasteners recommended by manufacturer)
- Power saw
- Chalk line
- Tapping block
- Pull bar
- Finish nails and hammer
- Calibrated moisture meter
- Urethane or silane-based flooring adhesive cartridges and caulk gun (for glue assist on products 5"+ in width)
- Broom and vacuum

STEP 1: SUBFLOOR TREATMENT & ACCLIMATION

If subfloor moisture content is above the allowable limit or the moisture content difference between the wood flooring and the wood subfloor is outside the allowable range, mitigate the wood subfloor moisture content ([Technical Guidelines | NWFA](#)). If the wood flooring moisture content does not match the intended in-use conditions, the solid wood flooring must be acclimated to the environment prior to installation ([Technical Guidelines | NWFA](#)).

STEP 2: SET UP EQUIPMENT



Inspect all equipment prior to use. Test on scrap material first. When used improperly, mechanical fasteners can damage flooring. Parts of the equipment that engage the plank must not have any exposed sharp edges that can scratch or damage the flooring. Make sure the fastening gun's adapter(s) seat properly to the tongue of the flooring. Only use the tool manufacturer's recommended staples, nails, or cleats for installing solid wood flooring. Use a minimum nail, staple, or cleat length of 1 ½" (for ¾" thick products). Make sure the pressure is set according to manufacturer's recommendations.

STEP 3: RACKING THE FLOOR

Rack, or lay out, the flooring to achieve best results for visual acceptability prior to installation. While racking the floor, be sure to evenly distribute lengths, color variation, character, and other variables throughout the installation. Also, be sure that end joints in adjacent rows are offset by twice the width of the flooring product (i.e., if installing a 5" wide product, offset all end joints by a minimum of 10").

STEP 4: MARKING YOUR STARTING LINE

It is recommended to install your plank flooring parallel to the longest, straightest, continuous line in the room. If this line is not an outside wall, layouts for starting lines can be found at [Technical Guidelines | NWFA](#). Alternatively, layouts and installation guidelines for products such as herringbone, chevron, and parquet can be found at [Technical Guidelines | NWFA](#). When starting from a wall, a gap should be left between the first row of engineered wood flooring and the wall, door jambs, and any other stationary/fixed surface to account for potential expansion. The width of the expansion gap should equal the thickness of the finished wood flooring being installed. For example, if a ¾" thick flooring product is being installed, a ¾" gap should be left between the first row of flooring and the wall. Using this guidance, measure out from wall 4 ¾" for 4" products, 6 ¾" for 6" products, etc., and snap a chalk line parallel to the wall. Starter blocks of finished flooring may be inserted between the wall and the first row to prevent movement and maintain gap spacing as the rest of the flooring is being installed.

STEP 5: LAYOUT STARTER ROW

Lay one row of plank along the entire length of the working line. Place groove edge of flooring toward the starting wall. Use finish nails for top nailing the edge closest to the wall. Nail, staple, or cleat the tongue edge of the flooring in the normal manner. Space fasteners at 6" to 8" apart. Saroyan always recommends glue assist. The glue assist requires applying a ¼" bead of adhesive in a serpentine pattern to the back of each plank or on the subfloor before nailing, stapling, or cleating.

STEP 6: INSTALLING THE FIELD FLOORING

Continue installing each additional row of flooring, maintaining proper pattern repeat. Distribute lengths to avoid "H" patterns and end joints less than 8" in adjacent runs. A random mix of plank variability is suggested to enhance the natural beauty of the floor and should be addressed



through proper racking (described in Step 2). If installing using glue assist, apply a 1/4" bead of flooring adhesive in a serpentine pattern to the back of each plank or to the subfloor. Always use a tapping block to gently tap against the tongue to seat the joints (tapping the groove may damage the surface or edge). Insert fasteners through the tongue on a 45° angle using the proper adapter. Install the fasteners no further than 1" from the end of each board and 6" to 8" on center. Be sure to leave the proper 3/4" expansion space at all vertical obstacles. Keep the flooring clean of dust and debris during installation.

STEP 7: FINAL ROW INSTALLATION

When the far wall is achieved, flooring may have to be cut to width to fit the final row to the wall. Be sure to leave the proper gap (equaling the finished product thickness) between the last row and the wall. Use a pull bar to snug the last row of planks with the completed second to last row. For wood subfloors, face nailing close to the wall is needed to secure the last row of flooring.

STEP 8: COMPLETE THE JOB

Fill any remaining nail holes and other open character. Install any transition pieces that may be needed prior to finishing. Sand and finish the floor. Install your base and other moldings. Be certain to nail moldings into the wall, not the floor.

STEP 9: PROTECTING THE NEW INSTALLATION

To prevent surface damage, be sure that the floor is free of dust particles and other debris which can scratch, gouge, or indent the surface when walked on. It is recommended to cover the floor with rosin paper both before and after finishing. If heavy trades will be occupying the home, we recommend that plywood, Masonite, or Ram Board™ be placed on top of rosin paper to prevent the floor from being damaged. Never use plastic or polyethylene sheeting.

GLUE DOWN INSTALLATION

Saroyan does not recommend unfinished solid hardwood flooring for glue-down installations. Glue-down installations of unfinished solid hardwood flooring void all warranties.

INSTALLATION OVER RADIANT HEATING SYSTEMS

Saroyan does not recommend unfinished solid hardwood flooring installations over radiant heating systems. Installing unfinished solid hardwood flooring over radiant heating systems void all warranties.