

Installing Forbo Sphera SD | EC Sheet Flooring

General Installation Guidelines

- Always refer to and follow the recommendations in **Forbo's General Installation Guidelines** prior to installing Sphera SD | EC.
- Always refer to and follow the recommendations in **Forbo's Substrate Evaluation and Preparation Guidelines** prior to installing Sphera SD | EC.
- Beginning the installation is an implied acceptance of site conditions and liability for any failure directly related to inadequate site conditions becomes the responsibility of the installer and/or flooring contractor.
- Sphera SD | EC may be installed on approved substrates on all grade levels.
- For the tolerance in the sequence of roll numbers, refer to the **Installation Direction & Sequence** section of **Forbo's General Installation Guidelines**.
- Use Forbo C 930 adhesive for installation of the grounding strap. Use a 1/16" x 1/16" x 1/16" square notch trowel to apply the adhesive. Replace the trowel when proper coverage is no longer attainable.
- Use FST 1299 adhesive for the remainder of the installation. Use a 1/32" x 1/16" x 1/32" fine notch trowel to apply the adhesive. Replace the trowel when proper coverage is no longer attainable.
- Use Forbo grounding straps per the written guidelines when installing Sphera SD | EC for conductive use.
- Sphera SD | EC has a unique non-directional design, which allows for installing sheets in the same direction or alternate directions without losing the overall design aesthetic. In main field areas, it is recommended to install the sheets in the same overall direction.
- Cutting Sphera SD | EC too full or back rolling may result in bubbles or wrinkles.
- Store Sphera SD | EC rolls standing upright.
- Do not allow heavy traffic or rolling loads for a minimum of 72 hours following the installation. For installations over non-porous substrates, additional time may be necessary because the adhesive may take longer to dry and cure.
- Wait a minimum of five days following the installation before conducting initial cleaning. For installations over non-porous substrates, additional time may be necessary because the adhesive may take longer to dry and cure.
- Take pride in your work and be Professional at all times.
- For additional information, contact Forbo's Product Support & Education Services at 1-800-842-7839 or www.forboflooringNA.com.

Grounding Forbo Sphera SD | EC

It is the flooring 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. The grounding strap should be grounded to the building by a licensed electrician.

Installing the Copper Grounding Straps

The copper grounding straps for electrical grounding must be installed first. Self-adhering copper grounding straps are recommended.

- Based on the size of the installation area, strictly follow the appropriate diagram for the installation of the copper grounding straps.
- Leave enough additional grounding strap to connect it to the building ground.
- Remove the protective paper from the back of the self-adhering grounding strap and install on the substrate.
- Apply a 4" (10.16 cm) band of Forbo C 930 adhesive over the copper grounding strap with a 1/16" x 1/16" x 1/16" square notch trowel according to the image below. **DO NOT allow Forbo C 930 adhesive to dry** before the material is installed. See Figure 1.
NOTE: If using bare copper grounding strap, spread the Forbo C 930 adhesive, install the strap into the adhesive and spread additional Forbo C 930 over the strap.
- All remaining areas should be installed using Forbo FST 1299 adhesive with a 1/32" x 1/16" x 1/32" fine notch trowel, strictly following the above recommendations. **DO NOT allow Forbo FST 1299 adhesive to dry** before the material is installed.

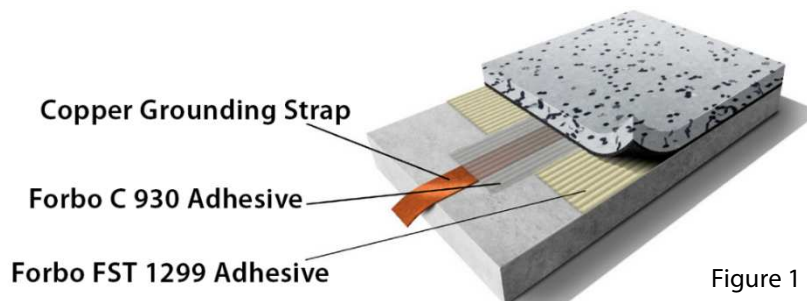


Figure 1

Installing Forbo Sphera SD | EC Sheet Flooring

Layout for Copper Grounding Straps

For Installations Less Than 500 Square Feet (46 Square Meters)

It is required to have a minimum of one grounding point for every 500 square feet (46 square meters). As a precautionary measure, it is recommended to install an additional grounding point. See Figure 2. Install the copper grounding straps the entire width of the room, running perpendicular to the direction of the Sphera SD | EC sheets, leaving enough additional grounding strap to connect to the building ground. Apply a 4" (10.16 cm) band of Forbo C 930 on the copper grounding straps. Spread Forbo FST 1299 adhesive up to the C 930 in all remaining areas. The grounding straps should be grounded to the building by a licensed electrician.

NOTE: If using bare copper grounding strap, spread the Forbo C 930 adhesive, install the strap into the adhesive and spread additional Forbo C 930 over the strap.

For rooms where the shorter side of the room is less than 33 feet (10 meters), install a copper grounding strap extending at least 3 feet (1 meter) onto the subfloor, allowing sufficient excess to extend up to the nearest grounding point. Lay the copper grounding straps to create a circuit, as shown in Figure 2. Punch all intersections in the copper straps to ensure proper contact. This can be done using a hammer and an awl or screwdriver. Lightly tap the awl or screwdriver with the hammer at all intersections of the copper straps to ensure good contact between the two copper straps. Test the conductivity of the copper strap circuit with an appropriate testing device before starting installation of Sphera SD | EC. Avoid seams close to grounding points to prevent risk of damaging the copper strap when trimming the welding rod.

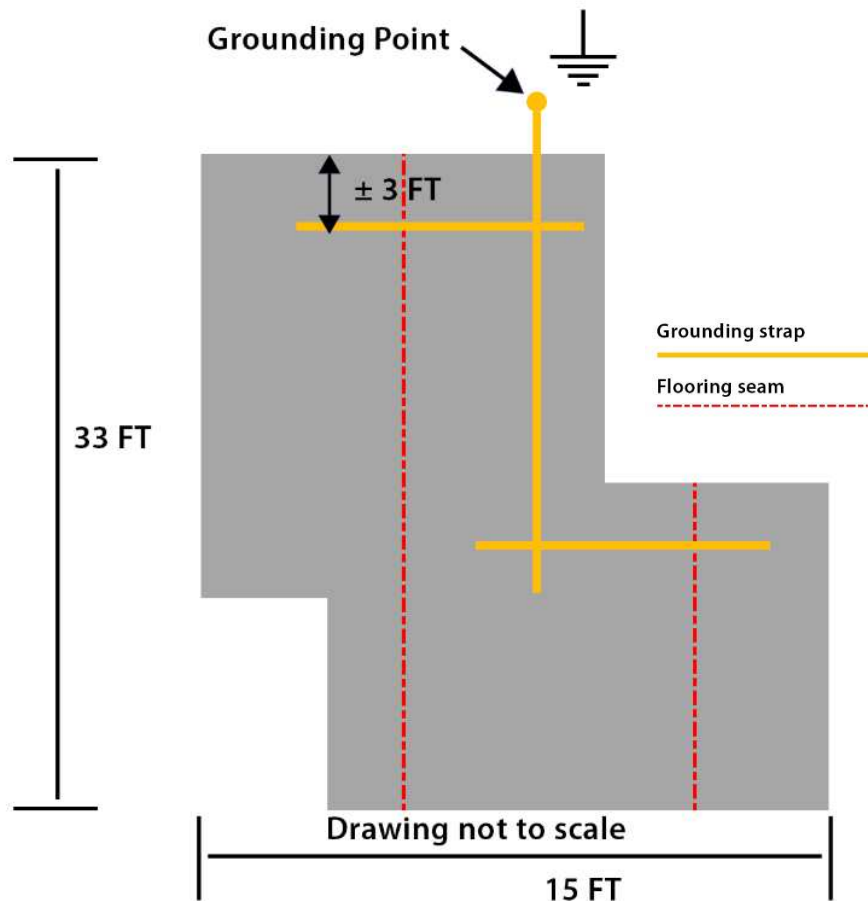


Figure 2

Installing Forbo Sphera SD | EC Sheet Flooring

For Installations Greater Than 500 Square Feet (46 Square Meters)

It is required to have a minimum of one grounding point for every 500 square feet (46 square meters). It is required to have a minimum of two grounding points for every 1,000 square feet (93 square meters). See Figure 3. As a precautionary measure, it is recommended to install an additional grounding point. Install one copper grounding strap the entire width of the room, running perpendicular to the direction of the Sphera SD | EC sheets. Repeat every 20 feet (6 meters). Install the copper grounding straps by removing the protective paper and bonding the straps directly to the substrate the entire width of the room, running perpendicular to the direction of the Forbo Sphera SD | EC sheets. Install another copper grounding strap parallel with the Forbo Sphera SD | EC sheets, running the entire length of the room and overlapping the copper grounding straps shown in. Leave enough additional grounding strap to connect to the building ground. Lay the copper grounding straps to create a circuit. Punch all intersections in the copper straps to ensure proper contact. This can be done using a hammer and an awl or screwdriver. Lightly tap the awl or screwdriver with the hammer at all intersections of the copper straps to ensure good contact between the two copper straps. Test the conductivity of the copper strap circuit with an appropriate testing device before starting installation of Sphera SD | EC. Avoid seams close to grounding points to prevent risk of damaging the copper strap when trimming the welding rod. Apply a 4" (10.16 cm) band of Forbo C 930 on the copper grounding straps. Spread Forbo FST 1299 adhesive up to the C 930 in all remaining areas. The grounding straps should be grounded to the building by a licensed electrician.

NOTE: If using bare copper grounding strap, spread the Forbo C 930 adhesive, install the strap into the adhesive and spread additional Forbo C 930 over the strap.

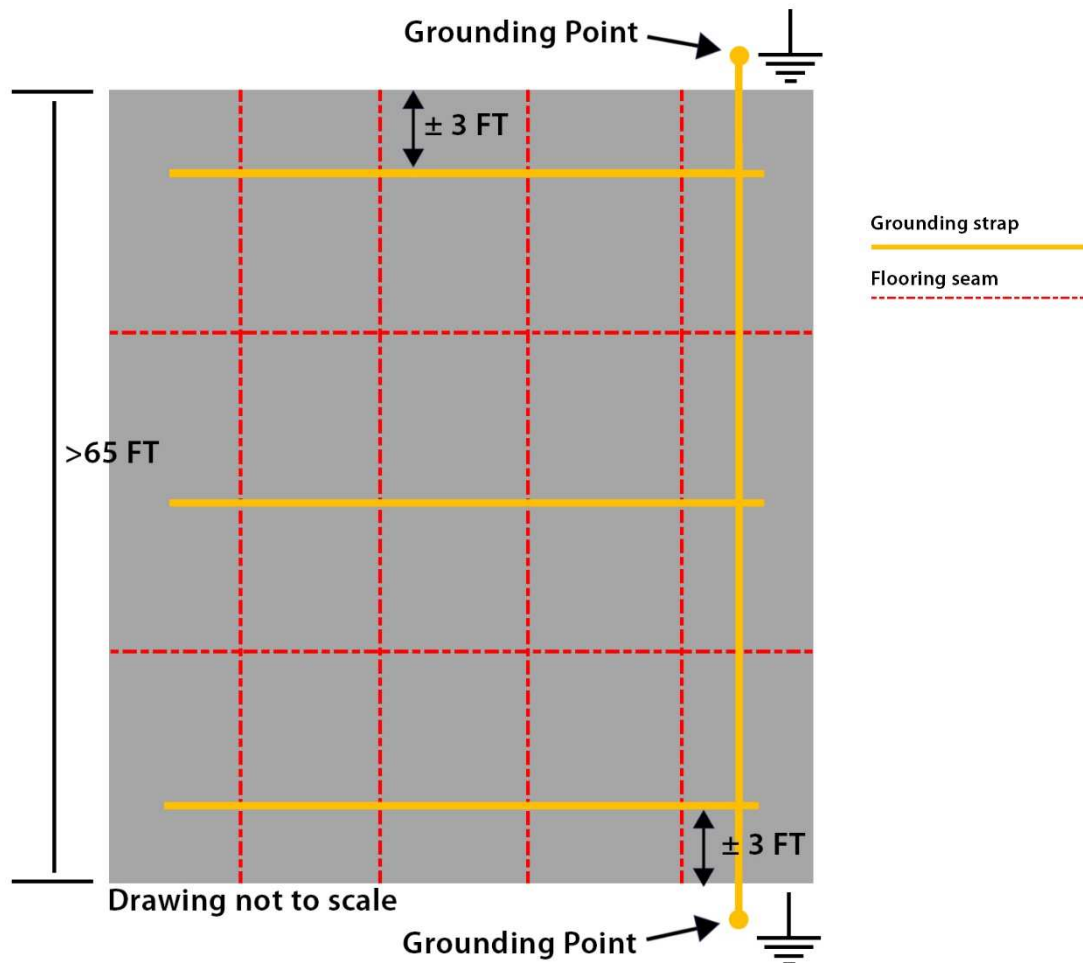


Figure 3

Installing Forbo Sphera SD | EC Sheet Flooring

For installations greater than 1,000 square feet (93 square meters), one additional grounding strap must be installed and grounded for every 1,000 square feet (93 square meters). See Figure 4.

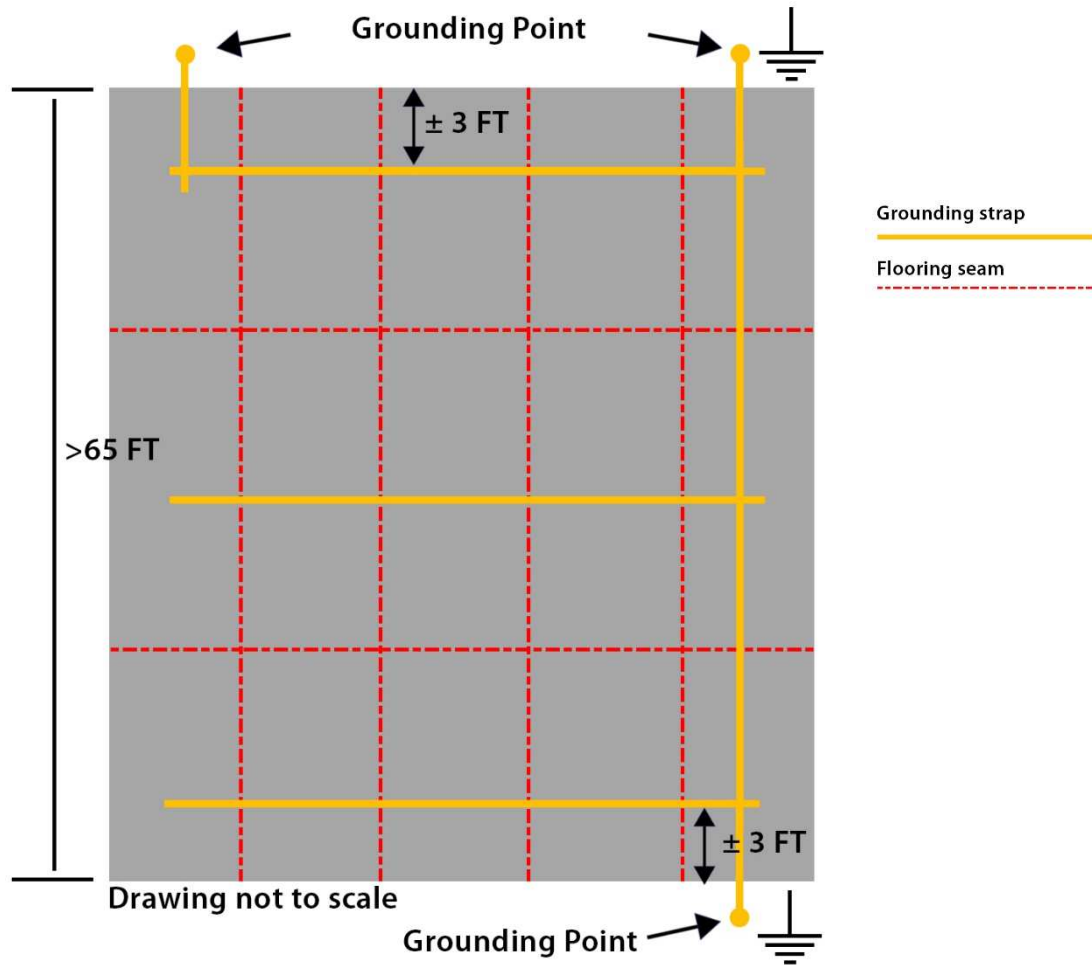


Figure 4

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Cross Seams

Install one 3 foot (1 meter) piece of copper grounding strap at all cross seams. See Figure 5. Ensure the copper grounding strap is positioned halfway under both pieces, creating a circuit between the two pieces. Take care not to damage the copper grounding strap when cutting seams.

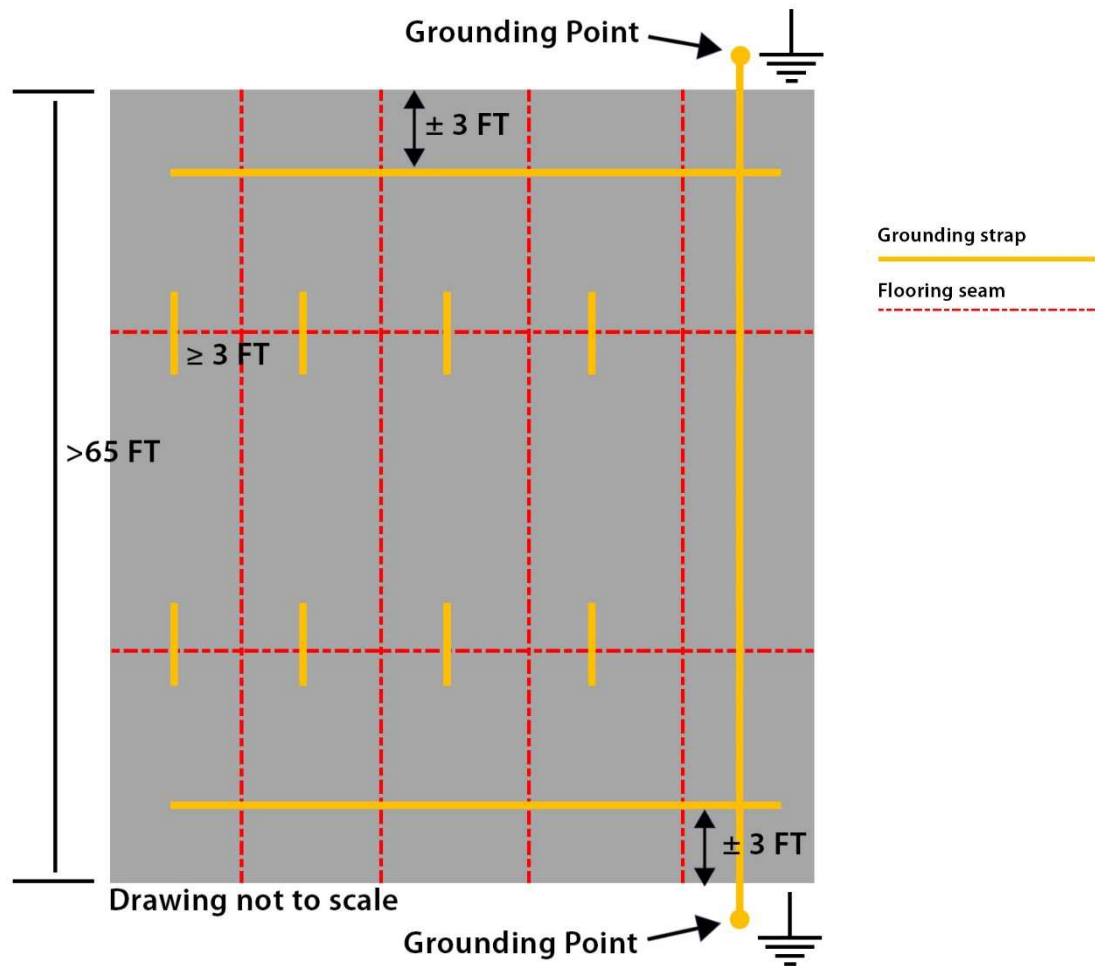


Figure 5

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Cutting and Fitting the Sheets

Forbo recommends that Sphera SD | EC be cut and fit one sheet at a time. Sphera SD | EC is flexible and easy to handle. Following these recommendations will give the installer the best opportunity to manage the open time and working time of the adhesive and ensure that the flooring material is placed into wet adhesive.

- Measure the installation area and determine both the direction in which the material will be installed and the seam placement. Seams should be a minimum of 6" away from underlayment and concrete joints, saw cuts, etc.
- Cut the required length off the roll, adding approximately 2" - 3" for extra trimming at each end.
- Push the length of the sheet as close to the starting wall as possible, letting the extra length run up the wall at each end.
- Starting at the main (long) wall, set the scribes to a minimum of 3/8" more than the greatest distance between the wall and the flooring material. Scribe the shape of the wall onto the flooring material, then cut the material along the scribe line using a hooked blade knife.
- Position the fitted sheet in place against the main wall.
- The factory edge must be trimmed to produce a clean edge suitable for seaming. Either a tool designed to trim off the factory edge of resilient sheet flooring or a straight edge, utility knife, and hooked blade may be used. Position the straight edge approximately 1/2"-3/4" from the factory edge and score the material using the utility knife along the straight edge. After scoring, complete the cut using a hooked blade knife following the score line. Hold the blade at a slight angle to the surface of the material so the seam edge will have a slight undercut.
- Cut the required length for the second sheet off the roll, adding approximately 2" - 3" for extra trimming at each end.
- Position the second sheet with a 1/2" - 1" overlap over the first sheet at the seam.
- Repeat these steps for as many sheets as necessary to complete the job, or as many sheets as can be installed that day.
- Lap halfway back one sheet at a time. **DO NOT back roll Sphera SD | EC.**

Adhering the Sheets

- Draw a pencil line along the area where the adhesive will be spread to ensure an even and straight line of adhesive.
- Apply a 4" (10.16 cm) band of Forbo C 930 on the copper grounding straps using a 1/16" x 1/16" x 1/16" square notch trowel. Spread Forbo FST 1299 adhesive up to the C 930 in all remaining areas using a 1/32" x 1/16" x 1/32" fine notch trowel. Spread the adhesive over the entire area. Be sure to spread adhesive all the way to the pencil line without leaving any voids. Be careful not to leave any adhesive ridges or puddles.

NOTE: If using bare copper grounding strap, spread the Forbo C 930 adhesive, install the strap into the adhesive and spread additional Forbo C 930 over the strap.
- 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 adjust specific conditions as may be necessary to ensure 100% wet adhesive transfer to the material backing. A general indication of proper open time is when a light touch produces transfer of adhesive to the finger, but a firm touch will flatten and "smear" the adhesive. For additional information regarding adhesives, refer to **Forbo's General Installation Guidelines**.
- The adhesive should be allowed to develop body before placing the flooring material into the adhesive, but **DO NOT ALLOW THE ADHESIVE TO DRY**.
- If Sphera SD | EC is placed into dry adhesive, the static dissipative/electroconductive properties may be compromised.
- If Sphera SD | EC is placed into overly wet adhesive on a non-porous substrate, there is a risk that sustainable bubbling may occur. Push the lapped flooring from the fold into the adhesive one sheet at a time, working towards the wall. Do not flop the material into the adhesive. This will trap air under the material causing bubbles.
- Check for adhesive transfer frequently. There must be **100% wet** transfer of adhesive to the material backing to achieve a secure bond. 100% wet transfer is a continuous film of adhesive, when wet, on both the backing of the material and the substrate with no trace of trowel marks or ridges.
- The flooring material **must remain in contact with the adhesive while the adhesive is drying and curing**.
- Immediately roll the flooring in all directions using a 100 lb. roller to ensure proper adhesive transfer. Additional rolling is required during adhesive setup to ensure that the material is flat and fully adhered.
- The use of a three-section wall roller or steel seam roller is required at walls, under toe kicks, or anywhere the full weight of a 100lb roller cannot access or be applied.
- Proper sheet placement and rolling will result in a complete "explosion" of the trowel ridges, creating a continuous, flat, film of adhesive. Complete transfer of the sheet backing will appear in the surface of the adhesive.
- After the material has been laid into the adhesive, under scribe the seams using recess scribes with either a scribe blade or scribe pin. Set the recessed under scribes so that the seam will be net fit with no gap or fullness. If the material is cut too full, it will result in bubbles or peaked seams. Gaps will contribute to weakened welds.

Installing Forbo Sphera SD | EC Sheet Flooring

NOTE: The guide button on the bottom of most recessed under scribes must be filed down to avoid removing adhesive at the seam.

- Cut the material along the scribe line with a hooked blade knife. Take care not to damage the copper tape when cutting seams.
- Roll the seam with a steel seam roller.
- Remove fresh adhesive residue immediately with a clean white cloth. Dried adhesive can be removed with a clean white cloth and Forbo Adhesive Remover. If this is not available, a solution of properly diluted neutral pH cleaner may be used. The area should then be rinsed with clean, cool water to remove all residues from the floor.
- Repeat the same procedure on the other half of the sheet until the job is completed. Take caution not to overlap adhesive lines or leave ridges of adhesive, as it may telegraph through the material.
- The seams should be heat welded no sooner than 24 hours following installation. For complete instructions, refer to **Forbo's General Installation Guidelines**.

Installing Forbo Sphera SD | EC Around Floor Drains

Forbo recommends the use of clamping type drains when Sphera SD | EC is being installed to prevent water penetration. These drains can be obtained from plumbing supply distributors. Examples of these include, but are not limited to, Mifab F1100-FC, Zurn Z415H, and Wade 1100-FC.

Flash Coving Sphera SD | EC

Forbo Sphera SD | EC may be flash coved. Flash coving is the extension of the flooring material up the wall, usually 4" – 6". Use only Forbo C 930 or Forbo FST 1299 when flash coving Sphera SD | EC. Forbo does NOT recommend the use of adhesive tapes for flash coving. Take care not to damage the copper tape when cutting seams. For complete instructions, refer to **Forbo's Flash Coving Vinyl Products Guidelines**.

Heat Welding

Heat welding Forbo Sphera SD | EC is required for all seams, coving, and corner fill pieces. Use only Forbo Sphera vinyl welding rod. For complete instructions, refer to **Forbo's Heat Welding Vinyl Products Guidelines**.

Testing

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

Other Forbo Installation Guidelines contain additional information and are available for download at www.forboflooringNA.com. For a hard copy, or for additional information, contact Forbo's Product Support & Education Services at 1-800-842-7839.