



## **ESD Technical Manual**

**Installation – Maintenance - Warranty**

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Supersedes all previous versions.  
Check website for updates and  
current version.

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## INSTALLATION

### I. JOB SITE CONDITIONS

- A. Installation should not begin until after all other trades are finished in the area. If the job requires other trades to work in the area after the installation of the floor, the flooring should be protected with an appropriate cover.
- B. Areas to receive flooring should be weather tight and maintained at a minimum uniform temperature of 65° F (18° C) for 48 hours prior to, during and after installation.

### II. SUBFLOORS

- A. Metal subfloors shall be sand blasted or otherwise abraded to achieve bright, shiny bare metal. There should be no rust, scaling or other contaminants on the metal surface.
- B. The subfloor shall be dry, clean, smooth, level, and structurally sound. They 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.
- C. The subfloor should be smooth to prevent irregularities, roughness, or other defects from telegraphing through the new flooring. The surface should be flat to the equivalent of 3/16" (4.8 mm) in 10 feet (3.0m).
- D. All saw cuts (control joints); cracks, indentations and other non-moving joints in the concrete must be filled with a Portland based patching compound.
- E. Expansion joints in the concrete are designed to allow for expansion and contraction of the concrete. If a floor covering is installed over an expansion joint, it more than likely will fail in that area. Expansion joint covers designed for resilient floor coverings should be used.
- F. Always allow patching materials to dry thoroughly and install according to the manufacturer's instructions. Excessive moisture in patching material may cause bonding problems or a bubbling reaction with the E-Grip™ II for ESD adhesive.
- G. Maximum moisture vapor emission of the concrete must not exceed 5.5 lbs. per 1000 sq.ft. in a 24 hour period as measured by the calcium chloride moisture emission test conducted in accordance to ASTM F1869. Moisture can also be measured using the RH Relative Humidity test method per the ASTM F2170 standard. Moisture content should not exceed 85% RH. If levels are higher using either test method, then one of ECOPE's recommended vapor retardants must be used. If the emissions exceed the limitations, the installation should not proceed until the problem has been corrected. **NOTE:** For moisture remediation, ECOPE International recommends the following two vapor retardant products.

## INSTALLATION

1. ARDEX MC Rapid, Plus or Ultra – 724-203-5000, [www.ardex.com](http://www.ardex.com)
2. Bostik Durabond D-250 – 888-592-8558, [www.bostik-us.com](http://www.bostik-us.com)

H. It is essential that pH tests be taken on all concrete floors. If the pH is greater than 9, it must be neutralized prior to beginning the installation.

### HAZARDS:

**SILICA WARNING** - Concrete, floor patching compounds, toppings and leveling compounds can contain free crystalline silica. Respirable crystalline silica (particles 1-10 micrometers) can be produced by cutting, sawing, grinding or drilling. 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.

**ASBESTOS WARNING** - Resilient flooring, backing, lining felt, paint or asphaltic “cutback” adhesives can contain asbestos fibers. Avoid actions that cause dust to become airborne. Do not sand, dry sweep, dry scrape, drill, saw, beadblast or 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.

**LEAD WARNING** - Certain paints can 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.

- I. Adhesive bond tests should be conducted in several locations throughout the area.
- A. Glue down 3' x 3' pieces of the flooring with the recommended adhesive and trowel.
  - B. Allow to set for 72 hours before attempting to remove. A sufficient amount of force should be required to remove the flooring, and there should be adhesive on the subfloor and the back of the flooring.

### III. MATERIAL STORAGE AND HANDLING

- A. All ECOsurfaces ESD material should be delivered to the job site in its original unopened packaging with all labels intact.

## INSTALLATION

- B.** Roll material should always be stored laying down. Storing rubber on end will curl the edges resulting in permanent memory of the material. All edges with memory curl must be straight edge cut before installation. Do not store rolls higher than 4 rolls or more than six months. Material should only be stored on a clean, dry, smooth surface.
- C.** Inspect all material for visual defects prior to beginning the installation. **No labor claim will be honored on material installed with visual defects.** Verify the material delivered is the correct style, color and amount. Any discrepancies must be reported.
- D. NOTE:** ECOsurfaces flooring is manufactured from recycled materials and slight variance in shade and color chip dispersion is normal. It is the installer's responsibility to inspect all products to ensure the correct style, thickness, and color. Any moderate to severe discrepancies should be reported immediately before beginning installation.
- E.** The material and adhesive must be acclimated at room temperature for a minimum of 24 hours before starting installation.
- F.** All ECOsurfaces must be unrolled and installed in the same direction (use the colored core edges as a reference). Rolls are labeled with batch numbers and roll numbers. Do not mix batch numbers together and install all rolls in consecutive order.

ECOsurfaces tiles must also be installed in the same direction (arrows on the bottom must be pointing in the same direction)

- G.** Roll material is stretched slightly when it is rolled at the factory. At the job site the installer may want to shake the material to relieve the tension in the rolls. The installer should allow all rolls to relax for a minimum of two hours before gluing down.

### IV. GROUNDING

- A.** Install the ground strap beneath the ECOsurfaces ESD flooring.
- B.** At the perimeter of the room near the ground points, lay a 5 to 6-foot piece of grounding material into the wet adhesive.
- C.** Place the strap so that an adequate amount, about 3-feet, can run up the wall for attachment to a suitable grounding point.
- D.** Spread additional adhesive over the ground strap and lay the ECOsurfaces ESD flooring on top of the strap.

## INSTALLATION

E. Use one grounding strap for every 1000 sq. ft. of flooring.

**NOTE:** It is the flooring contractor's responsibility to discuss the placement and connection of the grounding straps before the installation. This will help avoid controversy after the job has started.

### IV. INSTALLATION – ESD TILES

- A. General: Make sure all material is from the same batch number. Mix tiles from several boxes or skids. Ensure bond tests have been conducted with passing results and those job site and subfloor conditions are met.
- B. Tile installations usually begin in the center of the room. In smaller areas like hallways, it may be easier to work along the length of the area.
- C. Determine the center points for the length and the width of the room.
- D. Snap two chalk lines to divide the area into four spaces. Begin the tile installation at the intersection of these lines.
- E. After the above procedure is performed, begin application of ECORE's recommended 2-component ESD epoxy adhesive. Apply the ESD epoxy adhesive to the substrate using a 1/16" square notched trowel.
- F. Spread adhesive using proper notch trowel. Take care not to spread more of the ESD epoxy adhesive than can be covered by flooring within 60 minutes. The open time of the adhesive is 60 - 90 minutes at 70° F and 50% relative humidity.
- G. Carefully lay the material into the wet adhesive. DO NOT let the material drop because this will cause air to be trapped beneath the flooring.
- H. Place the first tile into the wet adhesive making sure that the edges are placed precisely along the chalk lines. Press firmly on the tiles to remove any curls or entrapped air. Remember that the arrows on bottom of tiles must point in the same direction.

## INSTALLATION

- I. Do not allow the ESD epoxy adhesive to cure on your hands or the flooring. Wash off excess adhesive with warm soapy water. Cured adhesive is very difficult to remove. We strongly suggest wearing gloves when using the ESD epoxy adhesive!
- J. If some seams are gapping, hold them together temporarily with painter's tape. Do not use duct tape as it may leave a residue on the floor. Remove the tape after the adhesive has developed a firm set. It may be necessary to weigh down some seams.
- K. Roll a 75-lb. roller 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.
- L. Keep foot traffic off the floor for a minimum of 24 hours. Foot traffic and rolling loads can cause permanent indentations in the uncured adhesive and cause tiles to shift.
- M. After the installation is complete, test the flooring with an ohmmeter. The tests should be done in accordance with EOS/ESD S 7.1, ASTM F150 or NFPA 99.

### V. INSTALLATION – ESD ROLLS

- A. Cut the first sheet at the required length including enough to run up the wall and overlap for seaming at each end.
- B. Position the first sheet against the wall and square with the room.
- C. Cut second sheet with proper extra length.
- D. Position second sheet with a 1"-1.5" overlap over the first roll at the seam.
- E. Repeat for each consecutive sheet necessary to complete the area or those rolls that will be installed that day.
- F. Allow the rolls to relax in position for a minimum of 2 hours before gluing.
- G. Place a 4" wide scrap of material under the seam area. Using a straight edge and new razor blade, hold the knife straight up and down and cut through both pieces in one cut.
- H. After all above procedures are performed, begin application of the ESD epoxy adhesive. Apply the adhesive to the substrate using a 1/16" square notched trowel.

## INSTALLATION

- I. Fold the first drop lengthwise (half the width of the roll).
  - J. Spread adhesive using proper notch trowel. Take care not to spread more of the ESD epoxy adhesive than can be covered by flooring within 60 minutes. The open time of the adhesive is 60 - 90 minutes at 70° F and 50% relative humidity.
  - K. Carefully lay the material into the wet adhesive. **DO NOT let the material drop because this will cause air to be trapped beneath the flooring.**
  - L. Immediately roll the floor with a 75-lb.roller 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. Roll the width first then the length. Re-roll again after 30-45 minutes.
  - M. Fold over second half of first roll and half of second roll. Spread the adhesive. At the seam areas, spread the adhesive at 90 degrees to the seam to eliminate excessive adhesive oozing up at seam. Roll material.
  - N. With 4mm thick material it may be necessary to weight down the seam until the adhesive sets. Boxes of cove base work well. Cover the entire seam.
  - O. Continue the process for each consecutive drop. Always work at a pace so that you are always folding material back into wet adhesive.
- NOTE:** Never leave adhesive ridges or puddles, they will telegraph through the material.
- P. Do not allow the ESD epoxy adhesive to cure on your hands or the flooring. Wash off excess adhesive with warm soapy water. Cured adhesive is very difficult to remove. We strongly suggest wearing gloves when using the ESD epoxy adhesive!
  - Q. Hand-roll all seams after the entire floor has been rolled. If some seams are gapping, hold them together temporarily with painter's or masking tape. Do not use duct tape as it may leave a residue on the floor. Remove tape after adhesive has developed a firm set.
  - R. Keep foot traffic off the floor for a minimum of 24 hours. Foot traffic and rolling loads can cause permanent indentations or bubbles in the uncured adhesive.
  - S. After the installation is complete, test the flooring with an ohmmeter. The tests should be done in accordance with EOS/ESD S 7.1, ASTM F150 or NFPA 99.



## MAINTENANCE

### IMPORTANT INFORMATION FOR THE INSTALLER

**ECORE International™ recommends  
ECORE's Environmentally Friendly Maintenance Products and Procedures  
For All ECOSurfaces Products.**

Proper protection and maintenance of ECOSurfaces post-installation should be specified by the architect/designer. ECOSurfaces ESD products are not pre-coated with a factory finish; therefore, they should not be subject to construction debris and potential damage caused from heavy duty construction activities.

#### **FLOOR PROTECTION**

The specifier should include specification details to protect the floor post-installation and until job construction is complete, such as covering the entire floor with paper or other floor covering device (plastic, plywood, etc.) until construction is completed and thorough cleaning and maintenance can be implemented.

#### **ASSIGNMENT OF CLEANING AND MAINTENANCE**

The specifier should determine and assign the responsibility for the initial cleaning and finishing. This responsibility should be specifically assigned to either the flooring contractor, general contractor, maintenance contractor or owner.

#### **PRODUCTS AVAILABLE FOR PURCHASE**

ECORE accessories cleaning and maintenance products available from ECORE International. [www.ecoreintl.com](http://www.ecoreintl.com) or 800-322-1923.

## MAINTENANCE

Steps	Green Products	Dilute	Diluted Coverage	Pads & Brushes
Initial Cleaning	ECORE's E-Cleaner	10 oz./gal. water	2,000 sq. ft./gal.	Soft nylon brush or approved pad
Daily Cleaning	ECORE's E-Cleaner	2-4 oz./gal. water	6,000 sq. ft./gal.	Soft nylon brush or microfiber mop
Heavy Soil Cleaning	ECORE's E-Strip	16 oz./gal. water	1,200 sq. ft./gal.	Brown pad or black pad
Stripping	ECORE's E-Strip	16 oz./gal. water	1,200 sq. ft./gal.	Brown pad or black pad



Broom



Wet Mop



Wet/Dry Vac



Auto Scrubber



Buffer

### A. Initial Cleaning

1. Remove all surface soil, debris, sand and grit by sweeping, dust mopping or vacuuming with a high CFM vacuum. For large areas, use auto scrubbers to clean floors.
2. Scrub floor with ECORE's recommended E-Cleaner, using buffer or auto scrubber with an approved pad or soft nylon brush. Avoid flooding the floor.
3. Pick up solution with a wet vacuum, rinse with clean water and allow to dry thoroughly (6-8 hours).

### B. Daily/Regular Cleaning

1. Sweep, dust mop or vacuum floor to remove surface soil, debris, sand and grit.
2. Mop with a microfiber mop head or a buffer fitted with a soft nylon brush and ECORE's approved E-Cleaner low foam cleaner.

## MAINTENANCE

### C. Restorative Maintenance & Stripping

1. Sweep or vacuum floor thoroughly.
2. Heavy scrub floor with ECORE's E-Strip. This cleaning may be performed with an auto scrubber or rotary scrubber (black pad or brown pad).
3. Vacuum soiled solution with a wet/dry vacuum.
4. Rinse with clean water.
5. Allow floor to thoroughly dry.

### D. Heavy Soil Cleaning

1. Remove as much surface soil, debris, sand and grit as possible by sweeping, dust mopping or vacuuming.
2. Scrub floor with ECORE's E-Cleaner, using a buffer or auto scrubber with a brown or black pad.
3. Pick up solution with a wet vacuum, rinse with clean water and allow to dry thoroughly (6-8 hours).
4. For more information  
Please contact ECORE International at  
800-322-1923 or visit [www.ecoreintl.com](http://www.ecoreintl.com)

## WARRANTY

All ECORE International rubber flooring is guaranteed by ECORE International to be free from manufacturing defects on both material and workmanship. If such a defect is discovered, the customer must notify ECORE either through the contracting installer, distributor, or directly. If found to be defective within five years under normal non-abusive conditions, the sole remedy against the seller will be the replacement or repair of the defective goods, or at the seller's option, credit may be issued not exceeding the selling price of the defective goods.

ECOsurfaces warranty shall not cover dissatisfaction due to improper installation, damage from improper maintenance or usage, or general misuse, including and without limitation: burns, cuts, tears, scratches, scuffs, damage from rolling loads, damage from cleaning products not recommended by ECORE, slight shade variations or shade variations due to exposure to direct sunlight, or differences in color between samples or photographs and actual flooring.

### Excluded from Warranty

These warranties do not apply to the following:

1. The exact matching of shade, color, or mottling.
2. Any express or implied promise made by any salesman or representative.
3. Tears, burns, cuts, or damage due to improper installation, improper use, or improper cleaning agents or maintenance methods.
4. Wear from chairs or other furniture without proper floor protectors will void the warranty. Care should be taken to protect the flooring from damage by using good quality protective feet for chairs, tables, and other furniture. Chair mats may be required under chairs with casters/wheels.
5. Labor costs for installation of original or replacement material.
6. Sale of "Seconds," "Off Goods," or other irregular (non-first-quality) flooring materials. With respect to "Seconds" or "Off Goods," such are sold "as is," and ECOsurfaces makes no warranties whatsoever, express or implied with respect thereto, including warranties of merchantability or fitness for a particular purpose.
7. Problems caused by moisture, hydrostatic pressure, or alkali in the sub-floor.
8. Problems caused by uses, maintenance, and installation that are contrary to ECOsurfaces specifications, recommendations or instructions.
9. Material installed with obvious defects.
10. Damage to flooring products from high heels or spike heels.
11. Damage to flooring products from rubber mats or rubber backed mats.
12. Installation of ECOsurfaces products with adhesives other than those recommended by ECOsurfaces.
13. Fading and/or discoloration resulting from heavy sunlight penetration and ultraviolet ray exposure from direct or glass-filtered sunlight.
14. Material that is not installed and maintained as recommended by ECOsurfaces.
15. Damage to flooring products from pallet jack and tow-motor traffic.
16. Environments where the product will be exposed to animal fats, vegetable oils, grease or petroleum based materials (i.e.: commercial kitchens or auto repair facilities.)
17. Premature wear and deterioration from spikes and skate blade exposure.
18. Differences in color between products and photography.
19. Embossing/density deviations between product and samples, photography.

## WARRANTY

These warranties are in lieu of any other warranty expressed or implied. ECOsurfaces shall not be liable for any incidental or consequential damages which may result from a defect. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. These warranties give you specific rights, and you may also have rights which may vary from state to state. To know what your legal rights are in your state, consult your local or state Consumer Affairs Office or your State Attorney General.

For complete and latest warranty information for products within the ECOsurfaces collection, please see [www.ecosurfaces.com](http://www.ecosurfaces.com).



**1-877-326-7873 – [www.ecosurfaces.com](http://www.ecosurfaces.com)**

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