

BOIS CHAMOIS VINTAGE HARDWOOD FLOORING

SOLID OR ENGINEERED INSTALLATION INSTRUCTIONS

Professional Installation Recommended

Glue Down Installation Instructions Solid or Engineered 5/8" or 3/4"

Thank you for choosing Bois Chamois Vintage 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 tasks of installing hardwood flooring, please contact Bois Chamois, 800-823-0898, or 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. Bois Chamois hardwood floors are manufactured within accepted industry standards, allowing for up to 10% defective product based on the original hardwood flooring purchase order. Order 10% additional flooring product above actual square footage requirements to allow for cutting and grading of material.

Prior to installation, the installer 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.

The installer must determine that the jobsite environment and sub-floor surfaces meet applicable construction and material industry standards. Bois Chamois 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.

Basic Tools and Accessories

Rubber Mallet	Jamb saw or hand saw	Broom
Chalk Line	Pencil	Waterless Glue
Table saw or band saw	Hammer	Tape measure
Quality moisture meter with manufacturer's relevant wood species calibration figures.		

NOTE: These instructions are for glue down installations of 5/8" or 3/4" Bois Chamois solid and engineered hardwood flooring up to 8" in width using an approved sub floor. This flooring cannot be shot to concrete.

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SOLID OR ENGINEERED INSTALLATION INSTRUCTIONS

(continued)

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 downspouts, 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 18" from the ground to the underside of joists. ***A vapor barrier must be established in crawl spaces using 6 mil polyethylene film with joints overlapped and taped.***

During the final pre-installation inspection, sub-floors, including joists, must be checked for moisture content using the appropriate metering device for wood and concrete. A record of moisture content readings must be kept and available to the manufacturer upon request.

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 essential 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 circulation under boards. 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. Always use a moisture meter to determine where the flooring and present job-site conditions are in relation to the projected final equilibrium point.

EQUILIBRIUM MOISTURE CONTENT CHART

Relative Humidity, Percent

Temp	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95
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
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	12.4	13.5	14.9	16.5	18.5	21.0	24.3
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
60°	1.3	2.5	3.6	4.6	5.4	6.2	7.1	7.8	8.6	9.4	10.2	11.1	12.1	13.3	14.6	16.2	18.2	20.7	24.1
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
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
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
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

BOIS CHAMOIS VINTAGE HARDWOOD FLOORING

SOLID OR ENGINEERED INSTALLATION INSTRUCTIONS

(continued)

Monitor the flooring and job-site conditions as the wood acclimates. 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.

STEP 3: RECOMMENDED SUB-FLOORING

- Preferred** - 3/4" (19mm) CDX Grade Plywood or 3/4" and 23/32" OSB PS2 Rated Underlayment with a Minimum 40 lbs. Density
- Minimum** - 5/8" CDX Grade Plywood with a minimum 40 lbs. Density
- Concrete** - Installed for at least 30 and has reached a point of moisture equilibrium.

Do not nail over particleboard or similar products, including gypcrete.

STEP 4: SUB-FLOOR PREPARATION

Wood 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 Bois Chamois 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 Bois Chamois solid floors parallel to existing wood floors, install an additional 1/4" layer of plywood to assist stabilization.

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SOLID OR ENGINEERED INSTALLATION INSTRUCTIONS

(continued)

STEP 4: SUB-FLOOR PREPARATION CONTINUED

Concrete Sub-floors must be:

- Flat and dry. A flatness tolerance of 1/8" to 3/16" in a 10 foot radius is required. If the slab is out of specification, consider grinding, floating or both. When grinding use appropriate safety devices such as eye goggles and respirators.
- Concrete moisture meters can be helpful in identifying moisture problem areas. However, a calcium chloride test (ASTMF-1869) must be used to determine the moisture content of the concrete.
- If a slab tests too high in vapor emission to glue a floor down, consider using a vapor retarder type product and installing a plywood sub-floor or using an alternative installation method.
- Concrete slabs with a calcium chloride reading of more than 3 require use of a vapor retarder with a perm rating of 1 or less, such as 6 mil polyethylene, or Bostiks MVP.
- The slab must be a minimum of 3000psi.
- Free from non-compatible sealers, waxes, oil, paint, drywall compound etc.
- Check for the presence of sealers by applying drops of water to the slab. If the water beads up, there may be sealers or oils. Do not attempt to glue a wood floor over a chalky or soft concrete slab.
- Burnished, slick steel-troweled slabs may require screening with a 30 grit abrasive.
- For light weight concrete, make sure the concrete is well bonded to the sub-floor. Check for hollow spots, cracks and loose areas.
- As with on-grade concrete sub-floors, make sure the concrete is clean, flat to specification and dry.
- Over lightweight concrete (less than 3000psi), if the flooring adhesive used has a higher shear strength than the concrete, use the Floated Sub-floor installation method or contact the adhesive manufacturer.
- **RULE OF THUMB**" Draw a nail across the top; if it leaves an indentation, it is probably lightweight concrete.

STEP 5: TESTING FOR MOISTURE CONTENT

WOOD SUB FLOOR - Using a quality moisture meter, measure the moisture content of both the sub-floor and the hardwood flooring.

Wood Sub-floors must not exceed 10% 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. Asphalt felt is not considered a moisture barrier. The flooring may be floated if asphalt paper is used.**

CONCRETE SUB FLOOR – Before testing begins, the concrete slab must be a minimum of 30 days old. Use moisture meter designed specifically for concrete moisture testing. Test within the body of the slab as well as the surface.

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(continued)

STEP 6: INSTALLING THE FLOOR

Helpful Tips

- Remove flooring from several different bundles to maximize color and shade mixture.
- Stagger the ends of boards in adjacent rows.
- Installation parallel to the longest wall provides best visual effect.

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 door 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 3/4" 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. Locate the joists and snap a chalk line along each joist.

Installing the Floor

- Use waterless glue. Refer to glue manufacturer's instructions for use of glue.
- Spread with a 1/4" x 1/4" square notch trowel.
- Typical spread rate is 35 – 40sf per gallon.
- 95% coverage is required for solid wood floors.
- Periodically check that good transfer is achieved.
- Clean up following glue manufacturers instructions.
- Use of weights may be required to keep the flooring down on the sub floor until the glue is fully cured.

Allowing for a 3/4" 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.

See the next page for wax or oil finishing instructions.

BOIS CHAMOIS VINTAGE HARDWOOD FLOORING

3/4" SOLID OR ENGINEERED INSTALLATION INSTRUCTIONS

(continued)

STEP 7: FINAL FINISH – OIL OR WAX

INITIAL OIL APPLICATION

Initial oil finishing is completed on-site after successful installation of your hardwood floors. Bois Chamois recommends Trip Trap products for finishing and cleaning. Initial oil finishes are applied using the three step process below:

STEP ONE: Vacuum the floor and clean any marks left by others. **DO NOT SAND OR APPLY WATER TO THE FLOOR.** Master Oil is applied directly to the flooring using a painter's roller. Choose clear oil for natural finish or colored oil that corresponds to your Bois Chamois finish (each oil is available from your flooring dealer or directly from the manufacturer). Allow the Master Oil to penetrate into the surface of the wood for approximately 30 – 40 minutes. Apply more to areas where oil has soaked quickly into the wood. Do not let the oil dry. After Master Oil has fully saturated the flooring surface, machine polish using a red buffing pad. Be sure to wipe off all excess oil using cotton cloths if necessary. Repeat process for a second coat.

STEP TWO: If a higher gloss finish is desired, wait 24 hours after Master Oil treatment. Vacuum the floor. **DO NOT MOP THE FLOOR.** Apply Maintenance Paste directly to the flooring surface and machine polish using a white buffing pad until the flooring surface is saturated and appears silky. **DO NOT EXPOSE THE FLOOR TO WATER FOR A MINIMUM OF 48 HOURS.**

STEP THREE: Clean the floor using Trip Trap Soap one week after oil treatment. Dissolve soap (follow instructions on label) in a bucket of warm water and clean flooring using a **damp mop**. Use a second bucket of clean water to rinse the mop every time it is used while cleaning the floor. Change the rinse water frequently. Use as little water as possible and do not allow mixture to "pool" on floors. Avoid walking on floors until dry, a minimum of 2 hours.

MAINTAINING OIL FINISHES

Dust mop or vacuum the floor as needed. Clean the floor using Trip Trap Soap as traffic dictates. Touch up traffic lanes or areas of wear by applying a thin coat of Maintenance paste by hand. Rub in paste with cloth and wipe off excess. Allow to dry for 4 – 8 hours.

WAX FINISHING INSTRUCTIONS

Apply our special Camelot cream wax directly to Bois Chamois flooring using a cotton cloth. Let wax set for 20 minutes, or until the "wet" look has disappeared. Machine buff with a **red pad** and apply a second coat of wax and buff using a **red pad**. Immediately buff again using a white pad. For additional sheen, wax may be reapplied and buffed a week after the first application.

MAINTAINING WAX FINISHES

Dust mop or vacuum as needed and clean using Trip Trap Soap when necessary. Occasional buffing with a white pad will revitalize the surface. Re-wax and buff annually or as traffic dictates.