

TECHNICAL DATA SHEET SEAMING



1. Seaming

The machining of two pieces of HIMACS to create a seam joint can be carried out in different ways. What is important however, is the quality of the machined edge.

The goal is always to create a perfect seam without any visible gaps at all. As accurate as a seam is prepared as perfect the result of the seam will be to become not seen anymore.

Before starting the preparation ensure the sheets to assemble are placed in the right position and have been produced according to its production flow and showing a sequential production date.

The most reliable method is the “mirror cut” technique with a hand-held router, which works by cutting both adjoining edges in one cut. Place the two pieces onto a seaming table (Fig.1), leaving a gap of 9 mm between them and secure with either C-clamps or screw clamps. Clamp a metal or a compact straight edge to one of the pieces placed on a strong and stable table. With a 12 mm double flute tungsten carbide router bit fixed into a powerful hand router, move the machine steadily in one direction away from your body and cut both sections at once. Maintain a slow steady pace without stopping. After cutting check that the joint matches perfectly and mark the mating position with a pencil line.

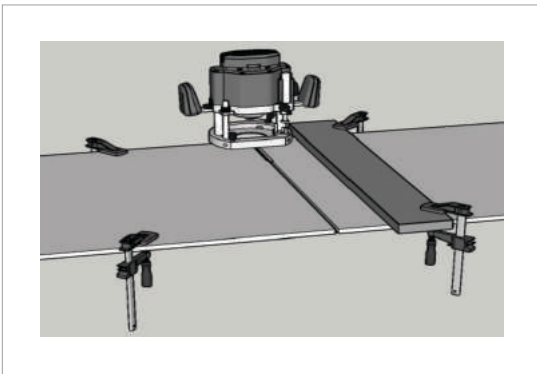


Fig.1

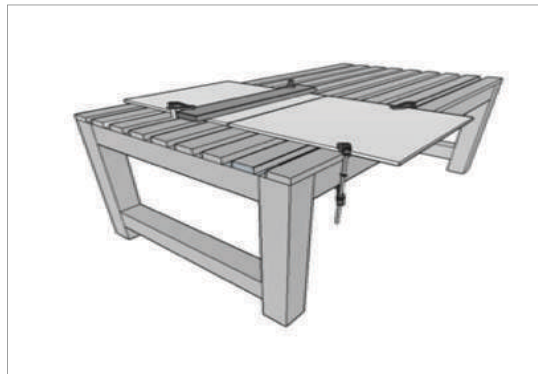


Fig.2

Another possibility is to machine each edge independently using a standard workbench and straight edge (Fig.2).

First clamp the work piece to the bench and attach the straight edge to the sheet, so that the router will remove 1.5mm in total. Push the router at a slow steady pace without stopping. Repeat this exercise for the second piece and then check the accuracy of the joint. If the edges do not match then one or both of these edges will require re-machining. (Using a wavy profile router bit can avoid gauge difference between both work pieces).

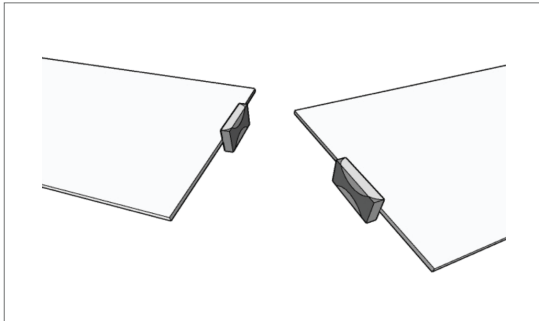


Fig.3

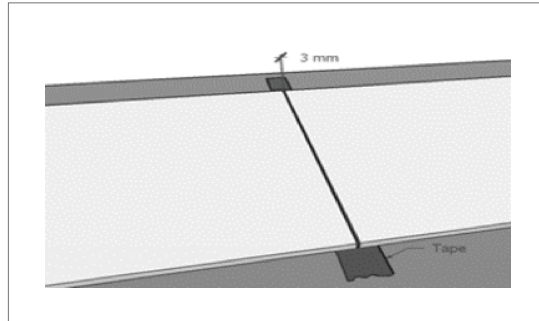


Fig.4

After machining, both cut edges will require sanding with 150/180 grit abrasive sandpaper (see Fig.3) and to be cleaned using denatured alcohol (or Acetone) with a white clean cloth or white industrial paper, in preparation for bonding.

The use of CNC cutting and nesting programs is becoming more and more popular. Equipment, such as this, is becoming very efficient, especially for small serial production or individual requirements.

When edges have been machined, sanded and cleaned, they are ready for bonding.

Before bonding, cover the tray beneath the seaming table with a transparent tape in order to catch any overspill of adhesive (Fig.4).

The sheets are to be clamped together using for example screw clamps. It will be necessary to fix small blocks to the sheet using hot melt adhesive. (Fig.5). Additional working steps are needed till the work piece is finished.

Alternatively, sash clamps (Fig.6) can be used, provided they are not over tightened. Apply tape at either end of the assembly prior to the application of adhesive.

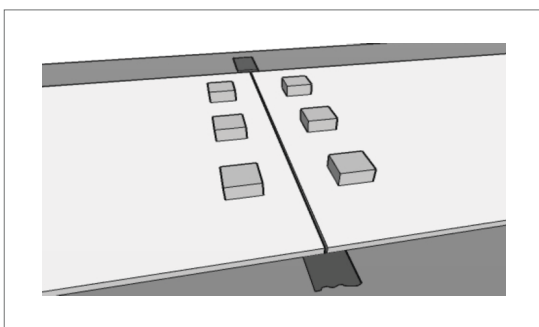


Fig.5

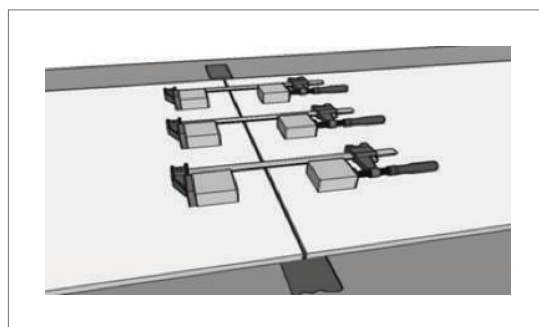


Fig.6

Clamp the assembly but do not over tighten it, as this will cause weak joints through starvation of adhesive (Fig.6). The joint of HIMACS should not larger than a half thickness of a piece of paper.

2. Clamping Tips

- Remember clamping pressures. You do not want to use excessive pressure. If you do, you will create a dry seam. This is when you squeeze all the glue from the seam joint.
- Clamp pressures should be tight enough to allow a bead of adhesive to squeeze out.
- The adhesive will shrink slightly, so do not completely clean off the joint of excess adhesive.
- Look for glue voids and air pockets. Take care of this before the seam adhesive sets up.
- Inspect the seam to ensure a tight fit.
- Let the adhesive cure for a minimum of 30 minutes in normal conditions or until hard to your fingernail touch.
- Remove the excess adhesive by "Leveling" the seam with a router with a set of skis and a small leveling bit.
- Do not use a belt sander to perform this operation. Excessive heat will weaken the integrity or fail the seam all together.
- Finish sanding all surfaces to semi-gloss finish according to recommendation.

Remove the clamps once the adhesive is fully cured and hard to the touch.

Remove excess cured adhesive with either a portable hand held router, set on skis or a small block plane with a sharp blade. Whenever possible avoid the use of chisels.

Standard butt seams will remain a less strengthen part of the assembly; therefore to strengthen the joint, reinforce the underside with an offcut of HIMACS (Fig.7 & 8).

To install a **Reinforcement Strip** is mandatory for kitchen counters or similar applications like fast food counters or buffet bars etc.

In cases where the joint could be affected by heat, it is strongly recommended to bevel (45°) the edges of the reinforced strip along the full length of the joint and to make a full adhesive film on the backside of the strip and to remove and finish off squeezed out adhesive till it is smooth.

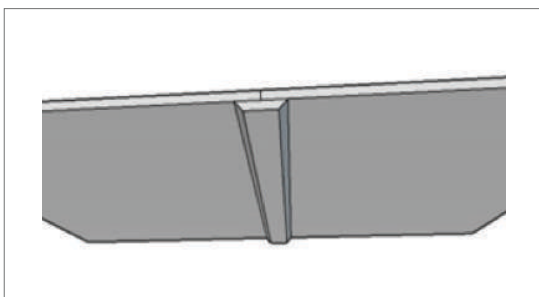


Fig.7

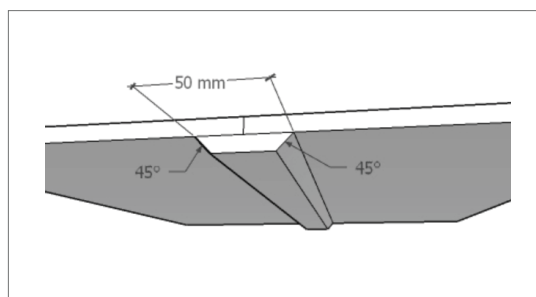


Fig.8

Finish the joint by sanding it with 180/240 grit followed by 320 grit and a Scotch Brite™ (grey) or Superpad S/G 1200. Do not simply concentrate on seam alone as this will cause shallow depressions around the joint.

► For further instructions on sanding/finishing see TDS "Sanding".

Do not place a seam over a dishwasher or washing machine. In this area of support the counter top with a full underlayment or a piece of insulation, like Styropore

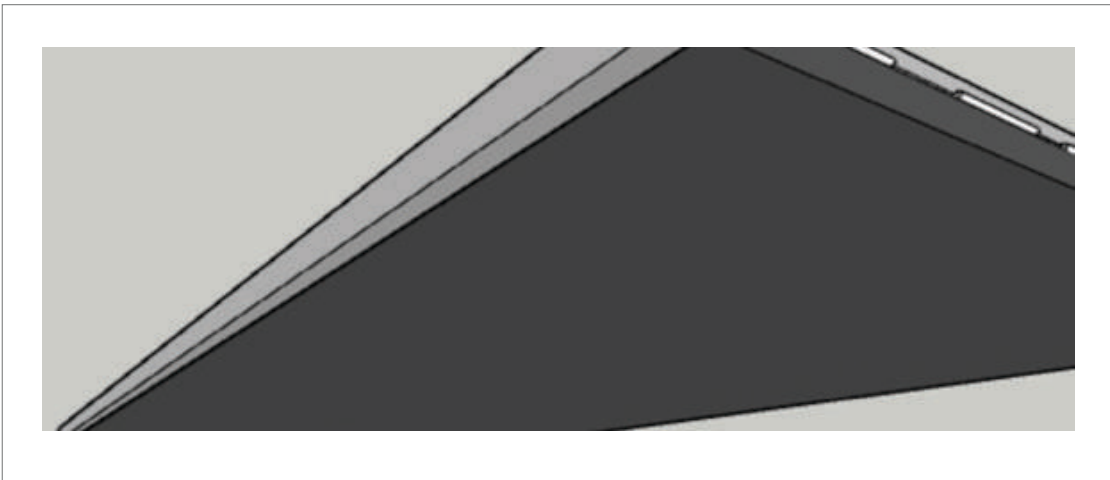


Fig.9

Never place a seam through a hob or a sink cut-out (Fig.10). Keep a distance of at least approx. $\geq 300\text{mm}$ from a heating devise.

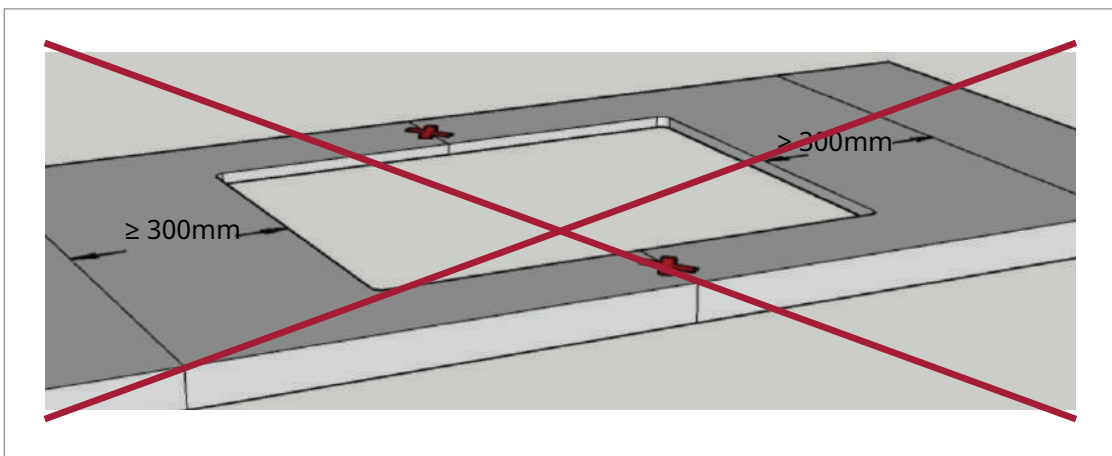


Fig.10

Keep a distance of the seam approx.. 50mm from the counter top corner away.

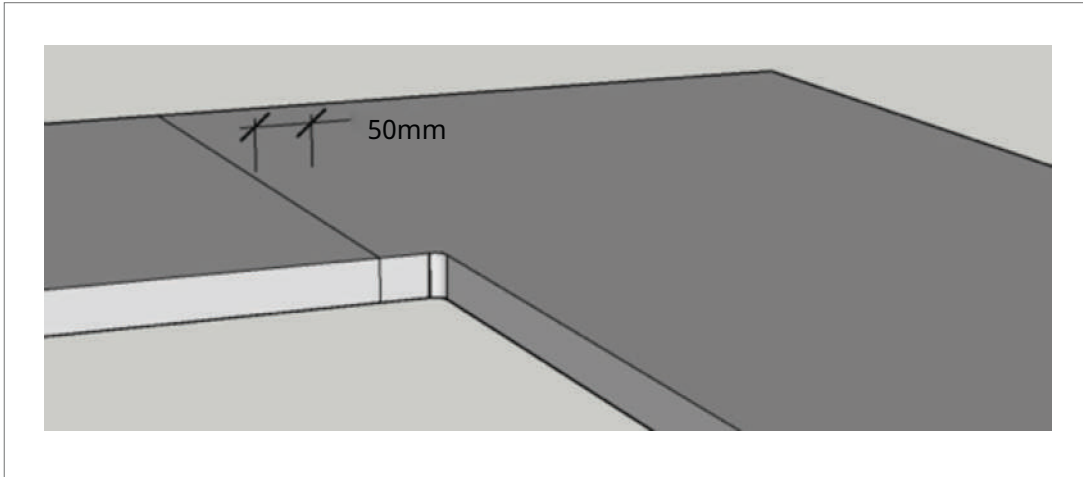


Fig.11

3. Edge Corners

HIMACS requires a minimum 5 mm radius on all drop edge inside corners.(Diagram indicates recommended build-up).

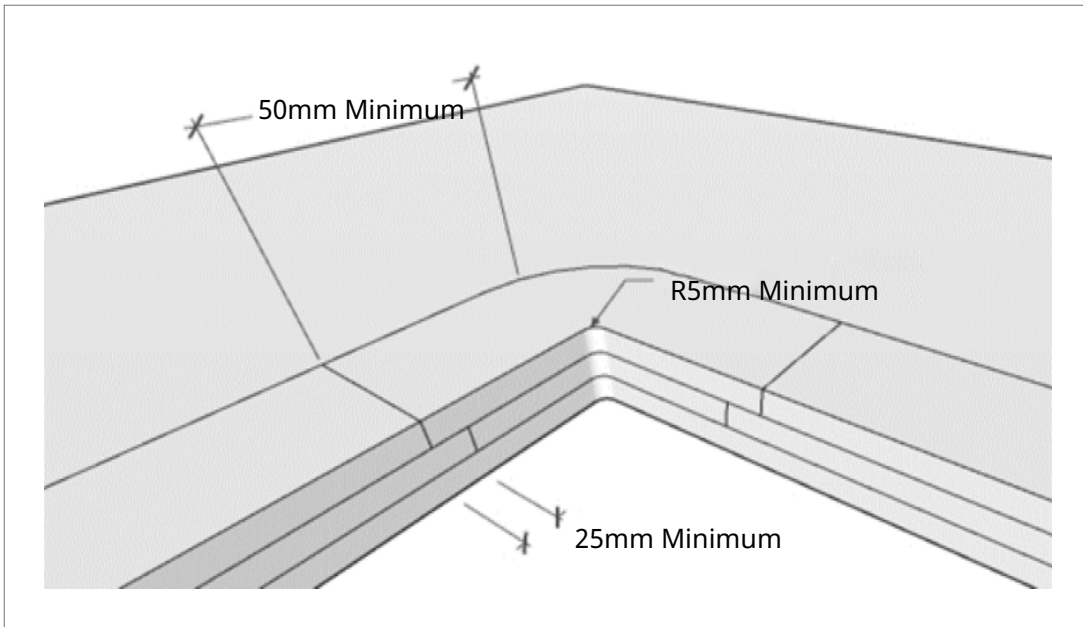


Fig.12

Whenever possible do not carry out a “Butt”- seam but always create a seam with **tongue & groove** or any other similar profile.

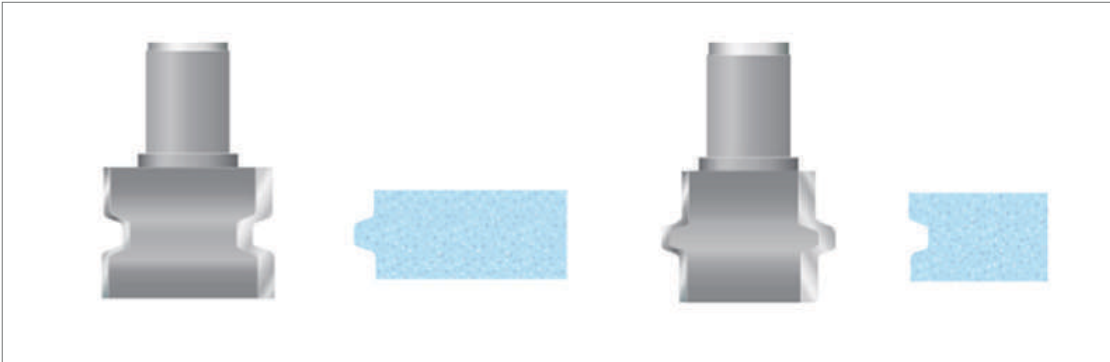


Fig.13

Source: Titman catalogue router bits

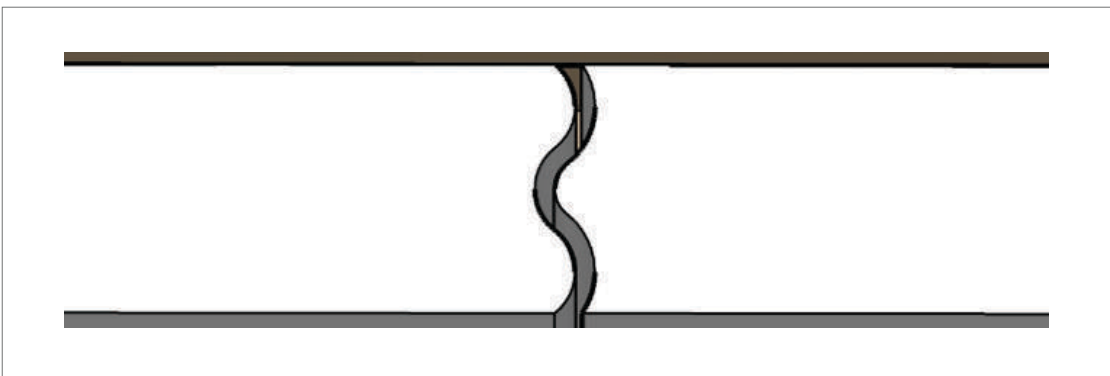


Fig.14

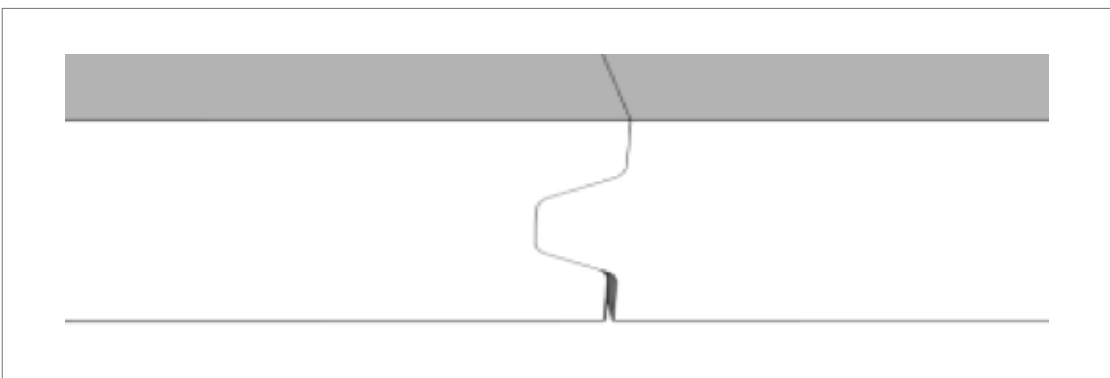


Fig.15



Fig.16

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