

**Resilient flooring** - particularly in a high-traffic commercial environment - must withstand a variety of environmental extremes, including constant traffic, heavy static, dynamic loads, and temperature fluctuations.

Resilient case studies show that installers using seaming materials and methods recommended and designed by manufacturers to reinforce seam strength and flexibility give their clients floors that are able to compensate for stress and boast improved long-term performance. In high-stress commercial areas, most manufacturers recommend heat-welded seams. Heat welding allows for strong, elastic seams that are able to bear the strains associated with resilient commercial flooring applications.

### Before you begin

As with most installations, preparation is an all-important factor in the success of the job. The actual grooving and heat welding procedures are generally the same for most product lines; however, installers should research and follow the manufacturer guidelines for the products they will utilize.

Seams must be well cut, butt jointed closely (but not tightly,) and secured to the subfloor using the manufacturer's recommended adhesive.

A slight gap of no more than 1/32-inch is allowable to aid in guiding the router down the length of the seam.

Do not assume that there can be any inconsistencies in the formation of the proper joint simply because welded joints have been specified.

Apply adhesive carefully using the recommended notch size. Uneven adhesive spread may cause variations in sheet thickness and open joints, causing problems with grooving out.

Place the material and manufacture the seam within the working time of the adhesive. This will ensure a tight bond to the floor that is necessary for proper heat welding and floor performance.



Figure 1



Figure 2

### Heat Welding Seams

Use the selected grooving tool to cut three-quarters into the thickness of the material. (Note: Do not use triangular paint scrapers to groove - they tend to cause uneven channels and inferior bonds.) (Figure 1)

Groove a channel centered on the seam and clear the channel of any material or adhesive waste. (Note: Some power grooving tools have front and rear guides that fit into the sheet seam to orient the groover and eliminate the need for a straight edge.) (Figure 2)

Most electric groovers will only allow you to cut within several inches of the wall. Use a hand tool and straight edge to groove the remainder of the channel. (Figure 3)

Clean the groove thoroughly with a vacuum cleaner or soft brush.

Pre-heat the welding gun. Follow the manufacturer's instructions regarding settings and temperature. Before heating, make sure the nozzle is in good working order and fits securely. Make sure the hot air jet is pointing away from the floor surface.

It is always good to practice welding on a scrap piece of material. This way, gun temperatures and welding speed can be adjusted prior to working on the floor.

Cut enough welding rod to complete half of the seam length.

Insert welding rod with approximately 3 inches extending through the welding nozzle.

To heat the weld properly, the tip of the welding nozzle must be held parallel to the flooring, and not tilted to the right or left side of the seam. (Figure 4)



Figure 3



Figure 4



Figure 5



Continue welding until the end of the pre-cut vinyl thread. Use the trim knife and cut approximately 3 inches at the end of the heat-welded thread, flush with the flooring surface. (Figure 5)

Using a hand-grooving tool with a half-round blade, route about one inch at the end of the flush-trimmed thread. This will allow for easy overlap when fusing the second half of the weld. (Figure 6)

Cut an additional length of welding rod to finish the remaining seam length. Begin at the wall and work toward the center of the floor. At the center, carefully overlap about 3 inches of welding rod where the second section joins the first. (Figures 7 & 8)

Trimming off the welded rod will be accomplished in two steps. First, make sure the trim knife blades are sharpened and honed using a stone or fine emery board. Angle the blade of the knife when cutting. This allows the rod to be easily sliced away - holding the blade square on will require much more force.

Attach the trim plate to the crescent-shaped spatula trim knife and remove approximately two-thirds of the heat-welded rod. Do not skip this step; the result will be a concave skives which can attract and hold surface dirt. (Figure 9)

Next, use a quarter-moon spatula trim knife - without the trim plate - to remove any remaining weld rod that protrudes above the surface of the floor at the seams. Use moderate, steady pressure while completing the second trim. (Figure 10)

After trimming, it is good practice to glaze the weld by gently reheating the weld surface.

Smooth, nice-looking heat welds are a reflection on the care and skill level of the installer. Such professionals will take the time and the appropriate steps to ensure this occurs. Approach each job in a manner that demonstrates your commitment to quality and to your client. Dedicated efforts in this area can pay off in the form of repeat business and increased profits.



Figure 7



Figure 8



Figure 9



Figure 10