Installation Instructions For durapalm® Flooring
Floating and Nail-Down Methods

A. INTRODUCTION
PLEASE READ INSTRUCTIONS COMPLETELY BEFORE PROCEEDING WITH ACTUAL INSTALLATION.
To ensure that you have sufficient material on hand, calculate the total area of the space or room and add 5-10% additional material to allow for miscalculation or error.

SET UP AND SITE PREPARATION:
1. Permanent HVAC should be operating and maintained between 60-80 degrees F with a relative humidity of 35%-55% for a minimum of 14 days, both prior to and after installation.
2. (For nail-down installation only) At a minimum of seventy-two hours prior to installation, place the flooring boxes on a flat, even surface in the center of the workspace. This allows the flooring to acclimate to the environment in which it will be installed (Do not lay flooring on bare concrete surfaces to acclimate as unwanted moisture could transfer from the slab to the product). Open the cartons during this period. Check moisture content when received and track moisture change using a hand held moisture meter.
3. Inspect each plank before installation. If you find a plank with visible defects, please contact us immediately for replacement. Manufacturer will not accept responsibility for replacement of flooring with visible defects, after it has been installed.
4. Flooring should not be delivered to the site until the building is fitted with exterior windows and doors, and all "wet trade" work (painting, dry wall, tile work, etc.) has been completed and fully dried. Subfloor moisture levels must meet the manufacturer's recommendations.
5. Gutters, down spouts, and exterior grading should direct drainage away from the structure's foundation to maintain consistent and dry subfloor throughout the year.
6. Basements and crawl spaces must be dry and well-ventilated. A 6-8 mil polyethylene moisture barrier must cover the ground of all crawl spaces; seams must be overlapped minimum of 8" and taped.

B. PRE-INSTALLATION PLANNING REQUIREMENTS
1. Decide what direction the flooring will be installed. Planks should be installed perpendicular to floor joists.
2. The subfloor must be level and flat or the floor could flex, causing boards to squeak and move. With a floating floor installation, an uneven subfloor may also weaken the locking system, causing gaps or loose boards and in some cases separation of the flooring planks.
3. Like all wood floors, including a floating installation, floors will expand and contract with seasonal changes in relative humidity (RH). With a floating floor installation, never use fasteners (nails, screws, etc.) to fix the flooring in place. Doing so and or pinning the floor under doorways or door jams can cause binding of the floor planks as they move with seasonal changes. This can cause the flooring to buckle and pull and in some cases cause the flooring to separate. The key to a successful floating floor installation is that the flooring is always able to move freely.
4. For floating floors leave a 1" gap at the perimeter of every room and all vertical objects including, columns, cabinets, staircases, etc. For nail down installation a 1/2" space around the perimeter of the room and all vertical objects. This allows space for the floor to expand and contract seasonally.
5. Based on the width of your planks, pre-plan the number of rows that will be required to finish the installation. The final row will normally be narrower and have to be trimmed length-wise. You may want to trim both the first and the last rows to balance the installation. If possible, the last row should be wider than 2". If a row must be narrower than 2", carpenter's glue is recommended to secure the narrow board to the adjoining full row for a floating installation or for a nail down it can be glued or nailed.
6. Remove any base board, base shoe or other trim molding prior to installation of a durapalm flooring product. These can be replaced after the floor has been installed. Undercut door jambs to allow for proper spacing and to allow for seasonal expansion and contraction.
7. Maintain relative humidity levels between 35%-55% for optimal floor performance. A humidifier or dehumidifier may be required in some cases to achieve and maintain these humidity levels throughout the year.
8. It is considered normal with a floating floor to use putty to fill small gaps or to correct minor imperfections during installation. When using putty on a matte (sheen) finish, apply putty with a plastic putty knife. Remove any excess immediately with a soft cloth to prevent gloss- up of the finish around the local area.
9. Install planks parallel to the longest wall for best aesthetic effect. If floating floor installation method is being used in areas longer than 30 feet (10m) or wider than 24 feet (8m), proper spacing is required, e.g. 1" (25.4mm) and a T-Molding or other trim piece or finish method should be used to allow for proper expansion and contraction.

IMPORTANT: Palm is a natural material and some color, grain and shade variation should be expected. Always work from several boxes at the same time to allow for matching and mixing of plank patterns for the bester over-all appearance.

We encourage caution when installing in areas such as bathrooms where flooring can come in direct contact with water. Also flooring installed in regions where there is a pronounced seasonal change in humidity, should expect a greater range of expansion or contraction in relation to milder climates with less pronounced change.
Tools needed:
1. ½" - 1" (12mm-25mm) wood or plastic wedges
2. 6-8 mil polyethylene moisture barrier (when floating over concrete)
3. High quality carpenter's glue (if needed)
4. PlybooQuietTM or PlybooFitTM underlayment (underlayment required with floating installation)
5. Measuring tape
6. Safety glasses
7. Chalk line
8. Square edge
9. Circular or hand saw
10. Pencil
11. Jamb saw
12. Wood chisel

And all other tools necessary and appropriate for use in installation of a wood flooring product.

General subfloor requirements:
a. All subfloors must be flat to 3/16"(4.5mm) per 10'(3M) radius. If subfloor prep is required, "high spots" should be sanded or ground down and "low spots" should be filled and leveled with a quality leveling compound.
b. All subfloors must be clean and free from debris and contaminants.
c. Nail or screw any loose subfloor areas to prevent unwanted squeaking or movement.
d. For click lock flooring only, our flooring can be floated over any structurally sound, flat, dry subfloor.
e. Floor damage or liability caused by poor subfloor preparation is not covered by Smith & Fong product warranty.

C. SUBFLOOR MOISTURE REQUIREMENTS
ALL SUBFLOORS MUST BE: Dry and must remain dry year-round. Moisture content of wood subfloors must not exceed 12%, and the durapalm flooring moisture content must be within 3% of wood subfloor or 2% when installing over radiant heating system. Concrete must not exceed 3lbs. per Calcium Chloride Test (test method ASTM 1869-89) or 2 lbs. when installing over radiant heating system. An In-Situ Relative Humidity test result (test method ASTM F-2170) must not exceed 75% RH. All concrete must be tested for moisture, and following the test kit manufacturer's recommended procedures. Also, follow all National Wood Flooring Association (NWFA) installation requirements as they relate to moisture and moisture abatement.

If the moisture content in a concrete slab exceeds 3lbs, or 75% RH, or dry conditions cannot be confirmed year around, a moisture vapor protection system must be utilized. Any failure to observe this requirement will be grounds for denial of coverage under the Smith & Fong Limited Warranty applicable to this product.

A PH alkalinity test, ASTM F 710, should result in a PH reading of 9 or less. High alkalinity in a concrete slab can adversely affecting proper bonding of flooring adhesive to slab subflooring. For note, newly poured slabs can tend to be high in alkaline, which decreases as the slab cures. Be sure to take all precautions to insure a proper adhesive bond to any concrete subfloor.

D. Radiant heating subfloor

To prevent radiant floor heating systems from altering product performance, please consider the following recommendations.

i. Follow the instructions of the radiant heating system manufacturer carefully, and make sure that the subfloor surface temperature is even and does not exceed 85°F. Hot or cold spots within the system alter floor per formance so even heat across a surface will allow of consistent performance of flooring product. Excessive heat can cause shrinkage and gapping in flooring. Should this occur, immediately reduce heat and give flooring a chance to rebalance moisture content.

ii. The radiate heating system should be operational and running for a minimum of 14 days prior to installation of the flooring. One day prior to installation the system should be shut off. At the time of installation, the subfloor should be between 62 - 68°F (17-20C), or as recommended by the radiant heating system manufacturer. If gluing down follow the adhesive manufacturer's recommendations.

iii. The radiant heat thermostat setting should be adjusted gradually, at increments of 5°F(2C) and not exceeding a subfloor surface temperature of 85°F(33C). Seasonal heat setting range not to exceed 15°F(6C).

E. FLOATING INSTALLATION

i. If you are working over concrete and using an underlayment pad that does or does not have a vapor barrier attached, always loose lay a 6-8 mil poly vapor barrier sheeting with the seams overlapping one another by 8" and tape seams so they do not move. The sheeting should also lap around the perimeter of the room and 4" up on the walls. This can be trimmed off after the moldings are installed.

ii. Roll out underlayment butting edges and tape. Run the underlayment perpendicular to the direction that the flooring will run.

iii. Begin laying the floor from the left corner of the room. ALL BOARDS SHOULD BE INSTALLED WITH THE TONGUE-SIDE FACING THE WALL. (See Figure 1)

iv. Begin installing the first row by laying a board down flat on the subfloor. (Figure 4) Align the end of the second board with the first and snap end-locking system together by simply pushing it straight down on top of the first board. Repeat this step to install the remaining boards in the first row. Cut the last board in the row to the remaining length. If leftover piece is 12" or longer, use it to begin the next row (Figures 2 and 3).

v. Insert spacers between the first row and the wall in order to maintain the appropriate amount of expansion space around the perimeter of the floor.

vi. You should not force the boards together. If the boards are not lying flat, they will not evenly aligned during engagement. Start this step over. Insure the edges of both boards meet evenly by applying equal pressure while pressing the board downwards.

vii Continue installing the second row and cut the last board to size just as you did the first.

viii. Install the third row in the same manner described above. Once three rows have been installed, re-check the spacers to ensure they are tight against the wall. If necessary, adjust the floor to ensure the installation is square and well aligned to the room.

ix If the width of the room exceeds 24' wide and/or 30' long an expansion transition piece should be installed to allow the floor to move seasonally. This expansion gap should be approx. 1" (25mm) in width.

x. When working under doorjambs or toe kicks of cabinets, there will not be enough clearance to achieve the 45° angle required to drop the click flooring into position. It will be necessary to trim away the tongue or lip portion of the click using a wood chisel to will allow the planks to slide together. A high quality carpenter's glue should be applied on the tongue surface before sliding planks together .

xi. The boards in the last row will need to be cut to the necessary width. Remember to allow appropriate expansion space between the last row and any vertical surface it adjoins.

xii. To mark the final row correctly, place the last board on top of the last row installed with an offset of approximately 1"(25mm). Take a scrap piece of flooring and remove the locking device (tongue). Use it to mark the board to the correct width and contour of the wall.

xiii. After the flooring is completely installed, remove the spacers, install moldings, and thoroughly clean the floor. Never cover a newly installed floor with plastic; always use a breathable material such as craft paper or cardboard. If a vapor barrier has been used, use finishing nails to attach the baseboard through the plastic membrane sticking up from the floor.

MOLDINGS: You must use T-Molding or transition strips between rooms. Do not fasten moldings onto the subfloor. This will prevent the floor from moving freely. The 1"(25mm) expansion space must be maintained underneath the molding. Finish vertical spacers with a silicone sealer if needed.

IMPORTANT: FLOATING FLOOR SYSTEMS ARE NOT DESIGNED TO ACCOMMODATE HEAVY OBJECTS ON THEIR SURFACE. HEAVY OBJECTS CAN INCLUDE, BUT ARE NOT LIMITED TO, LARGE BOOK CASES, SAFES, AQUARIUMS, PIANOS AND HEAVY FURNITURE. FLOATING FLOORS ARE DESIGNED TO MOVE FREELY AS A MONOLITHIC SURFACE, UNLIKE A TRADITIONAL NAIL-DOWN FLOOR WHERE EACH PLANK MOVES IN PLACE INDIVIDUALLY. HEAVY OBJECTS CAN CAUSE UNEVEN STRESSES, PINCHING OR BINDING THE FLOOR. INHIBITING THE FREE MOVEMENT OF A FLOATING FLOOR CAN CAUSE BUCKLING, LIFTING, UNLOCKING OF FLOOR SYSTEM AND CAN DAMAGE THE FLOOR REQUIRING REPLACEMENT OF DAMAGED PLANKS AND REINSTALLATION OF IN SOME SEVER CASES.

F. NAIL-DOWN INSTALLATION

i. Test and adjust your nail or cleat gun and pressure tank and confirm that all is working appropriately before proceeding with your installation. Follow all National Wood Flooring Association (NWFA) installations, procedures and guidelines for a nail down floor installation.

G. PREVENTATIVE MAINTENANCE

To ensure satisfaction with your durapalm click-locking or tongue and groove flooring product, and to extend its life and beauty for years to come, we recommend the following preventative maintenance suggestions.

1. Install floor protectors on furniture legs to protect against scratches, scuffing and dents. These furniture pads should be made of soft, non-staining material (e.g., felt or nylon pads).
2. Do not drag or roll heavy objects across the floor. This can potentially damage the surface and finish of your floor. First lay 1/8"-1/4" plywood over you palm flooring before moving heavy objects into place.You can then later remove the plywood protective layer.
3. Sweep and vacuum floors regularly. Leaving grit and sand on a floor and allowing it to catch in the padding of chair legs and other moveable furniture can and will damage your floor finish.
4. Avoid sand and grit build up. Use protective mats or rugs at doorways and areas of heaviest traffic. However be careful not to use latex or rubber backed mats or rugs; they can stain or discolor the floor finish.
5. Place protective mats under chairs with wheels.
6. Use only recommended hardwood floor cleaning products such as the Bona Hardwood Floor cleaning kit, Basic Coatings Squeaky Cleaner home cleaning kit, or hardwood cleaning products made by Swiffer.
7. Never wet-mop your floor. Never wax or use oil-based products on your floor.

H. RECOATING

When recoating a nail-down installed floor is necessary, and the floor has been maintained properly, the floor can be recoated using a process of cleaning, light abrasion, and reapplication of an appropriate water-base finish product. Always follow the instructions included with the finish system you have selected, an adhesion coat may be recommended prior to the finish topcoat application. When top-coating an existing finish, always do a test area to confirm suitability and performance for your particular application, and specifically to assure proper adhesion between the finish and topcoat layers. Alternatively, the flooring can be sanded back to wood and refinished in a traditional way.

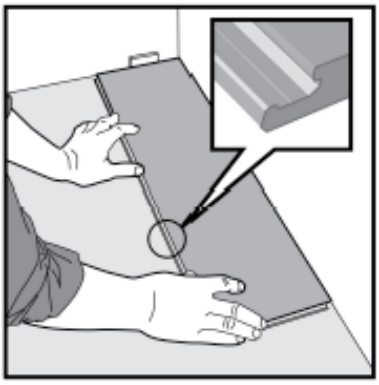

Figure 1.
First plank, first row.
Tongue side against the wall, groove side facing out.
Later, after the third row is installed, you can easily position the flooring against the front wall with a distance of approximately 1/2”.

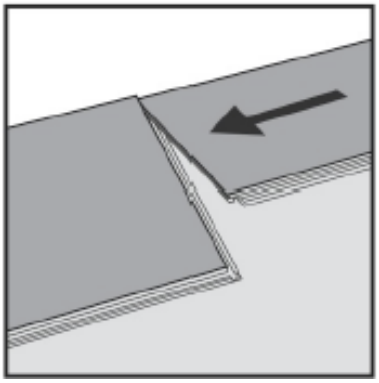

Figure 2.
Second plank, first row.
Place this plank tight to the short end of the first one.

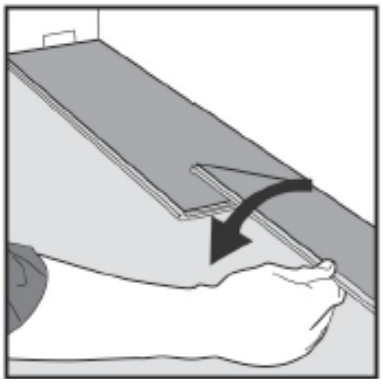

Figure 3.
Fold down with a single movement.

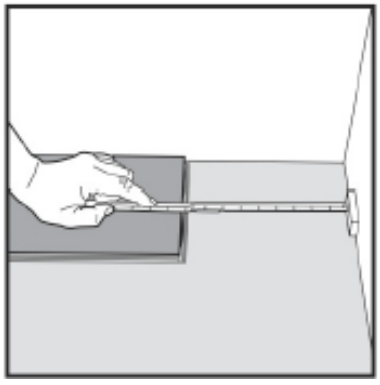

Figure 4.
At the end of the first row, cut the board to fit the remaining length. If the leftover piece is 12” or longer, use it to start the next row. Otherwise, use a pre-cut btoard, packaged with the flooring, to start the next row. Insert 1/2” spacers.

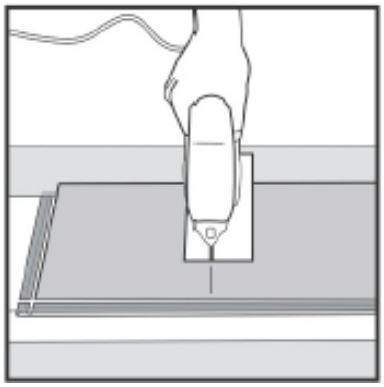

Figure 5.
Cut with a jigsaw face-down, or cut with a hand saw face-up.

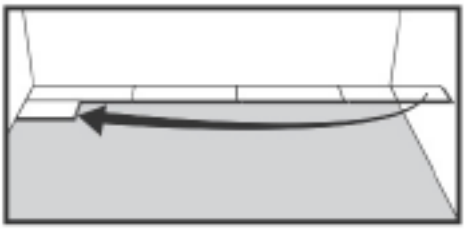

Figure 6.
Second row.
Stagger end joints of adjacent rows a minimum of 12”. Once three rows have been installed, re-check the spacers to ensure that they are tight against the watll. Adjust, if necessary, to ensure the installation is square.

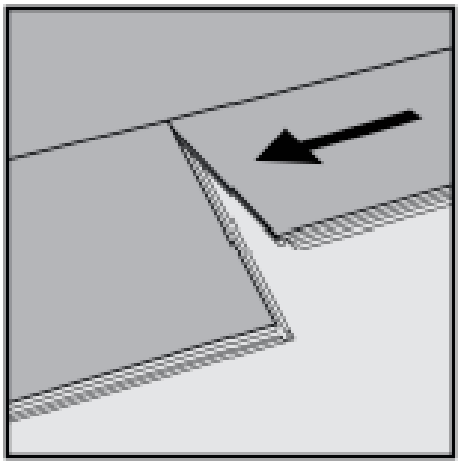

Figure 7.
General; distances between short ends.
Minimum distance between short ends of planks in parallel rows should be 12”.

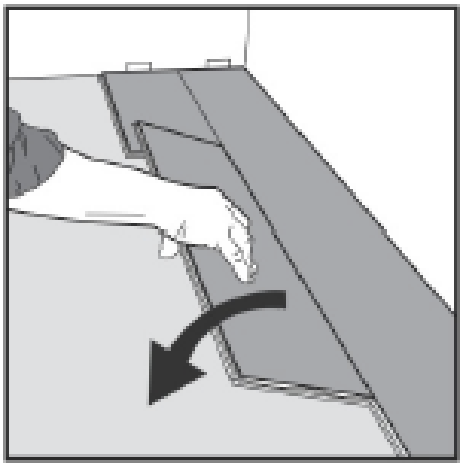

Figure 8.
Second plank, second row.
Place the panel tight to the short end of the previous panel and fold down in a single movement.

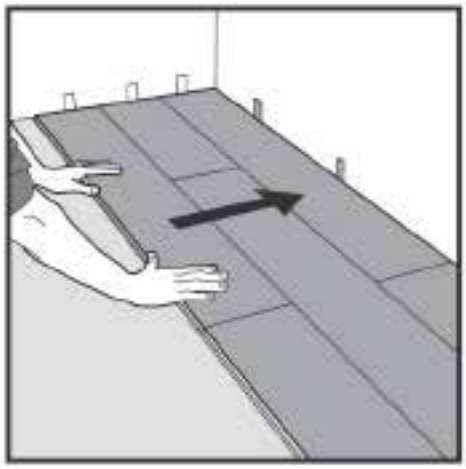

Figure 9.
After 3 rows.
Re-check the spacers to ensure that they are titght against the wall. If necessary, adjust the floor to ensure the installation is square.

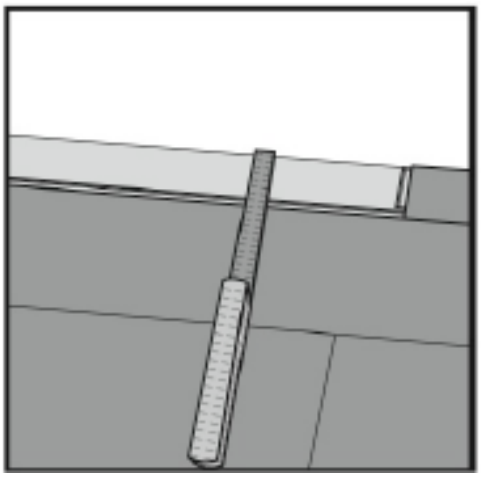

Figure 10.
Last and/or first row.
Allow for proper expansion against the wall or any vertical surface. The last row will need to be cut to the necessary width (2' or wider). Cut the panels length-wise and glue the narrow boards to the adjoining full row.

For panels narrower than 2" Last and/or first row.

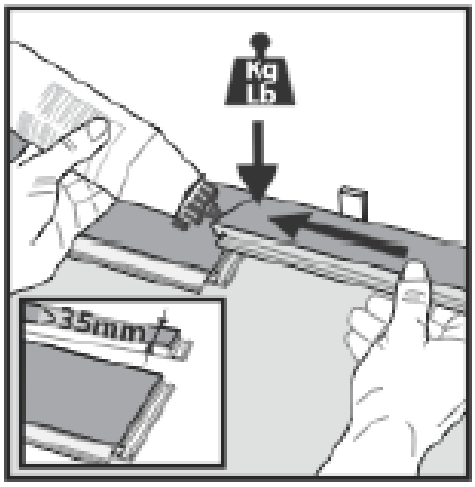

Figure 11.
Join panels at their ends by gluing the joint with floating floor adhesive.

Last row or under cabinets

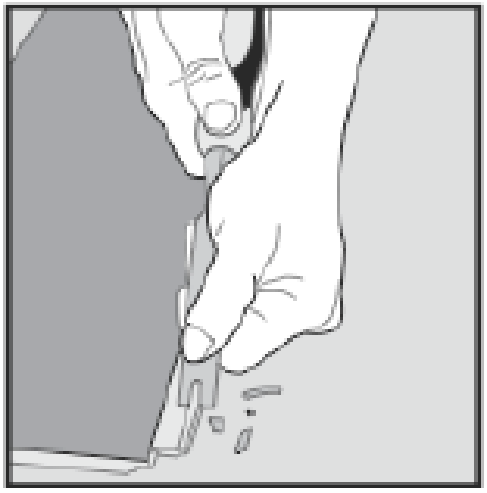

Figure 12.

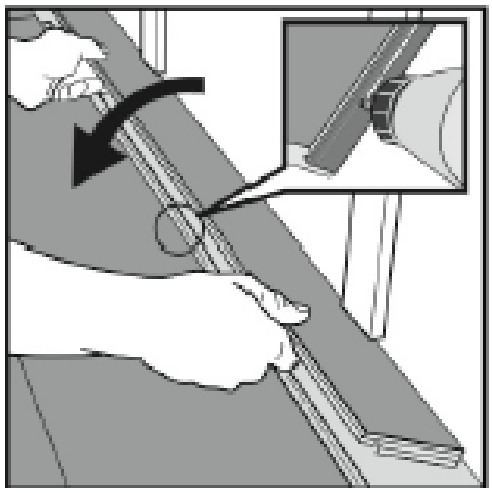

Figure 13.

Cut off the locking element with a chisel and use floating floor adhesive on the adjusted strip; push the planks horizontally together. If necessary, put some distance between the last panel and the wall in order to keep the planks together during the curing time of the glue.