



Make a better building

Wall sandwich panels installation manual

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The structural treatment of the color steel products enclosing structure is an important part of the building function and architectural image of the color steel enclosing structure. The structural drawings should be carefully studied and detailed, and each part has rules to follow when installation, in order to avoid the arbitrariness of construction installation.

1,Direction:

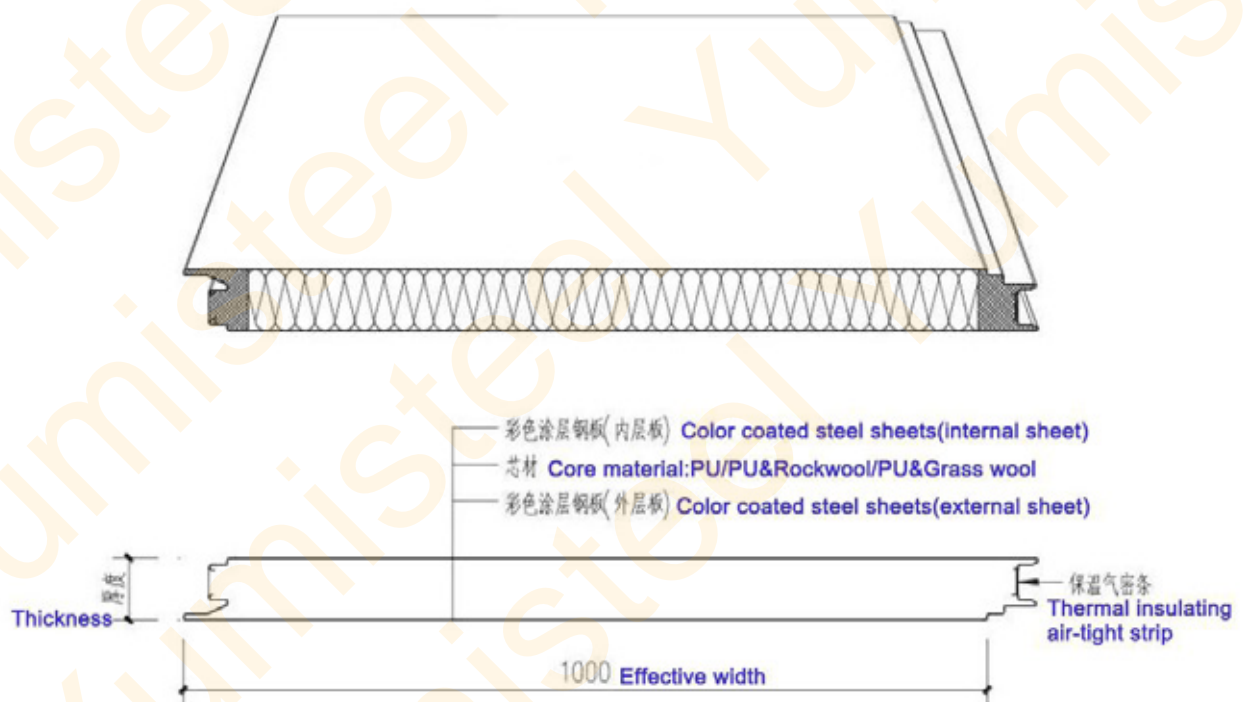
- 1) This manual is suitable for site handling and installation of Yumi wall sandwich panels, and it's basic installation guidance manual;
- 2) Before installing Yumi wall sandwich panels and related flashings, please read this installation guidance manual and your project construction drawings carefully, in order to make sure smooth installation;
- 3) The safety shown in this manual is basic information and does not include the suitability of the user and the safe size of each project. The contractor must verify that all safety devices and their load parameters have been verified by architects and engineers and are in compliance with the

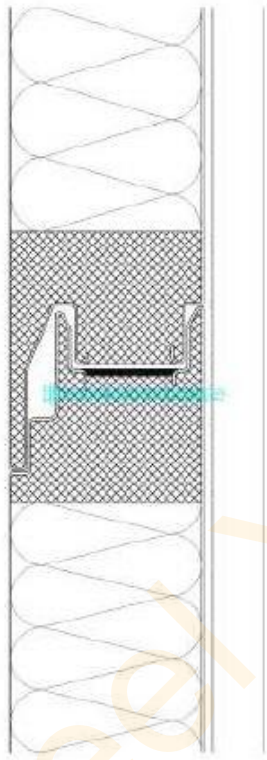
Code and the environment;

4) Proper construction procedures and safety measures, in conjunction with this manual and construction drawings, ensure that the project is installed at the lowest cost and fastest speed and with high quality;

5) Any amendments and improvements to this manual will be explained in a later reprint and will be updated in a timely manner.

2, Wall panel type introduction:





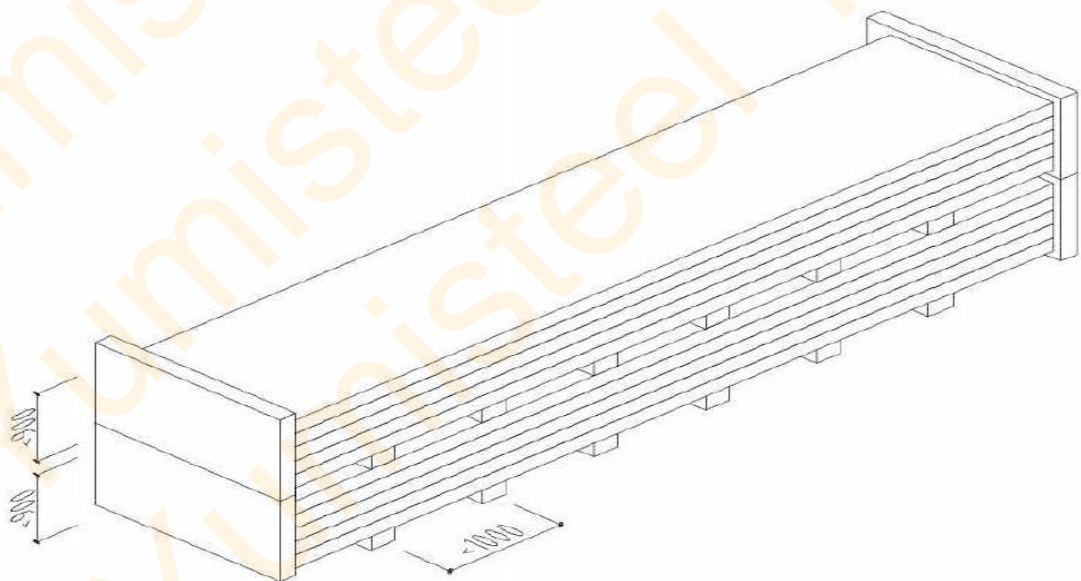
Core material could be PU/PU&Rock wool/PU&Grass wool;

Various ribs for choices: pure flat, micro ribs, wide ribs;

Hidden screws joint way makes the surface has no exposed screws, excellent waterproof performance.

3, Panel site handling manual:

1) Storage:



A, The stacking location must be flat, strong, clean, and ventilated. The yard should be as close as possible to the area where the siding is installed to avoid long-distance secondary transportation.

B, When stacking, please pay attention to adjust the height with the sleepers, and make wall sandwich panel has a tilt angle of 2°-5° after stacking, so that even if water flows between the outer wall sandwich panels, the water will not stay on the outer wall panel. If wall panels are placed outdoors, it must be covered by tarpaulin. And it must be completely covered, especially when core material is rock wool or grass wool, the exposed part should be strengthened to avoid damage to the core material due to rain.

C, Wall sandwich panels stacking should be kept away from other exposed steel materials, in order to prevent the rust on these steel materials from falling and adhering to the outer wall sandwich panels. It is difficult to remove, and will cause rust spots and penetrate into the steel sheet.

D, When wall panels are stacked one on another, please don't place more than two piles per stack. Heavy objects and pedals cannot be placed on wall sandwich panels to

avoid damage to the top coating or even the steel sheet.

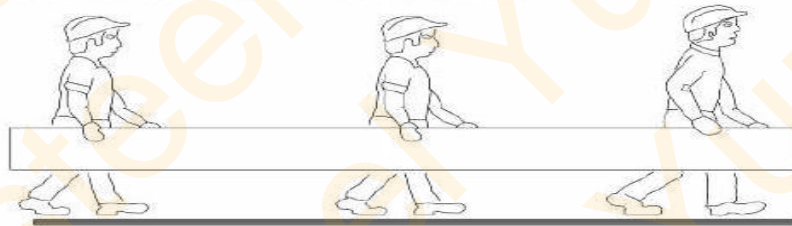
E,The sandwich wall panel is wrapped with a polyethylene protective film. The film cannot be exposed to direct sunlight for a long time, otherwise the protective film will be difficult to tear off.

F,Regarding flashings,they must also be stacked neatly. If it is placed outdoors, it must be completely covered with a tarpaulin.

2)Carrying:

Lift the edge of the panel vertically to get the best strength.

A. 竖直提起面板边缘以获最好强度。

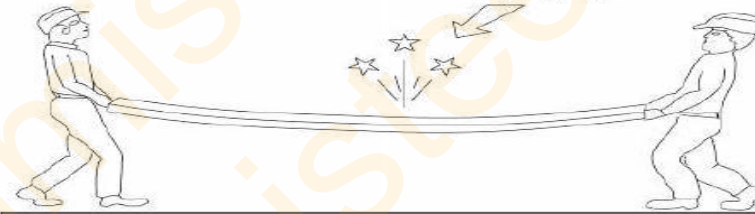


The twisting of the ends and parallel sides of the lifting panel can cause damage to the panel.

B. 提面板的两端及平行边的扭转会造成损坏。

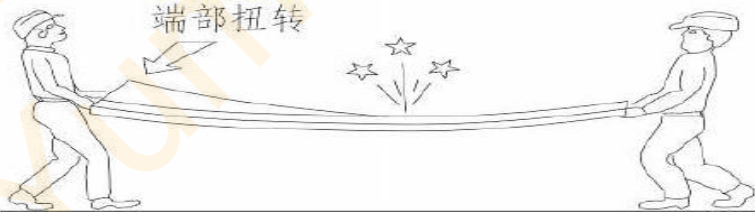
Forbid
禁止

Flat lifting will break
平抬折断



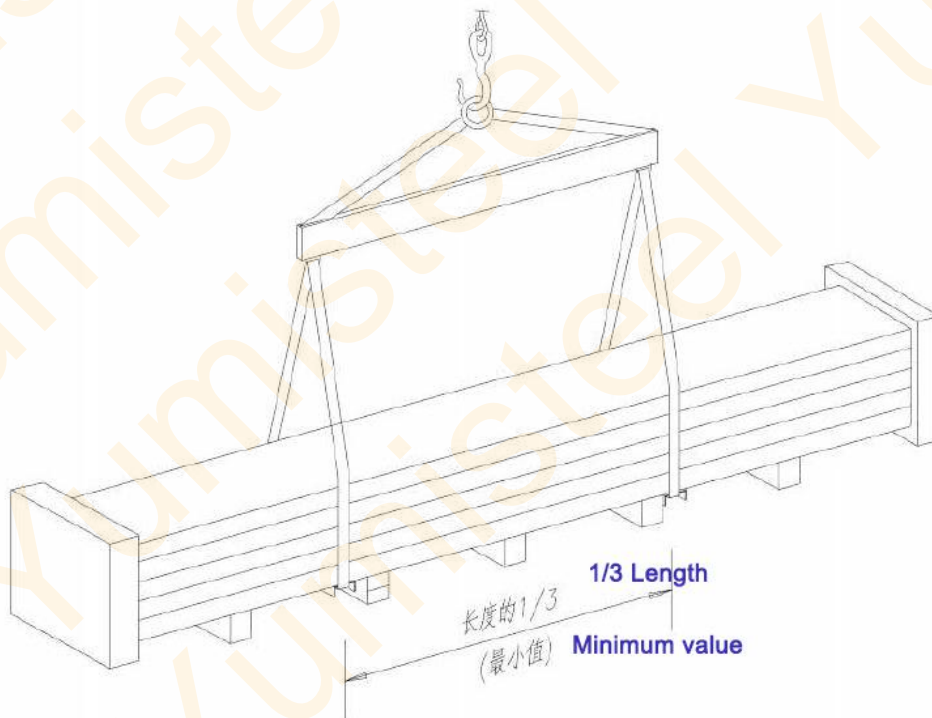
Forbid
禁止

End twist
端部扭转



Protective gloves and goggles must be used throughout the manual handling. For the handling of a single façade, the length of the slab should be lifted by 3" '5 people, so as not to deform the siding. To prevent the interface from being damaged, the flat can not be picked up at the interface. When transporting, do not drag wall panels on the surface of the object, and do not drag wall panels to each other to avoid damage to the topcoat. Avoid bending when handling. Bending will rupture the core of the panel and permanently deform the inner and outer surfaces.

3) Hoisting



The bundled wall panels are lifted and cannot be directly

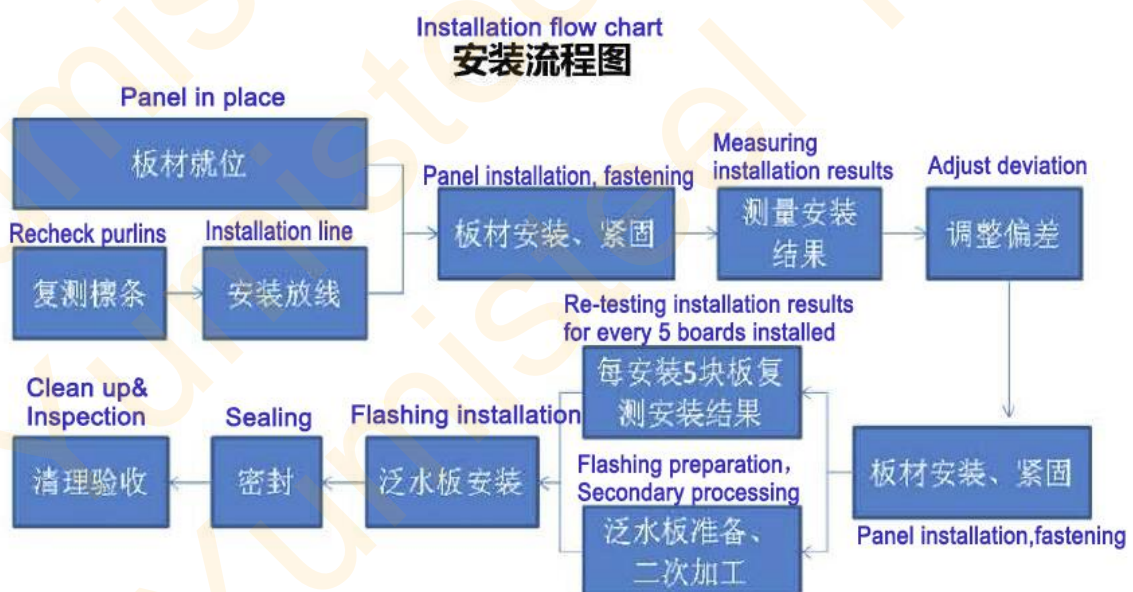
lifted by a triangle between the hooks and the outer wall panels. Instead, the spreaders and booms provided by the project must be used to vertically lift the slings from the wall panels and the booms. Find a lifting balance point and lift it. To lift the bundle in a single bundle, handle it with care and do not drag the panel.

4, Wall sandwich panel installation:

The installation of the color steel enclosing structure is a very important part, and must be paid enough attention.

The same materials will have different results when installed by different teams.

1) Preparation and handover inspection:



1, Handover inspection and installation preparation:

A) Handover inspection:checking if purlins' installation could meet up steel structural installation conditions,which is including the offset, perpendicularity, bending height and the construction requirements of purlin mounting line.

B) Material preparation:Detailed check of the specifications, models, quantities, connectors, and specifications of the wall panels corresponding to the layout drawings.

C) Machine Preparation: Lifting equipment, hand tools, power connections, scaffolding and other temporary small accessories.

D) Technical preparation: detailed construction drawings, layout drawings, joint construction drawings, etc.

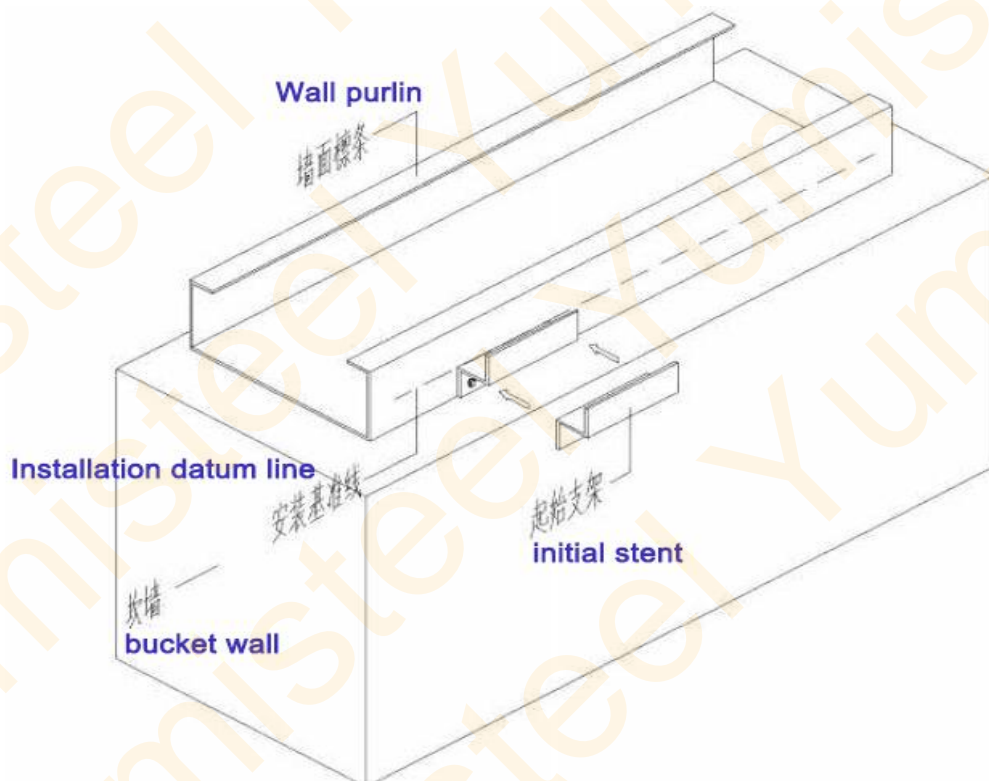
E) Preparation of site and temporary facilities: loading and unloading conditions, equipment walking route, lifting position, horse road setting, construction road, 11 installation location.

Before the construction, special project personnel should carry out the technical disclosure of the construction technicians to ensure the smooth progress of the construction and the guarantee of the project quality.

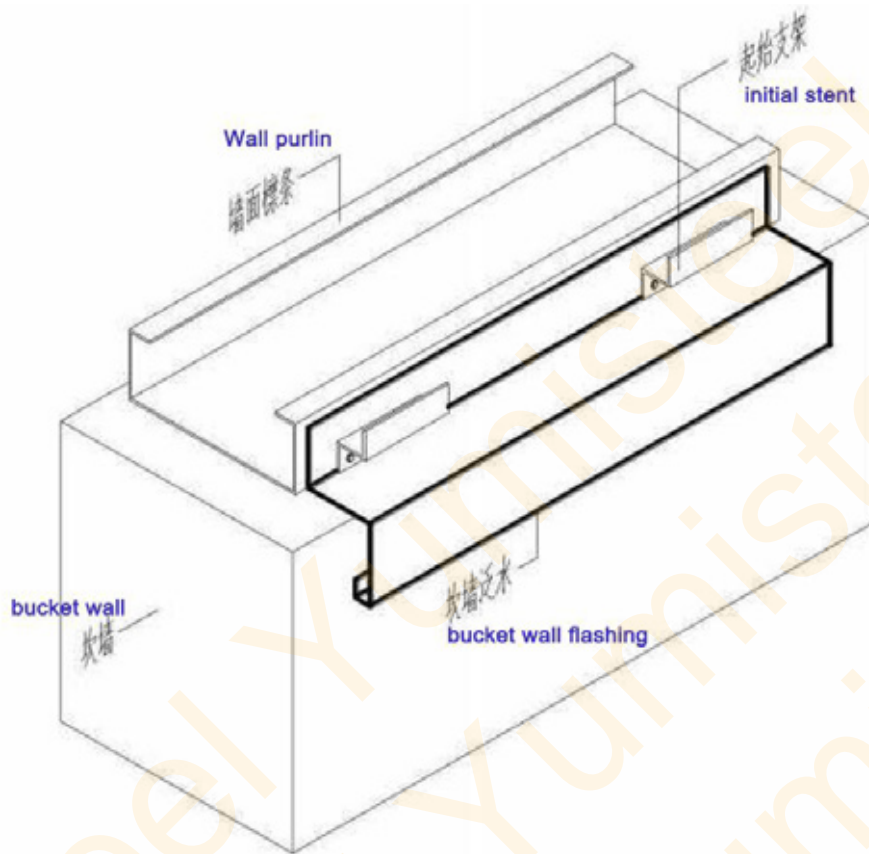
2) Installation of bucket wall flashings and initial stent:

According to the detailed construction drawings, the installation starting line elevation, setting-out, leveling and installation of initial stent are determined. The deviation of bucket installation is 2 mm for bursting out and 2 mm for upper and lower height deviation.

Drawing as follows:

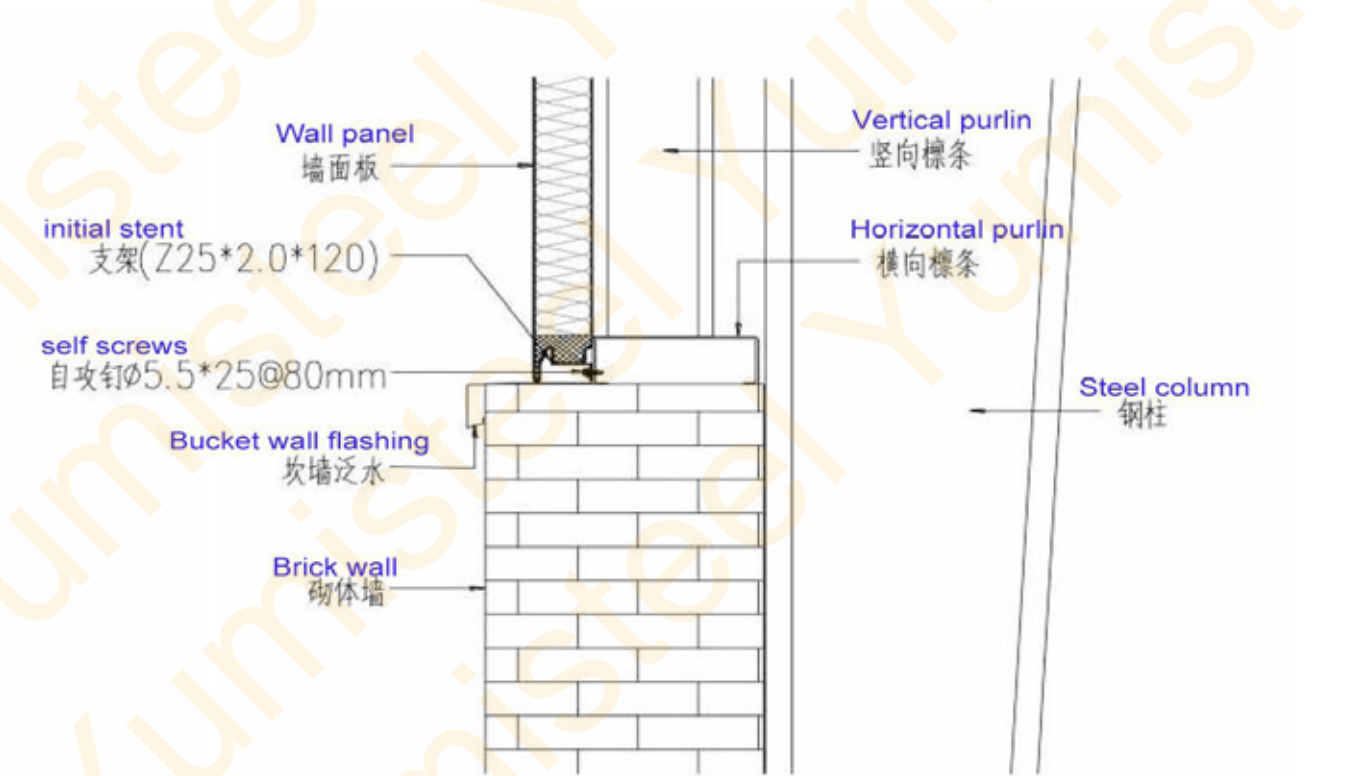
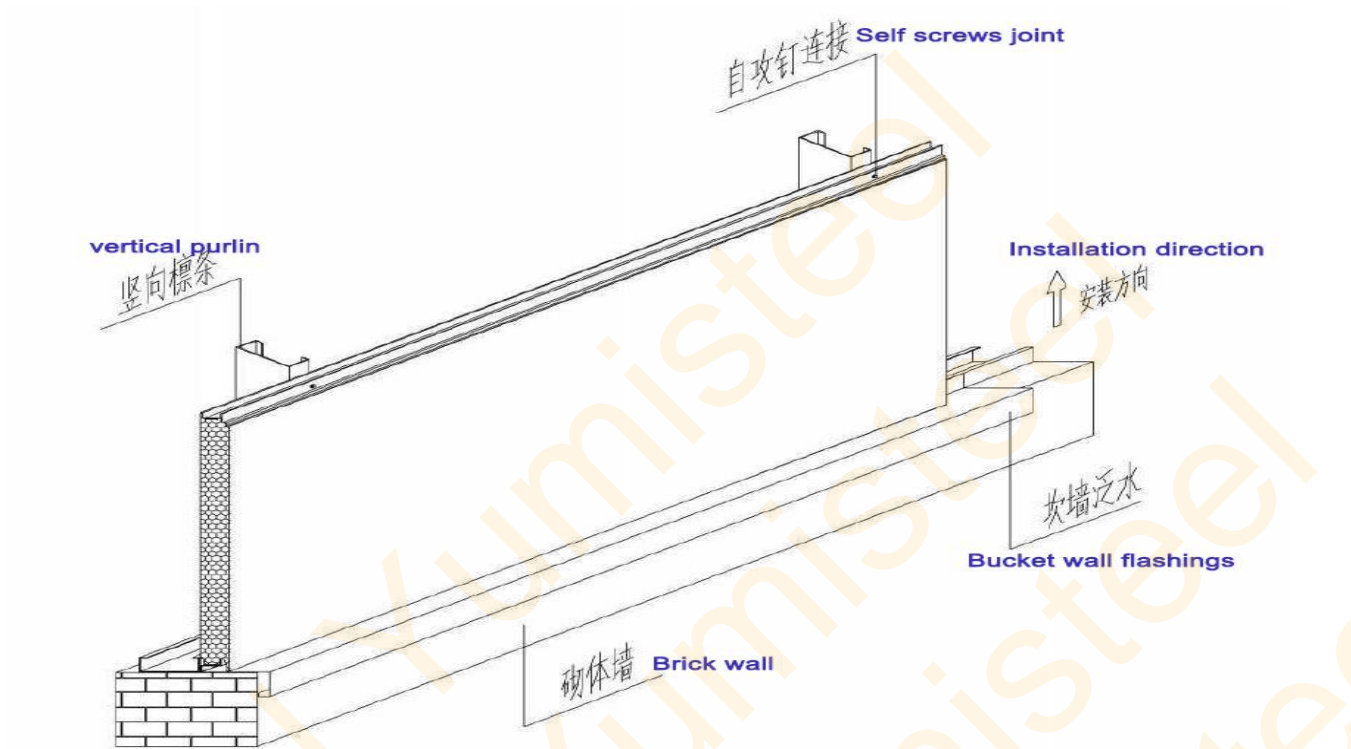


At the same time as the installation, the installation of bucket wall flashings are also need to completed. The details are as follows:



After determining the installation start level, the re-examination elevation line should be drawn every 5 panels, according to the starting elevation for later installation check.

3) Wall panel installation:



A, Carefully study the construction drawing, and select the installation façade according to the construction drawing, and then determine the installation reference;

B, Install the first panel and adjust according to the number of the construction drawing. The bottom (side part) of the first panel is fixed by the starting brackets (initial stent). After the installation is completed, the level of the panel is checked with a level gauge, and the mounting accuracy of the measuring panel is ± 2 mm. When it is confirmed that the installation accuracy is completely in accordance with the installation tolerance, the self-tapping screws are used to fix the wall panel to the same structure;

C, Installation tolerances must be measured and adjusted for every 5 rows of exterior wall panels installed;

D, At the corners of the windows and doors, and openings, also the internal corners and exposed corners of building, the panel is cut on site as needed;

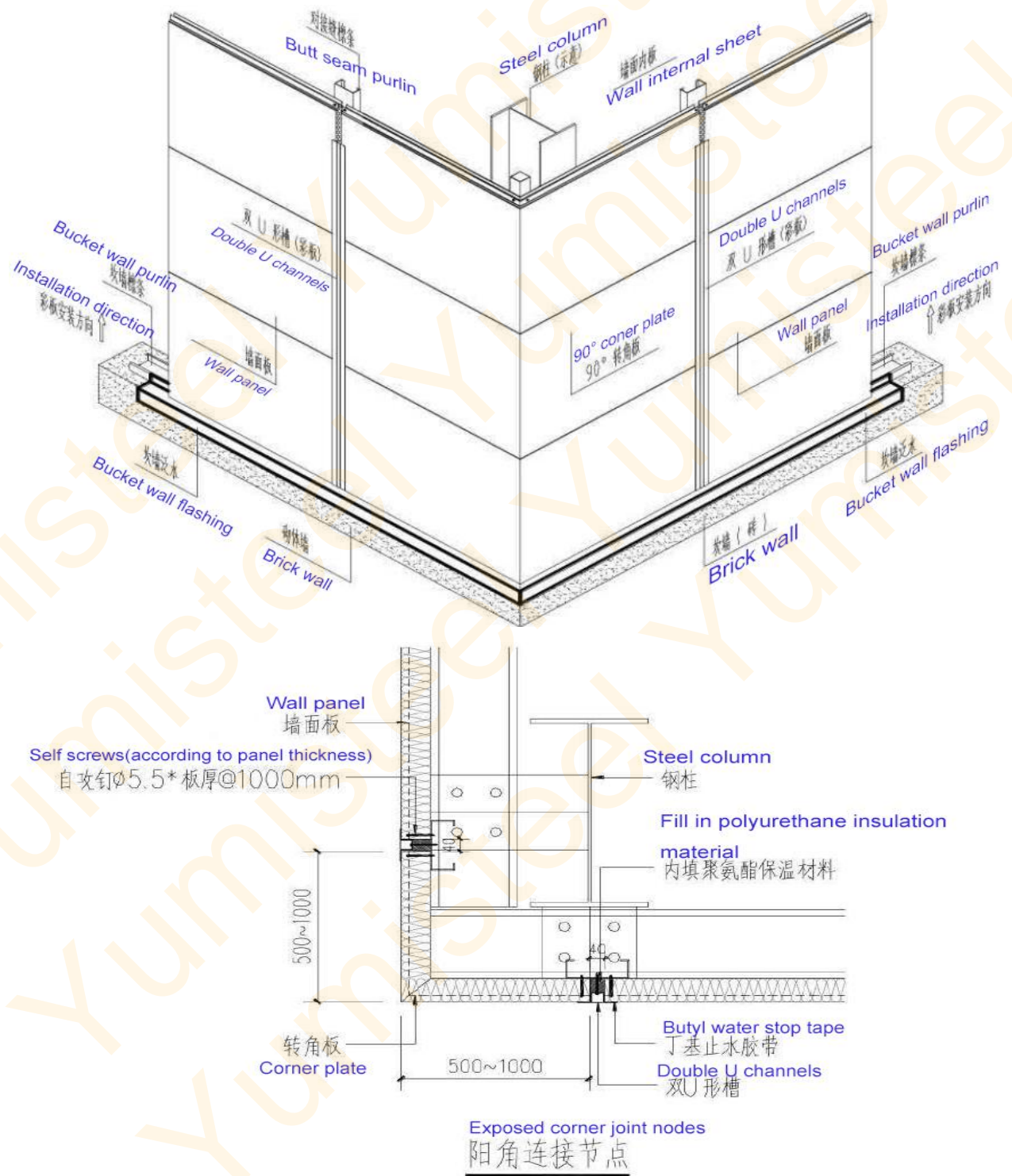
E, Don't forget to tear off the polyethylene protective film on panel surface, after panel is installed;

F, The panel between adjacent column spacings should check the straightness of the panel joints and adjust them in time to avoid the phenomenon of misalignment.

4) Installation of corner plate:

The corner plate can be installed after the wall panel is

installed, or it can be installed first. The installation method is the same as the wall panel. At the same time, the control angle plate corresponds to the seam of the two wall surfaces and the perpendicularity of the joint.



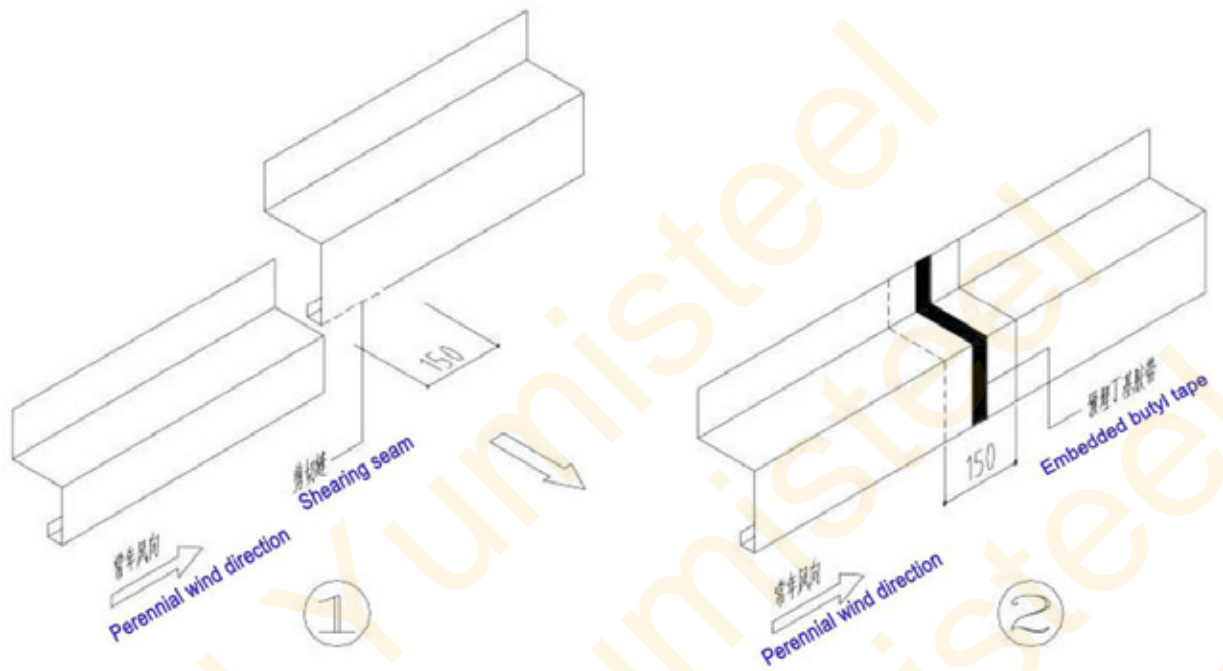
5) Installation of various types of flashing edges:

The flashing edges is corresponding to the position used in the construction detailed drawing. For those flashings that need secondary processing, the angle should be cut or folded in advance. In order to protect the edged coating of flashings, it is best to cut with scissors.

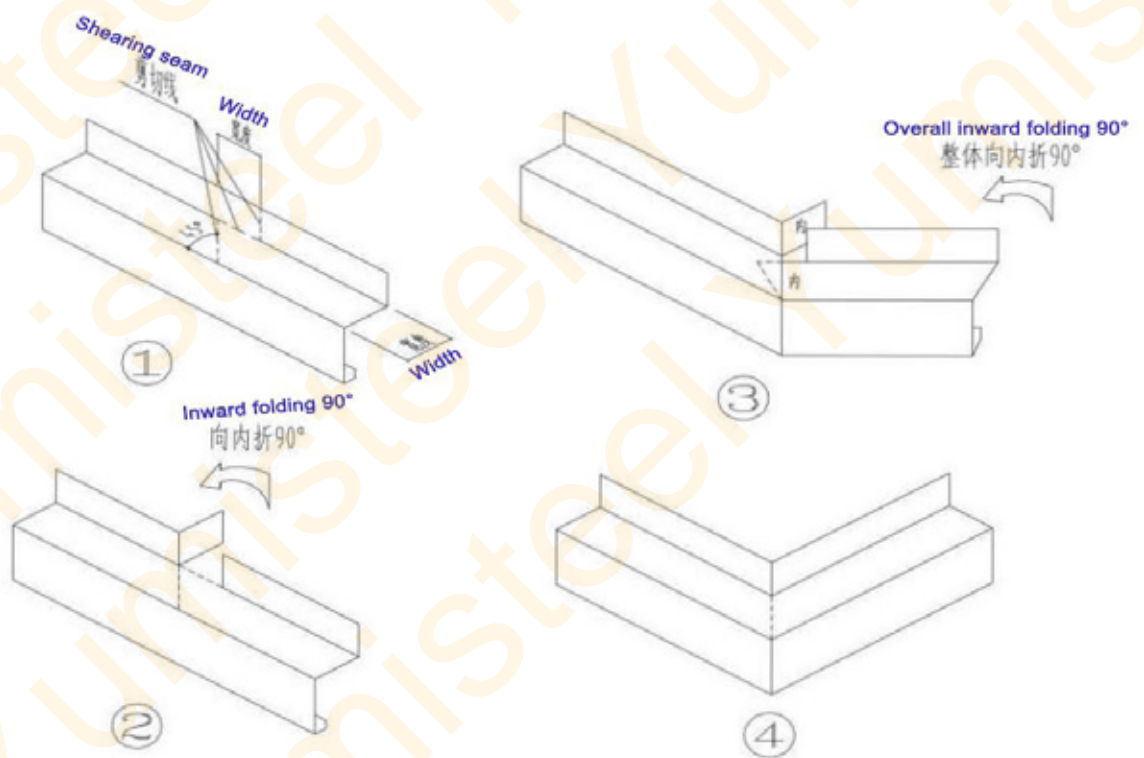
The joint of flashings: since flashing equipment has length limitation, our max length is 6m, flashings need to be joint, and when there is waterproof requirement on external flashings, then the joint length need to be 150mm. And then it need to use two rivets to connect, the distance is 50~100mm. For internal wall flashings joint length need to be joint 50mm, and use one rivet to connect, the distance is 50~100mm. The joint part need to be wiped clean, and if there is PVC protect films, then films must be ripped off in advance.

A, Bucket wall flashing installation:

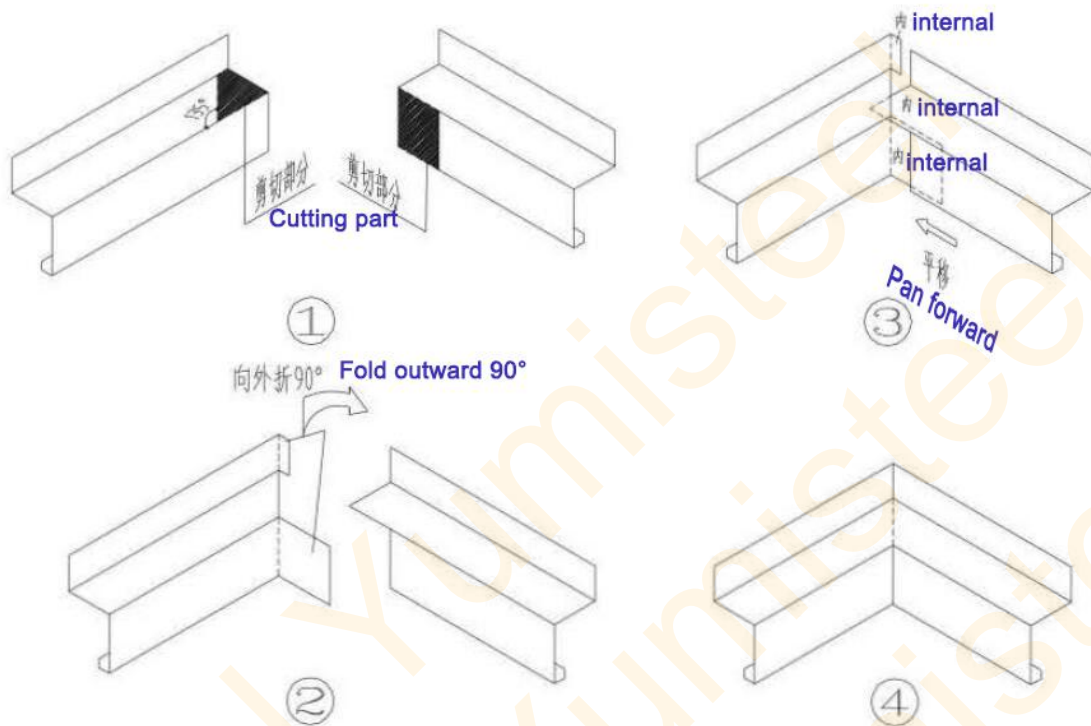
When the flashing thickness $\geq 0.60\text{mm}$, the overlapping position should be treated to prevent seaming.



坎墙泛水在阳角位置安装的方法 Bucket wall flashing in exposed corner installation method



坎墙泛水在阴角位置的安装方法 Bucket wall flashing in exposed corner installation method



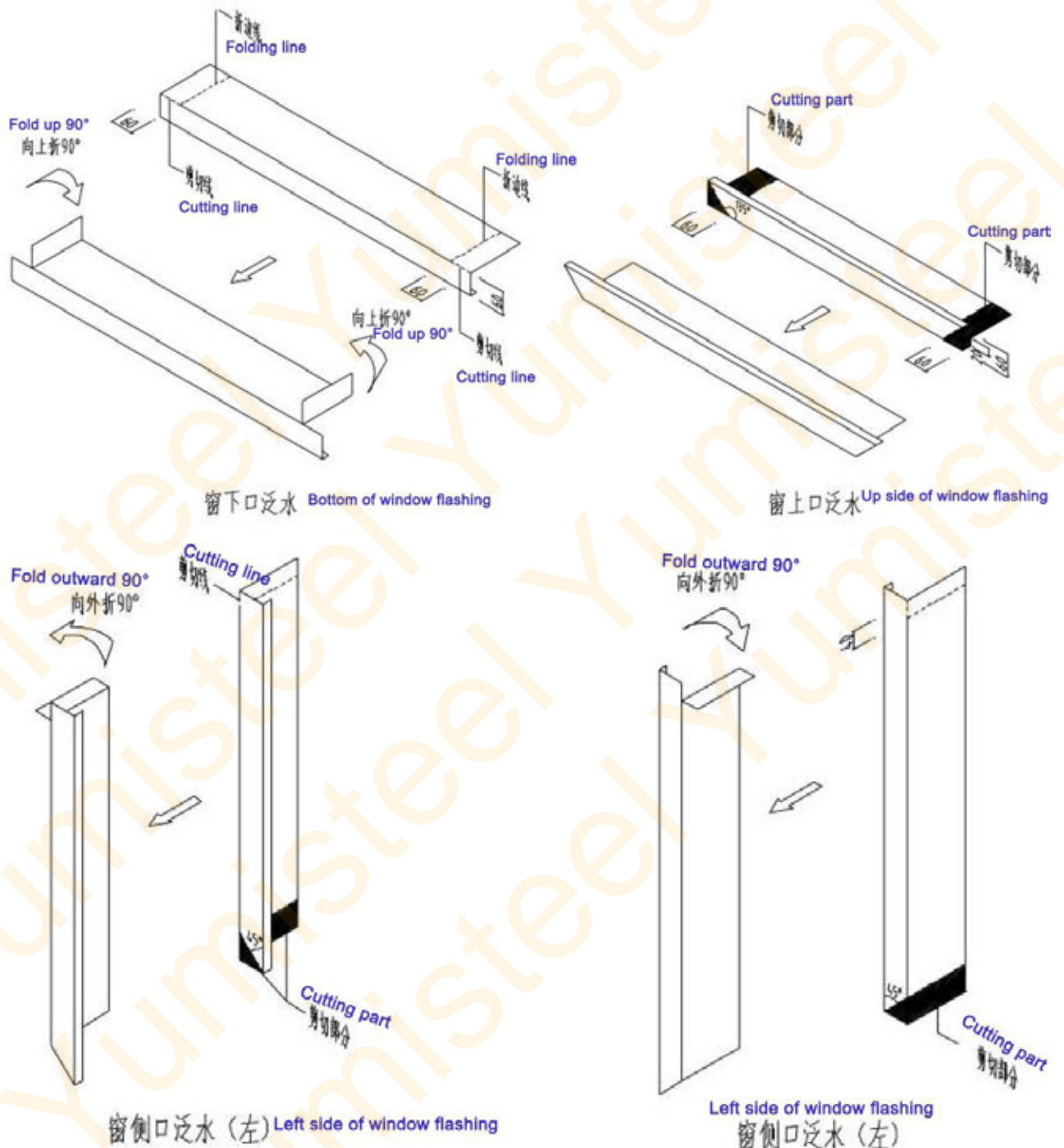
B, Flashing installation of doors & windows and floodgates:

When flashings of doors&windows and floodgates are installed, the corner positions shall form a lap joint structure to make it waterproof.

The detailed pic is as follows:

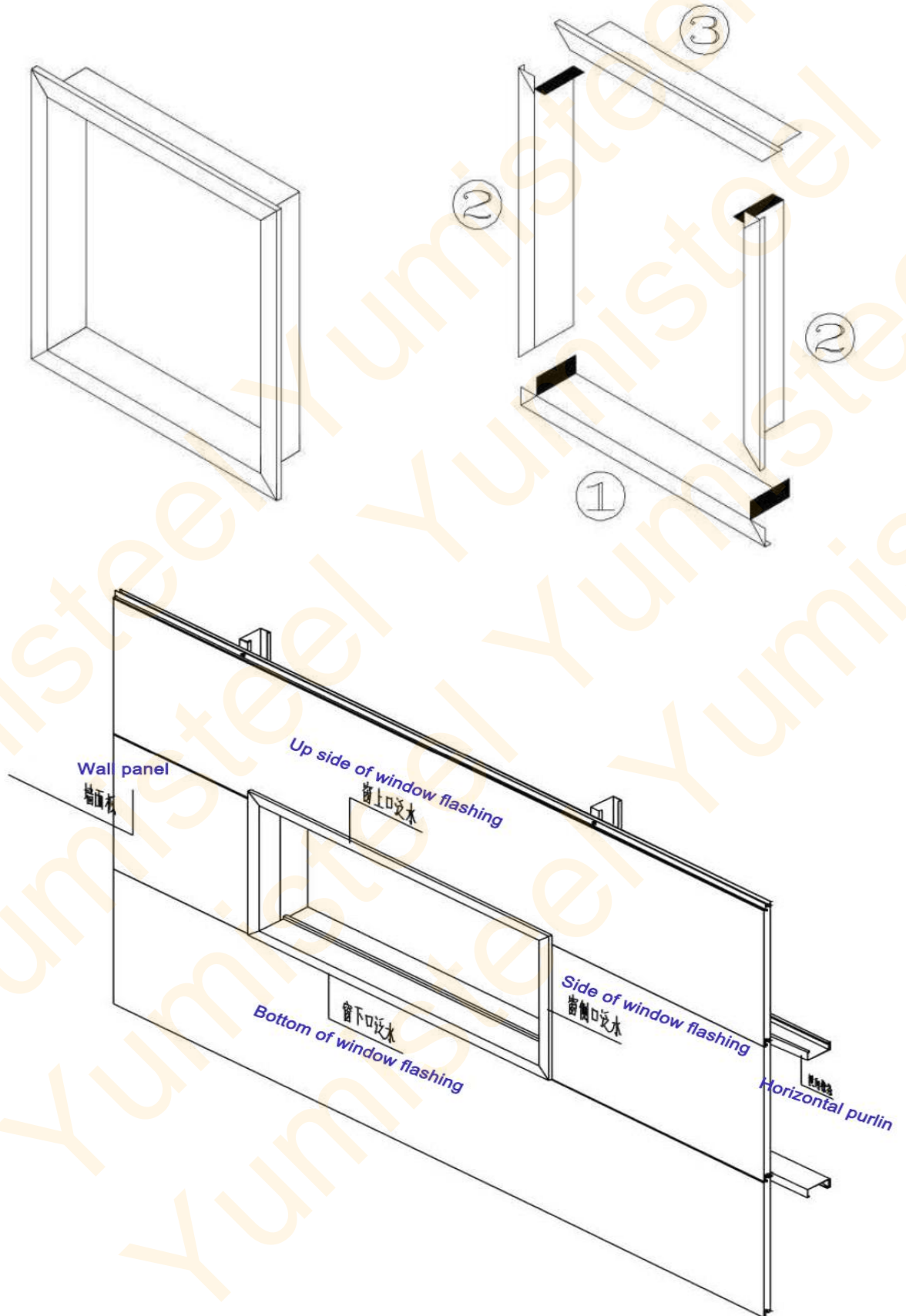
Wall doors&windows and floodgates are most difficult to handle,and it is also the most leaky,most affecting aesthetics.Therefore, the installation must be strictly in accordance with the construction drawing nodes, the place which needs glue,then it must be fully used, and never cut corners.Flashing is used two support internal corners to connect to wall panels,so it requires the installation of the support internal corners and verticality need to be

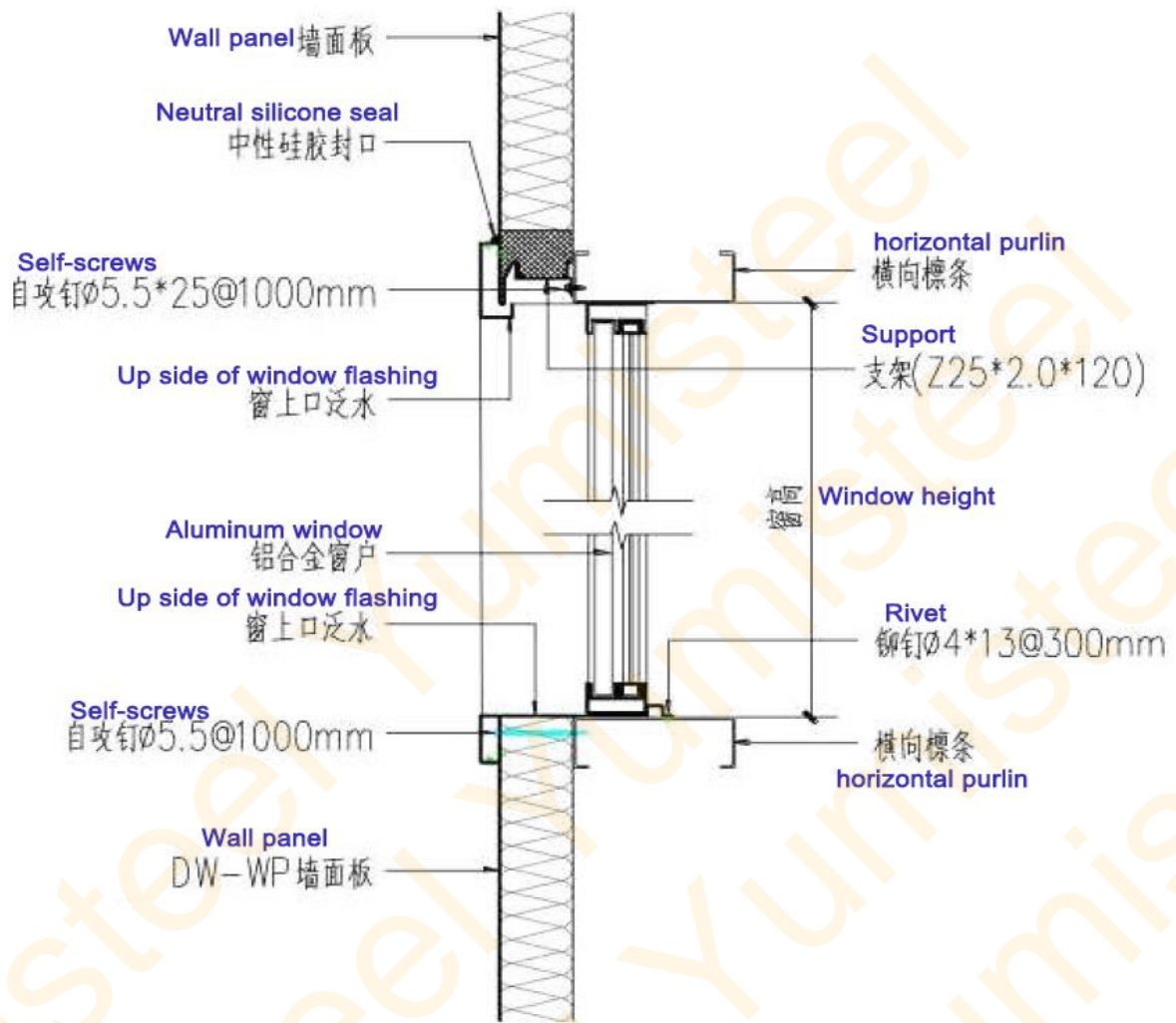
precise. To joint the flashings in corner position to form one lap-up mutual construction to make sure waterproof, and overall aesthetic. The detailed pic is as follows:



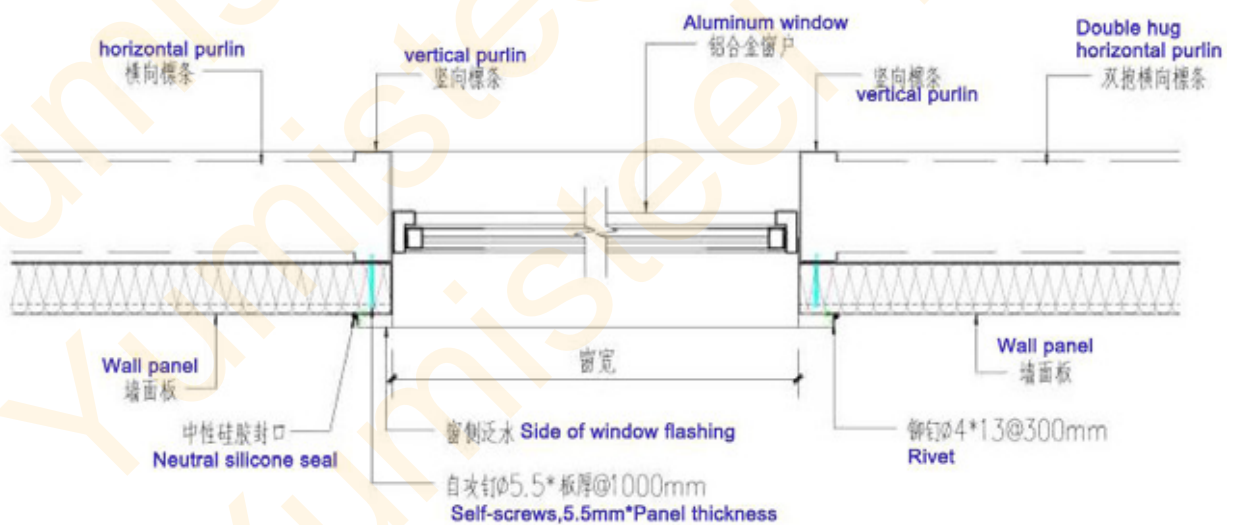
The installation sequence is: the bottom of window flashing, the side of window flashing, and the up side of window

flashing.



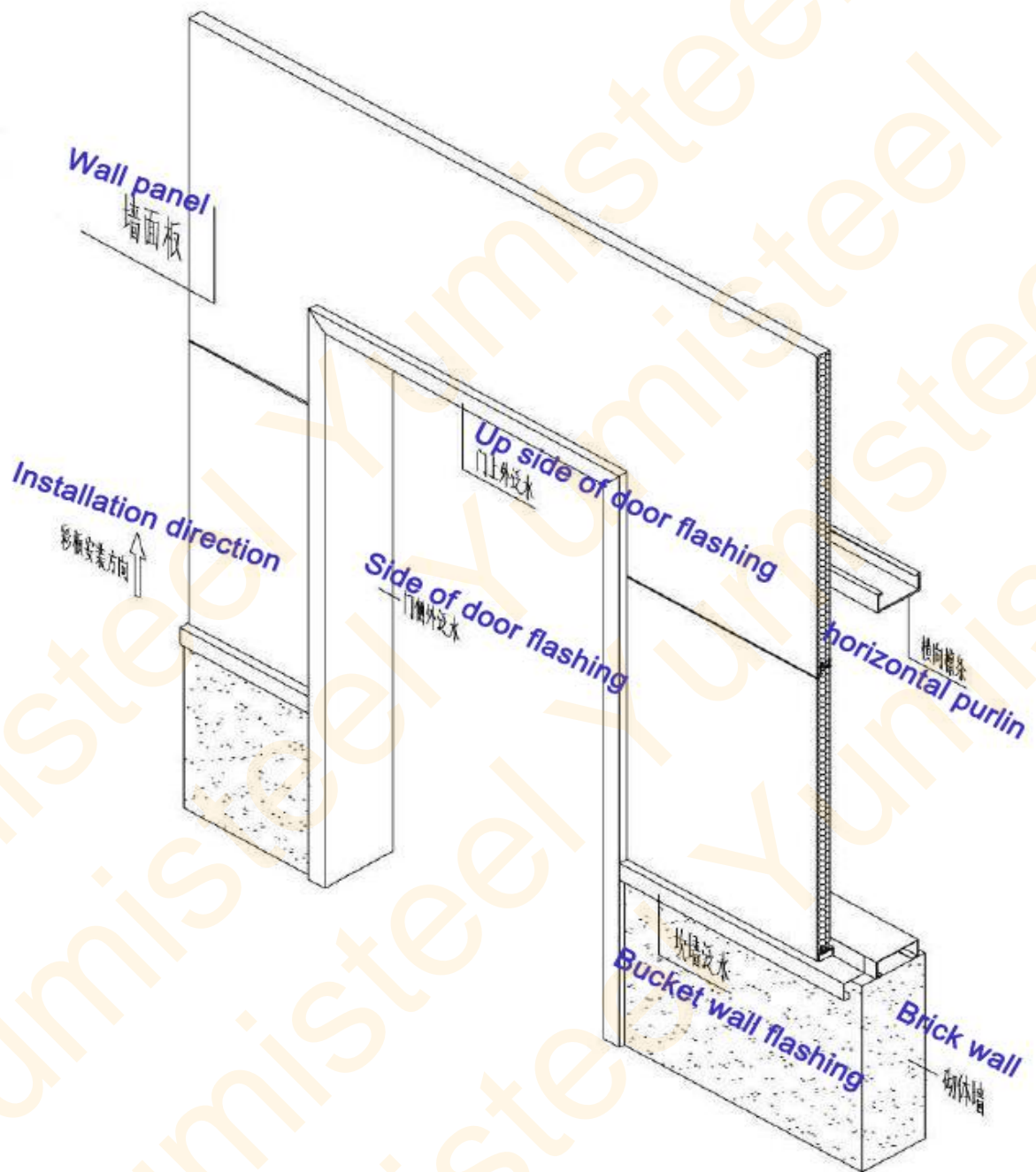


Up side and bottom window nodes
窗顶、窗底节点



窗侧节点 Side of window nodes

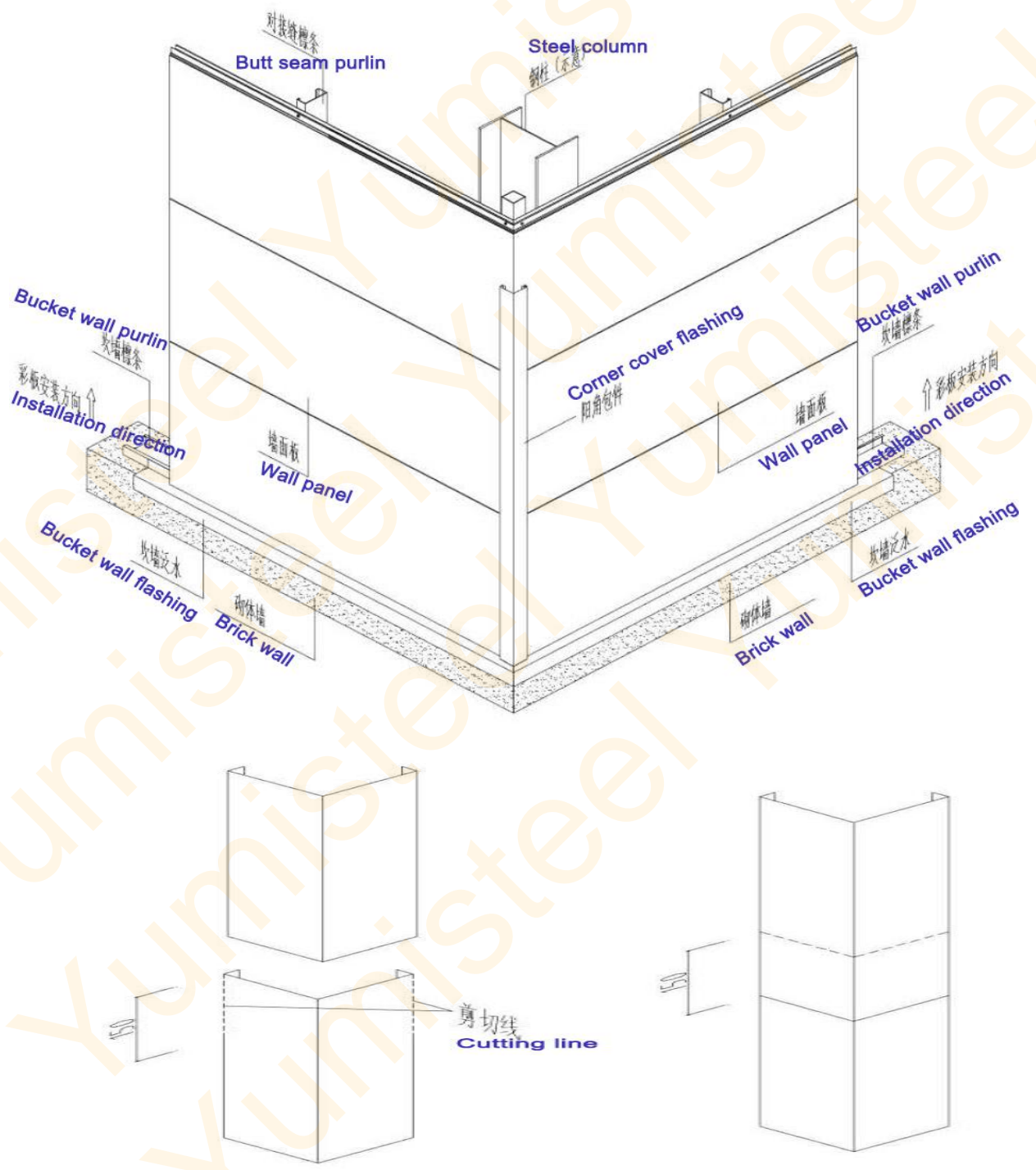
Door flashings installation way is same as windows:



C, Installation of exposed corner:

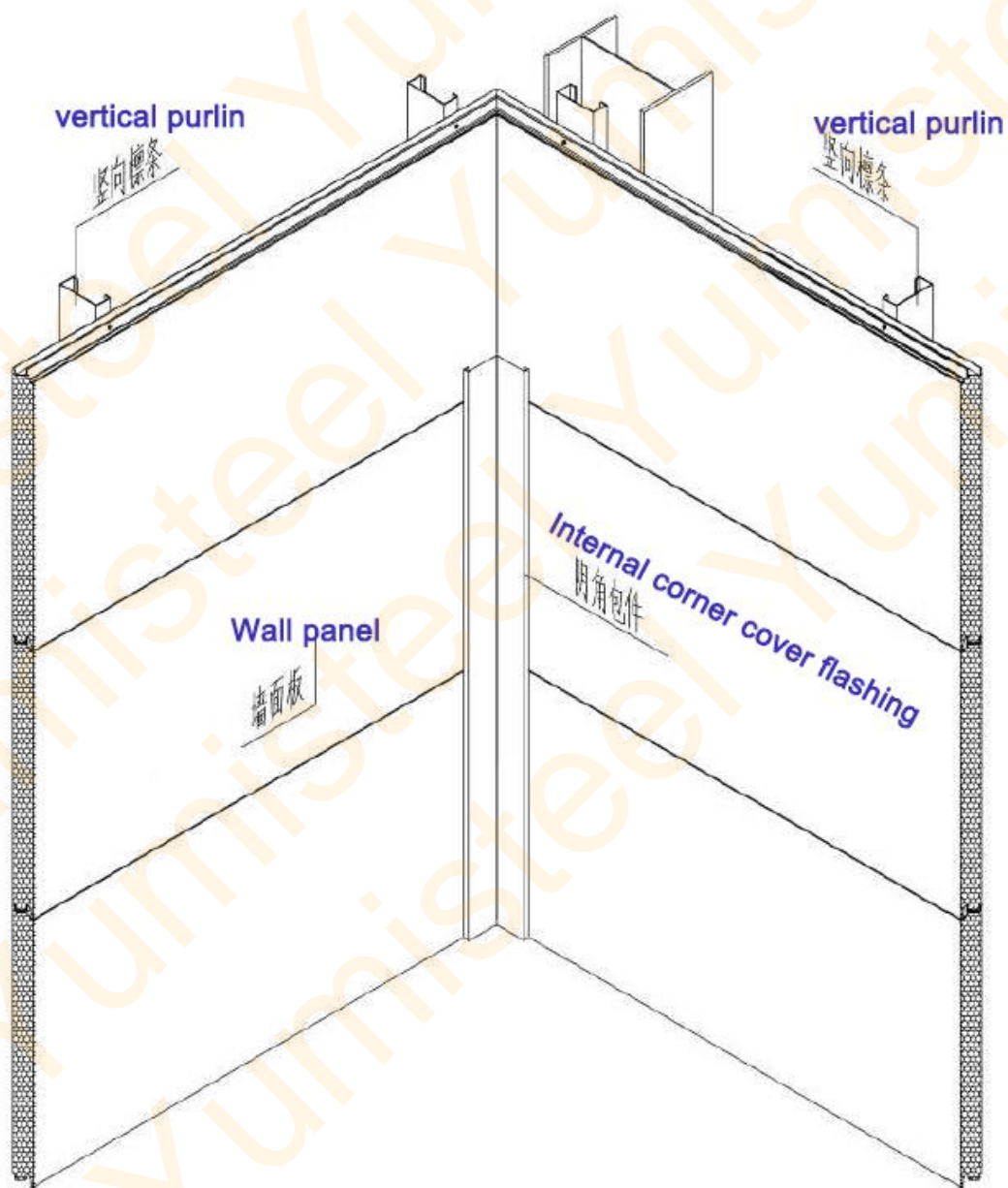
When exposed corner can not use corner plate, then could use corner cover flashing to decorate. The corner cover flashing is connected to wall panel by two supporting

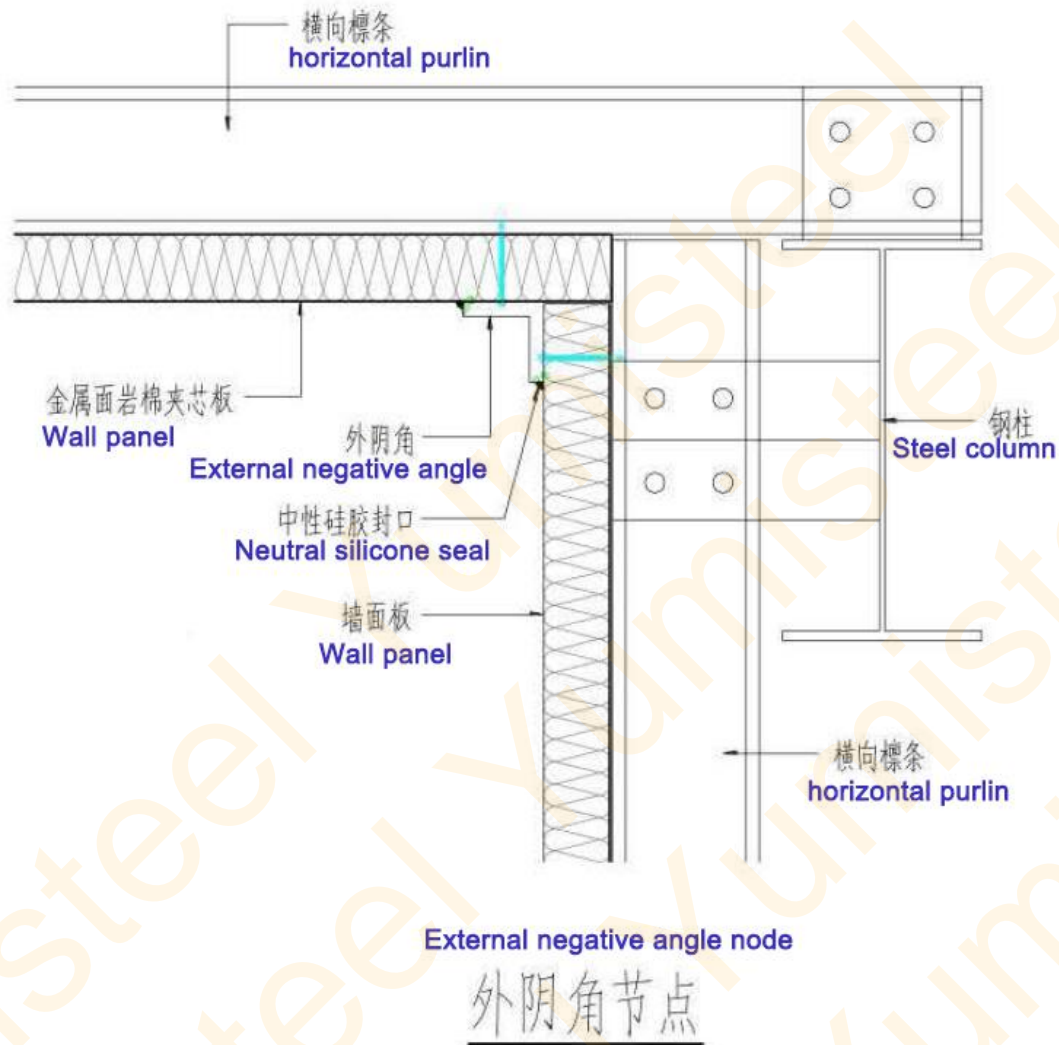
internal angles,so the size and verticality of the supporting internal angles are required to be accurately installed.The gap between the corner joints is preferably filled with insulation cotton to ensure the insulation here.



D, Installation of internal corner:

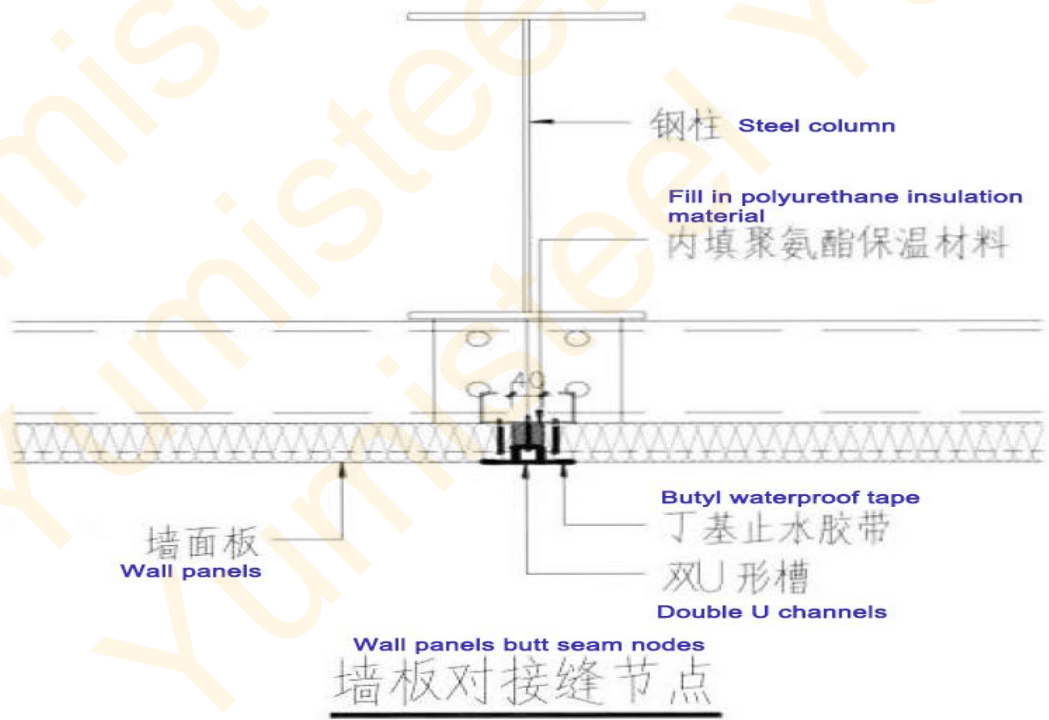
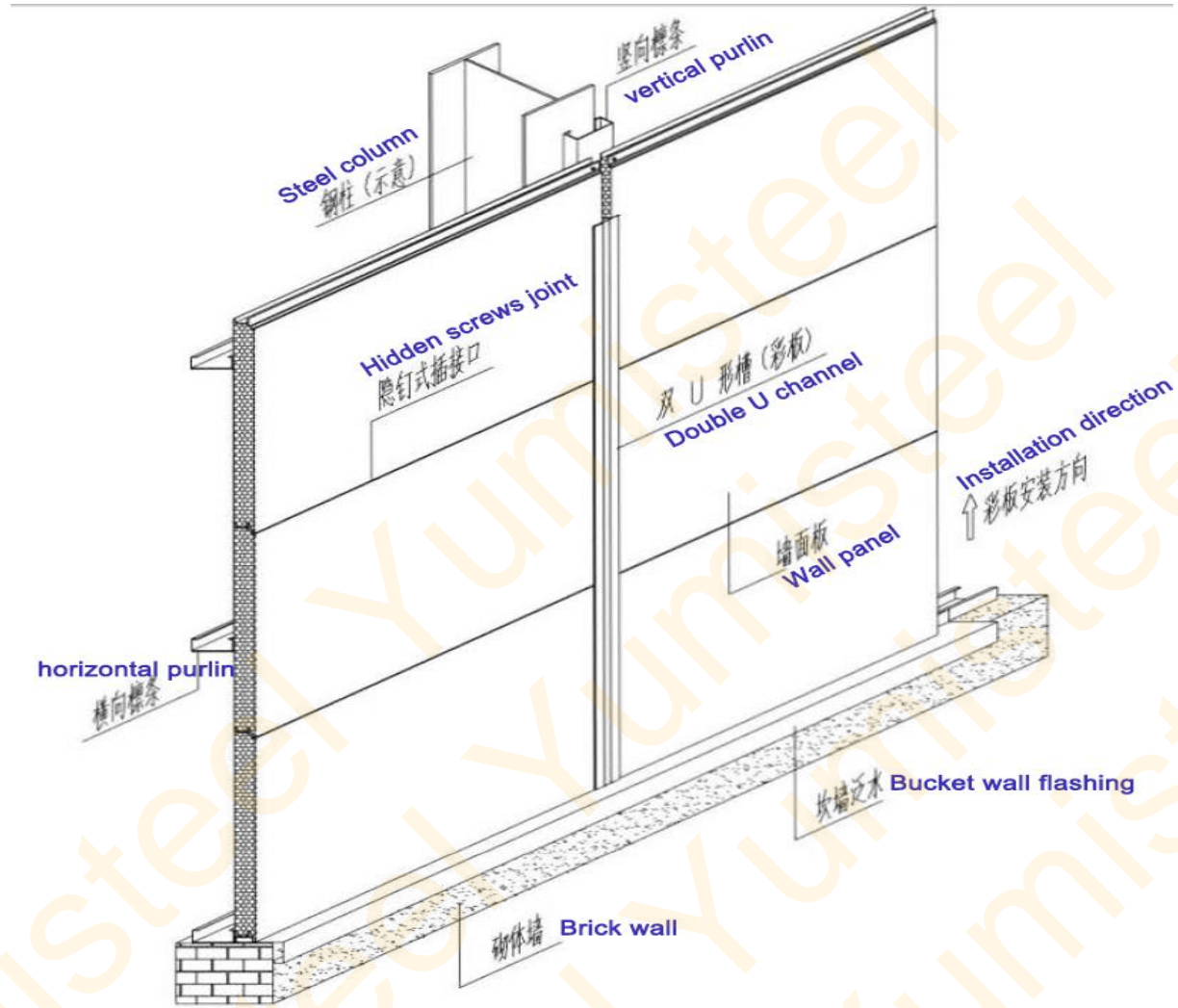
The internal corner is connected to wall panel by two supporting internal angles, so the size and verticality of the supporting internal angles are required to be accurately installed. The gap between the corner joints is preferably filled with insulation cotton to ensure the insulation here.





E, Installation of butt seam/docking position:

The docking position of the wall panel is generally selected in the position of the column and the length should not be greater than 12 m, and can also be classified according to the requirements of the architectural style. The gap between the plates must be strictly controlled at the joint, with an error of ± 2.0 mm to ensure the tightness of the insulation block and the verticality of the U-shaped package.



5,Notes:

1. After the materials arrive at site, please check the quantity of each item carefully and see if any transport damage happened, according to the delivery list. If you found out any missing or panel damage, please check if it is indicated on the invoice or not, also immediately notify the relevant service department of Yumi steel.
2. The small piece of material, for example fasteners, connecting pieces and sealants should be placed in safe place, it's better to be locked, in case of theft.
3. Please don't use the dirty gloves to handle and install wall panels and edge trims (flashings), especially galvalume material and edge trims, in order to avoid the dirty appeared on wall panels and edge trims surface, and it's hard to clear and will have effects on aesthetic.
4. All the parts that need sealants should wipe the attachment surface clean, to make sure there is good adhesion on color steel. The glue joint should be full and dense to avoid water leakage.
5. During the installation process, wall panel maybe damaged by collision and friction with the scaffold, column, brick wall, etc. So please be careful about this point.

6. During the on-site cutting process of wall panel, the bottom surface of the cutting machine should not be in direct contact with the color steel surface. It's best padded with thin plywood on the panel, then cut. The burrs on the cutting end need to be removed and installed in time.

7. Iron scraps are generated after cutting and drilling holes, and these iron filings on panel surface need to be cleaned. These iron scraps must be cleaned up in time and must not be left overnight. Iron filings can rust in a humid environment. The rust spots are verified to be removed after the surface of the board is formed, and the paint surface or even the substrate may be damaged for a long time. Similarly, other cut-off color steel heads, iron bars pulled by aluminum alloy steel nails, etc. should be cleaned up in time.

8. After the daily installation work is completed, all the debris left on the site must be cleaned up.