SOLID WOOD FLOORING 5/16” (8 MM) STRIP INSTALLATION INSTRUCTIONS
FOR STAPLE-DOWN AND GLUE-DOWN METHODS

RECOMMENDED ADHESIVES: Bruce® Equalizer™ Pro moisture cured urethane adhesive, Bruce ProConnect Plus or Bruce Summit™ All In One Adhesive

RECOMMENDED ADHESIVE REMOVER: Low Odor mineral spirits

THANK YOU FOR CHOOSING AHF PRODUCTS FLOORING. It properly installed and cared for your new flooring will be to maintain and will deliver 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.hardwoodexpert.com our technical website.
For general questions or comments, please visit us at www.ahfproducts.com or call 1-866-243-2726.

I. 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.

II. PREPARATION

STORAGE AND HANDLING

NOTE: NOT ALL MECHANICALLY FASTENED FLOORS IS NOT ABNORMAL DUE TO STRUCTURAL MOVEMENT CAUSED BY CHANGES IN ENVIRONMENTAL CONDITIONS. FOLLOWING THESE INSTRUCTIONS CAN MINIMIZE THESE FACTORS, BUT OFFER NO GUARANTEE THAT THE FLOOR WILL NOT SQUEAK.

· Solid hardwood flooring should be stored in the environment in which it is expected to perform. Deliver the materials to an environmentally controlled site. The wood subflooring materials must not exceed 12% moisture content. Using a reliable wood moisture meter, measure and document the moisture content of both the subfloor and the hardwood flooring, to determine proper moisture content. The difference between the moisture content of the wood subfloor and the wood flooring must not exceed 3% (2% for plank). Check the moisture content of multiple boards. A good representation is to check 40 boards for every 1,000 sq. ft.

· Acclimate the hardwood flooring on or off the job, as necessary, to meet these moisture content requirements. Store in a dry place, being sure to provide at least a four-inch air space under cartons that are stored upon “on-grade” concrete floors. Flooring should not be delivered until the building has been enclosed, with windows and doors in place, and until cement work, plastering and all other “wet” work is completed and dry. Concrete should be at least 50 days old.

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.

· 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 highly recommended as a vapor barrier with joints lapped 8” (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 lower cross ventilation (Figure 1). Where necessary, local regulations prevail.

· Subfloor must be checked for moisture content using the appropriate testing method.

· 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.

SUBFLOOR CONDITIONS

· CLEAN - Subfloor must be free of wax, paint, oil, sealers, 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. Check the floor to be glued directly over floor areas with a low additive cementitious leveling compound of 3,000-PSI minimum compressive strength Underlayment & Embossing Leveler with Underlayment Additive. Follow the instructions of the levelling compound manufacturer but make certain the levelling compounds are completely dry before beginning installation. When mechanically fastening the floor down, flatten low spots with a maximum of 6 layers of 15# builders felt, plywood or shims (not leveling compounds). Leveling materials must provide a structurally sound subfloor that does not affect the holding power of the fastener.

· DRY – Check and document moisture content of the subfloor using the appropriate moisture test. Concrete subfloors must be a minimum of 30 days old before testing begins. Moisture content of subfloor wood must not exceed 12% on a wood moisture meter, or read more than a 3% difference than moisture level of product being installed.

· STRUCTURALLY SOUND – Nails or screw any areas that are loose or squeak. 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.

NOTE: 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.

SUBFLOORS WITH RADIANT HEAT

DO NOT INSTALL THIS PRODUCT OVER SUBFLOORS WITH RADIANT HEAT.

TOOLS & ACCESSORIES NEEDED

For All Installation Methods

· Broom • Hand saw • Table saw, jig saw, or circular saw • Eye Protection • NIOSH-designated dust mask
· Tape measure • Hammer • Chalk line & chalk • Moisture meter (wood, concrete or both)
· Recommended hardwood flooring cleaner

Add For Staple Down Installation

NOTE: It is extremely important to use the proper adapters as well as staples or cleats. Improper fasteners, machines and air pressure can cause severe damage. The manufacturer of this flooring product is not responsible for damage caused by use of improper or machines.

· Pneumatic brad-nailer with “1” brads • Drill with 1/16” drill bit • 4-6 nails • Nail set
· 5/16” “blind” Fastening machine • Stanley-Bostitch, PowerNail,Senco • 18 gauge staples or cleats
· Other machines designed or adapted SPECIFICALLY to 5/16” solid flooring • Polyethylene tape
· 1” (minimum) glue coated staples

NOTE: The flooring manufacturer does not recommend nor endorse any specific brand or type of mechanical fastener.

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 our technical website at www.hardwoodexpert.com.

Figure 1

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.

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.

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 before any govern remedial disposal of material.

See 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 contamination material.

AHF floor coverings and adhesives do not contain asbestos.
As flooring manufacturers, we are unable to evaluate each engineered system. Spacing and spans, as well as their engineering responsibilities, 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 the general information provided below describes commercial-engineered subfloor systems. Engineered flooring systems may allow for wider joint spacing and thinner subflooring materials.

Wood Structural Panel Subfloors and Underlayment (All Installation Methods)

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

Plywood: Should be minimum CDX grade (exposure 1) and must meet US Voluntary Product Standard PS2-92 or Canadian performance standard CAN/CSA 0252-G-92. The preferred thickness is 3/4” (19 mm) as a subfloor (minimum 5/8” (16 mm)). When using an underlayment panel a minimum 3/8˝ (9.5 mm) thickness is recommended.

Oriented Strand Board (OSB): Conforming to US Voluntary Product Standard PS2-92 or Canadian performance standard CAN/CSA 0252-0-92 construction sheathing. Check the underside of the 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 an underlayment. Some board manufacturers’ specifications may require OSB panels:

- Waterboard and Chipboard: Conforming to US Voluntary Product Standard PS2 or Canadian performance standard CAN/CSA 0252-0-92. 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 be 3/4” (19 mm) thick.
STEP 2: Establish a Starting Point (All Installations)

- Installation parallel to the longest wall is recommended for best visual effects. However, the floor should be installed perpendicular to the flooring joists unless subfloor has been reinforced to reduce subfloor sagging.
- When possible, always begin the layout or installation from the straightest wall, generally an outside wall.
- In at least two places at least 18” (46 cm) from the corner, measure out the distance from the starting wall (Figure 7) and snap a chalk line. The measurement must be the sum of the width of the flooring plus an additional 7/8” (22 mm) to allow for 3/4” (19 mm) expansion space and the width of the tongue. Continue to Step 3: Blue-Down Installations.

STEP 3: Installing the Moisture Retardant Barrier (Staple-Down Installations)

CAUTION: The moisture retardant barrier may be slippery and unstable when walked on prior to the installation of the flooring material. Use extreme caution during installation.

- Roll out the materials in the same direction the flooring will be installed, allowing the moisture retardant to extend 3”-4” (8-10 cm) up the walls.
- Position the moisture retardant so the chalk lines can be seen through this material.
- Staple or tape at the corners to hold the moisture retardant barrier in position.
- Overlap the moisture retardant barrier 6” (15 cm) at all joints and poly tape the seams together. The first piece of moisture retardant barrier will be secured when the first row of floor is installed.

STEP 4: Installing First and Second Rows (Staple-Down Installations)

- Use the longest, straightest boards available for the first two rows.
- Align the tongue of the first row on the chalk line. The groove should be facing up. Figure 8
- Use a pneumatic brad nailer to face-nail the groove side 1/2” (13 mm) from the edge of the wall at 6” (15 cm) intervals and 1-1/2” (2.5-5 cm) from each end, then face-nail at a 45° angle through the nailing “poles” on top of the tongue (Figure 8). Pre-drill the nail holes 1/2” (13 mm) from the back (groove) side 1”-2” (2.5-5 cm) from each end, and at 6” (15 cm) intervals. Pre-drill at the same intervals at a 45° angle through the nailing “poles” on top of the tongue (Figure 8). Face-nail the groove side where pre-drilled.
- When complete, blind-nail at a 45° angle through the tongue of the first row. Fasten using 4 or 6 nails. Countersink nails to flush engagement of the groove. Avoid putting the hardwood by using a nail set to countersink the nails.
- Blind-nailing using this method with following rows up until the Capitol can be used.
- End-joints of adjacent rows should be staggered a minimum of 6” (15 cm) to ensure a more favorable overall appearance.

STEP 5: Installing the Floor (Staple-Down Installations)

- Use the appropriate staple gun, set the compressor as previously recommended.
- Fasten a sacrificial board to the floor. Check for surface damage, air pressure setting, tongue damage, etc. before proceeding. Make all adjustments and corrections before installation begins. Once proper adjustments have been made, remove the staple, remove and destroy the sacrificial piece.
- Install the floor from several carts at the same time to ensure good color and shade mixture.
- End-joints of adjacent rows should be staggered 6” (15 cm) when possible to ensure a more favorable overall appearance.
- Begin installation with several rows at a time, fastening each board 3”-4” (8-10 cm) apart and 1-1/2” (2.5-5 cm) from the ends (to avoid splitting) with a minimum of three fasteners per board. Tighten boards as necessary to reduce gaps before fastening. (See General Installation Tips.)
- Install the remainder of the floor working from several carts.
- The last 1-2 rows will need to be face-nailed where clearance does not permit blind nailing with a stapler or brad nailer. Brad-nail or pre-drill and face-nail on the tongue side following the nailing pattern used for the first row.
- Rip final row to fit and face-nail. If the final row is less than 2.5” (6 cm) in width, it should first be edge-glued to the previous UNINSTALLED row and the two joined units should be face-nailed as one.

General Information for Glue-Down Installations

- Working time will vary depending on the job-site conditions. Open times and curing times of all adhesives vary dependent upon subfloor porosity, air movement, humidity and normal temperature. Urethane adhesive has a shortened working time in high humidity environments.
- Hold the trowel at a minimum 45 degree angle (Figure 9) firmly against the subfloor to obtain a 50-60 ft.² (4.5-5.5 m²) per gallon spread rate. The trowel will likely find the ridges and adhesive and very little adhesive between the ridges. They will allow you to still see the chalk lines between the ridges and provide the recommended spread rate.
- Avoid installing from the surface of the flooring. If necessary, distribute weight using a kneeler board.
- Clean the adhesive from the surface of the floor frequently. Do not use blue tape before the adhesive is removed. 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 8” (20 cm) when possible to ensure a more favorable overall appearance (Figure 4).
- It may be necessary to align the product with a cut-off piece of scrap as shown (Figure 11 – Keep scrap angle low to avoid edge damage).
- To eliminate minor shifting or gapping of product during installation, use 3M Scotch-Blue™ 2080 Tape to hold the planks together. After installation is complete, remove all the 3M Scotch-Blue™ 2080 Tape 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 replace the bow. The bow cannot be used.
- Be sure not to spread adhesive too far ahead of your work area. (Figure 10c)
- Complete the installation using this same technique for the remainder of the floor.
- Avoid heavy foot traffic on the floor for at least 24 hours. Lift the furniture or fixtures back into place after 24 hours.

STEP 6: Complete the Installation (All Installations)

- Remove all tape and clean the floor with the recommended hardwood flooring cleaner.
- Install or re-install any transition pieces, reducer strips, T-moldings, thresholds, bases and/or quarter round moldings that may be needed. These products are available premixed to blend with your flooring (see below). 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.

V. TRANSITION AND WALL MOLDINGS

Reducer Strip

- Reducer Strip: A board shaped molding used around fireplaces, doorways, as a room divider, or as a transition between hardwood flooring and adjacent thinner floor coverings. Fastens down with adhesive, small nails or double-faced tape.
- Threshold: A molding used for use against sliding door tracks, fireplaces, carpet, ceramic tile, or existing thresholds to allow for expansion space and to provide a smooth transition in height difference. Fastens to subfloor with adhesive and/or nails through the heel. Predrill nail holes to prevent splitting.
- Stair Nosing: A molding used for use as a stair landing trim, elevated floor trimmers, and stair steps. Predrill and nail to the vertical surface, not into the floor.
- Combination Base and Shoe: A molding used when a base is desired. Used to cover expansion space between the floor and the wall. Predrill and nail into the wall, not the floor.
- T-Molding: A molding used as a transition piece from one rigid flooring to another of similar height or to gain expansion spaces. Fasten at the heel in the center of the molding. Additional rigid support may need to be added to the heel of the molding dependent upon the thickness of the surfaces. Do not use this molding as a transition to carpet.

INSTALLERS – ADVISE YOUR CUSTOMER OF THE FOLLOWING

Seasons: Heating and Non-heating

- Heating Season (Dry): A humidifier is recommended to prevent excessive shrinkage in hardwood floors due to low humidity levels. Wood stoves and electric heat tend to create very dry conditions.
- Non-Heating Season (Humid, Wet): Proper humidity levels can be maintained by use of an air conditioner. Humidity can be controlled by use or turning off your heating system or dehumidifier, or by turning on your heating system periodically during the summer months. Avoid excessive exposure to water from tracking during periods of inclement weather. Do not obstruct in any way the expansion joint around the perimeter of your floor.
- Damage caused by failing to maintain the proper humidity levels is not manufacturing related and will void the floor’s warranty.

FLOOR REPAIR

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