



## ATTENTION INSTALLERS

### **CAUTION: DRY ENVIRONMENTS**

Extra caution should be used installing flooring in dry environments and regions. Please note that our flooring products cannot withstand consistent exposure to less than 35% relative humidity. For this reason, please note that monitored acclimation must take place in a controlled and maintained environment within certain temperature and humidity ranges (see section II. Acceptable Job Site Conditions). HVAC should be in place and operating to facilitate this control. Humidity may need to be added with the careful use of humidifiers to maintain relative humidity between 35-55%. Failure to follow these instructions will void all warranties.

### **CAUTION: RADIANT HEAT**

Certain species do not perform well over radiant heat. Denser species such as hickory, maple, Brazilian cherry (Jatoba), Tigerwood, and Santos mahogany do not perform well and are not recommended over radiant heat. Species such as red oak, walnut, and white oak are more stable and will perform better over radiant. However, be aware, this dry heat can shrink any flooring during drier months and gaps may be seen in between planks. All interiors, regardless of heating system, must be maintained within our recommended interior relative humidity range of 35% - 55% for successful installation. RWF will require a FidBox (or other pre-approved) data logging system that RWF will specify, to be placed on site that will measure temperature and relative humidity. More information about FidBox can be found at [www.FidBox.net](http://www.FidBox.net).

### **CAUTION: PROPER MAINTENANCE**

Please ensure proper maintenance procedures and products are used. Some flooring lines require natural oil care and some will require urethane-friendly cleaners. Use of inappropriate cleaners could damage finish and void warranty. Not all products marketed as wood floor cleaner are appropriate for your specific floor finish.

### **CAUTION: WOOD DUST**

- Sanding, cutting and machining wood products can produce wood dust. Airborne dust particles can cause respiratory, eye and skin irritation. The International Agency for Research on Cancer classifies wood dust as a nasal carcinogen in humans.
- Power tools should be equipped with a dust collector. If high dust levels are unavoidable and appropriate NIOSH-approved dust mask should be used. Avoid contact with eye and skin.
- First Aid: In case of irritation, flush eyes or skin with water for at least 15 minutes.

## RECOMMENDED INSTALLATION PRODUCTS

### REAL WOOD ADHESIVE

- Minimal shrinking and non-slump for superior contact
- Superior spread rates equals lower cost per square foot
- High bond strength
- Good wet grab
- Trowels easily
- Superior elasticity gives quieter, more cushioned walking over installed floor
- Can be laid using walk-on or wet lay method

### REAL WOOD COHESIVE 2-IN-1 MOISTURE BARRIER + ADHESIVE

- Low VOC and low odor
- Significantly reduces install time vs. other barrier + adhesive systems
- Lowers installation costs
- Good ridge holding and non-slump properties
- Superior green grab
- Fully cured product offers a superior moisture barrier
- Superior elasticity produces quieter floors with great acoustic properties

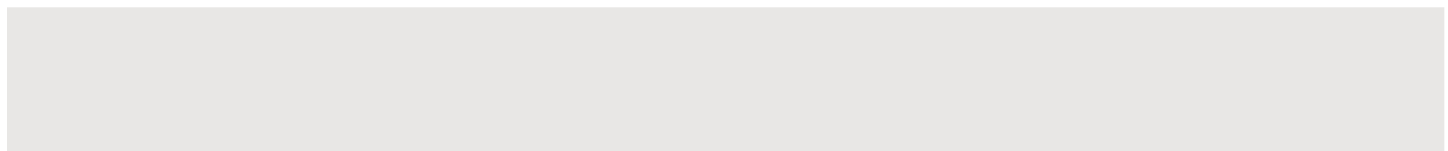
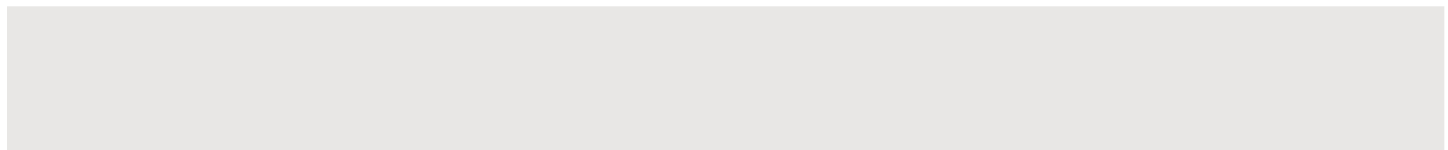
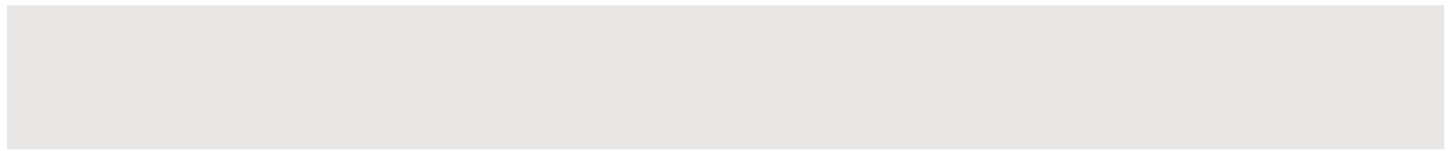
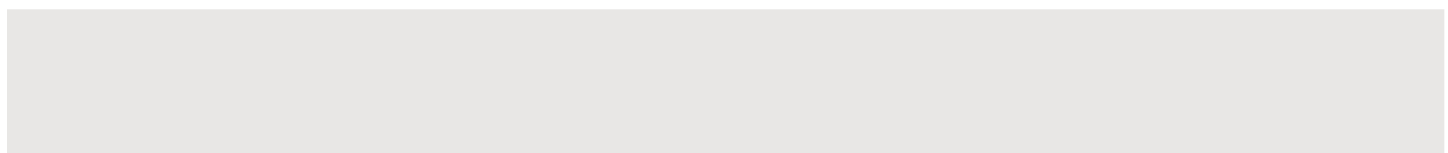
## APPROVED INSTALLATION METHODS & PRODUCTS

COLLECTION	METHOD	RECOMMENDED PRODUCTS
<b>CHALET</b> 1/2" x 3-1/4" - 4" - 5" Engineered	Glue down	<b>RWF Adhesive:</b> 3/16" x 1/4" x 1/2" V-Notch trowel. 55 sqft / gal spread rate. <b>RWF Cohesive*:</b> 1/4" x 3/16" V-Notch trowel. 40 sqft / gal spread rate.
	Float	<b>Eurobond D3 Floating Floor Adhesive:</b> 124-200sqft / 16oz. bottle.
	Nail down	<b>18 Gauge Fastener:</b> 1-1/2" long. Nailed every 4-6", & 1-2" from ends of the boards.
<b>PONDEROSA</b> 3/8" x 5" Engineered	Glue down	<b>RWF Adhesive:</b> 3/16" x 1/4" x 1/2" V-Notch trowel. 55 sqft / gal spread rate. <b>RWF Cohesive*:</b> 1/4" x 3/16" V-Notch trowel. 40 sqft / gal spread rate.
	Float	<b>Eurobond D3 Floating Floor Adhesive:</b> 124-200sqft / 16oz. bottle.
	Nail down	<b>18 Gauge Fastener:</b> 1-1/2" long. Nailed every 4-6", & 1-2" from ends of the boards.
<b>VINTAGE LOFT</b> 9/16" x 8-1/2" Engineered	Glue down	<b>RWF Adhesive:</b> 3/16" x 1/4" x 1/2" V-Notch trowel. 55 sqft / gal spread rate. <b>RWF Cohesive*:</b> 1/4" x 3/16" V-Notch trowel. 40 sqft / gal spread rate.
	Float	<b>Eurobond D3 Floating Floor Adhesive:</b> 124-200sqft / 16oz. bottle.
	Nail down	<b>18 Gauge Fastener:</b> 1-3/4" long. Nailed every 4-6", & 1-2" from ends of the boards.
<b>SALTBOX</b> 1/2" x 4" - 6" - 8" Engineered	Glue down	<b>RWF Adhesive:</b> 3/16" x 1/4" x 1/2" V-Notch trowel. 55 sqft / gal spread rate. <b>RWF Cohesive*:</b> 1/4" x 3/16" V-Notch trowel. 40 sqft / gal spread rate.
	Float	<b>Eurobond D3 Floating Floor Adhesive:</b> 124-200sqft / 16oz. bottle.
	Nail down	<b>18 Gauge Fastener:</b> 1-1/2" long. Nailed every 4-6", & 1-2" from ends of the boards.
<b>BRICK &amp; BOARD</b> 1/2" x 5" Engineered	Glue down	<b>RWF Adhesive:</b> 3/16" x 1/4" x 1/2" V-Notch trowel. 55 sqft / gal spread rate. <b>RWF Cohesive*:</b> 1/4" x 3/16" V-Notch trowel. 40 sqft / gal spread rate.
	Float	<b>Eurobond D3 Floating Floor Adhesive:</b> 124-200sqft / 16oz. bottle.
	Nail down	<b>18 Gauge Fastener:</b> 1-1/2" long. Nailed every 4-6", & 1-2" from ends of the boards.
<b>THE 1875 COLLECTION</b> 3/8" x 6" Engineered	Glue down	<b>RWF Adhesive:</b> 3/16" x 1/4" x 1/2" V-Notch trowel. 55 sqft / gal spread rate. <b>RWF Cohesive*:</b> 1/4" x 3/16" V-Notch trowel. 40 sqft / gal spread rate.
	Float	<b>Eurobond D3 Floating Floor Adhesive:</b> 124-200sqft / 16oz. bottle.
	Nail down	<b>18 Gauge Fastener:</b> 1-1/2" long. Nailed every 4-6", & 1-2" from ends of the boards.
<b>STOREHOUSE PLANK</b> 3/4" x 5" <b>Solid</b>	Glue down	<b>RWF Cohesive*:</b> 1/2" x 1/2" V-Notch trowel. 20 sqft / gal spread rate.
	Nail down	<b>16 Gauge Fastener:</b> 1-1/2 - 2" long. Nailed every 6-8" & 1-2" from ends of the boards. <b>It is necessary to use a glue assist method in nail down applications for Storehouse Plank.</b>
<b>TASMANIA</b> 9/16" x 6 1/2 & 9 1/2" Engineered	Glue down	<b>RWF Adhesive:</b> 3/16" x 1/4" x 1/2" V-Notch trowel. 55 sqft / gal spread rate. <b>RWF Cohesive*:</b> 1/4" x 3/16" V-Notch trowel. 40 sqft / gal spread rate.
	Float	<b>Eurobond D3 Floating Floor Adhesive:</b> 124-200sqft / 16oz. bottle.
	Nail down	<b>18 Gauge Fastener:</b> 1-3/4" long. Nailed every 4-6", & 1-2" from ends of the boards.
<b>LONGHOUSE PLANK</b> 1/2" x 7 1/2 & 3 1/2" Engineered	Glue down	<b>RWF Adhesive:</b> 3/16" x 1/4" x 1/2" V-Notch trowel. 55 sqft / gal spread rate. <b>RWF Cohesive*:</b> 1/4" x 3/16" V-Notch trowel. 40 sqft / gal spread rate.
	Float	<b>Eurobond D3 Floating Floor Adhesive:</b> 124-200sqft / 16oz. bottle.
	Nail down	<b>18 Gauge Fastener:</b> 1-1/2" long. Nailed every 4-6", & 1-2" from ends of the boards.
<b>STEADFAST</b> 9/16" x 6 1/2 & 9 1/2" Engineered	Glue down	<b>RWF Adhesive:</b> 3/16" x 1/4" x 1/2" V-Notch trowel. 55 sqft / gal spread rate. <b>RWF Cohesive*:</b> 1/4" x 3/16" V-Notch trowel. 40 sqft / gal spread rate.
	Float	<b>Eurobond D3 Floating Floor Adhesive:</b> 124-200sqft / 16oz. bottle.
	Nail down	<b>18 Gauge Fastener:</b> 1-3/4" long. Nailed every 4-6", & 1-2" from ends of the boards.

*\*Please refer to the RWF Cohesive label for the correct trowel size and spread rate for below grade installations. Cohesive is not approved for installing solid wood flooring below grade.*

## APPROVED INSTALLATION METHODS & PRODUCTS CONTINUED

COLLECTION	METHOD	RECOMMENDED PRODUCTS
<b>SILVIAN</b> 9/16" x 7-1/2" Engineered	Glue down	<b>RWF Adhesive:</b> 3/16" x 1/4" x 1/2" V-Notch trowel. 55 sqft / gal spread rate. <b>RWF Cohesive*:</b> 1/4" x 3/16" V-Notch trowel. 40 sqft / gal spread rate.
	Float	<b>Eurobond D3 Floating Floor Adhesive:</b> 124-200sqft / 16oz. bottle.
	Nail down	<b>18 Gauge Fastener:</b> 1-3/4" long. Nailed every 4-6", & 1-2" from ends of the boards.



*\*Please refer to the RWF Cohesive label for the correct trowel size and spread rate for below grade installations.*

*Cohesive is not approved for installing solid wood flooring below grade.*

For any nail-down application, it is important that your subfloor is clean, dry, sound and flat. Always follow the correct nailing schedule. To minimize squeaking consider using a glue-assist method.

### I. IMPORTANT INFORMATION

Owner/Installer should carefully inspect material prior to installation. Wood is a natural product and as such will contain variations in grain, color and individual characteristics from board to board. **Materials installed with visible defects are not covered by warranty.** Any unacceptable material should not be installed. Rejection of material must be done on the full shipment of product, not box-by-box or piece-by-piece. Our flooring is manufactured within accepted industry standards, which allow grading deficiencies not to exceed 5%. It is recommended to add 5% - 10% to order quantities to allow for grading deficiencies and installation waste.

### Acceptable Job Site Conditions

*\*As outlined by the National Wood Flooring Association*

Wood flooring is one of the last jobs of any construction project. The grade level should be noted so that the correct flooring can be specified for the job. Prior to delivery of the wood flooring a site evaluation should be done. Check for and ensure the following:

1. The building should be completely enclosed.
2. All outside doors and windows must be in place and have latching mechanisms.
3. The site should be at normal living conditions, whether it is under normal HVAC controls or temporary controls. The recommended temperature range should be between 60-80 degrees Fahrenheit, and the relative humidity should be between 35-55%. This range should be consistently maintained through out the life of the flooring.
4. Be sure the flooring will not be exposed to extremes of humidity, heat or moisture.
5. All concrete, masonry, plastering, drywall texture, painting, and other wet work should be completed and thoroughly dry.
6. Basement must be dry.
7. Outside surface drainage should direct water away from the building.
8. Crawl spaces must be dry.
9. Crawl space must be a minimum of 18" from the ground to the underside of the joist.
10. The crawl space earth (or thin "rat slab") must be covered 100% by a vapor retarder of 6 mil black polyethylene.
11. Where the 6 mil black polyethylene ground covering is in place, the crawl space should have perimeter venting equal to a minimum of 1.5 square feet, per 100 square

feet of crawl space.

12. Vents should be properly located to foster cross ventilation.
13. Unvented crawl spaces need ground covering of 6 mil black polyethylene, which must be overlapped 6 inches and be sealed or taped. Continuously operated mechanical exhaust and perimeter wall insulation or conditioned air supply and insulation must be provided.
14. Subfloors (wood or concrete) should be checked by an appropriate method for establishing moisture content. For concrete slabs moisture should not exceed 3lbs/1000sqft per 24 hours on a calcium chloride test and 75% on an RH test.
15. Plywood or wood subfloor should be tested with a pin or scan type meter and should be within 4% for engineered flooring, and within 2% for solid flooring, of the wood flooring moisture content prior to installation. The plywood or wood subflooring should not exceed 13%.
16. Where the correct job site conditions are present, the flooring can be delivered and stored in the rooms in which it will be installed.
17. Upon delivery check wood flooring and subfloor moisture content to establish a baseline for required acclimation. We recommend a minimum of 3 days. Proper moisture testing of wood flooring and subflooring materials will determine proper acclimation. We do not recommend removing engineered products from the packaging for acclimation.
18. Keeping the job site within the recommended temperature (60-80 degrees) and humidity (35-55%) will allow for proper acclimation. Deviation from the recommendations could cause damage to the flooring, which will not be covered by the warranty.

Note: Local building codes may differ. Local building codes take precedence over these recommendations, please follow all local building codes.

### II. SUBFLOORS

The subfloor must be flat, meeting a minimum of 3/16" within 10' or 1/8" in 6'. For concrete sub floors, grind high spots or use a cement based leveling material (minimum compressive strength 3000 psi) to fill all low spots. Follow the leveling compound manufacturer's instruction. Leveling compounds must be allowed to thoroughly cure and dry prior to installation of wood flooring. The flooring installer is responsible for a level and flat subfloor.

## Recommended Subfloor Surfaces

### CONCRETE SUBFLOORS

Concrete slabs should be of high compressive strength and constructed to prevent groundwater from permeating the concrete. Engineered hardwood flooring can be installed on, above, or below-grade. In addition, it can be installed over above-ground, suspended concrete floors. The suspended concrete must be a minimum of 1 1/2 inches thick and must be structurally sound. The exception to this is lightweight concrete (which usually contains high amounts of gypsum) having a density of 100 pounds or less per cubic foot. Test for lightweight concrete by using a nail to scratch the surface of the concrete. **If the concrete crumbles or turns to powder, it is not sound and you should NOT install the hardwood flooring using a glue down method. Only a floating floor installation would be recommended.** If there is any question about concrete porosity or strength it is recommended to glue down one plank, let adhesive set for 24 hours and then pry the plank loose. If any concrete comes up with the plank, do not install using a glue down method. Concrete must have a minimum compression strength of 3,000 psi for direct glue applications.

### CONCRETE SUBFLOORS WITH PLYWOOD

Always add a vapor retarder (min 6 mil plastic) before applying plywood underlayment to the concrete slab.

**Materials minimum:** 5/8 (19/32, 15.1mm) CD Exposure 1 plywood subfloor panels (CDX), 4' x 8' sheets.

Installation method

**Note:** Fasteners may be power-driven pins, pneumatic driven nails, screws, deformed pins, or other fasteners suitable for concrete application. Check with the fastener manufacturer for specification such as length, drill size, and/or shot load where applicable.

1. Stagger panel joints allowing approximately 1/8" expansion space around all panels to prevent edge peaking due to compression caused by panel swell.
2. Allow 3/4" minimum expansion space at all vertical obstructions.
3. Panels should be mechanically fastened. For power load or pneumatic pressure information, contact your local supplier.
4. Nailing requirements, minimum 32 shots per 4' x 8' panel.
5. Areas with higher humidity may require additional fasteners.

### SCREED SYSTEM

**Solid 3/4" Wood Flooring:** Solid 3/4" wood flooring 5" or less may be installed directly to screeds.

**Engineered 3/4" Wood Flooring:** Engineered 3/4" wood flooring 7" or less may be installed directly to screed.

**For solid and engineered products less than 3/4" thick:** The screed system must be overlaid with a minimum 5/8 plywood (19/32, 15.1mm) CD Exposure 1 plywood subfloor panel (CDX), 4' x 8' sheets or 5/8 OSB underlayment properly spaced and oriented perpendicular to screed direction. All joints must be staggered.

**For direct nailing to the screed:** alignments must be in line with the recommended nailing schedule for the wood flooring material. See "APPROVED INSTALLATION METHODS & PRODUCTS" on page 2 for the recommended nailing schedule.

### DIRECT GLUING A PLYWOOD SUBFLOOR OVER CONCRETE

**Always follow the adhesive manufacturer's recommendation for proper application, proper adhesive and correct trowel notch and spread rate.**

1. Add the recommend vapor barrier product by the adhesive manufacturer before applying adhesive.
2. Use minimum 5/8 plywood (19/32, 15.1mm) CD Exposure 1 plywood subfloor panel (CDX), 4' x 8' sheets.
3. Cut the plywood panels to 2' x 8' or 4' x 4' sections. Score the back of the panel sections 1/2 the thickness on a 12" x 12" grid.
4. Lay sections in a staggered joint pattern in the adhesive, with 1/8" spacing between sheets, and 3/4" minimum expansion space at walls and vertical obstructions.

### FLOATED SUBFLOOR

**Always add a vapor barrier before applying the subfloor.**

6. Use two layers minimum 3/8" (10mm), minimum CD Exposure 1 ply-wood subfloor panels (CDX) 4' x 8' sheets.
7. Place the first plywood layer with edges parallel to wall, without fastening. Leave 3/4" space between walls and plywood. Plywood panels should be spaced with 1/8" gaps between sheets.
8. Lay the second layer perpendicular or at 45° angle to the first layer. Use the same spacing requirements as above.
9. Staple/screw and glue (with urethane or construction adhesive) the second layer to the first layer on 12"

interior grid pattern (6" on the perimeter). Be careful not to penetrate the vapor barrier.

### WOOD SUBFLOORS

**Preferred Subflooring:** ¾" (23/32", 18.3 mm) CDX grade Plywood subfloor/ underlayment (Exposure 1), 4'x8' sheets or ¾" (23/32", 18.3mm) OSB subfloor/underlayment grade, PS2 rated, sealed side down, with joist spacing of 19.2" (488mm) on center or less.

**Minimum Subflooring:** 5/8" (19/32, 15.1mm) CDX Plywood subfloor/ underlayment (Exposure 1), 4'x8' sheets, maximum 16" on center joist construction. Follow panel manufacturer's recommendations for spacing and fastening.

**Typical panel spacing and fastening for joist systems:** 1/8" (3.2mm) around perimeter and fastened every 6" (150mm) on bearing edges and every 12" (300mm) along intermediate supports.

10. Installation of flooring should not be made over joists spacing greater than 19.2" on center or parallel to the joists unless the subfloor has been properly strengthened, applying a second layer of underlayment may be necessary to bring the overall subfloor thickness to 1-1/8".
11. Test the moisture content of the wood subfloor and wood flooring with a pin type or scan type moisture meter. Wood subfloor moisture content must not exceed 13% and the wood flooring should be within 4% of the wood subfloor for engineered wood, and 2% of the wood subfloor for solid wood.
12. If using existing wood floor as subfloor, install new flooring at right angles to the existing flooring.
13. Do not glue, staple, or nail down hardwood flooring over particle board.
14. Do not install over existing glue down hardwood floors.

### CERAMIC, TILE, AND TERRAZZO

All wax and sealers must be removed with an appropriate cleaner/stripper. Ceramic tile and terrazzo should be abraded to allow for proper adhesion. Check for loose tiles by tapping and re-adhere. Fill grout lines with a cementitious latex fortified leveling compound.

### RESILIENT TILE, RESILIENT SHEET VINYL

Material must be full spread and secured to the subfloor. Do not install over perimeter glued floors. Do not install over more than one layer that exceeds 1/8" in thickness.

### GLUE DOWN ONLY

Do not install over more than one layer that exceeds 1/8" in thickness. Clean flooring with an appropriate cleaner and allow to thoroughly dry. If necessary degloss the floor using an abrasive pad to enhance the bonding of the adhesive, if wax or other coatings are present, completely remove the material with a quality stripper, rinse the floor and allow to dry. Always check for proper adhesion bond prior to installing.

**CAUTION: DO NOT SAND** any existing resilient tile, sheet vinyl flooring, or flooring felt as they may contain asbestos fibers that are not readily identifiable. Inhalation of asbestos dust can cause serious bodily harm. Check local, state, and federal laws for handling hazardous material before attempting the removal of these floors.

### RADIANT HEAT INSTALLATIONS

Note that these recommendations for subfloors do not apply to floors installed with radiant heat systems. Contact Real Wood Floors for Real Wood Floors installation instructions over radiant heat systems at 877.215.1831.

## III. TOOLS NEEDED FOR INSTALLATION

### All installations

Broom, Tape Measure, Hammer, Chalk Line & Chalk, Hand Saw or Jamb Saw, Recommended Hardwood Flooring, Cleaner, Electric Power Saw, Eye Protection, Moisture Meter, (wood, concrete or both), Transition and Wall Moldings, NIOSH-designated Dust Mask, 3M Blue tape, tapping block.

**Add for Glue Down Installations:** Recommended adhesive, and adhesive remover, Appropriate trowel.

**Add for Nail Down Installations:** Appropriate nailer or stapler, Appropriate fastener, Compressor and hose, Nylon/plastic tapping block.

**Add for Floating Floor Installations:** Spaces, Wedges, Nylon/plastic tapping block, Tongue & groove glue.

## IV. JOB SITE PREPARATION

**Inspect the Flooring:** Inspect material and get written customer approval for appearance, color, finish, milling, and grade. Hold out pieces that may not be acceptable once installed.

**NOTE: We do not accept responsibility for any costs incurred when plank(s) with visible defects have been installed.**

**Ensure the Environment is Correct:** The environment must be between 60-80 degrees Fahrenheit, and between 35-55% relative humidity. Double check that the flooring has

acclimated to within 4% of the subfloor moisture content for engineered wood, and 2% of the subfloor moisture content for solid wood. Walk across the entire subfloor to check that the subfloor is dry, clean, flat and sound. Any squeaks in the subfloor will not go away once flooring has been installed. Any deflection in boards or debris on the subfloor will cause noise in the flooring.

**NOTE: squeaks, cracking or popping sounds are not covered under warranty, and can be expected to some degree on any nailed down or floated wood floor. Proper subfloor preparation may help minimize these noises.**

**Undercut Door Casings:** Undercut all door casings 1/16" higher than the thickness of the flooring being installed. To do this, use a scrap piece of flooring as a guide. Lay it on the substrate and cut the casing with a handsaw or use a power jamb saw set at the correct height.

**Blending of Cartons:** To achieve a uniform appearance across the entire floor, we highly recommend that you open and work from several cartons at a time and dry-lay the flooring, mixing the planks from several cartons. This will allow you to blend the planks for maximum aesthetic appearance. Make certain the room is well lit to ensure color is consistent and that any visual defects can be seen and removed.

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

**Layout of Flooring:** "Racking the Floor" is essential to achieve a random appearance. Be sure to lay flooring perpendicular to the joists. 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. As you continue working across the floor try to maintain a six-inch minimum between end joints. Randomly install different lengths to avoid a patterned appearance. 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. For floating installation the minimum is 1/2" regardless of the thickness of the material. After any 25' span in any direction, add an additional 1/16" expansion space for every 3'.

## V. GLUE DOWN INSTALLATION

Before you begin using the following instructions, please refer to the Acceptable Job Site conditions and Job

Preparation information above. Concrete must have a minimum compression strength of 3,000 psi for direct glue applications.

**NOTE: Real Wood Floors recommends using RWF Adhesive or RWF Cohesive for glue down applications. Use the appropriate trowel and spread rate according to the adhesive manufacturer's recommendations for the specific floor you are installing. The adhesive manufacturer is liable for proper adhesion of the flooring to the subfloor.**

## GETTING STARTED

1. Establish a starting point. An outside wall is best: it is most likely to be straight and square with the room. Measure out from this wall, at each end, the width of two planks including the tongue plus the space needed for expansion.
2. Snap a chalk line from these points, parallel to that wall.
3. Prior to installing the flooring, fasten a straight edge inside the chalk line as a guide and to prevent the row of planks from shifting during installation. When gluing to a slab the straight edge may have to be screwed into the concrete. 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.

## SPREADING THE ADHESIVE

4. Using the proper trowel, hold the trowel at a 45° angle to ensure proper spread rate of adhesive. 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. Temperature, relative humidity, and airflow across the adhesive can have an affect on the open time of the adhesive.

## INSTALLATION

5. Spread adhesive from the chalk line/straightedge out to approximately the width of two pieces of flooring. Install the first row of planks along the chalk line/straightedge and secure into position with the tongue facing the starter wall.

**NOTE: Accurate alignment is important. Uneven starter rows can cause sides and ends to gap in proceeding rows of flooring. With the starter rows complete, you can begin the next row. Use medium to low tack masking tape (also known as "blue tape") to hold the boards tight together to prevent movement or gapping.**

- When the first two starter rows are straight and secure, spread adhesive 2 to 3 feet wide across the length of the room. Never spread more adhesive than can be covered in 30 to 45 minutes. If the troweled out adhesive has skinned over, remove and trowel new adhesive.
- Continue to install planks and push them into place. 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. Install different lengths at random 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. Use a tapping block if necessary.**

- Adhesive should never come into contact with the surface of the floor. If adhesive does come into contact with the surface of the floor, remove the wet adhesive from the surface of the installed flooring with the approved cleaning solution recommended by the adhesive manufacturer. Some adhesives can damage the surface of the floor. Be sure to clean up wet adhesives as quickly and thoroughly as possible.
- As you approach the end wall it may be necessary to rip the width of the last row – be sure to allow for the expansion space along the end wall. Once the final cuts are made set planks into place.
- After the floor is complete remove the straight edge and glue down the first two boards.
- Foot traffic should be restricted for a minimum of 6-8 hours. Wait 24 hours before permitting moving of furniture onto the floor. Always follow the adhesive manufacturer's recommendations for dry/cure time.
- Carefully remove the blue tape 24 hours after installation is completed. Do not wait more than 24 hours to remove tape since it could leave residue on the floor.

## VI. NAIL OR STAPLE DOWN INSTALLATION

Before you begin using the following instructions, please refer to the Acceptable Job Site Conditions and Job Preparation information above.

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

**It is the responsibility of the installer to prepare the subfloor and ensure that it is clean, dry, sound, and flat. It is the responsibility of the installer to ensure a clean, sound, and quiet flooring installation. Flooring should be continually inspected throughout the process.**

## 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 (see warranty brochure for complete warranty coverage). 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. When used improperly, staples or cleats can damage 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. Some models may require the use of an adapter to adjust for proper thickness.

**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. Should the staple/cleat penetrate 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 prevent damage to the flooring and to reduce squeaking. Real Wood Floors is not responsible for damage caused by mechanical fasteners.

## MINIMUM FASTENER LENGTHS

**For 3/8" thick products:** minimum length is 1 1/4".

**For 1/2" thick products:** minimum length is 1-1/2".

**For 5/8" thick products:** minimum length is 1-1/2".

**For 3/4" thick products:** minimum length is 1-1/2".

Read and follow the manufacturer's instructions for complete set-up and operation of equipment.

## USING ADHESIVE IN A NAIL DOWN INSTALLATION

For any engineered flooring and solid flooring that is installed above grade, PVA-type adhesive may also be applied in a "glue assist" to flooring boards that are being nailed or stapled down. This may help with noise/squeak abatement. Adhesive may be applied in a 1/8" bead in a serpentine pattern to the underneath side of the board before nailing



or stapling down. Alternatively, a 1/8" bead of glue may be applied directly to the subfloor 1" away from the tongue of the previously installed row of flooring. If a glue-assist method is used, underlayment should not be applied to the subfloor. Adhesive should be in direct contact with both the flooring and subfloor.

**It is recommended that any nailed down solid floor 3" or greater be installed with a glue-assist method as described above.**

### GETTING STARTED

1. After the subfloor has been properly cleaned and prepared, cover the subfloor with 15lb asphalt felt paper. This material will help to keep the floor clean and help to retard moisture from below. If the subfloor is nailed to a concrete subfloor a proper moisture barrier is required.
2. Establish a starting point. An outside wall is best: it's most likely to be straight and square with the room. Measure out from this wall, at each end, the overall width of the plank including the tongue and the space needed 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). This first row or two will have to be face-nailed with 1-1/4" or 1-1/2" finish nails. Countersink nails and fill with appropriate colored wood filler and remove excess filler from surface.
5. Blind nail/staple at a 45° angle into the nail/staple pocket on the tongue side, 2" from the end joints.
  - For 3/8" and 1/2" flooring, nail or staple every 4" to 6" down the length of each board.
  - For 5/8" and 3/4" flooring, nail every 6" to 8" down the length of each board.
6. Short boards should have a minimum of two fasteners per board.
7. Depending on the width of the flooring it may be necessary to top nail the first row prior to using a pneumatic stapler/nailer.

**NOTE: Accurate alignment is important. Uneven starter rows can cause sides and ends to gap in proceeding rows of flooring. With the starter rows complete, you can begin the next row.**

### INSTALLATION

8. Continue to install the flooring making sure to nail/staple 2" from the ends and following the proper nailing schedule for the thickness of flooring (see above). 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.

9. If needed use a tapping block to help engage the boards together until the tongue-and-groove is flush and tight and no gaps are present between adjacent planks.

**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. Use a tapping block if necessary.**

10. As you approach the end wall it may be necessary to rip the width of the last row. Be sure to allow for the expansion along the end wall. Once the final cuts are made set planks into place.
11. The last few rows will need to be fastened by hand. To fasten the final planks into place, you must either blind nail or face-nail through the surface on the final planks, or use appropriate adhesive. Countersink nails and fill with appropriate colored wood filler and remove excess filler from surface with a clean rag and approved cleaner.

### VII. FLOATING INSTALLATION (ENGINEERED ONLY)

Before you begin using the following instructions, please refer to the Acceptable Job Site conditions and Job Preparation information above.

**IMPORTANT NOTE: Floating installation is only applicable to 4" and wider width flooring. We do not recommend or warranty floating 3-1/4" or 2-1/4" flooring. Chalet brand products which are random width in the box and include 3-1/4" planks may also be floated using the following method.**

Floating floors must be glued together using D-3 rated PVA glue commonly referred to as tongue and groove adhesive. DO NOT USE wood glue or carpenter's glue for floating applications. It will cause installed flooring to creak and snap when walked on.

### GETTING STARTED

Moisture test and document concrete slab or wooden subfloor for appropriate moisture content prior to installation. Adjust all door casings and wall moldings for proper installation cutting anywhere necessary to allow flooring to slide under. Plan to leave an expansion space at all walls and vertical obstructions. For floating installation the minimum is 1/2", or the same thickness of the floor, whichever is greater.

After any 25' span in any direction, add an additional 1/16" expansion space for every 3'.

Make sure subfloor is level to within 3/16" in 10' or 1/8" in 6'. Floor movement and deflection in a floating installation is considered normal. Sweep subfloor thoroughly and remove any paint or drywall mud.

Install proper underlayment of 1/8" foam, cork or resilient underlayment. Some underlayments do not act as a vapor retarder. When using the floating method over concrete slab install a 6-mil polyethylene vapor barrier overlapping and taping all seams with moisture resistant tape.

## INSTALLATION

1. Working from different boxes to ensure color uniformity, select the longest available boards. Lay them out the length of the room. Begin in the right corner of the room with the tongue side facing you and the groove facing the wall. The end groove should be facing the end wall. Align this row with your starting line.
2. Take the second board and place a 1/8" continuous bead of glue on the bottom edge of the end groove. There is no need to apply glue to the long side of the board at this time as you'll apply it to the next row. Remove any excess glue with a damp towel. You can use blue painters tape to temporarily hold boards in place as you work across the floor.
3. Cut the final board to length ensuring you've left the appropriate expansion space between the ends of the row and the wall. You can use the cut end of the material as a starter board for your next row.
4. Starting back in the right corner now begin selecting boards for the next row ensuring at least 6" of spacing between the end joints.
5. Place a continuous 1/8" bead of glue along the inside bottom edge of the end and side groove. If you see glue come up between the planks you're using too much glue. After 4-5 rows check the floor for square as you will still have time to adjust it before the glue sets. Ensure the floor is aligned properly and continue on as necessary using blue tape to hold the flooring temporarily in place. Remove excess glue as you go.
6. After 24 hours remove all blue tape from floor. DO NOT ROLL FLOOR as this will loosen glued joints.
7. Give glue adequate dry time before finishing an unfinished floor that has been floated as movement can cause joints to loosen.
8. Ensure that the appropriate expansion space has been left around the entire perimeter of the floor.

## VIII. COMPLETE INSTALLATION (ALL METHODS)

1. Clean the floor with an appropriate cleaner
2. Install or re-install any moldings or trim.
3. If the floor has to be covered to protect from construction traffic use a breathable material such as cardboard, but be sure to sweep the floor prior to laying any covering material. Plastic could lead to moisture being drawn up through the subfloor causing the floor to move.

## IX. MAINTENANCE

1. Install protector pads on bottom of all furniture.
2. Place rugs at all points of entrance to capture abrasives and moisture. Shake out rugs regularly.
3. Vacuum with a brush attachment, or sweep and or dust mop regularly to remove abrasives and dirt.
4. Do not use household dust treatments to clean the floor as they will contaminate the finish making it harder to refinish the floor later.
5. Keep high heels and other shoe bottoms in good repair as they can dent the floor.
6. Wipe up spills immediately with a dampened cloth and follow up with approved cleaner.
7. Remove stains with a cloth dampened with approved cleaner.
8. For urethane or other film finished products please utilize Bona, Absolute Coatings or Behlen urethane-friendly cleaning products.
9. For natural oiled floors please utilize natural oil care products from Real Wood Floors.