

Nail-Down Installation Instructions

Indusparquet® 3/4" Prefinished Solid Antiquity™ Hand-Scraped 3/4" Prefinished Solid (including various widths such as 2 1/4", 3", 4", 5 1/2")

Thank you for choosing BR-111™ Exotic Hardwood Flooring. Protect your investment; thoroughly review and adhere to the following installation instructions.

Please note that these are instructions for the experienced hardwood flooring installer. For more detailed information on the basics of installing hardwood flooring, please contact the National Wood Flooring Association (NWFA) at 1-800-422-4556 or visit www.nwfa.org.

Installer/Owner Responsibility

Hardwood flooring is a natural product; therefore defects in the flooring can occur in the manufacturing process or naturally as a characteristic of the wood. BR-111™ 3/4" hardwood floors are manufactured within accepted industry standards, allowing for up to 5% defective product (may be natural or manufacturing related) based on the original hardwood flooring purchase order. Order 5% additional flooring product above actual square footage requirements to allow for cutting and grading of material.

Prior to installation, the installer and owner assumes all responsibility for final inspection and quality of the product.

Flooring should be carefully examined for finish and quality. Do not install hardwood flooring that is unacceptable; contact seller immediately. Final grade, manufacturing, finish quality checks and final approval of the product is the sole responsibility of the owner and installer. The installer must exercise good judgment and common sense before and during installation. Flooring with obvious defects or imperfections should be trimmed and used in hidden places or discarded. Once installed, the floor is considered as having been accepted by the owner and installer. If any floor is installed with obvious defects or imperfections at time of installation, BR-111™ will NOT in any case be liable for installer's lack of judgment, quality of installation, labor, installation, and associated costs.

The installer must determine that the job-site environment and sub-floor surfaces meet applicable construction and material industry standards. BR-111™ declines any responsibility for job failure resulting from deficiencies associated with sub-floor or job-site environment.

The installer must hold out or cut off defective flooring material during installation. Filler or putty stick may be used to correct minor flooring defects during installation and is considered a normal procedure.

The installer is commissioned and contracted by the owner. Owners should choose their installer carefully by checking references and previous job experience, etc. The cheapest is not always the best. Installing hardwood flooring is a highly skilled operation. The contract to install is between the owner and the installer. BR-111™ is in no way responsible for the owner's choice of installer or any failure by the installer to satisfy the owner.

Basic Tools and Accessories

- Rubber mallet
- 4d-6d Flooring nails
- Jamb saw or hand saw
- Chalk line
- Pencil
- 15 lbs. asphalt felt
- Table saw or band saw
- Hammer
- Tape measure
- Leading brand of hardwood flooring cleaner
- Broom
- Powernail manual 45 T&G Powernailer, pneumatic 445 Powernailer or other machines designed or adapted specifically to 3/4" solid wood flooring.
- Quality moisture meter with manufacturer's relevant exotic species calibration figures.

NOTE: 3/4" is meant for nail-down or staple-down (with 2" fasteners) installation only.

Step 1: Pre-Installation

Site Inspection

Prior to installing hardwood floors, the building must be structurally complete and enclosed, including installation of exterior doors and windows. Concrete, masonry, drywall, and paint must also be complete, allowing adequate drying time as to not raise moisture content within the building.

HVAC systems must be fully operational at least 14 days prior to flooring installation, maintaining a consistent room temperature between 60-75 degrees Fahrenheit and relative humidity between 35-55%. This not only stabilizes the building's interior environment, but also is essential when acclimating hardwood flooring to the job-site.

Exterior grading, directing drainage away from the structure, as well as gutters and down-spouts should also be completed. Floors can only be installed on or above grade level and are not recommended in full bathrooms.

It is essential that basements and crawl spaces are dry. Crawl spaces must be a minimum of 24" from the ground to underside of joists. A vapor barrier must be established in crawl spaces using 6 mil polyethylene (poly) film with joints overlapped and taped.

During the final pre-installation inspection, sub-floors must be checked for moisture content using the appropriate metering device for wood.

Step 2: Equalizing Hardwood Flooring

Wood is a porous material with a natural cellular structure that expands and contracts depending on the amount of relative humidity present in the surrounding atmosphere. Equalizing moisture content to the job-site equilibrium point before installation is paramount to stabilizing movement after installation.

Handle and unload hardwood flooring with care and store within the environmentally controlled site in which it is expected to perform. Flooring stored upon "on-grade" concrete floors should be elevated at least four inches to allow air circulation under cartons. Hardwood flooring must acclimate for as long as necessary to meet minimum installation requirements for moisture content. Using the equilibrium moisture content chart below, determine the proper moisture content for the installation.

Equilibrium Moisture Content Chart

Temp. Relative Humidity, Percent

	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	98
30° F	1.4	2.6	3.7	4.6	5.5	6.3	7.1	7.9	8.7	9.5	10.4	11.3	12.4	13.5	14.9	16.5	18.5	21.0	24.3	26.9
40° F	1.4	2.6	3.7	4.6	5.5	6.3	7.1	7.9	8.7	9.5	10.4	11.3	12.4	13.5	14.9	16.5	18.5	21.0	24.3	26.9
50° F	1.4	2.6	3.6	4.6	5.5	6.3	7.1	7.9	8.7	9.5	10.3	11.2	12.3	13.4	14.8	16.4	18.4	20.9	24.3	26.9
60° F	1.3	2.5	3.6	4.6	5.4	6.2	7.0	7.8	8.6	9.4	10.2	11.1	12.1	13.3	14.6	16.2	18.2	20.7	24.1	26.8
70° F	1.3	2.5	3.5	4.5	5.4	6.2	6.9	7.7	8.5	9.2	10.1	11.0	12.0	13.1	14.4	16.0	17.9	20.5	23.9	26.6
80° F	1.3	2.4	3.5	4.4	5.3	6.1	6.8	7.6	8.3	9.1	9.9	10.8	11.7	12.9	14.2	15.7	17.7	20.2	23.6	26.0
90° F	1.2	2.3	3.4	4.3	5.1	5.9	6.7	7.4	8.1	8.9	9.7	10.5	11.5	12.6	13.9	15.4	17.3	19.8	23.3	26.0
100° F	1.2	2.3	3.3	4.2	5.0	5.8	6.5	7.2	7.9	8.7	9.5	10.3	11.2	12.3	13.6	15.1	17.0	19.5	22.9	25.6

From the U.S. Dept. of Agriculture "Wood Handbook — Wood as an Engineering Material"

Always use a moisture meter to determine where the flooring and present job-site conditions are in relation to the projected final equilibrium point taking into account seasonal changes.

Monitor the flooring and job-site conditions as they acclimate. If the wood is neither gaining nor losing moisture, an equilibrium condition has been reached.

NOTE: Equilibrium points vary dramatically throughout the country, from the dry desert areas of the Southwest to moist areas along the Gulf of Mexico. In addition, a wide range of relative humidity can be experienced between individual job-sites within the same basic locale. Different heating/air conditioning systems can also dramatically alter on-site relative humidity. As a result, no one fixed moisture content is right for all situations, and it is up to the individual installer to establish the proper moisture content for each installation.

Additional information regarding equalizing exotic hardwood flooring to specific geographic regions is available upon request, or may be obtained from our reference manual posted on-line at www.br111.com.

Step 3: Recommended Sub-Flooring

Preferred

3/4" (19mm) CDX Grade Plywood or 3/4" (23/32") OSB PS2 Rated Underlayment with a minimum 40 lbs. density

Minimum

5/8" CDX Grade Plywood with a minimum 40 lbs. density

Do not nail over particleboard or similar products, including gypcrete. DO NOT INSTALL THIS FLOORING OVER RADIANT HEAT FLOORING.

Step 4: Sub-Floor Preparation

Sub-floors Must Be:

- Dry and free of wax, paint, oil, and debris. Replace any water-damaged or delaminated sub-flooring or underlayments. Scrape smooth and sweep prior to installation.
- Level/flat within 3/16" over 10' and/or 1/8" over 6'. High areas or joints can be sanded flat. Low spots can be lifted to flat using shims or layers of builders felt between wood and sub-flooring during installation.
- If plywood or equivalent, sub-floor must be structurally sound prior to installation. Sub-floor must be properly secured with nails or screws every 6 inches along joists to reduce the possibility of squeaking after final installation.
- Appropriate moisture tests must be performed as outlined in the "Step 5: Testing for Moisture Content" section listed below.

Minimum thickness sub-floor material recommendations are satisfactory for 16" on center joist spacing. Thicker sub-floor recommendations will allow up to 19.2" joist spacing. When joist spacing is greater than 19.2" on center, flooring will exhibit minimum performance. Minimum performance may result in movement, gaps, and/or noises. A second layer of sub-flooring material bringing the overall thickness to 1" – 1 1/8", will provide optimum results when joist spacing exceeds 19.2" on center. Sub-floor panels should be spaced 1/8" apart to allow for expansion.

Hardwood flooring should, whenever possible, be installed perpendicular to flooring joists. Do not install BR-111™ solid floors over existing glue-down wood floors or over wood floors that exceed 3 1/4" face size. In these applications, or when installing BR-111™ solid floors parallel to existing wood floors, install an additional 1/4" layer of plywood to assist stabilization.

Step 5: Testing for Moisture Content

Using a quality moisture meter, measure the moisture content of both the sub-floor and the hardwood flooring. **Sub-floors must not exceed 12% moisture content and the difference between sub-floor and hardwood flooring cannot exceed 4%.**

If sub-floors exceed this amount, an effort should be made to locate and eliminate the source of moisture before further installation. **A moisture barrier (6 mil polyethylene film minimum) may be required in addition to the 15 lbs. asphalt felt. Asphalt felt is not considered a moisture barrier.**

Step 6: Installing the Floor

Helpful Tips

- Remove flooring from several different cartons to maximize color and shade mixture.
- Stagger the ends of boards at least 6" in adjacent rows.
- Installation parallel to the longest wall provides best visual effect.
- Before you begin installing the hardwood floor, cover sub-floor area with 15 lbs. asphalt felt.

Doorway and Wall Preparation

Undercut or notch-out door casings 1/16" higher than the thickness of the flooring being installed to avoid difficult scribe cuts during installation. Also remove existing base and shoe molding as well as doorway thresholds; each can be replaced after installation is complete.

Establish Starting Point

An exterior wall is usually the straightest and best reference line to start the installation. Direction of finished flooring should be at right angles to the floor joists whenever possible. Establish a starting line by leaving a minimum 1/2" expansion gap around all vertical obstructions. In large spans, more spacing may be needed depending on geographical area, interior climate control, and time of the year. Measure this distance from the starting wall (in at least two places) close to the starting wall's opposite corners. Mark these points and snap a working chalk line parallel to the starting wall allowing the required expansion space between the starting wall and the edge of the first row of flooring.

Installing The Floor

On the first row of flooring use 6d or 8d flooring nails to top nail surface of flooring and countersink (pre-drilling nail holes will prevent splits).

Nails should hit the joist whenever possible. To ensure proper alignment of flooring, make sure the flooring along the working chalk line is straight.

Allowing for a 1/2" minimum expansion gap is critical. Wood expands and contracts with changes in humidity. Wood will buckle and/or cup if an adequate expansion space is not provided. Always allow for expansion when making end or side cuts around vertical objects.

CAUTION: It is extremely important to use the appropriate nailer/stapler and fasteners for installation.

We recommend Powernail® manual Model 45 T&G Powernailer and relevant powercleats nails. Powernail® pneumatic Model 445 Powernailer or equivalent may also be used (www.powernail.com).

Make sure to properly space nails every 8" – 10" along the length of the board with a minimum of 2 fasteners per piece 2" – 3" from each end. If face width of flooring is 5" or wider, properly space nails every 4" – 6" along the length of the board. Top and/or hand nail enough rows to allow adequate spacing from wall; continue installation with a floor-nailing machine.

Continue across the room until finished; remember to provide adequate spacing for expansion gap. Once completed, install molding and trim. Thoroughly clean, sweep, and vacuum installed floor before further use.

If floor is to be covered, use a breathable material such as cardboard or rosin paper. Do not cover with plastic. All areas of hardwood flooring species that are photosensitive (darken with exposure to natural light) such as but not limited to Brazilian Cherry, Amendoim, Tigerwood, and Tiete Rosewood should be carefully covered completely if the floor is not to be used for a period of time. If areas are left open to natural light, expect the uncovered areas to begin the natural color change.

Step 7: Common Sense Care

It is important to keep your hardwood floors free from dirt, water, food, grease, and other spills which can damage the floor or finish.

Periodically clean floors using a leading brand of cleaner made for prefinished hardwood floors (follow directions on bottle). Do not use ammonia or oil-based wax, polish, abrasive cleaners, or furniture cleaners. Make sure to install floor protectors under furniture, chairs or other items that may sit directly on your hardwood floor to help prevent scratches, scarring, and dents. Regularly, sweep, dust mop and/or vacuum to keep dirt and grit from dulling the shine and scratching the finish. Wipe up all spills promptly with a soft, dry cloth. Avoid walking on floors with sharp, stiletto high heel shoes or shoes with soles in need of repair.

CONGRATULATIONS on your new BR-111™ hardwood floor!
If you have any further questions or comments regarding exotic hardwood flooring, please contact our technical department toll-free at 1-800-525-BR111 (2711).