Installation Instructions
Prefinished Solid Hardwood

PLEASE READ THE ENTIRE INSTALLATION INSTRUCTIONS BEFORE PROCEEDING WITH THE ACTUAL INSTALLATION

OWNER / INSTALLER RESPONSIBILITY

- Hardwood flooring is a product of nature, which is characterized by distinctive natural variations in grain and color and are not considered flaws. Hardwood flooring will also experience a change in color over a period of time. The degree of change depends upon the specie and the amount of UV exposure. This hardwood flooring is manufactured in accordance with accepted industry standards, which permit a grading defect tolerance not to exceed 5%. The defects may be of a manufacturing or natural type.
- The owner/installer assumes all responsibility for final inspection of product quality. This inspection of all flooring should be done **before** installation. Carefully examine the flooring for color, factory finish, grade, and quality before installing it. Do not install (or cut off) pieces with glaring defects whatever the cause. If material is not acceptable, contact your distributor or dealer immediately before installation. Installation implies acceptance**. No warranty will be offered for material with visible defects once the product is installed**.
- Before beginning the installation of any hardwood flooring product, the installer must determine that the environment of the job site and the condition and type of the sub floor involved is acceptable, insuring that it meets or exceeds all requirements, which are, stipulated in the installation instructions which follow. The manufacturer declines any responsibility for job failure resulting from or associated with inappropriate or improperly prepared sub floors or job site environment deficiencies. For best results we suggest using a National Wood Flooring Association Certified Professional for your flooring installation.
- The installer must document all site tests and the records must be available if a claim is filed.
- The use of stain, filler, or putty stick for the correction of defects, small cracks, or face nail holes during installation should be accepted as normal procedure.
- When ordering, 5-10% must be added to the actual square footage amount needed for grading and cutting allowances.
- We strongly recommend that you visit the NWFA website at **www.woodfloors.org** for installation help and maintenance tips.

JOB SITE INSPECTION & ACCLIMATION

- In new construction, hardwood flooring should be one of the last items installed. All work involving water or potential ground debris (plumbing, dry wall, etc.) should be completed prior to wood flooring being installed. Heating and air systems should be fully operating, maintaining a consistent room temperature at 60-80^{o} F and a constant relative humidity of 35-55%.
- Flooring should not be delivered until the building has been closed in and cement work, plastering, painting, and other materials are completely dry. New concrete and plaster should be cured and at least 60 to 90 days old.
- Check basements and under floor crawl space to be sure that they are dry and well ventilated to avoid damage caused by moisture. Crawl spaces must have a black polyurethane film as a vapor retarder.
- Moisture content of both the sub-floor and the flooring should be checked and recorded before any work begins
- Solid wood flooring should be stored in the same environment in which it is expected to perform. Flooring should be at the job site at least 72 hours prior to installation for acclimation (in dryer climates 5- 7 days might be necessary) or as long as needed in order to meet the proper installation requirements. Open the cartons to allow the flooring to acclimate. **The solid flooring must be properly acclimated and conditioned to temperature and humidity conditions prior to proceeding with installation.** Follow the NWFA guidelines for acclimation (www.nwfa.org) on the job site and moisture equilibrium. For wide-width solid flooring (3" or wider), there should be no more than 2 percent difference in moisture content between properly acclimated wood flooring and subflooring materials.
- Handle with care. Do not stand on ends. Store flooring in a dry place, being sure to provide at least a four-inch air space on or around cartons.
- Do not store directly upon on grade concrete or next to outside walls. Cartons should be placed in the installation area.
- The installation site should have consistent room temperature of 60^{o}-80^{o} F and a constant relative humidity level of 35-55% for a minimum of 5 days prior to installation of any flooring product.
- Solid flooring is for on grade or above grade installation only and **cannot** be installed in full bathrooms or other high moisture areas.
- Solid Flooring **cannot** be installed over Radiant Heat.

SUB FLOOR PREPARATION

APPROVED SUB FLOOR TYPES:

1) Agency approved 5/8"(19/32") minimum thickness or 3/4" (23/32") CDX Exposure 1 plywood 16" on center floor joists properly nailed.
2) Agency approved 3/4" (23/32") underlayment grade OSB Exposure 1 16" center floor joists properly nailed.

Note: When installing approved plywood or OSB, refer to specific structural panel manufacturer's instructions for fastening and spacing.

3) Solid sub floors 6" wide or less
   - 3/4" x 5-1/2"
   - Group 1 dense softwoods.
   - No. 2 Common
   - Board ends fastened with 8d rosin-coated or ring-sharked nails.
   - Laid on a diagonal to joist
   - May require overlay.
   - Engineered, thin-classification solid strips, and parquet not approved.
4) Existing wood floors (installed at right angle only).
5) Concrete Slab (Glue down only)

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SUB FLOORS MUST BE:

- **CLEAN** - Scraped or sanded, swept, free of wax, grease, paint, oil, previous or existing glues or adhesives, and other debris
- **SMOOTH/FLAT** - Within 1/8" on 6' radius. Sand high areas or joints, fill low areas (no more than 1/8") with a cement type filler no less than 3000 p.s.i. Any irregularities may cause hollow spots between the flooring and sub floor in any installation method and are not warranted.
- **STRUCTURALLY SOUND** - Nail or screw any loose areas that squeak. Replace any delaminated or damaged sub flooring or underlayment.
- **DRY** - Moisture content of sub floor **must not** exceed 14% prior to installation of wood flooring. All moisture testing must be before wood has been acclimated 48 hours and job site requirements met.

WOOD SUBSTRATES: Test the moisture of the wood substrate using a calibrated moisture meter approved for testing wood moisture according to the meter manufacturer. The reading should not exceed 14%, or read more than a 2% difference than moisture content of products being installed.

CONCRETE SLABS (regardless of existing floor covering): All concrete sub floors must be tested for moisture content prior to installation of the hardwood flooring. The moisture content of the concrete sub floor must not exceed 3 lbs. /100 sq. ft. emissions in 24hours emissions per ASTM F1869-11and or 75% per Relative Humidity Test (ASTM F2170-11)

Below are methods to test to indicate moisture is present in the concrete sub floor:

1) Use an approved calibrated concrete moisture meter (Tramex Concrete Encounter) as a preliminary measurement for moisture. Follow manufacturer's specific calibration requirements.
   The Tramex reading should not exceed 4.0 on the scale.
2) Perform a polyfilm test. Tape down 2' x 2' polyfilm squares (a clear garbage bag or plastic drop cloth will do) in several places on the floor. Wait 24-48 hours, and then check for the appearance of condensation on the inside of the bag or plastic for a darkening on the concrete sub floor. Either occurrence signals the likely presence of excess moisture, requiring a mandatory calcium chloride test.
3) Test with a 3% Phenolphthalein in Anhydrous Alcohol Solution. Do not apply solution directly to the concrete surface. First chip ¼" deep into the concrete test area and apply several drops of the solution. Any change in color signals the likely presence of excess moisture, requiring a mandatory calcium chloride test.
4) Once you have determined the moisture content and that moisture is present a calcium chloride and pH alkalinity test **MUST** be performed to determine the moisture emissions through the concrete slab of the moisture and alkalinity in the concrete floor.

- Perform a calcium chloride test according to the manufacturer's instructions. The maximum acceptable reading is 3-lbs. /24 hours/1000 sq. ft. for moisture emissions. Three test for the first 1,000 square feet and one test for every 1,000 square feet thereafter.
- Perform a Relative Humidity test according to the manufacturer's instructions. The maximum reading is 75%. Three test for the first 1,000 square feet and one test for every 1,000 square feet thereafter.
- Perform a pH alkalinity test according to the manufacturer's instructions. A pH reading of 6-9 on a pH number scale of 1-14 is acceptable.
- If the test results exceed this number the concrete slab should be sealed with appropriate sealers to correct those emissions as per the manufacturer's recommendations.

Note: If excessive moisture (3-lbs. to 7-lbs.) is present or anticipated, use a moisture retardant system to seal the concrete or an inexpensive sheet vinyl/slip sheet glued directly to the concrete slab to reduce vapor intrusion. Follow the instructions of the sheet vinyl manufacturer, using a premium grade alkaline resistant adhesive, and full spread application system to bond the vinyl to the subfloor.

Note: If a sub floor has been flooded or rained upon, it may not be suitable to install flooring.

INSTALLATION on WOOD SUBSTRATE:

Note: Do not use the glue down or staple down installation method on underlayment grade particleboard.

Sub floor should be constructed of 5/8" (19/32") or thicker plywood or 3/4"(23/32") OSB when installing directly over minimum 2 x 10 floor joists 16" on center. For up to 19.2" on center 3/4"(23/32") plywood or OSB should be used. For 19.2" to 24" on center 7/8" plywood or OSB should be used. Structural Panels must be installed sealed side down. Plywood sheets should be laid with grained outer plies at right angles to joists; adjacent rows staggered four feet and nailed every 6" along each joist with 7D or larger nails. When installing directly over old wood or strip floor, sand any high spots, re-nail old floor to eliminate squeaks or loose boards, and install new planks at right angle (perpendicular) to the old floor, or overlay old floor with 1/4" plywood underlayment. Leave a 1/8" gap at the edges and nail with 7D or larger nails every 6" at the edges and every 12" in both directions and through the interior of each sheet of plywood. Edge swell should be flattened. The moisture content of the wood or plywood should not exceed 14%.

Solid sub floors 6" wide or less,3/4" x 5-1/2" Board ends fastened with 8d rosin-coated or ring-sharked nails. Laid on a diagonal to joist.

GLUE DOWN INSTALLATION METHOD

REQUIRED TOOLS AND ACCESSORIES

* 3/16" x 5/32" deep v notch trowel or 1/4" x 1/4" x 3/16" square notch trowel. Follow adhesive manufacturers' guidelines.
* Urethane-based adhesive
* Broom
* Tape Measure
* Moisture Meter (wood & concrete)
* Mallet (light colored)
* Circular or Hand Saw
* Miter or Table Saw
* Pry Bar
* Drill with 1/16" bit
* 6 - 8 d screw shank nails

* Chalk Line and Chalk
* Hammer
* Safety Equipment (Goggles & Mask)
* Utility Knife
* Nail Punch
* Hardwood Flooring Cleaner

Step 1: GETTING STARTED

- Install the flooring parallel to the longest outside (exterior) wall in the room. Measure out from the wall on the door side of the room in two places; 30 3/8" for 3" and 5" wide products. Mark and snap a chalk line across the two marks. The area between the chalk line and the wall is the working area and will be the last to be installed.

Note: Ensure Moisture test have been completed on the concrete Calcium Chloride Test (ASTM 1869-11) is below 3lb per 1000sf in a 24 hour and or Rh test (ASTM 2170-11) is below 75%.

Note: The concrete must be flat 3/16" over 10' or 1/8" in 6'.

Step 2: SPREADING THE ADHESIVE

- Hold the trowel at a 45°-60° angle and spread adhesive onto an area no larger than 30-40 square feet at one time.
- After spreading, allow adhesive to flash off for 30-45 minutes before installing wood flooring. Maximum available working time is 45-50 minutes. (Colder temperatures or high humidity will extend times and warmer temperatures or low humidity will shorten times.)
- Do not install wood flooring material after adhesive dries. Test by touching adhesive. If not readily transferred to finger, adhesive is already dried. If adhesive has dried, remove adhesive and apply new material. Periodically check wood to confirm 100% adhesive transfer. Within one hour of setting wood, roll the installation with a 100-150 lb. roller to promote good contact with the adhesive.
- Always refer to the specific instructions on the hardwood flooring adhesive label.

Step 3: INSTALLING THE FLOOR

- The flooring should be installed from several cartons at the same time to insure proper color, grain and shade mix..
- After the adhesive has been spread following the above mentioned instructions, start with the first piece of flooring. Install the piece of wood with the groove towards you and the tongue facing the opposite wall. Line up the groove of the flooring with the chalk line then press the flooring into the adhesive.
- Working from left to right, lay the next board and continue working towards the right until you need to cut a piece to complete the first row. Measure the size you need to complete the first row and cut to length.
- Distribute lengths, avoiding "H" patterns and other discernible patterns in adjacent runs. Stagger end joints of boards row to row a minimum of 6" for strip flooring, 8-10" for 3" to 5" plank, and 10" for plank winder then 5".
- If the left over piece is less than 6" long, cut another piece at a random spot, and start the second row with it. Be attentive to staggering the ends of the boards at least 6" in adjacent rows to avoid clustering end joints. A soft rubber mallet can be used to tap the boards on the face until they are pulled into proper position.
- To cut the boards, always saw with the teeth cutting down into the face or top of the board**.** Cutting from the top down helps protect the surface.
  For wood sub floors: If you are working on a wood type sub floor, use small finishing nails to hold the first row in place. Fill nail holes with filler which is manufactured to blend with your flooring.
  For concrete sub floors: If you are working on a concrete sub floor, take a piece of 1" x 2" x 8' pine board and using 1" concrete nails, nail the board onto the dry side of your chalk line. This will hold your first row of starter boards in place.
- Complete the rest of the installation in your working area by following the same installation procedures that are stated in Step 2 of this section.

- Lift a plank periodically to make sure that there is 100% contact between the board and the hardwood flooring adhesive.

Step 4: INSTALLING THE LAST ROW

Most often the entire length of the last row will need to be cut so that it is narrow enough to fit the remaining space. When this occurs, follow this simple procedure:

- Lay a row of boards, unglued, with the tongue toward the wall, directly on top of the last row installed.
- Take a short piece of the hardwood flooring that is being installed with the face down and the tongue side against the wall.
- Draw a line with a pencil along the row moving down the wall. The resulting line gives the proper width for the last row which, when cut, can then be wedged into place using the pull bar.
- You will need to use the pull bar extensively to make the last row properly flush.

Step 5: FINISHING THE FLOOR

- A drying time of 24 hours is recommended before any damp mopping, cleaning or heavy objects or furniture can be put back into place.
- The use of putty or a non-silicone based filler to cover small cracks or face nails holes should be considered normal in hardwood flooring installations. Test filler on spare pieces first to ensure it blends with the floor.
- Make sure when the installation is complete that the expansion spacers are removed and the expansion space is covered with the appropriate molding such as baseboard and 1/4 round or shoe molding. Do not nail moldings into the floor but nail into the wall.
- Vacuum the floor thoroughly using the soft brush attachment or dust mop to remove any dirt and debris.
- Use a quality Hardwood Flooring cleaner to finish the floor. We recommend Bona Swedish Formula Hardwood Cleaner
- If the floor is to be covered, do not use plastic use a breathable wrap, or material such as cardboard or kraft paper to protect the finish.
- Final inspection by the end user should be conducted from a standing position.

Note: LIGHTWEIGHT CONCRETE:
Do not install over lightweight concrete.

INSTALLATION on SUB-FLOORS OTHER THAN WOOD OR CONCRETE:

Note: Perimeter glued resilient vinyl and rubber tiles are unacceptable underlayment and must be removed.

Do not install over carpet, terrazzo, marble, ceramic tile and vinyl tile. Any other hard surfaces that are well bonded to sub floor.

WARNING! Do not sand existing resilient tile, sheet flooring, backing, or felt linings. These products may contain asbestos fibers that are not readily identifiable. Inhalation of asbestos dust can cause asbestosis or other serious bodily harm. Check with local, state, and federal laws for handling hazardous material before attempting the removal of these floors.

INSTALLATION ON RADIANT HEAT SUBFLOORS:
This product is not approved for installation over radiant heat applications. The Warranty will be voided if used over any radiant heat.

DO NOT USE ON RADIANT HEATED SUBFLOORS

JOB SITE PREPARATION

- Verify floor is level and structurally sound. Repair as needed. Sub floor irregularities may cause any wood flooring installation to develop hollow spots between the flooring and the sub floor. These are not the result of any manufacturing defect.
- Proper moisture testing is the key to determine readiness for installation.
- Follow the NWFA guidelines for acclimation (www.nwfa.org) on the job site and moisture equilibrium.
- Undercut door casings
- Remove any existing wall base, shoe molding, quarter round or doorway thresholds.
- Acclimate product at the job site at least 72 hours prior to installation or as long as needed in order to meet the proper installation requirements.
- Cover the clean surface, wall to wall, with 15 lb. asphalt saturated felt paper, butting the edges together.
- Regardless of the installation method all floors should be racked.

NAIL DOWN INSTALLATION PROCEDURE

REQUIRED TOOLS AND ACCESSORIES

* Manual or Pneumatic Nailer or Stapler with 1 ½"-2" Staples or Cleats with 15.5 gauge
* 6-8 d screw shank nails
* Moisture Meter (wood & concrete)
* Circular or Hand Saw
* Miter or Table Saw
* Drill with 1/16" bit
* Broom
* 15 lb. Asphalt Saturated Felt (not rosin paper
* Tape Measure
* Mallet (light colored)
* Pry Bar
* Chalk Line and Chalk
* Hammer
* Safety Equipment (Goggles & Mask)
* Utility Knife
* Nail Punch
* Hardwood Flooring Cleaner

NOTE: Planks wider than 5" Glue down and nail method is preferred

GENERAL INFORMATION FOR FASTENING MACHINES RECOMMENDED FASTENERS

- Porta-Nails, Inc. 800-634-9281
  Manual Model 402 Hammerhead Porta Nailer
  Recommend to use with Catalog #40248 Nailer Shoe.
- High Pro Tools 503-632-3100 or 888-232-2960
  Pneumatic Model FS 50 Stapler LFN-50 Cleat Nailer with the White ½" adapter pad. Switch out the initially supplied black pad to the white pad to properly fasten the flooring.
- Bostitich 800-556-6696
  Pneumatic Nailer Model Number M111FN with a M111 Foot – Kit. Will require the installer to insert a piece of cardboard between the foot and the nailer to adjust for the flooring size.
- Powernail Com 800-323-1693
  Pneumatic Model 50P Model 200 TG Powernailer LJ-1 Adapter Plate Model 445 TG Powernailer 5/8" Adapter Plate
  Manual Model 50M TG Powernailer Model 250 TG Powernailer U-1 Adapter Plate

NOTE: Improper adapter plates and/ or staples/cleats can cause severe damage. Contact your Fastener Manufacturer for the proper adapter as well as recommended staples, cleats and air pressure.

- Avoid striking the edge of the prefinished flooring with the fasteners mallet. Edge crushing can occur causing cracks and splinters. Use a block to hammer against if necessary. Use only a flooring nailer that engages the top profile over the tongue at the appropriate angle. Make sure that the flooring nailer is flat against the board to prevent top edge damage. The plate in contact with floor must be smooth and free from nicks or scratches. Faceplates should be covered with protective materials to prevent damage to the surface of the flooring.
- For manual fasteners improper plate selection can cause severe edge damage. Check with the fasteners manufacturer to ensure that the proper adapter has been used for this nominal 3/4" flooring (18 mm).
- For pneumatic fasteners, improper air pressure settings, and failure to use the proper adapters can cause damage to the flooring. The correct adapter and air pressure setting will properly set the fasteners in the nail pocket. Set air compressor to the fastener manufacturers recommended PSI setting or an initial pressure of 75 PSI. Use a compressor with an in-line regulator with an air hose for proper adjustments. Adjust the air pressure to insure proper setting of staples. If tongue damage occurs, lower the air pressure. If the staples do not set properly increase the air pressure.

- If you need to remove a side nailed staple, do not pull straight up from the tongue. This will damage the surface of the board. Instead, pull out the staple from the tongue at the front of the board with all pressure from the hammerhead directed into the sub floor.
- The manufacturer of the flooring is not responsible for any damage caused by the use of improper fasteners, improper adapters as well as staples or cleats or tools or minor squeaking on mechanically fastened floors.

Step 1: ESTABLISH A STARTING POINT

- Before beginning the actual installation, provide proper layout of flooring by laying out several rows of flooring end to end in a staggered pattern.
- Leave an expansion space the thickness of the wood flooring at all vertical surfaces.
- Allow for a minimum 6" stagger of the end joints of the adjoining row, distributing short and long lengths equally over the areas where the flooring is to be installed.
- Distribute lengths, avoiding "H" patterns and other discernible patters in adjacent runs. Stagger end joints of boards row to row a minimum of 6" for strip flooring, 8-10" for 3-5" plank, and 10" for plank wider than 5",
- Flooring is to be installed at right angles to the floor joists and if possible, in the longest dimension of the room.
- Work out of several cartons at a time to insure proper color and shade mixture.
- To ensure that you have a good straight-line place a mark 1" plus the width of the flooring on the end wall near a corner of the starting wall. Repeat on the opposite corner wall and insert nails into each mark. Snap a chalk line to provide a straight line to help align the planks
- Leave at least 3/4" for expansion at all vertical surface or at least what the baseboard will cover or quarter round trim.

Step 2: INSTALLING THE FLOOR

- Fasten a sacrificial board to the floor and check for surface damage, air pressure settings, and tongue damage before proceeding. Make all proper adjustments before installation. Then remove and destroy the board.
- For the first row use the longest straightest boards.
- Leave an expansion space the thickness of the wood flooring at all vertical surfaces.
- Align the first piece on the chalk line with the tongue out. The groove side and end will be facing the starting wall. Pre drill holes to avoid splitting. Drive 7D or 8D finish nails or screw type flooring nails into the face of the board every 12" approximately 1/3" - 3/4" from the edge closest to the starting wall and within 2"- 3" from the ends and in the darker grain of the wood. Keep the starter strip aligned with the chalk line.
- Edge nail the plank by driving the same type nails at a 45° angle through the tongue of the first piece, spacing the nails every 6" - 8" and within 2" - 3" from the ends. Repeat this process for the entire first row. Upon completion of the first row, go back and sink the face nails with a nail punch. If it appears that the holes will not be covered by the quarter round or wall base fill with putty that blends with the floor color.
- Repeat the edge nailing for the second row but do not face nail like the first row. Typically the first few rows must be edge nailed by hand rather than with a nailing machine due to the close proximity to the wall. When clearance allows, a nailing machine, which drive 2" fasteners with an appropriate mallet, can be used to simplify and speed up the nailing process
- For ease of installation work left to right. Left is determined by having your back to the wall where the starting course is laid.
- Install each succeeding row of planks by edge nailing the tongue side every 8" - 10" to within 2" - 3" from board ends. Be attentive to staggering the ends of the boards at least 6" in adjacent rows to avoid clustering end joints. Even short boards need three or more nails.
- Upon reaching the last row to be installed, the planks should be ripped to allow a 3/4" expansion space. The last rows must be fastened by nailing approximately 1/2" - 3/4" from the back edge of the board every 12". The same process of counter sinking the face nails and applying putty should be repeated (as above on starting wall).

Step 3: FINISHING THE FLOOR

- The use of putty to cover small cracks or face nails holes should be considered normal in hardwood flooring installations.
- Make sure when the installation is complete that the expansion spacers are removed and the expansion space is covered with the appropriate molding such as, base board and 1/4 round or shoe molding. Do not nail moldings into the floor but nail into the wall.
- Vacuum the floor thoroughly using the soft brush attachment or dust mop to remove any dirt and debris.
- Use a quality Hardwood Flooring cleaner to finish the floor. We recommend Bona Swedish Formula Hardwood Cleaner.

GENERAL INSTALLATION TIPS

- Sometimes it is necessary to reverse the direction of the flooring to extend it into a closet or hallway. To do this join groove edge to groove edge using a slip tongue (available from your distributor). Glue the slip tongue in place and blind nail the edge. Proceed in the opposite direction laying and nailing the flooring in the recommended procedure**.**
- For a professional and finished appearance frame hearths and other obstructions using mitered joints at the corners.

CAUTION: WOOD DUST WARNING

The State of California (OEEHA Prop 65, California Health, and Safety Code Section 25249.6) has classified Wood Dust as a

substance known to cause cancer. Drilling, sawing, sanding, or machining wood products generates wood dust.

The State of Minnesota(Statute 1984 sections 144.495 and 325F.18) require all HDF and plywood sold or used in Minnesota meet the HUD Formaldehyde Emission Standard 24 CFR Sections 3280.308 and 3280.406.

Airborne wood dust may cause lung, upper respiratory tract, and eye and skin irritations. Some wood species may cause dermatitis and /or respiratory allergic reactions. The International Agency for Research on Cancer (IARC) has classified wood dust as a nasal carcinogen in humans. Wood dust can also cause a flammable or explosive hazard

Precautionary measures:
- Recover dust for disposal. Sweep or vacuum dust for disposal or if power tools are used equip them with a dust collector.
- Avoid dust contact with an ignition source
- Avoid prolonged or repeated breathing of wood dust in air. If there are high levels of dust then use an NIOSH- designated dust mask.
- Avoid dust contact with eyes and skin

First Aid Measures:
- If inhaled, move to fresh air. In case of contact flush eyes and skin with water. If irritation persists, call a physician.

Please contact your dealer or distributor to request a Material Safety Data Sheet (MSDS)

IMPORTANT NOTE: The information and data above is based on the experience of occupational health and safety professional. It comes from sources believed to be accurate or otherwise technically current. It is the user's responsibility to determine if this information is suitable for specific application and to follow any necessary safety precautions.

CARE GUIDE

CLEANING YOUR FLOOR

- Use a damp cloth to blot up spills and spots as soon as they happen. For tough spots such as oil, paint, markers, lipstick, ink, tar or cigarette marks, use acetone/nail polish remover then wipe with a damp cloth. Always avoid allowing liquids to stand on your floor.
- Vacuum, (using the hard floor attachment not the beater bar), dust mop, or sweep the floor to minimize abrasive grit, debris, and dirt.
- **Do not** damp mop. Periodically clean the floor with a hardwood flooring cleaner, which is specially formulated for the finish.
- **Do not** use oil based, wax, and polish, strong ammoniated or abrasive cleaners, steel wool or scouring powder to clean the floor.
- **Do not** wash or wet-mop the floor with soap, water, oil soap detergent or any other liquid cleaning material. This could cause swelling warping, delamination and joint-line separation, and void the warranty.
- **Do not** use any type of buffing machine.

PROTECTING YOUR FLOOR

- Use quality area rugs and doormats by outdoor entrance areas to prevent dirt, sand, grit and other substances such as oil, asphalt or driveway sealer from being tracked onto your floor. The rugs must be made of a breathable material to prevent moisture entrapment. Rugs with rubber bottoms or no-skid pads may leave an imprint on the flooring.
- Sweep, dust, or vacuum the floor regularly to prevent accumulation of dirt or grit that can scratch or dull the floor finish.
- Use protective casters/caster cups or felt pads on the legs of furniture to prevent damage to the flooring. Use wide bearing leg bases, barrel type caster wheels, rubber rollers to minimize indentations and scratches from heavy objects. As a rule of thumb, the heavier the object, the wider the floor protector should be. Make certain to keep them clean and well maintained.
- Do not use rubber or foam backed plastic mats as they may discolor or leave an imprint on the floor. To prevent slippage use an approved vinyl rug underlayment.
- Maintain a normal indoor relative humidity level between 35 and 55% and a temperature of 60^{o}-80^{o} F throughout the year, to minimize the natural expansion and contraction of wood.

  Heating Season (Dry): A humidifier is recommended to prevent excess shrinkage due to low humidity levels. Wood stove and electric heat tends to create very dry conditions.

  Non-Heating Season (Wet): An air conditioner or dehumidifier or periodically turning on your heating system can maintain humidity during the summer months. Avoid excessive exposure to water during periods of inclement weather.
- Avoid gouges or cuts in your floor from sharp objects. While your floor is very wear resistant, sharp or pointed objects can nevertheless damage it.
- Don't walk on your floor with stiletto-style heels, spiked shoes, or cleats; they may cause indentations in your floor.
- Keep pet's nails trimmed to minimize finish scratches.
- Rearrange area rugs and furniture periodically so the floor ages evenly. UV sunlight will soften the tone of different species of hardwood to varying degrees.
- Protect your floor from direct sunlight. Use curtains and UV resistant film on large glass doors and windows. Over time natural and artificial light could discolor the floor.
- Use a dolly when moving heavy furniture or appliances. But first, put down a sheet of quarter inch plywood or Masonite to protect the floor and help prevent denting. Carpet or cardboard is not adequate to prevent surface compression scratches. Never try to slide or roll heavy objects across the floor to avoid denting.

REPAIRING YOUR FLOOR

- Minor damage can be easily repaired with finishing putty available in blending colors.
- Retain several planks for future repairs.
- Major damage will require board replacement.

MOLDINGS

Installation Tips:

- Moldings must be predrilled avoid splitting whenever they are to be secured with nails or fasteners.Use a 10 or 12" miter saw with pre-set adjustments for the basic miter cuts at 22.5°, 45°, and 90°. A carbide tipped blade makes the best cuts.
- On Wall Base or Quarter Round moldings, never restrict the hardwood floor's natural contraction/expansion movement by driving the fasteners at a downward angle. Rather, attach the moldings to the wall or vertical surface.
- Always miter cuts rather than having butt cuts when splicing. Decide the direction of the miter by cutting the molding with the long point oriented in the same direction as your natural line of vision when you enter the room.

Wall Base - Borders the wood floor at the base of the wall to give the room a finished look. This molding conceals the required expansion space between the wall and the hardwood flooring. It is also sometimes used under cabinets and toe kicks.

Quarter Round - This molding conceals the required expansion space between the wall and the hardwood flooring. It is also sometimes used under cabinets and toe kicks where a wall base won't fit or at the base of the stairs to provide a subtle blend between the floor and the wall or vertical surface.

Threshold - Typically used at exterior doorways as a transition between flooring and the doorway threshold. It is also used to transition a wood floor to different floors to make them fit together perfectly, such as high pile carpeting or tile. Another typical use for a threshold is to conceal the expansion space between the flooring and a vertical surface such as fireplace hearths and sliding glass doors.

T-Molding - Commonly used in doorways to join two wood floors in adjoining rooms. Also recommended when making transitions from a wood floor to another floor that is approximately the same height such as ceramic tile, hardwood or laminate floors, not carpet. T-Moldings are also used to provide expansion joints when a floor dimension exceeds the length of 40' or a width of 30'.

Reducer - Used to join hardwood floors that have been glued down or nailed down with floors of different heights such as vinyl, ceramic tile, or low pile carpeting.

Stair Nose - Provides the proper transition for stairways or steps which have hardwood floors that have been installed by either the nail down or glue down installation method. Also provides the proper overhang for a transition from one floor level to the next such as the step into a sunken living room.