

Heat Welding 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 optional.
- 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.
- Forbo requires net fit seams. A properly executed net fit seam will have no gaps or fullness.
- 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 welding 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 welding tip. The desired result is to melt the welding rod but **not** scorch it. If the welding rod scorches, lower the temperature until the welding rod melts with no scorching.
- Always 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 Forbo.
- Material should always be visually inspected prior to installation. If there are any questions regarding the quality of material, contact Forbo's Product Support & Education Services PRIOR to installation.
- Always refer to and follow the recommendations in the **General Installation Guidelines section** of the Forbo Installation Guide prior to beginning the installation.
- Always refer to and follow the recommendations in the **Substrate Evaluation and Preparation section** of the Forbo Installation Guide prior to beginning the installation.
- 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.**

Procedure

- Seams should be prepared net fit according to recommended seaming procedures. If there are any gaps in the seam, the integrity of the heat weld may be compromised. Refer to the **Installation: Project Vinyl Sheet Flooring section** of the Forbo Installation Guide for additional information.
- Groove seam using the Forbo Groover, an electric groover or a hand groover. 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.
NOTE: Due to the abrasive qualities of the metalized carborundum chips in the Eternal Step SR, groover blades will have a very short life. If using an electric groover on these products, only use a carbide diamond tip blade. Conventional electric groover blades will have a very short life.
- At the ends of the seam, in doorways or other areas where the Forbo Groover or electric groover cannot reach, complete the groove using a Hand Groover.
- Use blades on all tools that provide a 3.5 mm wide u-shape groove to ensure the width of all finished heat welds will be consistent throughout the project.
- To determine the optimal temperature setting for heat welding vinyl products, hold a piece of the vinyl welding rod in front of the welding tip. The desired result is to begin melting the welding rod but **not** scorching it. If the welding rod scorches, lower the temperature until the welding rod begins to melt with no scorching.
- Always practice on a scrap piece of material first to assure proper temperature and speed.
- The welding gun should be fitted with a 5 mm welding tip. Preheat the welding gun for several minutes before beginning to heat weld. This will allow the gun to reach the proper welding temperature.
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.

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- 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.
- Start the weld at one wall and weld toward the center of the seam. 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 welding tip, place the welding rod into the seam against the wall, and while applying a firm downward force, feed the welding rod into the welding 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 welding tip for the first few inches of weld. After welding the first few inches, the weld rod at the beginning will be bonded well enough that the welding gun can simply be guided along the seam without further need to feed the welding rod.
- 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 welding rod completely into the groove.
- The optimal welding speed and temperature is determined by observing the way the welding rod is fusing into the groove. It should be heated enough so that the rod fuses the entire groove. The top of the welding rod should flatten slightly and a small bead should form on both sides of the welding rod. If the welding speed is too slow, the welding rod and surrounding material will scorch. If the welding speed is too fast, the welding rod will maintain a rounded appearance on the top and will not fuse into the groove.
- After completing the weld for the first section of seam, the excess weld rod must be trimmed. Make the first trim pass using a crescent shaped knife and trim plate. When trimming, apply uniform pressure to the trim knife and trim in one continuous movement rather than short, choppy movements.

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.
- 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 is improperly bonded, a new piece of rod can be welded into its place and trimmed as follows:
 - Prepare the area to be repaired by grooving out the improperly 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. Cutting this notch will aid in providing a smooth transition between the new and 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".
 - Continue welding and overlap the existing welding rod on the other end approximately 1" – 1½" to complete the repair.
 - 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.
- 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.
- 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.
- Trim the excess weld using a crescent shaped knife and trim plate and complete any repairs that may be necessary.
- Before making the final trim pass, wait until the welding rod has completely cooled to the touch. After it has cooled, make the final trim over the entire seam using only the crescent shaped knife to complete the heat weld. When trimming, apply uniform pressure to the knife and trim in one continuous movement, rather than short, choppy movements.
- **Making the final trim pass while the welding rod and material is still warm can cause permanent damage to the surface of the flooring.**
- A heated smoothing tool may be used to touch up minor irregularities in the finished weld.

Forbo's Installation Guide contains additional information and is 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.