

Installation Instruction

Solid Hardwood Flooring

Congratulations on the purchase of your new floor. We thank you for your excellent selection of a Twelve Oaks product that is designed to offer you years of use and enjoyment.

Twelve Oaks Solid Hardwood floors can be installed above, and on grade only. Conditions apply.

IMPORTANT

- To ensure that your floor is installed properly, Twelve Oaks requires that you **CAREFULLY READ AND FOLLOW** the installation instructions **BEFORE** you or a hired authorized professional install Twelve Oaks products. **FAILURE TO DO SO WILL VOID YOUR PRODUCT WARRANTY.**
- It is the **INSTALLER/OWNERS' RESPONSIBILITY** to inspect all material carefully **BEFORE** installation, and ensure the product match what has been ordered/chosen. If you have any doubts or concerns in regards to the quality of Twelve Oaks flooring products, report to your retailer **BEFORE** installation. **INSTALLATION IMPLIES ACCEPTANCE. NO CLAIM AGAINST MATERIAL OR LABOR WILL BE ACCEPTED BY TWELVE OAKS ONCE THE MATERIAL IS LAID OR INSTALLED.**
- It is the **INSTALLER/OWNERS' RESPONSIBILITY** to ensure the job-site, the ambient, and the sub-surfaces conditions **MEET** all of Twelve Oaks' requirements.
- Wood is a **NATURAL** product containing natural variations in color and grain configurations. Twelve Oaks hardwood floors meet the industry standards, which permits up to 5% of grading deficiencies. A 5% material waste allowance should be included within your total square footage (10% for diagonal installation is suggested)
- The selection of mechanical fasteners, such as nailer/stapler, varies by manufacturers. It is the **INSTALLER'S LIABILITY** to ensure that tools are properly set. Dimpling of the wood face, as a result of improper setting is **NOT** considered a manufacturing defect. It is recommended to test on a couple of pieces before full install. Particularly in installations of 90 degrees to outside walls, dimpling could be very apparent under direct sunlight
- Crawlspace or basement has to be cross-ventilated, and covered entirely with proper vapor barriers (minimum 6 mil black polyethylene), in accordance with NWFA Installation Guidelines.

TOOLS

Basic tools and accessories: broom/vacuum, chalk line, tapping block, wood flooring surface cleaner, hand or electric jam saw, miter saw, wood/concrete moisture meter, safety wear, straight edge, table saw, tape measure, square, utility knife, pry bar, proper fastener, with the nailer/staplers set for the specific plank thickness

SAFETY - EXISTING FLOOR

Do not mechanically chip or pulverize existing resilient flooring, backing, lining felt, asphaltic "cutback" adhesives or other adhesives. These products may contain either asbestos fiber and/or crystalline silica. Inhaling such dust is a cancer and respiratory tract hazard. Always follow local health and safety regulations.

STORAGE AND HANDLING

It is important to not transport flooring product under raining and/or damp conditions. Handle and unload flooring product with care, and store in a dry and well ventilated place, being sure to provide at least a 4" (10 cm) air space under cartons. Flooring shall not be delivered until the building has been enclosed with windows, doors are in place, and cement work, plastering and all other "wet" work are completed and dry. HVAC systems must be in place and in operation at least 14 days prior, during and after installation of the flooring.

JOBSITE CONDITION & PRE-INSTALLATION REQUIREMENT

Exterior grading must be completed with surface drainage offering a minimum drop of 3" in 10' (7.6cm in 3m) to direct flow of water away from the building. All gutters and drainage spouts must be in place. The soil around the house must be treated or graded to provide sufficient drainage.

Do **NOT** install hardwood floors in areas exposed to excessive moisture. Acclimatize the hardwood flooring products on jobsite. Material is acclimated once it has reached moisture equilibrium consistent with the ambient temperature and relative humidity of the job site conditions listed below.

It is required to maintain the relative humidity level where floor is installed at between **35% and 55%**, and room temperature be consistently kept at **65-80°F (18-27°C)**. These ambient conditions are specified as pre-installation requirements and must be maintained for the life of the solid hardwood floor, or warranty will become void.

SUBFLOOR CONDITIONS AND INSPECTION

Twelve Oaks hardwood floors are designed to perform on

concrete, plywood, or O.S.B. subfloors.

IMPORTANT

- Installer/owner is responsible for determining if the jobsite, subfloor, other conditions are environmentally and structurally acceptable for wood floor installation. Twelve Oaks declines any responsibility for product failure resulting from or connected with subfloors, subsurface, jobsite damage or deficiencies after floors have been installed.
- Wall to wall carpeting must be removed before installing your new hardwood floor

1) STRUCTURALLY SOUND

Nail or screw down the subfloor (plywood or OSB) if there are any loose areas; otherwise, hardwood that are glued or nailed to the subfloor may squeak. It is recommended to install hardwood floor over plywood, CDX and/or concrete. Replace any water-damaged, swollen or delaminated subfloor/underlayment.

2) LEVEL & FLAT

Avoid subfloors with excessive vertical movement. Using a straight edge or level, check to ensure the subfloors is within **3/16" in 10' radius** (5mm in 3m) or 1/8" in 6' radius (3mm in 2m). Use a cement leveling compound that has strength no lower than 3000 p.s.i. to patch/fill any low areas. Follow the cement leveling compound manufacturer's instruction to avoid overfill in deep voids.

3) CLEAN

Inspect to ensure the subfloor is free of any imperfections. Sweep or vacuum thoroughly to make sure there is no wax, paint spills, oil, debris, or anything that could impede adhesion to the subfloor.

4) DRY

Conduct appropriate moisture test from several different areas of the subfloors and record readings. Subfloor moisture content must not exceed 4% for concrete or 12% for plywood/OSB. It is the responsibility of the installer/owner to verify and ensure the moisture contents are within the requirements prior to installation.

Subfloors

PLYWOOD:

3/4" (19mm) CDX plywood subfloor is preferred, but minimum thickness of 5/8" is required.

O.S.B.:

3/4" OR 23/32" stamped exterior grade is approved. Install hardwood at 90 degree angle to joists only.

CONCRETE:

Allow a minimum of 60 days for new concrete to cure before installation. If moisture reading exceeds 4% from concrete moisture test, a calcium chloride test must be conducted to verify if moisture level exceeds 3 lbs /1000 sf. /24 hrs.

The following tests are required for commercial application. Both tests should be performance prior to installation.

- Calcium Chloride Test (ASTM F1869): Moisture less than 3 lbs/1000 sf./24 hrs.
- Relative Humidity Level in concrete using In-situ Probes (ASTM F2170-02): Not exceeding 75%

RADIANT HEAT

Twelve Oaks solid hardwood floor is not to be installed over radiant heating systems. Failure to comply will void any warranty.

PREPARATION

Remove existing carpet, baseboards, moldings (if applicable), wall-base, and thresholds. Undercut all door castings with a hand or power jam saw using a scrap piece of floor plank as a guide. Ensure doors can still open and close after installing the floor (leave a minimum of 3/8" or 1cm clearance).

Install moisture retardant parallel to the flooring. Overlap the rows by 6", on the same side as the groove of floors. Staple the moisture retardant material in place when necessary.

When installing wood floor with natural variations, be sure to blend the planks from several cartons to ensure a good mixture of grain and shading throughout the install. Always stagger planks 8" between end joints of adjacent plank rows for aesthetic and structural stability purposes. Avoid "H" patterns and other discernible patterns in adjacent rows. Discard any pieces shorter than 8" at the end of any row.

Sufficient expansion gaps (13mm or 1/2") must be always respected between flooring and any vertical rise.

Do not allow foot traffic or heavy furniture on newly installed solid hardwood floor for at least 24 hours.

STAPLE/NAIL DOWN INSTALLATION

IMPORTANT

- The selection of nailers/staplers varies by manufacturers. Therefore, it is the installer's liability to ensure depth gauge is appropriate for the thickness of

the flooring. Dimpling as a result of improper setup is NOT considered a manufacturing defect. It is recommended to test a couple of pieces beforehand.

- It is recommended to run hardwood planks perpendicular to the joist (at 90°)
- The expansion space required along the perimeter of the install area coincides with the thickness of hardwood plank. For instance, ½" thick plank requires ½" expansion space; and ¾" thick plank requires ¾" expansion space.

Step 1: Install planks parallel to the exterior wall, which is usually the longest and straights. Place the tongue side on the chalk line and the groove side facing the exterior wall. Ensure the first row exactly align with the chalk line.

Step 2: Blind nail on a 45° angle into plank's tongue at approximately every 4-6" interval. Complete the entire first row along the chalk line, and check to ensure that you can maneuver your nailer without hitting any walls/objects. A second row of blind nailing may be required. Do not face nail on the second row.

Step 3: Nail/staple planks at 4"-6" interval and 1" on both ends. Install the rest of the space in the same manner. If it is necessary to finish with a narrow width plank (not full width), measure and cut planks on a table saw. Be sure to leave appropriate expansion space.

Step 4: Remove expansion spacers. Reinstall base and/or quarter round moldings to cover the expansion space.