



# POLYCARBONATE ROOFING INSTALLATION GUIDE

Top Choice Corrugated Polycarbonate Roofing Sheets  
[www.lyon.com.tw](http://www.lyon.com.tw)

# POLYCARBONATE SHEET

Impact Resistance, Transparency And Light Transmission.

## Introduction

Lyon Plastic is a professional polycarbonate sheet manufacturer and specializing in manufacturing UV polycarbonate corrugated sheets. We provide a wide series of polycarbonate sheets in available for colors and sizes to meet your needs. We manufactures a great variety of polycarbonate corrugated sheets which have been tested and proved to have met international weather-proof standard. Additionally, we provides 10 years' quality warranty specified for LIHYANG Polycarbonate Sheet. Being a professional polycarbonate sheet manufacturer, we also welcome mutual cooperation with domestic and foreign clients.

## Main Benefits

1. Up to 90% light transmission
2. Retains its performance for many years
3. Virtually unbreakable
4. Blocks out UV and far IR radiation
5. Allows energy saving of up to 50%
6. Flexible and easy to install
7. Wide service temperature range
8. 10 year limited warranty



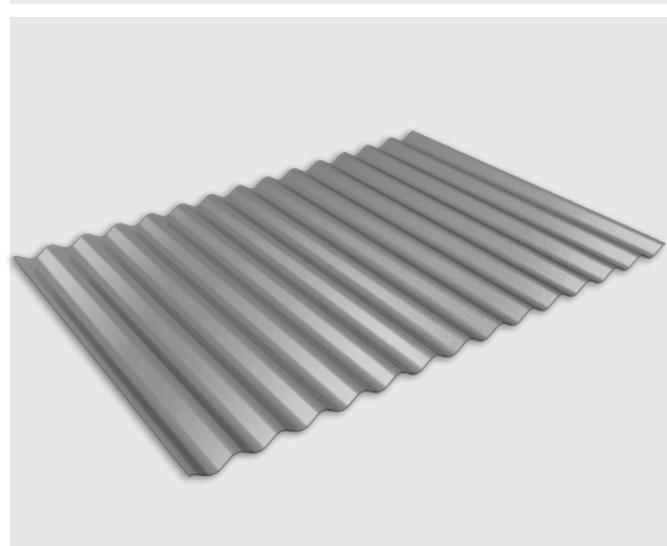
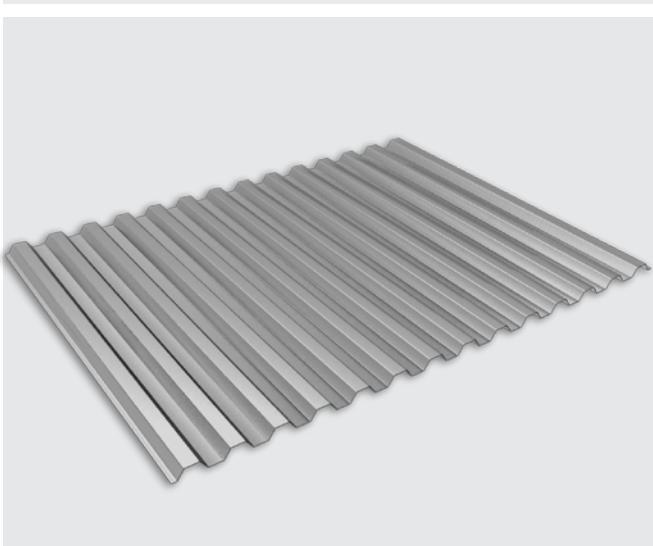
## Profile Dimensions

No.	Thickness (mm)	Pitch (mm)	Depth (mm)	Width (mm)	Effective Width (mm)
L4	0.7 ~ 0.8	76	18	1050 Customized Maximum	988

Profile

No.	Thickness (mm)	Pitch (mm)	Depth (mm)	Width (mm)	Effective Width (mm)
L5	0.65 ~ 0.8	76	18	1045 Customized Maximum	-

Profile



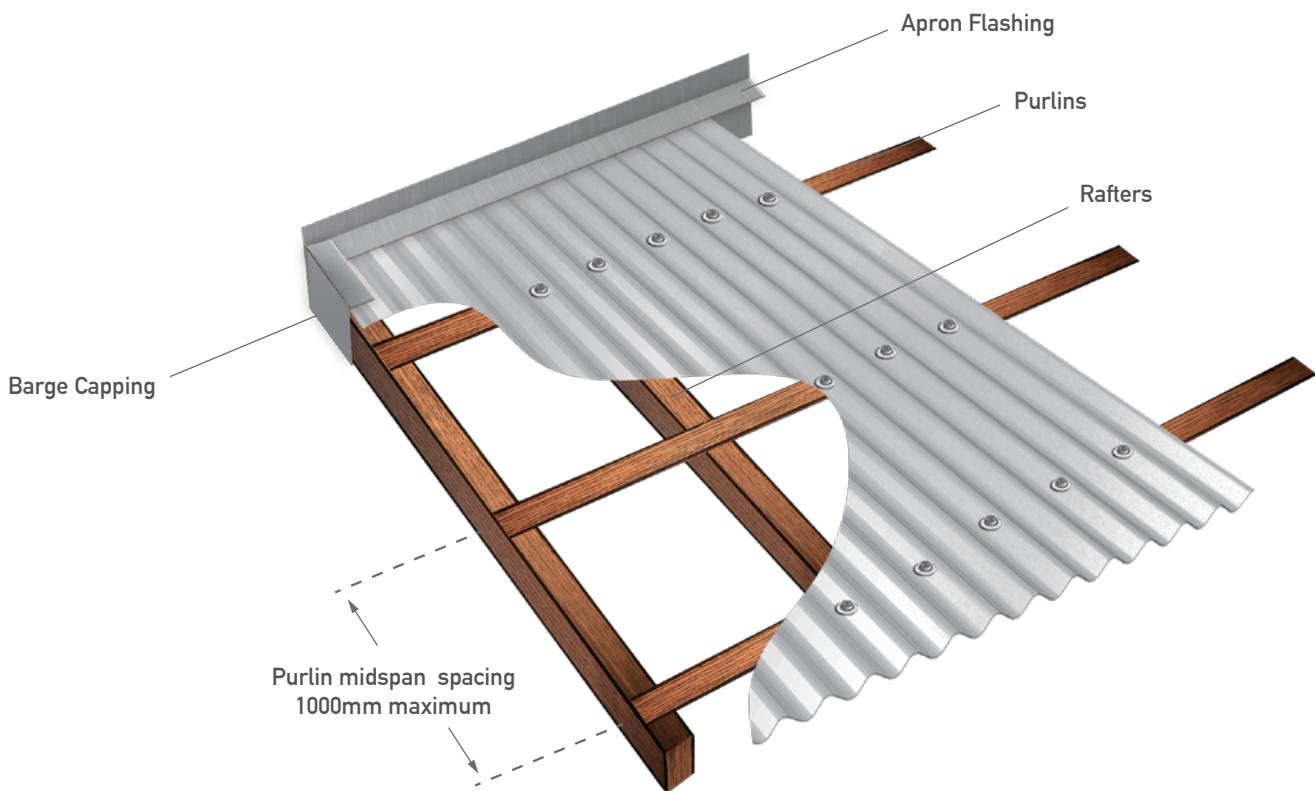
## Distance between Purlins

Purlin Spacing		
Profile	End Span	Mid Span
Corrugate	800 mm	1000 mm
Greca	900 mm	1200 mm

Fixing Spacing		
Profile	End Span	Mid Span
Corrugate	Every 2nd crest	Every 3rd crest
Greca	Every 2nd crest	Every 3rd crest

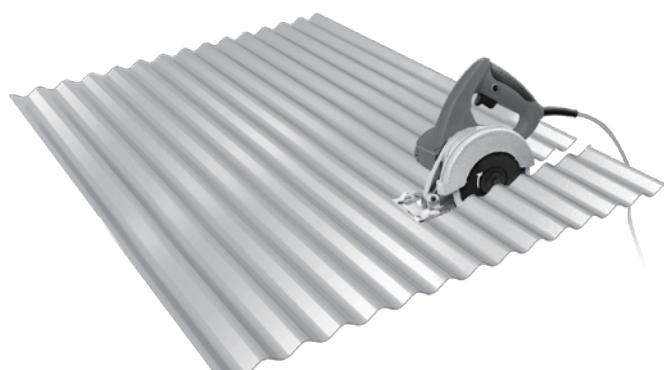
\* The dimensions depicted above do not supersede the requirements of local construction codes.

The distances depicted above were calculated based on the structural properties with the following factors being taken into consideration: sheet deflection, potential wind load, potential snow load, hail and application load according to usual construction practice.



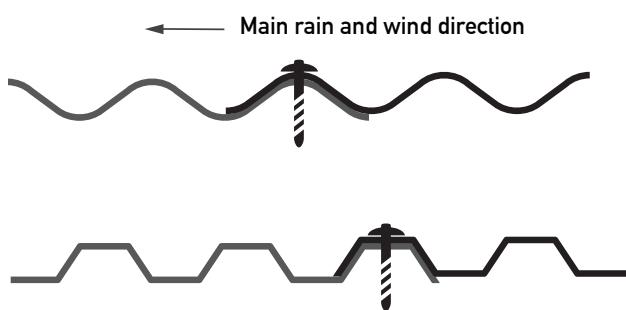
## Cutting

1. Lyon sheets can be easily cut with standard shears or fine toothed band saws or circular saws with cut-off blades suitable for plastic.
2. While cutting, the sheets should be clamped to avoid vibration.
3. When making pointed turns in direction of the cut, drill a hole where the two cuts are to intersect, and then cut through the hole.
4. Clean the powder or debris prior to installation.

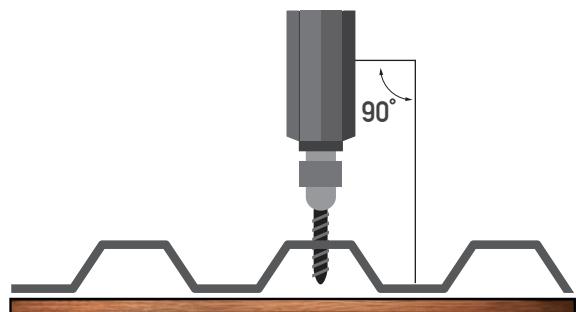


## Drilling and Screwing

1. Temperature change causes expansion and contraction and any resistance can cause sheet distortion, therefore allowance must be made for thermal movement.
2. Pre-drill enlarged fixing holes to allow for expansion and contraction. Avoid screwing directly on panels. It is recommended to utilize pressing bars to fix the screws and panels.



3. Fixing with neoprene washers is also required. Drill holes through the crest of the corrugation for roofing and through the valley for walls.
4. Sheets can be drilled by using any kind of metal drills. It is important that sheets should be drilled at a low speed, while supporting the sheet underneath to avoid vibration.



## Positioning & Sheet Orientation

1. Make sure the sides printed with marks face upward or to the sun and install panels with edges pointing down – not up.
2. Panels should be installed with exterior lap edges facing away from prevailing winds.
3. Install Lyon sheets with the ribs running vertically.
4. An overlap of at least one corrugation is recommended.
5. The upper sheet in the overlap should be in the up-wind direction.
6. If overlap is needed in sheet length, a 5" to 8" overlap is also recommended.

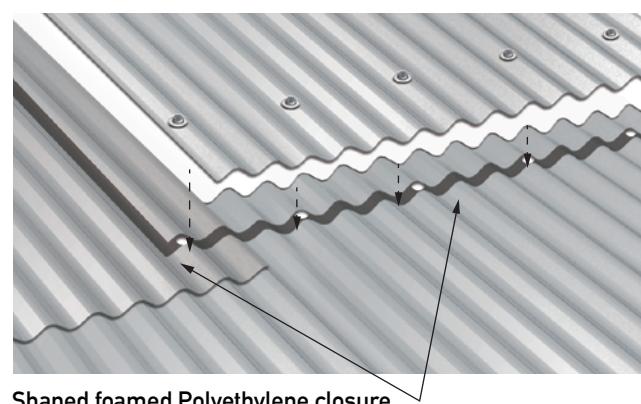
## Sealing

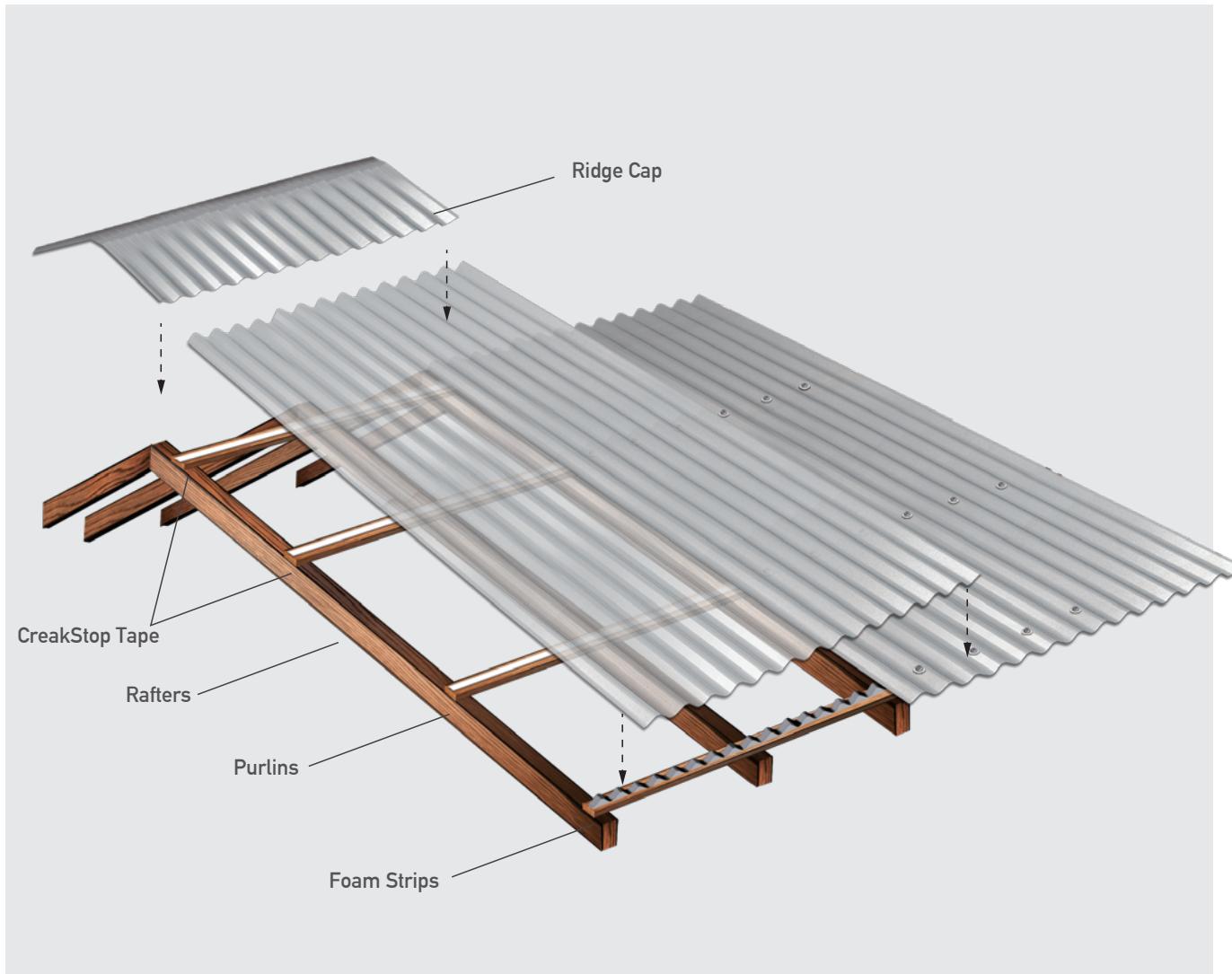
1. Do not use materials incompatible with polycarbonate.
2. While using seals and fixing, tighten only enough to prevent rattling. Over-tightening of the screws may cause material distortion or undue stress with possible failure resulting.
3. Shaped foamed Polyethylene closure can be used to prevent the entry of water, insects or other small animals between installed sheets.
4. If silicone is needed, always use neutral silicone.

## Bending or Burying

The flexibility of the sheet is sufficient to allow longitudinal curves, but flexing or installing a sheet to the point of buckling can cause rapid deterioration in highly stressed areas. For added strength and rodent control, sheets at ground level may be buried 4" to 6".

\* Two corrugations length overlap is recommended for slopes below 15%, or in case of extreme weather conditions (excessive rain and/or wind).





## Painting

1. It is not recommended to paint Lyon sheets.
2. Even if paint is necessary, the paints used should be compatible with polycarbonate.
3. Polyurethane based paints are usually recommended.
4. Solvent based paints should not be used.
5. Paints should never be removed with paint thinner as it is highly incompatible with polycarbonate.

## Fastening

1. Corrugated sheets should be fastened at every third or fourth corrugation.
2. Sheet edges at ridge and gutter should always be fastened at each second corrugation.

## Ridge

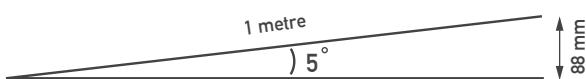
1. Sheet edges at ridge and gutter should always be fastened at each second corrugation.
2. Do not apply sealants between overlapping panels.
3. Sealants are not required, could damage the sheet and would only result in unsightly dirt streaks.

## Wall Fastening

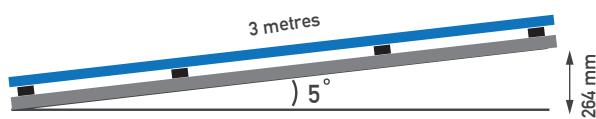
1. The fasteners should be installed on the down(flat) section of the corrugation.
2. The panels must be attached to the horizontal members(girts) for correct support. Girts should be spaced 4' to 5' apart.

## Roof Fastening

1. Rafters spacing should coincide with sheet overlaps.
2. A minimum roof fall of 5 degrees is recommended in order to allow wind and rain to clean the sheets naturally.
3. Below 5% pitch may also result in the roof leaking (5% pitch = 88mm rise per lineal metre, therefore a roof which is 3 metres long require a minimum 264mm rise).



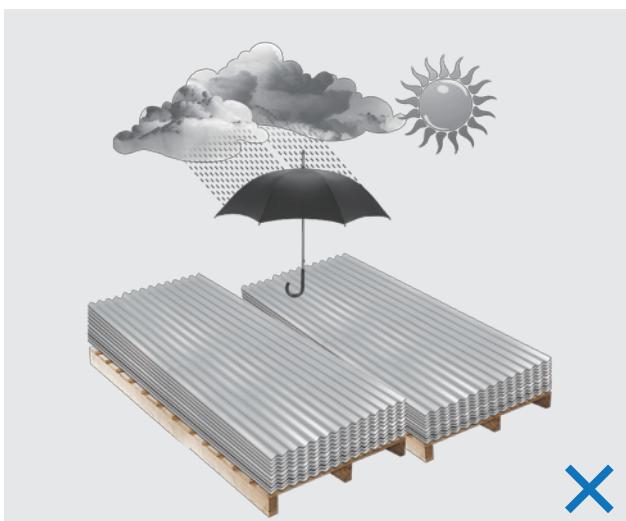
4. The fasteners should be installed at the top of the corrugation.
5. The panels must be attached to the horizontal members (purlins) for correct support. Purlins should be spaced 4' to 5' apart.



## Handling & Storage

Lyon sheets, being a tough product, requires little special handling. It is recommended, however, that the sheets must be protected from abrasion while handling.

1. While in transportation and storage, never put the panels in direct contact with cements and paints, as both of which are extremely incompatible with polycarbonate resins.
2. Always utilize card board, opal polyethylene sheet or thick wooden boards to isolate the panels from contacts with cements and paints while in transporting and at storing places.
3. Pallets may be used to isolate panels from cement only when floors of cements are paved and completed over one year.
4. The sheets must be stored horizontally on flat surface and kept away from direct sunlight during storage. Original crating is not sufficient to protect panels from solar heat gain damage.



5. Do not leave sheets in stack or under covers in stack in direct sunlight. The stack may cause the sheets to heat up and distort. Always keep stacked sheets in a well protected and shaded area during storage and installation.
6. The longest sheet should be at bottom of stack.
7. Prevent moisture getting between stored sheets, as this may cause whitening.
8. Allow for ventilation particularly at the highest point to minimize heat build-up and provide air circulation. Under singleskin roofs of any sort and specially in cold temperature, condensation is generally unavoidable.
9. Good ventilation will always help minimize condensation.



## Lap Fasteners

1. Install lap fasteners while panels are still on the ground.
2. After marking off lap fastener locations, press pointed tabs through one panel from the bottom.  
Then bend tabs down.
3. Overlapping panel edges are fastened together after placement by means of self-drilling, self-tapping screw which are screwed through both panels and into the lap fastener on the underside of the bottom panel.
4. Two panels can be fastened together on the ground for fast installation.

## Chemical Resistance

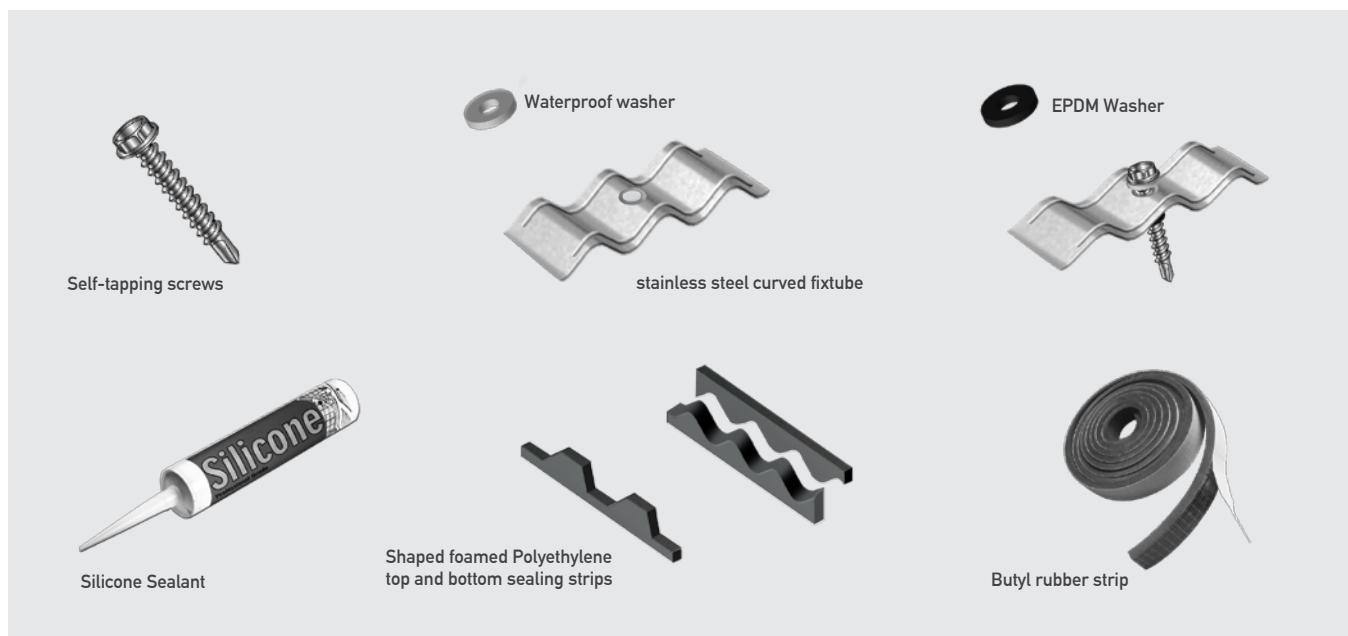
1. Lyon sheets is generally unaffected by acids, alcohol, glycos, mineral oil, animal and vegetable fats, kerosene and non-abrasive cleaners.
2. Lyon sheets is affected by benzene, petrol, ketones, acetone, phenols, chlorinated and aromatic hydrocarbons, petroleum-based paints, abrasive cleaners and solvents.
3. For incompatible materials, please refer to Chemical Resistance of Polycarbonate Products.

## Cleaning

Polycarbonate resin and panels are material not resistant to abrasion. Please clean sheets in accordance with guidelines of cleaning provided by our distributors. To maintain well-functioning of sheets for long term uses, the following points should be observed:

1. Gently wash sheets with a clean sponge or soft cloth, using lukewarm neutral soapy water or mild detergent.
2. Rinse sheets with lukewarm neutral water.
3. Dry sheets with soft cloth to prevent water spotting.
4. Do not scrub or use brushes, brooms, rubbers or any cleaning tool which may easily cause abrasion.
5. Never use corrosive chemical detergents or gasoline.
6. To remove adhesive agents or spots left by masking films or logos, utilize kerosene or alcohol solvents with soft cloth.
7. Wash sheets again after applying the above-mentioned cleaning materials.

## Parts & Components





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