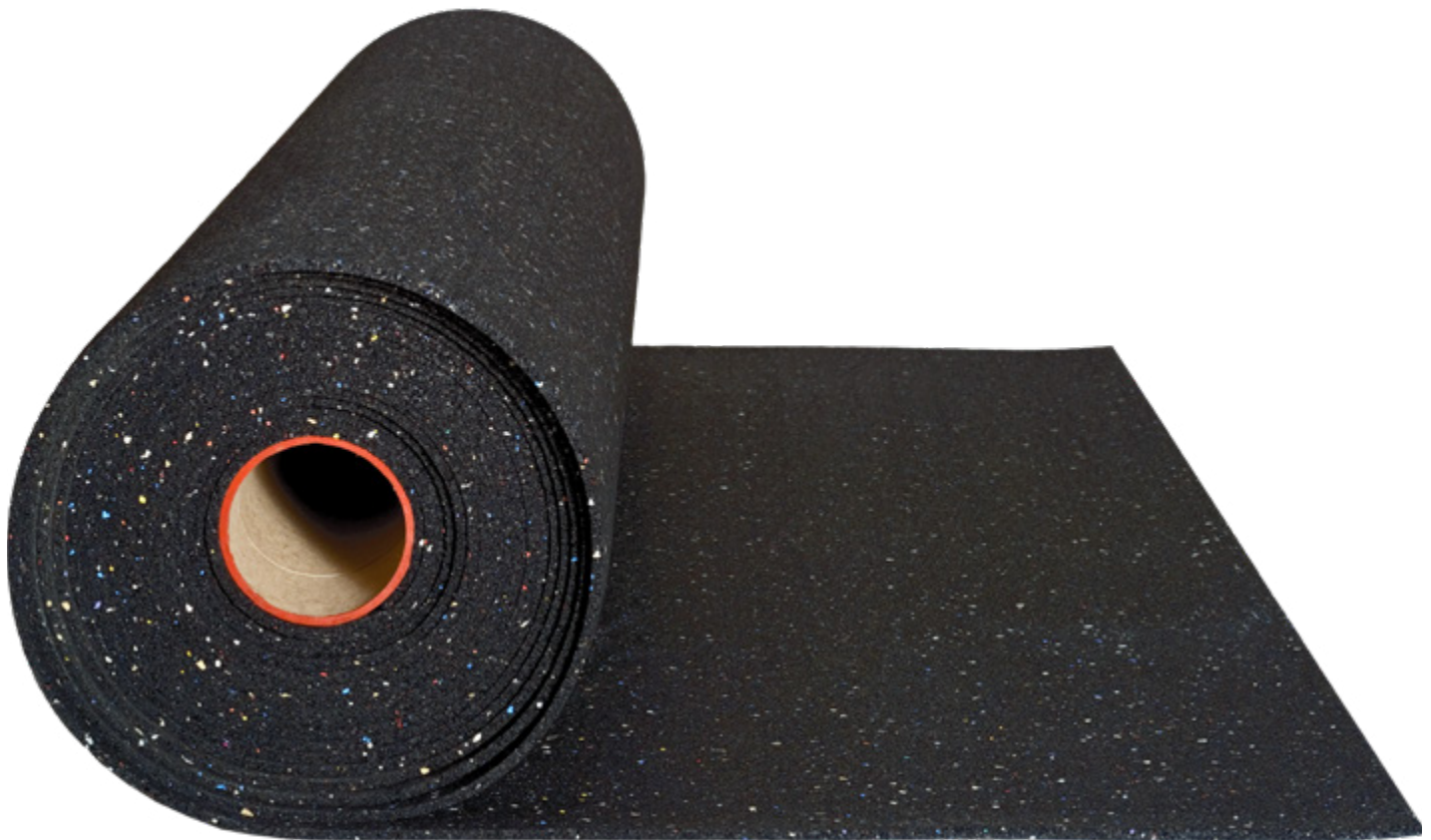


## ISO-STEP<sup>®</sup> FLOOR UNDERLAYMENT INSTALL GUIDE FOR RADIANT FLOORING

The following installation instructions are given as a general guide to avoid common errors. Installer should follow best practices for construction and workmanship. Acoustical Solutions bears no responsibility for installation or contractor selection. Please contact a sales representative if you have questions, concerns or specific project requirements.

Be sure to inspect materials upon delivery. Please note any damage on the delivery ticket and notify Acoustical Solutions immediately. Materials should be stored in original packing in a clean, climate controlled environment free of moisture. Installation should not commence until building is enclosed and under standard occupancy conditions and surfaces are of acceptable condition and properly prepared. Do not install materials of unacceptable quality.

# Installing Iso-Step<sup>®</sup> with Radiant Flooring



## ISO-STEP<sup>®</sup> FLOOR UNDERLAYMENT INSTALL GUIDE FOR RADIANT FLOORING

### Heated Floor Assembly Installation

#### **For underlayment applications**

We recommend E-Grip III urethane adhesive when adhering our Iso-Step underlayment onto a substrate with radiant heat.

#### **For underlayment applications that also include LVT**

Use E-Grip III adhesive to adhere the rubber underlayment to the wood or concrete. Allow the adhesive to cure 24 hours before installing the LVT over the underlayment. (The LVT can then be adhered to the underlayment using our Evolve or an LVT manufacturer-specified adhesive.)

#### **Molded Products**

All molded products must be fully adhered when installed over radiant floor heating. Products requiring Quad Bloks must still utilize the Quad Bloks AND be fully adhered.

#### **Standard Roll Goods**

Standard rolled goods have an approx. R-Value of 1 per inch thickness, with our Iso-step products having a lower R-value / inch thickness. Our 8mm rolled goods have an R-value of approx. 0.3. The radiant heat industry recommends the R-value of flooring materials installed over radiant heat have an R-value of less than 1. Therefore, our un-laminated, rolled rubber flooring and underlayment products can be installed over radiant heating / cooling units.

#### **Installation over Radiant Heat – Standard Rolls**

When installing our un-laminated flooring / underlayment products over a substrate with radiant heat/cooling:

1. The heat must be turned off and the slab allowed to cool to room temperature before installing the flooring. Because of the potential for condensate formation on the cold radiant surface (resulting in surface moisture), condensation or moisture from any source must be eliminated prior to installation.
2. The flooring must be acclimated to room temp for 48 hours prior to installation.
3. The areas to receive flooring should be maintained at a minimum uniform temperature of 65° F for 48 hours before, during and after installation.
4. Adhere to substrate with E-GRIP III
5. After the installation, bring the temperature up gradually.
6. Throughout the life of the floor, the temperature settings should be within the standards set forth by the radiant heat /cooling industry.

Our E-GRIP III is acceptable for use in radiant heat applications.



## ISO-STEP<sup>®</sup> FLOOR UNDERLAYMENT INSTALL GUIDE FOR RADIANT FLOORING

### Base Preparation

#### I GENERAL INFORMATION

The Iso-Step<sup>®</sup> line of products for impact sound insulation are engineered to provide better performance than any other sound control product available, and have been rigorously tested to achieve proven results. Made from 92% resilient recycled rubber and backed by more than 400 independent laboratory and field tests, Iso-Step<sup>®</sup> has been selected and used in some of the best hotels and condominiums in the world. It can be installed under most types of grouted, glued, and floating floors, including ceramic tile, stone, marble, brick, pavers, hardwood, engineered wood, laminate, parquet, LVT, and carpet. All floor covering assemblies shall have prior approval before installation.

#### II JOB SITE CONDITIONS

Areas to receive Iso-Step<sup>®</sup> Floor Underlayment should be weather tight and maintained at minimum, a constant room temperature of 65°F (10°C) for 48 hours before, during, and after installation.

#### III SUBFLOOR REQUIREMENTS & PREPARATION

##### A. GENERAL

**NOTE:** Please follow the subfloor requirements and preparation recommendations determined by the flooring manufacturer, when no such recommendations exist for the floor finishing product.

1. All subfloors/substrates must be inspected prior to installation.
2. Install Iso-Step<sup>®</sup> over concrete, gypsum, approved self-leveling materials, and wood.
3. Wood subfloors should be double construction, rigid, and free from movement.
4. Wood subfloors (when installed with grouted floor coverings like tile) must be prepared according to ANSI L/360 standards, as required by the floor covering manufacturer.

**NOTE:** Particleboard, often called “chipboard,” masonite, and lauan are not suitable underlayments.

5. Concrete floors must be fully cured and permanently dry. Subfloor shall be dry, clean, smooth, level, and structurally sound. It should be free of dust, solvent, paint, wax, oil, grease, asphalt, sealers, curing and hardening compounds, alkaline salts, old adhesive residue, and other extraneous materials, according to ASTM F710.



## ISO-STEP<sup>®</sup> FLOOR UNDERLAYMENT INSTALL GUIDE FOR RADIANT FLOORING

6. Subfloor should be smooth to prevent irregularities, roughness, or other defects from telegraphing through the material. The surface should be flat to the equivalent of 3/16" (3.9mm) in 10', as described in ACI 117R, or as recommended by the flooring manufacturer.
7. Mechanically remove all traces of old adhesives, paint, or other debris by scraping, sanding, or scarifying the substrate. DO NOT use solvents.
8. Grind all high spots until level and fill low spots with an approved patching/leveling compound.
9. All saw cuts (control joints), cracks, indentations, and other non-moving joints in the concrete must be filled with an approved patching/leveling compound. Allow patching material to dry thoroughly.
10. Any concrete subfloor can be a source of moisture-related flooring failures. It is the installer's responsibility to test the concrete or other cement-like material for moisture.
11. Maximum moisture vapor emission of the concrete (**when using E-Grip III**) must not exceed 5 ½ pounds per 1,000 square foot in a 24 hour period, as measured by the calcium chloride test method in accordance with the ASTM F1869 standard. If vapor emissions exceed acceptable limits, the installation should not proceed until the problem has been corrected.
12. Maximum moisture vapor emission of the concrete (**when using E-Grip Evolve**) must not exceed 5 pounds per 1,000 square foot in a 24 hour period, as measured by the calcium chloride test method in accordance with the ASTM F1869 standard. If vapor emissions exceed acceptable limits, the installation should not proceed until the problem has been corrected.
13. Moisture can also be measured using the RH, Relative Humidity test method, per the ASTM F2170 standard. Moisture content (**when using E-Grip III**) should not exceed 85% RH. If levels are higher using either test method, an ECORE recommended vapor retardant must be utilized.
14. Moisture can also be measured using the RH, Relative Humidity test method, per the ASTM F2170 standard. Moisture content (**when using E-Grip Evolve**) should not exceed 80% RH. If levels are higher using either test method, an ECORE recommended vapor retardant must be utilized.
15. If using other approved adhesives, please refer to manufacture's acceptable limits.



## ISO-STEP<sup>®</sup> FLOOR UNDERLAYMENT INSTALL GUIDE FOR RADIANT FLOORING

### IV HAZARDS

#### A. SILICA WARNING

1. Concrete, floor patching compounds, toppings, and leveling compounds can contain free crystalline silica. Cutting, sawing, grinding, or drilling concrete can produce respirable crystalline silica (particles 1-10 micrometers). Respirable silica is classified by OSHA as an IA carcinogen and is known to cause silicosis and other respiratory diseases. Avoid actions that cause dust to become airborne. Use local or general ventilation or protective equipment to reduce exposure below applicable exposure limits.

#### B. LEAD WARNING

1. Certain paints may contain lead. Exposure to excessive amounts of lead dust presents a health hazard. Refer to applicable federal, state, and local laws and the publication, *Lead Based Paint: Guidelines for Hazard Identification and Abatement in Public and Indian Housing*, available from the United States Department of Housing and Urban Development.

#### C. ASBESTOS WARNING

1. Resilient flooring, backing, lining felt, paint, or asphaltic “cutback” adhesives could contain asbestos fibers. Avoid actions that cause dust to become airborne. DO NOT sand, dry sweep, dry scrape, drill, saw, bead blast, mechanically chip, or pulverize. Regulations may require that the material be tested to determine asbestos content. Consult the documents titled, *Recommended Work Practices for Removal of Existing Resilient Floor Coverings*, available from the Resilient Floor Covering Institute.

### V MATERIAL STORAGE AND HANDLING

#### A. GENERAL

1. Deliver the material to the job site in its original unopened packaging with all labels intact and stored appropriately to prevent damage.
2. Inspect all material for visual defects before beginning the installation. Acoustical Solutions will honor no labor claim on material installed with any visually apparent defects.
3. Verify the material delivered is the correct type, thickness, and amount. Report any discrepancies immediately.
4. The material and any adhesive must be acclimated at room temperature for a minimum of 24 hours before starting the installation.
5. Roll material is stretched slightly when it is rolled at the factory. At the job site, the installer should allow all cuts to relax before gluing down. Shaking the material once it is unrolled can help it to relax more quickly.

## ISO-STEP<sup>®</sup> FLOOR UNDERLAYMENT INSTALL GUIDE FOR RADIANT FLOORING

### Installation

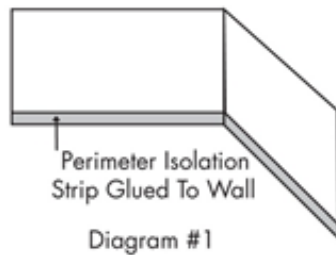
#### I PERIMETER ISOLATION STRIPS

#### INSTALLATION

##### A. GENERAL

**NOTE: It is essential to install the Perimeter Isolation Strip before placing and trimming Iso-Step<sup>®</sup> Impact Sound Insulation Material!**

1. Attach the Iso-Step<sup>®</sup> Perimeter Isolation Strip to the perimeter wall of the entire subfloor, as well as around the perimeter of any protrusions, in order to isolate or break the vibration transmission path between the floor and the wall (see diagram #1).



2. Temporarily fasten the Iso-Step<sup>®</sup> Perimeter Isolation Strip in place with masking tape, duct tape, carpet tape, or spot gluing. The Perimeter Isolation Strip should be secured at the bottom only as the top will later be trimmed flush with the new top layer of flooring. (see diagram #2)

#### II Iso-Step<sup>®</sup> Floor Underlayment

Iso-Step<sup>®</sup> sound control underlayment is a flat, resilient underlayment that is used directly under a variety of floor finishes, including ceramic tile, LVT, wood, laminate, and stone, yielding exceptional results over both concrete and wood joist constructions. Iso-Step<sup>®</sup> is available in 48" wide rolls, and in four standard thicknesses – 2mm to 12mm. Other custom thicknesses are available upon request.

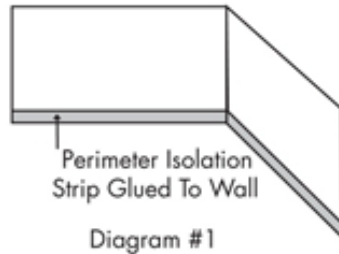
##### A. INSTALLING Iso-Step<sup>®</sup> Floor Underlayment

1. **FIRST** Attach the perimeter isolation strip to the wall (see diagram #1).

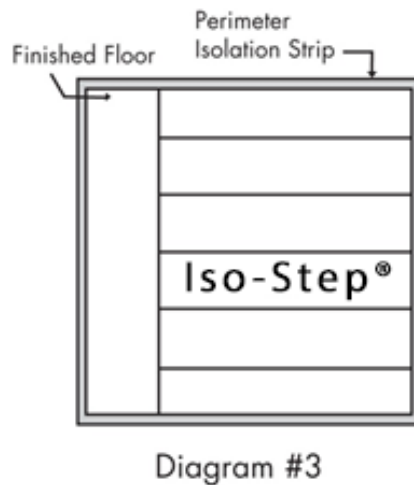




## ISO-STEP<sup>®</sup> FLOOR UNDERLAYMENT INSTALL GUIDE FOR RADIANT FLOORING



2. Assume the walls you are butting up against are not square. Using a chalk line, create a starting point for an edge of the material to follow.
3. If you have not already done so, remove the shrink-wrap from the roll of Iso-Step<sup>®</sup> and unroll it onto the floor. Shaking the material once it is unrolled can help it to relax.
4. Place the Iso-Step<sup>®</sup> material so that it is perpendicular to the subsequent installation direction of the topping material (see diagram #3).



5. Trim the ends of each section, as necessary, in order to fit the surface area to be covered. You may trim section ends to exact dimensions required (e.g. joints with walls, etc.).
  6. Align the lengthwise edge of the material exactly with that of the neighboring section. Edges must contact but not overlap.
- B. GLUING Iso-Step<sup>®</sup> Floor Underlayment

**NOTE:** When using grouted or fully adhered flooring materials, the Iso-Step<sup>®</sup> shall be fully adhered to the substrate with a suitable adhesive. No substitutions are permitted.

## ISO-STEP<sup>®</sup> FLOOR UNDERLAYMENT INSTALL GUIDE FOR RADIANT FLOORING

1. Fold the first drop lengthwise (half the width of the roll). Spread adhesive using the proper notch trowel below.
  - a. 2mm – Use a 1/16" x 1/32" x 5/64" U Notched trowel
  - b. 5mm-12mm – Use a 1/16" square notched trowel
  - c. When using multiple Iso-Step<sup>®</sup> layers in the same assembly, contact Acoustical Solutions for specific guidelines.

**NOTE:** Temperature and humidity affect the open time of adhesive. The installer should monitor on-site conditions and adjust open time accordingly.

2. Carefully lay the material into the wet adhesive. DO NOT let the material fall, because this will trap air beneath the material.
3. Fold over second half of first sheet and first half of second sheet (see diagram #4).

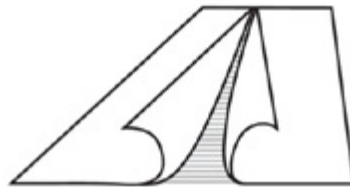


Diagram #4

4. Spread the adhesive. At seam area, spread adhesive at 90 degrees to seam to prevent excessive adhesive oozing up to the surface of the material.
5. Continue the process for each consecutive drop. Always work at a pace so you are always folding material back into wet adhesive.
6. Never leave adhesive ridges or puddles, as they may telegraph through the material.
7. Use a 35 to 75 lb roller to roll over the floor within 45 minutes to ensure proper transfer of adhesive. Overlap each pass of the roller by 50% of the previous pass to ensure that the floor is properly rolled.

### IV ALTERNATIVE INSTALLATION METHODS

#### A. USING TAPE (FOR FLOATING FLOOR COVERING INSTALLATIONS)

1. Attach perimeter isolation strip (per section I, Page 6).
2. Dry lay the rolls onto the subfloor following the directions on page 7.
3. Use duct tape or a high-quality carpet tape to secure the butt joints and seams.





## ISO-STEP<sup>®</sup> FLOOR UNDERLAYMENT INSTALL GUIDE FOR RADIANT FLOORING

**NOTE:** Gluing down Iso-Step<sup>®</sup> Floor Underlayment is not required for floating floors.

### V FLOOR FINISH

#### A. GENERAL

1. Follow the flooring manufacturer's directions for installing the flooring. Use their recommended adhesives, procedures, and equipment.
2. **Do not** mechanically fasten any material through Iso-Step<sup>®</sup>. Any mechanical connection, such as nails, screws, staples, etc., will transmit noise through to the building structure, compromising the performance of Iso-Step<sup>®</sup> Floor Underlayment.
3. Sheet vinyl is not an approved installation method over the Iso-Step<sup>®</sup> sound mat. Please contact Acoustical Solutions for factory laminated sheet vinyl products.
4. For alternate methods, including LVT installation, please contact Acoustical Solutions.

#### B. INSTALLATION

1. Install self-locking floors, such as wood laminates, over approved Iso-Step<sup>®</sup> following the manufacturer's recommendations.
2. Glue standard wood flooring directly to Iso-Step<sup>®</sup>, using the flooring manufacturer's recommended urethane adhesive.
3. If a flooring manufacturer recommends the installation of a layer of plywood or cement board between the Iso-Step<sup>®</sup> and the finished flooring, glue the recommended board using a suitable adhesive.
4. Install grouted flooring materials with thin-set mortar applied directly over the approved thickness of Iso-Step<sup>®</sup> Floor Underlayment.
5. When the flooring installation is complete, trim any excess perimeter isolation strip material, so it is flush with the surface of the finished floor.

### VI BASEBOARD

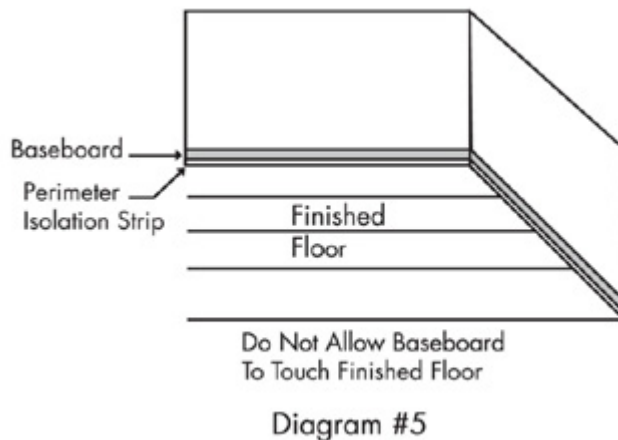
#### A. INSTALLATION OF BASEBOARD

1. After perimeter isolation strip has been trimmed to finished floor height, install the baseboard.
2. Fix the baseboard to the wall above the Iso-Step<sup>®</sup>. The baseboard must not touch the finished floor (see diagram #5).



## ISO-STEP<sup>®</sup> FLOOR UNDERLAYMENT INSTALL GUIDE FOR RADIANT FLOORING

3. Seal the entire perimeter with a permanently flexible acoustical caulk.



## ISO-STEP<sup>®</sup> FLOOR UNDERLAYMENT INSTALL GUIDE FOR RADIANT FLOORING

### RECOMMENDED MATERIALS

#### VII RECOMMENDED MATERIALS

**NOTE:** All materials shall be delivered to the job site in the original containers with the manufacturer's identification on each package. Unauthorized modification to any product is not permitted. The following materials are listed because of their extensive testing and field experience with Iso-Step<sup>®</sup> products.

##### A. APPROVED ADHESIVES

1. E-Grip III
2. E-Grip Evolve
3. Bostik's Best<sup>®</sup> by Bostik<sup>®</sup>
4. Mapei Ultrabond<sup>®</sup> ECO

##### B. THIN-SET MATERIALS

1. ANSI A118.4 Standard Modified Dry-Set Cement Mortar
2. ANSI A118.15 Improved Modified Dry-Set Cement Mortar
3. Bostik<sup>®</sup> Hydroment<sup>®</sup> Single-Flex<sup>™</sup> Mortar
4. ARDEX (724) 203-5000
  - FB9L
  - ARDEX X-9
  - ARDEX X7 Plus
  - ARDEX S16

##### C. GROUT MATERIALS

1. ARDEX Flex Grout
2. Bostik<sup>®</sup> Hydroment<sup>®</sup> Joint Filler

##### D. GYPSUM PRIMERS

1. Mapei – Primer T
2. Ardex – P51
3. Bostik – Universal Primer
4. Specco S-55



## ISO-STEP<sup>®</sup> FLOOR UNDERLAYMENT INSTALL GUIDE FOR RADIANT FLOORING

### WARRANTY

Acoustical Solutions offers a limited lifetime warranty on the Iso-Step<sup>®</sup> brand of Impact Sound Insulation products against defects in material and workmanship, and Iso-Step<sup>®</sup> shall meet all published specifications and perform effectively. Acoustical Solutions warrants that during the warranty period, Iso-Step<sup>®</sup> shall not harden, become brittle, chip, crack, tear, or exhibit any signs of excessive deterioration except for normal wear and tear. All other warranties, including implied warranties for a particular purpose, are expressly excluded. The sole remedy against the seller will be the replacement or repair of the defective goods; or, at seller's option, credit may be issued not exceeding the selling price of the defective good.

The recommendations for applications and installation contained within this document are based on our extensive experience and current technological practice. Acoustical Solutions liability and responsibility in the event of damages is limited to the extent defined in our general terms and conditions of business and is not in any way increased by advice given by our sales representatives or applications engineering staff.

