

## Before You Start

There are several steps that must be taken to prepare for a successful installation of Northern Wide Plank solid wood flooring. Please read and follow this guide in its entirety.

## Subfloor Conditions

### Wood subfloors

Approved subfloors include the following:

For joist spacings of 19" on centre or less:

5/8" (15.5mm) Exterior Plywood, 3/4" (18.5mm) Exterior Plywood, or 3/4" (18.5mm) OSB.

For joist spacings of 19" to 24" on centre:

3/4" (18.5mm) Exterior Plywood or 7/8" (22mm) OSB

Wood subfloors should be dry (12% moisture content, or less). In addition, there should be a difference of no greater than 2% between the moisture content of the wood flooring and the subfloor. If this difference is greater, do *not* proceed with the installation until the plywood has dried out sufficiently.

Moisture readings can be taken using non invasive electronic meters such as a Wagner MMC220 or equivalent, or for greater accuracy at different depths, use a pin meter, such as the Delmhorst J2000 fitted with a 26-ES electrode. Always follow the equipment manufacturer's instructions to obtain the most accurate reading.

### Concrete Subfloors

All concrete subfloors should be tested for moisture content. The installer is advised to document the results and dates of each test.

Thorough testing should be done at several areas across the floor. Special attention should be paid around exterior walls, or any wall that contains plumbing. Acceptable test methods include:

- TrameX Concrete Moisture Encounter: Moisture readings should not exceed 4.5% on the concrete scale.
- Calcium Chloride Test (ASTM F1869): Maximum 3lbs of water per 1000 sf over a period of 24 hours.
- RH testing using In-Situ probes/sensors (ASTM F 2170-02): Results should not exceed 75% RH.

Do not install solid wood floors below grade. This includes walk out basements that have one or more walls below the soil line.

### All Subfloors - Flatness

Subfloors should be flat to within 3/16" in a radius of 10'. Some sanding or grinding of high spots and/or filling of depressions may be required.

## Acclimation

The bundles of wood flooring should be delivered to the site and allowed to acclimate 8 to 10 days prior to the install date. The bundles themselves should be placed in rooms adjacent to where they will be installed and should be stacked, with stickers separating the bundles to promote air flow. If the building is unoccupied, the installer must set up temporary climate controls that will mimic the conditions after occupancy. This includes maintaining a temperature range of 16 to 27°C before, during and after the installation date. Extra humidification is required if the installation is taking place during the heating season. Air conditioners and/or de-humidifiers are required during spring and summer's high humidity periods.

## Moisture Readings – Wood Flooring

Our wood floors are kiln dried to a moisture content that is in the range of 6 to 9%. This range complies with the industry standard. On delivery, check and record the moisture content of the flooring to establish a baseline for acclimation. Check multiple boards. A good representative sample is 40 boards for every 1000 square feet of flooring. On the install date, take the same number of readings and document any significant changes. If the readings are outside the standard, adjust the climate controls and wait till the product is within the correct range.

## Installation – Glue Down: Tools

- |                                     |  |
|-------------------------------------|--|
| ▪ Power nailer or pneumatic stapler | ▪ Moisture meters  |
| ▪ Tape measure                      | ▪ Thermo-hygrometer  |
| ▪ Chalk Line                        | ▪ Finishing nail gun   |
| ▪ Chop, circular or radial arm saw  | ▪ Subfloor adhesive  |
| ▪ Utility knife                     | ▪ Concrete adhesive  |
| ▪ Square                            | ▪ Caulking gun   |
| ▪ Level                             | ▪ Floor straps & weights (for direct glue installation)                        |
| ▪ Rubber mallet                     | ▪ Tapping block (for glue inst.)   |
| ▪ Nail punch (for face nailing)     | ▪ Notched trowels (see manufacturer's instructions for size and type of notch) |
| ▪ Sawhorses                         |  |

## Full Spread Glue-Down Installations

We recommend that you use either Bostik Best or equivalent adhesive for our engineered flooring.

## Application of Adhesive

Always follow the adhesive manufacturer's recommendations for the following:

- Trowel size (including the shape of the notch)
- Relative humidity and temperature in the installation area.
- Open time
- Tack time
- Walk-on time
- Move-in time

**Note:** Do not glue the tongues to the grooves, neither along the edges nor at the ends of the boards.

## Radiant Heat

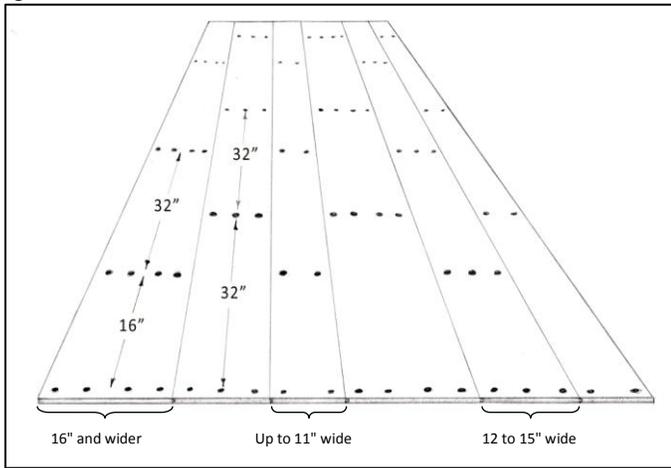
Our engineered floors are approved for installations over radiant heat systems providing the following guidelines are met:

- Maximum subfloor surface temperature must not exceed 29.44° C
- If the subfloor is concrete and it has cured, turn the heat on, regardless of season, and leave it on for at least 5-6 days to drive out residual moisture before installation of the wood flooring.
- Some glue systems, require the heat to be reduced or even turned off before installation of the flooring begins, so the adhesive does not cure excessively. Please follow the adhesive manufacturer's guidelines for radiant heat applications.
- With water-heated radiant-heat systems, a pressure test must be performed and documented by a qualified plumber or the system installer prior to beginning the installation of the wood flooring.

**Nailing Methods and Face Nailing Patterns**

If the desired effect is a traditional antique appearance, we recommend face nailing the boards with our Tremont antique-cut nails. We recommend a traditional method of face nailing of 32" with alternating starting rows of nails at 16" and 32" on centre (please see Figure 1.1). For boards up to 11" wide, we recommend using 2 face nails. We suggest 3 nails for boards 12 to 15" wide and four nails for boards 16" and wider.

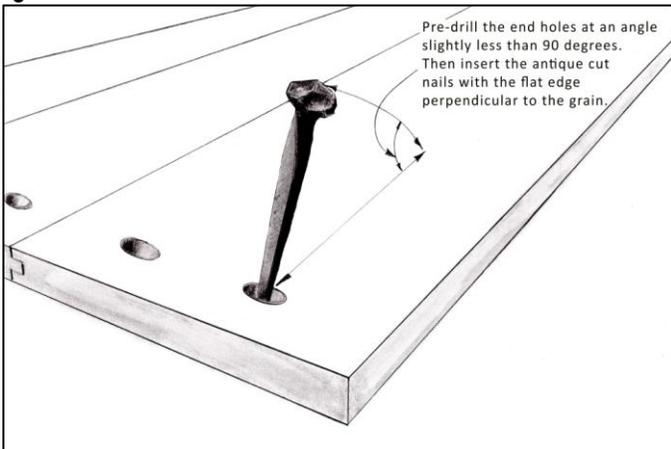
Figure 1.1



You will need to pre-drill for hardwoods, heart pine, and antique woods. Pre-drilling is recommended for the end holes in Eastern White Pine to eliminate checking. Place the nails about 1 1/2" from the edges and ends of the boards, slightly angling the nails (please see Figure 1.2).

**Hint: Consider pre-drilling a hole at every other joist before nailing to prevent hardwoods from splitting.**

Figure 1.2



**Blind Nailing**

When blind nailing through the tongues, you may use either hardwood flooring cleats or staples. Both methods are acceptable to secure wide plank floors. Fasten with 6"-8" spacing, 1 to 3" from each end.

**Helpful Hints for All Installation Methods**

**Random Widths**

If you are using random widths, **avoid repeating the same pattern**, as you may run out of some widths before you complete the floor. Instead, you need to randomly stagger the widths of the board runs. By randomly placing the widths, you will preserve the integrity and look of the floor.

Racking rule of thumb: Avoid "H" patterns. Stagger end joints of boards row to row a minimum of 6" for strip flooring, 8-10" for 3" to 5" plank, and 10" for plank wider than 5".

For parallel layouts, you will need to begin with 90 degree working lines at the centre of the room.

**Laying Out Working Lines**

**Parallel layout:**

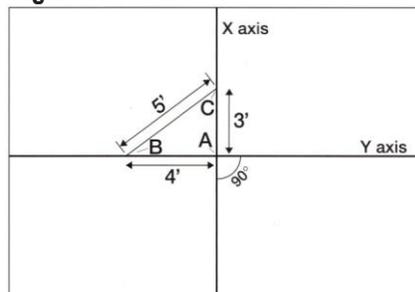
For parallel layouts, you will need to begin with 90- degree working lines at the center of the room.

**To establish a 90-degree working line (See Figure 1.3):**

Start by snapping a chalk line through the center of the room (line Y). The next line (X) must be exactly 90 degrees to line Y to form a perfect square corner. To ensure this angle, do the following:

1. From the center point (A) of line Y, measure 4 feet along line Y and mark that point (B).
2. From the same center point, measure 3 feet in the general direction of where line X will be and scribe an arc.
3. Return to the original 4-foot mark on line Y and measure 5 feet, scribing an arc that crosses (point C) the 3-foot arc you made in the previous step.
4. Verify all measurements before proceeding.
5. If correct, snap a chalk line through the conjunction of the two arcs and the center point of line Y. This will be line X, at an exact 90-degree angle to line Y.

Figure 1.3



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**Proper installation and maintenance are key components to the longevity of any wood floor.** With that in mind, the natural and traditional beauty of your **Northern Wide Plank** engineered flooring product will be appreciated for many decades to come!

## Radiant Heat Floor Systems – Installation Details:

**Figure 1.4**

