

A.C.E Waterproof Flooring Installation Guide

For Products Featuring the i4F 3L Triple Lock

(<https://i4f.com/3l-triplelock-click4u-2/>)

ATTENTION – PLEASE READ BEFORE INSTALLING

Important: Carefully inspect all boards for defects. This inspection should include the products color, quality, finish and locking system. The visual characteristics, pattern and shading of the product may vary from the sample. The suitability of ACE flooring and accompanying products is the responsibility of the installer/owner. Any plank or tile that is considered questionable in appearance or dimensions should not be installed. ***Planks installed with visible defects are not covered under warranty.***

KEYS FOR A SUCCESSFUL INSTALLATION:

- Visually Inspect – Carefully inspect all boards for any defects
- Subfloor Prep – Subfloor should be dry and level to 3/16" per 10 ft. radius
- Check for Moisture – 85% RH / 3.0lbs per 1000'CaCl2 / 4.0% Concrete Encounter Meter
- Perimeter Expansion – Leave a minimum of 5/16" expansion for remodel and 7/16" expansion for new home construction around the perimeter and door jambs. (Note: new homes require more expansion because they have not settled)
- HVAC – HVAC should be operational, running, and set to optimal living conditions 5 days before installation begins
- Optimal Living Conditions – temperatures between 55-80 degrees Fahrenheit and relative humidity between 30-50%
- Disengagement – Disengage installed planks by sliding them apart; do not lift up on the end

FOR BEST VISUAL REPRESENTATION OF YOUR FLOOR

This flooring replicates the look of a natural product which has natural variations in color, texture, and sheen/gloss. For best visual effect, work from 3-4 boxes and shuffle planks or tiles. Avoid installing similar planks or tiles next to one another and creating a stairstep visual. Keep end joints staggered a minimum of 8".

SUBFLOOR PREPARATION & MOISTURE

Subfloor should be dry and level to 3/16" per 10 ft. radius for best installation results. Making sure the subfloor is properly prepared and flat to this specification will help reduce deflection under foot, joint failure, and ensure customer satisfaction.

All types of flooring can be susceptible to failure if moisture conditions are not properly monitored and maintained. While this product is waterproof regarding topical moisture, it's not to be used as a moisture barrier, nor can it withstand excessive vapor pressure from the subfloor. Excessive moisture can get in the walls and structure of the home. Moisture-related problems underneath flooring can also become health issues as mildew, mold, gaps, bumps and unsecured flooring pose additional risks to anyone walking over them. Make sure your concrete is cured and tested for moisture, and that a moisture barrier is installed in the crawl space and even under an ACE floor over a concrete subfloor. Always check the subfloor for elevated levels of moisture: Readings should not be in excess of 85% RH / 3.0lbs per 1000'CaCl2 / 4.0% Concrete Encounter.

If readings exceed the levels above, the flooring should not be installed until they have dropped below, or a vapor suppression system is put in place.

ACCLIMATION

As relative humidity varies in different parts of the country, acclimation of the jobsite and the flooring prior to installation is the most important precaution to take to ensure a successful installation. HVAC should be operational, running, and set to optimal living conditions 5 days before installation begins, with temperatures between 55-80 degrees Fahrenheit and relative humidity

between 30-55%. Proper acclimation is necessary to adapt the moisture content of the flooring to the conditions of your environment. Improper acclimation can cause the floor to buckle and/or the boards to shrink or cup after installation.

PRE-INSTALLATION JOBSITE REQUIREMENTS

ACE cannot be held responsible for any failures or deficiencies related to site conditions. It is the installer/ owners' responsibility to ensure that the jobsite conditions and jobsite subfloor are environmentally and structurally acceptable prior to the installation of any ACE flooring. All substrates must be clean, flat, dry, and structurally sound.

Carefully examine the flooring prior to installation for color, finish, sheen, and quality. Ensure adequate lighting for proper inspection. If flooring is not acceptable, contact your supplier immediately and arrange for replacement. ACE cannot accept responsibility for flooring installed with visible defects.

Flooring should be one of the last items installed in any new construction or remodel project.

Crawl spaces must be a minimum of 18" (46 cm) from the ground to the underside of the joists. A ground cover of 6–20 mil black polyethylene film is essential as a vapor barrier with joints lapped 8" and sealed with moisture resistant tape. The crawl space should have perimeter venting equal to a minimum of 1.5% of the crawl space square footage. These vents should be properly located to foster cross ventilation. Where necessary, local regulations prevail.

Room temperature and humidity of installation area should be consistent with normal, year-round living conditions for at least one week before installation of flooring. Maintaining an optimum room temperature between 55-80 F and a humidity range of 30-55% is recommended.

WOOD SUBFLOOR:

- Screw down loose or squeaky sections of plywood and replace areas that are damaged.
- Wood subfloors should be moisture tested with an appropriate wood moisture meter, and the results must be no more than 12% on average. Test the subfloor moisture in several locations. Higher readings indicate a moisture concern that needs to be corrected before installation can begin.
- Allow wood subfloors to breathe! Never apply sheet plastic over wood subfloors.
- Wood subfloors must be constructed according to local building codes, be structurally sound and deflection free.
- 30 lb. roofing felt or vinyl tile can be used to build up (in layers) low areas on wood subfloors.

CONCRETE SUBFLOOR:

- New concrete subflooring should be cured for at least 90 days prior to installation. Slabs are hygroscopic, so moisture conditions begin long before the flooring is installed and continues changing for the life of the slab as the moisture conditions around it changes. If the concrete slab has not been properly dried and cured before the flooring is installed, moisture and/or vapor problems are almost guaranteed.
- Grind down high spots and fill in low spots with an appropriate Portland cement-based patch (allow to cure fully).
- A moisture test is strongly recommended. Acceptable tests are ASTM F1869 Calcium Chloride test, or ASTM F2170 using in situ probes, to test the humidity of the slab. Slabs with moisture levels exceeding 3lbs per 1000sqft using the Calcium Chloride test, over 85% when using the RH test, or above 4.0% on a concrete encounter meter are a means for additional testing and monitoring. A slab with readings in excess of these levels must have an

appropriate moisture barrier installed between the concrete and flooring, in an effort to prevent future issues from occurring.

- Moisture protection for floating floor installations should be a minimum 6mil virgin polyethylene. Seams should be OVERLAPPED 8" and taped using a waterproof adhesive tape (duct tape). This vapor barrier should be installed up the wall at least 1".
- Slabs on or below grade must be free of hydrostatic pressure

PRE-INSTALLATION SUBFLOOR REQUIREMENTS

All Subfloors must be:

- Dry: 85% RH / 3.0lbs per 1000' CaCl₂ / 4.0% Concrete Encounter
- Structurally sound
- Clean: Thoroughly swept and free of all debris
- Level: Flat to 3/16" per 10-foot radius

Wood subfloors must be dry and well secured. Nail or screw every 6" along joists to avoid squeaking. If not level, sand down high spots and fill low spots with a Portland Based leveling patch.

Concrete subfloors must be fully cured, at least 90 days old, and should have minimum 6-mil polyfilm between concrete and ground. Subfloor should be flat and level within 3/16" per 10' radius. If necessary, grind high spots down and level low spots with a Portland leveling compound.

Ceramic Tile, resilient tile and sheet vinyl must be well-bonded to subfloor, in good condition, clean and level. Do not sand existing vinyl floors, as they may contain asbestos.

INSTALLATION TOOLS

For all installation methods:

- Tape measure
- Pencil
- Chalk line
- Crosscut power saw
- 3M Scotch-Blue™ 2080 Tape
- Rubber mallet
- 5/16" spacers

Acceptable subfloor types:

- CDX Underlayment Grade Plywood (at least ½" thick)
- Underlayment grade particleboard
- OSB (at least ¾" thick)
- Concrete slab
- Ceramic tile
- Resilient tile & sheet vinyl

STARTING YOUR INSTALLATION

Houses and buildings, as well as adjacent hardwood or laminate floors, expand and contract, therefore ACE recommends leaving a minimum 5/16" expansion gap for a remodel application and 7/16" expansion gap for new home construction between the perimeter walls and any adjacent building materials.

Work from several multiple (3-4) boxes. This will allow you to select the varying textures, colors, and sheens. Remember, it is the installers' responsibility to determine the expectations of what the finished floor will look like with the end user.

Begin installation next to an outside wall. This is usually the straightest and best reference for establishing a straight working line. Establish this line by measuring an equal distance from the wall at both ends and snapping a chalk line. The distance you measure from the wall should be the width of a plank or tile. You may need to scribe cut the first row of planks or tiles to match the wall in order to make a straight working line if the wall is not straight.

You may want to position a few rows before starting installation to confirm your layout decision and working line. When laying flooring, stagger end joints from row-to-row by at least 8" for planks, and equal to a half piece for tiles. For plank installations, when cutting the last plank in a row to fit, you can use the cut-off end to begin the next row. If cut-off end is less than 8", discard it and instead cut a new plank at a random length (at least 8" in length) and use it to start the next row. Also avoid "stair stepping" end joints of adjacent boards as well as "H" configurations. Always begin each row from the same side of the room.

INSTALLATION INSTRUCTIONS (view i4F installation video at <https://i4f.com/3l-triplelock-click4u-2/>)

Inspection: Inspect material in daylight for visible issues prior to installation. Check if subfloor and site conditions comply with the specifications described in these instructions. If you are not satisfied, contact your supplier immediately and do not install.

Before laying: Measure the room to determine plank layout. For best visual results, planks in the first and final row should be cut no less than half the width of the plank. Purposely mix and arrange boards in a pleasant blend of shades. Lay boards preferably following the direction of the main source of light. The use of expansion moldings is required for floor surfaces exceeding lengths of 60 ft in either direction.

INSTALLING THE FIRST ROW (<https://i4f.com/3l-triplelock-click4u-2/>):

1. Starting from the left with the tongue-side facing the wall, carefully place the first board in place, using spacers to leave a minimum 5/16" expansion gap for a remodel application and 7/16" for a new construction application between wall and edges of the plank. Disengage planks by sliding them apart. Make sure you **DO NOT** lift up on the end.
2. The end joints of this product features an integrated 3L Triple Lock click system with pushdown technology for an easy and speedy installation. Align the tongue and groove on the end joint of the next piece and press down with your thumbs on both ends of the short side. Continue pressing until you hear the "Click" sound of the one piece drop-lock system. Planks are now fully locked. You may tap with your hand or a rubber mallet in a downward striking angle to ensure successful and secure engagement. Continue in this manner until reaching the final board in the first row.
3. Cut the final board piece to length, no less than 8".

CONTINUING THE INSTALLATION:

4. For plank installations, if the cut plank is at least 8" in length, use it to begin the second row. If the cut plank is shorter than 8" do not use it. Instead, begin with a new board that is at least 8" in length and allows 8" between the end joints on the adjacent planks.
5. Start by engaging the plank on the long side (angle-system). Slide the plank until it reaches the short side of the next plank. Let the plank drop gently. Press with your thumb on both ends of the short side. Continue pressing until you hear the "Click" sound of the one piece drop-lock system. Planks are now fully locked. If everything is aligned correctly, there will be a slight click from the end joint as the panel is successfully engaged and reaches its final position after being lowered into place.
6. You may tap the joint with the rubber mallet using a downward angle striking motion towards the adjoining end joint until the tongue and groove lock together on the side and ends.
7. Carefully inspect the long edge and short ends of the plank or tile for any gapping before moving on to the next plank. If you notice a gap, STOP, disengage by sliding apart (not lifting at the end) and reinstall the board to ensure a snug fit.
8. Install the remaining boards and rows in the same manner.
9. Cut the last board to size.
10. Whenever practical, use cut pieces from previous rows as the starter board to reduce waste.
11. Maintain proper spacing (at least 8" for planks, and equal to 12" for tiles) between end joints for best appearance.

INSTALLING FINAL ROW:

12. The last row may need to be cut lengthwise (ripped). Optimal stability is lost if the planks are cut less than half its width and should be avoided by accurately measuring the room.

13. Place the final row of planks on top of the last row installed and use an additional plank as a scribe to trace the contour of the wall. Cut planks along tracing.

14. Position cut planks in final row and tap all joints (long AND short ends) with the rubber mallet.

INSTALLING UNDER A DOOR JAMB:

1. Installation under moldings (such as door jambs) may require that the top lip of the groove on the end be reduced in size.

2. Using a small knife, carefully shave off the ledge of the groove.

3. After the groove ledge has been trimmed, place the board in place and tighten with a pull bar. The installer must be sure that the required expansion gap has been maintained and the flooring is not pinched

4. If fit is not correct, re-trim as necessary.

5. Place a bead of cyanoacrylate adhesive, like Loctite 495, on the bottom lip of the groove.

6. Insert the tongue into the groove and engage with a pull bar. Hold the board in place with painter's tape (3M Scotch-Blue™ 2080 Tape) until the glue is dry. Do not use masking tape or duct tape as they may damage the floors finish.

In-floor Radiant Heat:

ACE Floors can be installed using the floating or glue down method. A floating method can only be used if a pad is already attached. If there is no pad attached, a glue down method can be used only over manufacture's recommended substrate. Stauf D737 adhesive, or equivalent, is recommended for any glue down application where the pad has been removed.

- Turn the heat off for 24 hours before, during and 24 hours after installation when installing over radiant heated subfloors
- Floor temperature must not exceed 85°F (30°C).

Warning: Failure to follow adhesive manufacturer's guidelines and temperature limitations will result in failure and void warranty. Electric heating mats that are not embedded into the subfloor are not recommended for use underneath ACE floors.

Stairs:

Stauf D737 adhesive, or equivalent, is recommended for any glue down application where the pad has been removed.

AFTER INSTALLATION

- Flooring should be one of the last items installed in a project. In order to protect the floors while other trades are finishing their work prior to final cleanup and turnover to the owner, use rosin paper and only use 3M Scotch-Blue™ 2080 Tape to hold the rosin paper to the floor (other blue tapes may damage the finish). Clean the floor thoroughly before laying the rosin paper to ensure that no debris is trapped underneath. DO NOT USE plastic film or other non-breathing coverings as this can cause the floor to become damaged from humidity buildups.

- Dust mop or vacuum your floor to remove any dirt or debris.

- It is suggested that you clean the floor using a recommended ph neutral cleaner.

- Install any transition pieces that may be needed (reducers, T-moldings, etc.)

Note: Board replacement techniques can be found at the following link: <https://www.youtube.com/watch?v=PhNqgHCJFOs>

Protection and Maintenance of Your Floor

Lasting beauty can be achieved through purchasing a quality floor covering and providing proper on-going maintenance.

- Furniture should be moved onto the newly installed floor using an appliance hand truck over hardboard runways.
- Avoid exposure to long periods of direct sunlight. Close blinds or drapes during peak sunlight hours. Floor covering subjected to excessive heat and light is subject to thermal degradation. Use appropriate precautions to minimize potential effects on the floor covering.
- Oil or petroleum-based products can result in surface staining. Do not track asphalt-driveway sealer or automobile-oil drips onto the vinyl floor covering.
- Use non-staining mats. Rubber may discolor the floor.
- Frequently moved furniture should be equipped with felt pads to avoid scratching the floor. Heavy furniture and appliances should be equipped with non-staining large surface floor protectors. Furniture with castors or wheels must be easy swiveling, large surface non-staining and suitable for resilient floors. Do NOT use ball type castors as they can damage the floor.
- Use floor protectors under furniture.
- Use walk off mats at entrances to prevent dirt and grit from being tracked on to the floor.
- Sweep or vacuum the floor regularly to remove loose dirt. Do NOT use vacuums that use a beater bar or turn beater bar off.
- Do NOT use electric brooms with hard plastic bottoms with no padding.
- Clean up spills immediately.
- Damp mop as needed using clean water and a diluted floor cleaner. Do NOT use harsh cleaners or chemicals on the floor. Do NOT use abrasive scrubbing tools. Do NOT use detergents, abrasive cleaners or “mop and shine” products.