



Installation Instructions T & G Prefinished Engineered Wood Tiles

PLEASE READ THE ENTIRE INSTALLATION INSTRUCTIONS BEFORE PROCEEDING WITH THE ACTUAL INSTALLATION

OWNER / INSTALLER RESPONSIBILITY

- Hardwood flooring is a product of nature, which is characterized by distinctive natural variations in grain and color and are not considered flaws. This hardwood flooring is manufactured in accordance with accepted industry standards, which permit a grading defect tolerance not to exceed 5%. The defects may be of a manufacturing or natural type.
- The owner/installer assumes all responsibility for final inspection of product quality. This inspection of all flooring should be done **before** installation. Carefully examine the flooring for color, factory finish, grade, and quality before installing it. Do not install (or cut off) pieces with glaring defects whatever the cause. If material is not acceptable, contact your distributor or dealer immediately before installation. Installation implies acceptance. No warranty will be offered for material with visible defects once the product is installed.
- Before beginning the installation of any hardwood flooring product, the installer must determine that the environment of the job site and the condition and type of the sub floor involved is acceptable, insuring that it meets or exceeds all requirements, which are, stipulated in the installation instructions which follow. The manufacturer declines any responsibility for job failure resulting from or associated with inappropriate or improperly prepared sub floors or job site environment deficiencies.
- The use of stain, filler, or putty stick for the correction of defects, small cracks, or face nail holes during installation should be accepted as normal procedure.
- When ordering, 12-15% must be added to the actual square footage amount needed for grading and cutting allowances.
- We strongly recommend that you visit the NWFA website at woodfloors.org/consumer for installation help and maintenance tips.

JOB SITE INSPECTION & ACCLIMATION

- In new construction, hardwood flooring should be one of the last items installed. All work involving water or potential ground debris (plumbing, dry wall, etc.) should be completed prior to wood flooring being installed. Heating and air systems should be fully operating, maintaining a consistent room temperature at 60-80° F and a constant relative humidity of 35-55%.
- Flooring should not be delivered until the building has been closed in and cement work, plastering, painting, and other materials are completely dry. New concrete and plaster should be cured and at least 60 to 90 days old.
- Check basements and under floor crawl space to be sure that they are dry and well ventilated to avoid damage caused by moisture. Crawl spaces must have a black polyurethane film as a vapor barrier.
- Flooring should be at the job site at least 48 hours prior to installation. **Do not open cartons until ready to install as engineered floor does not need to acclimate.**

- Handle with care. Do not stand on ends. Store flooring in a dry place, being sure to provide at least a four-inch air space on or around cartons.
- Do not store directly upon on grade concrete or next to outside walls. Cartons should be placed in the installation area.
- The installation site should have consistent room temperature of 60°-80° F and a constant relative humidity level of 35-55% for a minimum of 5 days prior to installation of any flooring product.
- Engineered flooring is for below grade, on grade or above grade installation only and **cannot** be installed in full bathrooms or other high moisture areas.
- This product is NOT Radiant heat approved since it CANNOT be floated.

SUB FLOOR PREPARATION

APPROVED SUB FLOOR TYPES:

- 1) Agency approved 5/8" (19/32") minimum thickness or 3/4" (23/32") CDX Exposure 1 plywood 16" on center floor joists properly nailed.
- 2) Agency approved 3/4" (23/32") underlayment grade OSB Exposure 1 16" center floor joists properly nailed.

Note: When installing approved plywood or OSB, refer to specific structural panel manufacturer's instructions for fastening and spacing.

- 3) Agency approved underlayment grade particleboard.
- 4) Existing wood floors (installed at right angle only).
- 5) Concrete Slab
- 6) Resilient tile, sheet vinyl, and ceramic tile only over an above mentioned and approved sub floor.

SUB FLOORS MUST BE:

- **CLEAN** - Scraped or sanded, swept, free of wax, grease, paint, oil, previous or existing glues or adhesives, and other debris
- **SMOOTH/FLAT** - Within 1/8" on 6' radius. Sand high areas or joints, fill low areas (no more than 1/8") with a cement type filler no less than 3000 p.s.i. Any irregularities may cause hollow spots between the flooring and sub floor in any installation method and are not warranted.
- **STRUCTURALLY SOUND** - Nail or screw any loose areas that squeak. Replace any delaminated or damaged sub flooring or underlayment.
- **DRY** - Moisture content of sub floor **must not** exceed 14% prior to installation of wood flooring. All moisture testing must be before wood has been acclimated 48 hours and job site requirements met.

WOOD SUBSTRATES: Test the moisture of the wood substrate using a calibrated moisture meter approved for testing wood moisture according to the meter manufacturer. The reading should not exceed 14%, or read more than a 4% difference than moisture content of products being installed.

CONCRETE SLABS (regardless of existing floor covering): All concrete sub floors must be tested for moisture content prior to installation of the hardwood flooring. The moisture content of the concrete sub floor must not exceed 3 lbs. /100 sq. ft. emissions

Below are methods to test to indicate moisture is present in the concrete sub floor:



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- 1) Use an approved calibrated concrete moisture meter (such as Delmhorst Moisture Meter Model G or Tramex Concrete Encounter) as a preliminary measurement for moisture. Follow manufacturer's specific calibration requirements.
- 2) Perform a polyfilm test. Tape down 2' x 2' polyfilm squares (a clear garbage bag or plastic drop cloth will do) in several places on the floor. Wait 24-48 hours, and then check for the appearance of condensation on the inside of the bag or plastic for a darkening on the concrete sub floor. Either occurrence signals the likely presence of excess moisture, requiring a mandatory calcium chloride test.
- 3) Once you have determined the moisture content and that moisture is present a calcium chloride and pH alkalinity test **must** be performed to determine the moisture emissions through the concrete slab of the moisture and alkalinity in the concrete floor.
 - Perform a calcium chloride test according to the manufacturer's instructions. The maximum acceptable reading is 3-lbs. /24 hours/1000 sq. ft. for moisture emissions.
 - Perform a pH alkalinity test according to the manufacturer's instructions. A pH reading of 6-9 on a pH number scale of 1-14 is acceptable.
 - If the test results exceed this number the concrete slab should be sealed with appropriate sealers to correct those emissions as per the manufacturer's recommendations.

Note: If excessive moisture is present or anticipated, use a moisture retardant system of inexpensive sheet vinyl/slip sheet to reduce vapor intrusion.

Note: If a sub floor has been flooded or rained upon, it may not be suitable to install flooring.

INSTALLATION on WOOD SUBSTRATE:

Note: Do not use the staple or nail down installation method on underlayment grade particleboard

Sub floor should be constructed of 5/8" (19/32") or thicker plywood or 3/4" (23/32") OSB when installing directly over minimum 2 x 10 floor joists 16" on center. For up to 19.2" on center 3/4" (23/32") plywood or OSB should be used. For 19.2" to 24" on center 7/8" plywood or OSB should be used. Structural Panels must be installed sealed side down. Plywood sheets should be laid with grained outer plies at right angles to joists; adjacent rows staggered four feet and nailed every 6" along each joist with 7D or larger nails. When installing directly over old wood or strip floor, sand any high spots, re-nail old floor to eliminate squeaks or loose boards, and install new planks at right angle (perpendicular) to the old floor, or overlay old floor with 1/4" plywood underlayment. Leave a 1/8" gap at the edges and nail with 7D or larger nails every 6" at the edges and every 12" in both directions and through the interior of each sheet of plywood. Edge swell should be flattened. The moisture content of the wood or plywood should not exceed 14%.

INSTALLATION on CONCRETE SLABS:

All concrete sub floors should be tested for moisture content. New concrete slabs require a minimum of 60 days curing time before installation. Concrete sub floors must be free of existing adhesives, grease, oil, dirt, and curing compound. These may be removed chemically or mechanically, but do not do not use

a solvent based stripper. The residual solvents can prohibit satisfactory bond of floor adhesives, the concrete, and the flooring. To ensure a lasting bond make sure the perimeter of the foundation has adequate drainage and vapor barrier. Apply a liquid based moisture vapor barrier coating to the subfloor. Over concrete use only concrete moisture sealer systems that are specifically designed for moisture suppression and adhesive bonding properties. Follow manufacturer's guidelines and recommendations. The underlying floor must be permanently dry and protected against moisture.

If this requirement is not met, the planks can swell, shrink and warp and may void the warranty.

INSTALLATION on SUB-FLOORS OTHER THAN WOOD OR CONCRETE:

Do not install over carpets.

Note: Perimeter glued resilient vinyl and rubber tiles are unacceptable underlayments and must be removed.

Terrazzo, marble, tile and any other hard surfaces that are well bonded to sub floor, dry, structurally sound and level, as described above, are suitable as a sub floor for this engineered hardwood flooring installation. As above, the surface must be sound, tight, and free of paint, oil, existing adhesives, sealers, wax, grease, and dirt. Terrazzo, marble and ceramic tile must be scuffed to assure adhesion.

The flooring can be glued over full spread permanently bonded acoustical cork. Density should be 11.4 lb. / cubic ft. and installed according to cork manufacturer's recommendations.

WARNING! Do not sand existing resilient tile, sheet flooring, backing, or felt linings. These products may contain asbestos fibers that are not readily identifiable. Inhalation of asbestos dust can cause asbestosis or other serious bodily harm. Check with local, state, and federal laws for handling hazardous material before attempting the removal of these floors.

JOB SITE PREPARATION

- Verify floor is level and structurally sound. Repair as needed. Sub floor irregularities may cause any wood flooring installation to develop hollow spots between the flooring and the sub floor. These are not the result of any manufacturing defect.
- Undercut door casings
- Remove any existing wall base, shoe molding, quarter round or doorway thresholds
- Regardless of the installation method all floors should be racked.

REQUIRED TOOLS AND ACCESSORIES

- * Tape Measure
- * Moisture Meter (wood / concrete)
- * Mallet (light colored)
- * Circular or Hand Saw
- * Miter or Table Saw
- * Pry Bar
- * Drill with 1/16" bit
- * Tapping Block
- * Chalk Line and Chalk
- * Hammer



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- * Safety Equipment (Goggles & Mask)
- * Utility Knife
- * 3/8 "or 1/2" Spacers
- * Hardwood Flooring Cleaner
- * Tongue and Groove Flooring Adhesive
- * Broom

APPROVED SUB FLOOR: All sub floors should be covered with either a 3 in 1 Underlayment or an approved 1/8" thick closed cell foam underlayment. When using a 1/8" thick closed cell foam underlayment over a concrete sub floor, you must also use a 6 or 8 mil polyethylene film which acts as a vapor barrier.

• Step 1

Mark the center of each wall and draw a straight chalk line connecting the opposing walls. The intersection indicates the start point. Ensure that the layout lines are perfectly square to each other, otherwise the pattern will not look correct.

Based on the pattern & use of planks/tiles, calculate if the layout will leave slivers at the perimeter. If so, move just one or both of lines approximately 3" to accommodate proper amounts of tile/plank on the edge.

• Step 2

Spread adhesive over one section of the floor at a time using a notched trowel. Follow directions regarding spread rate and drying time from adhesive manufacturer. Angle the tile at 45 degrees and align the tongues and grooves of the bordering tiles/planks. Firmly press each tile into the adhesive. A rubber mallet may be used to tap into place.

Repeat for remainder of floor. Border pieces may need to be cut to ensure proper fit and 1/2" expansion gap next to walls.

• Step 3

Three to four hours after installation, use a 150 lbs floor roller to ensure proper adhesion between glue and tile and subfloor.

Airborne wood dust may cause lung, upper respiratory tract, and eye and skin irritations. Some wood species may cause dermatitis and /or respiratory allergic reactions. The International Agency for Research on Cancer (IARC) has classified wood dust as a nasal carcinogen in humans. Wood dust can also cause a flammable or explosive hazard

Precautionary measures:

- Recover dust for disposal. Sweep or vacuum dust for disposal or if power tools are used equip them with a dust collector.
- Avoid dust contact with an ignition source
- Avoid prolonged or repeated breathing of wood dust in air. If there are high levels of dust then use an NIOSH- designated dust mask.
- Avoid dust contact with eyes and skin

First Aid Measures:

- If inhaled, move to fresh air. In case of contact flush eyes and skin with water. If irritation persists, call a physician.

Please contact your dealer or distributor to request a Material Safety Data Sheet (MSDS)

IMPORTANT NOTE: The information and data above is based on the experience of occupational health and safety professional. It comes from sources believed to be accurate and otherwise technically current. It is the user's responsibility to determine if this information is suitable for specific application and to follow any necessary safety precautions.

CARE GUIDE

CLEANING YOUR FLOOR

- Use a damp cloth to blot up spills and spots as soon as they happen. For tough spots such as oil, paint, markers, lipstick, ink, tar or cigarette marks, use acetone/nail polish remover then wipe with a damp cloth. Always avoid allowing liquids to stand on your floor.
- Vacuum, (using the hard floor attachment not the beater bar), dust mop or sweep the floor to minimize abrasive grit , debris, and dirt
- Occasionally wipe the floor with a damp mop or cloth
- Periodically clean the floor with a hardwood flooring cleaner, which is specially formulated for the finish. We recommend Bona Swedish Formula Hardwood Cleaner.
- **Do not** use oil based, wax, and polish, strong ammoniated or abrasive cleaners, steel wool or scouring powder to clean the floor.
- **Do not** wash or wet-mop the floor with soap, water, oil soap detergent or any other liquid cleaning material. This could cause swelling warping, delamination and joint-line separation, and void the warranty.
- Do not use any type of buffing machine.

PROTECTING YOUR FLOOR

- Use quality area rugs and doormats by outdoor entrance areas to prevent dirt, sand, grit and other substances such as oil, asphalt or driveway sealer from being tracked onto your floor. The rugs must be made of a breathable material to prevent moisture entrapment
- Sweep, dust, or vacuum the floor regularly to prevent accumulation of dirt or grit that can scratch or dull the floor finish.
- Use protective casters/caster cups or felt pads on the legs of furniture to prevent damage to the flooring. Use wide bearing leg bases, barrel type caster wheels, rubber rollers

CAUTION: WOOD DUST WARNING

The State of California (OEEHA Prop 65, California Health and Safety Code Section 25249.6) has classified Wood Dust as a substance known to cause cancer. Drilling, sawing, sanding, or machining wood products generates wood dust.

The State of Minnesota (Statute 1984 sections 144.495 and 325F.18) require all HDF and plywood sold or used in Minnesota meet the HUD Formaldehyde EmissionStandard 24 CFR Sections 3280.308 and 3280.406.

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to minimize indentations and scratches from heavy objects. As a rule of thumb, the heavier the object, the wider the floor protector should be. Make certain to keep them clean and well maintained.

ÿ Do not use rubber or foam backed plastic mats as they may discolor the floor. To prevent slippage use an approved vinyl rug underlayment

- Maintain a normal indoor relative humidity level between 35 and 55% and a temperature of 60°-80° F throughout the year, to minimize the natural expansion and contraction of wood.

Heating Season (Dry): humidifier is recommended to prevent excess shrinkage due to low humidity levels. Wood stove and electric heat tends to create very dry conditions.

Non-Heating Season (Wet): An air conditioner or dehumidifier or periodically turning on your heating system can maintain humidity during the summer months. Avoid excessive exposure to water during periods of inclement weather.

- Avoid gouges or cuts in your floor from sharp objects. While your floor is very wear resistant, sharp or pointed objects can nevertheless damage it.
- Don't walk on your floor with stiletto-style heels, spiked shoes, or cleats; they may cause indentations in your floor.
- Keep pet's nails trimmed to minimize finish scratches.
- Rearrange area rugs and furniture periodically so the floor ages evenly. UV sunlight will soften the tone of different species of hardwood to varying degrees.

ÿ Protect your floor from direct sunlight. Use curtains and UV resistant film on large glass doors and windows

ÿ Use a dolly when moving heavy furniture or appliances. But first, put down a sheet of quarter inch plywood or Masonite to protect the floor and help prevent denting. Carpet or cardboard is not adequate to prevent surface compression scratches. Never try to slide or roll heavy objects across the floor to avoid denting.

REPAIRING YOUR FLOOR

- Minor damage can be easily repaired with finishing putty available in blending colors.
- Retain several planks for future repairs.
- Major damage will require board replacement .

MOLDINGS

Installation Tips:

- Moldings must be predrilled avoid splitting whenever they are to be secured with nails or fasteners. Use a 10 or 12" miter saw with pre-set adjustments for the basic miter cuts at 22.5°, 45°, and 90°. A carbide tipped blade makes the best cuts.
- On Wall Base or Quarter Round moldings, never restrict the hardwood floor's natural contraction/expansion movement by driving the fasteners at a downward angle. Rather, attach the moldings to the wall or vertical surface.
- Always miter cuts rather than having butt cuts when splicing. Decide the direction of the miter by cutting the molding with the long point oriented in the same direction as your natural line of vision when you enter the room.

Wall Base - Borders the wood floor at the base of the wall to give the room a finished look. This molding conceals the

required expansion space between the wall and the hardwood flooring. It is also sometimes used under cabinets and toe kicks.

Quarter Round - This molding conceals the required expansion space between the wall and the hardwood flooring. It is also sometimes used under cabinets and toe kicks where a wall base won't fit or at the base of the stairs to provide a subtle blend between the floor and the wall or vertical surface.

Threshold - Typically used at exterior doorways as a transition between flooring and the doorway threshold. It is also used to transition a wood floor to different floors to make them fit together perfectly, such as high pile carpeting or tile. Another typical use for a threshold is to conceal the expansion space between the flooring and a vertical surface such as fireplace hearths and sliding glass doors.

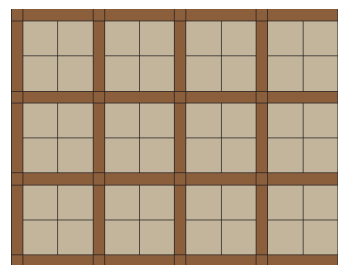
T-Molding - Commonly used in doorways to join two wood floors in adjoining rooms. Also recommended when making transitions from a wood floor to another floor that is approximately the same height such as ceramic tile, hardwood or laminate floors, not carpet. T-Moldings are also used to provide expansion joints when a floor dimension exceeds the length of 40' or a width of 30'.

Reducer - Used to join hardwood floors that have been glued down or nailed down with floors of different heights such as vinyl, ceramic tile, or low pile carpeting.

Stair Nose - Provides the proper transition for stairways or steps which have hardwood floors that have been installed by either the nail down or glue down installation method. Also provides the proper overhang for a transition from one floor level to the next such as the step into a sunken living room.

Design Configuration Order Percentages

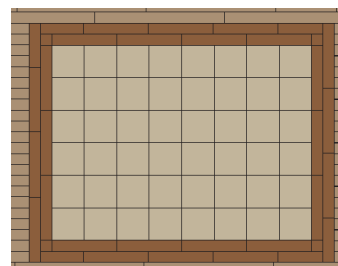
Four Tile/Single Strip Border/Corner Accents



Multiply percentages below against total square footage. Round up and include proper waste factor.

Tiles: 71%
Planks: 27%
Corners: 2%

Area Rug Tile with Double Border & Plank Field



Tiles: Total area rug size (each tile is 18"x18")

Planks: Total square footage minus area rug space

Corners: 4