

Interior Solid Surface Material

HI·MACS

■ TECHNICAL DATA SHEET EDGE TREATMENTS & DOWNTURNS



1. General and Standard Design of Edges and Downturns

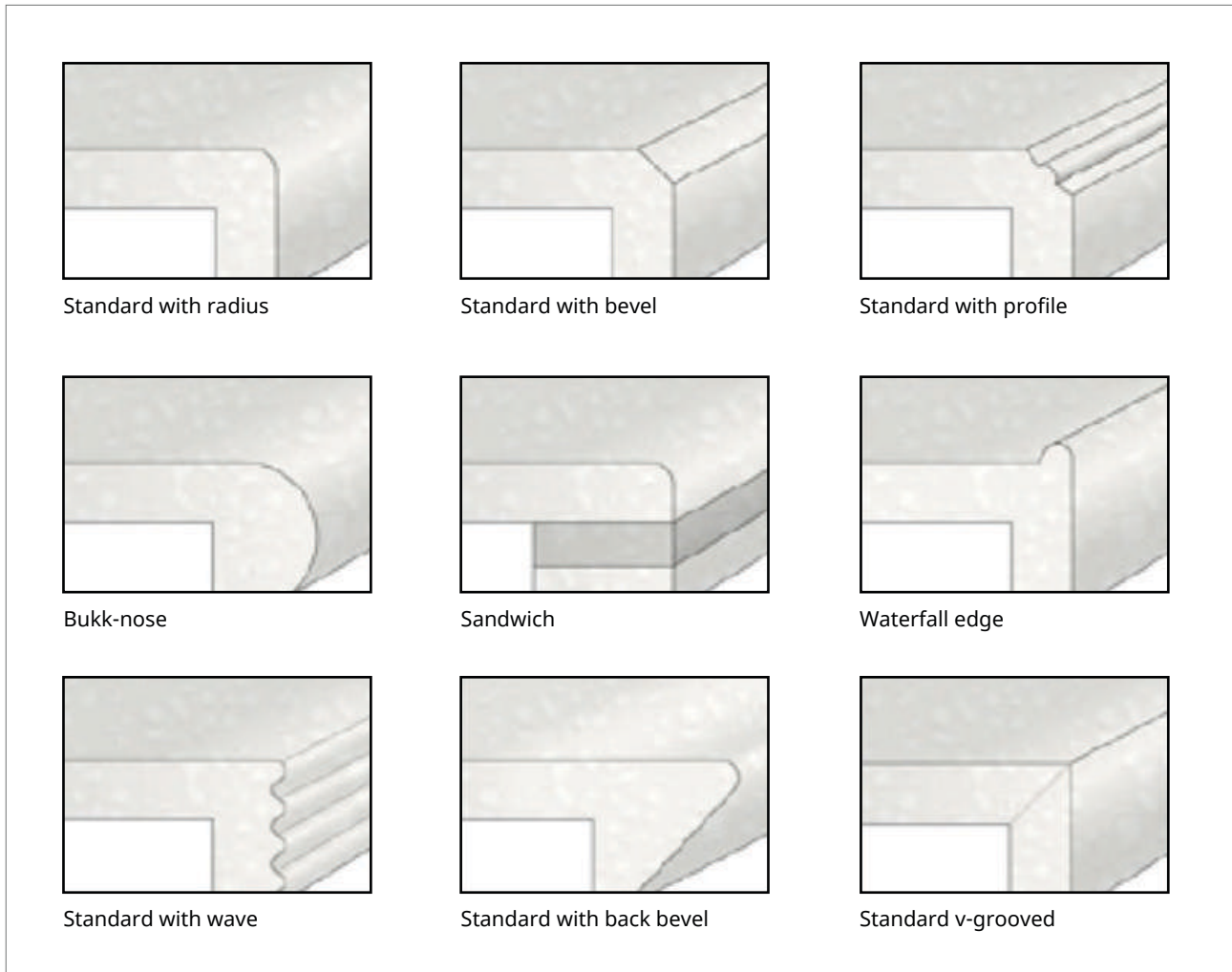


Fig.1

2. Edge Treatments and Downturns

Drop edges applied to sheets of HIMACS can create a multitude of design possibilities. The fabrication technique belongs to the color family and can be different.

- One of the easiest ways to produce a drop edge is to simply stack layers of HIMACS on the underside of the sheet (Fig. 2); reasonable for SOLID and SAND color family.
- Start by cutting strips which are slightly oversized and sand the underside with 120 grit paper. Clean with denatured alcohol and white cloth.
- Apply a sufficient amount of HIMACS joint adhesive to each of the strips and smooth out using a wooden or plastic spatula.

3. General and Standard Design of Edges and Downturns

- Attach 'A' style spring clamps every 70 mm to 80 mm and allow to cure (approx. 45min/+20°C). Ensure that, once the clamps have been applied, a reasonable amount of adhesive is forced out from the joint (Fig. 3).
- When the adhesive is completely dry, smooth down the surface using a circular table saw, then machine the required profile using a portable hand-held router or a table planer (Fig. 4).
- Drop edges can sometimes be applied on edge, primarily for deeper downturns. The best way to achieve this detail is to first rebate the underside of the sheet to a depth of approx. 1-2 mm (Fig. 5).
- The rebate serves two functions, firstly it increases the bond strength and secondly it minimizes the effect of uneven particle distribution.
- As you would normally do, sand both the internal edges of the rebate and the corresponding edges of the downturn with 150/180 grit paper, cleaned with denatured alcohol and with a white cloth (Fig. 5).

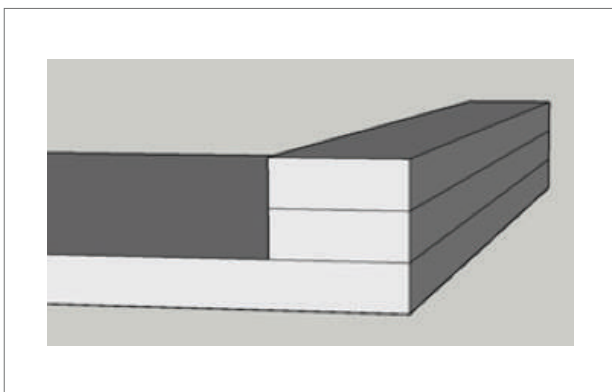


Fig.2

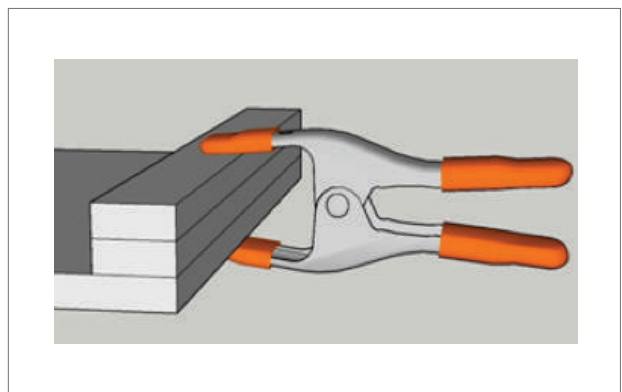


Fig.3

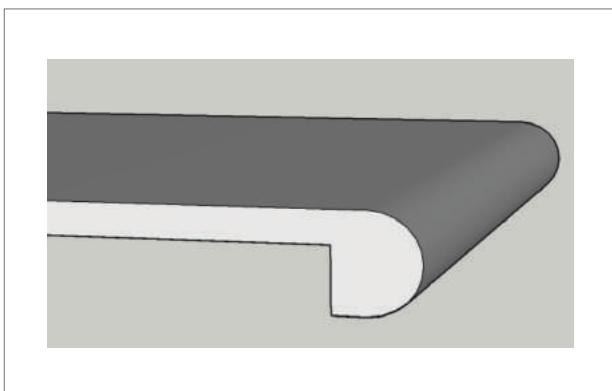


Fig.4

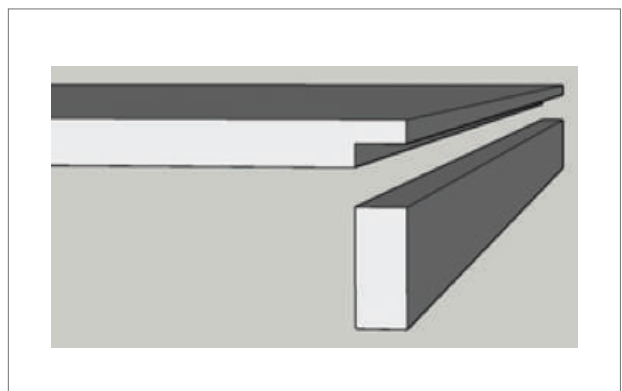


Fig.5

- Apply a sufficient amount of adhesive and clamp the edge in position with screw clamps to set every 70/80mm (Fig.6).
Ensure that beads of adhesive are formed at both the internal and external edge of the joint (Fig.5).
- Once fully cured trim off the adhesive overhang by using a portable hand router with a straight cutter and a Nylon bearing attached.
- It is possible to create curved downturns to shaped counters, simply by thermoforming the edge prior to bonding. See TDS "Thermoforming"
- For internal/outside corners you may choose an angled cut and trim it accordingly. 3D corners may difficult to realization but do perform well by using UTS-color family quality
- When it comes to a "Waterfall"-edge, the top sheet will need to be rebated while the edge will need grooving (Fig.7)
- Ensure the connection between rebate and the groove is neither too tight nor too slack (Fig.8)
- Apply adhesive and clamp the section together using sash clamps and allow adhesive to fully cure.
- Machine the edge using a router bit of the "Waterfall"-profile and with Nylon bearing attached (Fig.8).
Alternatively trim the edge profiles on a spindle moulder and adjust accordingly.

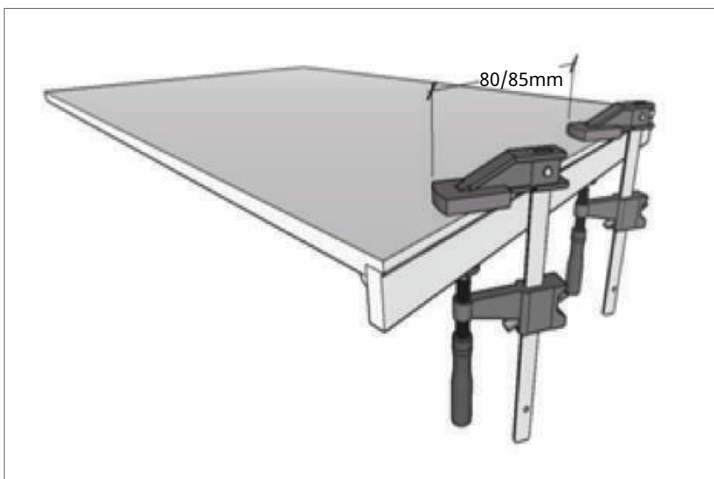


Fig.6

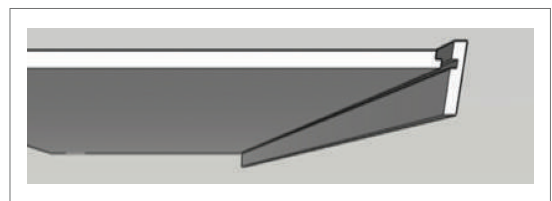


Fig.7

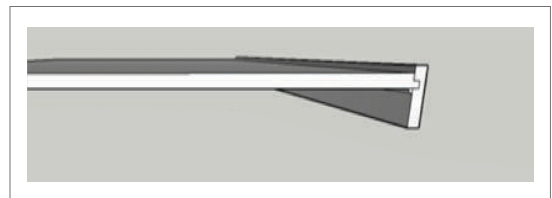


Fig.8

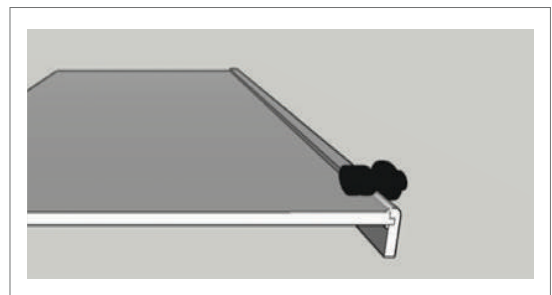


Fig.9

4. Fabrication Process: Step By Step

4.1 Edge preparation and buildup

HIMACS sheets are delivered with a less smooth sanded backside. Therefore it is highly recommended to sand it smooth (Fig.10) or prepare to trim a rebate for the front edge (down stand) (Fig.11) from the backside of the sheet. For this its best to turn the sheet over so that the back of the sheet is upside-down and you can work comfortably.

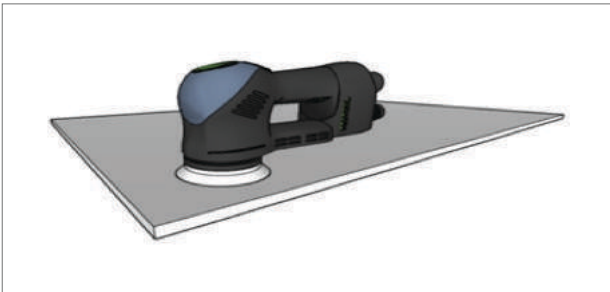


Fig.10

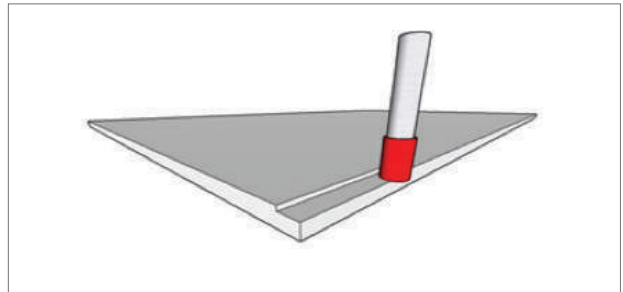


Fig.11

Hint:

Ensure the HIMACS sheet does not sag and the sheet is properly supported at each position to keep it straight and leveled. Do not round the edge of bonding area.

Using a rebate at the back of the sheet for edge treatment also has the advantage to:

- Take away the rough sanding marks
- Allows stopping the downturn (edge) to move during bonding process
- Avoid using "glue-blocks" (time saving)
- No use need for any kind of use of ruler or gluing templates

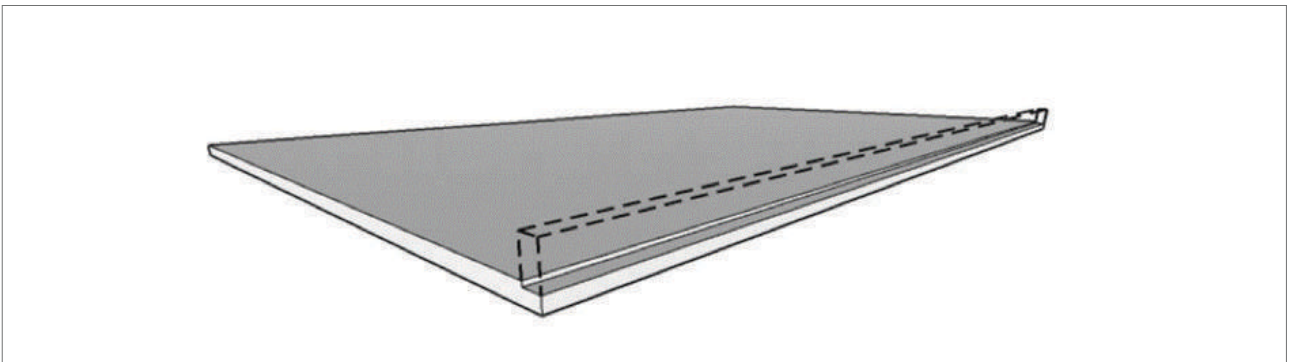


Fig.12

Hint:

Check all edges carefully before bonding.

Ensure that no chips are broken out and no marks of router bit or saw blade have left any visible marks or whitening effects on the area to bond.

Create a rebate with an overhang of approximate 0.5mm to trim off after curing of adhesive. Have all tools ready in place before starting bonding:

- A clean, white cloth
- Denatured alcohol
- HIMACS adhesive (check the right color)
- Adhesive dispenser
- Mixer tips
- Clamps (c-clamps or best use KLEMSIA-clamps)
- Cleaning paper or spoil board

4.2. Prepare and mix HIMACS Adhesive

Put a continuous glue line on the edge of the HIMACS strip or alternative onto the rebate.

Avoid any kind of air-bubble in the glue-line and ensure some adhesive will be squeezed out when placing the downturn into the rebate (Fig.13)

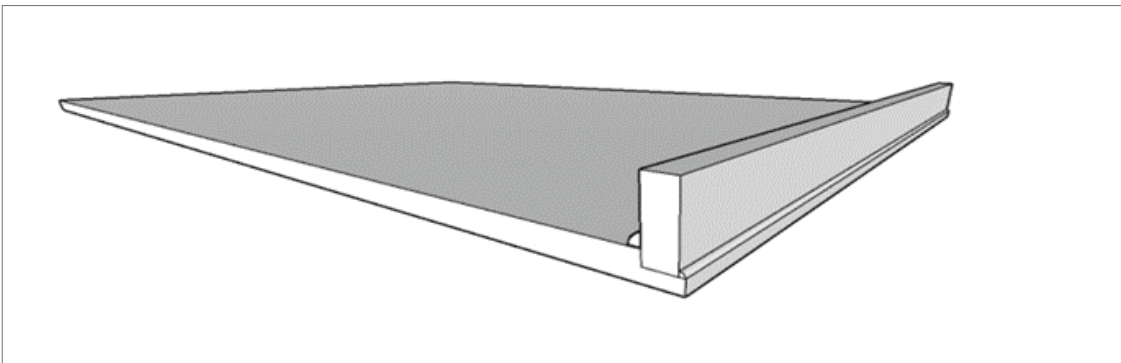


Fig.13

Place clamps all 8 to 10cm in line. Do not over tighten the pressure of the clamps. (Fig.14).

When HIMACS Adhesive has cured (after approx. 30min./ +17°C) turn over the sheet and trim off the edge with a profile router bit or using a moulding machine or CNC. (Fig.15)

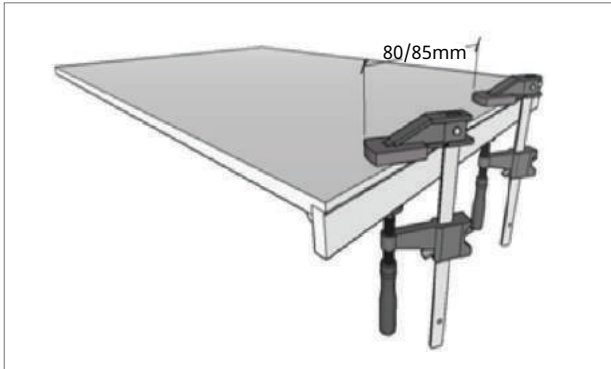


Fig.14

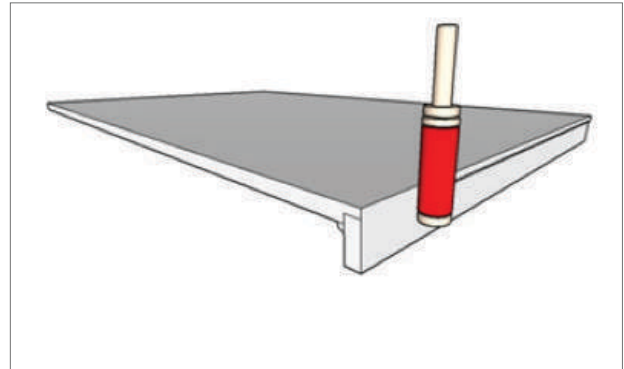


Fig.15

After trimming process finish off by sanding to the recommended final Semi-Gloss-Finish or as specified in the project, like:

- Matt finish
- Semi-gloss finish
- High gloss finish (not covered under the 15-Year-Limited-Warranty-Program)

5. Edge Detailed Design

The unique aesthetic of HIMACS sheet design in different colour families makes it necessary that during fabrication process a different technique for the edge detail needs to be taken place.

Even there is a very good distribution of large crunchies throughout the total thickness of the sheet material, the special fabrication techniques have to be taken into consideration to meet customers expectations.

It is every single fabricators and every single Installers responsibility of professionalism to process edge details according to the best end-result of perfection to High End-Quality and to make themselves proud to be member of the professional Authorized HIMACS Fabrication and Installation Quality Club.

For standard drop edges recommended best for Colour Families, like SOLIDS, SANDS and PEARLS (except G50) a standard butt seam. But still the bonding area needs to get prepared and smoothen.

To avoid lots of sanding with unregularly flatness result it may better to run a small rebate, which allows the down turn to avoid to slip away during bonding process and keep the edge straight.

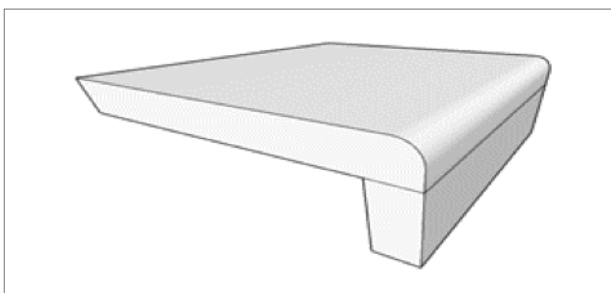


Fig.16

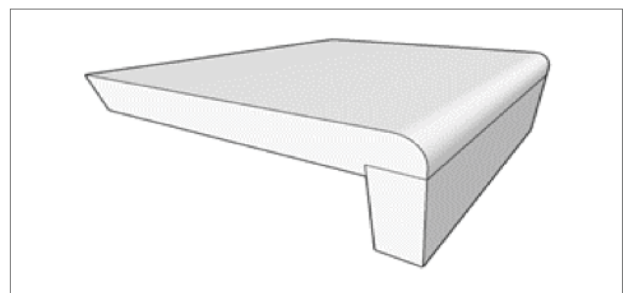


Fig.17

For colour families like, QUARTZ, GRANITE, Tapioca Pearl (G50), or VOCANICS, SPARKLE, TERRAZO or MARMO, CONCRETE etc. it may have better results to use following recommended techniques:

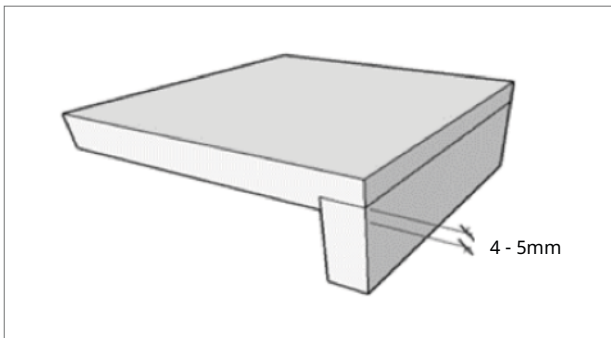


Fig.18

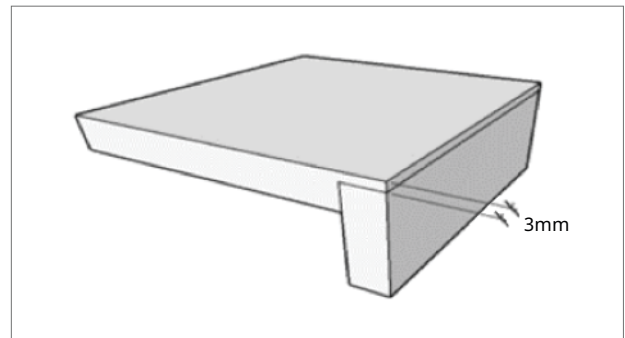


Fig.19

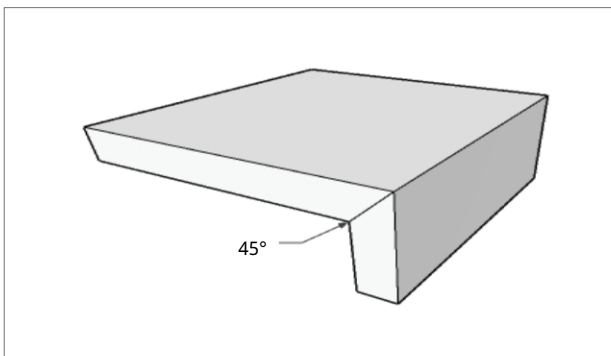


Fig.20

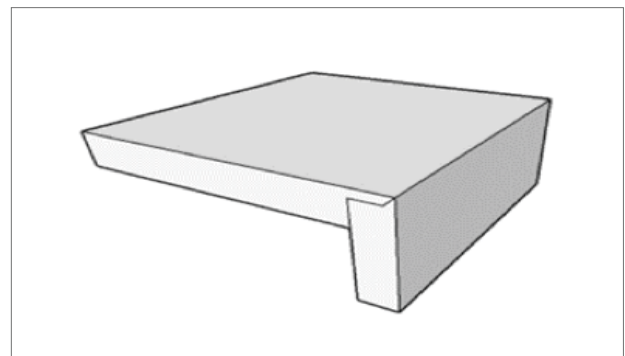


Fig.21

For the color family "VOLCANICS" or others showing marbled or veneering structure a 45° angle, Fig.20 or a profile with combined rebate and angle, Fig.21 is strongly recommended (mandatory). For the Up-stand especially by the color family "MARMO" it will show additional limitation as described in the information of "backsplashes".

6. V-Grooved Drop Edge

- Do not cut the sheet as you would for the two (2) edge buildup strips
- Instead, follow the v-grooving device manufacturer's recommendations to set up and cut two (2) v-grooves in the underside of the HIMACS material
- Clean the v-grooved areas with denatured alcohol or acetone
- Apply joint adhesive the grooves
- Fold the HIMACS material so that the edge is created and clamp in place until the adhesive hardens

■ 7. Edge Sample: Cut to fold / V-Grooving

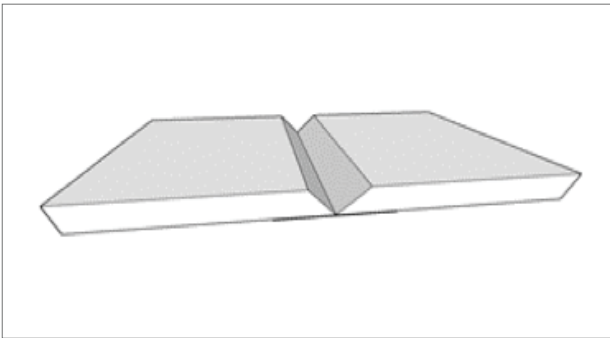


Fig.22

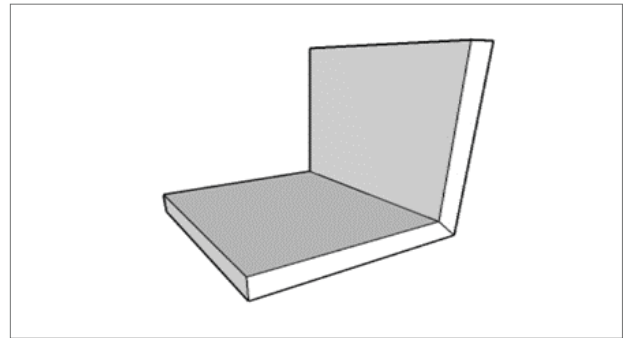


Fig.23

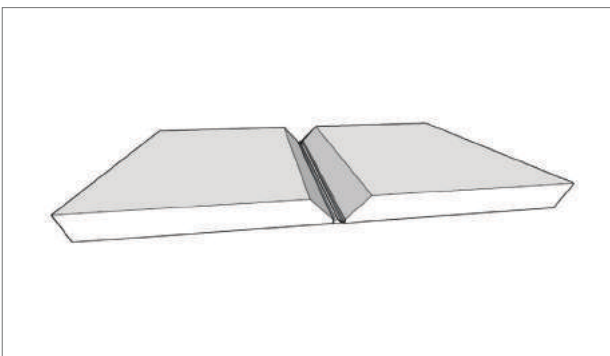


Fig.24

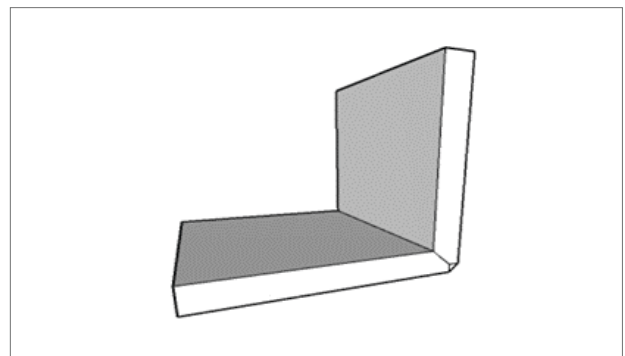


Fig.25

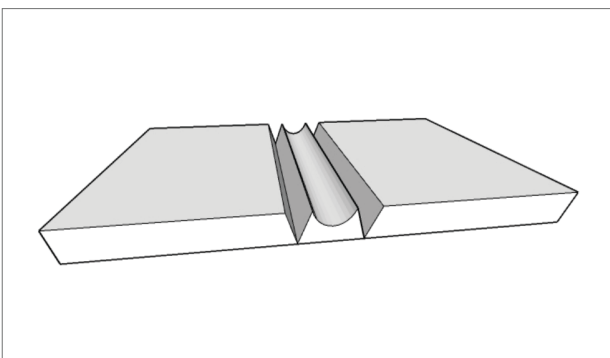


Fig.26

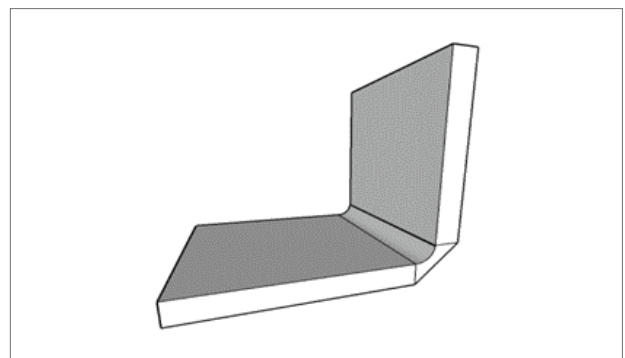


Fig.27

Hint:

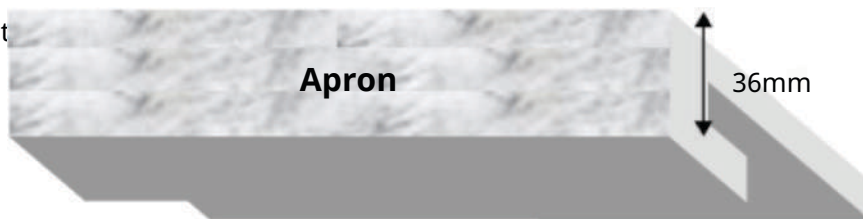
Do not use the standard edge treatment process and be aware of the veneering and marbled structure flow wherever it is possible.

Hint:

Both edges of the delivered sheet (length) show a lighter structured color and this has to be taken into consideration when bonding such sheets together; even sequential numbering will not be counted and not become relevant for any complaint reason.

Further information is provided in TDS "Sheet" and TDS "Seaming"

Main upper sheet



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Fig.28

Buildup not recommended as shown above in a 3-layer version by color family Marmo.

Recommended Edge Treatment: best for veining structure or any chip pattern, like Marmo, Volcanics, Quartz, Sparkle, etc.

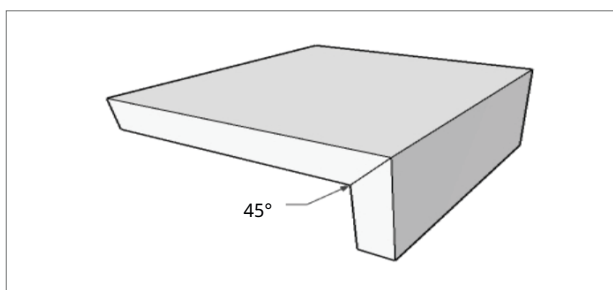


Fig.29

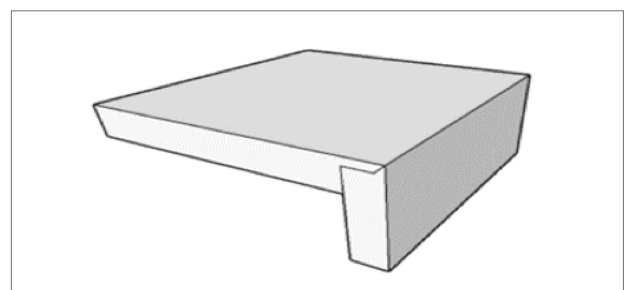


Fig.30



Fig.31

8. Edge Design With Other Materials

Before starting fabrication ensure to smooth HIMACS sheets from the backside when needed, as they show a rougher surface. Watch out for eventually some air bubbles-only on side of surface; which can later make some negative impact to the final Quality result.

Edge combination of HIMACS sheets and acrylics can be best bonded with pure translucent acrylic adhesive or with HIMACS Adhesive (Fig.32).

Other materials, like glass, metal like copper or stainless steel or laminate or other plastics should be best bonded with a permanent elastic adhesive like Silicone or PU-adhesive (Polyurethane) (Fig.33).

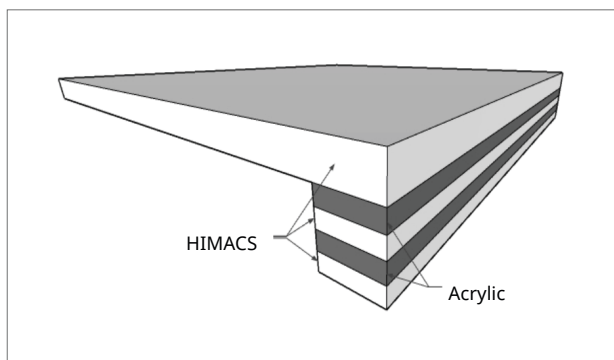


Fig.32

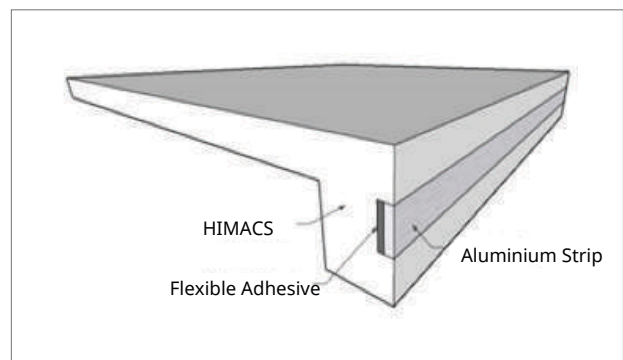


Fig.33

Hint:

Be aware to choose the right fabrication technique for the individual color family to avoid beside effects like: broken chips, broken veining structures or color differences. Quality check on the result is mandatory before processing further on fabrication and "a must" for customer satisfaction.

Disclaimer

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