

# Door and window installation

## 1. General regulations

1. This chapter is applicable to the installation of wooden doors and windows, aluminum alloy doors and windows, and plastic doors and windows.

2. Check the following requirements before installing doors and windows:

①The variety, specification, opening direction, flatness, etc. of doors and windows should comply with relevant standards or customized requirements, and accessories should be complete.

②Door and window openings should meet the design requirements.

3. The storage and transportation of doors and windows should meet the following requirements:

①For wooden doors and windows, measures should be taken to prevent moisture, bumps, pollution and exposure to the sun.

②The storage temperature of plastic doors and windows should be less than 50℃; the distance from the heat source should not be less than 1m. When stored in an environment with an ambient

temperature of 0℃, they should be placed at room temperature for 24h before installation.

③Aluminum alloy and plastic doors and windows should be erected and fixed firmly during transportation. The soft material should be used to separate the lug and the bolt to prevent mutual wear and damage to the glass and hardware.

4. The fixing method of doors and windows should meet the design requirements. During the installation of door and window frames and sashes, deformation and damage should be prevented.

5. The installation of doors and windows shall adopt the construction method of reserved openings, and shall not adopt the construction method of installing and building the openings or installing first and then building the openings.

6. The sliding door and window sash must have anti-falling measures, and the overlap between the sash and the frame should meet the design requirements.

7. The installation of doors and windows outside the building must be firm, and it is strictly prohibited to use nails to fix the doors and windows on the brick masonry.

8. Door and window production needs to be produced with standard door and window machines to ensure the quality of pvc& aluminum doors and windows, such as: CNC double-head cutting saw, single-head cutting machine, PVC window seamless welding machine, UPVC Window CNC Corner Cleaning Machine、 End milling machine、 Corner crimping machine、 Aluminum punching machine etc.

## 2. Main material quality requirements

1. Doors and windows, glass, sealant, etc. should be selected according to design requirements, and window product qualification certificates should be provided.

2. The appearance, dimensions, assembly quality, and mechanical properties of doors and windows should comply with relevant regulations. The reinforced steel in the main stress-bearing members such as mullions, mid-transverse frames or splice materials in plastic doors and windows should be noted in the product description Specify specifications and dimensions. There should be no defects affecting the appearance quality on the surface of doors and windows.

3. The moisture content of wood used for wooden doors and windows should meet the relevant regulations of the standard.
4. There should be no knots or filled knots at the junction of wooden doors and windows and the installation of hardware accessories.
5. The spare parts and fixings selected for metal doors and windows, except stainless steel, should be treated with corrosion protection.
6. The combination of plastic doors and windows and combined windows and doors should be lined with reinforced steel that fits closely with the inner cavity, and the two ends of the steel should be 10-15mm longer than the composite. The cross-sectional area size of the assembling material of the external window, the shape of the section steel, and the wall thickness shall be able to enable the combined window to withstand the instantaneous wind pressure value in the region.

Three, construction points

1. The installation of wooden doors and windows should meet the following requirements:

①The contact parts of the door and window frame and masonry, concrete or plastering layer, and fixed wooden bricks should be treated with anticorrosion.

②Before installing the door and window frame, the square should be corrected, and the nails must be pulled to avoid deformation.

When installing door and window frames, there should be no less than two fixed points on each side, and the distance between them should not be greater than 1.2m.

③When the door and window frame needs to be inlaid on the face, the door and window frame should protrude from the wall, and the thickness of the protrusion should be equal to the thickness of the plastering layer or decorative surface layer.

④The installation of wooden door and window hardware accessories should meet the following requirements:

1) The hinge distance between the upper and lower ends of the door and window sash should be  $1/10$  of the vertical height, and the upper and lower heads should be avoided.

2) The installation of hardware accessories should be fixed with wood screws. Hardwood should be drilled to a depth of  $2/3$ , and the

hole diameter should be slightly smaller than the diameter of the wood screw.

3) The door lock should not be installed at the junction of the riser and the stile.

4) The distance between the window handle and the ground should be 1.5~1.6m, and the distance between the door handle and the ground should be 0.9~1.05m.

2. The installation of aluminum alloy doors and windows should meet the following requirements:

①The door and window should be installed horizontally and vertically. It is strictly forbidden to bury the door and window frame directly in the wall.

②When installing the sealing strip, there should be a margin of 20-30mm longer than the assembly side of the door and window. The corners should be cut off with an inclined surface and glued firmly to avoid shrinkage and gaps.

③The gap between the door and window frame and the wall shall not be filled with cement mortar, but shall be filled with elastic material, and the surface shall be sealed with sealant.

3. The installation of plastic doors and windows should meet the following requirements:

① When installing hardware accessories on doors and windows, drill holes and screw them in with self-tapping screws, and do not hammer in directly.

② The installation of door and window frame, sub-frame and fan must be firm. The number and position of the fixing pieces or expansion bolts should be correct, the connection method should meet the design requirements, the fixed points should be 150-100mm away from the window corners, the middle horizontal frame, and the middle mullion, and the distance between the fixed points should be less than or equal to 600mm.

③ When installing the combined window, the two window frames should be clamped with the frame material. After clamping, the fasteners should be fastened in both directions. The spacing should be less than or equal to 600mm. The end of the fastener and the gap between the frame material and the frame Apply caulking paste for sealing treatment. The two ends of the steel profile must be firmly fixed to the opening.

④The gap between the door and window frame and the wall shall not be filled with cement mortar, but shall be filled with elastic material, and the surface shall be sealed with sealant.

4. The installation of wooden doors and windows should meet the following requirements:

①Before installing the glass, check the size of the frame and remove the dirt in the cutting opening.

②Install the glass with the long side greater than 1.5m or the short side greater than 1m, and use rubber pads and fix it with bead and screws.

③The wooden frame and fan glass can be fixed with nails, the nail distance should not be greater than 300mm, and each side should be no less than two; when fixing with wooden bead, the base oil should be brushed before installation, and the glass should not be pressed too tightly.

④When installing the glass partition wall, a proper amount of gaps should be left on the upper frame surface of the glass to prevent the wooden frame from deforming and damaging the glass.



⑤ When using sealing paste, the surface of the joint should be clean and dry.

5. The installation of aluminum alloy and plastic door and window glass should meet the following requirements:

① Before installing the glass, clear out the debris in the notch.

② Before using the sealing paste, the surface of the joint should be clean and dry.

③ The glass must not be in direct contact with the glass tank, and pads of different thickness should be placed on the four sides of the glass, and the pads on the frame should be fixed with adhesive.

④ The coated glass should be installed on the outermost layer of the glass, and the single-sided coated glass should face the room.