

Electrical Grounding For ESD Flooring, Extended Directions

OVERVIEW: All ESD flooring must be grounded to allow the electrostatic charges dissipate. The following methods provide a secure connection via easy attachment of your ESD flooring system to AC electrical ground. Our ESD Flooring requires 2 ground connections for the first 3,000 square feet and one additional ground for every 3,000 square feet thereafter (exceeding this amount with not raise the conductivity of your flooring systems).

A: MOST COMMON METHOD (requires replacing plastic faceplate with one made of metal):



Figure 1 ground strap

1) Locate AC power outlet. Note: De energizing the outlet is highly recommended.

Remove the center screw of the AC electrical face plate cover (this cover is typically plastic). Carefully remove the face plate.

Starting at the AC drywall cutout (1), run a piece of our 2" wide aluminum foil ground tape (2) down the wall and onto the VERY CLEAN and DUST FREE concrete (or other flooring substrate) for about 4 to 6 inches.

Note: Use an L square to insure the strip is straight.

2) Run another aluminum foil strip (approximately 6" to 12" long) over this 2" or 3" piece that you've placed on the floor (3). Run this strip parallel to the wall and adhere to the flooring substrate (concrete, VCT, etc.).

3) Replace the plastic faceplate cover with a METAL face plate cover that comes into contact with the aluminum (or copper) strip.



Figure 2 , center punch close up

For best results center punch the overlapping strip in a few places (4) to drive the aluminum top surface into the aluminum foil beneath it (the adhesive backing is not conductive).

B: OPTIONAL METHOD (does NOT requires replacing plastic faceplate with one made of metal):



Figure 3 outlet

1) Turn off the power to the outlet!

Remove face plate cover and bottom screw holding outlet in place. Wrap aluminum foil over and around the bottom "ear" as shown being sure to not leave loose ends or foil inside outlet.

Replace screw running the bolt through the foil and into the bolt hole.

2) Run aluminum strip around bottom of outlet (if applicable) and down wall and onto floor a few inches.

3) Run another piece of aluminum foil parallel with the wall and over the top of this piece so it looks like a T going up the wall.



Figure 4, Completed showing center punched area

For best results center punch (see figure 2) overlapping strips (shown in red circle in the following photo) in a few places to drive the aluminum top surface into the aluminum foil beneath it (the adhesive backing is not conductive). Replace faceplate cover.

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C) STEEL STRUCTURAL SUPPORT COLUMNS:

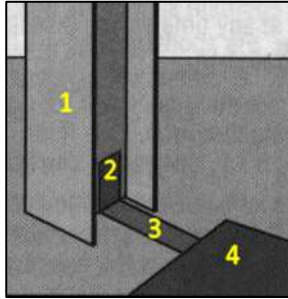


Figure 5, Grounding to steel structural support

In this drawing a steel column (1) is used as an attachment point (2) for the aluminum or copper adhesive backed ground foil (3) for subsequent application of ESD flooring (4).

Grind paint and rust from the steel structural support column. Make the area small enough to

completely cover with the 2 inch wide ground foil. Cover this area with ground tape. Run it down the column and onto the pre cleaned concrete or sub floor. Center Punch 5 areas of the ground foil into the area on column that has been ground. This drives the top surface of the aluminum or copper in to the clean steel.

D) COPPER GROUND RODS:

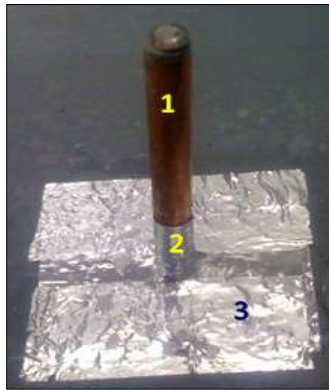


Figure 6, Grounding to Copper Ground Rod

GROUND RODS:

Copper ground rods are often used in Military and Munitions environments and are not typical (nor normally recommended) for electronic manufacturing.

Remove the oxidation from rod (1) by lightly sanding it, wrap tape around the rod as

shown in (2), to create a small radius of aluminum at interface of the rod and concrete. Create a pad (3), center it over the rod and drive it down over the rod and aluminum winding. Center Punch the aluminum into the bare copper rod and hose clamp the interface for additional rod to pad security.

Using a standard volt ohm meter place a lead on the aluminum and tip of the copper. The resistance should be less than 1 ohm. Clean any oxidation or dirt from the aluminum or copper pad and coat over it with ESD thick set epoxy or floor paint OR trowel over it with conductive adhesives for ESD control tiles or sheet vinyl.

For Coatings: Lightly sand the foil on the floor with 320 grit emery paper or course scotch bright. Remove abrasive residue with a clean paper towel or microfiber wipe. Apply the coatings over this strip.

For Glue Down Tiles and Sheet Vinyl: Cover the foil that has been applied to the subfloor with the conductive adhesive, place the tile or sheet vinyl over this adhesive and ground strip and roll with a 100 pound vinyl roller.

For Interlocking Tiles: Place the interlocker over the aluminum foil that has been applied to the subfloor. [See product instructions for full details.](#)

For ESD Carpet Tile: Cover the foil that has been applied to the subfloor with the conductive adhesive, place the carpet tile over the adhesive and ground strip and roll with a 100 pound vinyl roller.

E) EQUIPOTENTIAL AND FULL PERIMETER GROUNDING USING A GROUND LUG:

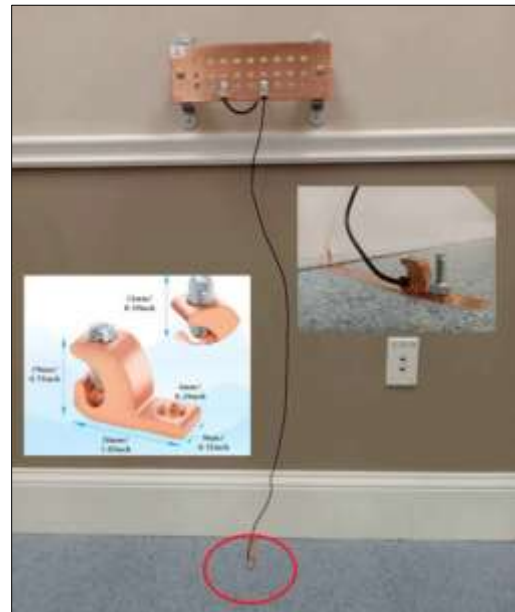


Figure 7, Ground Lugs

GROUND LUGS for use with copper bus bars, full perimeter and equipotential ground grids or a hardwire attachment to the AC grounding system of the building:

These are typically used for specialty applications and requirements. [For more on this please see this webpage.](#)

Revision History: 4/8/2026 initial release approved SRC