

Heat Welding Guidelines: Vinyl Products

General Guidelines

- Heat welding Forbo vinyl sheet products is required for all seams, coving, and corner fill pieces. Heat welding Forbo ColoRex[®] SD/EC is not always necessary.
- Heat welding provides for a strong, watertight and hygienic seam.
- It can also be used to provide an artistic touch.
- Forbo vinyl products may be heat welded with either a matching colored welding rod or a contrasting colored welding rod.
- All welding should only be done after the flooring adhesive has set up or approximately 24 hours after installation.
- The depth of the groove should be approximately 2/3 into the depth of the material.
- The material should be grooved to a 3.5 mm wide U-shape.
- Use a 5 mm speed tip.
- To determine the optimal temperature setting for welding vinyl products, pre-heat the welding gun. Hold a piece of the vinyl welding rod in front of the speed tip. The desired result is to melt the welding rod but **not** scorch it. If the welding rod scorches, lower the temperature until the correct temperature melts the welding rod with no scorching.
- It is recommended to practice on a scrap piece of material first to assure proper temperature and speed.
- Use only Forbo vinyl welding rod.
Note: The welding rod for Forbo vinyl products is made of pure PVC, which is designed to melt at the same temperature as the PVC of the vinyl flooring. You should *never* use welding rods other than those specified by the product manufacturer.
- 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.
- Take pride in your work and be Professional at all times.
- For additional information, contact Forbo Technical Services.

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Procedure

Seams should be prepared according to recommended seaming procedures. If there are any gaps in the seam, the integrity of the heat weld may be compromised.

1. Groove seam using the Forbo Groover (Figure A) or an electric grooving tool. The depth of the groove should be 2/3 the depth of the material. Grooving to the proper width and depth is very important to ensure the welding rod can achieve a secure bond to the flooring material.



Figure A

2. At the ends of the seam, in doorways or other areas where the Forbo Groover cannot reach, complete the groove using the Forbo Hand Groover (Figure B).

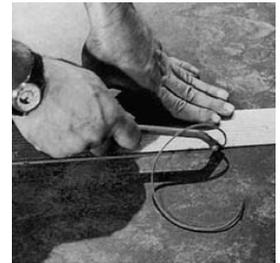


Figure B

3. To determine the optimal temperature setting for heat welding vinyl products, hold a piece of the vinyl welding rod in front of the speed tip. The desired results to melt the welding rod but **not** scorch it. If the welding rod scorches, lower the temperature until the correct temperature melts the welding rod with no scorching. The welding gun should be fitted with a 5 mm speed tip. Preheat the welding gun for several minutes before beginning to heat weld. This will allow the gun to reach the proper welding temperature.



Figure C

Note: Forbo recommends using only professional quality heat welding equipment. Equipment of lesser quality often does not operate at a consistent temperature and using such equipment may result in an inadequate bond of the heat weld.

4. Make sure the groove is thoroughly clean before beginning to heat weld. Make sure that all cords are laid out without tangles and that there are no obstructions along the seam to be welded. Cut a length of welding rod long enough to heat weld approximately half of the length of the seam.

5. Start the weld at one wall and weld toward the center of the seam (Figure C). To begin the weld, first position the welding tip near the starting point before inserting the welding rod into the tip. Once the welding gun is in position, insert the welding rod through the speed tip, place the welding rod into the seam against the wall, and while applying a firm downward force, feed the welding rod into the speed tip while pulling the welding gun away from the wall. In order to avoid pulling the welding rod out of the seam, continue feeding the weld rod into the speed tip for the first few inches of weld. After welding the first few inches, the weld rod at the beginning will have cooled and will be bonded well enough that the welding gun can simply be guided along the seam without further need to feed the welding rod.

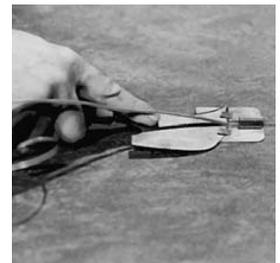


Figure D

Note: To ensure a proper weld, the base of the welding tip should be held parallel to the flooring surface in line with the seam and directly over the groove. A slight downward pressure should be maintained so that the welding tip will force the melting welding rod completely into the groove. The correct welding speed is determined by observing the way the welding rod is melting into the groove. It should be allowed to melt enough so that the melted rod reaches the bottom of the groove. The top of the welding rod should flatten slightly and a small bead should form on either side of the welding tip. If the welding speed is too slow, the welding rod will tend to become liquid and puddle around the tip. If the welding speed is too fast, the welding rod will maintain a rounded appearance on the top and will not flow into the groove.

6. After completing the weld for the first half of the room, the excess weld rod must be trimmed. Make the first trim pass using a crescent shaped knife and trim plate (Figure D). When trimming, apply uniform pressure to the trim knife and trim in one continuous movement rather than short, choppy movements.

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Note: The first trim pass should always be made while the welding rod is still slightly warm (not hot). In some cases, it may be necessary to weld shorter sections of the seam so that the first trim pass can be completed before the weld rod cools too much. Alternatively, a colleague can begin the first trim pass while the remainder of the seam is being welded.

When heat welding Eternal Step SR, the welding rod is trimmed in one step, after the rod is cooled using a Pajarito Knife. Refer to the Accessories and Tools section of Forbo's Installation Guide for additional information on the Pajarito Knife.

7. After completing the first trim pass, inspect the welded seam to ensure that the heat weld is properly bonded for the entire length. If there are areas where the welding rod did not properly bond (Figure E), a new piece of rod can be welded into its place and trimmed as follows:

- Prepare the area to be repaired by cutting out the poorly bonded weld rod. Do not pull out the loose weld rod because doing so may damage the groove.
- At each end of the area to be re-welded, cut a V-shaped notch into the end of the remaining welding rod (Figure F). Cutting this notch will aid in blending the new weld into the existing weld.
- After preparing the area, begin to heat weld on top of the existing welding rod at one end of the repair area. Overlap the weld approximately 1" - 1½" (Figure G).
- Continue welding and overlap the existing welding rod on the other end approximately 1" - 1½" to complete the repair (Figure H).
- Again, using the crescent shaped knife and trim plate, make the first pass trim to remove the excess weld from the repaired area.

Note: All welding repairs should be made before making the final trim. Once the final trim has been completed, it is very difficult to blend the repair to the existing heat weld.

8. When heat weld and first trim pass for the first half of the seam have been completed, prepare the end of the weld for receiving the heat weld from the other end of the seam by cutting a V-shaped notch at the open end of the first section of the weld.

9. Following the same procedure used for the first end of the seam, begin heat welding at the opposite wall and overlap the second heat weld over the first heat weld approximately 2" where they join.

10. Trim the excess weld using a crescent shaped knife and trim plate and complete any repairs that may be necessary.

11. Before making the final trim pass, wait until the welding rod has cooled to the touch. After it has cooled, make the final trim over the entire seam using only the crescent shaped knife (Figure I) to complete the heat weld. When trimming, apply uniform pressure to the knife and trim in one continuous movement, rather than short, choppy movements.

12. A heated smoothing tool may be used to touch up minor irregularities in the finished weld.

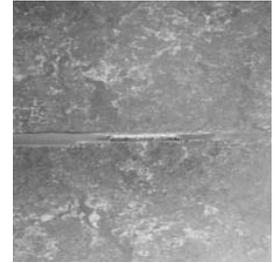


Figure E



Figure F



Figure G



Figure H



Figure I

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.