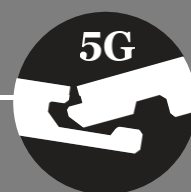


INSTALLATION GUIDE

FLOATING WOOD FLOORING WITH 5G-JOINT



**WOODLAND
RESERVE**



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ATTENTION INSTALLERS

**THIS FLOOR MUST BE OILED AFTER
INSTALLATION AND PRIOR TO USE.
FAILURE TO OIL WILL VOID WARRANTY!**

INSTALLATION REQUIREMENTS FOR FLOATING WOOD FLOOR

General

Wood is a “living” material and hygroscopic. Depending on the ambient air humidity and temperature, the material either emits or absorbs moisture. This is associated with a change of volume (swelling or shrinkage). It is therefore important that there is an “expansion gap” in between the floor and the wall and other fixed objects when a wood floor is floated. To stop the floor absorbing moisture prior to installation, it is important not to open packaging until just before installing.

Many mistakes and damage to the floor can be avoided by studying the instructions before starting installation and then following them carefully.

Note that moisture levels in new build premises often remain relatively high by the time wood floors are installed.

To avoid damage, it is important that the relative humidity during and after installation is between 30-60%. The temperature of rooms and materials must be between 55-85°F. A wood floor must not be installed until all other trades, such as painters and tilers, have finished their work and the site has the correct RH.

Moisture protection is necessary for floating floors.

The floor must be oiled after installation and prior to use. Satin Oil is required for ongoing maintenance of the floor. FAILURE TO OIL WILL VOID WARRANTY!

A vapor barrier on the following subfloors, whatever their age, is obligatory for the reasons given below:

- concrete floor lying directly on the ground (ground-supported slab)
- floor above warm or humid area (i.e. boiler room or laundry room)
- structural floor above a ventilated crawl space foundation
- lightweight concrete floor structures
- underfloor heating

If the subfloors relative humidity is higher than 90%, plastic sheeting will not provide a sufficient vapor barrier.

Wood floors should always be laid staggered (minimum of 20” between joints) in every row, even in small areas such as hallways. Distributing the short ends evenly means that the floor will remain flat and level even during seasonal climate changes.

Products and installation methods follow the guidelines set out in the NWFA (National Wood Flooring Association) standards.

General preparations

- Store the floorboards in their packaging.
- Read the instructions carefully before installing.
- Open the packs only when needed during installation.
- The subfloor must be dry, level, clean and solid.
- Check the humidity of the subfloor. Subfloors consisting of newly cast concrete, ground-supported concrete floors, above warm or humid areas, over crawl space foundations or over an underfloor heating system must first have age-resistant polyethene sheeting or underlayment laid to protect against moisture. Lay the sheeting with a minimum overlap of 8”. If the subfloors relative humidity is higher than 90% plastic sheeting will not provide a sufficient vapor barrier. Any moisture problems should be taken care of before starting to install the floor.
- The rooms relative humidity shall be between 30–60% RH. The temperature of the room must be between 55-85° F
- Where applicable, an intermediate layer can be laid on top of the sheeting to reduce impact noise. Use 2–3 mm polyethene foam in combination with the sheeting. Butt the edges of the intermediate layer. If impact sound reduction is required, please contact an acoustics specialist.

Put damaged or faulty boards to one side. They may be surplus or useful for finishing the project.

The 5G-joint helps reduce errors during installation. If you make a mistake, boards can be taken up and re-laid quickly and easily which simplifies the process.

We recommend that you consult your flooring supplier regarding building moisture, if you want to lay a large floor or if anything else is unclear.

INSTALLING WOOD FLOORS OVER UNDERFLOOR HEATING

Make sure that all the necessary tests on the underfloor heating system have been completed before the flooring installation begins.

Installation

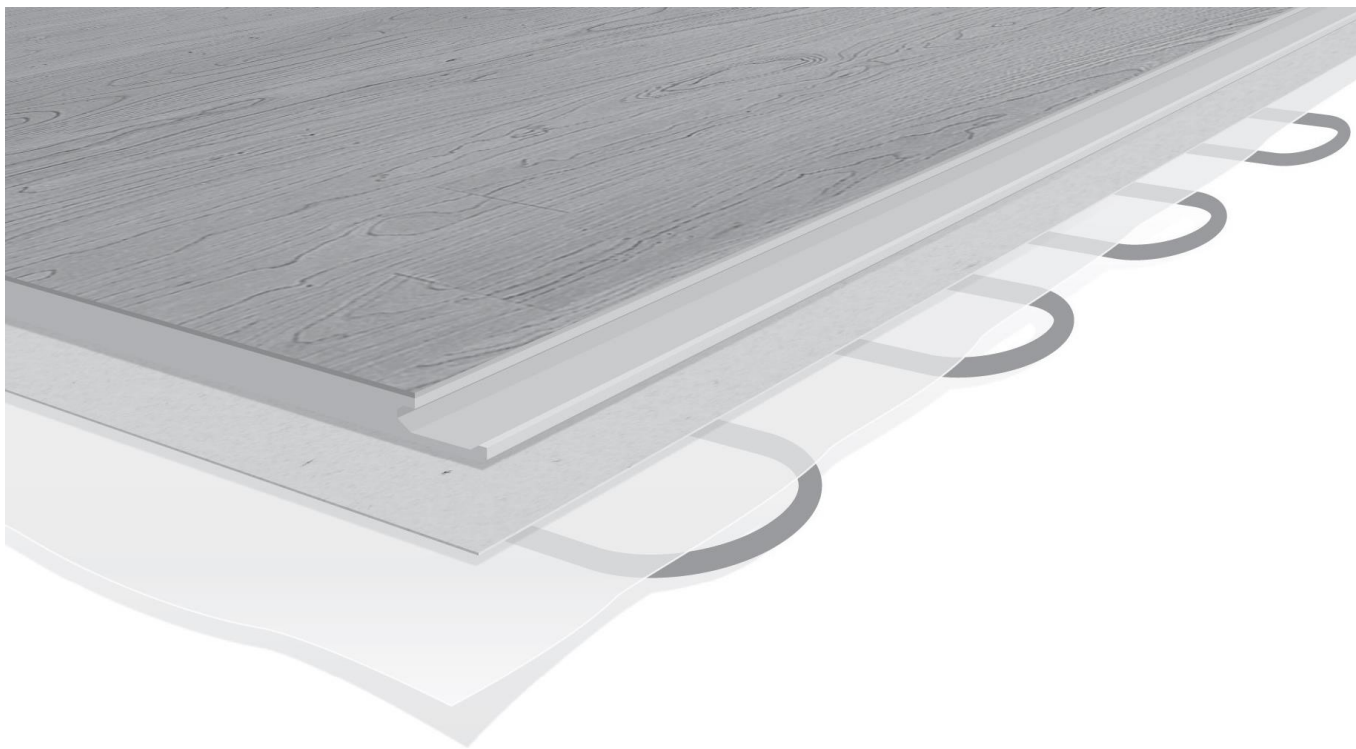
The working temperature (materials, subfloor and room air) during installation must be between 55-85° F. As with installation where there is no underfloor heating, the relative humidity (RH) of the air must be between 30–60% before, during and after installation.

Note that a cold subfloor warms up slower than the room air.

Please Note maximum floor temperature cannot exceed 81° F.

Note that the requirement for expansion gaps at door openings is greater with underfloor heating because the floor moves more. Remember that a floor installed over underfloor heating is more vulnerable to moisture (high RH) than an unheated floor because the floors moisture content varies over a wider range.

A vapor barrier of an approved type is required.



WHAT TO CONSIDER BEFORE INSTALLATION

Scheduling installation

Wood floors must not be laid until all other work, i.e. painting, wallpapering and tiling is completed. The site must have the correct RH. This avoids contamination and moisture damage to the floor.

Storage

Do not open the packs of flooring until you are ready to install. Open the packs only when needed during installation.

Installing boards in patterns

We recommend gluing to the substrate when the boards are to be laid in different directions in the same room. Floors cannot be installed with short ends against long sides.

Fixtures

Fixtures, kitchen islands, partitions, etc., must never be fixed to the flooring in a floating installation. They can be fixed *through* the floor provided a space is allowed to prevent the fixed object from pressing down on and trapping the floor. There must be an expansion gap around the space.

Fix all the fixtures first, then the floor. If the wood floor needs to be installed under the fixture for any reason, there must be an expansion gap under the kickboard.

Modern kitchen units are normally fixed to the wall with supporting legs at the front resting on the floor - this is generally of no significance to the floor.

Planning floor installation

Measure the width of the room and calculate the width of the last row of boards. If it is less 1/3 of a plank, you should also rip the first row of boards in half to equalize the widths of the first and last rows. Remember to include an expansion gap.

When installing floors with a 5G-joint, it is easier if you start on the longest side of the room with the most doors. If there are doors along the short side of the room, begin each row of boards there. The boards can be installed from both left and right as well as "backwards". If the area is geometrically complex think carefully about the best method of installation, where you should begin laying and suitable places for expansion gaps. Plan carefully to avoid exceeding the maximum width of 80'.

Uneven subfloors

If small depressions in the subfloor are noticed during a floating installation they can be filled using felt paper (max. 3 layers). However, do not use more than one layer of underlayment because it is excessively soft.

Choice of laying direction, maximum widths

We recommend laying lengthways because boards move less along their length than across their width. In narrow areas, such as halls, it is particularly important that the boards lie flat against the subfloor and must be installed lengthways.

Cleaning the subfloor

Never leave sawdust or another organic residue on the subfloor. There is a high risk of mold if the space between the vapor barrier and the subfloor contains organic material and high humidity.

WHAT TO CONSIDER WHEN INSTALLING

Temperature and humidity conditions

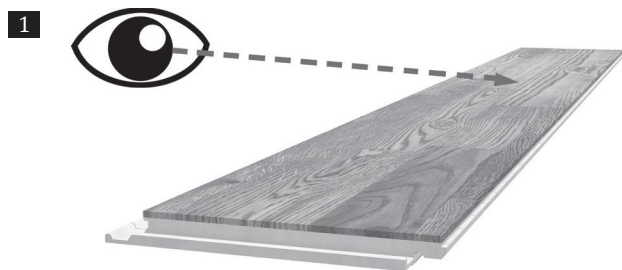
The working temperature when laying should be between 55-85°F. The relative humidity of the air must be between 30–60% before, during and after installation.

Opening packs

The wood floor is supplied “furniture dry”. If packs are opened too early the boards can absorb moisture and expand which makes them difficult to fit together. If packs have been opened they must be resealed carefully with tape to stop moisture getting in and adversely affecting the boards.

Inspection

It is always easier to rectify faults if they are discovered early. Always make a habit of inspecting the product at the time of installation. Boards with obvious faults that are detectable before installation must not be used. Always make sure that inspection and installation are carried out in good light. *Figure 1.*



End joints in small areas

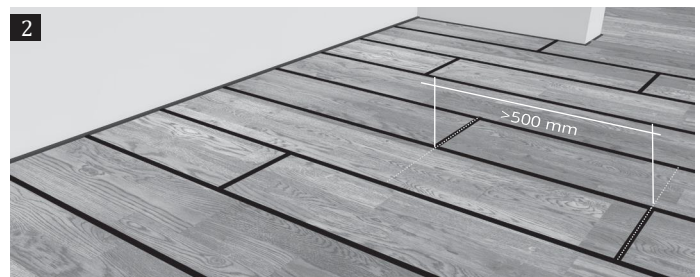
Even small areas must be laid staggered, i.e. all floor areas must have end joints in every row. The end joints of adjoining rows must be staggered by at least 20" to ensure that the floor remains flat and level during climatic variations, otherwise there is a risk that the floor could bow in high relative humidity. *Figure 2.*

Door openings

When installing through door openings or archways the door opening or archway must be undercut to allow for expansion.

Bowing

We aim to manufacture boards that are slightly convex lengthwise to make the floor easy to lay. Do not forget to stagger the end joints in accordance with the installation instructions.



WHAT TO CONSIDER AFTER INSTALLATION

Oil the floor immediately after installation.

An oiled floor accentuates the natural structure and grain of the wood - It is important to oil the floor after installation and prior to use in order to nourish and protect the floor.

Spilt liquids must be wiped up immediately. This is particularly important for Beech and Hard Maple because they move more than other species due to their greater sensitivity to moisture.

For more detailed information about care and maintenance, refer to the Floor Care Guide & Guarantee.

Protective covering

If further work is to be carried out in the room where the floor has been installed, the floor must be protected with a vapor permeable material (i.e. paper). Check that this will not discolor the floor. Note that some commonly used types of papers do not allow moisture to pass through and have a wax coating that may be transferred to the wood floor - this causes undesirable gloss variations. Make sure oil is completely dry before covering.

Tape

Tape only to the protective covering, not to the wood floor.

Ventilation

When a floor is installed in a new building, ensure adequate ventilation to prevent building moisture damaging the floor. Maintain room RH between 30-60%.

Color changes

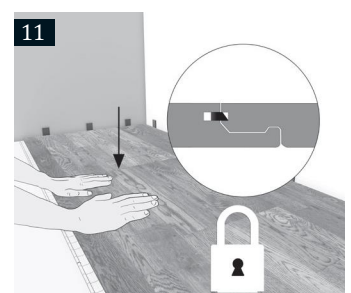
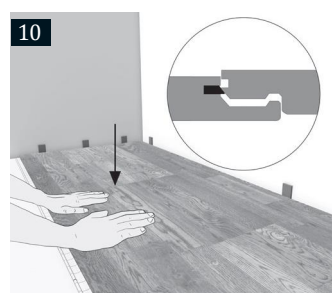
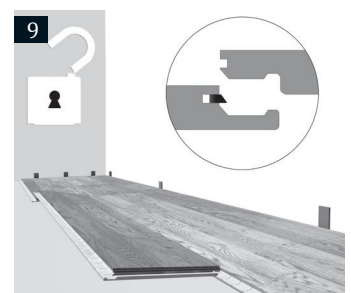
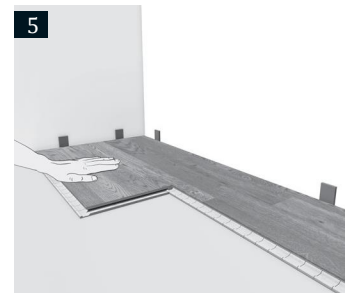
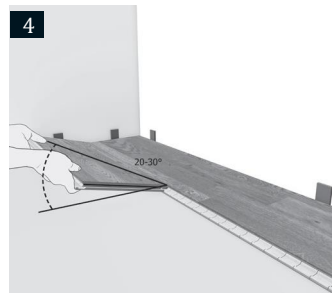
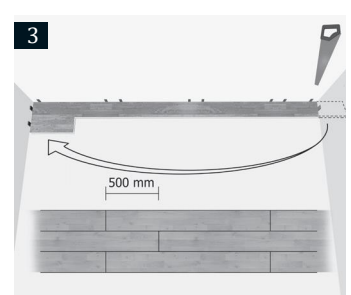
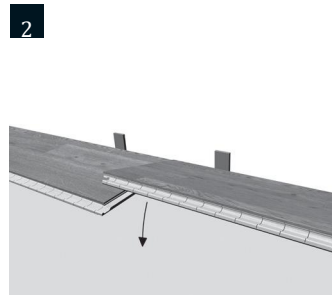
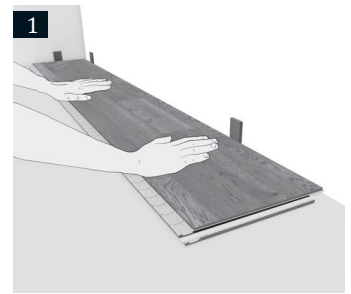
Wood is a natural material that gradually matures over time - this happens most quickly after installation. To achieve an even surface, area rugs should not be laid on the floor during the first few months. If there are already light patches from area rugs etc., they quickly mature when exposed to daylight.

INSTALLATION INSTRUCTIONS FOR WOOD FLOORS WITH 5G-JOINTS

- Installation requires a vapor barrier to get started.
- First, calculate how many floorboards are required. If the last row is less than 1/3 wide, rip the first-row boards in half. When installing floors with a 5G-joint it is easier if you start on the side with most doors. If there are doors along the short side of the room begin each row of boards here. The boards can be installed from both left and right.

- The maximum width is 80'.

1. Begin in one corner and work from left to right with the long underlip (groove side) facing into the room. The gap between the long side and the wall can be adjusted once three rows have been laid. Insert a wedge on the short side of the board.
2. Angle the floorboards as shown in figure 2. Continue in the same way for the whole of the first row. When the end joints are engaged you will hear an audible 'click'.
3. Cut the last board in the first row to the right length and start the next row with the piece left over. The boards end joints must be staggered a minimum of 20".
- 4–5. When assembling the floorboards the angle is important and should be a minimum of 20° and a maximum angle of 30°. When assembling the boards, start by positioning the board into the groove of the previous row.
- 6–7. Position the board using the correct angle (20–30°). Adjust the board into a position where the two short edges touch at the corner in accordance with the illustration. Make sure that the joint is free from dust or other particles.
- 8–11. Fold down the board into a position aligned with the surface of the previous board – this can be facilitated using a Hand block. Positioning the boards requires only light taps on their edges. Hold the tapping block lengthways against the edge of the board keeping one end in contact with the board, tap the board with the block. This applies the correct force and the board will not be damaged.



12. When three rows have been laid the distance from the floor to the walls can be adjusted. Place wedges between the floor and wall.

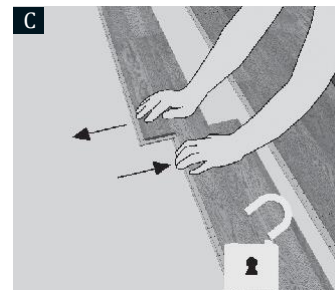
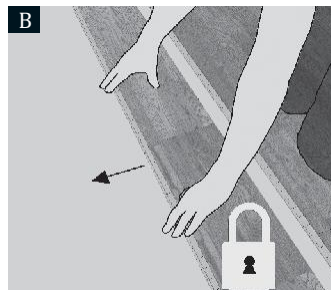


13. The final board is then sawn to the correct width. Lay the final board on top of the last board row with an approximate 1/4" displacement to the wall. Mark the section to be sawn using a piece of board with a locking strip. Lay it against the sawn board. Do the same with the next piece.



Dismantling

A, B, C. The installed boards can be dismantled. Fold up a whole row and unlock the short end joint by sliding the boards horizontally.

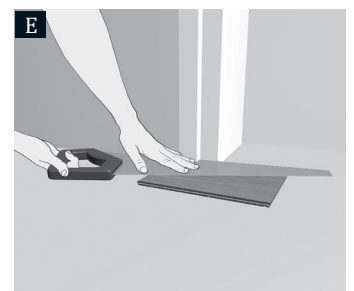


A few problems that are easy to solve.

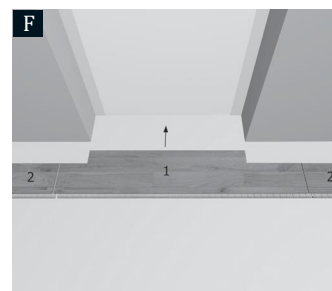
D. Drill holes in the board to accommodate heating pipes. The holes must be at least 1" larger than the pipe's diameter. Make saw cuts as shown in the diagram. When the board is fitted the sawn piece needs to be glued in place and the holes covered with pipe collars.



E. If you must cut a door architrave use a floorboard as a base so you get exactly the right height. If you need to knock a board along its length, protect the boards joint with a cut piece from a short end inserted into the joint.



F. Always begin each row of boards from a doorway. This makes it easier to push the prepared board under the frame. With the 5G-joint the other boards in the row can be laid from either left or right



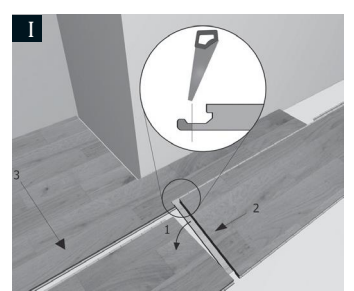
G. When laying the boards short end against a door frame, the board needs to be adapted to the frame or the door frame needs to be undercut. Lay the board as close to the door frame as possible and then knock it in carefully from the short end. Protect the board using a cut piece (i.e. a suitable short end).



H. If you are unable to angle the board in at a door frame, plane off 2/3 of the locking joint. This allows you to tap the board into place. Apply adhesive to the underlip to avoid weakening the joint.



I. When installing under reveals it is often easiest to fit these boards before the return wall board is laid. The entire subfloor must be covered with underlayment. Boards must be staggered at a minimum of 20".



OIL FLOOR MAINTENANCE

How often the floor needs maintaining depends on use, cleaning, exposure to sunlight etc. A couple of additional, more frequent, oil treatments carried out in the first year gives an extra-strong and easy to clean surface. The normal frequency of subsequent oil maintenance is at least twice a year. Remember that areas subjected to greater wear than the rest of the floor can be given localized maintenance. The higher the frequency, the better the results. The surface to be maintained (re-oiled) must be dry and free of dust and dirt.

Oiling Instructions

1. Vacuum or sweep the floor carefully.
2. Clean the floor using a pH neutral cleaner and microfiber mop. The surface should be dry again within a minute. For very dirty floors replace the microfiber mop using a soft brush.
3. Remove cleaner and dirt using a wrung-out cloth.
4. Dry the surface using a clean, dry cloth and leave the floor for 30 minutes. For very dirty floors with heavy texture it might be necessary to repeat steps 2 - 4.
5. Apply a thin layer of Satin Oil on the surface and spread evenly with a microfiber mop so that no sticky parts are left. Applying too much oil will result in a sticky surface that will attract dirt and debris. After a drying time of 3 - 5 hours the floor can be used with care but needs 12 hours before lighter furniture can be moved back. Wait 24 hours to move back carpets and heavier furniture.

Recommended Dosage

- After Installation: 1 liter of Satin Oil per 2,000 ft²
- Normal to lightly dirty floors: 4 ounces of Satin Oil per 300 ft²

RENOVATION

After extended use it may be necessary to renovate with a new oil treatment.

1. Apply pH neutral cleaner evenly over the surface.
2. Clean the surface using a microfiber mop. Mop until the dirt has been dissolved. For very dirty floors replace the microfiber mop with a soft brush.
3. Remove cleaner and dirt using a wrung-out cloth.
4. Dry the surface using a clean, dry cloth and leave the floor to dry for 30 minutes.

For very dirty floors or on floors with heavy textures, it might be necessary to repeat step 1 - 3.

5. Apply Satin Oil on the surface. Use microfiber mop to spread the oil evenly. This is done by rubbing both along and across the floorboard until a very thin and even oil layer is reached.
6. Let the surface rest for 10 – 15 minutes.

It may be necessary to repeat steps 5 -6 if there are areas with excessive wear.

7. Polish the surface using a new dry microfiber mop. This is done to secure that the oil has been evenly spread.

Please observe that two layers of thin oil gives a better result than 1 thick layer of oil. Applying a high amount of oil will result in a sticky surface that can attract dirt and debris.

Recommended Dosage

4 ounces of Satin Oil per 300 ft².

5G GLUE DOWN INSTALLATION INSTRUCTIONS

Note: These directions are based on industry standards and best practices. Warranty coverage may be lost due to failure to strictly follow all installation instructions and recommendations and/or the use of improper materials or tools.

READ ALL INSTRUCTIONS CAREFULLY!

Owner/Installer responsibility

The installer and customer must both ensure the product meets their expectations regarding appearance, quality, and grade prior to installation. The installer must use reasonable selectivity and cut off pieces with deficiencies, whatever the cause. Should an individual piece be doubtful as to grade, manufacture, or factory finish, the installer should not use the board.

Prior to installation, the installer must ensure that the jobsite and subfloor meet the requirements of these instructions. Flooring failure resulting from unsatisfactory jobsite and/or subfloor conditions is not covered under warranty.

Any decision not to proceed must occur within the first 10% or 100 square feet of flooring installed, whichever is less. Once installed, any board is considered as having been accepted by the installer and owner, even if owner is absent at the time of installation.

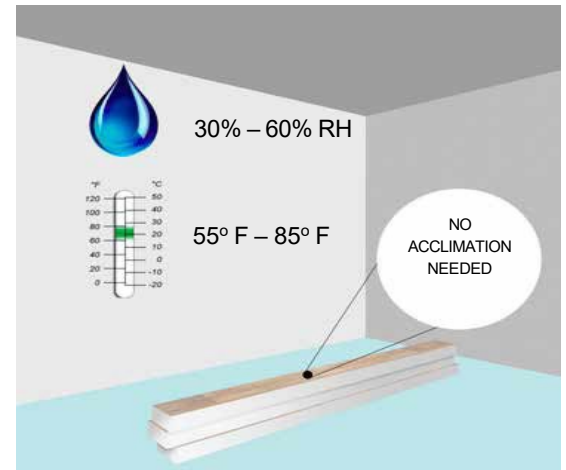
Owner must maintain the recommended temperature and relative humidity levels year-round.

Always store the hardwood flooring in dry conditions and do not open the cartons until just before installation.

JOBSITE CONDITIONS

Interior Conditions

- Products must be installed only in a climate-controlled environment, with doors and windows installed and operational HVAC system.
- Wood flooring should be one of the last items installed for any new construction or remodel project. All work involving water or moisture should be completed before flooring installation.
- Relative Humidity at the job site must be, and remain, in the range of 30% - 60%. Temperature setting must be, and remain, in normal operating range of 55°F - 85°F. Test and record (photograph) RH readings in each area where flooring products will be installed.
- Warning - humidity levels below 30% will likely cause movement in the flooring, including possible dry cupping, face checking and gapping between planks.



Exterior conditions

- Carefully inspect the outside surroundings for improper drainage and predictable or obvious sources of moisture. The yard should be graded (at least 6" in 10 ft.) to slope away from the foundation. Be sure that gutters and eaves sufficiently prevent rain from penetrating the foundation.
- Under the house: In homes with crawl space or pier-beam foundations, foundation vents must provide cross-ventilation with no dead air space. Vents should be located throughout the foundation with opening area equal to 1.5% of the square-foot area within the crawl space. If excessive moisture exists underneath the house, you must lay a 6-mil black polyethylene moisture barrier on the ground in the crawl space below the installation area.
- Basement should be free of all moisture and be weather tight. Relative Humidity of basements should not be more than 10% higher than the upper floors.
- Exterior site/structure issues are NOT the responsibility of the flooring contractor/installer or manufacturer.

SUBFLOOR REQUIREMENTS

Moisture and testing

The installer must confirm subfloor moisture conditions are suitable before installing any hardwood floor.

Wood subfloor moisture must read under **12%** and differential between boards and subfloor must be less than 4%.

Concrete subfloor must be fully cured and at least 60 days old. Evaluate several areas, especially near exterior walls and walls containing plumbing. Document and keep all results.

Acceptable test methods for concrete subfloor moisture content include:

- TRAMEX Concrete Moisture Encounter Meter: Moisture readings should not exceed 4.5 on the upper scale. Concrete Moisture Meters give qualitative reading results-not quantitative ones. These results are a quick way to determine if the further testing is needed.

Note: The following tests are required in residential/commercial applications. Either or both tests are acceptable.

- Calcium Chloride Test (ASTM F 1869): The maximum moisture transfer must not exceed 3 lbs./1000 ft² in 24 hrs. (2lbs./1000 ft² for Radiant Heat installations).

- RH Levels in Concrete Using In-situ Probes (ASTM F 2170) should not exceed 75%.

Preparation and specifications

A floor can only be as good as the subfloor allows. All subfloors must be **clean, structurally sound, dry, and flat**. Address any movement, delamination, squeaks/noise, water damage, physical damage, etc. prior to install. Use vacuum cleaner to remove any debris and dirt.

Subfloor flatness is different from 'level'. Level is typically not necessary, but it is extremely important to level the subfloor to achieve the **flatness** of an 1/8" in an 8' radius. Check this by using the edge of a plank to find any high or low spots. Sand or grind high areas or joints. Fill low areas with a latex additive cementitious leveling compound of 3,000-PSI minimum compressive strength patch and underlayment. For more information how to correct subfloor flatness, see NWFA Installation Guidelines.

Note: Subfloor deflection and movement are the main cause of squeaking floors. If subfloor deflection exists measures must be taken to correct. Check NWFA guidelines for joist spacing and plywood thickness.

Please refer to 'NWFA Wood Flooring Installation Guide' for more information on subfloor types and recommendations.

Techniques

Flooring can be directly glued to concrete or wood subfloors on or above the ground level. If Acoustical Membrane is needed, please consult your flooring specialist.

Installing floors with the Glue down method requires no expansion breaks in the floor and is not limited in size. A 1/2" gap at perimeter walls is recommended to allow engagement of last boards.

Adhesive Tape on Floor

The use of adhesive tape on this floor for any reason (i.e., to fasten temporary protection) is not recommended and is not covered in our warranty.

WARNING! INSTALLERS

WARNING: Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information go to www.P65Warnings.ca.gov/wood.

Precautionary Measures: If power tools are used, they should be equipped with a dust collector. If high dust levels are encountered, use an appropriate NIOSH-designated dust mask. Avoid dust contact with eye and skin.

First Aid Measures in Case of Irritation: In case of irritation, flush eyes or skin with water for at least 15 minutes.

UNDERLAYMENTS (optional)

Acoustic mats or underlayments without moisture barrier:

“Double stick” Glue-Down: Install acoustic mat (no moisture barrier attached) wall to wall, butt all seams together (do not tape seams), directly adhering to subfloor with a premium multi-purpose adhesive. Fully adhere flooring to underlayment using premium wood adhesive and trowel.

Note: an approved concrete sealer must be used if calcium chloride test exceeds 3lbs or in situ RH test exceeds 75% RH as recommended by the manufacturer of that product.

Direct Glue-Down over “float-in” underlayment: First install 6 mil polyethylene plastic loose-laid, seams over-lapped 8”. Run plastic up wall 2” (trim excess after installation, before installing trim). Loose-lay recycled rubber acoustic mat on top of plastic, wall to wall, butt all seams together (do not tape seams). Fully adhere flooring to underlayment using premium wood adhesive and trowel.

Note: an approved concrete sealer must be used if calcium chloride test exceeds 3lbs. or in situ RH test exceeds 75%RH as recommended by the manufacturer of that product.

GLUE DOWN INSTALLATION

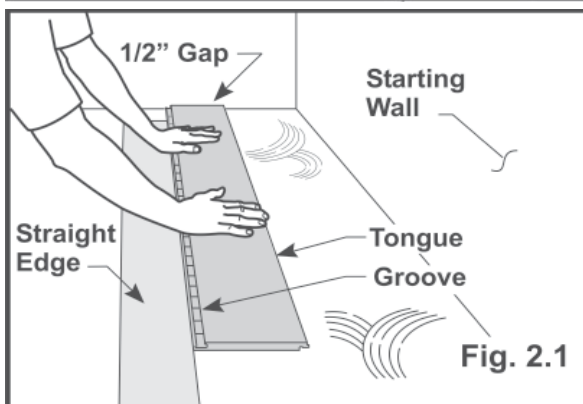
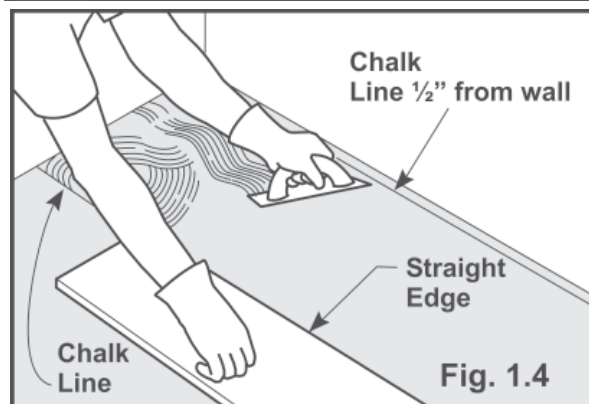
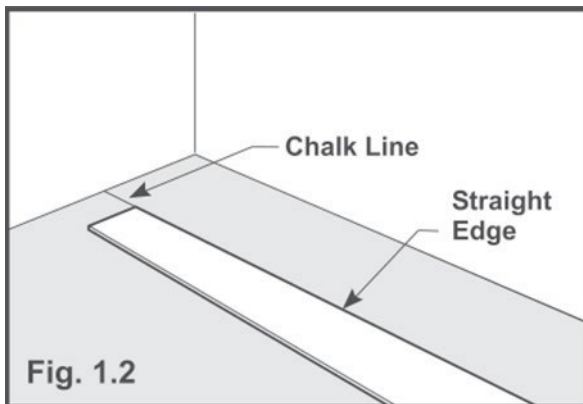
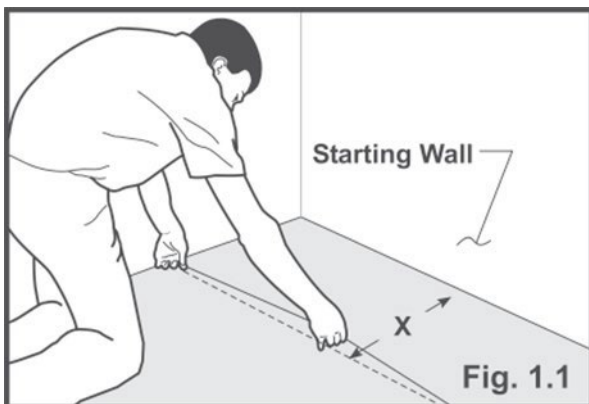
Important Installation Notes

- Do not open packages until ready to begin installation!
Inspect boards as you go. Opening cartons to acclimate the flooring (as with some solid strip flooring) could result in a difficult installation.
- It is installers responsibility to be aware of the grade, Relative Humidity of the room, and Moisture Content of the subfloor. You should check that each plank is free of damage or manufacturing defects. Any unusable boards should be set aside and not installed.
- When possible, preselect and set aside boards that blend best with all horizontally mounted moldings (reducer/stair nose etc.) This will assure a uniform final appearance. Install these boards adjoining the moldings.
- Always install the floor from several cartons at the same time to ensure good color and shade mixture.
- Cut door jambs and casings after subfloor leveling is completed to avoid difficult scribe cuts.
- Do not use rubber mallets or hammers on the finished edge of the floors.
- This flooring is approved for installations in ½ bathrooms only (no bathrooms including showers or bathtubs).
- See Jobsite/Subfloor Preparation section and follow all requirements before installation.
- Vacuum subfloor thoroughly.
- Recommendations for adhesives should come directly from the adhesive manufacturer of your choice. Follow the adhesive manufacturer’s instructions for proper use of the adhesive, application methods, flash-time, working-time, warranties etc.

Glue-Down Installation

Step 1 - Layout

- 1.1 Using starting wall as reference, snap chalk line on subfloor at distance X from wall as shown in Fig. 1.1. To calculate X, engage two boards together (refer to Step 2.1 on locking procedure) and measure total width, including exposed groove, then add 1/2".
- 1.2 Align straight edge (board or any solid material with straight edge) with chalk line and secure to subfloor (Fig. 1.2)

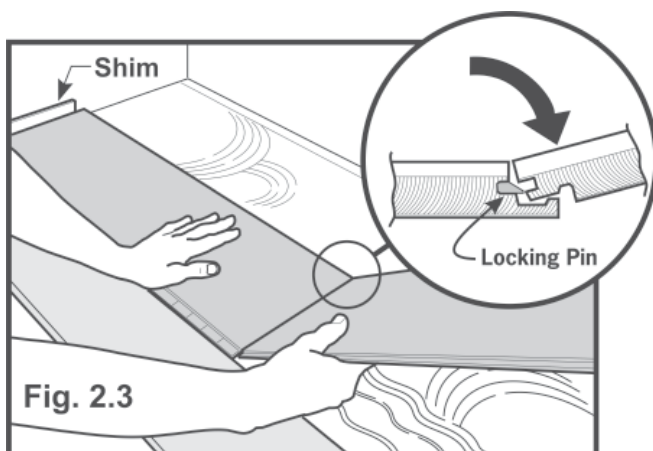


- 1.3 Measure 1/2" from starting wall and snap another chalk line (Fig. 1.4).
- 1.4 Spread adhesive in area between straight edge and second chalk line (Fig. 1.4). Use only as much adhesive as can be used during manufacturer's open time of adhesive.

Step 2 - Installation

- 2.1 Start with tongue side facing wall and long groove side directly up against straight edge as seen in Fig. 2.1 Lay board into adhesive. Remember to allow 1/2" expansion gap at wall.
- 2.2 5G locking pin is automatically pre-set.

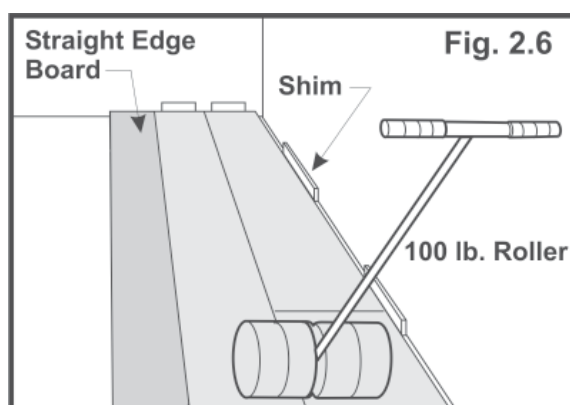
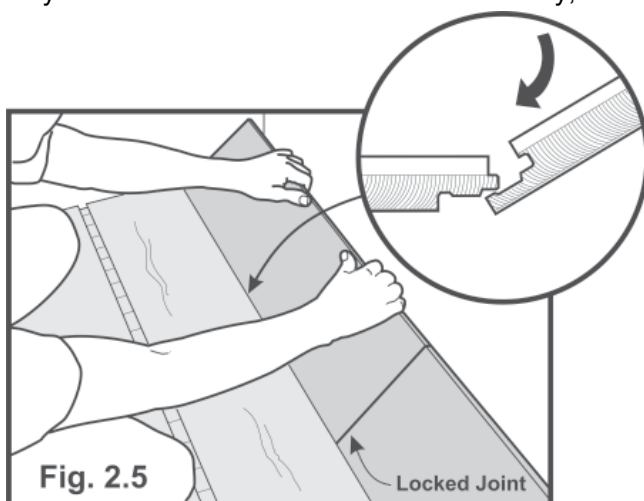
NOTES



2.3 Hold second board against first board at approx. 30° angle (Fig. 2.3). If locking pin is not positioned correctly board will not engage. Lay second board flat into adhesive.

Note: When 5G boards are engaged properly at the end joints you will hear an audible click, this is indication that the boards are locked.

2.4 On dry, flat surface, lay out entire second row starting with cut-off piece from last board in first row, if possible. Be sure to allow for expansion gaps at both ends. Ensure end joint stagger from row to row is a minimum of 25% of boards length. Lock short side of each board as described in Steps 2.2 through 2.4. With groove side facing first row, hold entire row at approx. 20° - 30° angle and press inward, completely engaging long side joint (Fig. 2.5). Now lay entire row flat into adhesive. If necessary, use Last Board Puller to assist with engagement of long joint.



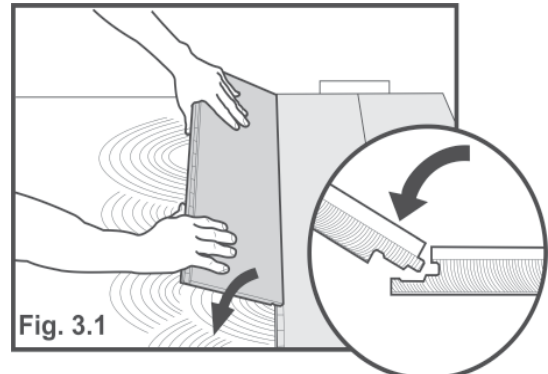
2.5 Once first two rows are installed, ensure expansion gap between walls and boards are shimmed securely. If recommended by adhesive manufacturer, roll flooring with 100# roller to ensure contact between flooring and subfloor (Fig. 2.6). Place weight (e.g., unopened cartons of boards) along perimeters until adhesive sets up. Then remove straight edge board.

NOTES

Step 3 - Subsequent Rows

3.1 After starting two rows are firmly in place, apply adhesive in a “wet lay” method. Do not apply more adhesive than can be used within open time of adhesive.

3.2 Start each row with cut-off end of last board from previous row (Fig. 3.1). Immediately place flooring in wet adhesive and proceed with installation, engaging locking pins of each board as you proceed.

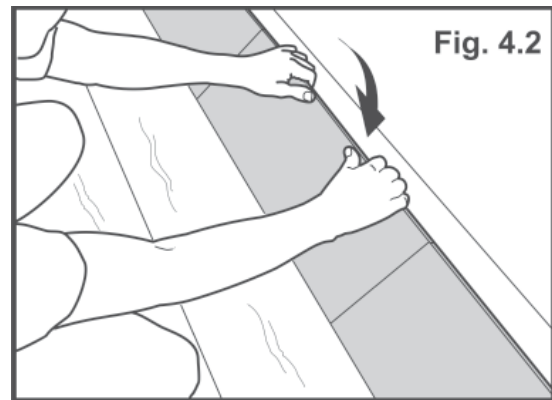
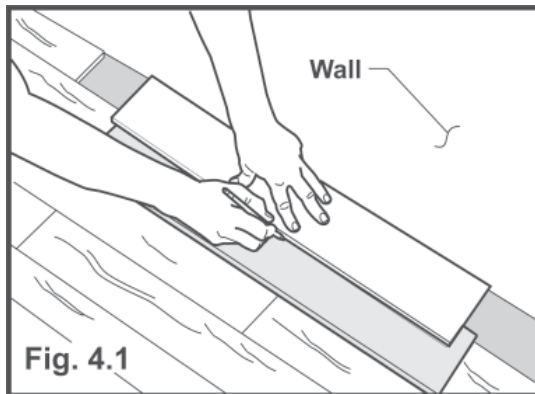


Step 4 - Custom Fitting Last or First Row

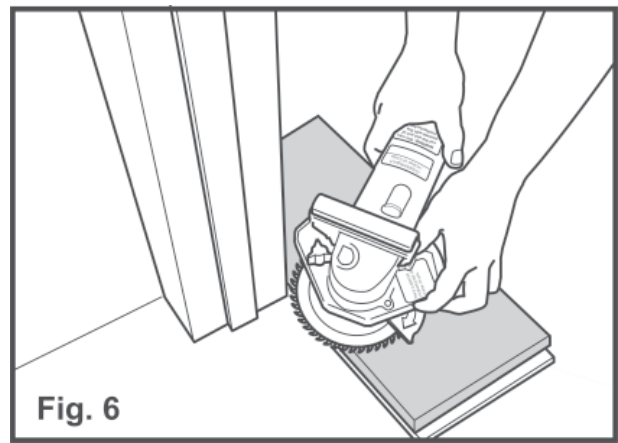
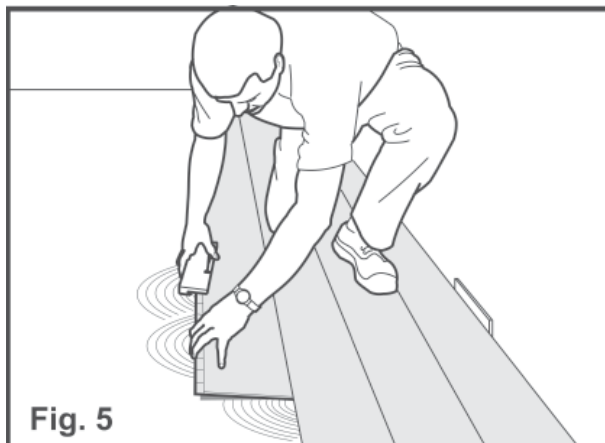
4.1 Since last row will generally not fit perfectly, scribe the entire row and cut to fit, allowing 1/4" (minimum) expansion gap (Fig. 4.1)

4.2 After sawing last (or first) row to shape, lift entire row and install to adjacent row (Fig. 4.2).

Installation Tips



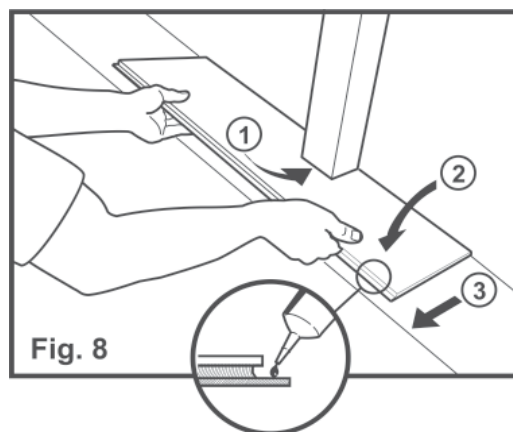
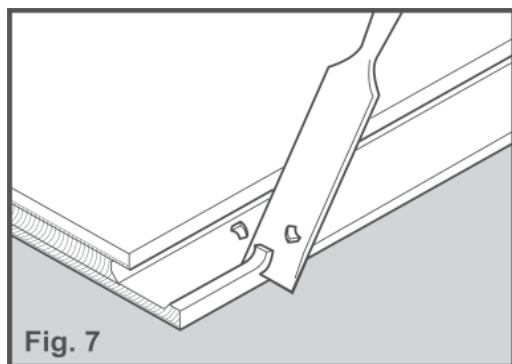
- After first three rows are laid, have one installer work on installing flooring while others spread adhesive and cut boards as needed.
- Installation of 5G is easier while standing/working on top of already-installed flooring (Fig. 5). Working in this manner lessens the chance of accidentally transferring adhesive onto subfloor surface, thereby reducing clean-up time.



NOTES

Doorway Installation

- If doorjamb (or similar) needs to be cut, use piece of board and piece of Underlayment to obtain correct height (Fig. 6). If new board needs to be tapped into place, be sure to protect edges with scrap of wood before tapping with handblock.
- If boards cannot be easily angled under door frame or similar, cut away locking edge as shown in Fig. 7, then apply wood adhesive and install board as shown in Fig. 8.



AFTER INSTALLATION

Note: Oil Finish Floors must be oiled with Satin Oil immediately after installation and prior to use. Immediately clean any adhesive spilled on wood flooring during and right after installation.

Regularly vacuum or clean floor using dry dust mop or cloth, use a pH Neutral Wood Floor Cleaner as needed. Do not use oil soap or water-emulsion, self-polishing waxes or water mixed with vinegar. NEVER wet mop floor. Place Floor Protectors on furniture legs to prevent damage.

Relative Humidity in the room

Maintain the Relative Humidity levels within 30%-60% range to avoid unwanted climate-related damage and movements in the wood floor, e.g., cracks, gaps, noise, cupping etc. In summer you may need to dehumidify the air, while in winter it may instead be necessary to increase the humidity in the air. At a too high or too low Relative Humidity, permanent shape changes of the wood floor can occur. It is important to ensure that even in empty and uninhabited spaces, the temperature and humidity are correct. This is especially important when installing in connection with e.g., new constructions or major renovations.

Damage caused by failing to maintain the proper humidity levels is not manufacturing related and will void the floor's warranty.

Not only do wood floors thrive best with a relative humidity in this range, but also us, as humans thrive due to better indoor air quality.

Adhesive Tape on Floors:

The use of adhesive tape on floor for any reason is not recommended and is not covered in warranty. After installation, if a protective cover over the floor is needed, cover the floor completely. Do not use plastic. Any protective covering should be taped, using a low-adhesion tape, to base or shoe moldings. When taping paper or sheets together, tape them to each other, not to the floor. NEVER apply tape to finished flooring. Do not allow the floor covering to sit on the installed floor for an extended period.

Color change

Wood is a natural material that gradually matures to its natural color, this change occurs fastest immediately after installation. To avoid uneven color change, carpets should not be laid on the floor during the first few months after installation of the floor.

5G STAPLE DOWN INSTALLATION INSTRUCTIONS

Note: These directions are based on industry standards and best practices. Warranty coverage may be lost due to failure to strictly follow all installation instructions and recommendations and/or the use of improper materials or tools.

READ ALL INSTRUCTIONS CAREFULLY!

STAPLE-DOWN INSTALLATION FOR 5G PRODUCTS

NOTES:

- Flooring is covered by a Limited Lifetime Warranty. However, warranty coverage may be lost due to failure to strictly follow all installation instructions and recommendations or the use of improper materials or tools. **READ ALL INSTRUCTIONS CAREFULLY.**
- Always begin a 5G installation with the tongues facing the wall!
- Proper expansion must be left at all walls.

IMPORTANT!

- **Do not open packages until ready to begin installation!** Inspect boards before installation. Flooring is sealed at the factory with a 7% moisture content. Opening cartons to acclimate the flooring (as with some solid strip flooring) could result in a difficult installation.
- As an installer, it is your responsibility to be aware of the grade, Relative Humidity of the room, and moisture content of the subfloor. You should check that each plank is free of damage or manufacturing defects.
- Flooring should be installed perpendicular to joists to prevent subfloor sagging. The subfloor must be reinforced to nail down flooring with the 5G joint parallel to joists.
- It is the installer's responsibility to be aware of the grade, Relative Humidity of the room, and Moisture Content of the subfloor. You should check that each plank is free of damage or manufacturing defects.
- When possible, preselect and set aside boards that blend best with all horizontally mounted moldings (reducer/stair nose etc.) This will ensure a uniform final appearance. Install these boards adjoining the moldings.
- Always install the floor from several cartons at the same time to ensure good color and shade mixture.
- Do not use rubber mallets or hammers on the finished edge of the floors.
- The use of adhesive tape on the floor for any reason (i.e., to fasten temporary protection) is not recommended and is not covered in our warranty.

PRIOR TO INSTALLATION

- Door casings should be notched or undercut to avoid difficult scribe cuts.
- Sweep or vacuum subfloor thoroughly.
- Once subfloor has been prepared, we recommend covering subfloor with 15 lb. or higher asphalt felt or rosin paper to retard moisture and help alleviate any remaining variations.

WARNING! INSTALLERS

WARNING: Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information go to www.P65Warnings.ca.gov/wood.

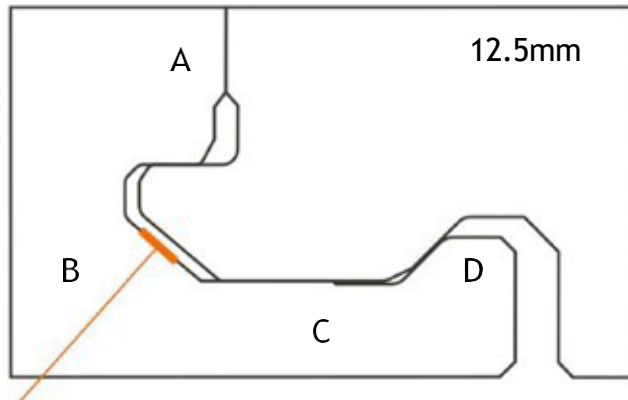
Precautionary Measures: If power tools are used, they should be equipped with a dust collector. If high dust levels are encountered, use an appropriate NIOSH-designated dust mask. Avoid dust contact with eye and skin.

First Aid Measures in Case of Irritation: In case of irritation, flush eyes or skin with water for at least 15 minutes.

Staple-Down Installation for 5G Products

1. Background

A principal description of nailing down wooden floors. A modified fitting of a nail gun special designed to be compatible with a 12,5mm (in this case) board with mechanical locking system. The nail is placed inside the groove on surface B (see fig. 1).



- A. Finish cut surface
- B. Inner groove
- C. Locking strip
- D. Locking element

Fig. 1 Placing of the nail in the locking system

2. Changes Made:

In order to place the nails at the correct position following changes have been done:

- The front block (E) is changed to a 40° angle and adjusted in thickness to place the nail at the right height position. The flat surface of the block is also enlarged to get a more stable position.
- To get close enough to the finish cut surface (F) and (G) has also been modified as well as the length of the security pin.
- The top block (H) has a 40° angle and the whole tool should be placed flat on the board over the groove before nailing.

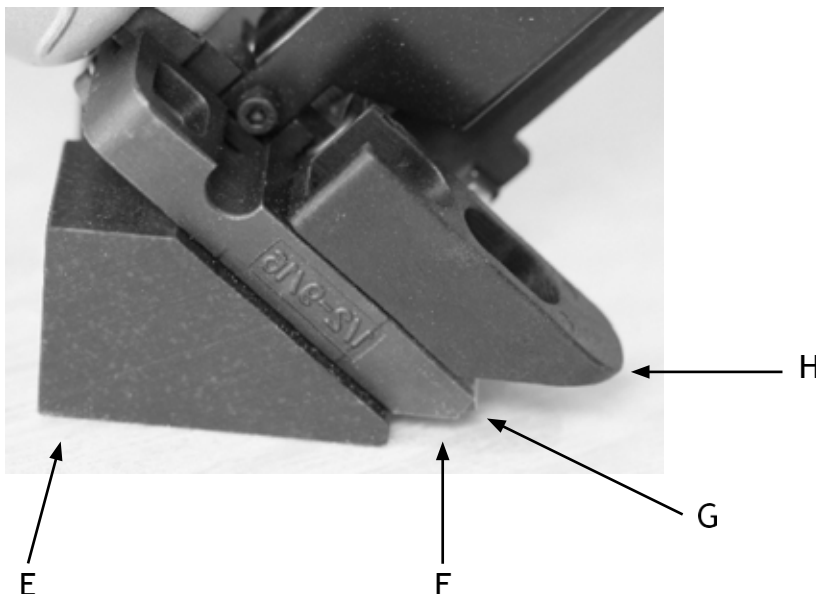
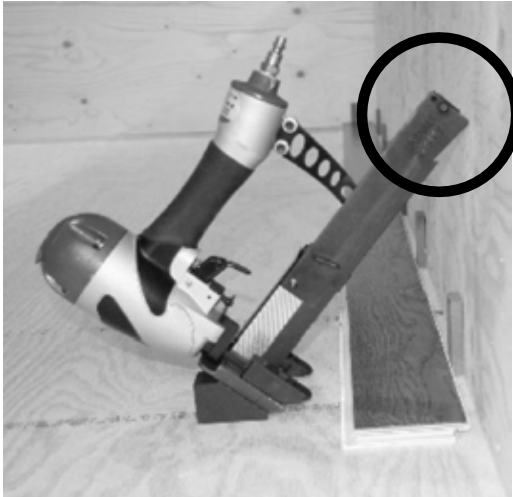


Fig. 2 Changes made to the positioning block

5G STAPLE DOWN INSTALLATION INSTRUCTIONS

3. How To Use

- A. First row is top-nailed or glued.



Due to the design of the nail gun where the magazine prevents the machine to be placed correct the first row needs to be nailed manually. Alternative method is to glue down the first row with a few brad nails or staples through the groove.

4. From 2nd Row

- A. Tool position

Place the nail gun over locking strip, the lower block should be placed flat on the subfloor and the top block should be in contact with the top surface in order to get the right positioning of the nail.

When positioning the nail gun it has to be lifted over the locking element in order not to damage the locking element. As soon as the security pin is placed on top of the locking element it can easily be slid into the groove and it finds its right position without problems.

- B. Nail positioning

We recommend that the nails are placed 3 ½ - 4" from the short side edge in order to prevent the risk of making any vertical production tolerances on the short side more noticeable.

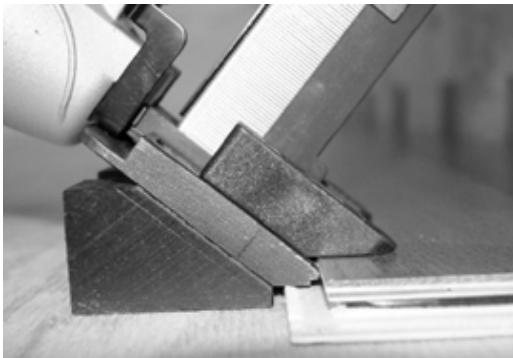


Fig. 8 Nail gun correct positioned



Fig. 9 Nail gun lifted over the locking element

5G STAPLE DOWN INSTALLATION INSTRUCTIONS



Fig. 10 Placed before locking element
(The right top block is removed on this picture)



Fig. 11 Lifted up



Fig. 12 Placed on top of the locking element



Fig. 13 Pushed in to the groove = correct position

5. Problems That Can Occur

- If the nail gun is not correctly positioned problems with nails that are not completely lowered can appear. (Fig 14)
- If the nails are inserted in an incorrect angle, problems with shattered fibers from the finish cut surface can appear.

In both cases the result will be that the next board cannot be installed correctly. Shattered fibers can be removed by scraping with a knife, and nails have to be lowered completely manually.

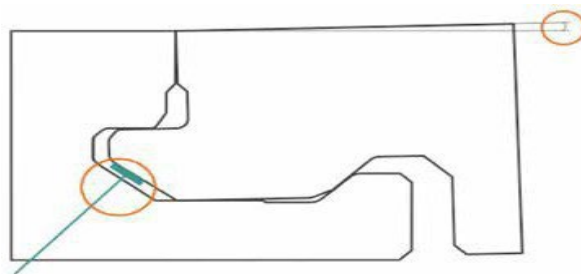


Fig. 14

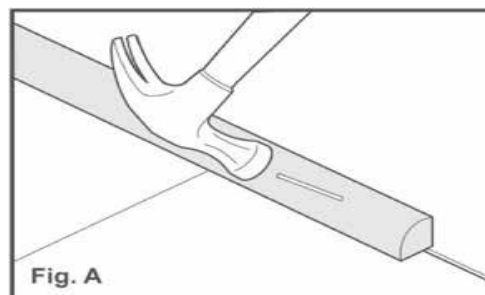
Final Steps

After Installation:

Remove expansion shims and use required moldings and/or trim pieces to cover expansion space (Fig. A). Always nail moldings to wall, **never** to flooring.

Clean Up:

Immediately clean any debris such as wood chips, saw dust etc. that were left on wood flooring during installation.



Maintenance:

Clean floor using dry dust mop or damp (lightly misted or well rung out) mop or cloth. Regularly use a pH Neutral Wood Floor Cleaner for best results. Do not use oil soap or water emulsion, self polishing waxes. **NEVER** wet mop floor. Place Peel & Stick Floor Protectors on furniture legs to prevent damage.

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Additional Finishing Coating:

For additional wear protection, a waterborne urethane finish is compatible with the factory finishes. Contact Arboritec or Bona Kemi USA, Inc. for recommended products, application, and warranty information. Follow manufacturer's instructions for recoating a prefinished wood floor. We do not guarantee the performance and/or durability of these products.

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