FLOORING SYSTEMS

Installation Guidelines: ColoRex® SD/EC Tile

General Installation Guidelines

- ColoRex® SD/EC tiles may be installed on approved substrates on all grade levels.

- Areas to receive flooring should be clean, fully enclosed and weathertight. The permanent HVAC must be fully operational, controlled and set at a minimum of 68º F (20º C) for a minimum of seven days prior to, during, and seven days after the installation. The material and adhesive should be conditioned in the same environment for at least 48 hours prior to the installation. Areas to receive flooring shall be adequately lighted to allow for proper inspection of the substrate, installation and seaming of the flooring, and for final inspection.

- Store ColoRex® SD/EC tiles in cartons stacked and laying flat.

- Always conduct moisture tests on **all** concrete substrates, regardless of age or grade level.

- Determine the moisture vapor emission rate (MVER) of the concrete by testing conducted in accordance with ASTM F 1869. The MVER of the concrete must not exceed 5.0 lbs. per 1,000 square feet in 24 hours when using Forbo C 930 adhesive or 8.0 lbs. per 1,000 square feet in 24 hours when using Forbo V 885 adhesive. When moisture vapor emissions exceed these requirements, refer to the Moisture Limitor section of Forbo's Installation Guide for additional information.

- Determine the internal relative humidity of the concrete by testing conducted in accordance with ASTM F 2170. The internal relative humidity of the concrete must not exceed 75% when using Forbo C 930 adhesive or 85% when using Forbo V 885 adhesive. When the internal relative humidity exceeds these requirements, refer to the Moisture Limitor section of Forbo's Installation Guide for additional information.

- The concrete surface pH must be tested and must not exceed a pH of 10 when using Forbo C 930 adhesive or a pH of 11 when using Forbo V 885 adhesive.

- Always conduct adhesive mat bond tests before beginning the installation. Bond testing will aid in identifying both the working characteristics of the adhesive (open time and working time) for the site conditions, and also any potential bonding problems.

- Material should always be visually inspected prior to installation. If there are any questions regarding the quality of material, contact your local Forbo representative or Forbo Technical Services PRIOR to installation.
  Any costs (including labor) associated with the replacement of material that was installed with visual defects that could have been seen prior to installation are not covered under warranty.

- Ensure that all recommendations for substrate and jobsite conditions are met prior to beginning the installation. Beginning the installation is an implied acceptance of site conditions by the parties involved and liability for any failure directly related to inadequate site conditions becomes the responsibility of the installer and/or flooring contractor.

- Use Forbo C 930 adhesive for conductive installations. Use Forbo V 885 adhesive for non-conductive installations. For optimum performance in areas with heavy rolling loads, or for additional protection from topical moisture, Forbo 660 adhesive may be used for non-conductive installations. Please contact Forbo Technical Services for additional information on Forbo 660 adhesive.

- Use a 1/16" x 1/16" x 1/16" square notch trowel to apply the adhesive when using Forbo C 930 for ESD control installations. Use a 1/32" x 1/16" x 1/32" fine notch trowel to apply the adhesive when using alternative adhesives for non-ESD control installations.

- Use material from the same batch/dye lot. Mix tiles from several boxes.

- Do not remove more tile from the box than can be installed in approximately 1 hour.

- Install cartons in consecutive order.

- Install all tiles running in the same directions.

- Install tiles into the adhesive and roll immediately. Always check for proper adhesive transfer. In order to achieve a secure bond, there must be complete transfer of adhesive to the tile backing.

- Remove fresh adhesive residue immediately with a clean white damp cloth. Dried adhesive residue can be removed with a clean white cloth and mineral spirits.

- Take pride in your work and be Professional at all times.

- For additional information, contact Forbo Technical Services.

Installation Guidelines: ColoRex® SD/EC Tile

Layout

o   Forbo tile products are installed using conventional tile installation techniques.

o   It is customary to start from the center of the room. In corridors and small spaces, it may be simpler to work lengthwise from one end, using the center line as a guide.

o   The center line is drawn as follows: a chalk line is snapped from center of wall A-B (=E) to the center of wall C-D (=F). The center of line E-F is found (M). Draw a perpendicular line through M using the 3:4:5 method to establish G-H (Figure A).

o   Starting at center point M, measure out lengthwise and widthwise to the walls to make sure you will have at least a half of a tile at the border. Adjust lines E-F and G-H if necessary.
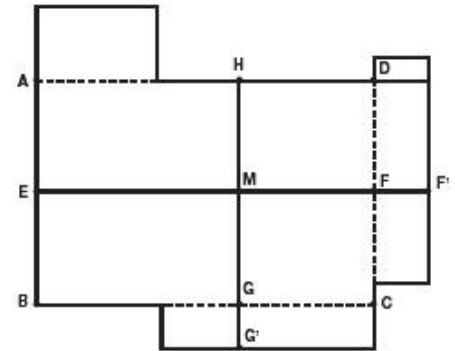

Figure A

Adhesive Application

1.   After establishing the starting lines, apply Forbo C 930 with a 1/16" x 1/16" x 1/16" square notch trowel.

2.   A short open time will often be necessary to allow the adhesive to develop body. The tile MUST be placed into the adhesive before it has had an opportunity to dry. This enables a complete wet transfer of the proper amount of adhesive to the tile backing and is essential for a secure bond. When installing over non-porous substrates, such as existing flooring, terrazzo, etc., a longer open time may be appropriate, but *under no circumstances should the adhesive be allowed to dry before placing the tile into the adhesive*. For non-porous substrates, a short open time may be necessary in order to allow the adhesive to develop body before placing the flooring material into the adhesive, but **DO NOT ALLOW THE ADHESIVE TO DRY.** The flooring material **MUST** always be placed into the adhesive and rolled immediately. Check for adhesive transfer frequently. There must be transfer of adhesive to the material backing in order to achieve a secure bond.
Note: The open time and working time of adhesives will vary depending on site conditions such as ambient temperature, humidity, the porosity of the substrate and air circulation. It is the installer's responsibility to make appropriate adjustments to installation procedures for specific site conditions as may be necessary. Refer to the Adhesives section of Forbo's Installation Guide for additional information regarding adhesive open time and working time.

3.   Immediately after placing the material into the adhesive, roll the tile in both directions using a 100 pound roller.

4.   Remove fresh adhesive residue immediately with a clean white damp cloth. Dried adhesive residue can be removed with a clean white cloth and mineral spirits.

Installation

1.   Begin laying tiles at the starting point, ensuring that the tile is laid exactly along the layout lines. If the first few tiles are not installed accurately, the entire installation will be affected.

2.   Because the tiles must be installed into wet adhesive, do not spread the adhesive in an area larger than tile can be installed while the adhesive is still wet.

3.   The time it takes to mark and cut the border tiles must be taken into consideration when planning the installation. Without adequate planning, it is likely that the working time of the adhesive in the area of the border tiles will be exceeded before the tiles are installed, which will result in an inadequate bond of the border tiles. The successful installation of border tiles is best accomplished by following one of two strategies:

   a.   When laying out tile, determine the edge of a field tile a comfortable distance from each wall and then snap chalk lines around the perimeter of the room. When spreading adhesive, use these lines as a guide to stop spreading adhesive and install the field tile up to the adhesive spread lines. Once the field tiles have been installed, the border tiles and be "dry" fitted (before spreading the adhesive). After the border tiles have been cut, adhesive can be applied in the area of the border tiles and the tiles can be placed immediately into the wet adhesive.

   b.   Plan the sequence of spreading adhesive so that the border tiles can be cut and placed into the adhesive before the adhesive working time has been exceeded.

FLOORING SYSTEMS

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4. Immediately after installation, roll the tile with a 100 pound roller in both directions to ensure adequate transfer of adhesive to the backing. Re-roll the tile periodically to ensure that the tile remains in contact with the adhesive while the adhesive is drying.

Grounding

At the perimeter of the room (or at grounded steel columns) near the ground point, lay a 3' - 4' length of grounding strap into the wet adhesive, with approximately 12" extending up the wall (Figure B).

Spread additional adhesive on top of the strap and lay the tile over it.

A minimum of one grounding strap should be installed for every 2,000 square feet of uninterrupted tile.

Note: It is the floor contractor's responsibility to discuss the placement and connection of the grounding straps prior to the installation. This will aid in avoiding any controversies once the job is started.

Figure B

An "electrical end terminal" can easily be connected to the exposed end of the fabric grounding strap by twisting the end of the fabric strap, inserting the twisted fabric into the end of the terminal, and crimping the terminal to secure the fabric. The terminal can then be connected to the grounding point.

Commonly used end terminals include:

The Ring Terminal   or   The Spade Terminal

Testing

After installation is completed, test the flooring with an ohms meter according to EOS/ESD S 7.1, ASTM F 150, or NFPA 99 (Figure C). All measurements recorded for warranty registration must be surface to ground.
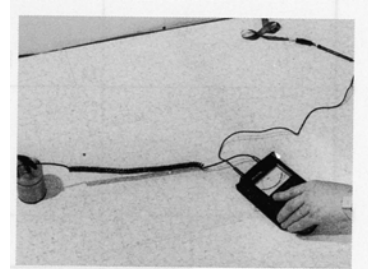

Figure C

Forbo's Installation Guide contains additional information on substrate evaluation and preparation, and is available for download at www.forboflooringna.com. For a hard copy, or for additional information, contact Forbo Technical Services at +800 842 7839.