

Product Description

Roppe ESD Rubber helps dissipate unwanted static electricity from the body in areas where static discharge can damage sensitive equipment and electronics or cause ignition of combustible materials. When wearing conductive footwear, ESD Rubber provides greater mobility in areas that require static dissipation.

The dissipative flooring system attacks voltage generation at the source; the floor-to-shoe or floor-to-caster interface. ESD Rubber is manufactured with static dissipative materials that are imbedded within the product permanently, allowing for long-term static protection. Roppe provides a 10 year limited warranty for all properly installed ESD Rubber installations.

Ideal For:

Healthcare: operating rooms, radiological areas and anesthesiology

Corporate: server rooms, telecom rooms and data processing areas

Industrial: electronics manufacturing, pharmaceutical manufacturing and chemical laboratories

Government: ammunition facilities, radar & satellite facilities and data storage areas

Features

- PVC Free
- Contains Conductive Materials
- Does Not Require A Finish
- Resistant to Fungi
- Excellent Chemical Resistance
- Excellent Slip Resistance
- Recyclable (*IMPACT Recycling Program*)
- Qualifies for LEED® Credits
- FloorScore® Certified

Technical Data

Nominal Dimensions: **24" x 24" x 2mm**

Finish: **Hammered**

Weight Per Tile: **3 lbs.**

Quantity Per Carton: **20 Tiles**

LEED v2009 IEQ Credit 4.1: **Qualifies**

LEED v2009 IEQ Credit 4.3: **Qualifies**

ASTM F1344 - Rubber Floor Tile: **Class I, Type B**

ASTM E648 (NFPA 253) - Critical Radiant Flux: **Class I, > 0.45 W/cm²**

ASTM E662 (NFPA 258) - Smoke Density: **Passes < 450**

ASTM F970 - Static Load Limit: **Passes, 250 PSI**

ASTM F970 (Modified) - Max Weight: **1100 PSI**

ASTM F925 - Chemical Resistance: **Passes (see list)**

ASTM D2047 - Slip Resistance: **> 0.6**

ASTM F150 - Electrical Resistance: **1 MΩ - 1 x 10⁶
1000 MΩ - 1 x 10⁹**

ANSI/ESD STM S7.1: **Meets Requirements**

ANSI/ESD S20.20: **Meets Requirements**

AATCC-134 - Static Generation: **< 20 V with ESD Shoes**

Acclimation Time: **48 Hours**

Storage & Acclimation Temperature: **65° - 85° F**

Additional Information

Approved Adhesives

ASD-800 Acrylic Wet-Set ESD Adhesive

USD-810 Urethane Wet-Set ESD Adhesive

ESD Accessories

To properly ground ESD flooring installations, all ESD Rubber orders must include 1" x 0.004" Copper Grounding Straps. Product may be heat-welded with available

rubber welding rods (400' roll, 4mm diameter).

Custom Offerings

At a minimum of 1200 sq. ft. product color may be altered to match other colors by request.

Availability, Cost & Samples

Roppe Flooring products are sold through distribution. To locate the

nearest distributor, visit roppe.com or send an e-mail to support@roppe.com.

Technical Documents & Support

Additional product resources and technical documents are available online at roppe.com. For additional technical support, send an e-mail to solutions@rhctech.com.

1. PRE-INSTALLATION CHECKLIST

- Consult all associated product literature concerning adhesive installation, maintenance and warranty prior to installation of flooring.
- Allow all trades to complete work prior to installation.
- Deliver all materials to the installation location in its original packaging with labels intact.
- Do not stack pallets to avoid damage.
- Remove any plastic and strapping from product after delivery.
- Inspect all material for proper type, color and matching lot numbers if appropriate.
- Ensure that all adhesives intended for installation are approved for use with flooring material.
- Ensure installation area and material storage temperatures are between 65° F (19° C) and 85° F (30° C) for at least 48 hours before, during and after installation.
- Ensure HVAC system is operational and fully functioning at normal operating conditions.
- Protect installation area from extreme temperature changes, such as heat and freezing, as well as direct sunlight for at least 48 hours before, during and after installation.
- Ensure all substrate preparation and moisture testing requirements have been performed, read and/or understood by all interested parties.
- Do not proceed with installation until all conditions have been met.

2. PRODUCT LIMITATIONS

Do not install materials over LVT, cushioned vinyl, hardwood flooring, cork, rubber, or asphaltic materials. Do not install flooring materials in outdoor areas, residences, in or around commercial kitchens or areas that may be exposed to animal or vegetable fats and oils, grease and petroleum-based hydrocarbons. Do not install in areas that may be subjected to sharp, pointed

objects, such as stiletto heels, cleats or spikes. Do not allow product to be directly exposed to extreme heat sources, such as radiators, ovens or other high-heat equipment. May be susceptible to staining from rubber tires, casters or rubber-backed walk-off mats, as well as harsh disinfectants, cleaning agents, dyes or other harsh chemicals - ensure all chemicals and materials that may come in contact with flooring surface will not stain, mar or otherwise damage the flooring material prior to use.

3. SUBSTRATE PREPARATION

All substrates must be prepared according to ASTM F710, as well as applicable ACI and RFCI guidelines. Substrates must be clean, smooth, permanently dry, flat, and structurally sound. Substrates must be free of visible water or moisture, dust, sealers, paint, sweeping compounds, curing compounds, residual adhesives and adhesive removers, concrete hardeners or densifiers, solvents, wax, oil, grease, asphalt, visible alkaline salts or excessive efflorescence, mold, mildew and any other extraneous coating, film, material or foreign matter.

All substrates must have any and all existing adhesives, materials, contaminants or bond-breakers mechanically removed via scraping, sanding, grinding or buffing with a 25 grit DiamaBrush Prep Plus tool prior to adhesive installation. In extreme situations, shotblasting may be required. Mechanical preparation must expose at least 90% of the original substrate. Following cleaning and removal, all substrates must be vacuumed with a flat vacuum attachment or damp mopped with clean, potable water to remove all surface dust. Sweeping without vacuuming or damp mopping will not be acceptable.

All porous substrates must be tested per ASTM F3191 to confirm porosity. Use a pipette or equivalent to conduct three tests by placing a .05 mL (1/4" wide) droplet of clean, potable water onto the surface. If the substrate absorbs water within 60 seconds, the substrate is considered porous. Conduct 3 tests

for the first 3000 sq. ft. and one for each additional 2000 sq. ft., at least one per room. All other substrates that do not meet this requirement are considered non-porous. Ensure that all non-porous substrates are not contaminated with any aforementioned contaminants.

It is recommended that all substrates have a floor flatness of FF32 and/or a flatness tolerance of 1/8" in 6' or 3/16" in 10'. Substrates that do not meet this requirement should have a compatible cementitious patch (such as the Excelsior CP-300) or self-leveling underlayment (such as the Excelsior SU-310) installed to flatten the installation area.

Do not use solvent/citrus based adhesive removers prior to installation. Follow The Resilient Floor Covering Institute's (RFCI) "Recommended Work Practice for Removal of Existing Floor Covering and Adhesive", and all applicable local, state, federal and industry regulations and guidelines. When removing asbestos and asbestos containing materials, follow all applicable OSHA standards.

CONCRETE SUBSTRATES

All concrete must have a minimum compressive strength of 3500 PSI and be prepared in accordance with ASTM F710. When flooring is being installed directly over concrete, concrete surfaces that have an ICRI Concrete Surface Profile (CSP) over 4 should be flattened with a self-leveling underlayment or a patch to prevent imperfections from telegraphing through flooring materials. On or below grade concrete must have a permanent, effective moisture vapor retarder installed below the slab.

<p>Adhesive RH Limits</p> <p>ASD-800 Acrylic ESD: 90% RH</p> <p>USD-810 Urethane ESD: 90% RH</p>
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New or existing concrete substrates on all grade levels must be tested in accordance with ASTM F2170, using in situ Probes, to quantitatively determine the amount of relative humidity no more than one week prior to the installation.

In addition to ASTM F2170 Relative Humidity Testing, existing concrete

ASD-800 Acrylic ESD:
USD-810 Urethane ESD:

that has previously had floor covering installed on all grade levels must be tested in accordance with ASTM F1869, using Calcium Chloride test kits, to quantitatively determine the Moisture Vapor Emissions Rate (MVER) of the concrete.

If ASTM F2170 or ASTM F1869 test results exceed the prescribed limits, a moisture mitigation product, such as Excelsior MM-100 Moisture Mitigation, must be installed prior to proceeding with installation. Install The MM-100 per technical data sheet at a rate of 400 sq. ft. per gallon. When installing over concrete as moisture mitigation, material must be applied in two coats. Do not install flooring until moisture testing has been conducted per the appropriate standard and/or moisture mitigation has been installed and is dry to the touch. Do not install flooring in below grade areas when hydrostatic pressure is visible or suspected.

RESINOUS SUBSTRATES

When installing directly over a resinous products, such as the Excelsior MM-100 or an epoxy coating, ensure that coating is dry to the touch and has cured for the prescribed length of time. Substrate must be clean, dry, sound and free of contaminates. Ensure to follow installation procedures and trowel sizes for non-porous substrates.

GYPSUM BASED SUBSTRATES

Gypsum-based substrates must have a minimum compressive strength of 3500 PSI. Gypsum substrates that do not meet this requirement must have one coat of the Excelsior MM-100 or equivalent installed to improve the tensile/pull-off strength of the substrate. Substrate must be structurally sound and firmly bonded to subfloor. Any cracked or fractured areas must be removed and repaired with a compatible patch or repair product. Follow instructions for installation over a gypsum substrate. New or existing gypsum substrates

may require a sealant or primer. Follow all manufacturer's recommendations regarding preparation for resilient flooring installation.

WOOD SUBSTRATES

Wood substrates must be prepared in accordance with ASTM F1482. Wood subfloors should be of double layer construction with a minimum thickness of 1". Crawl spaces beneath wood subfloors shall be in compliance with local building ventilation codes and have at least 18" of cross-ventilated space between the ground and the joists. Wood joists should be spaced on not more than 16" centers. Prior to installation, moisture retardant sheeting with a maximum rating of 1.0 perm must be installed beneath the wood subfloor, overlapped at least 8". For standard installations, use Underlayment Grade plywood with a minimum thickness of 1/4" thick and a fully sanded surface. When floors may be subjected to moisture, use an APA approved exterior grade plywood.

Other wood subfloor materials, such as OSB, lauan, particleboard, chipboard, fiberboard or cementitious tile backer boards, are not acceptable subfloors. Avoid preservative-treated and fire-retardant plywood, as some may be manufactured with resins or adhesives that may cause discoloration or staining of the flooring. Do not install flooring directly over solid or engineered hardwood flooring without first installing plywood or a suitable cementitious repair product at a minimum thickness of 1/4" over the hardwood flooring.

Wood subfloor deflection, movement, or instability will cause the flooring installations to release, buckle or become distorted. As such, do not use plastic or resin filler to patch cracks. Do not use cement or rosin coated nails and staples or solvent-based construction adhesives to adhere the plywood. Do not install on a sleeper system (wood subfloor system over concrete) or directly over Sturd-I-Floor panels.

METAL SUBSTRATES

Metal substrates must be thoroughly sanded/ground and cleaned of any residue, oil, rust and/or oxidation.

Substrate must be smooth, flat and sound prior to installation. When installing in areas that may be subject to topical water or moisture and/or high humidity, an anti-corrosive coating must be applied to protect metal substrate. Contact a local paint or coating supplier for coating recommendations. Install flooring material within 12 hours after sanding/grinding to prevent re-oxidation. Any deflection in the metal floor can cause a bond failure between the adhesive and the metal substrate. Ensure to follow installation procedures and trowel sizes for non-porous substrates.

EXISTING FLOORING SUBSTRATES

The suitability of existing flooring as a substrate depends on the specific requirements of the adhesive being used to install the material. As such, refer to the adhesive requirements for existing flooring substrates and ensure all adhesive requirements and guidelines are followed.

RADIANT HEATING SUBSTRATES

When installing flooring over a substrate that contains a radiant heating system, ensure the radiant heat is turned off 48 hours prior to installation and remains off during the entire installation. 48 hours after installation, the radiant heat may be gradually increased over the course of 24 hours, until normal operating temperature is reached. Ensure the temperature of the radiant heating system does not exceed 85° F (29.5° C) and avoid making abrupt changes in radiant heating temperature.

4. CRACKS, JOINTS & VOIDS

All cracks, joints and voids, as well as the areas surrounding them, must be clean and free of dust, dirt, debris and contaminants. All minor cracks and voids 3/64" wide or less may be repaired with a suitable cementitious patch.

Due to the dynamic nature of concrete slabs, manufacturer cannot warranty installations to cover expansion joints, cracks or other voids (such as control cuts, saw joints and moving cracks or voids) wider than 3/64". Do not install flooring directly over any expansion joints or cracks wider than 3/64".

All expansion joints should have a suitable expansion joint covering system installed to allow expansion joint to freely move. To treat expansions joints where an expansion joint covering system can't be installed or to treat through cracks (depth at least 75% of the thickness of the concrete), chase joint or crack with a suitable saw or grinder and open to a minimum width of 1/4". Be sure to clean all dust, dirt and debris from crack. Joints and cracks should then be sealed with a suitable, elastomeric caulk (such as Ardex Ardiseal Rapid Plus, Mapei P1 SL or equivalent) designed for use in expansion joints. Install a closed-cell backer rod at prescribed depth and follow caulk manufacturer's instructions for installation. Ensure surface is troweled flush with surface of concrete.

To treat other cracks and voids (such as control cuts, saw-cut joints and surface cracks) over 3/64", chase joint or void with a suitable saw or grinder and clean all dust, dirt and debris from crack. Fill entire crack with a rigid crack filler (such as Ardex Ardifix, CMP CM10 or equivalent) designed for use in control or saw-cut cuts. Follow material manufacturer's instructions for installation. Ensure surface is troweled flush with surface of concrete.

All cracks, joints and voids must be bridged with a copper strap to ensure the ESD flooring system is properly grounded. See Copper Grounding Strap Installation for more information.

Consult a structural engineer prior to treating any crack or joint, especially those that may affect structural integrity (such as expansion joints). Review all manufacturer installation instructions and/or consult manufacturer technical staff for all crack or joint filling products prior to treating joints and cracks.

5. COPPER STRAP INSTALLATION

In order to properly dissipate static electricity, the flooring system must be grounded with a copper grounding strap. Prior to installation, consult project electrician or electrical engineer regarding the placement of copper straps in order to synchronize copper strap placement with electrical grounding

system location. Copper grounding straps must be placed every 2000 sq. ft., at least one per room. Prior to installing flooring materials, install copper straps directly into fresh adhesive and trowel adhesive over strap to fully embed strap in adhesive. Copper strap must be at least 18" in length, with at least 9" embedded into adhesive. The remaining copper material can be run up the wall for installation into electrical grounding system following flooring installation.

All cracks, joints and voids must be bridged with a copper strap. Center copper strap over crack, joint or void and embed copper strap inside adhesive to anchor into place. Ensure copper strap will make contact with one tile on each side of the crack, joint and void, at least one strap per room.

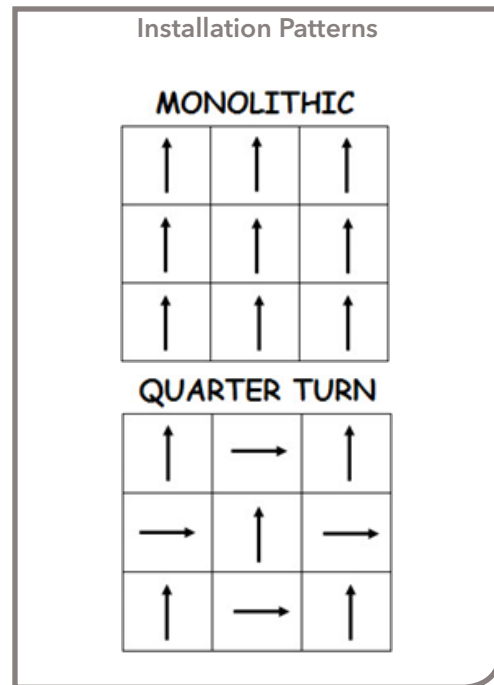
All electrical grounding systems should be connected and tested by a licensed and qualified electrician or electrical engineer. Ensure grounding strap installation is consistent with specifications and electrical grounding guidelines or diagrams. See Grounding Diagrams & Details on last page for more information.

6. FLOORING INSTALLATION

Ensure substrate is suitably prepared prior to installation, as manufacturer is not responsible for substrates that have not been properly prepared and tested for moisture. Ensure adhesive is approved for use with flooring material and that proper trowel type and size is used, as manufacturer is not responsible for any and all adhesion issues related to improper adhesive selection or usage.

Prior to installation, confirm material installation pattern and direction per design specifications or work order. Inspect all tiles before installing or during installation to verify that there are no visible defects, damages or excessive shading variations. Blend materials from several cartons to ensure consistent appearance and color or shade variation. Some flooring products, colors and textures have latent and acceptable color and shade variations. If there are concerns regarding shade or color variation, do not install material

and consult a sales representative and manufacturer's technical staff.



Ensure substrate is clean, dry, flat and sound prior to installation. Ensure the room is square using the 3-4-5 squaring rule or similar method to ensure acceptable installation. Dry-lay several pieces of material in order to determine ideal room layout. Cut borders and other specialty pieces to fit snugly against or around walls, thresholds, transition strips, fixtures and other protrusions or accessories. Ensure material around perimeter is 1/8" from wall or less, depending on depth of wall base or trim. Use a nail-down guide or equivalent along starting row to expedite wet-set installation. Apply adhesive according to instructions for specific product in use and observe adhesive flash times, if applicable. Ensure all adhesive working times are observed and followed. Be sure to follow instructions based on substrate porosity (porous or non-porous). Use chart on next page for reference.

Install material into adhesive and observe directional arrows on back of tile to ensure arrows are installed in the same direction, unless installing in a specific and pre-determined design, such as a quarter-turn design. For larger installations, use a pyramid layout when installing planks to eliminate run-off.

Adhesive Coverage Rates (Per Gallon)

Adhesive	Porous	Non-Porous
ASD-800	160 sq. ft.	N/A
	Smooth Porous & Non-Porous	Brushed & Rough Porous
USD-810	150 sq. ft.	135 sq. ft.

When installing into adhesive using a

wet-set method, avoid walking or working on material until adhesive has cured for light foot traffic. Working on material that is installed into wet adhesive could cause adhesive to displace. When working off of material is not possible, use a kneeling board or equivalent to disperse weight evenly and prevent adhesive displacement. Pay close attention to working time to avoid adhesion issues. This may require installing material in smaller sections. Replace trowels at recommended intervals to maintain proper trowel ridge and spread rate.

Periodically lift material to ensure proper adhesive transfer and ensure adhesive has not surpassed the open time - adhesive should cover 90% of tile. Roll material with a 3 section, 100 lb. roller within 30 minutes of installation, crossing in a perpendicular direction after initial roll. Use a hand roller in areas that cannot be reached with larger roller.

Visually inspect installation to ensure that material has not shifted and that adhesive has not been squeezed out of joints or compressed onto surface. Clean excessive adhesive or adhesive residue from the surface of the material per adhesive recommendations. Do not apply abrasive or solvent based cleaners directly to flooring material.

7. FLASH COVE INSTALLATION

Prior to creating and installing a flash cove, measure desired flash cove height and install appropriate Roppe Cove Cap at desired height. Using the Excelsior C-630 Contact Adhesive or 1" Excelsior TP-620 Pressure Sensitive Tape, install the appropriate Roppe Cove Stick Filler directly to wall-floor joint to provide the desired radius for the flash cove.

A minimum of 6" of material must cover

up the wall and a minimum of 6" of material must be installed on the floor, depending on flooring specification or work detail. While bending material to desired radius, measure and cut flash cove to meet cove cap, ensuring there is full contact with the cove stick. If flash cove does not make full contact with cove stick, cove and/or material could become damaged over time. Cut all difficult fill pieces prior to spreading adhesive. Use the Butterfly Method for creating outside corners.

Using the Excelsior C-630 Contact Adhesive or 4" - 9.5" Excelsior TP-620 Pressure Sensitive Tape, install the material directly to the cove stick and the wall and roll using a hand roller.

8. HEAT-WELD INSTRUCTION

Ensure that adhesive has cured for

Adhesive Heat-Weld Limits

ASD-800 Acrylic ESD: 24 Hours

USD-810 Urethane ESD: 24 Hours

recommended period of time prior to beginning heat-welding. Use chart below for reference.

Prior to cutting heat-welding groove, ensure gap between seams is free of adhesive, dust, dirt, debris and contaminates. When using electric grooving machine blade to cut groove depth at 66% of the total thickness of the tile (~1/16" deep for 2.5mm material). When using a hand grooving or electric grooving machine, test groove depth on scrap material to ensure proper depth is achieved. While grooving, ensure removal is split between each side of the roll, 50% per side. Hand-grooving may be required near walls, protrusion and other obstacles. Remove any and all loose pieces of flooring as well as any other debris from groove prior to welding. Using a hot air welding gun, insert the Roppe Rubber Welding Rod through the 4mm welding tip and into the center of the routed groove or seam. Prior to welding, test weld on scrap material to ensure temperature settings and welding speeds are correct and

achieve a successful bond.

Do not allow foot traffic or trim welding bead until welding bead has completely cooled. To trim seam, use a clean, sharp quarter-moon spatula knife and a clean trim plate or a Crain Mozart trimmer. After one hour, trim seam again with a quarter-moon spatula knife to create a smooth, level seam surface. If seam imperfections are observed, use a hot air

Adhesive Traffic Limits

ASD-800 Acrylic Wet-Set ESD	
Light Foot Traffic:	24 Hours
Heavy / Rolling Traffic:	48 Hours
Maintenance:	72 Hours
USD-810 Urethane Wet-Set ESD	
Foot Traffic:	8-12 Hours
Heavy / Rolling Traffic:	24-48 Hours
Maintenance:	48 Hours

gun to smooth out imperfections.

9. INITIAL MAINTENANCE

Ensure that adhesive has cured for recommended period of time prior to conducting initial maintenance. Remove any protective coverings prior to cleaning. Sweep, dust mop and/or vacuum flooring to remove any dirt, dust or debris.

Mix 2-4 ounces of Excelsior All Purpose Cleaner per gallon of clean, potable water. Use a clean mop to apply cleaning solution to floor and let stand for 5-10 minutes.

If using a low-speed floor buffer (180 - 360 RPM), buff floor while wet using a 22 gauge soft bristled scrubbing brush or a 3M 4100 White Super Polish Pad. If flooring is heavily soiled, a 3M 5100 Red Cleaning Pad may be required.

If using an auto-scrubber, buff floor while wet using a 22 gauge soft bristled scrubbing brush or a 3M 5100 Red Cleaning Pad. If flooring is heavily soiled, allow cleaner to remain on surface for an additional 5-10 minutes before scrubbing and removing.

Use an auto-scrubber, wet vacuum or clean mop to remove any and all excess

cleaning solution. Rinse area with clean, cool water and allow floor to dry entirely.

Do not use detergents, abrasive cleaners or "mop and shine" type products, as they will dull the finish and sheen of the flooring material. Do not use vacuums that have a beater bar or electric brooms with hard plastic bottoms or no padding, as this may cause discoloration, scratching and loss of sheen.

For further information regarding daily or routine maintenance, please consult the product care & maintenance document or the associated product technical data sheet.

10. FLOORING PROTECTION

Protect newly installed flooring with construction grade paper or protective boards, such as Masonite or Ram Board, to prevent flooring damage, especially by other trades. Do not slide or drag pallets or heavy equipment across the new flooring. Limit usage and foot traffic according to the adhesive's requirements. When moving appliances or heavy furniture, protect flooring from scuffing and tearing using temporary floor protection.

All furniture casters must be made of a soft material and must have a contact point of at least 1" in width to limit indentation and flooring damage. All rolling chairs or seating must have a resilient flooring chair pad installed over the finished floor to protect floor covering. All fixed furniture legs must have permanent felt or soft rubber floor protectors installed on all contact points and to reduce indentation. Floor protectors must have a flat contact point of at least 1 sq. in. or 1 in. diameter and must cover the entire bottom surface of the furniture leg.

Ensure all furniture castors and chair legs are clean and free of any and all dirt and debris. Routinely clean chair castors and furniture legs to ensure that dirt or debris has not built up or become embedded in castors or floor protectors. Replace chair castors and floor protectors

at regular intervals, especially if they become damaged or heavily soiled.

Place walk-off mats at outside entrances. Ensure mats are manufactured with non-staining backs to prevent discoloration.

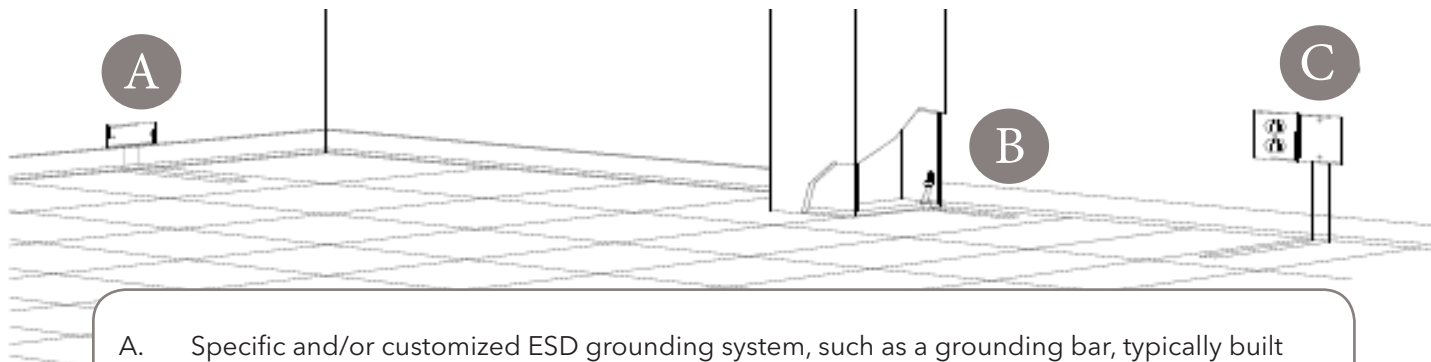
11. WARRANTY

Roppe provides a Limited 10 Year Warranty for all ESD Flooring installations that are installed with Excelsior ESD Adhesives and properly grounded with Copper Grounding Straps provided by Roppe. For additional information, see associated warranty documents.

FOR PROFESSIONAL USE ONLY. PLEASE CONSULT ALL ASSOCIATED TECHNICAL DATA SHEETS, SAFETY DATA SHEETS, MAINTENANCE DOCUMENTS AND WARRANTY INFORMATION PRIOR TO INSTALLATION.

ESD RUBBER DIAGRAMS & DETAILS

Acceptable ESD Grounding Systems & Methods

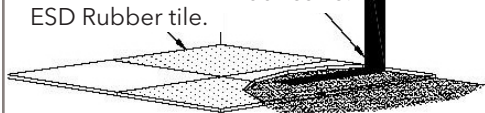


- A. Specific and/or customized ESD grounding system, such as a grounding bar, typically built into facility. Contact electrical or facility representative for detail.
- B. Steel building column or grounded building framing system. Grounding lug fastened to steel framing per NEC requirements (see Method B Detail below).
- C. Standard copper connection, typically routed to an electrical system ground connection from a receptacle box (see Method C Detail below).

Copper Grounding Strap Installation

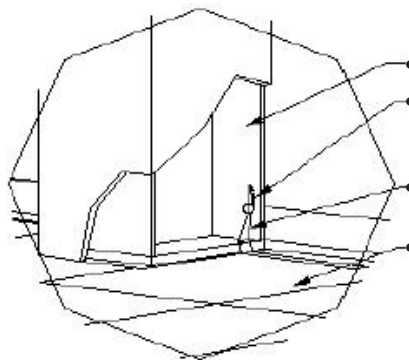
Connect remaining copper grounding strap to acceptable grounding system.

18" copper grounding strap, with 9" of strap embedded in adhesive.



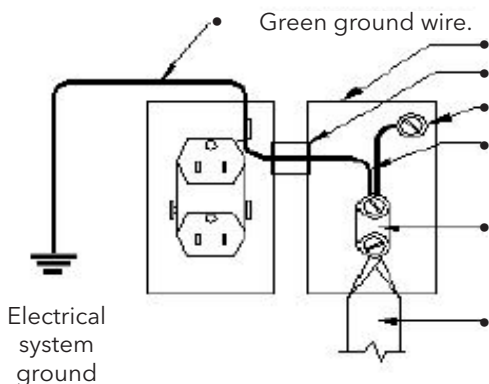
ASD-800 or USD-810, installed above and below grounding strap.

Method B Detail



- Steel building frame
- Electrical lug, mechanically fastened to steel frame for connection to copper grounding strap.
- 18" copper grounding strap, with 9" of strap embedded in adhesive.
- ESD Rubber tile.

Method C Detail



- Receptacle box.
- Conduit coupling.
- Receptacle box grounding connection.
- #12 awg copper wire, routed from receptacle box grounding connection, to electrical lug and then to electrical system ground.
- Electrical lug, mechanically fastened to receptacle box for connection to copper grounding strap.
- 18" copper grounding strap.