

I. GENERAL INFORMATION

These installation specifications are for Adura® with LockSolid™ Technology. All recommendations are based on the most recent available information. All instructions and recommendations must be followed for a satisfactory installation.

1. Acclimate flooring and the room at a constant temperature between 65°F and 85°F for 48 hrs. prior to and during installation. Temperature of the room should not go below 55°F after 48 hours after installation and anytime thereafter.
2. Open room are not to exceed 50 linear feet in either direction or total of 2500 square feet.
3. Install only after the jobsite has been cleaned and cleared of other trade apparatus that may damage a finished installation.
4. Mix and install product from several different cartons to achieve maximum variation.
5. All subfloor / underlayment patching must be done with a non-shrinking water resistant high quality Portland cement patching and leveler compound.
6. Never install Adura products over residual asphalt-type (cut back) adhesive. It can bleed through the new flooring. Residual asphalt-type adhesive must be completely removed and covered with underlayment plywood or high quality latex underlayment.
7. Mannington Whisper 3N1 can be used as an underlayment for improved acoustical performance and/or as a moisture barrier.

II. SUBFLOOR INFORMATION

Although Adura LockSolid is installed as a “floating” floor, careful and correct preparation of the subfloor is a major part of a satisfactory installation. Roughness or unevenness of the subfloor may telegraph through the new floor covering, resulting in an unsightly surface and excessive wear on high spots. Subfloor should be flat within 3/16” in 10’.

A. Wood Subfloors

1. All wood floors must be suspended at least 18” above the ground. Adequate cross-ventilation must be provided, and the ground surface of a crawl space must be covered with a suitable vapor barrier. Wood subfloors directly on concrete or installed over sleeper construction are not satisfactory for installation. Wood subfloors must be covered with a minimum 1/4” or heavier underlayment rated panel to assure successful finished flooring installation. All wood substrate should be smooth, flat, structurally sound and free of deflection (meaning no up and down movement).
2. LockSolid can be installed over many wood substrates that are not suitable for fully adhered products, providing that they are smooth, flat structurally sound and free of deflection including particleboard, chipboard, flakeboard, OSB. Caution: Many times wood panel subfloors are damaged or are not of underlayment grade, the suitability of these floors are the responsibility of the installer.

If the surface of the wood subfloor is not smooth, a 1/4” underlayment panel should be installed over the subfloor. Any panels selected as an underlayment must meet the following criteria:

- > Be dimensionally stable
- > Have a smooth, fully sanded face so the graining or texturing will not show through
- > Be resistant to both static and impact indentation
- > Be free of any surface components that may cause staining such as plastic fillers, marking inks, sealers, etc.
- > Be of uniform density, porosity and thickness
- > Have a written warranty for suitability and performance from the panel manufacturer or have a history of proven performance

B. Concrete Subfloors

1. Concrete subfloors should meet requirements prescribed in ASTM F710 “Standard Practice for preparing concrete floors to receive Resilient Flooring”.
2. Concrete subfloors must have a minimum compressive strength of 3000 psi and dry density of at least 100 pounds per cubic foot.
3. Concrete subfloors must be dry, smooth, and free from dust, solvent, paint, wax, grease, oil, asphalt sealing compounds and other extraneous materials. The surface must be hard and dense, and free from powder or flaking. Surface of the subfloor should be flat within 3/16” in 10’.
4. New concrete slabs must be thoroughly dry (at least six weeks) and completely cured.
5. All concrete slabs must be checked for moisture before installing material. Details for moisture testing can be found on our website. The final responsibility for determining if the concrete is dry enough for installation of the flooring lies with the floor covering installer. Adura must never be installed where excessive moisture emissions may exist. Moisture emission from subfloor cannot exceed 5 lbs. per 1,000 sq. ft. per 24 hours as measured with the calcium chloride test in accordance with ASTM F1869-04 or ASTM F2170 In Situ Relative Humidity not to exceed 80%. Mannington will not assume responsibility for floor covering failure due to hydrostatic pressure or moisture vapor emission. New concrete slabs must be thoroughly dry (at least six weeks) and completely cured. Although the material is not susceptible to damage from moisture, excessive subfloor moisture is an ideal breeding ground for mold, mildew and fungus. All of which can contribute to an unhealthy indoor environment. The Limited Warranties do not cover discoloration from mold or from flooding, leaking plumbing or appliances, water entering through sliding glass doors or similar conditions.
6. Holes, grooves, expansion joints and other depressions must be filled with high quality Portland based Patching & Leveling Compound, and troweled, smooth, and feathered even with the surrounding surface. Slab should be flat within 3/16” in 10’.
7. Concrete floors with a hydroponic radiant heating system are satisfactory, provided the temperature of the floor does not exceed 85°F at any point. Before installing the flooring, the heating system should be turned on to eliminate residual moisture. Mannington does not recommend heated floor mats for LVT products.

Recommended Work Practices for Removal of Resilient Floor Coverings

WARNING: Do not sand, dry scrape, bead blast or mechanically chip or pulverize existing resilient flooring, backing, lining felt, asphaltic “cutback” adhesive or other adhesive. These products may contain asbestos fibers and/or crystalline silica. Avoid creating dust. Inhalation of such dust is a cancer and respiratory tract hazard. Smoking by individuals exposed to asbestos fibers greatly increases the risk of serious bodily harm. Unless positively certain that the product is a non-asbestos-containing material, you must presume it contains asbestos. Regulations may require that the material be tested to determine asbestos content. RFCI’s Recommended Work Practices for Removal of Resilient Floor Coverings are a defined set of instructions addressed to the task of removing all resilient floor covering structures. These instructions should be consulted with each installation. The link can be found on our website.

C. Existing Floor Coverings

LockSolid can also be installed over most existing hard-surface floor coverings provided that the existing floor surface can be made smooth.

1. Ceramic tile should be made smooth by applying a cementitious overlay such as patching or leveling compound.
2. In the rare cases that the removal of the existing resilient floor covering is not an option, the existing flooring must be covered with a high quality cement based Embossing Leveler.

III. INSTALLATION

LockSolid is designed to be installed as a “floating” floor. Do not secure the material to the subfloor. Always undercut wood doorjamb. Check local building code for metal doorjamb. If it cannot be cut, then expansion must be maintained under doorjamb. Do not install cabinets or kitchen islands on top of LockSolid. Use care when installing wall moldings and transition strips to not fasten through the product.

A. Locksolid Tile Layout

As with all tile formats, Adura should be “balanced” in the work area. Tiles may be installed squarely or installed diagonally in the work area. Tiles may also be installed in a normal point to point layout or in an ashlar (staggered, brick) layout. In either case, the room must be accurately measured to square off the area and to determine the center point. Accurately measure the room to determine the center line, adjust this established line to accommodate a balanced layout and then transpose this line to the determined layout width away from the starting wall (approximately 2’ to 3’ wide - see Figure 1A). Careful and precise measurements must be taken during tile layout. Lay all tiles in the same direction, with all directional arrows imprinted on the back of tiles pointing in the same direction. From an installation perspective, it is important to notice that the tiles will be packaged together and that to achieve the realistic visual, it is important to install this collection by blending cartons and paying attention to the pattern details. **DO NOT CLUSTER THE SAME TILES TOGETHER.**

B. LockSolid Plank Layout

It is also important to balance the layout of the plank format. Proper planning and layout will prevent narrow plank widths at wall junctures. Determine layout to prevent having less than 1/2 of plank width or very short pieces. As with all plank products, lay the long dimension of the plank parallel to the long dimension of the work area. Accurately measure the room to determine the center line, adjust this established line to accommodate a balanced layout and then transpose this line to the determined layout width away from the starting wall (approximately 2’ to 3’ wide - see Figure 1A). From an installation perspective it is important to notice that the planks will be packaged together and that to achieve the realistic visual, it is important to install this collection by blending cartons and paying attention to the pattern details. **DO NOT CLUSTER THE SAME PLANKS TOGETHER.**

C. Tile/ Rectangle Installation*

1. Note: When working with rectangles, we find it better to work off the product working left to right tongue 1/16” into groove 3/16”.
2. Position the first tile in the starting corner with the tongues facing the wall- see Figure 2A.
3. Install the second tile in the first row by inserting the tongue into the groove, continue installing several more tiles in the first row, use spacers to maintain a 5/16” expansion gap at all walls. When installing tiles corner to corner it is critical to keep tile tight and true. Please see www.youtube.com

(keyword: LockSolid) for some helpful hints on completing this task.

4. Install the first tile in the second row by inserting the tongue into the groove
5. Position your body directly behind the seam, then position the second tile in the second row by inserting the tongue into the side groove and by slightly lifting the first and second tile, insert the tongue into the groove. It is important to keep tile flat as possible by supporting with four fingers. *We have found that using wedges to help keep the tile flat and provide the install angle to be very helpful. You can find a diagram and instruction for use on our website Mannington.com.
6. Continue installing row after row of tiles until completion.
7. When fitting under door casings, etc., the flexibility and low angle of connection of LockSolid becomes evident. If necessary, a flat pull bar or "last board puller" may be used to assist in locking. You may find it easier to modify the tongue and groove using a thumb/block plane, by shaving off small layers of both the tongue and the groove surface to allow them to slide together flat, then just before sliding together, apply a small bead of vinyl seam sealer. This will weld both tiles together as one. Please see www.youtube.com (keyword: LockSolid) on how to complete this task.
8. When fitting around obstacles or into irregular spaces, LockSolid can be cut easily and cleanly using a utility knife with a sharp blade. It is often beneficial to make a cardboard template of the area and transfer this pattern to the tile.

D. Plank Installation

1. Determine if the starter row will need to be cut. If the first row of planks does not need to be trimmed in width, it will be necessary to cut off the unsupported tongue so a clean, solid edge is toward the wall.
2. Position the first plank so that both the head and side seam groove are exposed. This requires installing the product from left to right in the room. Occasionally, it may be necessary to install "backwards". This may be done by sliding the grooves under the tongues and working them right to left, but this is more difficult.
3. Install the second plank in the row by angling the end tongue into the end groove of the first plank. Be careful not to bend the corner of the plank. Maintain an expansion gap of approximately 5/16" from the wall. Then cut a plank to length to start the second row. Stagger the end seam at least 6" from the first plank.
4. Install the first plank in the second row by inserting the long side tongue into the groove of the plank in the first row. This is best done with a low angle of the plank.
5. Install the second plank in the second row by inserting the short end tongue into the previously installed plank groove. Align the plank so the long side tongue is positioned just over the groove lip of the plank in the first row. Working from the end seam, with a low angle, insert the long tongue into the groove of the adjoining plank. Very little force is required to seat the tongue into the groove. You will feel the tongue lock into the groove.
6. Work across the length of the room installing planks along the wall in the first row and then aligning the planks in the second row. It is critical to keep these two rows straight and square, as they are the "foundation" for the rest of the installation. Check squareness and straightness often.
7. Cut the last plank in the first row to fit approximately 5/16" short from the end wall. Planks may be cut with a utility knife using the "score and snap" technique. Often times the remainder of this plank may be used to start the third row.
8. Continue installing planks, being certain to maintain a random appearance and offset end seams by at least 6". Maintain a 5/16" expansion space at all fixed vertical surfaces. Check to be certain all planks are fully engaged, if slight gapping is noticed the gap can be tapped closed by using a scrap of flooring and a tapping block. It is always a best work practice to use a tapping block *lightly* tapping rows as you install to fully seat the locking system assuring they are fully engaged.
9. When fitting under door casings, etc., the flexibility and low angle of connection of LockSolid becomes evident. If necessary, a flat pull bar or "last board puller" may be used to assist in locking the planks. You may find it easier to modify the tongue and groove using a thumb/block plane, by shaving off small layers of both the tongue and the groove surface to allow them to slide together flat, then just before sliding together, apply a small bead of vinyl seam sealer. This will weld both tiles together as one. Please see www.youtube.com (keyword: LockSolid) on how to complete this task.
10. When fitting around obstacles or into irregular spaces, LockSolid can be cut easily and cleanly using a utility knife with a sharp blade. It is often beneficial to make a cardboard template of the area and transfer this pattern to the plank.

IV. FINISHING THE JOB

Protect all exposed edges of LockSolid by installing wall molding and/or transition strips. Use caution to prevent the fasteners from securing the planks to the subfloor. Caulk along tubs, toilet bowls, etc. Considerations for transitions should be made at substrate changes, room to room environment changes, complicated layouts, subfloor elevation, or room size over 50ft length or width.

After 48 hours, damp mop to remove residual surface dirt. Follow appropriate maintenance schedule for Adura using Mannington Ultra Clean.

Like with all floor coverings, protect the finished LockSolid installation from exposure to direct sunlight. Close your curtains or blinds where extreme sunlight hits the floor. A combination of heat and sunlight can cause most home furnishings fading, discoloration, or thermal expansion. Avoid exposure to direct sunlight for prolonged periods. Prolonged direct sunlight can result in discoloration and excessive temperatures may cause floor expansion (which may cause buckling) or delamination. See Cautions & Miscellaneous for details.

V. REPAIRS

Although the wear surface of Adura LockSolid is durable, it is not bulletproof. Should an accident occur that damages the surface of the product, a simple repair procedure exists. The key to this process is having ample material available to replace the damaged area(s). This should be considered when placing the original order. Extra tiles and planks should be wrapped in their packaging and stored in an interior, climate-controlled location.

If the damaged plank or tile is along the perimeter of the room, the easiest technique is to just disconnect the planks until the damaged plank is removed. Replace the material and reassemble the planks.

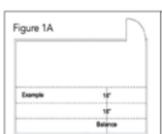
If it is impractical to just disconnect and reassemble the flooring, the following procedure should be used:

1. Using a straight edge and a sharp utility knife, cut out and remove the center of the damaged piece, leaving approximately a 1" strip attached to the surrounding material.
2. Carefully cut back from the corners of the plank or tile to the inside edge.
3. Remove the edges by wiggling the cut plank out from the tongue and groove of the surrounding pieces.
4. Prepare the replacement flooring by placing it face down and folding back and removing the groove strip on both the long and end profile. Using the decorative surface of the tongue end as a guide, cut away this over-hanging profile using a sharp utility knife.
5. Position the replacement piece by engaging the tongue of the long side into the groove of the adjoining material. "Hinge" the prepared replacement plank into position.
6. Use a hand roller to assist in aligning the edges into position.
7. Apply a thin application of Mannington MCS-42 Seam Sealer or CoreWeld into all four seams of the replacement. Allow the sealer to penetrate and then wipe excess from the surface.
8. Weigh down the replaced plank for at least 15 minutes until the seam sealer secures the material.

VI. CAUTIONS AND MISCELLANEOUS

- A. Furniture should be moved onto the newly installed floor using an appliance hand truck over hardboard runways.
- B. Heavy furniture should be equipped with suitable non-staining, wide-bearing caster or protectors. Non-staining felt protectors are recommended for table and chair legs to help prevent scratching.
- C. **Close your curtains or blinds where extreme sunlight hits the floor. Like with all floor coverings, protect the finished LockSolid installation from exposure to direct sunlight. A combination of heat and sunlight can cause most home furnishings fading, discoloration, or thermal expansion. Avoid exposure to direct sunlight for prolonged periods. During peak sunlight hours, the use of blinds or drapes is recommended. Prolonged direct sunlight can result in discoloration and excessive temperatures may cause floor expansion (which may cause buckling) or delamination. See Cautions & Miscellaneous for details.**
- D. 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.
- E. Mats used for Adura are to be labeled "non-staining".

For more information on the LockSolid installation, please check out our installation videos on www.YouTube.com (keyword: LockSolid). QR Code Below.



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U.S. Patent 6,291,078; U.S. Patent 6,218,001; U.S. Patent 7,384,697;

U.S. Patent 8,021,741 and other patents pending.