



INSTALLATION & TESTING PROCEDURES

AB ElectroStatic Tile (Electrotile)

**IMPORTANT!
BEFORE PROCEEDING WITH INSTALLATION, BE SURE TO READ
THE FLOOR PREPARATION PROCEDURES!**

Adhesive Systems

General: The use of the proper adhesive is critical to a successful end result. Use the following adhesive guidelines. However, if there is any doubt on which adhesive to use contact American Biltrite or their distributor for additional information.

- Dry slab on grade - check for possible moisture problems and ensure that moisture readings are within acceptable levels. Use #555 adhesive.
- Dry slab above grade (suspended) - use #333 and #555 adhesives. Check moisture readings.
- Dry slab below grade - check for possible moisture problems and ensure that moisture readings are within acceptable levels. Use #555 adhesive.

Procedures for Installing Electrotile over Terrazzo, Ceramic, Natural/Agglomerated Marble or Granite:

- Following the curing of the Ultra/Plan install the ElectroTile using #555 adhesive in accordance with the installation procedures.

Procedure for Installing Electrotile over Metal Substrates:

- For non-porous substrates such as stainless steel and galvanized steel use #555 adhesive in accordance with the installation procedures.

#555 Conductive Epoxy Adhesives

Description:

#555 is a two part component conductive epoxy adhesives of syrupy consistency. It is formulated to bond Electrotile where high performance, interior installation is required.

Limitations:

1. Protect from freezing in transit and storage. If frozen, allow to return to room temperature without stirring.
2. Do not use when the substrate temperature is below 15°C (59°F) or above 30°C (86°F).
3. For interior installations only.

Directions:

- Remove the lid of part A and stir using a mechanical mixer.
- Remove the lid of part B and pour all the contents of part B into the container of part A. Use a rubber spatula to remove all of the part B from the container. Thoroughly mix both part A and part B together. The use of a mechanical mixer is required to ensure proper mixing. Inadequate mixing will cause bond failure.

Application:

- Pour the full amount of the mixed adhesive onto the floor immediately after mixing and spread with a 0.80 mm x 0.80 mm x 0.80 mm (1/32" x 1/32" x 1/32") U-notched trowel. Ensure proper transfer covering 100% of the tile backing.





INSTALLATION & TESTING PROCEDURES

AB ElectroStatic Tile (Electrotile)

Note: Do not leave mixed epoxy adhesive in original can; the heat generated by this chemical mixture reduces the open time of the adhesive.

- After spreading the adhesive, let it flash off for 10 minutes, then lay the tile into the adhesive (do not force the tiles together tightly, rather place them so that seams are just touching). Take care to use kneeling boards or work off the tile whenever possible. Remove excessive adhesive from the surface of tile with a cloth moistened with a soapy solution or denatured ethyl alcohol or isopropyl alcohol (friction alcohol) while adhesive is wet.
- Open time of adhesive will vary depending on site conditions (i.e. temperature, humidity). The adhesive is still workable if it is wet and transfers to the fingers when touched. The installer should observe adhesive transfer to the back of the tile prior to and following cross rolling with a 45 Kg (100 pound) sectional roller. The back of the tile should be covered 100% with the adhesive. The floor **MUST** be rolled prior to adhesive hardening. A second rolling must be done 2 to 3 hours after the first rolling.

Clean-Up:

- Clean excess adhesive on the tile and tools promptly using a soapy solution or denatured ethyl alcohol or isopropyl alcohol (friction alcohol).

Note: epoxy adhesives cannot be removed after they have set.

Caution:

- Keep from freezing.

Coverage:

- #555 up to 25 sq m per 3.79 liter unit (265 sq ft per U.S. gallon).

Note: coverage quantities shown are approximate and given for estimating purposes only. Actual job site coverage may vary according to substrate conditions.

#333 Conductive Acrylic Adhesive

Description:

#333 is an acrylic base conductive adhesive for the installation of conductive static and dissipative Electrotile floor covering over clean smooth substrates.

Limitations:

1. Protect from freezing in transit and storage. If frozen, allow to return to room temperature without stirring.
2. Do not use when the substrate temperature is below 15°C (59°F) or above 30°C (86°F).
3. For interior installations only.
4. Do not use for the installation of Electrotile over impervious surfaces. For such installation, refer to #555 Adhesive.

Directions:

Remove the lid from the container and apply directly from the container.

Application:

- Using a 1.6 x 1.6 x 1.6 mm (1/16" x 1/16" x 1/16") U-notched trowel, apply the adhesive evenly to the floor.
- Start laying the tile after 10 minutes allowing the moisture to flash off. Laying of the tiles must start no later than 20 minutes. After the adhesive has been allowed to flash off, lay the tile into the adhesive (do not force the tiles together tightly, rather place them so that seams are just touching). Take care to use kneeling boards or work off



INSTALLATION & TESTING PROCEDURES

AB ElectroStatic Tile (Electrotile)

the tile whenever possible. The adhesive is still workable if it is wet and transfers to the fingers when touched. Ensure that the adhesive has transferred to the back of the tile by lifting the corners.

- Avoid trapping air bubbles by cross rolling the floor with a 45 Kg (100 pound) sectional.



INSTALLATION & TESTING PROCEDURES

AB ElectroStatic Tile (Electrotile)

Clean-Up:

- Clean excess adhesive off the tile and tools using soap and water. Dry adhesive is more difficult to remove.

Caution:

- Keep from freezing.

Coverage:

- #333 up to 14.4 sq m per 4 liter (155 sq ft per U.S. gallon).

Note: coverage quantities shown are approximate and given for estimating purposes only. Actual job site coverage may vary according to substrate conditions.

Expansion and Control Joints:

- Provide for expansion and control joints where specified.
- Do not cover any expansion joints with adhesive.
- Cut floor covering on both sides along the edges of expansion joints.
- Insert the specified compressible bead and sealant for expansion and control joints.

IMPORTANT!!! FLOOR PROTECTION

Following installation and cleanup of the tile, protect the tile from other subtrades by laying sheets of brown Kraft paper over the tile, and then lay plywood sheets.

CURING TIMES

Site conditions can greatly affect curing times of the adhesives. Visually check the tile installation to make sure curing of the adhesive is happening by pulling back the corner of the tile. If it will not peel back easily the curing process is underway. This must not be attempted prior to 24 hours following installation.

We recommend the following adhesive curing guidelines:

- Up to 24 hours following installation – no traffic.
- Between 24 and 48 hours – light traffic
- After 72 hours – moderate to heavy traffic, placement of furniture and rolling traffic.

GROUNDING

- Grounding tapes are to be installed prior to spreading the adhesive and installation of Electrotiles.
- Take care not to break the copper tape when applying the grounding strips to the floor.
- Using lengths of copper tape 13 mm (1/2") x 1.8 m (6 ft) long apply the first 1 m (3 ft) to the floor out from the wall into the floor area. Take the remainder of the tape and attach it to the wall ready for installation to the permanent grounding service or bus bar.
- This procedure should be repeated every 4.9 m (16 ft) around the room's perimeter (note: electrical outlets are generally spaced every 8 ft apart).
- The copper tape is fragile and care must be taken during its installation.
- The copper tape adhesive must make good contact with the subfloor to ensure it does not move.





INSTALLATION & TESTING PROCEDURES

AB ElectroStatic Tile (Electrotile)

- Each extremities of the copper tape should be temporarily protected with masking tape until installation is completed.
- The copper tape shall be free of stress at the intersection of floor and walls.
- Care must be taken not to damage copper tape while walking in the room.
- If the copper tape is broken, there is no need to replace it entirely but simply join the broken tape with a piece of copper tape.

HEAT WELDING PROCEDURE

a) Grooving

Ensuring that the adhesive has set, proceed to groove the seams by using a power or hand grooving tool. Adjust the grooving tool to cut a V-shaped groove, 2/3 of the tile thickness. Proceed to trim and weld all the tiles in one direction, then repeat this procedure in the other direction.

b) Welding

Remove all dust and shaving from the area by vacuuming the tile and at the grooved areas. Using a head welding gun insert the heat welding rod into the welding nozzle and preheat the welding gun. Temperature will vary depending on the welding speed. We recommend that you conduct a trial weld on a scrap piece of material. Working with seams in one direction at a time, cut a V-groove in the installed bead at the seam intersection and then complete the procedure in the cross direction.

c) Finishing

- Allow the weld to cool, remove the excess welding bead using a **sharp** crescent knife and a trimming plate/guide.
- Make the finishing trim using the crescent knife without the use of the trimming plate/guide.

NOTE: If the welding rod is not allowed to completely cool before trimming, shrinkage of the welding can occur resulting in a concave joint finish. Always use a sharp crescent knife.

TESTING PROCEDURES

- The electrical resistance of the Electrotile flooring must be measured in accordance with ESD.S7.1-1994 test method.
- The surface resistance must be measured using two 2.7 kg ± 28 g (5 lb ± 1 oz) electrodes placed 91.5 cm (36") apart connected to a megohmmeter with 100 Volts open circuit voltage. Both electrodes must be at least 91.5 cm (36") from any grounded object or wall.
- Apply 100 Volts and take reading 15 seconds after application of voltage.
- Make five measurements at different locations within 93 sq m (1,000 sq ft).
- The resistance to ground must also be measured between one electrode placed 91.5 cm (36") from the wall and the ground. Again make five resistance to the ground measurements at different locations within the area.
- **Conductive tile:** the average surface resistance and resistance to ground must be **less than 10⁶ Ohms and no single reading shall be greater than 5 x 10⁶ Ohms.**
- **Static dissipative tile:** an average reading of **no less than 10⁶ Ohms and no greater than 10⁹ Ohms.**
- Testing of the installation is to be performed by an American Biltrite representative.