



# GARRISON

INSTALLATION INSTRUCTIONS

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ENGINEERED HARDWOOD

# Installation Instructions: Engineered Hardwood

All Jobsite Conditions are the Builder/Owner/Installer's responsibility. Builder/Owner/Installer must meet the below Conditions and Information for a successful and proper Installation.

## **Engineered Hardwood Pre-installation & Jobsite Requirements:**

Slab Evaluations CSP including Non-Porous or Porous substrate and pH are required along with the following concurrent ASTM Pre-Testing documentation prior to installation and acceptance. Testing methods required are as follows along with the NWFA 2019 Technical Installation Guidelines.

- **JOBSITE CONDITIONS:** Exterior climate considerations, exterior conditions of the building, building thermal envelope, interior conditions
- **ACCLIMATION/CONDITIONING:** Proper pre-installation, installation, and post-installation instructions
- **MOISTURE TESTING:** Temperature/relative humidity, moisture testing, wood moisture testing, wood subfloors, moisture testing concrete subfloors

## **PREPARATION:**

### **Material Handling and Site Conditions:**

1. Store cartons of plank and/or tile with cartons stacked no more than 5: Inspect your cartons at the time of pick up or delivery, do not deliver with metal bands strapped too tight or improper methods damaging the boxes during the delivery process, includes overstocking and/or placing cartons vertically or on the sides, and/or over stacking more than 5 high this may allow cartons to bend improperly during storage or transportation.
2. Materials must be acclimated in climate-controlled locations with constant Ambient Temperatures 65°F (approx. 18°C) for 72 hours before, during, and after the start of the installation. With proper documentation of the proper moisture content (M/C) PRE-TESTING OF THE HARDWOOD AND THE SUBFLOOR. SEE NWFA FOR ALL DETAILS. Store cartons lying flat at all times and protect from direct sunlight during acclimation and installation. Open both ends of the boxes to properly acclimatize. If flooring is shrink-wrapped or plastic wrapped, the wrap must be taken off the box and the flooring to be properly acclimated. Cross Stacking is recommended and mixing from 3 boxes for a uniform installation. For extreme heat, use temporary protection prior to full or partial occupancy of the building. Ram Board is recommended for floor protection with all above and construction-related work, paint, drywall plumbing, etc. to be completed prior to Installation.
- 3.A. Materials must be installed in climate-controlled locations with ambient temperature range 65°F - 85°F (20°- 29°C) for the life of the installation. Jobsite mimicked conditions such as torpedo heaters, fans, etc. do not meet proper requirements. Climate-controlled conditioned space is equivalent to working/living conditions during occupancy. Conditioned space is required; the definition is an enclosed space within a building where there is intentional control of the space has defined limits using natural,

electrical, or mechanical means. Conditioned space is an area or room within the building that is intentionally heated or cooled, and humidified or dehumidified, to be maintained at the same expected conditions as the living/working interior space either for the comfort of occupants or for preserving temperature and humidity sensitive goods.

3.B Unconditioned space refers to exterior space, or a space within the shell of a building, that is uncontrolled, and is neither directly nor indirectly heated, cooled, humidified, nor dehumidified.

Consistently, the warranty will not cover and not include unconditioned spaces.

4. Improper acclimation of Garrison plank/tile flooring may result in gapping or buckling, or joints that are difficult to engage properly. Do not use improper installation techniques at the time of the Installation. Improper locking of the locking mechanism may cause one or more of the following conditions in your flooring: end joints may become distressed resulting in a peaked appearance, cracks, delamination due to ledging, separation of end joints from normal environmental temperature changes, cupping, and/or curling and side joint failures.

5. Three seasons' rooms, basements, bonus rooms, she sheds, man caves, and below-grade installations are required to meet the above all conditions.

### **Responsibilities:**

Hardwood Flooring adapting to a new temperature, altitude, climate, environment, or situation requires time to acclimate properly. Acclimation to a new environment and starts not at the time frame upon delivery into the house for (72 hours), but the process actually starts after the site conditions space with normal living and working conditions are fully operating.

- Builder is responsible to ensure moisture control policies have been put in place and implemented to protect all building components, including, but not limited to, all flooring materials, and especially wood flooring.
- The installer is responsible to record current jobsite conditions at the time of mobilization and installation, and to confirm that flooring and its sundries meet the flooring manufacturer's requirements.
- End-user is responsible to keep the environment within the proper manufacturer's conditions, in the event, you are acting as a GC or in any capacity like a PM or a DIY, then you fall directly in the "Builder" category.
- In water restoration projects, it is the responsibility of the Builder and/or the restoration company to meet the minimum moisture requirements as outlined in these Guidelines.

### **GARRISON PRE-INSPECTIONS REQUIREMENTS FOR OWNER/INSTALLER:**

1. Should not rely solely on samples as the final color/shade as installed. Inspections and final

approval of color, shade, blemishes, and or any visible possible defects in the planks will be required at the pre-installation stage and must document and state the claim with the run

number, box number lot, etc. If partial damage to a plank/tile during any portion of the installation is found, it should be cut off and not installed. Contact GARRISON COLLECTION IN WRITING WITHIN 48 HOURS OR AT THE TIME OF THE COMPLAINT IS NOTICED. (SEE WARRANTY FOR DETAILS). IF YOU EXCEED 5% INSTALLED OR 100 SQ FEET OF THE INSTALLED MATERIALS WITH ANY OF THE ABOVE-RELATED ISSUES, THERE WILL BE AN ACCEPTANCE OF THE INSTALLED MATERIALS, AND THE MANUFACTURER ASSUMES NO RESPONSIBILITY REGARDLESS OF THE CLAIM FILED.

2. Proper pre-measuring is required for a proper and successful installation of square footage measurements, waste factors, and includes end joint stagger. This will assist with the proper amount at the time the order is placed. Garrison cannot guarantee nor take any responsibility for the improper ordering, changes, and/or adding to the existing order in the event the same run number or lot number is no longer available to fulfill an order.

3. Improper acclimation of Garrison plank/tile flooring may result in gapping, buckling, or joints that are difficult to engage properly. Improper locking of the mechanism may cause one or more of the following conditions in your flooring: end joints may become distressed resulting in a 'peaked' appearance; delamination due to ledging; separation of joints from normal environmental temperature changes; cupping or side joint failures.

4. IF THE FLOORING AS SUPPLIED WILL NOT SATISFY THE CUSTOMER IN FULL, DO NOT PROCEED TO INSTALL; INSTALLATION IS ACCEPTANCE. The decision not to proceed must be made within the first 5% or 100 square feet of flooring boxes opened, whichever is less. Opened boxes exceeding this amount will not be eligible for return and will be subject to the evaluation and warranty guidelines and the claims.

## SUBSTRATES CONDITIONS:

- Substrates must be flat 3/16" in 10' or 1/8" in 6' radius. Any or all (High Spots) should be mechanically ground down to those requirements. Undulations (Low Spots) should be filled with patching, and/or leveling compounds that contain Portland or high alumina cement. The patching compound MUST meet or exceed a compressive strength minimum of 3,000 psi are acceptable with cementitious patching and leveling compounds with an overall rating of a minimum 3,500 psi are recommended.
- Improper subfloor preparation may cause telegraphing through the planks due to raking light sources and may cause additional visual appearances or possible failure and is not covered in any claim filed.
- Uneven areas should be mechanically ground to smooth. Cracks, depressions, or other similar irregularities should be leveled using a suitable Portland cement based patching compound as required per ICRI.
- Expansion joints, isolation joints, control joints, that include vertical or lateral moving joints in the concrete slab with proper ventilating space are allowed around the perimeter of the room for moisture and vapors to escape the substrate. "Joints" shall be primed and filled with a proper and approved method such as a pure flexible silicone or two-part sealant up to level, to ensure flat and level conditions. All control joints should be completed by a licensed and registered professional in their respective field and in full compliance with manufacturer's Installation Guidelines.

- Moisture mitigation systems and adhesives are not a 100% cure-all for MVER, groundwater, hydrostatic pressure, porosity, osmotic, and capillary action may occur.
- Proper testing per the concurrent versions of ASTM F-710, ASTM F-2170, ASTM F-3191 and ACI 302.2R-06 are required.
- Testing ASTM F-1869 groundwater, hydrostatic pressure, capillary action may occur.
- Dusty, Soft, and Overly porous concrete surfaces are not suitable for resilient floor coverings.
- In slab reminders: Make a special effort to have your slab marked for the following items that may be within your slab posttension cables, heated water pipes. Any electrical or low voltage areas must be marked prior to any/all drilling.
- Hardwood flooring, including bamboo
- Paint, wax, oil, grease, residual adhesive, mold, mildew, and other foreign materials that might prevent floating planks and tiles.
- Red sweeping compounds (only use green)
- Uneven, undulated, or unstable substrates with moisture within the plywood

### WOOD SUBFLOOR REQUIREMENTS:

Must be structurally sound, flat, and level and must be installed following their manufacturer's recommendations, with compliance with any/all local building codes and IBC Guidelines:

- 3/4" (minimum 23/32" thickness) APA Plywood's smooth and sanded joints are good with no hollow core or defects.
- 3/4" (minimum 23/32" thickness) Oriented Strand Board (OSB) properly spaced, with no moisture swell in the panel and sanding all high spots with 1/8" expansion allowed in the field.
- Acceptable subfloors also include Advantech Plywood and multiply plywood.
- All panels should be stored in a clean, flat area of the ground. If the materials are stored on-site, they must be protected and covered during the construction or remodeling phases, any swell or damage from other trades must be corrected and repaired or replaced prior to installation.
- Core gaps, delamination, gap split, low core density, improper fastener issues and under-treatment of adhesives resin must be corrected prior to installation, spongy subfloor may impact the joints of flooring

### NON-APPROVED SUBSTRATES:

- Asphalt Tiles, black cut back adhesive
- Any floating flooring
- Resilient flooring with cushion backing.
- Directly on the concrete substrate (slab) without a vapor barrier.
- Pine, softwoods, and moisture susceptible woods (Luan, particle board)
- Sleeper floor systems
- Masonite, similar hardboard underlayment
- Pressure Treated Lumber (CDX)

by adding improper stress and improper loads.

- All substrates must be structurally sound and free from movement and deflection.
- Inadequate space between the panels, distorted, warping, cupping, and or improper nail/staple with proper glue methods not limited to thickness variations will not be acceptable conditions.
- Screws, nails must be recessed below the top of the subfloor.
- Excess adhesive must be scraped and or sanded flat to the subfloor. Non acceptable wood subfloors include particleboard, Luan, or any unstable subfloor with moderate deflection
- Before exposing the finished floor, you should always carefully broom away any/all construction-related debris, the grit that could cause scratches, then use a dry pad similar to Swiffer, then use a pH7 neutral cleaner and a damp pad.
- Protect all installed flooring prior to placing into service with Ram Board (see warranty for full details).
- Advantech plywood may have a resin that repels water during the construction process, however if water is of concern please inquire with Garrison and/or Hubert to determine if a vapor barrier is recommended or required to not void either warranty.
- In any water-prone areas, kitchens, bathrooms, laundry rooms, or similar wet areas. Flexible silicone is required around all perimeter areas and frequent water prone areas.

- Acoustical underlayment materials may include cork, recycled rubber or cork/rubber blends. Adhered underlayment manufacturers may require the underlayment to be rolled after it has been installed. Check with the underlayment manufacturer for when, and what type of roller to use.

### **Grade Description:**

Above-grade is defined as any portion of the subfloor where Garrison flooring is to be installed, that is above the plane of the surrounding ground.

On-grade is defined as any portion of the subfloor where wood flooring is to be installed, that is at, or above, the same plane as the surrounding ground.

Below-grade is defined as any portion of the subfloor where wood flooring is to be installed, that is 4" or more below ground level.

Garrison warranties above grade and on-grade installation, but does not warrant below-grade installation.

**Grade of Exterior:** To be sloped at a rate of 6" in 10' or a 2% swell away from house/building, with proper interior drainage systems working completed.

**Landscape:** Landscape is recommended to be completed with proper drainage such as gutters with proper downspouts, and a solid 4" pvc tube attached to the bottom of the downspouts and installed away from the structure at a distance of 10', away from the structure. Irrigation systems must be maintained and checked for leaks around the structure. Gutters are always recommended.

**Crawl Spaces:** Must meet the concurrent building codes and the IBC guidelines:

- Minimum Crawl space to be 18" (457mm) from ground to underside of the joist and requires a minimum of a 6 mil black vapor barrier overlapping and taped on the stem walls with no exposure to the grade.
- 1.5 square feet per 500 square feet of crawl space with proper side ventilation is required.
- Sump pits must be maintained and covered within the crawl space.
- Exposed soil and rocks only may increase the humidity levels and affect the subfloor.

### CORK OR CORK/RUBBER SUBFLOOR REQUIREMENTS:

- Cork floors must be well-bonded to the substrate and have all sealers and surface treatments removed before installation begins.
- Always check for adequate adhesive bonds.
- Install the perimeter isolation strips prior to laying any underlayment against the perimeter isolation strips. Install the underlayment against the perimeter isolation strips.
- The underlayment should cover the entire flooring area without gaps and be securely bonded with all adjoining seams butted together.
- For floating wood floor installations, the underlayment may be loose-laid or adhered to the substrate as directed by the manufacturer. For glue-down wood flooring installations, the underlayment must be adhered to the substrates. Never nail through cork, recycled rubber, or cork/rubber blended underlayment.

- For glue-down wood floor over cork, recycled rubber, or cork/rubber blends, choose a wood flooring adhesive compatible with the underlayment. Follow the specific adhesive manufacturer instructions on application process.
- For nail-down wood floor installation, the underlayment must be overlaid with the floated subfloor system. Be sure not to allow the flooring fastener to penetrate the underlayment.

### CONCRETE SUBFLOOR REQUIREMENTS:

- Concrete must be fully cured for at least 60-90 days prior to Garrison Flooring installation.
- Concrete slab construction shall be in accordance with industry standards for specification related to concrete mix design per ICRI, and IBC, with local building codes and compliance taking precedence.
- On-grade, suspended (pan) and below-grade slabs should be installed with a suitable vapor retarder directly underneath the concrete slab, with proper ventilation activity in place.
- Testing shall be conducted according to the concurrent ASTM documentation and instructions of the manufacturer of the testing equipment.
- Required testing Per ASTM F-710, ASTM F2170, and optional ASTM F-1869
- Testing for relative humidity, moisture, and PH. Relative Humidity Tests should not exceed 85% (RH); Calcium Chloride Test if performed for the moisture should be no more than 8lbs per one-thousand square feet in 24 hours MVER (Moisture Vapor Emission Rating) and

pH tests for alkalinity levels should register between 7 and 9 for optimal results. In the event, a pH exceeds this rating corrective action must be completed prior to installation. All testing must commence after 60-90 days of any poured concrete.

- Ignoring the above test for existing similar sound flooring does not allow the above requirements to meet the same criteria.
- Use Garrison Moisture Barrier (or equivalent product); 6 mil is required, but 10 mil is recommended.
- Unconditioned space refers to exterior space, or a space within the shell of a building, that is uncontrolled and is neither directly nor indirectly heated, cooled, humidified, nor dehumidified will not be acceptable to any Garrison flooring.
- New concrete shall be properly cured and dried prior to the installation of floor covering. Curing agents, surface hardeners, and other membranes or compounds shall be mechanically removed immediately after the cure to allow the slab to properly dry before installation. Approximately 30 days per 1" of slab thickness, with proper ventilation, construction sequencing, weather, and site conditions.
- Substrates must be flat 3/16" in 10' or 1/8" in 6' radius. Any or all (High Spots) should be mechanically ground down to those requirements. Undulations (Low Spots) should be filled with patching, and/or leveling compounds that contain Portland or high alumina cement the patching MUST meet or exceed a compressive strength minimum of 3,000 psi is acceptable with cementitious patching and leveling compounds with an overall rating of a minimum of 3,500 psi are recommended. Improper subfloor

preparation may cause telegraphing through the planks and cause additional visual appearances or possible failure and is not covered in any warranty claim filed.

- Uneven areas should be mechanically ground to smoothness. Cracks, depressions, or other similar irregularities should be leveled using a suitable Portland cement-based patching compound.
- Expansion joints, isolation joints, control joints, or other moving joints in the concrete slab shall not be filled with patching compound or covered with the use of vapor barriers as long as proper ventilating space is allowed around the perimeter of the room for moisture and vapors to escape the substrate. "Joints" shall be primed and filled with a proper and approved method such as a pure flexible silicone or sealant up to level, to ensure flat and level conditions. All control joints should be completed by a licensed and registered professional in their field.
- Moisture mitigation systems are not a 100% cure-all for MVER always conduct Testing Per concurrent versions of ASTM F710, ASTM F-2170, and with optional testing of ASTM F-1869. Groundwater, hydrostatic pressure, capillary action may occur.
- Dusty, soft, and overly porous concrete surfaces are not suitable for resilient floor coverings and corrective action will be required prior to installation.
- Make a special effort to have your slab marked for the following items that may be within your slab, post tension cables, heated water pipes and any electrical, low voltage, etc. must be marked prior to any drilling.

**WARNINGS SUBSTRATES PREPARATIONS:** DO NOT SAND, DRY SWEEP, BEAD BLAST, SHOT-BLAST OR USE ANY OTHER MECHANICAL MEANS TO PULVERIZE EXISTING TILE FLOORING, BACKING, LINING FELT, ASPHALTIC “CUTBACK” OR ANY OTHER ADHESIVES. THESE PRODUCTS MAY CONTAIN ASBESTOS FIBERS AND/OR CRYSTALLINE SILICA. FRIABLE INHALATION OF SUCH DUST IS A CANCER AND RESPIRATORY HAZARD. PROPER TESTING OF THE VCT FLOORING AND CUTBACK/ADHESIVE IS REQUIRED THAT MAY CONTAINING ASBESTOS MATERIAL.

**CAUTION: WOOD DUST / PROPOSITION 65 WARNING!**

The International Agency for Research on Cancer has classified wood dust as a nasal carcinogen. The sawing, sanding, and/or machining of wood products can produce wood dust that can cause respiratory, eye, and skin irritations. Equipment should be equipped with a dust collector to reduce airborne wood dust. Wear an appropriate NIOSH designated dust mask to reduce exposure to airborne wood dust. Avoid contact with eyes and skin. In case of irritation, flush eyes or skin with water for at least 15 minutes. In case of severe irritation, seek immediate medical attention.

**Attention for 4” and Wider Planks:** For all planks that are 4” and wider, planks MUST be glued and nail-assist to resist squeaks and heavy movement. Additionally, per NWFA requirements, a moisture cure adhesive must be used under all wide plank flooring installations.

**Attention: Garrison Collection hardwood flooring is not warranted over radiant heat.**

**CERAMIC APPROVED SUBSTRATES:**

- Must meet all the above requirements regardless of substrate.
- Grout joints must be prepped and filled with appropriate Cementitious patching and leveling compounds with an overall rating of a Minimum 3,500 psi UP TO THE LEVEL/FLATNESS OF THE TILE.

**TOOLS NEEDED FOR INSTALLATION**

Generally, the tools needed for installation include:

- Handsaw or power saw
- Rubber mallet
- Crowbar or pull bar
- Tape Measure
- Pencil
- Chalk line
- Wood or plastic spacers
- Tapping block
- Adhesive trowel
- Carpenter’s square
- Urethane or polymer hardwood flooring adhesive as warranted by Garrison Collection

**STARTING INSTALLATION**

For aesthetic purposes, hardwood flooring is often laid to the longest wall. However, the homeowner upon the advice of the professional installer should make the final decision on which direction the planks will run.

- A. Most professional installers will begin installation next to an outside wall, which is usually the straightest wall and used as a reference point in establishing a straight working line. A good way to establish a working line is to:
- B. Measure an equal distance from the wall at both ends and snap a chalk line.
- C. Measure the distance from the wall at the width of the plank plus another ½” or more for expansion space when establishing your working

line. It is advisable to dry-lay a few rows before actually using glue to confirm your directional layout decision and work.

D. Adjustment of the working line may be necessary if the outside wall or other working line reference is out of square. This can be done by scribe cutting the first row of planks to match the wall and creating a straight working line.

### **Blending of Cartons:**

To achieve a uniform appearance across the entire floor, we highly recommend that you open and work from a minimum of 5 cartons of Garrison Collection hardwood flooring at a time.

A. Mix the planks from several cartons and dry lay the flooring. This will allow you to blend the planks for maximum aesthetic appearance.

B. It is imperative that you make certain the room is well lit to ensure color is consistent and that any visual defects can be seen and removed.

**Matching Transition Moldings:** For best appearance, blend all transitions and moldings to planks that have similar color and graining. Set the moldings and matching planks aside for use as needed.

### **Layout of Flooring:**

"Racking the Floor" is essential to achieve a random appearance.

A. Start by either using random length planks found in the carton or by cutting four or five planks in random lengths, differing by at least six inches.

B. As you continue working across the floor try to maintain a six-inch minimum between end joints.

C. Randomly install different lengths to avoid a patterned appearance.

D. Never waste materials; the end cuts from starter rows should be used at the opposite side of the room to complete rows or used to start the next row.

### **Expansion Space:**

Expansion space around the perimeter is required and should be equal to the thickness of the flooring material.

1. For floating installation, the minimum is 1/2" regardless of the thickness of the material.
2. For commercial installations use a minimum of 1/2" expansion.

## **GLUE DOWN INSTALLATION**

### **\*SEE ADDITIONAL SECTIONS BELOW FOR NAIL DOWN AND FLOATING INSTALLATION INSTRUCTIONS\***

The Glue/Adhesive used must comply with Manufacture Adhesive Installation Guidelines, and limitations will prevail along with Hardwood Manufacture and the concurrent NWFA methods for glue down methods.

Prior to installing the flooring, secure a straight edge inside the chalk line to act as a guide and to prevent the row of planks from shifting during installation. The straightedge could be a straight piece of lumber or piece of flooring. Alternatively, the first row can be face-nailed with finishing nails into the wood subfloor or sprig-nailed into a concrete subfloor.

Bond testing should always be performed before installation. During installation, occasionally lift up a board and check the subfloor for 100% coverage, which is critical for moisture control. If proper transfer is not achieved, reapply using the recommended trowel.

If not using Garrison Collection adhesive, the other glue manufacturer's installation instructions will prevail.

### **Spreading Adhesive:**

- A. Using Garrison Adhesive or an equivalent adhesive manufacturer's recommended trowel, hold the trowel at a 45° angle to ensure proper spread rate of adhesive.
  
- B. Apply pressure to allow the trowel to leave ridges of adhesive on the substrate with little adhesive left between the ridges. This will help to achieve the proper spread rate of the adhesive.
  
- C. Please always assure a bond test prior to start of full installation for adhesion.
  
- D. Temperature and air flow across the adhesive can have an effect on the open time of the adhesive. Urethane adhesives will have a longer open time in areas of low humidity and will have a shorter open time in areas of high humidity. (See the Garrison Adhesive, or equivalent adhesive, label for further information).

### **Installing Flooring:**

- A. Spread the Garrison Adhesive from the chalk line/straightedge out to approximately the width of two planks.
  
- B. Install the first row of starter planks along the chalk line/straightedge and secure into position with the tongue facing the starter wall.

**NOTE:** Proper alignment is critical. Misaligned starter rows may cause side and end gaps to appear in proceeding rows of flooring.

- C. When you have the starter rows complete, you can begin the next row.
  
- D. When you are certain the first two starter rows are straight and secure, spread adhesive 2 to 3 feet wide across the length of the room.

- 1. As a general rule, never spread more adhesive than can be covered in 30 to 45 minutes.
  
- 2. If the adhesive has skinned over, remove dried adhesive and trowel new adhesive.
  
- E. Continue to install planks and push them into place.
  
- F. Place the tongue of the board into the grooves of installed boards and press into the adhesive. As you continue working across the floor try to maintain a six-inch minimum space between end joints.
  
- G. Randomly install different lengths to avoid a patterned appearance.

**NOTE:** Never strike a rubber mallet or hammer directly on the flooring to engage the tongue and-groove. This practice can damage the flooring and/or the finish.

- H. Remove excess adhesive from the surface of the installed flooring as you work - this will help to save time. A damp rag with the appropriate adhesive remover or mineral spirits will remove the excess adhesive.
  
- I. Change towels frequently to avoid leaving a haze on the flooring surface.

### **DO NOT use water to remove urethane adhesives from the flooring.**

- J. As you approach the end wall it may be necessary to cut the width of the last row - be sure to allow for the expansion space along the end wall.
  
- K. Once the final cuts are made set planks into place.

L. After the floor is complete, remove the straight edge and glue down the first two boards.

M. Roll and cross roll floor with a 100-150 lbs. (4570 kg) roller at the end of the installation to ensure proper transfer of adhesive.

N. Restrict foot traffic for a minimum of 6-8 hours and wait 24 hours before moving any furniture onto the floor.

O. To remove excess adhesive that has dried, use the same glue remover but pay close attention not to mar finish from excessive rubbing.

### **Final Inspection:**

After the floor has been cleaned, inspect the floor for nicks, scratches, gaps or planks that may have moved during installation, as well as any other imperfections that need attention.

A. Touch up nicks and scratches with touch-up products. In typical climates, the new floor can accept foot traffic within 24 hours.

B. In areas where additional curing time is required, more time may be needed.

C. It is highly recommended to use Garrison (or other) floor protector after flooring installation – never apply any tape (even blue tape) directly to your flooring. It will eventually strip the finish and void your warranty.

D. Ram Board protection is recommended only after 24 hours after installation is complete.

## **NAIL DOWN INSTALLATION**

### **Additional Tools and Material Needed:**

1. Drill
2. Tapping Block
3. Compressor with air hose and in line regulator
4. Pneumatic Nailer/Stapler

### **5. 15 lb. Roofers Felt**

Before you begin, please refer to the Pre-Installation & Jobsite Requirements section above.

**NOTE:** Our products are not warranted against squeaking, popping or crackling when using staple-down or nail-down installation methods. Some squeaking, popping or crackling is normal when using staple-down or nail-down installation methods. These symptoms may be aggravated in arid areas or during dry conditions.

### **Set Up and Use of Pneumatic Staplers and Nailers:**

Minor occasional noises within the flooring are inherent to all staple/nail-down installations and can change as environmental changes occur. This is not a manufacturing defect and is therefore not covered under our warranties.

- You can help reduce squeaking, popping, and crackling by being sure that the subfloor is structurally sound, does not have any loose decking or joists, and is swept clean prior to installation.
- You should also be sure that your stapler or nailer is setting the fastener properly, not damaging the planks, and that you are using the correct nailing schedule.

A. When used improperly, staples or cleats can damage the wood flooring. If the tool is not adjusted properly the staples/cleats may not be positioned at the proper angle and cause blistering, peaking, squeaking, or crackling of the floor.

B. Some models may require the use of an adapter to adjust for proper thickness.

C. It is recommended to test the tool on a piece of scrap material first - set the stapler/nailer flush on the tongue side of the plank and install a staple/cleat.

- If the staple/cleat penetrates too deeply, reduce the air pressure.
- If the staple/cleat is not deep enough then increase the air pressure using an in-line regulator.
- The crown of the staple/cleat should sit flush within the nail pocket to reduce squeaking and prevent damage to the flooring.

**NOTE:** Garrison Collection is not responsible for damage caused by the mechanical fasteners.

**Recommended Staples/Cleats for Garrison Collection products:**

- A. Engineered 3/8": 20 gauge, 1" – 1-1/2" length
- B. Engineered 1/2" – 5/8": 20-18 gauge, 1" – 1-1/2" length
- C. Engineered 3/4": 18 gauge, 1-1/2" length
- D. Solid 3/4": 16 – 15.5 gauge, 1.5" – 2" length

**Getting Started:**

After the subfloor has been properly cleaned and prepped, cover the subfloor with 15 lb. asphalt felt paper or any industry approved moisture vapor retarder such as Aquabar. This material will help to keep the floor clean and help to retard moisture from below (there is no complete moisture barrier system for staple or nail-down applications).

1. Select a starter wall. An outside wall is best: it's most likely to be straight and square with the room.
2. Measure out from this wall, at each end, the overall width of the plank (board width +tongue+ the space needed (3/8" or 1/2") for expansion).
3. Snap a chalk line from these points, parallel to that wall.

4. Install the first row of starter planks along the chalk line/straightedge and secure into position with the tongue facing away from the starter wall (toward you).
5. Drill pilot holes through the face of the plank every 6" (in the dark grain); approximately 1" from the back edge of the board and secure planks with 1" finishing nails.
6. Remove excess filler from surface.
7. Blind nail at a 45° angle through the tongue 1"2" from the end joints and every 6" in between along the length of the starter boards (pre-drill holes to make this easier). Depending on the width of the flooring it may be necessary to do this for the first few rows prior to using a pneumatic stapler/nailer.

**NOTE:** Proper alignment is critical. Misaligned starter rows can cause side and end gaps to appear in proceeding rows of flooring.

**Installing The Floor:**

- Continue to install the flooring, making sure to nail/staple 1"-2" from the ends and every 4"- 6" thereafter.
- Make certain the tool is adjusted properly to ensure that the fastener is at the proper angle and is flush within the nail pocket.
- As you continue working across the floor try to maintain a six-inch minimum space between end joints.
- Randomly install different lengths to avoid a patterned appearance.
- If needed use a tapping block to help engage the boards together until the tongue-and-groove is flush and tight with no gaps present between adjacent planks.

**NOTE:** Never use a rubber mallet or hammer directly on the flooring to engage the tongue and-groove. This practice can result in damage to the flooring and/or finish.

- As you approach the end wall it may be necessary to cut the width of the last row. Be sure to allow for the expansion along the end wall.
- Once the final cuts are made, set the planks into place.
- The last few rows will need to be fastened by hand.
- To fasten the final planks into place, you must either manually blind-nail and/or face-nail through the surface on the final planks.
- Drill pilot holes at a 45° angle to the floor and blind-nail using 1" finishing nails.
- Alternatively, drill pilot holes in the face every 6" (try to drill holes into the darker portion of the wood) and install with 1" finishing nails.
- Countersink nails and fill with appropriate colored wood filler.
- Remove excess filler from surface with a clean rag and proper cleaner.

## FLOATING INSTALLATION

ONLY recommended for Garrison engineered hardwood flooring at least 1/2" thick and below 5" wide.

### **Additional Tools & Material Needed:**

- A. DriTac/Sika T&G Adhesive (Or Equivalent)
- B. Minimum 6-Mil Polyethylene Plastic Sheeting

C. Pry/Pull Bar

D. Terry Cloth or flannel towels

E. Tapping Block & Spacers

F. 2-in-1 Foam Underlayment

Before you begin, please refer to the Pre-Installation & Jobsite Requirements section above.

Minimum 6 mil Garrison Moisture Barrier (or equivalent product) is required; but a 10 Mil vapor barrier is recommended. 3M moisture tape, or equivalent tape, is recommended.

Do not install over carpet. If installing over vinyl, ensure that the vinyl is secure to the subfloor.

Do not install over perimeter glued vinyl. If installing over an existing wood floor, install the flooring at 90° angles to the wood floor. Secure creaking and loose floorboards with screws.

Do not install over wood flooring glued to a concrete subfloor.

Minimum of 1/2" of expansion space required at all vertical surfaces.

**NOTE:** Larger rooms require additional expansion 1/16" to the width of the expansion space for every 3' the room extends beyond 25'. Dimensions exceeding 40' in length or width – it is recommended to use a T-Molding for proper expansion.

### **Getting Started:**

- A. Remove all doors and shoe moldings.
- B. Undercut all door casings 1/16" higher than the thickness of the flooring and underlayment to be installed.
- C. Place a scrap piece of plank and a sheet of underlayment against the door casing to act as a guide.

D. Cut the door casing with a hand saw or power jamb saw set to the correct height.

E. Determine which direction to run the planks.

F. After determining which direction to run the planks, measure the width of the room (the dimension perpendicular to the direction of the flooring). The last row of the flooring should be no less than 1 ½" wide; if it is less, cut the width of the starter row to avoid a narrow last row.

G. Select a starter wall. An outside wall is best: it's most likely to be straight and square with the room.

H. Measure out from the wall, at each end, the overall width of the plank plus 1/2" for expansion.

I. If the first row requires ripping, measure from the wall the width of the ripped board plus 1/2" for expansion.

J. Snap a chalk line using a (brightly colored chalk) from these points.

lumber or piece of flooring. This is temporary and will be replaced as the floor is completed.

## INSTALLATION INSTRUCTIONS

1. Insert spacers at walls to maintain the expansion space between the flooring and the wall.
2. Before starting to glue planks, dry lay the first two rows of flooring.
3. Working from right to left, install planks so that the groove faces the straight edge (starter board).
4. When reaching the end of the first row, cut the plank as necessary to fit.
5. On the first 4 rows stagger end joints a minimum of 16" and then 8" thereafter.
6. Use the remainder of the plank from the first row to start the second row. If the piece is less than 8" long, cut a new plank in half and use that piece to start the second row.
7. Lay the remainder of the planks in the second row. Make sure that the rows are straight and no gapping exists on the sides or ends.
8. Once you have dry laid the first two rows, remove all the planks in order. You are ready to begin.
9. Begin gluing the boards.
10. Run a continuous bead of adhesive along the groove of the short side (width) and the plank's side groove (length).
11. Proper alignment is critical. Misaligned starter rows can cause side and end gaps to appear in proceeding rows of flooring.

### Install Underlayment:

1. Unroll the 6-mil polyethylene sheeting overlapping edges 4" and seal seams with clear plastic tape.
2. Allow the poly to run 2" up the wall and trim back after installation of flooring.
3. Install 1/8" foam underlayment.

**NOTE:** Use of a floating floor 2-in-1 underlayment may be used. Follow manufacturer's instructions for application installing the 2-in-1 underlayment.

4. Prior to installing the flooring, secure a straight edge (starter board) inside the chalk line to act as a guide and to prevent the row of planks from shifting during installation. The straightedge could be a straight piece of

12. Install first row of planks with groove facing the straight edge. Work from right to left. Complete the first row. Make sure there are no gaps between the boards.
13. Use a tapping block if needed to close the boards together.
14. Immediately wipe away any excessive adhesive with a clean, slightly dampened cloth.

**CAUTION:** Adhesive that is allowed to dry on the finish surface can be difficult to remove and may leave a haze.

15. At the end wall use an end pry bar, if needed, to pull the ends of the planks tight.
16. Continue to install the floor working left to right, repeating the process until the completion of the floor.
17. Continue to use the spacers on all vertical surfaces to maintain the ½" expansion.

**DO NOT USE** laminate straps as they may damage the flooring.

18. The last row will most likely require cutting to width, but it should be no less than 1 ½" wide. To do this:

- Lay the plank face up on top of the last full row installed.

- Trace the wall contour on the last plank using a scrap piece of plank and a pencil.

- Install cut planks and pull into place with a pry bar.

- Install spacing wedges between planks and wall.

- Remove the straight edge (starter row) and install the last row using the pry bar.

19. Allow floor to dry for a minimum of 12 hours before removing all spacing wedges and allowing foot traffic.

20. Install trim and moldings the following day.

## GARRISON HARDWOOD PRODUCT WARRANTY

### Limited Product Warranty

THE PRODUCT WARRANTY SET FORTH HEREIN IS EXCLUSIVE AND IN LIEU OF ALL WARRANTIES EXPRESSED OR IMPLIED, INCLUDING WARRANTIES ARISING FROM THE COURSE OF DEALING OR USAGE, OR TRADE. GARRISON FLOORING MAKES NO WARRANTY, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

### Notice and Procedure/Claim

Written notice of any claimed defect must be reported by buyer within thirty (30) days of its discovery. Notice must be made to the dealer from whom the flooring was purchased and it must be received within the product warranty period. In the event that products have visible defects at the time of installation, Garrison must receive written notice within fifteen (15) days of installation, from the dealer who purchased the Garrison flooring. The notice must be accompanied by a copy of the original invoice, and photo evidence. Upon receipt of the notice, Garrison may send a third-party certified inspector to verify and determine the extent of any defect. Garrison reserves the right to have material analyzed and reviewed by receiving 3-4 uninstalled planks.

### Limited Remedy

Buyer's sole remedy under the product Warranty shall be limited to the supply of replacement products for the defective material without charge or, Garrison option, a refund of the product's purchase price. Replacement products shall be issued from Garrison regular product

lines and Garrison makes no guarantee that the same flooring product will be available at any time for replacement purposes. Garrison Flooring will supply as a replacement product new goods of the same or similar color, design, and grade as the defective product. Correction of any defect by replacement or by refund shall be issued within a reasonable commercial time. Any services provided as part of this product Warranty shall not extend or restart the product Warranty period. THE PRODUCT WARRANTY SHALL NOT APPLY TO CONSEQUENTIAL OR INCIDENTAL EXPENSES RELATED TO ANY DEFECTIVE PRODUCTS, INCLUDING BUT NOT LIMITED TO ANY EXPENSES INCURRED IN THE DISCOVERY, REMOVAL, OR REINSTALLATION OF THE AFFECTED MATERIAL, SUCH AS LABOR COSTS, LOSS OF TIME, INCONVENIENCE, OR PROPERTY DAMAGE.

### **Limitation of Liability**

Garrison shall not be liable in contract, in tort (including negligence), or otherwise for damage, loss of property, loss of use of property, loss of profits, loss of revenue, claims by customers or agents of buyer, or for any other special, indirect, incidental or consequential damages whatsoever. Under no circumstances shall Garrison's liability exceed the purchase price of the goods in respect of which damages are claimed.

### **Non-Transferable**

The product Warranty applies only to the buyer and the original installation site and may not be transferred.

### **Product Suitability**

Garrison is not responsible for determining or guaranteeing the suitability of the goods for the uses and applications contemplated by the buyer other than as stated in the Garrison Maintenance Program (the "Maintenance Program") in the form attached hereto. Such determination shall be the sole responsibility of the buyer.

### **Exclusions:**

The product Warranty does not apply to products with slight color or texture variation from factory samples or to products with visible defects at the time of installation absent proper notification under Paragraph 2 above. The product Warranty does not apply to any scratches, discoloration, or other damage caused by any of the following:

1. Water or moisture, including but not limited to water or moisture trapped beneath the floor, whether due to improper sub-flooring, hydrostatic pressure, the presence of alkalis, or other conditions, and to water or moisture left on the floor, whether due to leaks, humidity, or other conditions.
2. Sunlight, excessive heat, fire, smoke, or any other contact by a lit or heated object.
3. Subsidence, earthquake, or any other change in the building's foundation or level.
4. Improper cleaning, including machine scrubbers, floor buffers, steel pads, vacuum cleaner beater bars, or any techniques other than those recommended by Garrison under its Maintenance Program.
5. Improper use, including furniture and castor wheels moved or protected in a manner other than that recommended by Garrison under its Maintenance Program.
6. Chemical substances other than those recommended by Garrison under its Maintenance Program, whether intentionally or negligently applied.
7. Abnormal use, including intentional abuse or alteration by any actor, whether or not an agent of buyer.
8. Cuts, tears, or punctures caused by sharp objects, including indentations caused by heavy point-loading, such as by high heels.
9. Improper installation including the use of any adhesive.

## GARRISON HARDWOOD MAINTENANCE PROGRAM

Garrison normally requires only a minimum of routine maintenance to retain its original “like new” appearance and high-performance characteristics for many years.

### URETHANE FINISH GENERAL CARE & PREVENTATIVE MAINTENANCE

- Dry cleaning similar to a dry sweeping pad or microfiber pad is required to get loose debris and dusting off the floor, once the pad is full, replace the pads until the floor is clean.
- Damp cleaning with any combination of a Swiffer wet jet system or Bona moistened cleaner pad (not spray on the floor) must be pH 7 neutral. The moisten pad will clean the surface of the flooring properly. Only use pH 7 neutral cleaners, \*DO NOT USE the Swiffer pre-treated moisten pads, this is not pH neutral and will void your warranty or with any other combination of cleaners. For reference of what not to use:
  1. pH level of Dawn dish soap is between 8.7 and 9.3
  2. pH level of Swiffer wet pads is 10
  3. pH Milk/ Magnesium 10.3 / Borax 9.3 / Baking Soda 8.4 / Bleach 12.6 / Ammonia 11.4
- Do not allow any excess cleaners to sit on the floor for an extended period of time. This includes any pre-moistened pads or mopping devices.
- Any/all cleaners that have drip or left any residue after the cleaning and maintenance schedule should be removed immediately.
- Improper Floor Protection: Nylon/hard plastic glides or casters are improper and inadequate floor protection and increases the risk of damage occurring around tables, chairs, home office areas with improper rolling loads.
- Proper Floor Protection: All movable furniture legs and chair legs or corners must have proper permanent soft felt, clean floor glide protectors installed on all contact points to reduce indentation, wear, scratching, and other flooring or finish damage.
- Nylon/Hard plastic, a combination of metal/soft felt glides are not recommended due to the angle of the chair legs.
- Office Chairs Residential/Commercial: Rolling seating chairs in desk areas must have a resilient flooring chair and requires a desk chair mat with a smooth backing installed over the finished floor to protect the floor covering in the proper size and thickness.
- Improper Floor protection includes plastic/metal rolling and swivel-type casters with no protection with rolling loads that will damage your surface of the flooring.
- Avoid direct sunlight for an extended period of time on direct sun exposure that may result in fading, curling, discoloration, or thermal expansion of the flooring, window treatments, and blinds with high U-factor windows are effective ways to reduce the above concerns.
- Hot surfaces such as stoves, heaters, and fire/flame may impact the flooring finish, permanent or discoloration may occur.

- Asphalt tracking may occur, please use walk-off mats in any residential or commercial installation with light to moderate or heavy traffic counts.
- Extreme Point Loads and Rolling/Dynamic Loads: Include improper furniture moving, heavy wheelchairs pivoting, rolling lifts, equipment placement, ladders, high heels or any concentrated load that may leave indentations that exceed normal use.

**Trades:**

All above work is to be substantially completed at the time of the installation.

**OIL FINISH GENERAL CARE & PREVENTATIVE MAINTENANCE**

Garrison proudly uses WOCA products on all of our oil finished floors. WOCA is the leading plant based, environmentally responsible, sustainable, nonpolluting, durable wood finish, with no artificial color pigments or preservatives. We recommend the following WOCA cleaning and maintenance products for optimum durability and a lasting good look of your Garrison Oil finished floor. Use of other cleaning products may damage your floor and void your warranty. Please do not attempt oil maintenance without retaining a professional for this service.

**NOTE:** Most WOCA maintenance products are available in White or Natural. To know which color to use on your Garrison Collection flooring, please see the WOCA color guide on our website, found at: <https://www.garrisoncollection.com/support/care-and-maintenance>, and/or please ask for assistance by emailing [info@garrisoncollection.com](mailto:info@garrisoncollection.com).

- Dry cleaning similar to a dry sweeping pad or microfiber pad is required to get loose debris and dusting off the floor, once the pad is full, replace the pads until the floor is clean. Never wet clean with any

premoistened pad or any cleaning solution that isn't WOCA.

- Any/all cleaners that have drip or left any residue after the cleaning and maintenance schedule should be removed immediately.
- Improper Floor Protection: Nylon/hard plastic glides or casters are improper and inadequate floor protection and increases the risk of damage occurring around tables, chairs, home office areas with improper rolling loads.
- Proper Floor Protection: All movable furniture legs and chair legs or corners must have proper permanent soft felt, clean floor glide protectors installed on all contact points to reduce indentation, wear, scratching, and other flooring or finish damage.
- Nylon/Hard plastic, a combination of metal/soft felt glides are not recommended due to the angle of the chair legs.
- Office Chairs Residential/Commercial: Rolling seating chairs in desk areas must have a resilient flooring chair and requires a desk chair mat with a smooth backing installed over the finished floor to protect the floor covering in the proper size and thickness.
- Improper Floor protection includes plastic/metal rolling and swivel-type casters with no protection with rolling loads that will damage your surface of the flooring.
- Avoid direct sunlight for an extended period of time on direct sun exposure that may result in fading, curling, discoloration, or thermal expansion of the flooring,

window treatments, and blinds with high U-factor windows are effective ways to reduce the above concerns.

- Hot surfaces such as stoves, heaters, and fire/flame may impact the flooring finish, permanent or discoloration may occur.
- Asphalt tracking may occur, please use walk-off mats in any residential or commercial installation with light to moderate or heavy traffic counts.
- Extreme Point Loads and Rolling/Dynamic Loads: Include improper furniture moving, heavy wheelchairs pivoting, rolling lifts, equipment placement, ladders, high heels or any concentrated load that may leave indentations that exceed normal use.

**Trades:**

All above work is to be substantially completed at the time of the installation.

**Floor Protection:**

“Improper Floor Protection “Consider, nylon/hard plastic glides or casters are improper and inadequate floor protection and increases the risk of damage occurring around tables and chairs, along with improper rolling loads.

“Proper Floor Protection “Consider, all movable furniture legs or corners must have proper

permanent floor protectors installed on all contact points to reduce indentation, wear, scratching, and other flooring or finish damage.

“Office Chairs “Consider, Rolling seating in desk areas must have a resilient flooring chair pad with a smooth bottom installed over the finished floor to protect the floor covering in the proper size and thickness.

**WARNING:**

1. Do not use a vacuum cleaner with a beater bar, machine scrubber, or floor buffer.
2. Do not use steel pads, scotch-brite pads, sos pads, or similar abrasive pads.
3. Never drag heavy items (furniture, sofas, etc.) across the finished floor without proper protection.

**Qualified Installer Requirements:**

Recommended to hire a professional that is certified/licensed in his/her respected installation trades/schools for Resilient Installations per State regulations.

Recommendations to DIY, handyman services, and or other licensed or certified installation, or trade-related installers are required to abide by all the GARRISON INSTALLATION INSTRUCTIONS, WARRANTIES, AND CARE & MAINTENANCE GUIDE TO RETAIN A WARRANTY.