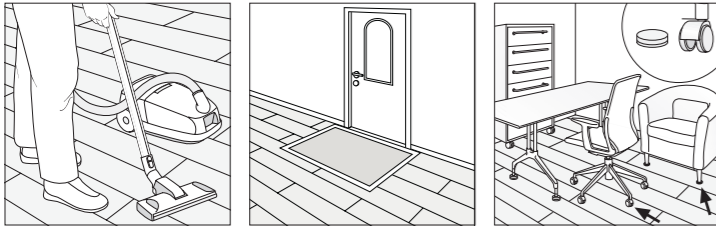


## ALL INSTALLATIONS: COMPLETING THE JOB

- Remove spacer wedges.
- Clean, sweep and vacuum installed flooring before use.
- Cover all expansion gaps along walls and vertical protrusions with base board, quarter round or pocket moldings. Nail moldings to wall, never to the flooring.
- Use of stain, filler or putty stick for defect correction during installation should be accepted as normal procedure.
- If the floor is to be covered, use a breathable material such as cardboard. Do not cover with plastic or any other material acting as a vapor barrier.

## FLOOR CARE GUIDE



### PREVENTATIVE MAINTENANCE

To ensure the full benefit of warranties and to extend the beauty of your new hardwood floor, we recommend the following preventative maintenance steps for your hardwood floor.

- Use floor mats at all entrances to help keep dirt and moisture from being tracked

in. Area rugs are recommended in high traffic areas and at sinks. Mats and area rugs should be slip resistant with backing that will not discolor the floor.

- Area rugs should be moved occasionally, as they block sunlight and may give the appearance of discoloration under the rug.

- To help guard against scratches and dents, install felt floor protectors under furniture legs and equipment.
- Use soft rubber castors for rolling furniture.
- Remove high heels or shoes that need repair. Some types of high heel shoes can severely damage the surface of any floor covering.
- Maintain a healthy humidity at 35–60%. Certain regions within North America have extreme changes in humidity levels that can affect all wood floors. To maintain the humidity at the healthy range of 35–60%, it may require either a humidifier or a dehumidifier.

### REGULAR MAINTENANCE

- Do not let sand, dirt and grit build up on your floors.
- Dust, sweep and vacuum floors regularly.
- For normal cleaning use a sponge mop with clear water, squeezed very dry. **DO NOT wet mop your hardwood floor.**
- All newly installed flooring needs to be swept or vacuumed, removing any dirt or debris before using liquid flooring cleaner. For heavier cleaning, use hardwood floor cleaner specified for polyurethane coated hardwood floors with a sponge or sponge mop. Hardwood floor cleaner is available at most local hardware stores. **DO NOT use a steam cleaner and never use wax!**

## RESIDENTIAL WARRANTIES

### EXCLUSIVE LIFETIME WARRANTY

This flooring is produced according to strict manufacturing and environmental standards. Our confidence in the product is reflected by extension of this full residential warranty to the original purchaser.

### PRE-INSTALLATION WARRANTY

We warrant that this product is free of defects and exceeds the industry standards. You and/or your installer should carefully inspect each plank before installation. Any uncut planks that appear to have defects should not be installed and can be returned to the original place of purchase to be replaced at no cost to you.

### LIFETIME STRUCTURAL WARRANTY

We guarantee that this product is free from defects in lamination and milling and will remain free of these defects for as long as you own your residence. In the unlikely event of delamination, warping, cupping or buckling of the product because of manufacturing defects, we will replace or repair the defective flooring pieces at no cost to you.

### FINISH WARRANTY

We warrant that there will be no wear-through of the finish for 25 years in residential (3-year limited commercial) installations provided the recommended maintenance procedures are followed.

### NO-BUCKLE MOISTURE WARRANTY

We guarantee that our floors will bond to the subfloor for the life of the flooring provided the installation and application are in full compliance with the installation instructions and the adhesive manufacturer's application instructions.

### ENVIRONMENTAL WARRANTY

Manufactured to CARB II specifications, the worlds strictest formaldehyde emission standard. All woods are from professionally managed "sustained yield" forests with complete chain of custody, Pan European Forest Certification (PEFC) Certified. The urethane acrylic finish does not release any harmful solvents, or heavy metals.

### EXCLUSIONS TO WARRANTY

These warranties are exclusive to the original purchaser and may not be assigned or transferred. This is a residential warranty only

### THE FOLLOWING ARE EXCLUDED FROM THIS WARRANTY:

- Improper Storage, Handling or Installation. Installation instructions must be followed. Subflooring must be dry and properly installed.
  - Improper Adhesives. Damage caused by use of water based adhesives over sheet vapor barriers or sound insulation.
  - Supplemental construction adhesive must be used with nail down installation. Failure to do so may result in board movement or noises to emanate from moving boards which will not be considered a manufacturing defect.
  - Deficiencies related to subfloor/floor joist assemblies, subfloor preparation materials, and fasteners including, but not limited to, uneven subfloor surfaces, floor deflection or voids in the subfloor.
  - Installation defects, including installations made: in violation of applicable state or local housing or building codes, or contrary to written instructions furnished with the product.
  - Natural variations. Wood is a natural product, containing natural variations in color, tone and grain. Changes in color due to aging, excessive moisture, exposure to sunlight or Ultra Violet rays (which may cause oxidation of finish/stain) is not considered a defect.
  - Noises including, but not limited to, squeaks, popping, etc.
  - Improper Maintenance. Maintenance instructions must be followed and in particular the floor cannot be wet mopped.
  - Wear caused by pebbles, sand or other abrasives, construction traffic, or failure to maintain the floor as required.
  - Abuse or Misuse. This warranty does not cover reduction in gloss, marks, scuffs, scratches, gouges, dents or cuts, including, without limitation, those caused by neglect, abnormal use or misuse, application of solvents, corrosives or other chemicals to the flooring, color change, excessive pivot and point-loads, stiletto shoes, heavy furniture or equipment, unpadding furniture feet, water, pet claws, pet urine, damage from sand, pebbles or other abrasives or other unintended uses.
  - Damage caused by caster wheels or vacuum cleaner beater bars.
  - Failure to support furniture with floor protectors that are at least one inch in diameter, made of non-staining felt or non-pigmented hard plastic, rest flat on the floor and are replaced regularly.
  - Splits, cracks, grain raising, surface checking, edge fracturing, splintering, chipping, end lifting, swelling, shrinking, cupping and bowing that occurs during or after the floor has been installed and as a result of abuse, misuse, improper maintenance or care, exposure to excessive moisture or improper environmental conditions (i.e., low or high humidity) are not covered by these limited warranties.
  - The humidity level in the home must be in the 30%–50% range throughout the year using air conditioners, humidifiers or dehumidifiers as appropriate. Variations in humidity may cause micro checking of the finish. This is not considered a defect and is not covered by the warranty.
  - Gapping of Planks. This warranty does not cover gapping caused by natural expansion and contraction, improper seating of planks during installation or by mastic memory.
  - Water Damage. This warranty does not cover damage caused by moisture penetration through the subfloor, flooding, leaking plumbing, overflowing sinks, similar water damage catastrophes, and failures arising as a result of hydrostatic pressure.
  - Insect Infestation. This warranty does not cover any insect infestation after the product has left the factory.
  - Radiant Heat. Only low temperature radiant heating systems which are regulated to never exceed 80°F at the wood surface may be used. If surface area is allowed to exceed 80° all warranties are void.
  - Wood flooring installed in full bathrooms with a shower or tub.
  - Color, shade, or texture variations between samples, printed color photography or replacement flooring and the actual material.
  - A product deformity that is not measurable or that is visible only under certain light or from a certain angle is not considered a defect and is therefore not covered by these warranties. Visible defects should be evaluated by their visibility from a standing position in normal lighting.
  - Products designated as "thrift," "antique," "tavern," "bargain," "cabin grade," "seconds," "economy grade," "close-out," "off-goods" or "non-standard." Such products are sold "AS IS."
  - Floors that are installed in other than owner-occupied or tenant-occupied residences.
  - Commercial installations of residential products.
  - Construction or installation-related damage.
  - Floors damaged by subfloor moisture or water damage, including without limitation, due to broken or leaking water pipes, flooding, wet-mopping spills or weather conditions.
- Other items not covered under the warranties include damage caused by natural events such as hurricanes, tornadoes, earthquakes, and floods; installation of flooring with visible defects; construction traffic abuse to the surface of the flooring; use of non-recommended nailers, staplers or adhesives; squeaking, popping or crackling by any cause other than the mis-manufacture of the tongue or groove.
- In the event that there is a claim against this warranty, the manufacturer will pay for one replacement of the portion of the installation that is defective. This includes all reasonable materials and labor. The manufacturer excludes and will not pay consequential or incidental damages under this warranty. The sole remedy provided herein is the repair, refinish or replacement, at the sole option of the manufacturer. In the unlikely event that the manufacturer is unable to correct the failure after a reasonable number of attempts, the manufacturer will refund, if requested, the purchase price of the portion of defective floor on a prorated basis. Any attempt to repair or replace the floor prior to the manufacturer's inspection and authorized repair actions will void this warranty. This warranty does not include the cost of labor if the flooring is installed by other than professional installers. It does not apply to any products designated or sold as B-grade which is sold "as is." There are no other warranties, including merchantability or fitness for a particular purpose, expressed or implied other than those listed within this warranty. This warranty will not be deemed to have failed its essential purpose while the manufacturer is willing to repair or replace defective goods. Some states do not allow the exclusion of incidental or consequential damages and therefore, this exclusion may not apply. This warranty gives you specific legal rights which may vary from state to state.

### Warranty Service

To obtain service under this warranty, contact your dealer.

REV: 10.19-604.23

# PALLADIO HARDWOOD

## WIDE PLANK ENGINEERED FLOORING

### INSTALLATION INSTRUCTIONS, FLOOR CARE & WARRANTIES

T&G • USA • 2021

## STOP! READ BEFORE INSTALLING THIS PRODUCT

The installer assumes all responsibility for final inspection of product quality PRIOR TO INSTALLATION. It is imperative that you inspect the products size, profile, quantity, style, color, and any other natural variation to ensure that the product is satisfactory and meets your specifications. Also be sure to check each board during installation for any visible defects such as mis-milled planks and blotches.

This flooring is manufactured in accordance with accepted industry standards, which permit a defect tolerance not to exceed 5%. The defects may be manufacturing or natural. The installer must use reasonable selectivity and hold out or cut off pieces with defects, whatever the cause.

**Do not install the product if there is any concern about its quality or specifications.** If material is not acceptable, contact the seller immediately. **Requests for replacement, refund or compensation made AFTER installation will NOT be honored.**

**This is a rustic product!** Hardwood flooring is a product of nature and its inherent beauty stems from the fact that each piece is unique with no two pieces the same. This product

may have very high color / character variation. This wood grade allows for some open wood character which may need some touch up after the installation is complete. Inspect each board for loose or rough wood character and cull out pieces appropriately.

- When flooring is ordered, **5% must be added for plank installation and 10% or more for pattern installations to the actual square footage needed** for cutting and grading allowance. See the "Pattern Material Ordering Details" document for amounts to order for many popular patterns.
- Prior to installation of any hardwood-flooring product, the installer must **determine that the job-site environment and the subfloors involved meet or exceed all applicable standards** and recommendations of the construction and materials industries. These instructions recommend that the construction and subfloor be dry, stiff and flat. The manufacturer declines any responsibility for job failure resulting from or associated with sub-surface or job-site environmental deficiencies.

## IMPORTANT

Please read the following information and instructions in their entirety before proceeding with installation.

- To ensure the full benefit of warranties, these instructions and maintenance procedures must be followed.
- Subfloors must be dry, level and clean.
- Both room and flooring must be properly acclimated to temperature and humidity conditions.

- Installers: Inform your customers of the details in "Installer/Owner Responsibility", "Installers - Advise Your Customer Of The Following", and "Floor Care Guide" sections.
- Do not open flooring packages until you are ready to begin installation.
- Work out of several cartons at the same time to ensure color and shade mix.
- When finished moldings are required for the project, pre-select the plank(s) that best coordinates with the color of the adjacent molding piece(s).

- This flooring may be laid over radiant heating provided there is effective and uniform heat distribution over the entire floor. The floor's surface temperature must never exceed 80°F. in any place.
- Do not use water based adhesives over sheet vapor barriers or sound insulation.
- Not recommended for bathroom or other high moisture installations.
- Use of stain, filler or putty stick for defect correction during installation should be accepted as normal procedure.

## INSTALLER/OWNER RESPONSIBILITY

Due to the fact that this flooring is a product of nature, the installer and/or owner, have the following responsibilities:

Understanding how the floor will look once installed – the installer and consumer must meet prior to installation to review expectations:

- **How was the floor chosen?** Review the control samples, (the samples from which the floor was chosen), and compare to the actual flooring batch (if there are multiple batches open a carton for each unique batch number and compare and blend during installation) onsite prior to installation making sure it meets the owner's expectations as to:

- **Grade – Is it the correct grade?** Also grade from batch to batch may vary slightly so make sure the owner is happy with this batch of flooring you are about to install.
- **Color/Graining** – Do certain dark/light pieces or wild grained need to be graded out to meet the owners expectations?
- **Color Variation, Batch to Batch** – Inspect the production run of flooring you received and make sure it meets your expectations. Wood from different locales can have varying colors and grains and differ from the samples from which the floor was chosen. Tint colors may also vary slightly batch to batch. Make sure the owner will be happy with the batch they received.

- **Color Change – Do they understand how the wood will change color over time?** The owner may have chosen their floor from samples that have aged so they need to understand in advance of installation the color change to be expected in this wood.

### Finish Issues:

1. Is the gloss correct?
2. Does the look of the finish meet the owners expectations?

## TOOLS NEEDED FOR INSTALLATION

- Handsaw, circular saw or jigsaw
- Chalk line
- Hammer
- Tape measure
- Pull bar
- Tapping block
- Wooden or plastic spacer wedges
- Moisture meter (wood, concrete or both)

For glue-down installations, use **DriTac® 6200, DriTac 9200, Parabond® Millennium 2002, Bostik Best®, Taylor 2071 or equivalent flooring adhesive** (See your distributor for adhesive recommendations.) Follow manufacturer's guidelines and tool recommendations when using adhesive. Do not use water based adhesives over sheet vapor barriers or sound insulation.

For staple-down installations, use the proper stapler. Staples must be 18 gauge, at least 1-¾" long with a ½" crown.

For floating installations use white wood glue (PVAC).

CAUTION: By not using proper tools, "puckering" may result on the face of the plank. The manufacturer is not responsible for problems caused by use of improper tools. See your distributor for tool recommendations and use.

**Note: Never hit the planks directly with a hammer. Always use a wooden block to protect the edges of the boards.**

## INSTALLERS - ADVISE YOUR CUSTOMER OF THE FOLLOWING

### SEASONS: HEATING AND NON-HEATING

Recognizing that wood floor dimensions will be slightly affected by varying levels of humidity within your building, care should be taken to control humidity levels within the 35–60% and 60°–75° Fahrenheit temperature range. To protect your investment and to assure that your floors provide lasting satisfaction, we recommend the following:

- **Heating Season (Dry)** - A humidifier is recommended to prevent excessive shrinkage in wood floors due to low humidity levels. Wood stoves and electric heat, in particular, tend to create very dry conditions.
- **Non-Heating Season (Humid, Wet)** - Proper humidity levels can be maintained by use of an air conditioner, dehumidifier, or by turning on your heating system periodically during the

summer months. Avoid excessive exposure to water from tracking during periods of inclement weather. Do not obstruct in any way the expansion joint around the perimeter of your floor.

### RADIANT HEATING

See the "Installing Over Radiant Heat" and "Exclusions To Warranty: Radiant Heat" sections for specific details to inform your customers about radiant heating.

### FLOOR REPAIR

Minor damage can be repaired with a touch-up kit or filler. Major damage will require board replacement, which can be done by a professional floor installer.

## PRE-INSTALLATION PROCEDURES

### ACCLIMATING THE HARDWOOD FLOORING

HVAC systems should be fully operational at least 14 days prior to flooring installation, maintaining a consistent room temperature between 60°–75° Fahrenheit and relative humidity between 35–60%. This not only stabilizes the building's interior environment, but also is essential when acclimating hardwood flooring to the job site.

Hardwood flooring should be unloaded and handled with care and stored within the environmentally controlled site. Flooring stored upon "on-grade" concrete floors should be elevated at least four inches to allow air circulation under cartons. Cartons should be spaced out, not stacked or stored on pallets. **Leave hardwood flooring in closed cartons during acclimation period.** Typical applications require at least a 48-hour acclimation period.

### ROOM PREPARATION

Remove existing baseboards, quarter rounds, thresholds and undercut door jambs, using a piece of flooring material as a guide. Door frames and other wooden elements should be sawed off at the bottom in order to be able to push the panels under them.

### PRE-INSTALLATION INSPECTION

It is the responsibility of the installer to **inspect each board for visible defects before installation.** Any board with visible defects will be replaced at no cost. If the defective board has been installed, no cost of labor will be paid for repair or replacement of defect.

### SUBFLOOR TYPE

This flooring can be installed over the following subfloors if properly prepared. For other types of subfloors please contact your distributor.

- **Concrete:** On, above or below grade installations are acceptable. Must be clean, dry and smooth within 3/16" over 10'.
- **Acoustic Cork:** Must be bonded to the surface. Density must be between 11.4 and 13 lbs/cubic foot. Cork must be a maximum of 1/4" thick, made from pure cork with polyurethane binders.

Natural flooring has variations.  
Planks may vary due environmental exposure, soil,  
and natural tannin variations.

**ALWAYS APPROVE FLOORING  
FOR QUALITY AND COLOR VARIATIONS PRIOR TO INSTALLATION**

- **Terrazzo and Ceramic Tile:** Should be lightly sanded and cleaned with mineral spirits. Allow the mineral spirits to dry prior to spreading the adhesive. If grout lines are too deep they need to be filled and allowed to dry before installation.

- **Wood Type Subfloors:** First, make sure subfloor is **smooth and dry.** See "Wood Subfloor Moisture Testing" for details

All wood subfloors must be **structurally sound**, at least 5/8" in thickness if plywood, or 23/32" thick if OSB, solidly fastened to appropriately spaced floor joists, and in compliance with all local building codes. Squeaks and popping areas should be screwed prior to spreading adhesive.

For detailed information regarding each different kind of subfloor, refer to the latest National Wood Flooring Association (NWFA) Installation Guidelines.

- **Vinyl:** Includes sheet and vinyl tile. Vinyl must be securely fastened to the subfloor with full spread adhesive. Loose laid or perimeter glued sheet vinyl must be removed. Lightly sand vinyl, clean with mineral spirits and allow to dry prior to spreading adhesive.

### SUBFLOOR PREPARATION

Subfloor must be:

- clean and free of wax, paint, oil, and debris. Scrape smooth and sweep.
- subfloor should be flat to 3/16" over 10'. If subfloor prep work is required, "hills" should be sanded down and "valleys" filled with an underlayment patch, developed by a reputable manufacturer for use with hardwood flooring. Do not sand sub-surfaces such as vinyl or synthetic tiles that may contain asbestos. For depressions less than 1/4", it is possible to use dry sand as a leveler.
- structurally sound prior to installation. Screw loose areas to reduce squeaking

and replace water damaged or delaminated sub-flooring or underlayments.

### WOOD SUBFLOOR MOISTURE TESTING

Check moisture content of subfloor especially adjacent to exterior walls and plumbing fixtures. **Moisture content of subfloor must not exceed 12% or have more than a 4% difference than moisture level of product being installed.** If more than a 4% difference, determine the source of moisture and remedy prior to installation.

### CONCRETE SUBFLOOR MOISTURE TESTING

Several tests are outlined below. These tests do not guarantee a dry concrete slab year round. With that in mind, a moisture barrier using a minimum of 6 mil poly film should have been installed between the ground and concrete. See "Concrete Moisture Barrier System" below.

- **3% Phenolphthalein in Anhydrous Alcohol Solution** Do not apply solution directly to concrete surface. First, chip 1/4" deep into concrete test area and apply several drops of the solution. If any change in color is observed, further testing is required.
- **Calcium Chloride** Moisture transfer should not exceed 3 lbs/1,000 square feet with this test. One test must be performed every 250 square feet.
- **Tramex Concrete Moisture Encounter Meter** Moisture readings using a metering device should not exceed 4.5 on the upper scale.

### CONCRETE MOISTURE BARRIER SYSTEM

If the above tests reveal unacceptable moisture levels, install sheet vinyl (PVC) directly to concrete slab. Follow instructions from sheet vinyl manufacturer, using a premium grade alkaline resistant adhesive and full

spread application system to bond vinyl to subfloor. Do not use water based adhesives over sheet vapor barriers or sound insulation.

### SET UP

- In order to have sufficient material on hand, **calculate area and add 5%** of material to allow for cutting waste and minor natural or manufacturer's defects.
- **Work out of several cartons at the same time** to ensure color and shade mix.

### LAYOUT

- Layout should be designed to save labor and materials as well as to enhance the appearance of the floor. The floor will be stronger and more stable if you lay it so that the joints in the rows are staggered at least 10 inches. Staggered or irregular joints mean less material waste and a better overall appearance. Stair stepping and "H" joints are not as visually pleasing as randomly staggered end joints and will waste labor and material.

- Plan the layout so that the last row of flooring (which usually needs to be cut lengthwise) is not too narrow. The last board cannot be less than 2" wide. In some cases, it may be necessary to cut the first row as well as the last row. Measure across the entire room to calculate the width of the last board. If necessary, rip your first row (remove tongue edge) so last board can be at least 2" wide.

- **Allow 3/8" expansion space along all walls.** Flooring should be laid at right angle to the floor joist and, if possible, in the directions of the longest dimension of the room.

- The greater the surface area, the greater the room for expansion required. For rooms larger than 1,000 sq. ft. or exceeding 25' in any direction the perimeter expansion space must be increased 1/16" for every additional 3'. Also, additional expansion joints must be added in the middle of the room or in appropriate doorways and archways. The expansion space should be covered with transition moldings (T-moldings). Do not fill the expansion gaps.

subfloors. It must be directly under and as close to the flooring as possible.

- Heating pipes must be covered with 1" of concrete or be a minimum of 1/8" below bottom of plywood subfloor.
- The wood floor must lie tight against the sub-surface without an air gap that can cause considerable drying out of the wood.

### LAYOUT

Separate adjoining radiant heated and non-radiant heated areas with expansion joints.

Continue with Floating Installation.

### INSTALL UNDERLAYMENTS

Install 6 mil Polyethylene vapor barrier over entire flooring surface. Overlap sheets of Polyethylene 16" and tape together creating an airtight seal. Using 1/8" foam padding, roll out one roll at a time over vapor barrier being careful not to poke holes or otherwise damage material during installation. Run padding up walls 1" to 1.5" and secure in place with tape. Join padding sections with tape strip. Tape down any additional loose edges. A "2-in-1" foam padding /moisture barrier may be substituted for Polyethylene.

### INSTALLING THE FLOOR

Boards are installed left to right with the groove side facing the wall. A stair-step pattern will be repeated throughout installation. Stagger the ends of the boards a

minimum of 8 inches. **Leave a minimum 3/8" expansion around all vertical objects** such as walls, poles, and stairs. If starting wall is uneven, trace the contour of wall, using a scribe, onto first row of planks and cut to size.

### APPLICATION OF ADHESIVE

To secure a durable wood floor the boards must be bonded with adhesive in the tongue and groove. We recommend waterproof PVAC glue. The glue must be applied in a continuous 1/8" bead on the inside top of the groove on both the long and short edges.

### GLUING AND TAPING

Dry fit first row using stair-step pattern. Number each plank in the order of installation. When you reach the last plank in

## FLOATING INSTALLATION

first row, turn plank 180° so tongue is flush against tongue of previous plank. Mark the plank and cut to length. Dry fit final plank of row.

Begin dry fitting second row, starting with (if possible) left over piece from previous row. Be sure to stagger end of boards at least 10" to achieve effective stair step pattern.

Floating installation is completed by gluing and taping flooring profiles together. Separate first two rows noting installation order. Holding the first board with the tongue resting in the palm of your hand, apply a thin bead of glue in the groove on the side and end of the board. Repeat process with subsequent planks. Press each board firmly together, tapping profiles lightly with a block and hammer if necessary. **Clean excess glue from between boards with a damp**

**cloth.** Tape each board together at side and end seams. Often the last row will not end with a full plank. When this happens, place a full row of planks on top of the last row installed. Insert a 3/8" spacer against wall, and using a full width plank, trace distance from wall onto final row. Cut planks for final row to designated width. Apply glue and fit into place. **Tape may be removed within one hour.** Allow 12 hours before placing furniture on floors and 24 hours before introducing heavy objects or full traffic.

**Note: Do not install cabinets or walls on top of floating floors.**

## GLUE-DOWN INSTALLATION

### GLUING THE PLANKS

- To determine a straight first starting row, use a snap line the width of a few boards plus 3/8" expansion space from the wall. To keep first rows straight and in place, nail a straight 1" x 2" or 1" x 4" holding board on the first snap line.
- Make another snap line at about 24" from the holding board.
- Spread adhesive in first working area. Do not spread more adhesive than can be covered within 20 minutes.
- When the first section is complete, strike another parallel snap line from the last row installed, spread the adhesive and complete the section.
- Repeat section by section until the job is finished. Remove the starting board, spread adhesive and complete the area from the starting board to the wall.
- To fit the last piece, lay it upside-down with the tongue edge parallel to the tongue edge of the piece next to it, the short end butting up against the wall. Mark the cutting line on the back of the board and cut it to the correct width (save the cut off piece for the second row). Turn it over, fit it and glue in place.

## STAPLE-DOWN INSTALLATION

### SUBFLOOR PREPARATION

Remove all dirt and rough areas by thoroughly cleaning, sanding and leveling. Note: particle board is not a suitable subfloor for staple-down installation. See "Wood Type Subfloors: for details.

If installing over a crawl space or wet basement, it is advisable to use the full glue down method, this will help to retard moisture from below.

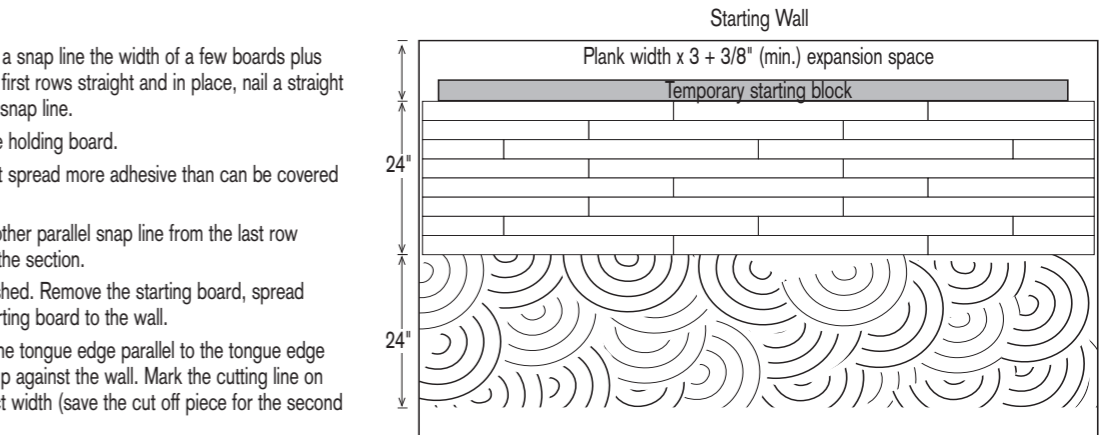
Keep in mind there is no complete moisture barrier system for staple down installations.

### GENERAL INFORMATION FOR PNEUMATIC FASTENING MACHINES

**Note: Use pneumatic staplers with correct shoe base for thickness of the product.**

When installing these engineered wood planks by stapling, it is necessary to use the proper type of flooring stapler made for these engineered wood floors. Incorrect tool adjustment or cleat size may cause displaced wood to create blemishes on the floor surface.

Use 18 Gauge staple, at least 1-1/2" long with 1/4" crown or 18 gauge cleat at least 1-3/4" in length.. Place 2" from the ends and every 6" along the edge tongues. This will help insure a satisfactory installation. It is best to set the compressor PSI at 80 - 85 lb. to keep the fasteners from going through or breaking the tongues. Improper fastening techniques can cause squeaks in the floor.



Adjustments may be necessary to provide adequate penetration of the fastener into the tongue. You want the fastener flush in the staple pocket, not counter sunk or protruding. Improper pressure settings and failure to use proper adapters can cause severe damage to the flooring. Low air pressures may fail to properly set the fastener and damage adjoining boards. Air pressures set too high may cause damage to the tongue which may dramatically reduce the holding power of the fastener causing loose, squeaky floors. Make certain that the compressor has a regulator in-line with the air hose for proper adjustment.

Set the compressor pressure to recommended PSI and adjust accordingly using a "practice" board. Use a scrap piece of flooring material to set tools properly before installation. Check for surface and tongue damage before proceeding with installation.

### SUPPLEMENTAL ADHESIVE REQUIRED

**It is required that supplemental construction adhesive be used with staple down installation of wide planks. Failure to supplement staple use with adhesive may result in board movement or noises to emanate from moving boards which will not be considered a manufacturing defect.** These adhesives may be trowelled on using methods and trowel recommended by the manufacturer or laid down in a bead if using sausage or cartridge adhesive. If trowelling and stapling the floor you should spread

rows of adhesive that are perpendicular to the board direction and no more than 12 inches apart. If beads of adhesive are used they should be applied to the subfloor in a serpentine fashion along the entire length of the boards. A flexible wood flooring adhesive such as Bostik Best, Liquid Nail, Bona R851, R850T (tube), or urethane construction adhesive should be used. (See your distributor for adhesive recommendations.) Follow manufacturer's guidelines and tool recommendations when using adhesive. Do not use water based adhesives over sheet vapor barriers or sound insulation. Care must be taken to remove excess adhesive from the floor surface immediately or permanent damage may result.

### SETTING FIRST ROW

To determine a straight first starting row, use a snap line the width of a few boards plus 3/8" expansion space from the wall. To keep first rows straight and in place, nail a straight 1" x 2" or 1" x 4" temporary starting block on the first snap line. **(See illustration above.)**

### BEGINNING INSTALLATION

Place the planks with the tongue facing away from the wall and along your temporary starting block.

Blind nail at a 45° angle through the tongues. **Pre-drill the holes in the tongues to avoid splitting the tongue.** Place 6d nails 2" from the ends and every 6" along the sides. It will be necessary to blind nail

the next 2 rows. A brad nailer with 1"-3/8" brads can also be used to blind nail and no pre-drilling is needed. Pre-test to see that tongue does not split.

Counter sink the nails and fill with a filler that blends with the flooring installed. Place the nails in a dark grain spot in the board. The base or shoe moulding will cover the nails when installed after completion of the installation. Continue the installation using an engineered wood flooring stapler, using recommended staples.

### CONTINUE WITH STAPLING

Continue installation with several rows at a time, tightening boards as necessary to reduce gaps before fastening. **Use 18 Gauge staple, at least 1-3/4" long with 1/2" crown. Place 2" from the ends and every 6" along the edge tongues.**

### LAST ROWS

The last 1–2 rows will need to be face nailed where clearance does not allow blind nailing with stapler or brad nailer. Brad nail or face nail on tongue side. Rip the final row to fit and face nail. If the final row is less than 1" width, it should be edge-glued to the previous row, before installation. The two joined rows can be face nailed as one board.

Go back to the starting wall, remove the temporary starting block and complete final rows using 6d nails, counter sunk and filled.

## INSTALLATION OVER RADIANT HEAT

### INSTALLERS—ADVISE YOUR CUSTOMER OF THE FOLLOWING

- Maximum allowable wood surface temperature is 80° Fahrenheit. Note that rugs can increase surface temperatures 5° Fahrenheit or more.
- Maintain 35-60% humidity at all times. If necessary, use humidifiers.
- Room temperature should not vary more than 15° Fahrenheit season to season.

### HEATING SYSTEM REQUIREMENTS

- Only low temperature radiant heating systems with accurate control systems that assure that the floor's surface temperatures never exceed 80°F are permitted.

- The entire floor area must be evenly heated. Even with perimeter heating systems the floor's surface temperature must never exceed 80°F.

### SETTING THE HEATING SYSTEM FOR INSTALLATION

- System must be fully operating at normal temperature for a minimum of 21 days prior to floor installation.
- The heating system must be turned off 24 hours prior to installation and must remain off for 24 hours after installation.
- Starting 24 hours after completion of installation, turn on the heating system and gradually increase the temperature over a 7-day period to normal operating

level. Never allow the floor surface temperature to exceed 80° Fahrenheit.

### SUBFLOOR

- The floor construction should have a heat dissipating layer that provides an even temperature across the entire floor area and avoids high temperatures in any area. Under plywood subfloors heat transfer plates or insulation must be in place.
- The subfloor should be completely dry. Moisture on a dry weight basis must not exceed 1.5% for concrete, 0.3% or less for gypsum and 6–12% for wood subfloors.
- A vapor barrier should be installed on all concrete, stone, mineral or wood