



## Installation Instructions T & G on HDF Prefinished Engineered Planks

### 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. Hardwood flooring will also experience a change in color over a period of time. The degree of change depends upon the specie and the amount of UV exposure. 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. For best results, we suggest using a National Wood Flooring Association Certified Professional for your flooring installation.
- The installer must document all site tests and the records must be available if a claim is filed.
- 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, 5-10% 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 [www.woodfloors.org](http://www.woodfloors.org) 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.

- 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.( Nail down and glue down installation **is not** recommended on 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 or show movement.. 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 verified before and after 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. /1000 sq. ft. /24 hour emissions per CCTM.

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

- 1) Use an approved calibrated concrete moisture meter (Delmhorst Moisture Meter Model G or Tramex Concrete Encounter) as a preliminary measurement for moisture. Follow manufacturer's specific calibration requirements. Any reading higher than 4% indicates the need for a Calcium Chloride and pH test. The Tramex reading should not exceed 4.5 on the scale.
- 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) Test with a 3% Phenolphthalein in Anhydrous Alcohol



## Installation Instructions T & G on HDF Prefinished Engineered Planks

### INSTALLATION on WOOD SUBSTRATE:

**Note:** Do not use the glue down or staple 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 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.

### Note: LIGHTWEIGHT CONCRETE:

Lightweight concrete has a dry density of 100 pounds or less per cubic foot and is only suitable for engineered wood floors when using the floating installation method. Many products have been developed as self-leveling toppings or floor underlayment. These include cellular concrete, resin reinforced cementations, underlayments and gypsum-base materials. Although some of these products may have the necessary qualifications of underlayment for wood flooring installation, others do not. To test for lightweight concrete, scrape a coin or key across the surface of the sub-floor. If the surface powders easily or has a dry density of 100 pounds or less per cubic foot, use only the floating installation method.

### INSTALLATION on SUB-FLOORS OTHER THAN WOOD OR CONCRETE:

Do not install over carpets.

**Note:** Perimeter glued resilient vinyl and rubber tiles are

- Proper moisture testing is the key to determine readiness for installation.
- Follow the NWFA guidelines for acclimation ([www.nwfa.org](http://www.nwfa.org)) on the job site and moisture equilibrium.
- 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.

## FLOATING FLOOR INSTALLATION METHOD

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

**BELOW GRADE:** All engineered products when installed using the floating installation method, can be installed below grade. However the following instructions must be followed.

The concrete slab should be sealed or painted with a good concrete sealer. Then the 3 in 1 Underlayment or the 6 mil poly film should be installed with ends butted together and taped with a clear 2" packaging tape to prevent any moisture from coming up through the seams. The 3 in 1 underlayment or 6 mil poly film should be lapped up the wall 4" all the way around the room. This can be trimmed off after moldings are installed. If you are using the 3 in 1 underlayment, you are ready to begin the installation. However, if you have used the 6 mil poly film, roll out on top of the 6 mil poly film a 1/8" thick closed cell foam, butting the edges but not overlapping.

### DO NOT USE ON RADIANT HEATED SUBFLOORS:

This product is not approved for installation over radiant heat applications. The Warranty will be voided if used over any radiant heat.

**IMPORTANT: DO NOT INSTALL CABINETS OR WALLS ON TOP OF THE FLOORING WHEN USING THE FLOATING INSTALLATION METHOD.**



## Installation Instructions T & G on HDF Prefinished Engineered Planks

- If the starting wall is out of square, it will be necessary to scribe the first row to match the wall, allowing the opposite side of the row to present a true square base for the rest of the floor. When the first row is complete, you must have a straight, even base established.

### Step 2: GLUING THE BOARDS TOGETHER

- When installing the products which have been approved for the floating installation method, the boards must be side and end glued using tongue & groove Adhesive.
- Always apply the adhesive into the bottom of the groove on each board. Do not fill the groove. Apply a continuous bead, filling the bottom of the groove no more than halfway full. Start & stop adhesive 2" from the ends on the long side of the board and 1" from the ends on the butt end.

**Note:** If any excess adhesive squeezes up to the finished surface, wipe it off immediately using a water dampened cloth or adhesive remover. Then dry the surface and buff with a dry cloth. If the adhesive has dried, use a soft white cloth moistened with adhesive remover. Do not abrade the wood surface.

### Step 3: INSTALLING THE REST OF THE FLOOR

- Note:** Always stagger minimum 6" between end joints of adjacent board rows. The end joints should not repeat visually across the installed floor.
- After installing the first row of boards, apply the adhesive to the first board on the second row using the above gluing instructions.
  - Connect that board to the first row making sure that there is at least an 1" or 6" stagger between the end joint of the board on the first row.
  - Tap the boards together with a hammer and a tapping block. Be sure that the tapping block is against the tongue only and use only a gentle tapping motion to tap the boards together. Excessive force will damage the board making it difficult to install additional boards. Do not tap on the groove side of the boards as this will cause damage to the boards. Once the board has been tapped into place check for a tight fit on sides and ends.
  - To install the rest of the flooring, continue placing the boards from left to right, plank by plank, and row by row.

**Note:** When installing around fixed objects, small areas or even in general installation areas, the use of installation straps may prove helpful for securing boards together. Installation straps are a handy tool that will insure a tight fit when used to strap each continuous row of installation.

### Step 4: INSTALLING THE LAST ROW

Most often the entire length of the last row will need to be cut so that it is narrow enough to fit the remaining space. When this occurs, follow this simple procedure:

- Lay a row of boards, unglued, with the tongue toward the wall, directly on top of the last row installed.
- Take a full width scrap piece of the product that is being installed with the face down and the tongue side against the wall. Use 3/8" or 1/2" spacers against the wall to ensure the proper expansion space.
- Draw a line along the row moving down the wall. The resulting line gives the proper width for the last row

- \* Drill with 1/16" bit
- \* 6 - 8 d screw shank nails
- \* Chalk Line and Chalk
- \* Hammer
- \* Safety Equipment (Goggles & Mask)
- \* Utility Knife
- \* Nail Punch
- \* Hardwood Flooring Cleaner

**Note:** Refer to the adhesive label for the proper trowel required, spread rates and application information based on the thickness and width of flooring.

### Step 1: GETTING STARTED

- Install the flooring parallel to the longest outside (exterior) wall in the room. Measure out from the wall on the door side of the room in two places; 30 3/8" for 3" and 5" wide products. Mark and snap a chalk line across the two marks. The area between the chalk line and the wall is the working area and will be the last to be installed.

### Step 2: SPREADING THE ADHESIVE

- Hold the trowel at a 45°-60° angle and spread adhesive onto an area no larger than 30-40 square feet at one time.
- After spreading, allow adhesive to flash off for 30-45 minutes before installing wood flooring. Maximum available working time is 45-50 minutes. (Colder temperatures or high humidity will extend times and warmer temperatures or low humidity will shorten times.)
- Do not install wood flooring material after adhesive dries. Test by touching adhesive. If not readily transferred to finger, adhesive is already dried. If adhesive has dried, remove adhesive and apply new material. Periodically check wood to confirm 100% adhesive transfer. Within one hour of setting wood, roll the installation with a 100-150 lb. roller to promote good contact with the adhesive.
- Always refer to the specific instructions on the hardwood flooring adhesive label.

### Step 3: INSTALLING THE FLOOR

- The flooring should be installed from several cartons at the same time to insure proper color, grain and shade mix..
- After the adhesive has been spread following the above mentioned instructions, start with the first piece of flooring. Install the piece of wood with the groove towards you and the tongue facing the opposite wall. Line up the groove of the flooring with the chalk line then press the flooring into the adhesive.
- Working from left to right, lay the next board and continue working towards the right until you need to cut a piece to complete the first row. Measure the size you need to complete the first row and cut to length. The balance of the piece you cut will start the next row.
- If the left over piece is less than 6" long, cut another piece at a random spot, and start the second row with it. Be attentive to staggering the ends of the boards at least 6" in adjacent rows to avoid clustering end joints. A soft rubber mallet can be used to tap the boards on the face until they are pulled into proper position.
- To cut the boards, always saw with the teeth cutting



## Installation Instructions T & G on HDF Prefinished Engineered Planks

- The use of putty to cover small cracks or face nails holes should be considered normal in hardwood flooring installations.
- Make sure when the installation is complete that the expansion spacers are removed and the expansion space is covered with the appropriate molding such as baseboard and 1/4 round or shoe molding. Do not nail moldings into the floor but nail into the wall.
- Vacuum the floor thoroughly using the soft brush attachment or dust mop to remove any dirt and debris.
- Use a quality hardwood flooring cleaner to finish the floor. We suggest Bona Swedish Formula Hardwood Cleaner.
- If the floor is to be covered, do not use plastic use a breathable material such as cardboard or kraft paper.

- Do not use rubber or foam backed plastic mats as they may discolor or leave an imprint on 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 60o-80° F throughout the year, to minimize the natural expansion and contraction of wood.

**Heating Season (Dry):** A humidifier is recommended to prevent excess shrinkage due to low humidity levels. Wood stove and electric heat tends to create very dry conditions. Minor gapping between wood planks during the heating season is a normal occurrence with hardwood flooring installed over radiant heat.

**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.

• Protect your floor from direct sunlight. Use curtains and UV resistant film on large glass doors and windows. Over time natural and artificial light could discolor the floor.

• 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 . If using the floating installation only , your floor can easily be disassembled to allow for 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.

**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.**

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 or 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