



## Prefinished 3/4" Solid (including various widths such as 3 1/4", 3 5/8", 4 3/4", 5") Nail-Down Installation Instructions

Thank you for choosing ARK Floors Exotic Hardwood Flooring. In order to meet warranty requirements and to ensure a successful installation, review these installation instructions carefully and follow them exactly. If you proceed with the installation, then you will be bound by these instructions.

There are inspections that must be performed before installation including careful examination of the flooring for style, grade, color, finish, dimension and quality, job-site and environmental conditions. **The installation of our flooring and these instructions are intended for experienced hardwood installers. All others, including the owner/installers, assume all risks of every kind respecting examination of flooring, job-site and environmental conditions as well as the installation.** If you require additional or more detailed information on the installation of hardwood flooring, please contact the National Wood Flooring Association (NWFA) at 1-800-422-4556 or visit [www.nwfa.org](http://www.nwfa.org)

**WARRANTY COVERAGE ON ARK Floors WILL BE LOST DUE TO FAILURE TO STRICTLY FOLLOW ALL INSTALLATION AND CARE INSTRUCTIONS AND RECOMMENDATIONS OR THE USE OF IMPROPER MATERIALS OR TOOLS. READ ALL OF THESE INSTRUCTIONS CAREFULLY.**

### **GENERAL INFORMATION**

Hardwood flooring is a natural product and variations in color, grain, pattern and texture occur normally and are not considered defects. ARK Floors recommends hiring an experienced, professional installer to perform the installation and that these instructions are for experienced hardwood installers. ARK Floors proudly manufactures all 3/4" hardwood floors within strict tolerances accepted by the industry, which allows for up to 5% defective product (natural or manufacturing related) based on the original hardwood flooring purchase. Be sure to order at least 5% additional flooring material beyond actual square footage requirements to allow for cutting and grading of material. If your installation will be on a diagonal, order 10% - 15% extra material.

In order to understand how the floor will look after installation, it is important that the installer and owner review the control samples to ensure the owner's expectations are met as to:

**Grade:** Since grade may vary slightly from batch to batch, the flooring to be installed should be reviewed for the proper grade.

**Color & Graining:** Determine whether dark/light or exotic grained pieces need to be culled-out to meet owner's expectations?

**Color Change:** The owner should be made aware of how wood will change color over time.

**Finish:** Issues with gloss-level and appearance of the finish should be reviewed and the owner should be informed that the finish will scratch and wear over time and proper installation and maintenance are important to maintain its beauty.

### **Additional Installer/Owner Responsibilities**

- Installing hardwood flooring is considered a highly skilled operation and it is critical that the owner choose an installer carefully. Ark Floors recommends choosing a reputable installer who can provide a list of references or customers that you can contact. Also, the installer should

demonstrate previous job experience and have the proper business licenses for your particular area. Remember also that the contract for installation is exclusively between the owner and the installer. Ark Floors is in no way responsible for the owner's choice of installer or any failure by the installer to satisfy the owner.

- Ark Floors is not liable for defective flooring that is noticeable prior to installation. **Do not install defective flooring. Ark Floors will only replace such defective flooring that exceeds the allowable 5% tolerance, above, provided that it has not been installed. You may discard or trim and use such defective flooring in hidden areas.**
- Ark Floors is not liable for any defective flooring that results, in whole or in part, from any job-site or sub-surface condition that is not in compliance with standard industry standards, these instructions or environmental conditions.

## **IMPORTANT NOTICES**

**SOLID WOOD FLOORING IS NOT COMPATIBLE WITH BELOW GRADE INSTALLATIONS.**

**SOLID FLOORING MUST BE ACCLIMATED FOR AT LEAST 5 DAYS PRIOR TO INSTALLATION.**

**DO NOT INSTALL THIS FLOORING OVER RADIANT HEAT FLOORING.**

For more information contact the National Wood Flooring Association (NWFA) [www.nwfa.org](http://www.nwfa.org)  
800-422-4556.

## **INSTALLATION OVERVIEW**

### **Pre-Installation Job Requirements**

#### **Job-Site Inspections Prior to Delivery of Flooring:**

Make sure that:

- The job-site environment and sub-floor surfaces meet all applicable local as well as construction and material industry standards [laying the floor should be the last step of your installation].
- The building is structurally complete and the jobsite is properly enclosed with all doors and windows installed.
- Installer must hold out or cut off defective flooring material during installation.
- Concrete, plaster, masonry, drywall, paint, wall coverings, and the sub-floor are completely dry so as to not raise moisture (humidity) content within the building.
- **HEATING, AIR CONDITIONING AND VENTILATION SYSTEMS ARE FULLY OPERATIONAL AT LEAST 14 DAYS PRIOR TO FLOORING INSTALLATION AND REMAIN SO THROUGH OUT THE LIFE OF THE FLOORING AND INTERIOR CONDITIONS FOR THIS ENTIRE PERIOD MAINTAIN A TEMPERATURE BETWEEN 60-75 DEGREES FAHRENHEIT AND AT 30%-50% RELATIVE HUMIDITY.**
- Exterior grading is complete, with drainage directed away from the structure and all gutters and down-spouts should also be installed and functional.
- Wood floors are not recommended in full bathrooms.
- If flooring is to be installed on a sub-floor under which there is a crawl space, then the floor of the crawl space must be at least 18"- 24" from the ground to underside of joists, a ground cover of 6 mil black polyethylene must be utilized as a vapor barrier and joints must be overlapped 6" and sealed with moisture-proof tape. The crawl space must also have perimeter air venting equal to 1.5% of the crawl space square footage.
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## **MATERIALS AND RECOMMENDED TOOLS**

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

1. Measuring tape
2. Chalk line reel
3. Rubber mallet
4. 4d-6d Flooring nails
5. 15 lbs. asphalt felt
6. 3-M Blue Tape
7. Broom
8. Putty knife
9. Floor protectors
10. Pencil
11. Jamb saw or portable hand saw
12. Table saw or band saw
13. Crowbar or last plank puller
14. Hammer
15. Powernail manual 45 T&G Powernailer, pneumatic
16. 445 Powernailer or other machines designed or adapted specifically to 3/4" solid wood flooring.
17. Quality moisture meter with manufacturer's relevant
18. Exotic species calibration figures.

### **Equalizing Your Wood Flooring**

During the final pre-installation inspection, sub-floors must be checked for moisture content using the appropriate metering device for wood. All solid wood flooring must be properly equalized before installation. Wood is porous material which expands as it picks up moisture in most environments relative to the humidity present in the surrounding atmosphere. It is this movement which can cause cracks, separation, and warping of your wood floor if not properly equalized before installation. Solid wood flooring should be stored in the environment in which it is expected to perform, should be delivered to an environmentally controlled site and handled with care. All wood will eventually acclimate itself to its environment, reaching the "equilibrium point" or equilibrium moisture content. If the wood is neither gaining nor losing moisture, an equilibrium condition has been reached.

### **Recommendations for Equalizing Solid Wood Flooring:**

- Flooring stored upon "on-grade" concrete floors should be elevated at least four inches to allow air circulation under cartons.
- 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.
- 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:** No single fixed moisture content is right for all sites as equilibrium points can vary dramatically in different environments. It is the responsibility of the owner and installer to monitor all variables that can impact the target equilibrium point.

## 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...	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...	1.4	2.6	3.7	4.6	5.5	6.3	7.1	7.9	8.7	9.5	10.4	11.3	12.3	13.5	14.9	16.5	18.5	21.0	24.3	26.9
50...	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...	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...	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...	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	26.3
90...	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...	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

### TESTING FOR MOISTURE CONTENT

The determination of moisture content is an essential part of quality control within the flooring installation process. Flooring installers must know the dryness of not only the wood flooring, but its sub-floor and the concrete slab beneath it, if one exists. A moisture meter is a critical tool to determine if floor boards are dry enough for an installation to proceed. Moisture is one of the most critical areas of concern. Monitor the flooring and the job-site conditions throughout the preparatory period and the installation process. The sub-floor must not exceed 12% moisture content and the difference between sub-floor and hardwood flooring cannot exceed 4% for 3-5/8" planks and 2% for wider planks. If a sub-floor exceeds 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.

### SUB-FLOOR REQUIREMENTS

#### Recommended Sub-Flooring:

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.

**CAUTION: Do not use particleboard or similar products, including gypcrete.**

#### Sub-Flooring Preparation

- The sub-floor must be structurally sound.
- The sub-floor must be dry and free of wax, paint, oil and debris.
- Replace any water-damaged or delaminated sub-flooring or underlayment.
- Scrape smooth and sweep prior to installation.
- The sub-floor must be level, that is, within 3/16" over 10' and/or 1/8" over 6'.
- If the sub-floor is concrete, a minimum of 30 days drying time for a reliable moisture reading is necessary.
- DO NOT use gypsum-based (white) patching compounds. Follow the manufacturer's recommendations for applying the leveling compound. Areas containing new leveling compound must be completely dry (meeting moisture vapor emission tolerances) before proceeding with the installation of the wood floor.
- If the sub-floor is plywood or equivalent, high areas or joints must be sanded flat.
- If plywood or equivalent, the 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 "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.
- Sub-floor panels should be spaced 1/8" apart to allow for expansion. It is highly recommended that ARK Floors solid floors not be installed over existing glue-down wood floors or over wood floors that exceed 3 1/4" face size.
- Cover sub-floor area with 15 lbs. asphalt felt.

**If installing over subfloor, use vapor retarders such as asphalt, saturated craft paper or 15lbs. felt. NOTE: Over a wood subfloor do not use an impermeable vapor retarder material with a perm rating of ,7 or les, such as 6 mil polyurethane film or other polymer materials, as it may trap moisture on or in the subfloor.**

For full product warranty visit [www.ark-floors.com](http://www.ark-floors.com)

## **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.

## **INSTALLING THE FLOOR NAIL-DOWN INSTALLATION**

1. Work from several open boxes of flooring and "dry lay" the floor before permanently laying the floor (but never open more than a few boxes in advance). This will allow you to arrange the varying grains & colors in a harmonious pattern. It also allows you the opportunity to select out very dark/light pieces for use in hidden areas in order to create a more uniform floor. Remember, it is the installer's responsibility to set the expectations of what the finished floor will look like with the owner.
2. Stagger the ends of boards at least 6" in adjacent rows. Installation parallel to the longest wall provides best visual effect.
3. Establish a starting line by leaving a minimum 1/2" expansion gap around all vertical obstructions.
4. An exterior wall is usually the straightest and best reference line to start the installation, establish a starting point and leaving an expansion gap of \_", to set up the baseline of installation. Do the same for the opposite of the starting wall, careful measure and calculate make sure do not end up less than 2 inches in width at the final wall.
5. On the first row of flooring used 6d or 8d flooring nail to top nail surface of flooring and countersink. Nail should hit joist whenever possible. To ensure proper alignment of flooring, make sure the flooring along the working chalk line is straight.
6. After nailing down the first 22 sqft, test to make sure that this section of flooring is firmly affixed.
7. Make sure to properly space nail every 8"- 10" along the length of the board with minimum of 2 fasteners per piece 1-1/2" from each end. Continue across the room until finished: remember to provide adequate spacing for expansion gap. ARK Floors recommends 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](http://www.powernail.com)).

**CAUTION:** It is extremely important to use the appropriate nailer/stapler and fasteners for installation. The recommended nailer/stapler is Powernail® manual Model 45 T&G Powernailer and relevant powercleats nails. Powernail® pneumatic Model 445 Powernailer or equivalent may also be used. **NOTE: Some exotic hardwoods are denser than others. Should you experience splitting of the tongue during installation, stop and check the gun. If that does not rectify the situation then consider using a thinner gage. For that we recommend a Power Nail Model 50P, which shoots an 18 gage cleat. Visit [www.powernail.com](http://www.powernail.com) for more information.**

8. Install or re-install any transition pieces such as moldings, trip thresholds or reducer strips.
9. Thoroughly clean, sweep, and vacuum installed floor before further use.
10. If floors are to be covered, do not use plastic; instead, use a breathable material such as kraft paper. All hardwood floors will fade, darken or change shades over time. Exposure to sunlight will greatly increase this process. Window treatments are recommended as well as regular

rotation of area rugs and furniture. These steps will contribute to your floor aging evenly.

### **CARING FOR YOUR FLOORS**

The character and elegance of a hardwood floor makes it a favorite among homeowners. By following some common sense care procedures, you will enhance its timeless, natural beauty.

- 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.
- It is important to keep your hardwood floors free from dirt, water, food, grease, and other spills which can damage the floor or finish. If you further questions or comments regarding exotic hardwood flooring, please contact our technical department toll-free at (800) 918-6188.