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TRADITIONAL HERRINGBONE INSTALLATION SYSTEM FOR GLUE DOWN APPLICATIONS

RECOMMENDED ADHESIVES: Bruce® ProConnect™ Plus, Bruce Equalizer Pro, Bruce Summit Select™

RECOMMENDED ADHESIVE REMOVER: Low Odor mineral spirits

THANK YOU FOR CHOOSING AHE PRODUCTS FLOORING. If properly installed and cared for, your new flooring will be easy to maintain and will look great for years to come. If you have questions or comments, please visit us at www.ahfproducts.com or 1-866-243-2726.

These directions are based on industry standards and best practices. Failure to follow these installation instructions may result in damage to the flooring and void the floor's warranty.

- For complete warranty information call 1-866-243-2726 or go to www.ahfproducts.com.
- For technical or installation questions, or to request a Safety Data Sheet, please call 1-866-243-2726 or visit www.floorexpert.com our technical website.
- For general questions or comments, please visit us at www.ahfproducts.com or call 1-866-243-2726.

ATTENTION INSTALLERS

⚠ CAUTION: WOOD DUST

SAWING, SANDING AND MACHINING WOOD PRODUCTS CAN PRODUCE WOOD DUST. AIRBORNE WOOD DUST CAN CAUSE RESPIRATORY, EYE AND SKIN IRRITATION. THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) HAS CLASSIFIED WOOD DUST AS A NASAL CARCINOGEN IN HUMANS.

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.

If you have any technical or installation questions, or to request a Safety Data Sheet, please call 1 866 243 2726 or visit www.hardwoodexpert.com our technical website.

WARNING: EXISTING IN-PLACE RESILIENT FLOOR COVERING AND ASPHALTIC ADHESIVES. DO NOT SAND, DRY SWEEP, DRY SCRAPE, DRILL, SAW, BEADBLAST, OR MECHANICALLY CHIP OR PULVERIZE EXISTING RESILIENT FLOORING, BACKING, LINING FELT, ASPHALTIC "CUTBACK" ADHESIVE, OR OTHER ADHESIVE.

These existing in-place products may contain asbestos fibers and/or crystalline silica.

Avoid creating dust. Inhalation of such dust is a cancer and respiratory tract hazard.

Smoking by individuals exposed to asbestos fibers greatly increases the risk of serious bodily harm.

Unless positively certain that the existing in-place product is a non-asbestos-containing material, you must presume it contains asbestos. Regulations may require that the material be tested to determine asbestos content and may govern removal and disposal of material.

Visit rfci.com to see the current edition of the Resilient Floor Covering Institute (RFCI) publication Recommended Work Practices for Removal of Resilient Floor Coverings for instructions on removing all resilient floor covering structures or contact your retailer.

AHF floor coverings and adhesives do NOT contain asbestos.

IMPORTANT HEALTH NOTICE FOR MINNESOTA RESIDENTS ONLY:

THESE BUILDING MATERIALS EMIT FORMALDEHYDE. EYE, NOSE, AND THROAT IRRITATION, HEADACHE, NAUSEA AND A VARIETY OF ASTHMA-LIKE SYMPTOMS, INCLUDING SHORTNESS OF BREATH, HAVE BEEN REPORTED AS A RESULT OF FORMALDEHYDE EXPOSURE. ELDERLY PERSONS AND YOUNG CHILDREN, AS WELL AS ANYONE WITH A HISTORY OF ASTHMA, ALLERGIES, OR LUNG PROBLEMS, MAY BE AT GREATER RISK. RESEARCH IS CONTINUING ON THE POSSIBLE LONG-TERM EFFECTS OF EXPOSURE TO FORMALDEHYDE.

REDUCED VENTILATION MAY ALLOW FORMALDEHYDE AND OTHER CONTAMINANTS TO ACCUMULATE IN THE INDOOR AIR. HIGH INDOOR TEMPERATURES AND HUMIDITY RAISE FORMALDEHYDE LEVELS. WHEN A HOME IS LOCATED IN AREAS SUBJECT TO EXTREME SUMMER TEMPERATURES, AN AIR-CONDITIONING SYSTEM CAN BE USED TO CONTROL INDOOR TEMPERATURE LEVELS. OTHER MEANS OF CONTROLLED MECHANICAL VENTILATION CAN BE USED TO REDUCE LEVELS OF FORMALDEHYDE AND OTHER INDOOR AIR CONTAMINANTS.

IF YOU HAVE ANY QUESTIONS REGARDING THE HEALTH EFFECTS OF FORMALDEHYDE, CONSULT YOUR DOCTOR OR LOCAL HEALTH DEPARTMENT.

Installation:

Location: All grade levels

Tools and Accessories Needed:

Broom, Tape measure, Hammer, Chalk line & chalk, Hand saw or jamb saw, Recommended hardwood flooring cleaner, Electric power saw, Eye protection, Recommended wood glue, Moisture Meter (wood, concrete or both), Transition and wall moldings, NIOSH-designated dust mask, Recommended adhesive and adhesive remover, Recommended trowel, Scotch® Delicate Surface Painter's Tape 2080, Recommended wood glue for floors exceeding 3-1/4" (9.5 cm) in width.

General Information:

Owner/Installer Responsibility

- Beautiful hardwood floors are a product of nature and therefore, not perfect. Our hardwood floors are manufactured in accordance with accepted industry standards. For optimum performing hardwood flooring, carefully read and follow these installation instructions.
- These hardwood floors were manufactured in accordance with accepted industry standards, which permit grading deficiencies not to exceed 5%. These grading deficiencies may be of a manufacturing or natural type. When flooring is ordered, 5% must be added to the actual square footage needed for cutting and grading allowance (10% for diagonal installations).
- The owner/installer has final inspection responsibility as to grade, manufacture and factory finish. Inspection of all flooring should be done prior to installation. The flooring should also be carefully examined for color, finish and quality before installing it.
- The installer must use reasonable selectivity and not use or 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 that piece. If material is not acceptable, do not install it and contact the seller immediately.

RECOMMENDED CLEANER: Bruce Hardwood & Laminate Floor Cleaner

RECOMMENDED WOOD GLUE (joint gluing): Bruce EverSeal™ Adhesive

- Prior to installation of any hardwood flooring product, the owner/installer must determine that the job-site environment and the sub-surfaces involved meet or exceed all applicable standards. Recommendations of the construction and materials industries, as well as local codes, should be followed. These instructions recommend that the construction and subfloor be clean, dry, stiff, structurally sound and flat. The manufacturer declines any responsibility for job failure resulting from, or associated with, subfloor and substrates or job-site environmental deficiencies.
- Use of stain, filler or putty stick for touch-up and appropriate products for correcting subfloor voids is accepted as part of normal installation procedures.

Preparation:

Storage and Handling

- Handle and unload with care. Store in a dry place being sure to provide at least a four-inch air space under cartons which are stored upon "on-grade" concrete floors. Flooring should not be delivered until the building has been enclosed with windows doors are in place, and cement work, plastering and all other "wet" work is completed and dry.
- Although it is not necessary to acclimate engineered flooring it is best to store it in the environment in which it is expected to perform prior to installation. Check adhesive label for adhesive storage limitations.

Job-Site Conditions

- The building should be enclosed with all outside doors and windows in place. All concrete, masonry, framing members, drywall, paint and other "wet" work should be thoroughly dry. The wall coverings should be in place and the painting completed, except for the final coat on the base molding. When possible, delay installation of base molding until flooring installation is complete. Basements and crawl spaces must be dry and well ventilated.
- Exterior grading should be complete with surface drainage, offering a minimum drop of 3" in 10' (7.6 cm in 3.05 m) to direct flow of water away from the structure. All gutters and downspouts should be in place.
- Engineered flooring may be installed below-, on- or above-grade level. Do not install in full bathrooms.
- Crawl spaces must be a minimum of 18" (46 cm) from the ground to the underside of the joists. A ground cover of 6-20 mil black polyethylene film is essential as a vapor barrier with joints lapped 6" (15 cm) and sealed with moisture resistant tape. The crawl space should have perimeter venting equal to a minimum of 1.5% of the crawl space square footage. These vents should be properly located to foster cross ventilation (Figure 1).
- Where necessary, local regulations prevail.
- The installation site should have a consistent room temperature of 60-80°F (16- 27°C) and humidity of 30-50% for 14 days prior to and during installation and until occupied.

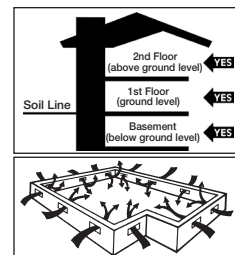


Figure 1

Subfloor Conditions

- CLEAN – Subfloor must be free of wax, paint, oil, sealers, adhesives and other debris.
- LEVEL/FLAT – Subfloor must be within 3/16" in 10' (5 mm in 3 m) and/or 1/8" in 6' (3 mm in 2 m). Sand high areas or joints. If the floor is to be glued down, fill low areas with a latex additive cementitious leveling compound of 3,000-PSI minimum compressive strength Patch, Underlayment & Embossing Leveler with Underlayment Additive. Follow the instructions of the leveling compound manufacturer, but make certain the leveling compounds are completely DRY before beginning installation.
- DRY – Check and document moisture content of the subfloor using the appropriate moisture test. Concrete subfloors must a minimum of 30 days old before testing begins.
- STRUCTURALLY SOUND – Any areas that are loose or squeak, must be nailed or screwed. Wood panels should exhibit an adequate fastening pattern, glued/screwed or nailed as system requires, using an acceptable nailing pattern. Typical: 6" (15 cm) along bearing edges and 12" (31 cm) along intermediate supports. Flatten edge swell as necessary. Replace any water-damaged, swollen or delaminated subflooring or underlayments.
- Subfloors with excessive vertical movement should be avoided. Optimum performance of hardwood floor covering products occurs when there is little horizontal or vertical movement of the subfloor. If the subfloor has excessive vertical movement (deflection) before installation of the flooring, it is likely it will do so after installation of the flooring is complete.
- Radiant heated substrates must not exceed a maximum surface temperature of 85°F (29°C).
- The subfloor panels must have a smooth, sanded face and show no swelling of edges or surface due to exposure to weather conditions or construction traffic.
- There are numerous products available for use as floor fills, patches, self-leveling underlayments, and trowelable underlayments. They include proprietary blends of compounds such as portland cement, calcium aluminates, and gypsum-based products. These are recommended by their manufacturers for smoothing rough or uneven subfloors, enhancing acoustical and fire characteristics of structures or as substrates to receive floor covering for otherwise unsuitable subfloor conditions. If the subfloor surface appears to be dusty then apply a primer to the surface.

Subfloors with Radiant Heat

- NOTE: Always make certain the product selected is recommended for this type application. System must be operational and heated for at least 7 days prior to beginning the installation.
- Use an incremental control strategy that brings the floor through temperature changes gradually which may include an external thermostat.
- Turn off heat and let subfloor cool down to room temperature 3-4 hours prior to starting the job.
- BEFORE installation begins, ascertain that the heating system is designed and controlled for wood flooring and that the circuit does not include other floor covering types. Failure to do so may cause excessive heat damage and shrinkage.
- After installation, turn the heating system back on immediately. The finished floor surface must not exceed 85°F (29°C) throughout the life of the floor.
- Radiant heating systems normally create dry heat that can lower interior humidity levels. It may be necessary to add humidity with humidifiers to maintain the recommended levels (30-50%) and prevent damage to the wood floor.
- The flooring should be end-glued over radiant heat to reduce longitudinal shrinkage. Apply a bead of the recommended wood glue to the groove end then insert the tongue. Wipe excess adhesive away immediately.

Subfloor/Underlayment Requirements:

Recommended Subfloor/Underlayment Surfaces

- Concrete • Ceramic Tile, Terrazzo, Slate & Marble • Acoustic cork • Wood subfloors
- Wood structural panels and underlayment • Fully adhered existing wood floors
- Fully adhered non-cushion vinyl sheet, resilient tile, cork flooring and linoleum

Concrete

The flooring can be glued directly to concrete with a minimum compressive strength of 3000 PSI. Do not install over a concrete sealer or painted concrete. If present, sealer or paint must be removed by grinding or sanding. Do not install over slick, heavily troweled or burnished concrete. The surface must be roughened as necessary by sanding or grinding. Use an appropriate NIOSH-designated dust mask. Floating floors can be installed over any structurally sound concrete.

Concrete Moisture Tests

All concrete subfloors should be tested, and results documented, for moisture content. Visual checks may not be reliable. Test several areas, especially near exterior walls and walls containing plumbing. Acceptable test methods for subfloor moisture content include:

- Tramex Concrete Moisture Encounter Meter (Figure 2): Moisture readings should not exceed 4.5 on the upper scale. (Figure 2 shows an unacceptable reading of over 4.5) Concrete Moisture Meters give qualitative reading results-not quantitative ones. These results are a quick way to determine if further testing is required.
- NOTE: The following tests are required in residential/commercial applications. Either or both tests are acceptable. If both tests are conducted then both tests must pass.
- Calcium Chloride Test (ASTM F 1869): The maximum moisture transfer must not exceed 3 lbs./1000 ft.² in 24 hrs.with this test
- RH Levels in Concrete Using In-situ Probes (ASTM F 2170) should not exceed 75%.

“DRY” CONCRETE, AS DEFINED BY THESE TESTS CAN BE WET AT OTHER TIMES OF THE YEAR. THESE TESTS DO NOT GUARANTEE A DRY SLAB.

Moisture Retardant Systems

If excessive moisture is present or anticipated, use a Moisture Retardant System, such Bruce Summit adhesive or inexpensive sheet vinyl must be used to reduce vapor intrusion.

- Bruce Summit adhesive: Apply the adhesive using the recommended trowel. Flooring can be installed immediately after applying the adhesive. Flooring can be installed immediately after applying the adhesive.
- Sheet vinyl: Sheet vinyl or “slip-sheet” (felt-backed with vinyl wear layer) must be installed. Use a premium grade, alkali resistant adhesive and a full spread application system to properly bond the vinyl to the subfloor. Follow the sheet vinyl manufacturer’s instructions for installation procedures. A bond test may be required as an adhesion test. Install several small areas (3’ x 3’) (1 m x 1 m) and allow the vinyl to set for 72 hours. Remove the vinyl. If the backing remains attached to the concrete, the subfloor should be acceptable for sheet vinyl installation. Install the sheet vinyl and allow the adhesive to cure for 24 hours prior to beginning installation. Degloss as necessary to create an adequate adhesive bond. Always check for adequate adhesive bond.

Acoustic Concrete

Acoustic concrete normally contains large quantities of gypsum that may inhibit the adhesive’s capability to properly bond. Acoustic concrete must be primed with the concrete manufacturer’s recommended primer/surface hardener. Test the concrete by scraping the surface with a nail or other sharp object. If the concrete powders or crumbles, it is not sound and hardwood flooring should not be directly installed use of floating sub-floor system. Always check for adequate adhesive bond. The concrete must have a minimum compressive strength of 2000 PSI.

Ceramic, Terrazzo, Slate & Marble

All grout joints and broken corners that exceed 3/16” (5 mm) must be filled with a cementitious leveling compound Patch, Underlayment & Embossing Leveler with Underlayment Additive. The surface must be cleaned and abraded to create a good bonding surface for the adhesive. Loose tiles must be re-adhered to the subfloor or filled as above. Remove all sealers and surface treatments must be removed Always check for adequate adhesive bond.

Acoustic Cork Underlayment

The flooring must be glued or floated directly over full-spread, permanently bonded acoustic cork. The cork must have a density of no less than 11.4 lb./cubic foot. The cork, in general, should be pure cork combined with a polyurethane or resin binder. Install cork in accordance with cork manufacturer’s recommendations. Always check for adequate adhesive bond. When floating floors over cork DO NOT use foam underlayment.

Wood Subfloors and Underlayment

General: The wood subflooring materials must not exceed 12% moisture content. Using a reliable wood moisture meter, measure moisture content of both the subfloor and the hardwood flooring to determine proper moisture content.The wood subfloor should be checked at various locations throughout the installation approximately 20 readings or more should be taken and documented. The difference between the moisture content of the wood subfloor and the hardwood flooring must not exceed 3%. When installing parallel to the floor joists it may be necessary to stiffen the subfloor system by installing an additional minimum of 3/8” (9.5 mm) approved underlayment. Applicable standards and recommendations of the construction and materials industries must be met or exceeded.

NOTE: As flooring manufacturers, we are unable to evaluate each engineered system. Spacing and spans, as well as their engineering methods, are the responsibility of the builder, engineer, architect or consumer who is better able to evaluate the expected result based on site-related conditions and performance. The general information provided below describes common, non-engineered joist/subfloor systems. Engineered flooring systems may allow for wider joist spacing and thinner subflooring materials. When wider joist spacing of 19.2” or greater is used at least one of the following options must be used:

- Option 1: When wider joist spacing of 19.2” or greater is used, additional plywood subfloor material must be added to reduce movement and deflection.
- Option 2: With wider spacing of 19.2” apply a bead of Bruce EverSeal to the bottom of the end and side groove. This will lock the tongue and groove together eliminating movement that may contribute to noise.

Wood Structural Panel Subfloors and Underlayment

Structural panels/underlayment must be installed sealed side down. When used as a subfloor, allow 1/8” (3 mm) expansion space must be allowed between each panel. If spacing is inadequate, cut in with a circular saw. Do not cut in expansion space on tongue and groove panels.

- Plywood: Must be minimum CDX grade (exposure 1) and meet US Voluntary Product Standard PS1 performance standard or Canadian performance standard CAN/CSA 0325-0-92. The preferred thickness is 3/4” (19 mm) as a subfloor [minimum 5/8” (16 mm)] or 3/8” (9.5 mm) as underlayment.
- Oriented Strand Board (OSB): Conforming to US Voluntary Product Standard PS2 or Canadian performance standard CAN/CSA 0325-0-92 construction sheathing. Check underside of panel for codes. When used as a subfloor, the panels must be tongue and groove and installed sealed side down. Minimum thickness to be 23/32” (18 mm) thick when used as a subfloor or 3/8” (9.5 mm) as underlayment.
- Waferboard and Chipboard: Conforming to US Voluntary Product Standard PS2 or Canadian performance standard CAN/CSA 0325-0-92. Must be 3/4” (19 mm) thick when used as a subfloor and 3/8” (9.5 mm) thick when used as an underlayment.
- Particleboard: Must be a minimum 40-lb. density, stamped underlayment grade and 3/4” (19 mm) thick.

Solid Wood Subfloors

- Minimum 3/4” (19 mm) thick with a maximum width of 6” (15 cm) installed at a 45° angle to the floor joists.
- The subfloor must be Group 1 dense softwood (Pine, Larch, Douglas Fir, etc.) No. 2 common, Kiln dried with all board ends bearing on joists.
- For glue down applications a 3/8” (9.5 mm) approved underlayment, must be added.

Existing Wood Flooring

- Existing engineered flooring must be well bonded/fastened. When gluing over existing wood flooring of any thickness, the finishing materials must be abraded or removed to foster an adequate adhesive bond.
- Existing solid wood flooring that exceeds 6” (15 mm) in width must be covered with 3/8” (9.5 mm) approved underlayment and fastened as required. Do not install over solid flooring attached directly to the concrete.



Figure 2

Vinyl, Resilient Tile, Cork Flooring and Linoleum

- Make certain the floor covering materials are well bonded to the subfloor/underlayment with full spread adhesive and are no more than two layers thick, not to exceed 3/16” (5 mm).
- With approved wood/wood composite subfloors, if vinyl or tiles are loose, broken, or in poor condition, install a 3/8” (9.5 mm) approved underlayment directly over the flooring materials.
- Clean the flooring materials as necessary to create a good adhesive bond. If a maintenance material is present on the floor covering or a gloss is present, de-gloss with a flooring pad and a commercially available stripper, then rinse completely. Allow ample drying time. (NOTE: Do not sand any resilient products. They may contain asbestos fibers, which may be harmful.)
- Cork floors must have all sealers and surface treatments removed before installation begins. Always check for adequate adhesive bond.

Safety and Clean Up:

Wet adhesive should be cleaned up immediately with soap and water on a clean cloth. Dried adhesive may require the use of a solvent-based adhesive cleaner.

Installation Preparation: Before You Start

- Before installing the planks, central heat or air conditioning should be operating for 14 days.
- Install only at room temperature above 60°F (16°C) and 30-50% humidity conditions.
- In rooms with under-floor (radiant) heating, the surface temperature of the subfloor may not, under any circumstances, exceed 85°F (29°C). Increasing heat should be done in 5-degree increments. Ascertain that the subfloor is properly engineered or controlled for the flooring being installed. Subfloors designed for materials with higher resistance to heat transfer, such as carpet, WILL damage the flooring. Installations that include multiple floor covering products on a single heating circuit must be adjusted for the flooring product with the highest heat transfer or lowest temperature requirement.
- 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.
- Floor should be installed from several cartons at the same time to ensure good color and shade mixture.

STEP 1: Doorway and Wall Preparation

- Undercut door casings and jambs. Remove any existing base, shoe mold or doorway thresholds. These items can be replaced after installation. When undercutting door casings the installer should confirm there is the recommended expansion space. All door casings and jambs should be undercut to avoid difficult scribe cuts.

STEP 2: Plan Your Layout Using the Following Steps

- Stiffen subfloors as necessary to prevent vertical movement.

Layout the Herringbone Pattern: Sorting

- Before building the starting triangles, separate the hardwood into two separate piles for “A” planks and “B” planks. Planks are stenciled on the back with the appropriate letter (Figure 3).

Build Starting Triangles

- Take the A-planks and B-planks and position them as seen in Figure 4. Apply a 1/8” bead of Bruce Everseal (or tongue & groove flooring adhesive) in the groove of each plank, then assemble planks into a triangle. Use tape such as Scotch® Delicate Surface Painter’s Tape 2080 tape to hold planks in place as glue dries. After adhesive is cured carefully remove tape. Cut the first triangle as shown (Figure 5).
- Find the center of the starting wall and center of the opposite wall. Snap a chalk line down the center of the room connecting these two points (Control line) (Figure 6).

Find the X Measurement

- On an assembled triangle, measure the distance between two straight lines, starting at the corner of the planks (Figure 7).
- Divide the measurement from the previous bullet point by two to get the X measurement (Figure 7).

Draw the Installation Line

- Start from the center of the room. Offset the line using the X measurement as the distance and snap a chalk line (Figure 8).

Starting the Installation

- Start from the center of the room. Offset the line using the X measurement as the distance and snap a chalk line. Place first triangle on the installation line. Snap chalk lines parallel to the starter line at either end of the triangle. Spread sufficient amounts of the recommended adhesive in an area that can be covered within the working time the adhesive. Build off either side with alternating rows of A and B planks. As you build your first row be sure to keep the installation line centered between the alternating A and B planks (Figure 9).

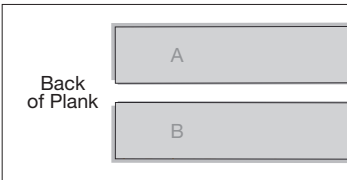


Figure 3

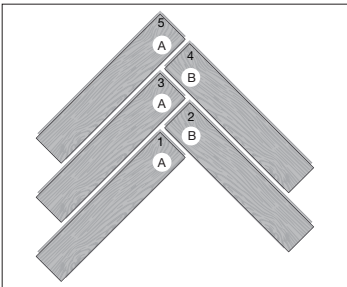


Figure 4

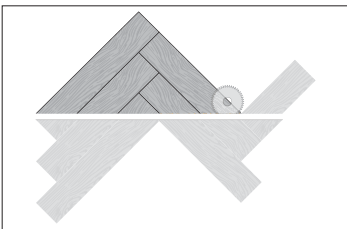


Figure 5

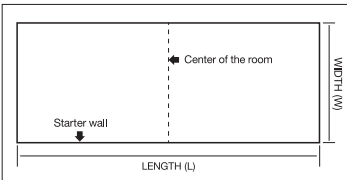


Figure 6

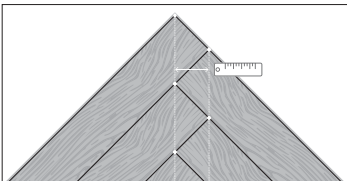


Figure 7

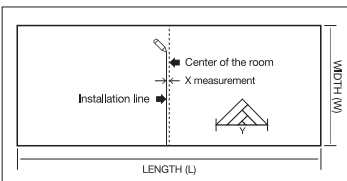


Figure 8

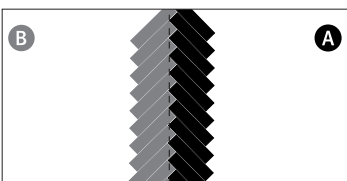


Figure 9

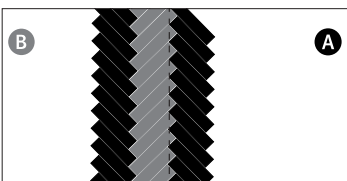


Figure 10

Continuing the Installation

- After the first row is completed. You can continue to build off of either side of the first row alternating complete rows of A or B planks using the plank opposite of the row before it. As you get to the end of each row be sure to cut end pieces against the wall while maintaining the expansion gap. (Figure 10).

Check for:

- Expansion room
- Proper fit at joints
- Points of the planks remain straight and perpendicular to the installation line
- Periodically measure to maintain straightness along the installation line

Completing the Installation (All Installations)

- Remove all wedges and tape if used.
- Clean floor with the recommended flooring cleaner.
- If drywall dust is present, thoroughly vacuum prior to using the recommended cleaner.
- Trim all underlayment and install, or re-install, all base and/or quarter round moldings. Nail moldings into the wall, not the floor. Inspect the floor, filling all minor gaps with the appropriate blended filler.
- If the floor is to be covered, use a breathable material such as cardboard. Do not cover with plastic.
- Leave warranty and floor care information with the owner. Advise them of the product name and code number of the flooring they purchased.
- To prevent surface damage, avoid rolling heavy furniture and appliances on the floor. Use plywood, hardboard or appliance lifts if necessary. Use protective casters/caster cups or felt pads on the legs of furniture to prevent damage to the flooring.

Glue Down Installation:

General Information for Glue-Down Applications

NOTE: DO NOT INSTALL FLOORING USING RUBBER MALLETS. STRIKING THE SURFACE WITH A RUBBER Mallet MAY "BURN" THE FINISH CAUSING IRREPAIRABLE DAMAGE.

- When not in use, keep the adhesive container tightly closed to prevent thickening. Thickening will cause difficulty in spreading the adhesive.
- Open times and curing times of ALL adhesives vary dependent upon subfloor porosity, air movement, humidity and room temperature. Urethane adhesive has a shortened working time in high humidity environments. In areas of low humidity, open time will be longer with urethane adhesives and shorter with some adhesives. Adjust the amount of adhesive spread on the subfloor accordingly. The adhesive should not be applied if subfloor or room temperature is below 60°F (16°C). WORKING TIME WILL VARY DEPENDING ON JOB SITE CONDITIONS.
- Hold trowel at a minimum 45° angle (Figure 11) firmly against the subfloor to obtain proper spread rate per gallon.
- For additional application instructions, follow the recommendations on the adhesive container.
- Proper ventilation within the room to mitigate fumes. An electric fan is helpful. Position the fan so it does not blow directly on the adhesive.

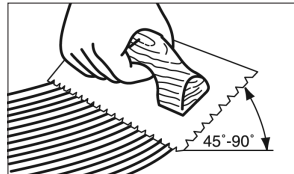


Figure 11

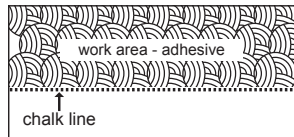


Figure 12

STEP 3: Spread the Adhesive

- Spread sufficient amounts of the recommended adhesive with the recommended trowel in an area that can be covered within the working time of the adhesive. Be sure not to spread adhesive too far ahead of your work area (Figure 12).

NOTE: Avoid installing on the surface of the flooring. If necessary, distribute weight using a kneeler board.

STEP 4: Installing the Floor

- Follow the steps outlined above after spreading the recommended adhesive.

NOTE: Clean adhesive from the surface of the floor frequently, using the recommended adhesive cleaner. Urethane adhesives become extremely difficult to remove when cured. Do not use Scotch® Delicate Surface Painter's Tape 2080 before adhesive is removed from the surface. Use clean towels, changed frequently, to prevent haze and adhesive residue.

- Check for a tight fit between all edges and ends of each plank. End-joints of adjacent rows should be staggered a minimum of 16" (40.64 cm) when possible, to ensure a more favorable overall appearance.
- It may be necessary to align the product with a cut-off piece of scrap as shown (Figure 13 - Keep scrap angle low to avoid edge damage).
- To eliminate minor shifting or gapping of product during installation, use Scotch® Delicate Surface Painter's Tape 2080 to hold the planks together. After installation is complete, remove all of the Scotch® Delicate Surface Painter's Tape 2080 from the surface of the newly installed flooring. Do not let the tape remain on the flooring longer than 24 hours. Avoid the use of masking or duct tape, which leaves an adhesive residue and may damage the finish.
- If necessary, use weights to flatten boards with bows until adhesive cures, in order to prevent hollow spots. Boards that cannot be flattened should be cut in length to reduce the bow, or not used.
- Roll and cross roll the floor with a 75-100 lb. roller within one hour of the installation and again two hours to ensure proper transfer of the adhesive.
- Avoid heavy foot traffic on the floor for a period of 6-12 hours. Lift the furniture or fixtures back into place after 24 hours.

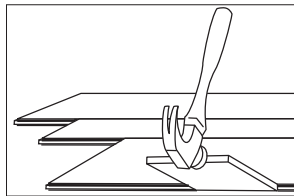


Figure 13

Proactive Protection for Your Floor:

- When moving appliances or heavy furniture it is always wise to lay a plywood panel, or similar, on your floor and "walk" the item across it. This protects your floor from scuffing, gouging and tears.
- Use floor protectors under furniture to reduce indentation. As a general rule of thumb, the heavier the item, the wider the floor protector needed.
- Place a walk-off mat at outside entrances to reduce the amount of dirt brought into your home. We strongly recommend mats without a latex or rubber backing since these backings can cause permanent discoloration.

Caring for Your Floor:

- Sweep or vacuum regularly, to remove loose dirt which can scratch your floor. Note: We do not recommend vacuums that have a beater bar since it can visibly damage your flooring surface. Additionally, we do not recommend electric brooms with hard plastic bottoms with no padding as use may result in discoloration and deglossing.
- Wipe up spills as soon as possible. Never use highly abrasive scrubbing tools on any engineered hardwood floor.
- Clean your floor routinely using Bruce® Hardwood and Laminate Floor Cleaner.
- Do NOT use detergents, abrasive cleaners, or "mop and shine" products. These products may leave a dull film on your floor.
- Engineered hardwood flooring, can become slippery when wet. Allow time for floor to dry after washing. Immediately wipe up wet areas from spills, foreign substance, or wet feet.

Repair Procedure:

For detailed repairs and maintenance guidelines, please visit AHF Products technical website www.floorexpert.com.