



Polycarbonate Sheet Installation Technical Manual

Polycarbonate Hollow Sheet Product Manual

Specifications: Suitable for all Aoci series hollow panels; Color: Compatible with the entire product range.

Product Features

The material is made of polycarbonate resin and offers the following advantages:
Non-breakable and formaldehyde-free; non-flammable and safe for use.
It is suitable for extreme temperature variations, boasts excellent weather resistance, and retains its transparent texture even after long-term use.

Advantages of hollow sandwich structures

Excellent thermal insulation and heat retention properties; the panels are lightweight, easy to install, and offer excellent cost-performance ratio.

use

Roof lighting systems, entryway rain shelters, eave rain shields, smoke exhaust windows, greenhouse structures
Lower door baffles, partition screens, furniture cabinet doors, storefront window back panels / canopy panels
Building materials (partition panels, double-glazed windows, rainproof windows), various display Sheets, and lighting enclosures.
Advertising billSheets, etc.

matters need attention

caution

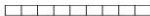
- Do not use this product near open flames or in high-temperature environments (>120° C).
- Before the installation is completed, please do not remove the surface protective film.
- Long-term exposure to direct sunlight outdoors may cause the Sheet to deform or discolor.
- Do not stack heavy objects on the surface of the Sheet.
- The cut sheet materials should be securely fixed; it is recommended to use foam pads for cushioning and protection.

Manufacturer Information

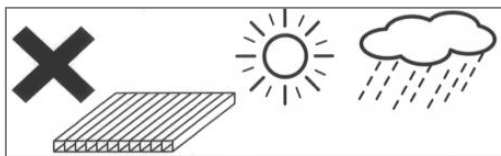
Manufacturer: Zhejiang AoCi Decoration Materials Co., Ltd.
Address: No.2618 Haifeng Road, Economic Development Zone, Taizhou City, Zhejiang Province
Mobile: 155 5855 5366
Phone: 0576-88121897
Email: polycarbonatesheet@qq.com
Chinese/English: <https://www.zjaoci.com>
English/Spanish: <https://www.polyroofs.com>

marking instruction

Paper Recycling / Plastic Recycling

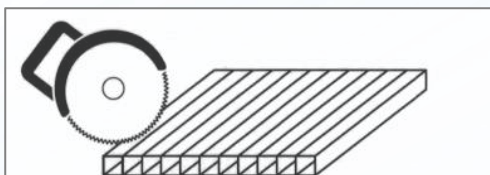
Type	Structure	Thickness (mm)	Rib Space (mm)	Width (mm)	Length (M)
Twin wall		4	6.5	2100 1220 1050	5.8 6 11.8 (other sizes are available)
		6			
Twin wall		8	10.75		
		10			
		12			
Four layer		6	7	2100 1050	
		8			
		10			
		12			
Four layer		12	11		
		16			
Honeycomb		6	4		
		8	6		
		10			
		12			
X Strong		16	12		
		18			
		20			
		25			





Storage and Transportation

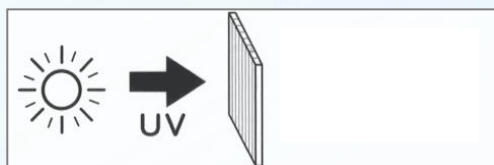
When storing or handling, please place the packaging horizontally.
Do not place in areas with direct sunlight or where it may be exposed to rain splashes.
Do not remove the protective film before construction and installation to prevent scratches on the panel surface.



Cutting Tool Requirements

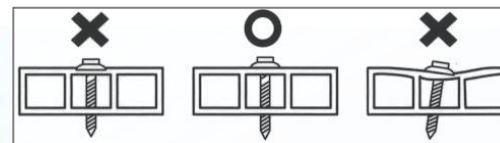
Circular saws (fixed or portable, hardwood-cutting blades) and curved saws (short-toothed or universal blades) may be used for cutting.
During cutting, push the saw blade slowly.

⚠ Cutting powder may easily enter the hollow core of the plate; it must be thoroughly removed.



Sheet Material UV Protection

The panel is coated with a single-sided UV coating; during installation, the side marked with text should face the sun.
(When installing the canopy, the side with writing should face upward)



Nail Installation Specifications

✗ Error: The screw has not fully tightened the sheet metal.

○ Correct: Use screw retaining washers and leave a flexible expansion gap.

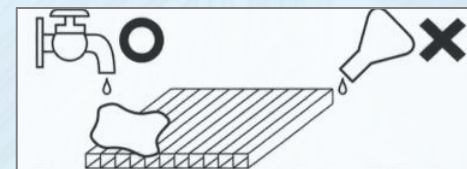
✗ Error: The screw is tilted and driven into the sheet metal.

When installing with an electric screwdriver, do not over-tighten the screws.
Screws should be driven vertically; avoid driving them at an angle to ensure proper locking.



Thermal expansion allowance opening

Plates exhibit thermal expansion and contraction properties; therefore, the drill hole diameter should be 20–30% larger than the screw diameter.



Cleaning and Maintenance

When cleaning work surfaces, the use of organic solvents is strictly prohibited;
Please wipe with a soft cloth dipped in clean water; alternatively, you may use a neutral detergent diluted with clean water for wiping.

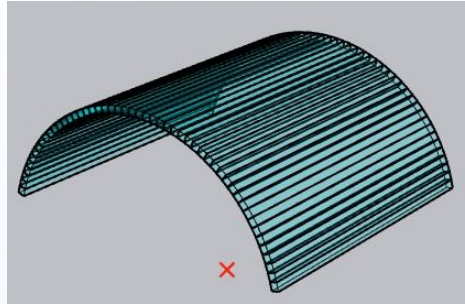
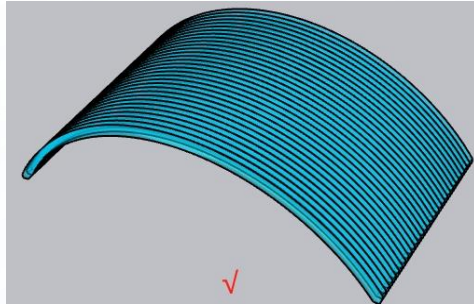
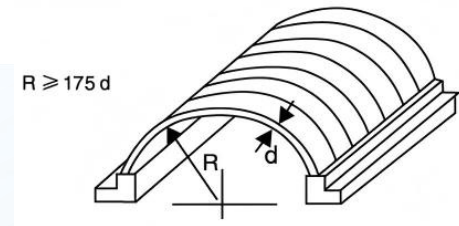
✗ Do not use organic solvents for cleaning

Winding



Scan QR code to calculate

By leveraging the natural properties of PC Sheet, they can be bent to an allowable radius. If the bending radius falls below the minimum allowable value, excessive stress and strain will be induced in the panel, potentially leading to its fracture. Under no circumstances should the panel be bent in any direction other than along its grating pattern; doing so may result in panel fracture.



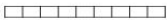
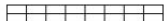
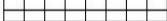
Type	Structure	Thickness (mm)	Minimal Cold Bending Radius (mm)
Twin wall		4	700
		6	1050
Twin wall		8	1400
		10	1750
		12	2100
Four layer		6	1050
		8	1400
		10	1750
Four layer		12	2100
		16	2800
		20	3500
Honeycomb		6	1050
		8	1400
		10	1750
		12	2100
X Strong		16	2800
		18	3150
		20	3500
		25	4375

Table: Minimum allowable bending radius

Pre-installation Preparation

1.Remove the adhesive tape from both ends of the sheet and tear off the protective film by approximately 10 cm (Figure 1); then, apply aluminum foil tape (Figure 2) and breathable tape (Figure 3); apply the aluminum foil tape to the side of the sheet facing upward (which is non-breathable), and apply the breathable tape to the side facing downward. If breathable tape is unavailable, aluminum foil tape may be used at both ends simultaneously.

2.Install edge finishing strips at both ends of the Sheet (Figure 4); it is recommended to drill holes in the side of the edge finishing strip facing downward before installation—using a hole diameter of 4 mm and a spacing of 20 cm—to facilitate better drainage.

3.Remove the bottom protective film before installation.

4.Immediately remove the protective film after installation. If this step is not taken, the protective film will be exposed to direct sunlight; due to its inherent degradation, removal of the film will become very difficult, and the warranty will also become void.



(graph 1)



(graph 2)



(graph 3)



(graph 4)



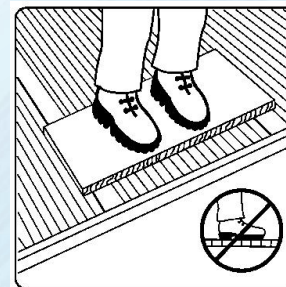
Precautions for Plank Flooring Installation

1.The lettered side of the polycarbonate sheet is coated with a UV-resistant (anti-aging) treatment; this side must face the sun, and once the sheet has been installed, the protective film must be removed.

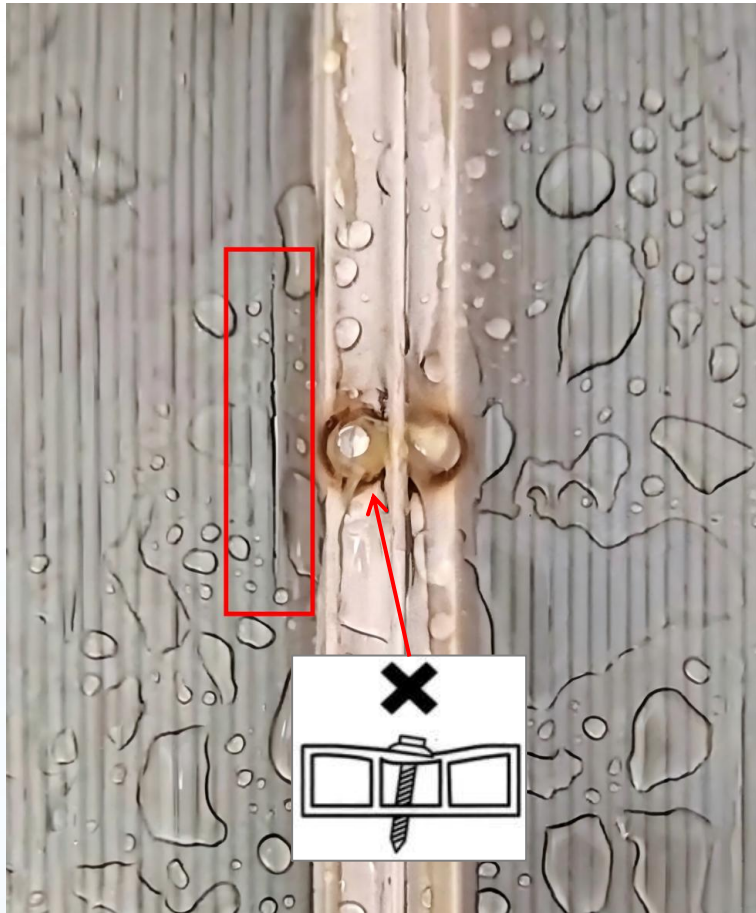
2.To ensure better drainage, the tilt angle of the canopy should be $>10^{\circ}$.

3.Do not step directly on the Sheets; when the purlin span is large, use sturdy and reliable wooden Sheets or crawler plates to distribute the load. Always prioritize safety and take precautions to avoid slipping.

4.Do not install the panels under windy, rainy, or dim weather conditions.



Common PC accessory series for easy installation



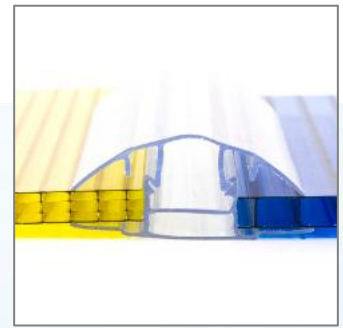
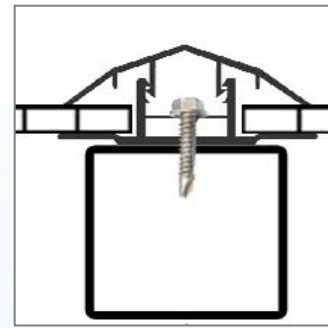
✗ Incorrect installation example

If the screws are too tight and lock in place, they may flatten the sheet metal, leading to cracking.

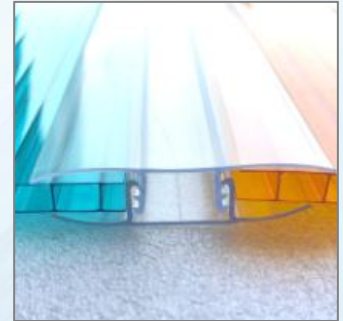
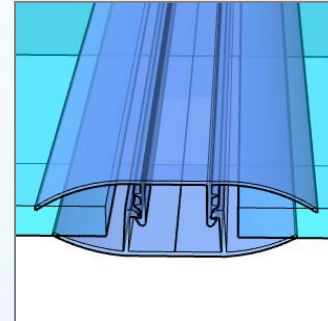
In this case, no immediate cracking will occur; potential hazards will only become apparent after a period of time.

Key points: Many installation issues stem from screwing; therefore, avoiding screws on the panel surface while still achieving a secure connection between panels is the cornerstone of proper installation—making it essential to invest in appropriate auxiliary materials.

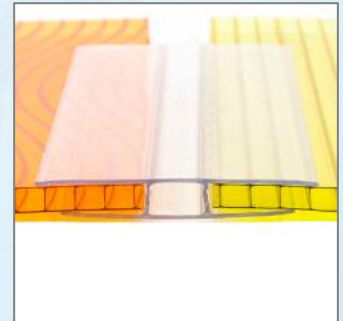
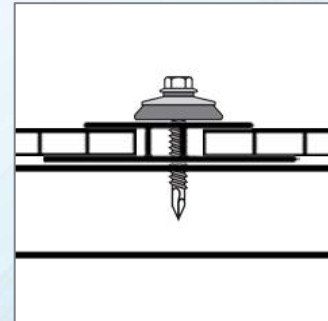
Snap Fastener ➡



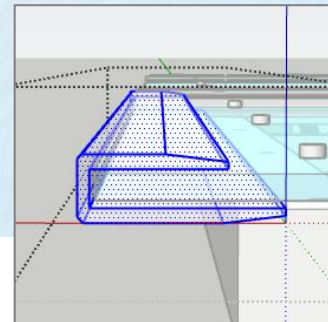
Snap Fastener ➡

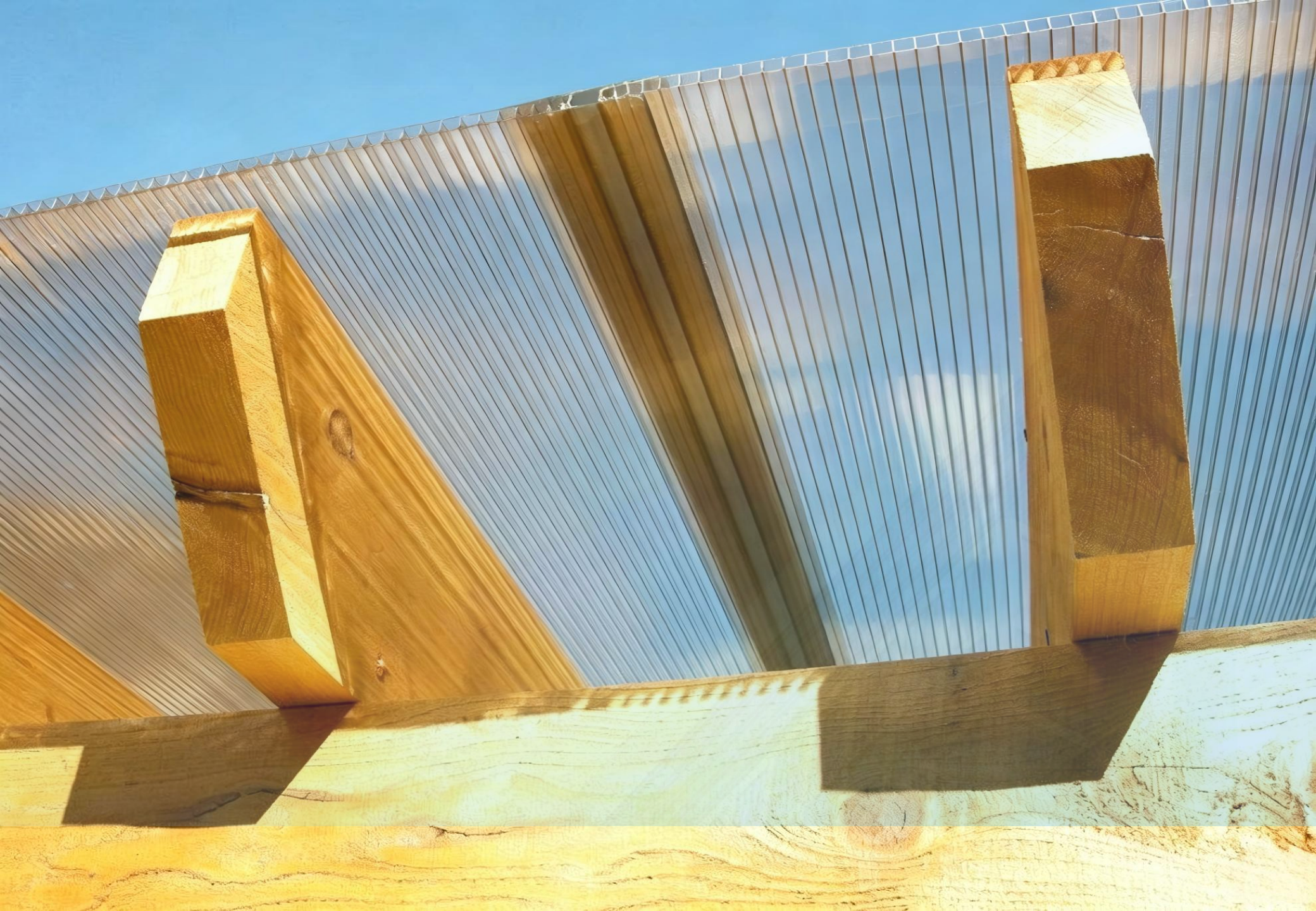


H Profile ➡



U Profile ➡

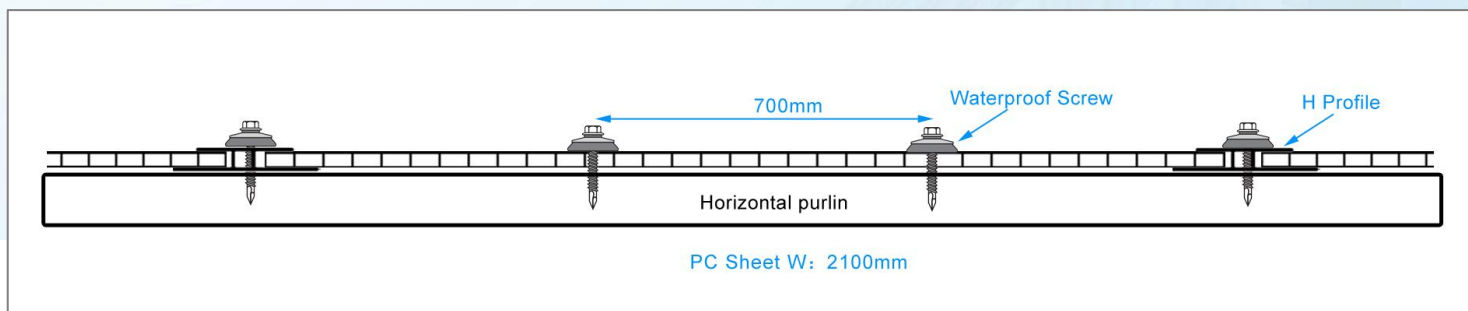
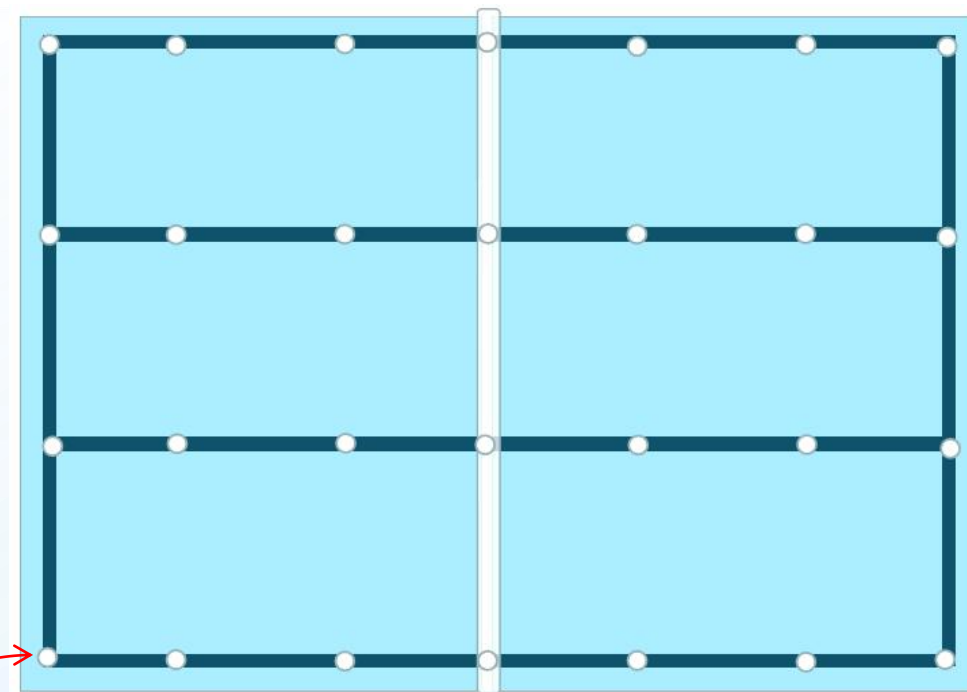
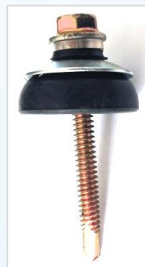
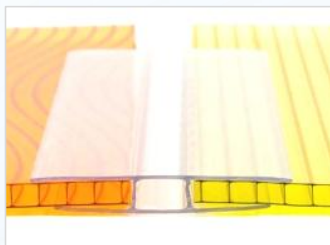




[Easy Installation]

H-beam installation steps
(Compatible with sheets 4–10 mm thick)

1. Apply aluminum foil tape or breathable tape to both ends of the polycarbonate sheet.
2. Remove the UV-resistant film from the back of the polycarbonate sheet (the side without writing is referred to as the backing film).
3. Use waterproof screws to install the first solar panel at the edge of the awning.
4. Use waterproof screws to install the second solar panel; ensure a gap is left between the first and second panels. The size of this gap depends on the center width of the H-section profile: for solar panels with a width of 4–6 mm, leave a gap of 15 mm; for solar panels with a width of 8–10 mm, leave a gap of 20 mm.
5. Insert the H-sections into the gap.
6. Install the PC edge trim, peel off the film from the polycarbonate sheet, and complete the process.



Installation Video

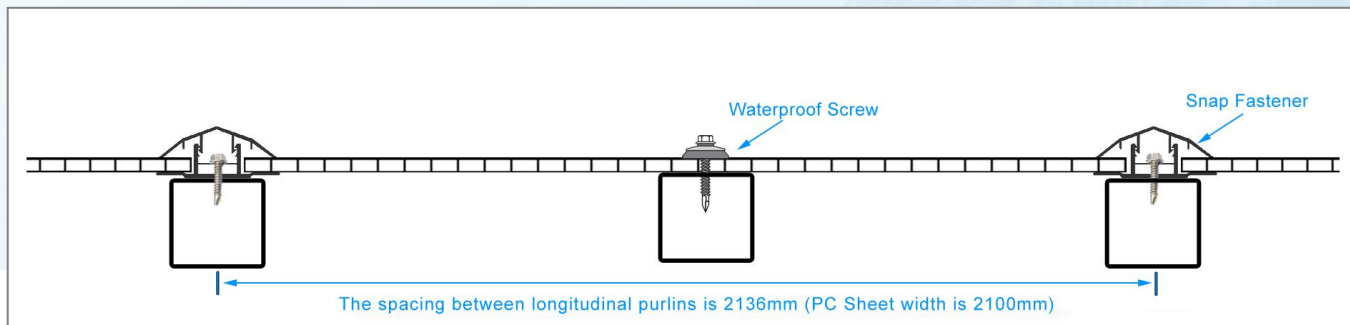
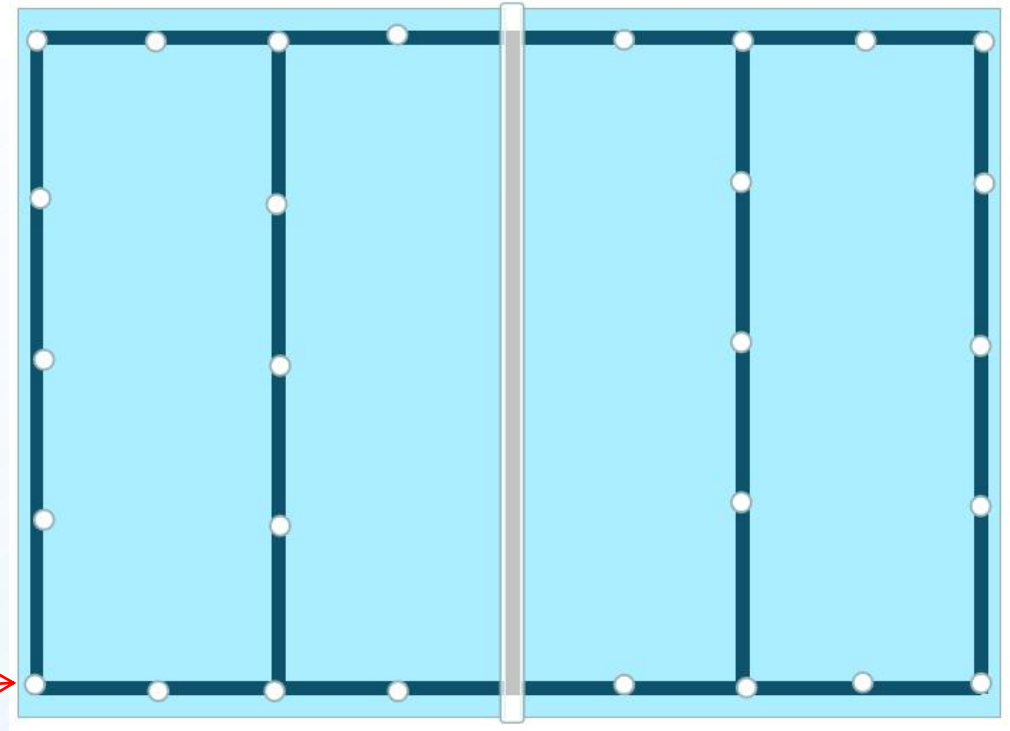
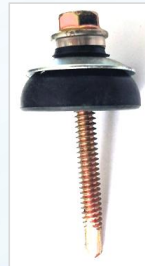


Barceló
HOTELS & RESORTS

[Easy Installation]

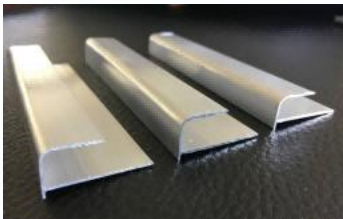
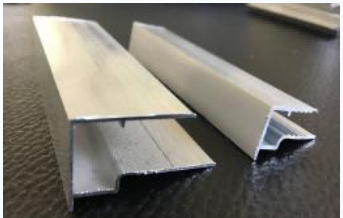
Installation Steps for Upper and Lower Snap-Type Profiles (Compatible with sheets 4–10 mm thick)

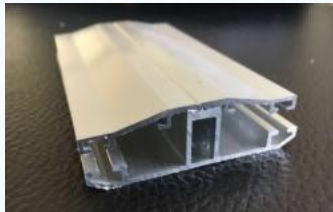
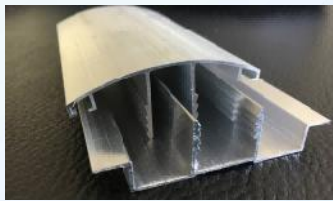
- Remove the protective film from the bottom of the polycarbonate sheet.
- Adhere aluminum foil tape or breathable tape to both ends of the polycarbonate sheet.
- Install the PC edge trim.
- Install the base for the upper and lower clips.
- Install the solar panel system.
- Secure the solar panel using specialized waterproof screws.
- Install the fastener and use a rubber hammer to strike it until it is securely closed.
- Remove the protective film from the polycarbonate sheet; process complete.

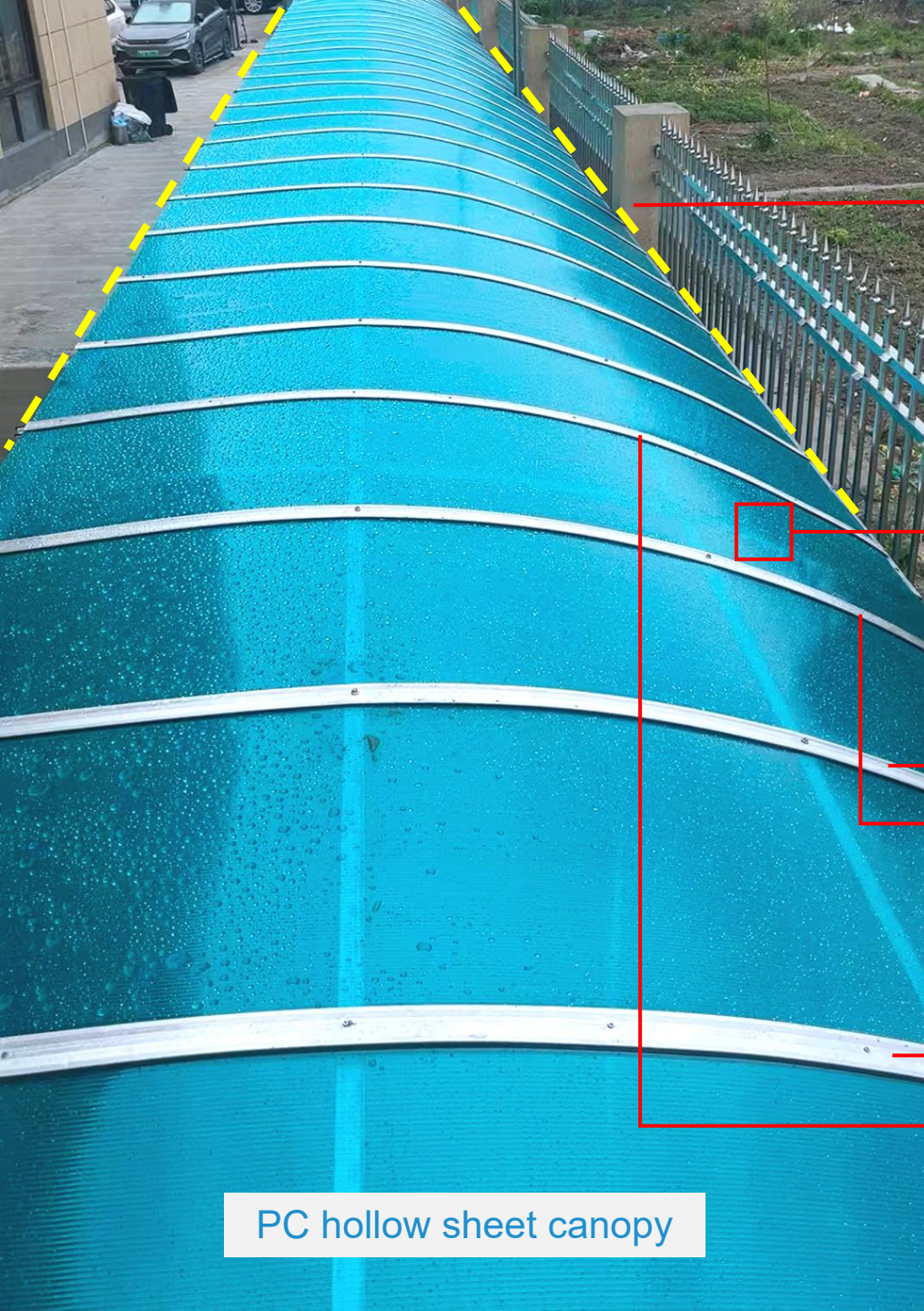




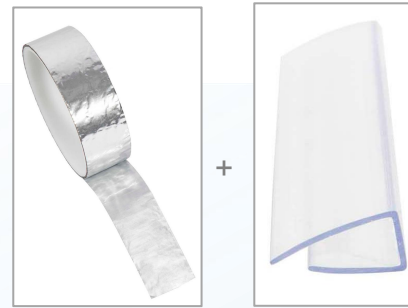
Common aluminum profile series

Model	Products	Applicable thickness	Length
Close-up 1		5mm	6M
		7mm	6M
		9mm	6M
Close-up 2		8mm	6M
		10mm	6M
		12mm	6M
Upper pressure strip		4-25mm	6M

model	Products	Applicable thickness	length
Jointed profile 1 (Top and bottom pressure covers)		4-25mm	6M
Jointed profile 2 (top and bottom clips)		8-10mm	6M
EPDM gasket strip		For jointed profiles	300 meters per roll



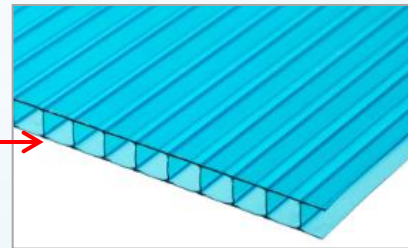
PC hollow sheet canopy



Aluminum foil tape + U-shaped profiles

Purpose: Rainproof and dustproof

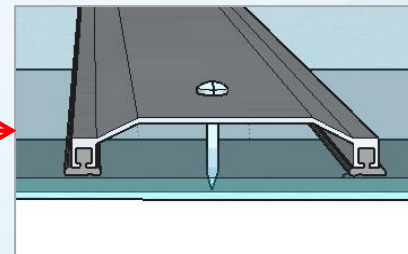
Quantity: 1 sheet/2 pieces (1 piece at each end)



PC hollow sheet

Width: 2.1M

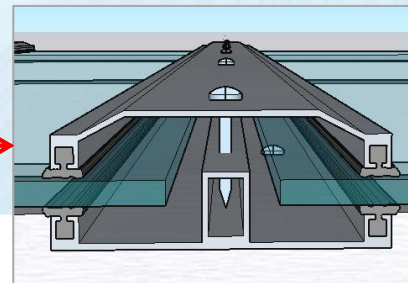
Length: 5.8M (customized)



Aluminum profile (6M)

Purpose: Fixing sheet and purlin

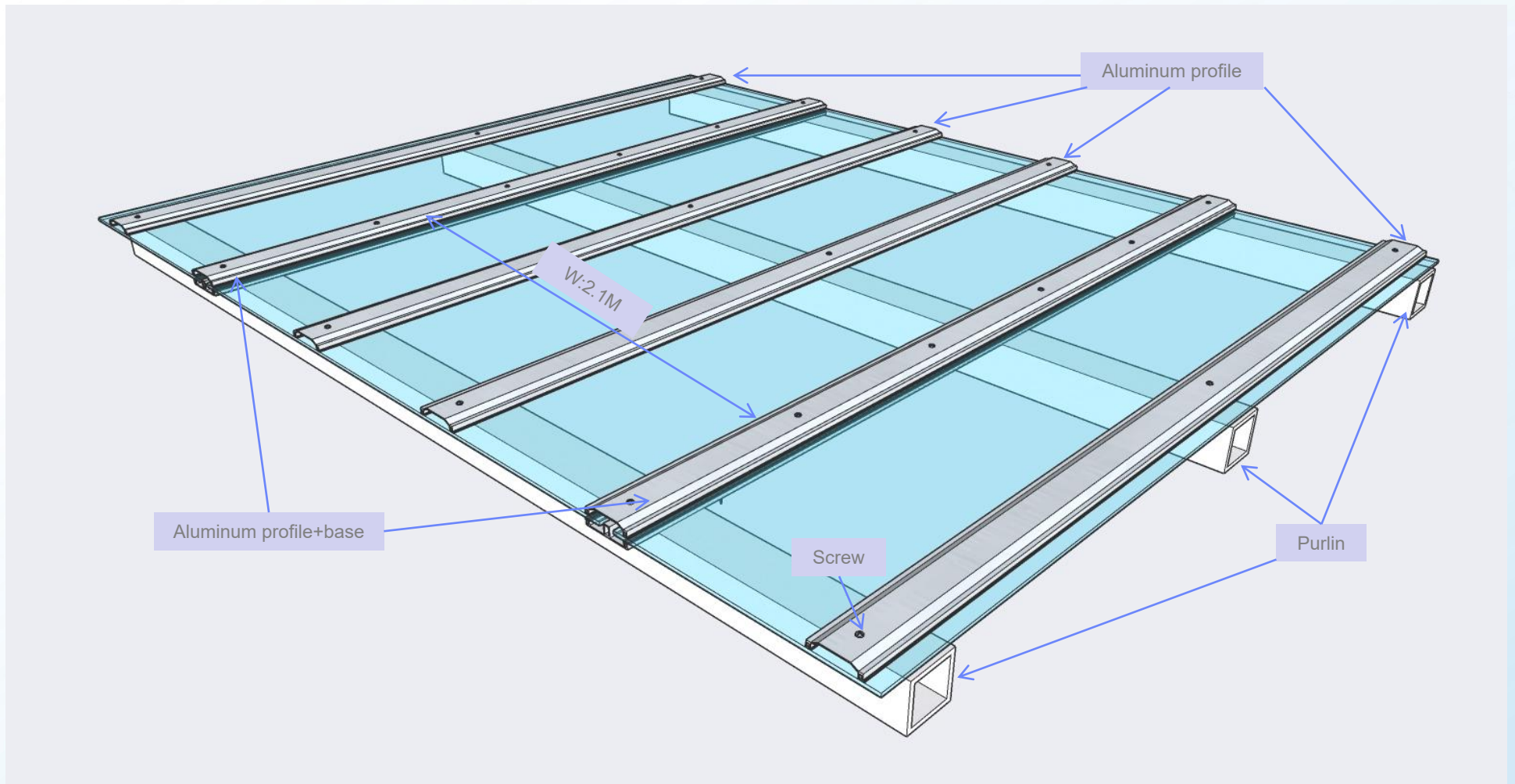
Quantity: 1 sheet/2 pieces



Aluminum profile+base (6M)

Purpose: Sheet gap linking

Quantity: 1 gap/1 piece



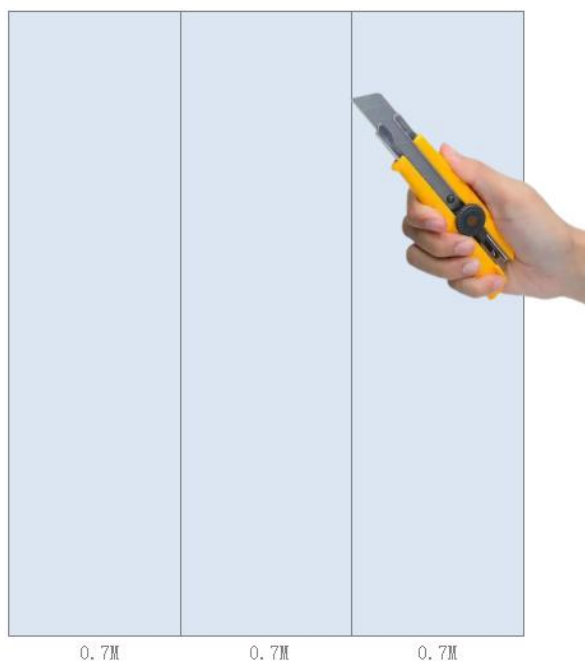
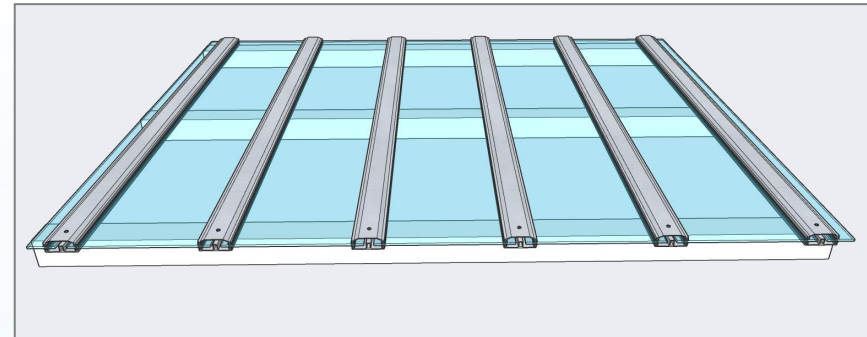
PC hollow sheet canopy - Structural Diagram

【 Engineering Installation 】

Aluminum Profile Installation Steps

(Compatible with sheets ranging from 4 to 25 mm in thickness)

1. Cut the 2.1 m wide sheet into pieces 0.7 m wide.
2. Remove the protective film from the bottom of the solar panel.
3. Apply aluminum foil tape or breathable tape to both ends of the polycarbonate sheet.
4. Install the PC/aluminum trim strip.
5. Install the aluminum profile base.
6. Install solar panels.
7. Install the aluminum profile cover.
8. Peel off the protective film from the polycarbonate sheet; process complete.



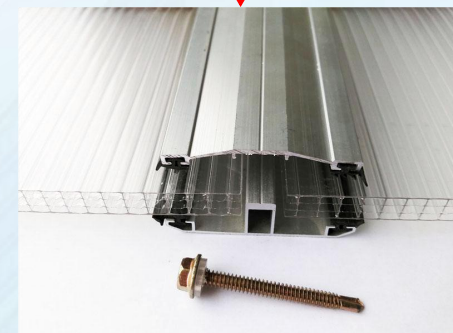
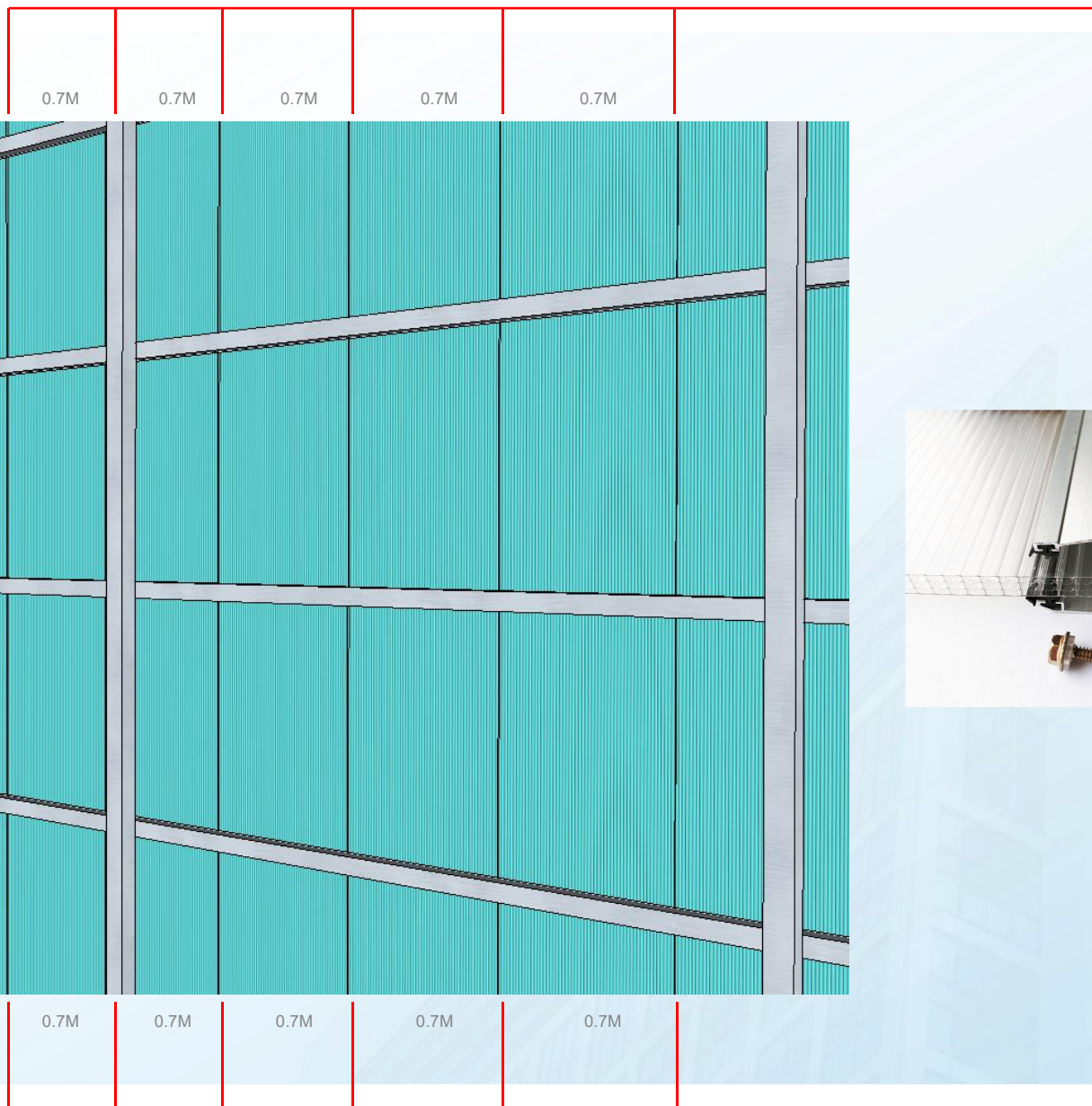
Cut a 2.1 m wide sheet into pieces 0.7 m wide.

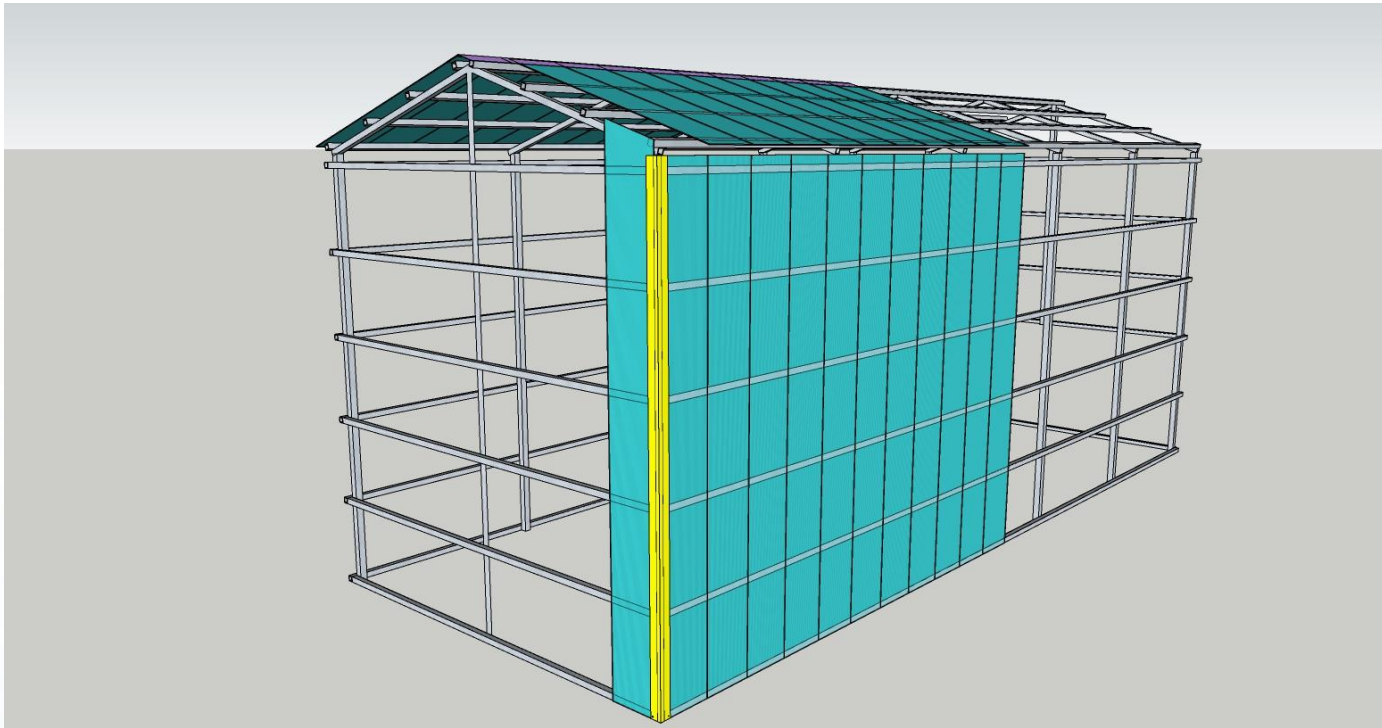


On the upper side of the Kong Sheet:
Apply aluminum foil tape.



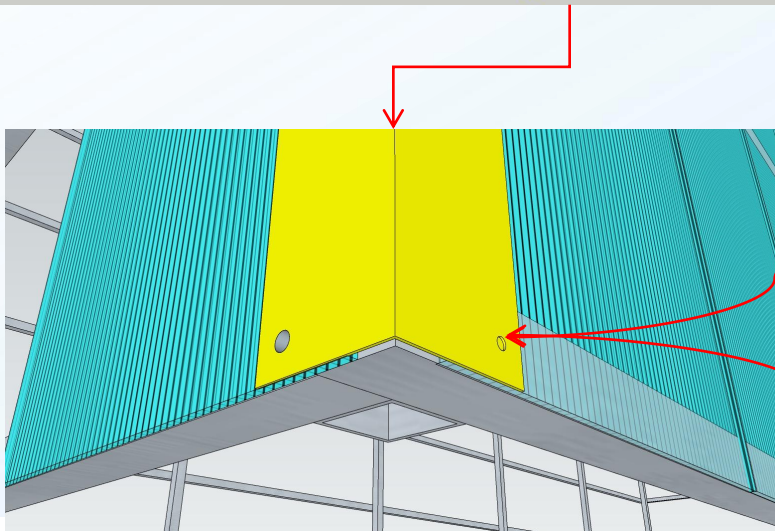
On the bottom side: Apply breathable
adhesive tape

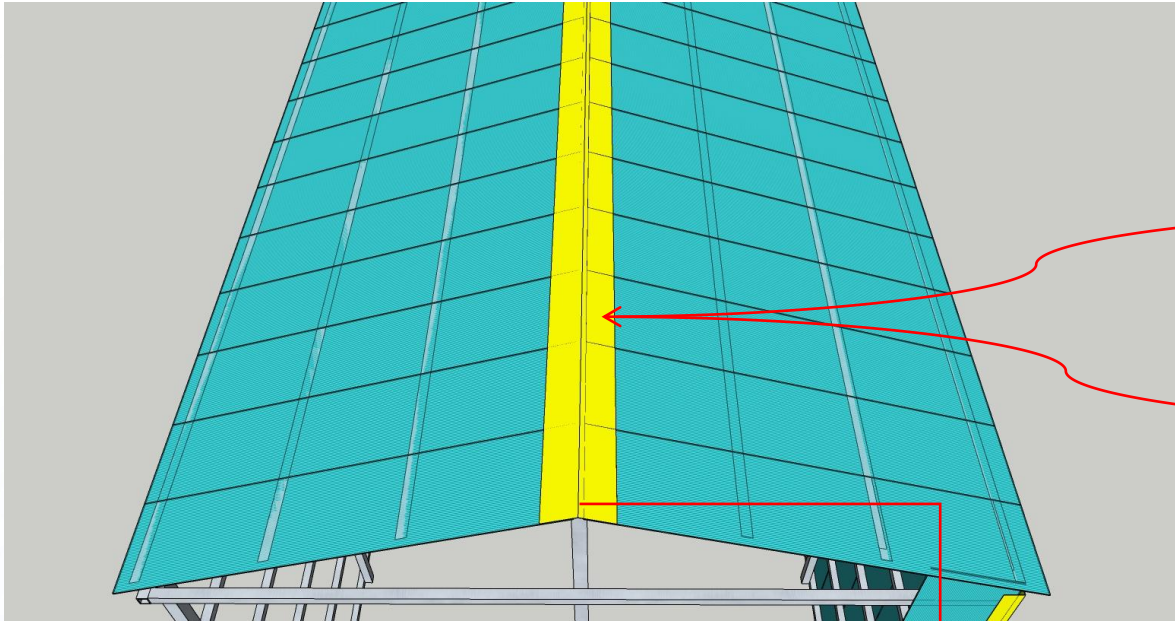




Corner treatment

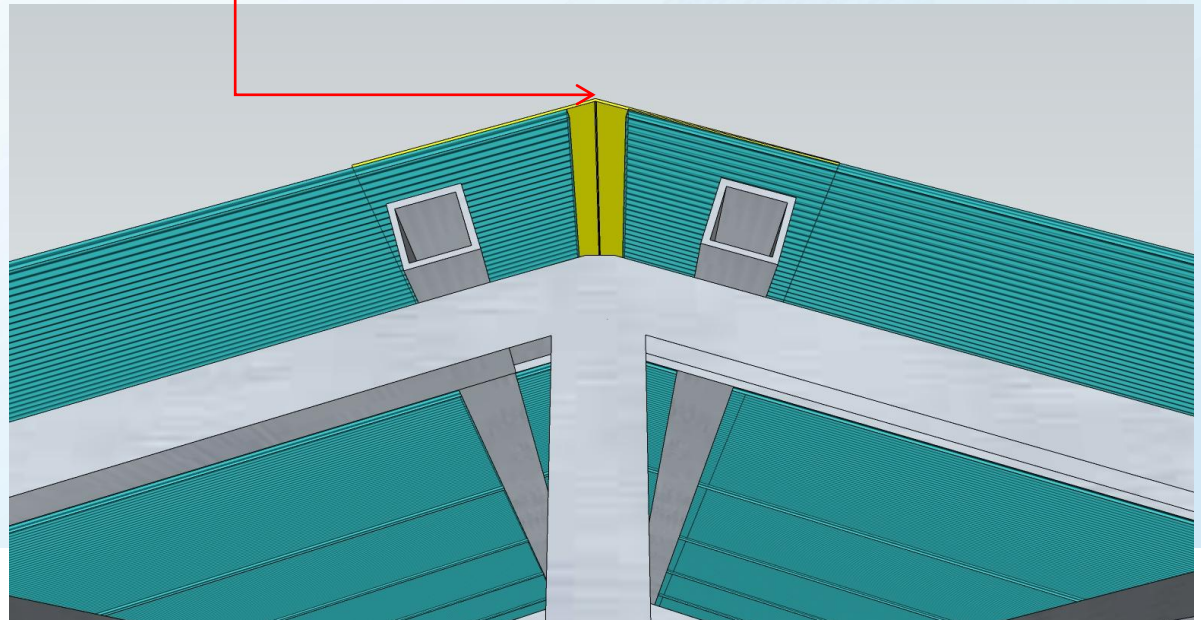
1. Corner fabrication: A 0.5 mm thick stainless steel plate can be bent, with a single-sided width of 60 mm.
2. Corner installation: Use waterproof self-tapping screws – drive through the corner – drive through the panel – and secure to the square tube (or purlin).





Roof ridge treatment

1. Roof ridge fabrication: A 0.5 mm thick stainless steel plate can be bent; the single-sided width should be 100 mm.
2. Ridge installation: Use waterproof self-tapping screws to penetrate the roof ridge, penetrate the roofing panel, and secure them to the square tube (ridge beam).





✗ Incorrect installation example

The 2.1M wide sheets were not slit into smaller strips but were instead laid out directly in large continuous sections. When secured with screws, the plate surface may become uneven due to thermal expansion and contraction.



✓ Correct Installation Example

The 2.1m wide sheet material is cut into sections measuring 0.7m in width; the sheet surfaces are not secured by screws but are instead connected and fixed entirely using aluminum profiles, allowing the sheet surface to expand and move freely under thermal expansion and contraction conditions.

Key Points

1. The simplified installation method (H-section profiles, top-and-bottom clamping method) is only applicable to small civil engineering projects. When securing panels with screws, rubber gaskets must be used; do not over-tighten the screws, as this may flatten the panel surface and lead to hidden cracks.
2. Sheet materials and profiles are sensitive to acids and alkalis. They should not come into contact with cement floors or walls; additionally, rainwater that has washed over cement floors or walls must not come into contact with these sheet materials.
3. Selection of sealant: Weather-resistant neutral silicone sealants shall be used; it is strictly prohibited to use glass sealants or foam sealants that possess acidic or alkaline properties.

Cleaning

1. Generally speaking, rainwater self-cleaning is sufficient; using a diluted household cleaning agent will yield even better results.
2. Ensure that the cleaning agent does not contain corrosive agents or organic solvents.
3. Avoid dry cleaning; adhered dust particles may scratch the surface of the Sheet.
4. Large areas can be flushed using low-pressure water jets.

The Importance of Installation Techniques

1. The service life of the panels is determined by their inherent anti-aging properties and their installation method.
2. AoCi fully recognizes the importance of anti-aging performance; therefore, the company has dedicated efforts to developing sunshades with stable anti-aging properties and continues its in-depth research and development in this area. AoCi sunshades have passed the 10,000-hour anti-aging test conducted by the National Chemical Building Materials Testing Center (Materials Testing Department), with test results exceeding the requirements specified in the standard "JGT 116-2012: Polycarbonate (PC) Hollow Sheets."
3. As a user, you have the responsibility to diligently study installation techniques to ensure that materials are applied correctly, thereby enhancing project quality.
4. The above information has been compiled by AoCi based on genuine customer feedback from actual applications; therefore, it may contain certain cognitive limitations and may not fully cover all possible application scenarios. If you are interested in installation techniques, have any questions, or have new ideas, we welcome your discussion and exchange of views.

Contact

Manufacturer: Zhejiang AoCi Decoration Materials Co., Ltd.

Address: No.2618 Haifeng Road, Economic Development Zone, Taizhou City, Zhejiang Province

WAP: +86 15558555366

Phone: +86 0576 88121897

Email: polycarbonatesheet@qq.com

Chinese/English: <https://www.zjaoci.com>

English/Spanish: <https://www.polyroofs.com>