

# HARDWOOD FLOORS



What to Expect When Inspecting & Installing Hardwood Floors

## Installation Environment

### Controlled Climate Conditions

Modern flooring is designed for interior use in controlled climate conditions. It is important that normal room conditions are maintained at all times.

**Remedy:** Ensure windows and doors are installed prior to installation. An **HVAC system** must be operational before, during, and after installation. In areas with limited climate control, choose flooring less affected by climate conditions.

### Mix Products & Visually Inspect

For most flooring products, it is important to work out of several cartons at once to avoid excessive pattern repetition. Visually inspect the installed material from different angles under proper lighting.

### Floor Finishes

All hardwood flooring will scratch. While modern finishes are tough and durable, no floor is scratch-proof. **ASTM tests** can help compare durability between products.

**Remedy:** Manage expectations and qualify the customer. For example, if they have several large indoor dogs, clarify what level of durability to expect.

### Floor Movement

Excessive vertical movement stresses the flooring and can lead to failure.

**Remedy:** At installation, the only effective solution is adding plywood underlayment.

### Wood is A Natural Material

Wood is a natural product and subject to dimensional changes due to changing climates. Understanding these changes is paramount to a successful installation and a satisfied consumer. Engineered hardwood is durable and stable, but it is not immune to changing climate conditions.

The information contained in this brochure is intended to be used for points of discussion.

### Floor Flatness

Most flooring products have specific flatness tolerances. Use a straight edge to identify depressions and humps, which can cause seam movement, gapping, and uneven surfaces.

**Remedy:** Check floor flatness using a straight edge, string, or laser. Grind high spots and fill low areas with an approved substrate.

### Acclimation

Acclimation means adjusting flooring materials to the temperature of the environment where they will be installed. Sudden temperature changes (**hot to cold or vice versa**) commonly cause product failures.

**Remedy:** Control jobsite climate and store materials in that environment long enough to acclimate. Choose products less sensitive to climate changes.

### Moisture

Subfloor moisture can affect many flooring products, leading to adhesive failure and edge curling. Moisture may come from the substrate or surface.

**Remedy:** Check crawl spaces for plastic sheeting. Use a 6 mil poly sheet under the flooring. Choose moisture-resistant floorcoverings. Use moisture testing equipment; T&A Supply recommends testing by a professional flooring contractor.

## Glue Down Installation

### Adhesive

It is critical that you use a premium grade adhesive designed for engineered hardwood. There are several different types of adhesive. Modified Silane, Urethane, and Solvent Based. It is up to the flooring installer to choose the correct adhesive for the application.

#### Recommended Adhesive for TAS Hardwood:

Taylor Ridgeline - 100% RH Moisture/Sound Reduction

Taylor Ironwood - 90% RH Moisture/Sound Reduction



### Substrate Porosity

It is critical that you determine if the substrate is porous or non-porous. Then choose an appropriate adhesive.

#### How to test for porosity:

Place a dime sized drop of water into the surface. If it absorbs into the substrate, it is porous. If it beads up on top of the surface, it is non-porous.

### Trowel

A trowel is a metering device that is designed to place the appropriate amount of adhesive based on the adhesive manufacturers instructions. Always choose the proper trowel. Trowel notches become worn down with usage. Always re-notch or replace worn trowels.

### Open Time

Open time or Flash Time is critical to proper adhesive application. Each adhesive manufacturer has their own instructions regarding open time and flash time, follow their installation instructions.

### Ventilated Areas

Adhesive should be applied in well ventilated areas. Although most adhesives today are solvent free, they still require ventilation.

#### OSHA:

Always follow all **OSHA** practices, as well as Local and Federal building requirements.



## Nail/Staple Installation

### Staples vs. Cleats

Although it is often left to the preference of the installer, TAS Hardwood recommends 18 gauge narrow crown (1/4") from 1-1/4" to 1-1/2". 18 gauge Cleat Nails are approved but resin coated staples are preferred.

#### **Puncturing through the subfloor:**

When a staple or nail punctures through the subfloor there is a loss of holding power. Using the longest length staple without puncturing the subfloor is recommended.

### Proper PSI

It is critical that the proper PSI setting be established for each individual hardwood and stapler. Too low a PSI will leave staple/nail heads exposed and too high a PSI will blow through the tongue reducing holding power. Staple a few boards in a test area to determine the proper setting.

### Fastening Pattern

The stapling pattern is set by the wood manufacture to optimize long lasting placement and to reduce vertical movement. Always avoid an 'H' pattern staggering the end joints on a random pattern.

#### **NWFA Standards:**

The most common fastening pattern is the NWFA standard, every 3" to 4" in length and 1" to 2" from the end joints.

### Flat to Floor

It is important to keep the hardwood plank laying flat to the floor. If it is not flat to the floor the fastener can blow through the tongue and hold the side joint up from the floor. This often results in squeaking floors.

#### **Stand on the boards during installation:**

One common way to keep the planks flat to the floor is to stand on them when you are fastening.

### Glue Assist

To reduce movement and squeaking, assisting the fastening by gluing the floors down, is a recommended practice.

Do not use a bead of adhesive: Use a trowel to apply glue when assisting fastening. A bead of adhesive applied in a serpentine line can actually create a pivot point, causing additional movement.

## Floating Installation

### Adhesive

Always use a tongue and groove adhesive on all joint edges. Follow the adhesive manufacturers installation instructions.

#### Recommended Adhesive:

TAS Flooring recommends Taylor #2049 T&G adhesive.



### Underlay

Most floating floors will require a cushion underlay.

This underlay provides sound reduction and absorbs some minor subfloor irregularities.

**Proper underlayment:** Always use an underlayment that is approved for your floor. A very dense underlay is best as it will restrict vertical movement.

### Movement

A common reason for floating floor failure is substrate vertical movement. This vertical movement reduces the integrity of the joint and can result in cracking and noisy floors.

**Always inspect for vertical movement:** There is no field test that is easy for an installer to use to determine vertical movement. It is often best to walk the project and feel for vertical movement.

### Expansion

Floating floors expand and contract monolithically. They must be allowed to freely float. This requires expansion space at 100% of vertical surfaces. The manufacturer will provide required expansion space, but for hardwood it is usually a minimum of  $\frac{1}{2}$ ".

Often even one plank that does not meet minimum expansion will create a pinch point and result in floor failure. Transition T-Mold is often required between rooms and irregular shapes. Entry doors, sliding glass doors and islands are often neglected for proper expansion space.

**Expansion Trim:** There is trim that is specifically designed to cover the cut edges and allow the floor to freely float.

Please consult the hardwood manufacturers recommendation for floor trim. Trim is often complimentary and not an exact match. It is best to review the trim with the flooring prior to installation to meet consumer expectations.