



INSTALLATION INSTRUCTIONS FOR PREFINISHED ENGINEERED WOOD FLOORING WITH FOLD-DOWN MECHANICAL LOCKING SYSTEM: 'ECO RESERVE' AND 'ECO PLANET' COLLECTIONS

READ THESE INSTRUCTIONS THOROUGHLY BEFORE BEGINNING INSTALLATION. IN ADDITION TO THESE INSTRUCTIONS, WE RECOMMEND THAT THE INSTALLER FOLLOW ALL INSTALLATION GUIDELINES SET FORTH BY THE NATIONAL WOOD FLOORING ASSOCIATION (WWW.NWFA.ORG). WHERE THESE INSTRUCTIONS DIFFER FROM NWFA GUIDELINES, THIS DOCUMENT TAKES PRECEDENCE. THESE INSTALLATION INSTRUCTIONS DO NOT APPLY TO ALL ECOTIMBER ENGINEERED FLOORING. OTHER ECOTIMBER PRODUCT LINES ARE COVERED UNDER SEPARATE INSTRUCTIONS. 122109

PRE-INSTALLATION JOBSITE REQUIREMENTS

Carefully examine the flooring prior to installation for grade, color, finish and quality. Ensure adequate lighting for proper inspection. If flooring is not acceptable, contact your distributor immediately and arrange for replacement.

EcoTimber cannot accept responsibility for flooring installed with visible defects. Prior to installation of any flooring, the installer must ensure that the jobsite and subfloor meet the requirements of these instructions. EcoTimber is not responsible for flooring failure resulting from unsatisfactory jobsite and/or subfloor conditions.

Hardwood flooring should be one of the last items installed in any new construction or remodel project. All work involving water or moisture should be completed before flooring installation. Water and wood do not mix. Installing onto a wet subfloor may cause permanent damage to the flooring. Permanent HVAC should be on and operational and maintained between 60-75°F with relative humidity of 30%-60% **for a minimum of 14 days prior to installation**, as well as during and after installation. **When installing over radiant heat, additional restrictions apply – see below.** Humidity levels below 30% will most likely cause movement in the flooring, including gapping between pieces and possible cupping and checking in the face.

Store the wood flooring in the UNOPENED boxes at installation area for 24 -72 hours before installation to allow flooring to adjust to room temperature. Do not store the boxes of flooring directly on concrete or close to a wall. These engineered wood floors DO NOT need any moisture equalization prior to installation and should be installed from just-opened boxes. DO NOT OPEN more than a few boxes in advance of installation and only the number of boxes that will be installed within the next few hours. Only open enough boxes to ensure a good mix of lengths and color.

The flooring in the Eco Planet and Eco Reserve Collections, EXCEPT the HICKORY selections (Moab Dusk, On Pointe, Crescendo), is warranted for installation over hydronic radiant heat if installed per these instructions. No EcoTimber flooring is warranted over electric radiant heat systems. Only hydronic systems are approved. Please carefully read the "Radiant Heat" section below before finalizing product selections.

PRE-INSTALLATION SUBFLOOR REQUIREMENTS

Acceptable subfloor types:

- CDX plywood - at least 5/8" thick for joist spacing up to 16" on center, minimum 3/4" thick for joist spacing greater than 16" on center (19.2" maximum)
- Underlayment grade particleboard (minimum 40 lb. density) - floating/glue-down only
- OSB - at least 3/4" thick, PS 2-92 rated or PS 1-95 rated
- Concrete slab - floating/glue-down only
- Existing wood floor - must be smooth, level, well-adhered and, if gluing new flooring, unfinished
- Ceramic tile – floating only
- Resilient tile & sheet vinyl - floating/glue-down only; for glue-down tile/vinyl must be new and non-urethane-coated

Eco Reserve & Eco Planet Collections - Installation Instructions | For Assistance Call (877)740.9420

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- Lightweight concrete (gypcrete) coated with latex primer - floating/glue-down only (NOTE: EcoTimber provides no guarantee that lightweight concrete or gypcrete will remain structurally sound during the life of the floor. Separation of the flooring from the subfloor caused by deterioration or fracturing of the substrate will not be considered a product failure.)

All Subfloors must be:

- Dry and will remain dry year-round. Moisture content of wood sub floors must not exceed 12%, wood flooring moisture content must be within 2% of wood subfloor moisture content. Concrete must not exceed 3 lbs. per Calcium Chloride Test (test method ASTM 1869-89), or 2 lbs. when installing over radiant heat.
- Structurally sound
- Clean: Thoroughly swept and free of all debris. For glue-down installations, subfloor must be free of wax, grease, paint, sealers, old adhesives, etc., which can be removed by sanding.
- Level: Flat to 3/16" per 10-foot radius

Wood subfloors must be dry and well secured. Nail or screw every 6" along joists to avoid squeaking. If not level, sand down high spots and fill low spots with an underlayment patch. Concrete subfloors must be fully cured, at least 60 days old, and should have minimum 6-mil polyfilm between concrete and ground. If necessary grind high spots down and level low spots with a quality cementitious leveling compound. Resilient tile and sheet vinyl must be well-bonded to subfloor, in good condition, clean and level. Do not sand existing vinyl floors, as they may contain asbestos.

If gluing down on concrete that is on or below grade, even if the Calcium Chloride test results are under 3 lbs., we highly recommend the use of EcoTimber® HealthyBond-MS® Flooring Adhesive/Sealer as a concrete sealer. Remember, a concrete slab on/below grade that measures dry today may become moist in the future due to rising groundwater. Installing a moisture barrier now may be viewed as an insurance policy against concrete becoming wet in the future. This will lead to subsequent floor failure. EcoTimber is not responsible for site related moisture issues.

When installing this flooring over radiant heat, use the floating installation method only, and always use EcoTimber Floating Floor Pad for your underlayment.

INSTALLATION TOOLS

For all installation methods:

- Tape measure
- Tapping block
- Pencil
- Titebond® II or EuroBond® D3 wood glue
- Wood or plastic spacers (1/2")
- Crosscut power saw
- Hammer
- Chalk line
- Pry bar or pull bar
- Wood chisel

For glue-down installation method (recommended), you will also need:

- EcoTimber® HealthyBond-MS® Flooring Adhesive/Sealer
- On concrete slabs that are on/below grade, we strongly recommend sealing the concrete using HealthyBond-MS® as a seal coat before applying a second coat to adhere the planks. Four hours dry time is required between the seal coat and the adhesive coat. Refer to the HealthyBond-MS® Installation Instructions for details.
- Adhesive trowel: 3/16" x 1/4" on 1/2" centers, V-notch (refer to the HealthyBond-MS® installation instructions for detailed recommendations, diagrams and spread rates).
- 100 lb. floor roller

For staple-down installation, you will also need:

- Spotnails® Striker® pneumatic stapler (Item #WS4840W2) w/ modified head designed for the Valinge® lock profile (Item # WS4840W4). To purchase the head, contact Spotnails at 1-800-873-2239 (Dir. Tech. Services: Wynn Waterman, x 134).
- Senco ¼" x 1-1/4" staples, available at most major home centers. Home Depot item #L15BAB.
- Air compressor
- Nail punch
- 15-lb. felt paper or equivalent, meeting ASTM D4869 standards



For floating installation, you will also need:

- EcoTimber® Floating Floor Pad (required over radiant heat) or equivalent 1/8" thick underlayment
- 6-mil polyfilm (if installing on or below grade and not using EcoTimber® Floating Floor Pad)
- Clear waterproof packing tape

GENERAL INSTRUCTIONS – ALL METHODS

Make sure subfloor is tested for moisture first and is properly prepared. Since wood expands with any increase in moisture content, always leave at least a 1/2" expansion space between flooring and all walls and any other permanent vertical objects, such as pipes and cabinets. This space will be covered up once you reapply base moldings around the room. Use wood or plastic spacers during installation to maintain this 1/2" expansion space.

No area of connected flooring can span greater than 25 feet in width or 50 feet in length. For larger spans, install T-moldings or other transition pieces that allow the flooring to expand and contract. More or less spacing may be needed depending on geographical area.

Before laying flooring, install felt paper, floating floor pad or adhesive as outlined below in the section specific to your chosen installation method.

Begin installation next to an outside wall. This is usually the straightest and best reference for establishing a straight working line. Establish this line by measuring an equal distance from the wall at both ends and snapping a chalk line. The distance you measure from the wall should be the width of a plank plus about 1/2" for expansion space. You may need to scribe cut the first row of planks to match the wall in order to make a straight working line, as most walls are not straight.

Work from several open boxes of flooring and "dry lay" the floor before permanently installing it, but **never open more than a few boxes in advance**. This will allow you to select the varying grains & colors and to arrange them in a harmonious pattern. The actual floor may differ in grain and color from the samples used in selecting the product. This is not a product defect. It is the installers' responsibility to work with the end user to determine the expectations of what the finished floor will look like. If the range of color or grain in the shipment does not appear satisfactory after opening a few boxes, do not begin installation. Contact your dealer immediately to arrange a return.

Begin laying the floor in the left corner of the room. Dry lay a few rows (no glue or nails) before starting installation to confirm your layout decision and working line. Start the first row with the **tongue edge facing the wall**. Begin installing the first row by laying a board down flat on the subfloor (Fig. 1). Align the end of the second board (Fig. 2) with the first and simply push it straight down on top of first board (Fig. 3). Repeat this step to install the remaining boards in the first row. When cutting the last plank in a row to fit, you can use the cut-off end to begin the next row (Fig. 4). If cut-off end is 10" in length or less, discard it and instead cut a new plank at a random length (greater than 10") and use it to start the next row.

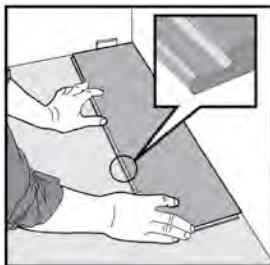


Fig. 1

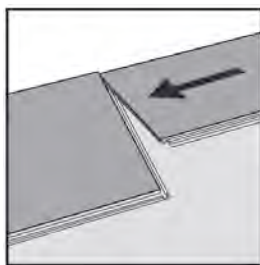


Fig. 2

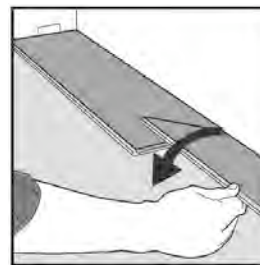


Fig. 3

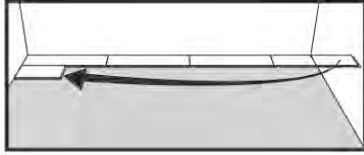


Fig. 4

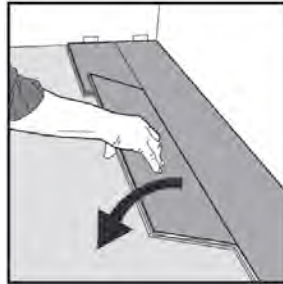


Fig. 5

Install the second row by inserting the tongue edge of the planks into the groove edges of the first row at a 45° angle and then folding the plank down until it lays flat on the subfloor (Fig. 5). Ensure that the edges of all boards meet tightly by applying equal pressure while rotating the board down. You cannot force the boards together. If the boards are not lying flat, they were not aligned correctly during engagement. Disengage the planks by lifting the entire row and sliding the end joints apart (Fig. 6 & 7). Try again until all seams are tight.

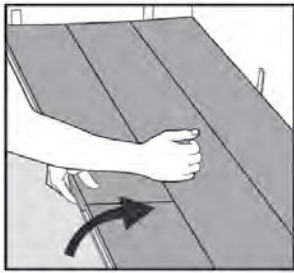


Fig. 6



Fig. 7

Stagger end joints from row to row by at least 8". Avoid 'H' patterns, where planks just two rows away from each other end in the same location. Continue installing the second row and cut the last board to size just as you did in the first. After installing three rows, recheck your spacers to ensure that the proper 1/2" expansion space is being maintained.

When working under doorjamb or cabinets, there will not be enough clearance to achieve the 45° angle required to engage the sides. In these situations, cut away the locking element using a wood chisel (Fig. 8) and glue the boards together using Titebond® II or EuroBond® D3 wood glue (Fig. 9). The boards in the last row will need to be cut to the necessary width and glued together as well, at both the side and end joints (Fig. 10). Apply weight as needed until the adhesive has set. Remember to always leave 1/2" expansion space between the last row and any vertical surface such as pipes or posts.



Fig. 8

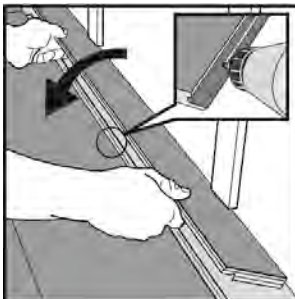


Fig. 9

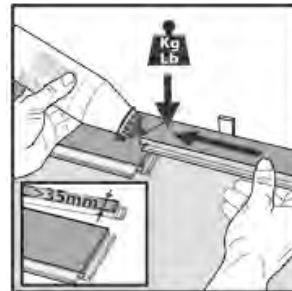


Fig. 10

GLUE DOWN INSTALLATION



Carefully review the HealthyBond-MS® Installation Instructions for subfloor preparation, proper trowel size, required temperature and humidity conditions, and adhesive open/set time before beginning installation of flooring. If the concrete has been sealed using HealthyBond-MS®, you must wait at least four hours to allow the seal coat to dry before installing flooring.

Trowel adhesive on to a section of subfloor that can be covered with flooring within the 30 minute working time (30 min. is approximate, depending on temperature and humidity conditions). Lay the first row of flooring into the wet adhesive with tongue facing the wall, and continue laying flooring as described above under 'General Instructions – All Methods.' Always check your working lines to be sure the floor is still aligned. Use spacers to help ensure that the installed flooring does not move on the wet adhesive while you are working. Periodically lift a plank from the wet adhesive to ensure full adhesive transfer to at least 90% of the area of the back of the plank. Follow the HealthyBond-MS® Installation Instructions carefully.

When first section is finished, continue to spread adhesive and lay flooring section by section until installation is complete. **USE A CLEAN, DRY CLOTH TO IMMEDIATELY REMOVE ANY ADHESIVE FROM THE FLOORING SURFACE.** If adhesive cannot be completely removed with a dry cloth, use mineral spirits. Never let flooring adhesive dry completely on the finished surface. EcoTimber is not responsible for finish damage that might be caused by adhesive that has been allowed to dry completely.

Within the adhesive working time, walk each section of flooring in order to make sure it is well bonded to the subfloor. Flooring planks on the perimeter of the room may require weight on them until the adhesive cures enough to hold them down. Roll the floor with a 100 lb. roller every 2-3 hours during and immediately after installation.

STAPLE DOWN INSTALLATION

Valinge, the designer of the mechanical locking system, has developed a fitting for a staple gun to make it compatible with our ½” flooring with mechanical locking system. This fitting is available in the U.S. from Spotnails® (Item # WS4840W4) and is designed to fit the Spotnails® Striker® (WS4840W2) pneumatic stapler. Use Senco ¼” x 1-1/4” staples.

If the staple gun is not correctly positioned, staples may not be driven in completely. If the staples are inserted at an incorrect angle, shattered wood fibers may lift from the nailing surface. In either case, the result will be that the next board cannot be installed correctly (Fig. 12). Shattered fibers can be removed by scraping with a knife, and partially-driven staples should be driven manually using a nail punch.

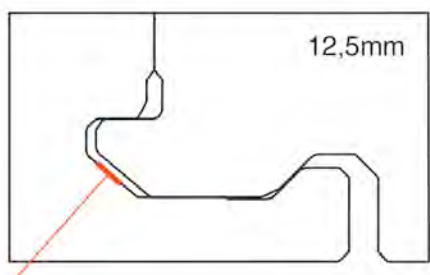


Fig. 11 – Correct positioning of the staple

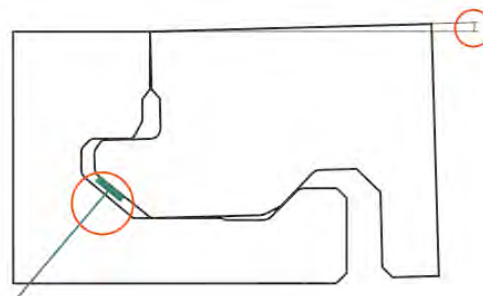


Fig. 12 – Incorrect positioning prevents proper fit

Prior to installation, place a 15-lb. felt paper or equivalent, meeting ASTM D4869 standards, over the entire subfloor, following the manufacturer's instructions.

First Rows

For the starting row(s), lay the first plank inside chalk line with tongue edge toward the wall. Since the stapler's magazine prevents the gun from being placed correctly, you will have to either manually nail the first row using a nail punch (being careful to maintain proper nail position as shown in Fig. 11), or glue down the row with HealthyBond-MS® or Liquid Nails® LN-901. After gluing, set weight on top of the planks and allow them to set securely before commencing stapling subsequent rows. Make sure the starting row(s) are straight and drawn tight.

Subsequent Rows

For correct staple positioning, place the staple gun over the locking strip, with the lower block placed flat on the subfloor and the top block placed flat on the top surface of the flooring. PLEASE NOTE: the security pin must be placed on top of the locking element in order to prevent damage. Once the security pin is placed on top of the locking element it can be slid into the groove and finds its correct position easily.



Fig. 13 – Lifting the staple gun over the locking element



Fig. 14 – Staple gun correctly positioned



placed outside locking element - incorrect

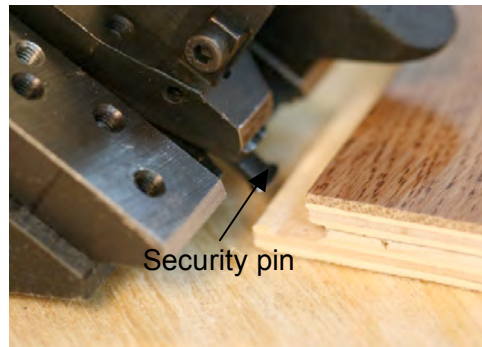


Fig.

Fig. 16 – Lifting the security pin over the locking element

15 - Pin



locking element

Fig.
placed



Fig. 18 Pushed in to the groove - correct position

17 - Pin
on top of the

After testing to make sure that the staples are seating properly, staple each board every 4-6” and 3-4” from each end. Remember to stagger end joints from row to row at least 8” and avoid ‘H’ patterns. Periodically check (looking from a low angle) to make sure that the stapler is still not causing dimpling or damage to the flooring surface. It may be necessary to manually nail and/or glue down the flooring in doorways or tight areas where the stapler can’t fit. The last one or two rows will need to be manually nailed or glued in the same manner as the first row(s).

FLOATING INSTALLATION



When installing EcoTimber wood flooring over radiant heat, always use the floating installation method, and always use EcoTimber Floating Floor Pad as your underlayment. See below for special instructions regarding radiant heat installations.

Heavy objects such as counters, kitchen islands, and large stoves or refrigerators should be in place prior to the installation of a floating wood floor. Compressing a floating floor against the subfloor with excessive weight could inhibit the floor's ability to move in response to changes in humidity and may result in gapping or cupping.

When using EcoTimber® Floating Floor Pad, no additional moisture barrier is necessary. If using an alternative 1/8" thick pad and installing below or on grade, polyfilm is required.

Laying polyfilm: lay 6-mil Polyfilm with seams overlapped 8". Fasten seams every 18-24" with clear waterproof packing tape. Run the outside edges of Polyfilm up perimeter of each wall 4". Trim after flooring installation is complete.

Laying pad: lay EcoTimber® Floating Floor Pad or equivalent 1/8" thick underlayment by butting edges, not overlapping. Tape full length of the seam with clear waterproof packing tape. Leave 1/2" space between pad and all walls and permanent vertical fixtures.

Installing the floor: start first row with tongue toward wall. Glue end joints of first row by applying a small but continuous bead of Eurobond® D3 T&G Adhesive or Franklin® Titebond II PVAC glue to the bottom side of the groove. Clean up any adhesive that is on the face of the floor by using a dry cloth – **DO NOT ALLOW ADHESIVE TO DRY ON THE FLOORING SURFACE** as it is difficult to remove without damaging the finish.

Lay subsequent rows as described above under 'General Instructions – All Methods.'

RADIANT HEAT

Note: the **HICKORY selections (Moab Dusk, On Pointe, Crescendo) from these collections are NOT WARRANTED over radiant heat.**

When installing EcoTimber engineered wood flooring over radiant heat, follow all directions above for floating installations in addition to the directions below, and always use EcoTimber Floating Floor Pad.

EcoTimber flooring is not warranted for use over radiant heat systems heated by electric elements. Only hydronic systems are approved. Hydronic systems must include in-floor temperature sensors and an outdoor thermostat that allows the system to adjust the water temperature according to anticipated heat loss. Flooring installed in multi-unit projects where the water temperature is not regulated separately in each unit is not warranted.

Prior to installation over radiant heat moisture testing must be conducted and documented per ASTM 1869-89 (Calcium Chloride Test) or, for wood subfloors, using a pin type meter. **The moisture content for concrete subfloors must not exceed 2.0 lbs. per 1000 square feet per ASTM 1869-89 (Calcium Chloride Test), and the moisture content for wood subfloors must not exceed 12%.** If moisture levels exceed these limits, do not install the flooring.

The surface temperature of the subfloor must never exceed 82°F in any location. The temperature setting must always remain within 15°F of normal operating level, and should never be turned completely off. Excessive heat, rapid heating, and/or failure to maintain humidity levels between 30% and 60% are likely to cause cracking, cupping and other forms of floor failure. **Slight surface checking (cracking), particularly at the ends of planks, should be expected in installations over radiant heat and do not constitute a product failure.**

All concrete must be allowed to properly cure and dry for a minimum of 4 weeks prior to the operation of the radiant heat system. The system should then be operated at at least 2/3 maximum output for a minimum of 2 weeks prior to installation of flooring to further allow moisture from the subfloor to dissipate and reach equilibrium. This procedure must be followed regardless of the time of year. Four (4) days prior to flooring installation, reduce thermostat to 65°F.



As always, relative humidity of the jobsite must be maintained between 30% and 60%. **Use of a humidification/dehumidification system may be required to maintain the proper humidity levels, particularly over radiant heat.** Failure to maintain proper humidity levels will void all warranties.

Beginning 48 hours after installation, slowly raise the temperature of the heating system to its preferred operating level over a period of 5 days.

AFTER INSTALLATION

- Flooring should be one of the last items installed in a project. In order to protect the floors while other trades are finishing their work prior to final cleanup and turnover to the owner, use rosin paper and only use 3M® 2080 Blue Tape to hold the rosin paper to the floor (other blue tapes may damage the finish). Clean the floor thoroughly before laying the rosin paper to ensure that no debris is trapped underneath. **DO NOT USE** plastic film or other non-breathing coverings as this can cause the floor to become damaged from humidity buildups.
- Remove expansion spacers and reinstall base and/or quarter round moldings to cover the expansion space.
- Dust mop or vacuum the floor thoroughly to remove any dirt or debris.
- Buff the floor with lambs wool pads in order to remove any loose splinters, residues, foot prints, etc.
- Install any transition pieces that may be needed (reducers, T-moldings, nosing, etc.).
- **If using glue-down or floating installation methods, do not allow foot traffic or heavy furniture on floor for 24 hours.**
- Place walk-off mats at all entrances to help collect dirt and debris that could damage or dull the flooring finish.
- Install felt floor protectors underneath all furniture.
- In areas such as bathrooms, kitchens, and spaces where food service occurs, top-coating the floor will help prevent against moisture damage. In heavy food service areas such as restaurants, two to three top-coats are required. See below under “Top-coating/Re-coating” for specific instructions.

CLEANING AND MAINTENANCE

Prevent Scratches – There is no such thing as a “scratch-proof” wood floor, but following these basic procedures will reduce the likelihood and frequency of scratches:

- Felt padding should be permanently affixed to the legs of all furniture before it is moved into the space.
- Do not allow people to wear spiked heels on the floor, which will damage even the hardest wood floors and finishes.
- Pet claws should be properly trimmed at all times.
- Work boots and shoes that may have pebbles lodged in the soles should be removed prior to entering.

Remove Grit - Care should be taken to prevent dirt, sand and grit from accumulating on the surface of your floor. They will act like sandpaper and abrade the finish. Walk-off mats should be placed inside and out at all exterior exits, and the floor should be swept or vacuumed frequently. All mats or rugs should be cleaned and/or replaced on a regular basis. They should also be moved occasionally to allow natural color changes caused by light to occur evenly in all areas.

Use Proper Cleaning Products - To clean the factory urethane finish, we recommend the Bona-X® Swedish Formula Hardwood Floor Cleaner (www.bonakemi.com, 800-574-4674). To remove hard-to-clean substances such as chewing gum, use Goof-Off® or Goo-Gone®, available at most hardware stores and supermarkets. Floor waxes, oil soaps, and petroleum-based cleaners should not be used under any circumstances.

Avoid Standing Moisture – Water and hardwood floors don’t mix. Never wet-mop your floor, and always clean up spills and standing water as soon as possible. With water or any other cleaning agent, be sure to thoroughly ring out the applicator or mop prior to applying it to the floor. A damp mop is fine as long as the moisture is limited to an amount that will evaporate almost immediately. Moisture that is allowed to seep into the seams between the planks may cause damage to your flooring. Do not allow soiled mats or rugs to stay on the floor as they can trap moisture on the surface.

Top-coating/Re-coating - Periodic recoating in any area will help prolong the life and restore the new appearance of your floor. By recoating the floor at the first signs of wear, you will be able to bring your floor back to new condition with relatively little cost and inconvenience. To top-coat or recoat your floor, lightly screen (abrade) the top surface of the factory finish and then apply Bona Traffic® floor finish by Bona® (www.bonakemi.com, 800-574-4674). Bona® also offers the Bona Prep® system that allows top-coating without screening or sanding. Follow all Bona® application instructions carefully.



For questions or assistance, call (877) 740-9420.