

# Engineered Hardwood Flooring Installation Instructions

**Engineered Planks and Strips** can be installed over most sub-floors, and are engineered to be dimensionally stable, making them suitable for installation over all grade levels. See all information and installation guidelines below.



## **ATTN: INSTALLERS** **Caution: Wood Dust**

Sawing, sanding and machining wood products can produce wood dust. Airborne wood dust can cause respiratory, skin and eye irritation. The International Agency for Research on Cancer (IARC) has classified wood dust as a nasal carcinogen in humans.

**Precautionary Measures:** Power tools should be equipped with a dust collector. If high dust levels encountered use an appropriate NIOSH-designated dust mask. Avoid dust contact with skin and eyes.

**First Aid Measures in case of irritations:** In case of irritation flush eyes and skin with water for at least 15 minutes.

**WARNING!** DO NOT MECHANICALLY CHIP OR PULVERIZE EXISTING RESILIENT FLOORING, BACKING, LINING FELT, ASPHALTIC "CUTBACK" ADHESIVES OR OTHER ADHESIVES.

Previously installed resilient floor covering products and the asphaltic or cutback adhesives used to install them may contain either asbestos fibers and/or crystalline silica. **The products in this carton do not contain asbestos.** Avoid creating dust. Inhalation of such dust is a cancer and respiratory tract hazard. Smoking by individuals exposed to asbestos fibers greatly increases the risk of serious bodily harm. Unless positively certain that the product is a non-asbestos containing material, you must presume it contains asbestos. Regulations may require that the material be tested to determine asbestos content and may govern the removal and disposal of material. See current edition of the Resilient Floor Covering Institute (RFCI) publication "Recommended Work Practices for Removal of Resilient Floor Coverings" for detailed information and instructions on removing all resilient covering structures.

## **Attention – IT'S THE RESPONSIBILITY OF THE INSTALLER/OWNER TO INSPECT ALL MATERIALS CAREFULLY BEFORE INSTALLATION.**

Wood is a natural product containing characteristics such as variations in color, tone and graining. Flooring is manufactured in accordance NWFA standards, which allows manufacturing tolerances up to 5%. Excess flooring should be retained and stored for use in case a future repair is required. **Flooring warranties DO NOT cover materials with visible defects once they are installed.**

## **TOOLS**

Basic tools and accessories: broom or vacuum, chalk line, tapping block, manufacturer's hardwood flooring cleaner, hand or electric jam saw, miter saw, moisture meter, safety glasses, straight edge, table saw, tape measure, 3M blue tape (# 2080), carpenter's square, utility knife and pry bar. Use manufacturer's wood flooring adhesive and recommended trowel if gluing or if using a pneumatic floor stapler, use a 20-gauge 1" staple with 1/8" crown, 1" or longer. When installing a 5" wide or wider product, an 18 gauge 1 1/4" staple or longer is recommended. (Note: you must use a 3/8" or 1/2" adapter on some floor staplers or as appropriate. **The nailing schedule should be 1" from the ends and 4" to 6" in the field.**

**Caution:** Improper use of a Pneumatic floor stapler can mark the surface of the flooring.

## **JOBSITE CONDITIONS**

Manufacturer recommends but does not require acclimation of engineered hardwood products before installation, under normal conditions. The purpose of acclimation is to allow the moisture content of the wood to adjust to "*normal living conditions*" at the site. That is the temperature and humidity conditions that will typically be experienced once the structure is occupied.

**The room temperature should be 60 – 80° F, with relative humidity of 35 – 55%. These environmental conditions are specified as pre-installation requirements and should be maintained for the life of the engineered wood.**

## **SUBFLOOR PREPARATION AND RECOMMENDATIONS FOR ALL INSTALLATIONS.**

It is the responsibility of the installer/owner to insure concrete, wood and other types of sub-floors, as well as job site conditions are environmentally and structurally acceptable while, meeting sub-floor requirements established by the National Wood Flooring Association. For additional information contact NWFA at 800-422-4556 (USA), 800-848-8824 (Canada) 636-519-9663 (International) or [www.nwfa.org](http://www.nwfa.org). Warranties DO NOT cover products installed over improperly prepared subfloors or site related issues.

Manufacturer of Hardwood Flooring declines any responsibility for wood failure resulting from or connected with sub-floor, subsurface, job site damage or deficiencies after hardwood flooring has been installed

## **Sub-floors other than wood or concrete**

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

**Note:** Particleboard is not an acceptable subfloor.

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

**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.

## **Radiant Heated Sub-floors**

Before installing over a radiant-heated floor turn off heat and wait until the floor has reached room temperature. After installing the floor return the heat to the previous setting.

**Caution:** The floor surface must never exceed 85°F in temperature.

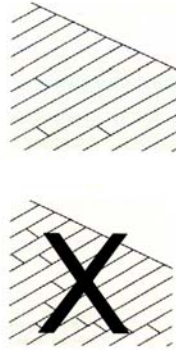
## PREPARATION

Remove all moldings and wall-base, and undercut all door casings with a hand or power jam saw using a scrap piece of flooring as a guide.

### "Racking the Floor"

Whether you choose to install the floor with glue or staples, start by using random length planks from the carton or by cutting four to five planks in random lengths, differing by at least 6". As you continue working across the floor be sure to maintain the 6" minimum stagger between end joints on all adjacent rows. Never waste material: use the left over pieces from the fill cuts to start the next row or to complete a row.

**Note:** When installing a pre-finished wood floor be sure to blend the wood from several cartons to ensure a good grain and shading mixture through out the installation.



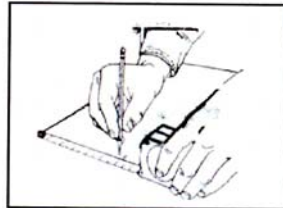
## GLUE DOWN INSTALLATION GUIDELINES

There are two ways to install when using a moisture cured urethane wood flooring adhesive (wet lay meaning to lay directly into wet adhesive and dry-lay method meaning to allow the adhesive to flash or to tack up.)

**Caution:** Whether you choose to install using the dry or wet method follow all guidelines set by the adhesive manufacturer as well as the flooring manufacturer. By not adhering to the guidelines you can void your flooring warranties.

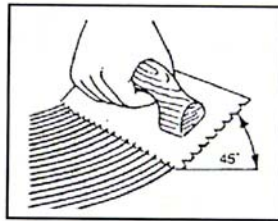
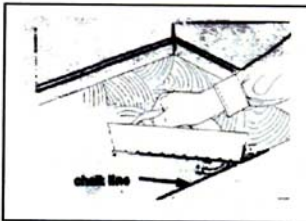
### Step 1—(Wet Lay Method)

Select a starter wall. It is recommended to start the installation along an exterior wall; it's more likely to be straight and square with the room. Measure out from the wall the width of two planks and mark each end of the room and snap your chalk line.



### Step 2

Spread the moisture cured urethane wood flooring adhesive from the chalk line to the starter wall using the recommended trowel size specified by the glue manufacturer. It is important to use the correct trowel at a 45° to get the proper spread of adhesive applied to the sub-floor, which will produce a proper and permanent bond. Improper bonding can cause loose or hollow spots.

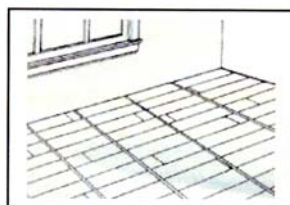


**Note:** Change the trowel every 2000 to 3000 square feet due to wear down of the notches. This assures you always get the proper spread of adhesive.

### Step 3

Install the first row of starter planks with the tongue facing the starter wall and secure into position. Alignment is critical and can be achieved by securing a straight edge along the chalk line (2x4's work well), or by top nailing the first row with finishing nails (wood sub-floor), or sprig/pin nails (concrete sub-floor). This prevents slippage of the planks that can cause misalignment.

**Note:** The planks along the wall may have to be scribed and cut to fit in order to maintain a consistent expansion space since most walls are not straight. Try to maintain at least 2" on the scribed plank.



### Step 4

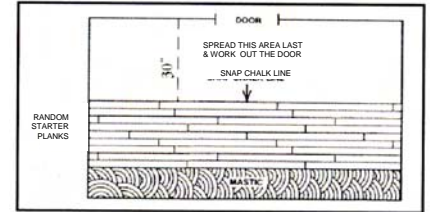
Once the starter rows are secure spread 2 ½ to 3 feet of adhesive the length of the room. (Never lay more adhesive than can be covered in approximately 2 hrs.) Place tongue into groove of plank or strips and press firmly into adhesive never slide planks or strips through adhesive. Use a rubber mallet to fit planks snug together at side and butt ends. Clean any adhesive off the surface before it cures using clean terry cloth towels and mineral spirits.

Use 3M Blue Mask Tape (# 2080) to hold planks securely in place as you are installing and continue the process through out the installation. Use caution when using a rubber mallet to butt material together, it can burnish the finish and cause marring.

**Note:** Never work on top of the flooring when installing with the wet lay method.

### Step1—(Dry Lay Method)

Start by selecting your starter wall and measure out from the wall 27" when installing 2 ¼" strip flooring and 30" when installing 3" planks. This will allow adequate working space. Snap a chalk line.



### Step 2

Apply adhesive from the chalk line out 2½' to 3'. Allow adhesive to flash as per the instructions affixed to the top of the adhesive container as directed by ad manufacturer. The humidity chart will aid in allowing the appropriate flash time based on the temperature and humidity.

Secure your starter rows with a straight edge (2x4's). Install planks and secure with 3M Blue Painters Tape (# 2080) as you continue through out your installation. If you must work on top of the newly laid flooring use a kneeling board.

Once the remainder of the floor has been installed go back to the beginning and remove the straight edges and spread adhesive on the remainder of the open subfloor. Allow to flash for the appropriate time and lay flooring as instructed. Remembering that the planks closest to the wall may have to be scribed and cut to fit due to irregularities along the wall. When using a moisture cured urethane wood flooring adhesive it is not necessary to roll the floor.

### Clean Up

Use clean white terry cloth towels to clean as you go along with mineral spirits. It is easy and convenient to use. Adhesive that has cured on the surface of the flooring can be difficult to remove.

Light foot traffic is allowed after 12 hours but wait 24 hours after installation to remove the 3M blue masking tape. Once the tape is removed clean any adhesive residue left from the tape using mineral spirits on a clean white terry towel.

## STAPLE OR NAIL DOWN INSTALLATIONS

**Note:** Engineered wood flooring products that are 5/16" thick are not approved for staple or nail down installation. The recommended method of installation is direct glue down only.

Engineered hardwood floors may be installed over wood sub-floors using staples or flooring cleats, with the exception of Luan, Parquet or Masonite. When installing engineered wood planks or strips by nailing or stapling it is necessary to use the proper type of flooring stapler or nailer made for the thickness of the engineered wood flooring that is being installed.

**Note:** Before installation of the engineered flooring begins, install a 6-mil polyethylene layer to completely cover the ground and approximately 6" up the foundation walls when installing on a wood subfloor with a crawlspace. The seams of the 6-mil poly should overlap 4" to 6" and should be taped to the foundation walls using an aggressive tape such as duck tape. This will retard moisture from below that is emitted from the soil.

In addition to the ground cover in the crawlspace, a 6-mil polyethylene layer or a 15lb felt or resin paper must be installed over the subfloor prior to the installation of the engineered wood flooring in order to reduce squeaks and noises created by the opposing floors.

## Installing 6-mil Polyethylene

Install the polyethylene parallel to the direction of the flooring and allow a 3" overhang at the perimeter. Make sure each run of polyethylene overlaps the previous run by 6" or more.

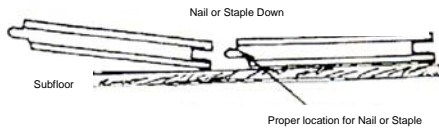
## Layout the job

Measure out from the ends of your starting wall, 2 3/4" when installing 2 1/4" strip flooring or 3 1/2" when installing 3" planks and mark both ends. Where possible lay the flooring at 90° angles to the floor joists. Make a chalk line along the starting wall using the marks you made.

## Beginning installation

**Note:** Expansion space is required along the perimeter of room(s) of intended installation; expansion space is dictated by the thickness of the product, for example, 3/8" thick floor requires 3/8" expansion space, 1/2" thick floor requires 1/2" expansion space; 3/4" thick floor requires 3/4" expansion space.

Place the planks with the tongue facing away from the wall and along your chalk line. Use brads or small finishing nails to secure the first starter row along the wall edge 1" to 2" from the ends and every 4" to 6" along the side. Counter sink the nails and fill with the wood filler that blends with the flooring installed. Place the nails in a dark grain spot in the board. The base or shoe molding will cover the nails when installed after completion of the installation.



Blind nail at a 45° angle through the tongues. It will be easier IF YOU PRE-DRILL THE HOLES IN THE TONGUES. Nail 1" to 2" from the ends and every 4" to 6" along the sides. It will be necessary to blind nail the next 2 rows. A brad nailer with 1" to 1 3/8" brads can also be used to blind nail and no pre-drilling is needed.

Continue the installation using an engineered wood-flooring stapler, using staples or nails recommended by the Manufacturer. Nail or staple the flooring 1" to 2" from the ends and every 4" to 6" along the edge tongues.

## Recommended Pneumatic Floor Stapler

When stapling, use a 20 gauge, 1" staple or 18 gauge, 1" or longer staple on products up to 3" wide and 1/2" thick. When installing a 5" wide product or wider, use an 18 gauge 1-1/4" staple or longer. (**Note:** you must use an appropriate adapter for the thickness of the wood on some flooring staplers). **Also note:** 3/4" thick engineered planks should be nailed or stapled using a 3/4" solid wood flooring nailer or stapler of any brand using the recommended size staple or cleat for 3/4" solid wood installations and the nailing schedule which is 1" to 3" from the ends and 8" to 10" in the field.

You must staple or nail 1" to 2" from the ends and every 4" to 6" along the tongue side of the engineered wood product. This will help insure a satisfactory installation. It is recommended to initially set the compressor at 80 to 85 PSI and adjust the pressure as needed in order to properly set the fastener and keep the staples from going through or breaking the tongues. Improper stapling techniques can cause squeaks in the floor.

Adjustments may be necessary to provide adequate penetration of the nail or staple into the nail bed. You want it flush in the nail pocket. Use a scrap piece of flooring material to set tools properly before installation.

## Final Touches

Install the proper trim molding at the doorways to achieve the transition and along the walls to cover the edges of any gaps along the wall due to irregularity.

Complete the job by using the wood filler that coordinates with the installed engineered flooring to fill any gapping along the joints or areas where brad nails were used in the trim or the flooring. Clean the finished floor with approved Hardwood Flooring Cleaner.

## INSTALLING AS A FLOATING FLOOR

**NOTE:** Only Engineered Hardwood Flooring Styles with 4 plies or more are approved for floating installation.

## Sub floor Preparation:

Subfloor preparation is more critical for a floating engineered floor than for a staple or glue down application. The floor must be flat to 3/16" in a 10 feet radius. If the subfloor is out of tolerance then it must be corrected. The high areas can be ground down and the low areas can be filled by using latex fortified Portland floor leveling compound. The leveling compound must be allowed to dry according to the manufacturers instructions before the floor is installed over it. The use of sand or extra padding to fill low areas is not acceptable.

## Underlayment:

For the floating installation of Engineered Hardwood Flooring we strongly recommends the use of **SilentGUARD** underlayment. Underlayment requirements are very critical in a floating installation. Excessive pad compression or compaction is a common cause of seam failure. **MoistureGUARD** can also be used but is not as dense as **SilentGUARD**. Manufacturer does not recommend the use of any other underlayment product.

## Expansion Space:

An expansion space of at least 1/2 inch must be maintained around the perimeter of the room, all pipes, counters, cabinets, fireplace hearths, doorframes and any other fixed vertical objects in the room. Doorway or archways 4 feet or less and rooms larger than a 26 X 33 are required to have a T-Molding.

## Glue and Glue Placement:

The recommended glue for floating installation is a quality PVA Wood Glue. Franklin Titebond Wood Glue is a widely available brand. The glue must be placed along the topside of the groove the full length of the grooved side and end. This can be accomplished by inverting the plank and applying a bead of glue (3/32") to the topside of the groove (side of the groove nearest the face of the plank), when the plank is turned back over the glue will run down the back of the groove giving total coverage. Apply only a 3/32-inch bead of glue, if the groove is filled with glue it will be difficult to close the seam not allowing a tight fit.

## Getting Started:

The installation begins with three rows of flooring glued together and held in place with 3 M blue painters tape (#2080) with the groove side facing the wall. Spacers must be used to establish the minimum 1/2" expansion space from the walls. These three rows must be straight, square and in rack because they establish the alignment of the rest of the floor. After putting these three rows together allow the glue to set (15 to 45 minutes) before proceeding with the installation. With the tongue facing out the planks can be tapped together with a tapping block on the tongue to make a snug fit. After installing 8 or 10 rows of flooring stand back and check for crowning or heaving due to tension strapping or any damage caused by improper tapping.

## CLEAN AS YOU GO:

If any glue squeezes out of the seam between the planks allow it to dry for 10 to 15 minutes and then lightly scrape it away with a plastic scraper or putty knife, any glue left may be cleaned with a damp cloth or other method recommended by the adhesive manufacturer. Do not allow the glue to dry on the face of the flooring; it will be very difficult to clean off.

## WARRANTY:

**Warranty for separation of planks is the responsibility of the flooring mechanic, provided there is no glue failure. Glue failure is the responsibility of the adhesive manufacturer.** A copy of the Warranty may be obtained by calling the Mohawk Technical Service Department at 888-387-9881.

## MAINTENANCE

Engineered Hardwood Floors are very easily maintained. No wax, no mess. Simply use approved Hardwood Flooring Cleaner and a terry cloth flooring mop.

**STEP ONE:** Sweep your floor to remove any particles that could scratch your floor.

**Warning:** Vacuums with a beater bar or power rotary brush head can damage a wood floor and never should be used.

**STEP TWO:** Apply the approved Hardwood flooring cleaner directly to the terry cloth flooring mop, not to the floor!

**STEP THREE:** Use a back and forth motion with the mop. When the terry cloth cover becomes soiled, simply replace it with a clean one. Cleaning the floor with a soiled cover could cause streaking. The covers are re-usable so simply throw the cover in the wash and dry it as you would any towel.

### Tips & Warnings:

- Sweep regularly, with a soft bristle broom.
- Remove spills promptly and use approved Hardwood Flooring Cleaner and a clean white cloth.
- Use felt protectors under heavy pieces of furniture and chairs.
- Use protective mats at all exterior entrances.
- Spiked heels or shoes in need of repair can severely damage your floor.
- Replace hard plastic, metal casters or wheels on furniture with soft rubber casters or by using a protective mat under the casters.
- Never wet or damp mop your wood floors. Water can cause damage to wood flooring.
- Never use oil soaps, wax, liquid or other household products to clean your floor.
- The sun's UV rays can change the color of your floor.
- Keep animal nails trimmed.
- Protect your floor when using a dolly for moving furniture or appliances. Never slide or roll heavy furniture or appliances across the floor.