

# HIMACS Site Inspection & Job Plan

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**HM2070**

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## Introduction

This section guides how to prepare and make job plan through site inspection, templates and material specification. And, the consideration of join point on top and thermal expansion/contraction are addressed.

## Overview

Good preparation through site inspection, measurement and templates will help make successful job plan. And, good job plan can reduce the waste of material and your time. Additionally, characteristics of HIMACS sheets should be considered and reflected at the job plan to avoid fail or to avoid shorten the life time of finished products after installation.

### **Note !**

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Contact LX Hausys HIMACS territory manager or distributor of your market for specific questions and information.

## 1. Site Inspection

### 1-1. Moving Path

The moving path is one of key factor to decide the size of semi-finished products in the workshop. If you can't put your semi-finished products into site or building, you have to make them again or have to do some additional fabrication. Therefore, check the moving path carefully and record to decide the size of semi-finished products. Check the size of followings.

- Parking and unloading place
- All entrances on the moving path : doors, windows
- Hallway, lift/elevator car, stair and ceiling height
- Corner angle of hallway
- And, check any information that may block the products moving

### 1-2. Condition of target place for installation

Check followings that may influence the fabrication and installation. Unclear or bad conditions of structure, wall, furniture may make fail of your fabrication and installation.

- Wall condition : flatness, cleanliness, slope and any obstacles
- Furniture condition : leveling and solidity of frame structure
- Electrical, plumbing positioning and heating elements
- Enough space for your installation in the site
- And, check any information that may affect fabrication and installation.

### 1-3. Detailed check points for furniture (cabinets)

- Be sure the base cabinets are level, even, and securely fastened to the wall.
- Base cabinets must be level within one-eighth (1/8) inch (3mm) in ten (10) feet (3m) when a straightedge and level are spanned over the cabinets in various directions. To protect your customer's Warranty, out-of-level condition(s) must be corrected before any material is installed.
- Inspect the supporting cabinetry for structural integrity. Be sure it will support not just the weight of the completed HIMACS countertop (sheet and shape products) but will also support sinks full of water, dishes, and cookware, countertop appliances, and incidental human activity.
- Dust covers, solid cabinet tops, corner cabinets, and "Lazy Susan" cabinets must be ventilated to prevent air from being trapped. In each case the tops of these cabinets must be removed as much as possible without hurting the structural integrity of cabinet.
- Note any conditions that have to be addressed at installation such as required wall-mounted support for the HIMACS countertop at corner cabinets, oversize base cabinets, open knee space, etc.

For more information of overhang support requirements refer to 'HM2160 HIMACS Structure & Installation'.

#### Useful Tip!

- When you check site, inform customer the excessive noise and dust levels that may occur during your work, so that prevent customer dissatisfaction.

### 1-4. Templates

Templates with strips are not essential for all most of general works with HIMACS sheets. For example, if you have enough experience,

skill for measurement and knowledge to handling size for tolerance, you don't need to waste your time to make template with strips. Or, you can use digital templates. Furthermore, if you are working for simple flat wall or simple shape counter top, the sketch with accurate measurement are more helpful. However, if you can't convince the accurate measurement and sketch because of irregular wall or complex furniture shape, template with strips will be most simple, accurate and efficient way for your job plan.

### Check points for templates and sketch

The first step in templating is usually to sketch a Plan View of the job including:

- Sink identification and location(s)
- Cooktop identification and location(s)
- Appliance identification (slide-in range, refrigerator, dishwasher, etc.) and location(s)
- Finished edge(s)
- Overhang(s) - less than 150 mm (six inches) at base cabinets
- Overhang(s) - more than 150 mm (six inches) at base cabinets requiring support
- Overhang(s) - more than 150 mm (six inches) including peninsulas that require support
- Inside corner(s) and outside corner(s) including each radius
- Pass-through location(s) and pass-through edge treatment(s)
- Backsplash and sidesplash type (loose or coved) and dimension(s)
- Special cutout(s) and any unusual conditions
- Allowances for thermal expansion

### Templates materials

Rigid and light materials that can be used with easy handling are proper for templates. Make sure that the templates do not shrink, warp or deflect, but instead provide long service life. And, it should be thicker than the template guide.

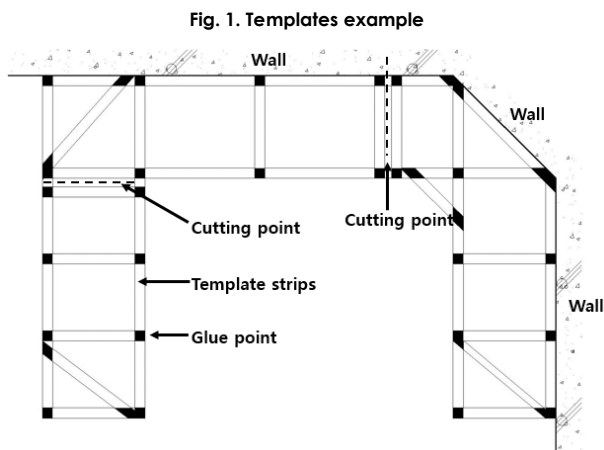
- Plywood strips
- Hardboard
- Heavy cardboard sheets
- MDF strips
- Digital templates if possible

Templates should strong enough to keep the accurate shape without transform when you transport it from site to your workshop.

### An example of templating for kitchen top

- Cut template material to length and place it close to the wall.
- Note the largest gap between template strip and wall on the template, and inform your customer the wall warping condition.
- If your customer wants to fit the top against wall, trim the template strip and fit it against wall. Check and trim again if needed.
- But, if your customer wants to finish with filler like silicone sealant, don't trim and keep straight the template strips.
- Do the same action for all wall sides.
- Lay out other strips in exact size and shape of top on the cabinet.
- After finish lay out, secure the strips with hot-melt glue into one piece.
- Make sure the size, shape and angle are exact when glue the strips.
- Add the diagonal strips to keep the shape strongly.

- Note all important information on the templates. Refer to '2.2 Check points for templates and sketch' in this documents. And note any information needed.
- Mark seam locations. When you decide the seam location refer to '2.3 Job planning', and simulate the moving path using assembled templates to find proper semi-finished product size with room. Refer to '1.Site Inspection, Moving Path'.



**Useful Tip!**

- Matching top against to the wall condition should be discussed with your customer every time. It depends on your customer's choice and general finish at your market. Matching top against to the wall shape doesn't make the best visual result every time.
- The wall with small undulation can get better result with flat and straight backsplash. However, in case the wall has been designed with big round or warping can get better result through matching of top and backsplash against to the wall shape.

**2. Job Plan**

Good job planning make a good successful job. Job plan is needed to calculate the proper amount of HIMACS products, and is necessary to avoid risk of installation fail. Therefore, site inspection results, templates or measurements are most important key factor for job plan. In addition, material characteristics and seaming location also key factor for job plan. All information should be carefully considered and reflected before you start your order, fabrication, and installation.

**2-1. Thermal expansion and contraction**

One of the main characteristic of HIMACS sheets and general solid surface materials is expansion and contraction due to temperature change. HIMACS sheets expand as the temperature getting up, and shrinks as the temperature getting down. It's called thermal expansion coefficient value.

- Thermal expansion coefficient value of HIMACS sheets

$$4.5 \times 10^{-5} \text{ or } 45 \times 10^{-6}$$

- This is average value of HIMACS sheets, therefore refer to material test report of each color for more information.

If there are no proper protection, these expansion and contraction of HIMACS sheets may make crack, breakage and undulation after installation. Therefore, always allow the material to expand or to shrink without any possible barrier when you install HIMACS sheets. Proper gap between structure and HIMACS sheets is the solution. Therefore, calculate the expansion and contraction of HIMACS sheets, and find the proper gap before you fabricate or install HIMACS sheets. When you calculate the expansion and contraction, thermal expansion coefficient value of HIMACS sheets, temperature difference in the building and the size of finished product affect at the result. Refer to following example for calculation.

- Condition
  - 1)  $\alpha$  = Thermal expansion coefficient value =  $4.5 \times 10^{-5}$
  - 2)  $\Delta T$  = Temperature difference =  $60^\circ\text{C}$  ( $-15^\circ\text{C}$ ,  $+45^\circ\text{C}$ )
  - 3) L = Product length =  $1,000\text{mm}$

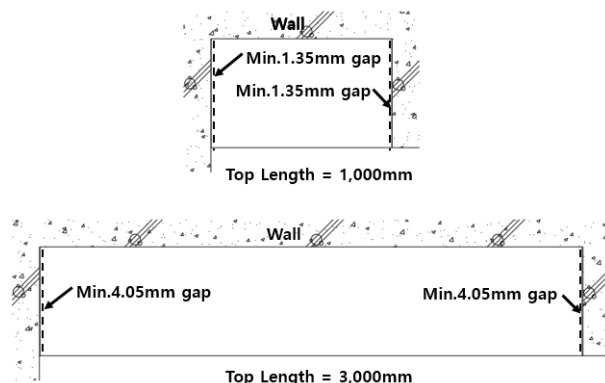
- Formula

$$\Delta L = \alpha \times \Delta T \times L$$

- Calculation

$$4.5 \times 10^{-5} \times 60^\circ\text{C} \times 1,000\text{mm} = 2.7\text{mm}/1\text{m} = \text{minimum } 1.35\text{mm for one side edge}$$

**Fig. 2-1. Installation gap example of kitchen top**



**2-2. Seam and cutout position**

Proper seam positions and cutout positions are important for material yield and durability of installation. First of all, don't place seams at any risky point that can make problems at performance and design. And then place seams at the point that can minimize the use of HIMACS sheets. For better positions, follow recommendations listed below. Refer to Fig.2-2 Seam and cutout position.

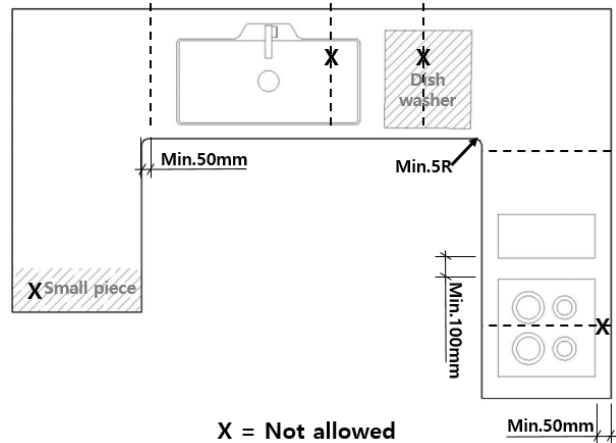
- Never place seam over cutout and heat or wet zone like heating device, dishwasher or washing machine.
- Place seams a minimum of 100mm away from any cutout for sink or other cutout.
- Place seams a minimum of 300mm away from hob cutout.
- A distance from hob cutout to backsplash or upstand should be minimum of 50mm.
- The distance of cutout for hob to the wall should not below 60mm.
- When having to layout and fabricate a countertop, remember to maintain the seam minimum of 50mm from the inside corners.
- Radius all inside corners of "L" and "U" tops to a minimum of 5mm

- Place seams a minimum of 50mm away from inside corners.
- Never join small pieces to expand the length of top, if the whole length of top is not over the original HIMACS sheets length 3,680mm.

**Useful Tip!**

- Consider some spare quantity HIMACS sheets when you plan fabrication and prepare HIMACS sheets.
- If there is shortage of HIMACS sheets when you fabricating or installing, you need more sheets. However, it is not guaranteed that you can get the same lot number sheets from distributor. Joining in same lot number sheets can make good color match. Refer to 'HM2031 HIMACS Sheet Number'.

**Fig. 2-2. Seam and cutout position**



**Referenced documents**

- 'HM2031 HIMACS Sheet Number'
- 'HM2160 HIMACS Structure & Installation'

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