



DL HARDWOOD FLOOR INSTALLATION INSTRUCTIONS

CARE AND MAINTENANCE:

- ◆ **REGULAR CARE AND MAINTENANCE:** Regular cleaning and sweeping of sand and dirt will be required to maintain your new DiamondLiving flooring surface.
- ◆ **DAMP MOP ONLY: NO EXCESSIVE WATER:** Avoid mopping the surface with excessive water, use only a slightly damp mop or cloth. **DO NOT** flood the floor with water. Remove any excess water immediately with a mop or cloth.
- ◆ **SPILLS:** Remove all spills immediately. Use a dry or damp cloth to wipe the surface clean and allow to dry.
CAUTION: FLOOR SURFACE IS VERY SLIPPERY WHEN WET. ALLOW TO DRY BEFORE WALKING ON SURFACE.
- ◆ **MOPPING:** Mopping the floor with **DL HARDWOOD FLOORING** approved products will protect the surface. Never use excessive water or harsh detergents or cleaners of any type on the floor. Never use wax or mop-shine products on the floor.
- ◆ **CLEANING:** Use **DL HARDWOOD FLOORING** approved products to maintain your floor. Other approved hardwood floor cleaners can be used. Consult an approved dealer for instructions. Do not use harsh cleaners or abrasive cleaning products to clean **DL HARDWOOD FLOORING**.
- ◆ **FURNITURE:**
 1. **NEVER SLIDE FURNITURE OR OTHER HEAVY ITEMS ACROSS FLOOR.**
Always protect the floor surface when moving items across the floor.
 2. **NEVER PLACE HEAVY OBJECTS ON THE FLOOR WITHOUT “FLOOR PROTECTORS”.**
 3. **NEVER PLACE HEAVY FURNITURE ON FLOOR FOR EXTENDED PERIODS OF TIME WITHOUT FLOOR PROTECTORS. AVOID HARD ROLLING CASTERS. USE FLOOR PROTECTOR PADS FOR ROLLING CHAIRS.**

- ◆ **HOT ITEMS:** NEVER place “HOT ITEMS” on the floor surface.
- ◆ **PETS:** Clean up pet waste immediately as it is harmful to your DL HARDWOOD FLOORING.

MAINTENANCE TIPS:

- ◆ Place door mats in all doorways to reduce dirt and moisture.
- ◆ Wipe up all moisture spills immediately.
- ◆ Clean the floor often.
- ◆ Do not use excessive water.
- ◆ Do not use unapproved cleaners, soaps, or detergents. MANY OF THESE PRODUCTS WILL DESTROY THE FINISH ON YOUR FLOOR. BE VERY CAREFUL NOT TO USE CLOTHS CONTAMINATED WITH OTHER CLEANING PRODUCTS ON YOUR FLOORS. IT WILL VOID YOUR WARRANTY.
- ◆ BONA HARDWOOD FLOOR CLEANER AND TERRY CLOTH MOP KIT WILL REMOVE MOST SUBSTANCES FROM YOUR FLOOR.

USE DIAMOND LIVING™ HARDWOOD FLOORING APPROVED PRODUCTS FOR LONG LASTING PERFORMANCE AND BEAUTY. FAILURE TO FOLLOW THE ABOVE CARE AND MAINTENANCE TIPS WILL VOID YOUR WARRANTY.

BE CAREFUL TO SELECT THE INSTALLATION THAT MATCHES THE PRODUCT YOU PURCHASED!

It is the responsibility of the purchaser and/or their installer to inspect Flooring BEFORE INSTALLATION. Prior to installation, Flooring determined to have any possible defect must be returned to the dealer with the original proof of purchase. At which time Diamond Living, LLC, at its sole discretion, will either replace your Flooring material or return the purchase price paid to Diamond Living, LLC for the Flooring material only. Thirty days after installation, all claims against Flooring except for structural integrity and finish or wear will not be accepted unless in Diamond Living, LLC's sole discretion that the consumer, installer and retailer had no culpability in the failure of the Flooring system and the failure was in the manufacturing process.

JOB SITE INSPECTION & ACCLIMATION

Acclimation of DL HARDWOOD FLOORING is not required when jobsite conditions have been previously maintained within the ranges listed below. (Please read carefully !)

- ◆ In new construction, DL HARDWOOD FLOORING should be one of the last items installed. All work involving water or moisture, (plumbing, plaster/drywall ceilings or wall finishes, painting, etc.), should be finished and adequate time allowed for complete drying, prior to DL HARDWOOD FLOORING being installed. Heating and air conditioning systems (HVAC) should be fully operational and capable of maintaining a consistent room temperature at 60-80° F, and a constant relative humidity range of 35%-65%, for at least **5 days (for existing construction) and 30 days (for new construction)**, prior to beginning the wood flooring installation. **Acclimation of DL HARDWOOD FLOORING is not required when jobsite conditions have been previously maintained within the ranges listed above.**
- ◆ Where the above referenced site conditions have not been met for at least five days, normal 48 hour flooring acclimation in the previously stated climate controlled conditions is required.
- ◆ Flooring should not be delivered until the above environmental guidelines are met. Concrete and plaster should be fully cured, and dry. Check basements and under floor crawl spaces to be sure that they are dry and well ventilated to avoid damage caused by moisture. Diamond Living™ recommends a minimum of 6 mil vapor barrier placed on 100% of the surface of the ground in crawl spaces not finished with cement.
- ◆ Wood Subfloors must be dry, (less than 10% moisture content), and within a 4% range of the moisture content of the DL HARDWOOD FLOORING being installed.
- ◆ Handle with care. Do not stand on ends or sides. Store Diamond Living Hardwood flooring flat with proper support on the ends and center sections in a dry place.
- ◆ Do not store directly upon on grade concrete or next to outside walls. Cartons should be placed as close to the center of the installation area as possible, away from exterior walls, windows, and doors. Keep out of direct sunlight and away from heat or air vents.

- ◆ **Do not open the DL HARDWOOD FLOORING cartons until ready to begin the installation.**

INSTALLATION WHEN USING A LOCKING SYSTEM:

A. WHERE CAN THE FLOORING BE INSTALLED?

Install **DL HARDWOOD FLOORING** in most rooms and most grade levels ONLY IF PROPER PREPARATION IS USED AND AREA MEETS MOISTURE TEST REQUIREMENTS.

B. KITCHEN, BATHROOM OR LAUNDRY FLOORS ARE NOT OK:

Do not install **DL HARDWOOD FLOORING** in areas of excessive moisture.

PREPARATION OF FLOOR:

Install **DL HARDWOOD FLOORING** on concrete, ceramic tile, terrazzo, marble or stone sub-floors that are smooth, level and well bonded. **DL HARDWOOD FLOORING** may also be installed on wood or wood product sub-floors that are clean, well bonded and smooth.

DO NOT INSTALL OVER CARPET OR ANY CUSHIONED BACKED PRODUCT. DO NOT INSTALL OVER ANY PRODUCT THAT IS NOT PROPERLY ADHERED.

1. Sub-floors **MUST BE CLEAN, DRY, LEVEL, AND WELL BONDED.**
2. Remove all existing trim throughout the room.
3. Measure the door clearance. If the door will not clear the floor, the door must be trimmed to fit from the bottom.
4. Install plastic sheeting on sub-floors. Always use moisture barrier plastic sheeting on any below grade floor and on all concrete floors. Overlap the plastic sheet 6-8 inches and tape the plastic sheeting with 2 inch plastic or clear vinyl tape.
5. Use ¼” spacers to maintain the proper expansion gap around the entire perimeter of the floor. In large rooms, a ½” expansion gap may be preferred. **IMPORTANT:** this ¼” gap must be maintained around cabinets, pipes, toilet flanges and any other obstacles in floor.
6. Always work from left to right. Planks should run lengthwise against the longest wall, and if possible, parallel to incoming sunlight.
7. Always install tongue side facing wall.
8. A **DIAMOND LIVING** approved **UNDERLAYMENT** MUST be laid down prior to applying **DL HARDWOOD FLOORING.**

Sub-Floors:

- ◆ Test floor for excessive moisture before installing over concrete, vinyl tile, concrete covered with ceramic tile, marble, stone, or linoleum. To do so, cut 3' x 3' squares of polyethylene plastic (one plastic square for every 200 sq. ft. of floor space). Spread plastic around different areas of the subfloor for a more accurate evaluation. Firmly tape down all edges of the plastic sealing them directly to the existing subfloor. Leave plastic down for 24 to 48 hours. **If moisture forms under the plastic or if the cement darkens, perform a Calcium Chloride Moisture Emissions Test. The maximum allowable reading is 3 lbs./1000 sq. ft/24 hours.**
- ◆ Concrete Sub-Floors – use minimum 6-mil polyethylene (plastic) sheeting as a vapor barrier. Roll out the plastic, overlapping the seam area 6 to 8 inches and tape the seamed with a 2" clear plastic sealing tape.
- ◆ Wood Sub-Floors – no additional plastic vapor barrier should be installed but subfloor must meet moisture restrictions. If moisture levels are too high, this must be alleviated before flooring is installed. Your contractor will need to diagnose your individual site conditions to solve this issue.

BEGIN INSTALLATION:

- ◆ Begin the installation in the left-hand corner. Place the plank a minimum of ¼" from the left wall. Use spacers throughout all perimeter areas to insure the correct expansion space is maintained. **(a)**
- ◆ Place the second plank tight against the short end of the first plank. **(b)**
- ◆ Fold down into the locked position with a single movement. **(c)**
- ◆ Place the final plank face down with the short side towards the wall. The remaining expansion space should be at least a minimum of ¼" from the wall. Draw a pencil line where the plank is to be cut. **(d)**
- ◆ Place the plank face down on the work surface and cut to size with a power saw. If you are using a hand saw, use a fine-toothed blade and cut the planks face up. **(e)**
- ◆ Begin the second row. The first and last planks in the rows should have a minimum length of 24 inches. **(g)**
- ◆ The minimum distance between short ends of planks in parallel rows shall not be less than 24 inches. **(g)**

- ◆ Connect the planks in the following rows by aligning the end seam of each plank directly above the end seam of the preceding plank. Insert the long side seam at a slight angle first and as the top surfaces meet, rotate the plank down into the locked position. **(h)**
- ◆ The distance to the walls can be adjusted when three rows are completed. **(i)** Remember to place the flooring a minimum of ¼” from all walls or other vertical obstructions such as cabinets, pipes, or columns. **(j)**
- ◆ In areas such as a doorjamb or cabinet kick base where planks cannot be angled to lock into place, use a wood chisel to remove the locking ridge from the bottom of the plank groove. Apply a 1/8” bead of tongue and groove adhesive to the bottom groove and gently tap the plank into place using a pull bar and hammer. Next, apply enough strips of painter’s tape across this seam to hold the joint securely in place until the adhesive sets. Using a clean, soft cloth, carefully clean up any excess adhesive on the surface of the planks. **(k)**
- ◆ On the first and/or last row where there is no polymer tongue on the short side, glue the joint with Clear Elmer’s glue where they join on the short end. **(l)**

DISASSEMBLY WHEN USING A LOCKING SYSTEM:

Your floor can be disassembled very easily, enabling replacement during installation and also during use. **(m)** Disassemble the panels by sliding them apart horizontally at the end seams. **(DO NOT FOLD CONNECTED PLANKS UPWARDS!)** **(n)**

RADIATOR PIPES:

- ◆ Drill the holes ¾” larger than the diameter of the pipes. **(o)**
- ◆ Remove all spacers.
- ◆ Install molding and transition pieces. Attach wood color coordinated molding or your desired trim and transition pieces using nails, screws or adhesive. **NEVER ATTACH ANY MOLDING USING NAILS, SCREWS OR GLUE DIRECTLY TO DIMAONDLIVING FLOORING!**

INSTALLATION WHEN USING TONGUE AND GROOVE:

REQUIRED TOOLS AND ACCESSORIES

- * Hand Saw or Electric Saw (Carbide Tip Blade Recommend)
- * Carpenter's Square
- * Utility Knife
- * Tapping Block
- * Spacers (3/8" to 9/16")
- * Safety Equipment (Goggles & Mask)
- * Tape Measure
- * Soft Rubber Mallet
- * Broom
- * Hammer
- * Pull Bar

FOR FLOATING INSTALLATIONS YOU WILL ALSO NEED

- * Diamond Living Hardwood Tongue and Groove approved Flooring Adhesive or equivalent
- * Diamond Living approved Adhesive Remover or equivalent
- * Both Damp and Dry Towels

FOR GLUE DOWN INSTALLATION ONLY YOU WILL ALSO NEED

- * 100 or 150 lb. Roller
- * Diamond Living Approved Hardwood Flooring Adhesive or an equivalent product.
- * Diamond Living Approved Adhesive Remover or equivalent product.
- * Notch Trowel – 1/4" square notch (for planks 5" or wider), 3/16" square notch (for planks less than 5" wide)

* Both Damp and Dry Terry Towels for clean-up.

SUBFLOOR PREPARATION

NOTE: As flooring manufacturers and wholesalers, we are unable to specifically evaluate each engineered subflooring system. Spacing and span lengths, as well as their engineering methods, are the responsibility of the builder, engineer, architect or consumer, who are better able to evaluate their expected results, based on site-related conditions and performance requirements. The general information provided below describes common, non-engineered joists and subfloor decking systems. Engineered subflooring systems may allow for wider spacing of engineered beam support systems; and alternative subfloor decking materials, while also providing equal performance characteristics to the systems discussed below.

Approved Subfloor Types:

* APA approved minimum - 5/8" thickness, preferred - 3/4" or thicker exterior grade plywood, on 16" centered 2"x10" joists.

* **NOTE:** When installing and fastening approved plywood, please follow the specific structural panel manufacturer's instructions.

* 3/4" (23/32") OSB on 16" center, 2"x10" floor joists properly nailed. When installing DL Hardwood Flooring over engineered joists and truss systems that are spaced wider than 16" on center, it may be necessary to add an additional layer of sub flooring or use additional cross bracing to stiffen the system, reducing excessive deflection.

* Concrete slab- DL Hardwood Flooring Products can be installed on all grade levels. **Concrete slabs must be clean and dry- less than 3 lbs. /1000 sf. / 24 hr. - per CCTM.**

Subfloor must be:

* **CLEAN** - Scraped or sanded, swept, free of wax, grease, paint, oil and other debris.

* **SMOOTH/FLAT** - Within 1/8" in a 10' span. Sand high areas or fill low areas with cement base leveling compound- no less than 3000 psi rating.

* **STRUCTURALLY SOUND** - Nail or screw any loose areas that squeak or reveal movement. Replace any damaged sub flooring or underlayment.

* **DRY** - Moisture content of wood subfloor **must not** exceed 10% prior to installation of wood flooring.

* **MOISTURE CONTENT BALANCED** - Wood based subfloors and the wood flooring to be installed must be within a 4% range of each other's moisture content.

Remember: Moisture testing results must be verified (and retained to keep your warranty in effect) both before and after, the wood has been acclimated 48 hours, and all other job site requirements have been met.

Wood Substrates: Test the moisture of the wood substrate using a calibrated (pin type) moisture meter approved for testing wood moisture content. The reading should not exceed 10%, or read more than a 4% difference than moisture content of flooring products being installed.

Concrete Sub floor requirements for adhered (glue down) or Floating installations:

All concrete sub floors must be tested for moisture emissions prior to installation. The moisture emissions of the fully cured **concrete** sub floor must not exceed **3 lbs. /1000 sq.ft./24 hr. emissions**, measured using the Calcium Chloride Test method. When using an electronic moisture meter; readings higher than the maximum moisture level readings of 3.5% to 4% indicate the need for a Calcium Chloride and pH tests, **and any necessary corrective action for the concrete sub floor indicated by the test results, must be successfully completed and documented before the installation can proceed.**

If you have determined that moisture is present, a Calcium Chloride and pH Alkalinity Test are mandatory, to accurately determine the amount of moisture content and the PH level in the concrete slab, so that appropriate corrective actions can be taken.

*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.

* 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 these numbers, the concrete slab should be sealed with an appropriate sealer.

Installation on Plywood and Wood Substrates: Do not install over particleboard, with exception of products that can be installed using the floating installation method.

Subfloor suitable for nail down or stapled wood flooring installation should be constructed of a minimum 5/8", or preferably thicker plywood when installing directly over 16" on center 2"x10" joists. Plywood sheets should be laid with grained outer plies at right angles to joists; with adjacent rows staggered four feet and nailed every 6" along each joist with 7D or larger nails. When installing new hardwood flooring directly over an old wood or strip wood floors, sand any high spots. Re-nail the old floor to eliminate squeaks or loose boards, and install new planks at right angle (perpendicular) to the old floor. Remember, the moisture content of the wood or plywood subfloor should not exceed 10%.

Important: Do not install any DL Hardwood Flooring Product using the glue down installation method over any vinyl asbestos flooring, vinyl composition tile, linoleum, asphalt tile, ceramic or stone tiles, carpet, or vinyl sheet products. Use a Diamond Living Hardwood that is rated for the Floating Floor Installation Method.

Radiant Heated Sub Floors

* DL HARDWOOD FLOORING products are approved for installation over radiant heated subfloors using either Adhered or Floating installation methods, if applicable for the product.

* **Nail or Staple Down installation methods are not recommended for Radiant Heated Sub Floors.**

* Radiant Heating Systems used must be designed and controlled specifically for Hardwood flooring by the system manufacturer, and include an Outside Temperature Probe, and Surface Temperature Controls.

* The end consumer should be aware that minor gapping between wood planks during the heating season is a normal occurrence with hardwood flooring installed over radiant heated subfloors.

* Proper humidity controls within the home or business will help to minimize the natural

wood reaction to seasonally changing climate conditions.

* Indoor climate should be maintained between 60-80° F and a relative humidity range of 35%-65%.

Adhere to the following guidelines for a successful installation over radiant heat:

* Newly installed water type radiant heated flooring systems should be in operational mode with the temperature set between 64° -72°F, for a minimum of 4 weeks to insure that all sub floor moisture has properly dried.

* Older water type radiant floor heat systems should be fully pressure tested, properly maintained, and set to a minimum of 64°F, for at least 4 days before flooring delivery; acclimation, or installation processes may begin.

* All radiant heating systems must be set to room temp. (A minimum of 64°F), for at least 4 days before flooring delivery; acclimation, or installation processes may begin.

* Always check wood sub floors to insure that the moisture content is less than 10% using an accurate wood moisture meter.

* Concrete sub floors must register “dry”, using a reliable concrete moisture meter.

* The pH level of concrete sub floors should register between 6 and 9, on a fourteen point pH scale.

* Sub floors must fully comply with these “dry” requirements before proceeding with the delivery, acclimation, or installation of the wood flooring at the job site.

* Regulate the job site to insure that the relative humidity is between 35% and 65%, and that temperature is between 60° and 80° F, throughout the flooring delivery, acclimation, installation and any required curing processes.

* Deliver and acclimate the engineered hardwood flooring, for at least 48 hours before installation begins.

* Install the hardwood flooring according to the instructions that pertain to the product.

* After completing the installation, do not change the radiant heat setting for 48 hrs.

* Throughout the life of the installation, 3 to 5 degree daily increments must be used when adjusting system temperature for either upward or lower adjustments; so that the hardwood flooring can adjust to the temperature changes in a gradual manner.

* Never raise the flooring surface temperature setting above 85 degrees Fahrenheit.

FLOATING FLOOR INSTALLATION METHOD

Approved Subfloor Types:

All DL Hardwood Flooring™ products which have been approved for the floating installation method can be installed over any dry, level, sound subfloor, regardless of install level or sub floor type. All subfloors should be covered with Diamond Living Underlayment or Diamond Living approved Underlayment products with a minimum 6 mil polyethylene vapor barrier.

Note: Any pre-existing wood panels or strips that are floating or direct glued to the concrete slab, must be removed before installing Diamond Living Engineered Hardwood flooring using the floating method.

Below or On Grade: Always check the slab for excessive moisture and perform a PH test to

ensure that the slab is suitable for hardwood installation. (See Concrete Slabs:) Install Diamond Living Underlayment or Diamond Living approved Underlayment products with a minimum 6 mil polyethylene vapor barrier. 6 mil. poly film should be lapped up the wall 4" all the way around the room. This can be trimmed off after moldings are installed. All seams must be taped with 2" clear package tape when installing over concrete slab.

JOBSITE PREPARATION

* Undercut door casings

* Remove any existing wall base, shoe molding, quarter round or doorway threshold.

Important: Do not install cabinets, fixtures, or walls on top of the flooring when using the floating installation method.

Step 1: POSITION THE FIRST ROW

Important: The flooring should be installed from several cartons at the same time to insure proper color, grain, and shade mix.

1. Before starting, first measure the width of the room, and then divide the room's width by the width of the plank. If this means that the last row of planks will be narrower than 2", then you will need to cut the first row of planks to make it narrower. Cut in such a way that both rows of planks (the first and last to be installed in the room) will have the same approximate width for an overall continuous look.

See installing the last row.

***Note:** 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. Use a carbide tip blade to insure smooth cuts.

2. Begin the installation of the planks in the left-hand corner of the room with the long direction parallel to the longest wall of the room. Always start so that you will be working left to right when facing the starting wall. When possible, run the length of the planks in the same direction as incoming sunlight.

Be sure to install the first row of engineered planks with the tongue side facing the wall.

* Using the proper spacers (depending on the thickness of the flooring), provide a gap for the seasonal expansion of the flooring along the walls of the entire room. Always place expansion spacers against the wall every 2-3'. Also place spacers at each plank end joint connection, as this will make maintaining a straight line install easier.

* **Note:** Larger rooms require additional expansion space. Add 1/16" to the width of the expansion space for every 3' the room extends beyond 25'. Dimensions exceeding 40' in length or width require the use of a T-Molding for proper expansion.

3. If the starting wall is out of square, it will be necessary to scribe the first row to match the wall, allowing the opposite side of the row to present a true and straight base for the rest of the floor. When the first row is complete, you must have a straight, even base established to build upon.

Step 2: GLUING THE BOARDS TOGETHER

When installing the DL HARDWOOD FLOORING use products which have been approved for the floating installation method, the boards must be side and end glued using Diamond Living Approved Hardwood™ Tongue & Groove Adhesive (or other authorized product).

Always apply the adhesive into the bottom of the groove on each board. Do not fill the groove. Apply a continuous bead, filling the bottom of the groove no more than halfway full. Start & stop adhesive 2” from the ends on the long side of the board and 1” from the ends on the butt ends.

Note: If any excess adhesive squeezes up to the finished surface, wipe it off immediately using a water dampened cloth or Diamond Living Approved Adhesive Remover. Then immediately dry the surface and buff with a dry cloth. If the adhesive has dried, use a soft white cloth moistened with Diamond Living Approved Adhesive Remover. Do not abrade the wood surface.

Step 3: INSTALLING THE REST OF THE FLOOR

Note: Always random stagger approximately 12” to 24” between end joints of adjacent board rows. The end joints should not repeat visually across the installed floor.

After installing the first row of boards, apply the adhesive to the first board on the second row using the above gluing instructions. Connect that board to the first row remembering the 12” to 24” stagger between the end joint of the board on the first row. Tap the boards together with a hammer and a tapping block. Be sure that the tapping block is against the tongue only and use only a gentle tapping motion to tap the boards together. Excessive force will damage the board making it difficult to install additional boards. Once the board has been tapped into place check for a tight fit on sides and ends. To install the rest of the flooring, continue placing the boards from left to right, building a rack 3 to 4 rows wide, as the installation continues to complete the floor.

Note: When installing around fixed objects, small areas or even in general installation areas, the use of installation straps may prove helpful for securing boards together. Installation Straps are a handy tool that will insure a tight fit when used to strap continuous rows of hardwood.

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 full width scrap piece of the DL Hardwood™ product that is being installed with the face down and the tongue side against the wall. Use appropriate spacers against the wall to ensure the proper expansion space.

- * Draw a line 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. Spacers should remain while the adhesive sets.

Note: Floor should remain free of foot traffic for a minimum of 12 hours while adhesive sets. A drying time of 24 hours is recommended before any damp-dry mopping, cleaning or heavy objects or furniture can be put back into place.

Make sure when the installation is complete that the spacers are removed and the expansion space is covered with an appropriate molding as described in **MOLDINGS, TRIM & TRANSITION PIECES**.

GLUE DOWN INSTALLATION METHOD

JOBSITE PREPARATION

- * Undercut door case moldings as needed.
- * Remove any existing wall base, shoe molding, quarter round or doorway threshold moldings.

Step 1: GETTING STARTED

Note: For DL HARDWOOD FLOORING planks less than 4.5" wide, use a 3/16" square notch trowel. For planks wider than 4.5", use a 1/4" square notch trowel. Only trowel enough adhesive to set 30-45 sq.ft. of wood. The hardwood can be "wet set" into the Diamond Living Approved adhesive which has 45 minute open working time.

- * Always orient the wood so that the tongue is facing the starting wall.
- * Install the flooring parallel to the longest wall in the room. Measure out from the wall in two places allowing the proper expansion space. Mark and snap a chalk line across the two marks. Glue the first row and place spacers against the walls to secure the row in place. Continue installing the floor from left to right. Spread only enough glue to install what can be set within 45 minutes. Planks can be set directly into wet glue (wet set), as Diamond Living Adhesives do not require flash off. Work your way out of the room. After the install is completed, keep the floor free from foot traffic for a minimum of 8-12 hours to allow adhesive to properly set.

Step 2: SPREADING THE DIAMOND LIVING APPROVED ADHESIVE

- * Always refer to the specific instructions on the Diamond Living (or other authorized) hardwood flooring adhesive label.
- * When using a Diamond Living Approved adhesive, use 1/4" x 1/4" x 1/4" square notched trowel, (yields 30 sq. ft. per gallon spread ratio).
- * Over very level, flat sub-floors use 3/16" x 3/16" x 3/16" square notched trowel, (yields 40 sq. ft. per gallon spread ratio).

Step 3: STARTING THE INSTALLATION

- * The flooring should be installed from several cartons at the same time to insure proper color, grain and shade mix.
- * 3/8" expansion spacing is required on all installations.
- * Working from the subfloor, (not on the hardwood), 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. (Remember to leave expansion space). The balance of the piece you cut may possibly be used to start the next row, if the length is a minimum of 12". Be attentive to staggering the ends of the boards correctly in adjacent rows to avoid clustering end joints. A tapping block/hammer, can be used to tap the boards until they are in proper position. Lock the row in place using spacers against the wall in the expansion space.
- * To protect the face of the boards, always saw with the teeth cutting into the face of the board.
- * **For Wood Subfloors:** If you are working on a wood type subfloor, you may want to use small finishing nails to hold the first row in place. Fill nail holes with wood filler designed to blend with your new floor.

Step 4: INSTALLING THE HARDWOOD

- * Complete the rest of the installation by spreading enough adhesive to install 45 sf. at a

time. Continue to dry rack when the hardwood so that you maintain the correct random end joint stagger, then continue setting the hardwood into the adhesive.

* Make sure that there is 100% contact between the hardwood and the adhesive. Use a clean, smooth, 100- 150 lb. roller to roll the flooring at every 150 sf. interval during the installation.

Step 5: 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 DL Hardwood™ product 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 with care to make the last row fit tightly and allowing for proper expansion space. Leave spacers in the expansion space until the adhesive has cured, then remove. Keep the floor free from foot traffic, for 12-24 hrs., until adhesive has set securely.

* Diamond Living™ recommends rolling the floor with a 100-150 lb. clean roller to insure good adhesive to wood contact.

STAPLE OR NAIL DOWN INSTALLATION METHOD

SPECIAL NOTE:

- ◆ **THE PLANK ORIENTATION FOR THE DL HARDWOOD FLOORING IS REVERSED FOR THE NAIL DOWN INSTALLATION PROCESS. THE PLANKS WILL BE PLACED WITH THE TONGUES TOWARD THE STARTING WALL.**
- ◆ **STAPLES WILL BE PLACED THROUGH THE BOTTOM GROOVE EDGE OF THE PLANKS. EDGE NAIL THE PLANKS BY DRIVING THE FASTENERS AT A 45° ANGLE THROUGH THE BOTTOM GROOVE OF THE PLANKS IN THE FIRST ROW OF PLANKS, SPACING THE FASTENERS EVERY 4" - 6"; AND WITHIN 2" - 3" FROM THE PLANK ENDS.**

PNEUMATIC STAPLING GUIDELINES (STAPLE DOWN INSTALLS ONLY):

DIAMOND LIVING™ has identified the following staplers and their respective staple sizes, for the installation of the DL HARDWOOD FLOORING Products:

- ◆ Bostitch #LHF97-125 20 ga. x 3/16" crown x 1" long
- ◆ Bostitch #SX 150 BHF-2 18 ga. x 1/4" crown x 1" long

- ◆ Porta-nail Twin Trigger 20 20 ga. x 3/16" crown x 1" long
- ◆ Senco #SLS20HF 19 ga. x 3/16" crown x 1" long
- ◆ Duo-Fast #SS1848F 18 ga. x 1/4" crown x 1" long
- ◆ **Note: Always use a pneumatic flooring stapler that engages the top of the flooring profile over the bottom groove edge at the appropriate angle. Make sure that the flooring stapler is in good working condition and fully seats the staples properly against the bottom groove to prevent top edge or surface damage. DUE TO THE VARIABLE NATURE OF STAPLERS AND COMPRESSORS, DIAMOND LIVING WILL NOT WARRANTY DAMAGE TO ANY PART OF A PLANK FROM A STAPLER TO INCLUDE GROOVE.**
- ◆ **Important:** Start by setting the air compressor to 70-80 PSI (or follow the stapler manufacturer's suggested PSI setting). Adjust the air pressure to insure proper setting of staples. If splitting damage occurs to the bottom groove seating area, lower the air pressure. If the staples are not fully seating properly, increase the air pressure setting gradually until proper seating is achieved.
- ◆ **Important:** If you need to remove a side nailed staple, do not pull straight up from the stapled groove with the claw hammer resting on top of the plank. This will damage the surface of the board. Instead, pull out the staple from the groove at the front of the board with all pressure from the hammerhead directed into the subfloor.
- ◆ **Special Notes on Pneumatic Stapling of DL HARDWOOD FLOORING Products:** Air Pressure settings and the speed of installation are dependent upon the air compressor model used, and the **capacities of the tank system involved**. Care should be taken not to exceed the ability of the compressor and tank system to immediately return to full required air pressure during the stapling operations. The use of low capacity compressor tank systems will require a slower stapling sequence during installation, in order to insure that all staples are properly seated. Improperly seated staples will further slow down the board fitting installation process, and can lead to movement and noise within the flooring system, and possibly raised areas (staple bumps) on the flooring surface. In situations where multiple pneumatic staplers will be used simultaneously during installation; an air compressor and tank system of sufficient horsepower and tank capacity should be used to support the continuous full pressure operation of **all** fastening equipment being used at one time. In situations where hardened, moisture resistant sub floor materials are being used, such as OSB materials rated for wider spaced 19" or 24" joist or beam centers; **higher air pressure setting may be required to properly seat the flooring staples.** Always use a test piece of flooring to properly adjust the pneumatic stapler in these situations, **before** beginning the full installation of the flooring.

JOB SITE PREPARATION

- * Always acclimate the product for 48 hours prior to installation when installing in areas that have not been properly climate controlled for at least five days.
- * Verify that the floor is level and structurally sound. Repair as needed.
- * Undercut door case moldings as needed.
- * Remove any existing wall base, shoe molding, quarter round or doorway thresholds.
- * Cover the clean surface, wall to wall, with 15 lb. black asphalt saturated felt paper.

Butting the edges together.

Note: National Wood Flooring Association guidelines recommend against the use of Red Rosin paper in place of asphalt paper.

Step 1: ESTABLISH A STARTING POINT

- * Before beginning the actual installation, start a random layout of the flooring by arranging short and long lengths equally over the areas where the flooring is to be installed.
- * Work out of several cartons at a time to insure proper color and shade mixture.
- * Align the first row of planks to be sure you have a good straight line from one side of the room to the other. Snap a chalk line at the desired distance from the wall to help align the planks. The end joints of plank or strip flooring should be staggered to achieve the best appearance in the finished floor. (Minimum 6-8" for 3" planks, 12-24" for longer, wider 4-7" planks).

Important: Leave the 3/8" expansion space recommended for expansion at all vertical fixed objects. (Normal rule of thumb is to have the expansion space equal the thickness of the wood). Example: 3/4" thick wood planks require a 3/4" expansion space.

Step 2: INSTALLING THE FLOOR

* The **plank orientation** for the DL HARDWOOD FLOORING product is **reversed** from that of traditional engineered hardwood, for the nail down installation process. The planks will be placed with the tongues facing toward the starting wall. **The planks will be fastened to the sub floor by shooting staples through the bottom groove edges of each plank.**

* Align the first piece on the chalk line. The tongue side and end will be facing the starting wall. To avoid splitting the wood, pre drill holes and then drive 7D or 8D finish nails, or 2" pneumatic 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.

* Edge nail the plank by driving the same type fasteners at a 45° angle through the bottom groove of the planks in the first row of planks, spacing the nails every **4" - 6"**; and within 2" - 3" from the plank ends. This process should be repeated for each piece in the entire first row. Upon completion of the first row, go back and sink the nails with a nail punch. If it appears that the holes will not be covered by the wall base or quarter round trim, fill the holes on the product face with wood filler designed to blend with your wood floor.

Note: Typically the first few rows must be edge nailed by hand rather than with a nailing machine due to the vertical wall obstruction. When clearance allows, use the appropriate nail/staple tool, which drive fasteners, simplifying and speeding up the nail/staple process.

* Install each successive row of planks by edge nailing the bottom groove side every **4" - 6"** to within 2" - 3" from board ends. Be attentive to staggering the ends of the boards appropriately in adjacent rows to avoid clustering end joints. Upon reaching the last row to be installed, the planks should be ripped to allow proper expansion space. The last rows must be fastened by nailing approximately 1/2" to 3/4" from the back edge of the board every 6". Use the same process of sinking the face nails and applying wood filler as used on the starter row. Make sure when the installation is complete that the expansion space is covered with the correctly sized molding.

SPECIAL CIRCUMSTANCES

Doorways: Attempting to continue installing rows through a doorway into another room can be difficult because the narrow opening is a very small base upon which to continue consistent, straight and even rows into the next room. **T-moldings are available to install in doorways when joining flooring room to room.** When using the Floating install method, every doorway less than 6' wide must be transitioned using a T-molding. Floating flow through installs are allowed only if the total length of the flow-through does not exceed 40', and the flow through doorway is 6' or wider.

To achieve alignment of plank rows from room to room, it is best to use a master reference line to run through the doorway to the far ends of each room involved. Position the line so that it is square and parallel from each room's corresponding wall. Use this line to align the plank rows from room to room.

Pipes, vents and other fixed objects: Each can be unique, but the general rule is to measure very carefully before you cut and remember to leave a 3/4" expansion gap between the object and the flooring. You will cover expansion gaps with molding, vent covers or pipe rings when the floor is complete.

Installation on Stairs: Working from the top step down, flooring should be installed using adhesive and screw type fasteners or nails. All stair nose moldings must be glued and nailed, or screwed every 8", as a safety precaution.

Glue down over cork: Using Diamond Living Approved Wood flooring adhesive, DL HARDWOOD FLOORING can be installed over a structurally sound concrete sub floor that is covered with full spread, permanently bonded acoustic cork. Cork thickness should not exceed 1/4" (6.35mm), with a density between 11.4 and 13 lb / cubic foot. Install cork in accordance with cork manufacturer's recommendations. Acoustic cork should be pure cork with a polyurethane binder.

MOLDINGS, TRIM & TRANSITION PIECES

Installation Tips:

- * Moldings should be acclimated 48 hours
- * Moldings must be predrilled to avoid splitting whenever they are to be secured with nails or fasteners.
- * The tool of choice for cutting hardwood moldings is a 10" or 12" motorized miter saw with pre-set adjustments for the basic miter cuts at 22.5°, 45°, and 90°. A carbide tipped blade makes the best finished cuts. Be sure the saw blade is positioned to cut into the finished face.
- * When installing Wall Base molding, eliminate the need to putty as many holes on the molding by placing the bottom nail below the finished line of the Quarter Round.
- * 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. 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 along with the Quarter Round 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/wall base 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 - This molding is used at exterior doorways as a transition between flooring and the doorway threshold. It also can be used to transition a wood floor to different floor types 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.

Installation: Lay the threshold molding in place to determine a proper fit. The threshold molding should overlap the flooring by 1/2" to 3/4" leaving the balance for expansion. To attach the threshold, nail into the subfloor behind the lip of the molding. Be sure when nailing not to obstruct the floor's expansion space.

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

Installation: A space of 1 1/4" between the two adjoining floors is necessary to properly install the molding. This is to allow for the expansion space. Lay the T-Molding in place to determine proper fit. To attach the T-Molding between a ceramic tile floor and the hardwood floor, apply 1/4" bead of construction adhesive to the top edge of the ceramic tile. To attach between two hardwood floors apply the 1/4" bead to the top edge of one side of the hardwood only. Seat the molding in place allowing for a minimum of a 1/4" overlap on the wood flooring. Make sure to allow for the expansion space between the T-Molding and the tile. When installing over a wood subfloor, use finish nails to secure T-mold. When installing over concrete, use heavy-duty construction adhesive to secure T-mold.

Overlap Reducer- (Floating Method) Used to join hardwood floors that utilize the floating installation method with floors of different heights such as vinyl, ceramic tile, or low pile carpeting.

Installation: To attached molding pre-drill and nail in appropriate 6" to 8" intervals. Do not nail less than 2"- 3" from the ends of either side. To attach the molding using glue, apply glue to the front edge of the molding. Apply one or two 1/4" beads of construction adhesive to the subfloor and seat the molding in place. It is important not to attach the reducer directly to the floating floor to allow expansion and contraction.

Overlap Stair Nose – (Floating Method) provides the proper transition for stairways or steps, which have hardwood floors that have been installed using the floating installation method. The Stair Nose also provides the proper overhang for a transition from one floor level to the next such as the step into a sunken living room.

Installation: To attached molding pre-drill and nail in appropriate 6" to 8" intervals. Do not nail

less than 2"- 3" from the ends of either side. Also apply glue to the front edge of the molding. Apply one or two 1/4" beads of construction adhesive to the subfloor and seat the molding in place. All stair nose moldings must be nailed and glued to secure the molding adequately. It is important not to attach the reducer directly to the floating floor to allow expansion and contraction.

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

Installation: To attached molding pre-drill and nail in appropriate 6" to 8" intervals. Do not nail less than 2"- 3" from the ends of either side. To attach the molding using glue, apply glue to the front edge of the molding. Apply one or two 1/4" beads of construction adhesive to the subfloor and seat the molding in place.

Flush 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. The Stair Nose also provides the proper overhang for a transition from one floor level to the next such as the step into a sunken living room.

Installation: When used on a stair step, the Stair Nose molding should cover and overlap the riser. When used on a step-up to another room, the Stair Nose molding becomes the starting "edge" of the floor. Because of the interlocking of the molding with the floor, the Stair Nose molding should be installed first. Once the molding is in place, the interlocking floor can be installed. Moldings should be installed using adhesive and screw type fasteners or nails.