

Pvc Windows & Doors Making Procedure

1. Profile cutting

The profile cutting is the first step of window making which will affect the window size and quality. The following parameter is for your reference when you cut the profile.

- 1.1 The distance between the window frame and the wall is 10-15mm each side.
- 1.2 The distance between the window frame and window sash is 8mm each side.
- 1.3 The cutting tolerance is no more than 1mm
- 1.4 The welding allowance is 3mm each side
- 1.5 The welding tolerance is no more than 2mm

You can use the double head cutting saw to cut the profile, you can cut the profile at the angle of 45° or 90°.

For the V-notch for the transom, you can use V-shape cutting machine. For glazing bead you can use the glazing bead saw to cut it.

2. Water slot milling and lock hole, and hardware hole drilling

You can mill the water slot by using the water groove milling machine and drill hardware holes such as lock hole by using lock hole processing machine. Usually the diameter of the water slot is \varnothing 4-5mm with the slot length of 35mm. the maximum distance of the water slots should be no less than 600mm, the distance between the inside and outer water slots should be one water slot in case the raining water flows backwards. The detailed quantity of the water slots needed for the window frame are as follows:

Window frame water slot

Profile length	Water slot quantity	Water slot position
<700mm	One water slot	Middle of the profile
700-1800mm	Two water slots	The inside water slot should be 20mm away from the end of window frame
>1800mm	Three water slots	The inside water slot should be 20mm away from the end of window frame, the third one is in the middle of the window frame.

Transom water slot

Profile length	Water slot quantity	Water slot position
<1500mm	One water slot	Middle of the profile
≥1500mm	Two water slots	140mm away from the transom end

REMARK:

- 2.1 The outside window and door should have water slot but the inside window and door don't need.
- 2.2 It's better to mill the water slot at the bottom of the profile cavity otherwise there will be seep inside the profile.
- 2.3 Don't make water slot in the same profile cavity which has the steel reinforcement in case the steel reinforcement will be rusted due to immerging of the raining water.

3. Installation of the steel reinforcement

You can place the steel reinforcement into the profile before welding after cutting it by the reinforcement cutting machine. Then tighten it with pneumatic or electric drill and screw.

Usually the thickness of the steel reinforcement is 1.2-2.0mm, the size of the steel reinforcement should be strictly in compliance with inside cavity of the profile. The distance of the steel reinforcement and the inside cavity wall is usually 1mm. the screws used to tighten the reinforcement should be no less than three pieces and the distance of each screw should be leno more than 300mm. the screw should be 100mm away from the end of the steel reinforcement. You can place the reinforcement before welding, the screw if of $\phi 4 \times 15$.

4. Rubber trip and wool strip installation

You can install the wool strip and rubber strip into the window frame or window sash manually before welding the profile.

5. Welding

- 5.1 The welding allowance is 3mm each side
- 5.2 The welding temperature is 240°C-270°C
- 5.3 The heating time is 20-30s
- 5.4 The air pressure is 0.4-0.6Mpa

6. Corner cleaning

There will be a slight welding groove with the depth of 0.2-0.3mm and width 3mm after cleaning the welding line. You can use CNC corner cleaning machine to clean the welding line or portable corner cleaning machine to clean.

7. Hardware installation

For the casement, you should install hardware such as the hinge, wind stay, lock, handle, etc.

For sliding window, you should install hardware such as pulley, wind resistance cushion, lock, etc.

8. Window assembly

Install the window cover onto the sliding sash after cleaning, and then install the glass into the window sash, followed by the installation of the glazing bead onto the glass to make the glass stable. Lastly place the window sash into the window frame and then install the window into the wall.

Remember you should add place plastic cushion under the glass in case the glass will fall down into the bottom of the window sash. Usually the plastic cushion's width is 2mm wider than glass's thickness with length of 80-100mm, the thickness of the plastic cushion is usually 3-4mm. The assemble position is 100mm far away from outside corner.

