

THE HIGH PERFORMANCE GLAZING THAT'S BUILT TOUGH TO KEEP YOU SAFE

When you're after light and visibility, but want the shatter-proof safety that glass simply can't offer, think PSP Twinwall.

PSP Twinwall polycarbonate sheeting has been designed to handle life's hard knocks. It's 200 times stronger than glass and virtually shatter-proof, making it the ideal choice for areas around your home that see a lot of action. Like a conservatory, veranda around the pool, or your greenhouse.

It's equally at home in crowded areas, such as industrial, social and sports buildings.

What's more, PSP Twinwall stays tough, longer. After years, it still has over 80% of its impact resistance.

High performance resins used in the manufacture of PSP Twinwall provide you with a healthy barrier against harmful UV radiation too, so you can use it on covered walkways, roof lights, patio covers and gazebos.

PSP Twinwall saves you money too. It's lighter than glass, so you don't need any expensive structural support. And its thermal insulation properties keep you warm without the need for double glazing.

So think tough and safe - with PSP Twinwall polycarbonate sheeting.

TECHNICAL DATA

	Light Transmission
Clear	82%
Bronze/Grey	50%
	Thermal Insulation
R Value	0.303
	Service Temperature
Service Temperature	-40° C to 120°C

PRODUCT SHEET

Twinwall Sheet	PSP Glazing System	End Cap
Clear/Grey/Bronze	Aluminium	Aluminium
8 x 1800 x 1220	3700	3000
8 x 2400 x 1220	-	6000
8 x 3000 x 1220	5100	-
8 x 3600 x 1220	-	-
8 x 5490 x 1220	-	-
Accessories		
Fixing Screws	-	50/Jar
Anti Dust Tape Pack	25mm	10m (top & bottom)
Anti Noise Tape	3mm x 24mm	25m Roll

TwinwallTM
POLYCARBONATE SHEETING



FEATURES

Lightweight - An outstanding balance of low weight and high stiffness enables lightweight structures with greater spans to be designed and easily installed.

Excellent Energy Efficiency - The multiwall construction traps air between the layers, which ensures outstanding thermal insulation performance.

Environmental Standards - In many cases these high performance polycarbonate sheet products may be recycled.

Flexibility of Design - PSP Twinwall sheets can be cold bent and used in many curved applications e.g. arched walkways. PSP Twinwall must always be bent longitudinally, never across the width of the sheet.

In applications of this nature it is important not to place excessive tension on the sheet. Therefore when PSP Twinwall is cold curved the maximum radius should not be more than 150 times the thickness of the sheet i.e. 1200mm.

Two Sided UV Protection - PSP Twinwall is supplied with a protective film on both sides of the sheet.

The protective films must be kept on whilst installing and working with the sheets. They can be removed when the work is complete. This will help avoid any damage or scratches.

CUTTING

Sheets can be cut with a Stanley knife, a fine tooth saw or a circular saw. Alternative, a hand saw held at a shallow angle may be used. When cutting a polycarbonate sheet it is important to hold the sheet firmly to prevent stress and vibration.

DRILLING & FIXING

Sheets can be drilled using normal drill bits, however the sheet must be supported firmly underneath. It is important to allow for thermal expansion, so holes for fixing should be drilled 2mm larger than the screw shaft. Any dust or chippings must be removed from the inside of the sheet using compressed air. PSP Twinwall fixings should be used to secure the sheets.

TAPING & CAPPING ENDS

The open cells at the top and bottom of the Twinwall sheets should always be sealed with PSP Anti Dust Tape.

Note: Use the solid silver tape "along the full sheet width" at the top end of the sheet, then repeat using the breathable tape at the bottom (lower end) of the sheet. The tape should then be protected by using PSP's Aluminium breathable end cap. The procedure prevents dust and insects penetrating the cells of the sheets also allowing airflow and drainage from the cells, ultimately reducing and dispersing any condensation that may occur.

For general maintenance and cleaning, use a high pressure hose or water blaster at least twice a year. Keep the water blaster tip at least 450mm away from the PSP Twinwall Panels and profiles. Note: Never wipe panels when dry.



Scan this QR code to view our easy How To Videos on YouTube Channel, PSPNewZealand.

PSP FREEPHONE 0800 786 883
www.psp.co.nz

V.05/14

Pre-order Checklist - Fixing to Purlins

1. PSP Twinwall Sheets are 1220mm wide. This will give you 2 x 586mm per sheet. Note: Cutting the sheets twice in the centre will leave the sealed outer edge in tact. Determine how many PSP Twinwall sheets will be required for the project. Base this calculation on a 600mm centre to centre of the Aluminium glazing bar spacing for the 586mm Panel.
2. The recommended Purlin spacing for the PSP Twinwall Roofing system is 1.2 meter for low to moderate wind/snow areas. And 1 metre spacing for high wind/heavy snow load expectations.
3. Calculate the Glazing Panel & Glazing Bar quantity. For example, 11 rafters will require 10 x Glazing panels - 11 x Glazing Bars, 2 x F Sections, Pan Head Square Drive Self Tappers 8g x 50mm Stainless Steel Fasteners (2 per Purlin) & Socket Cap Screws 3/16 x 3/4 thread 304 Stainless Steel (1 every 150mm).
4. For simple installations, e.g. Open end to open end to the sides of the structure, you will require 2 x F sections to fill the gap where a panel would have been. This equalises the glazing bar pressure along with giving the bar a neat end finish. Note: When the F Sections are used it is necessary to omit the bottom sealing rubber to achieve the correct distance between the extrusions, see Diagram 8.



TOOLS REQUIRED

- Hack Saw • Skill Saw • Irwin Marathon PVC cutting blade for skill saw (recommended for cutting panels) • Hex Key (4mm) • Square Drive (number 2) • Screw Bit • Pozi Drive Screw Driver • Rubber Mallet • Electric/Battery Drill • Measuring Tape • Stanley Knife

Pre-order Checklist - Fixing to Rafters

1. PSP Twinwall Sheets are 1220mm wide. This will give you 2 x 586mm per sheet. Note: Cutting the sheets twice in the centre will leave the sealed outer edge in tact. PSP Twinwall Polycarbonate Roofing System requires a rafter structure that has its rafters spaced at 750mm centres. The panel width is 736mm.
2. Calculate the Glazing Panel & Glazing Bar quantity. For example, 11 rafters will require 10 x Glazing panels - 11 x Glazing Bars, 2 x F Sections & Pan Head Square Drive Self Tappers 8g x 50mm Stainless Steel Fasteners (1 every 300mm plus 2 extra per length).
3. For simple installations, e.g. Open end to open end to the sides of the structure, you will require 2 x F Sections to fill the gap where a panel would have been. This equalises the glazing bar pressure along with giving the bar a neat end finish. Note: When the F sections are used it is necessary to omit the bottom sealing rubber to achieve the correct distance between the extrusions, see Diagram 8.



TOOLS REQUIRED

- Hack Saw • Skill Saw • Irwin Marathon PVC cutting blade for skill saw (recommended for cutting panels) • Hex Key (4mm) • Square Drive (number 2) • Screw Bit • Pozi Drive Screw Driver • Rubber Mallet • Electric/Battery Drill • Measuring Tape • Stanley Knife

PSP

BUILDING BRANDS

www.psp.co.nz

TwinwallTM

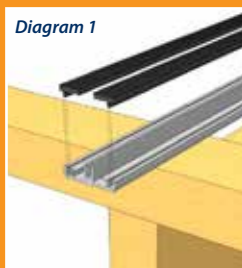
POLYCARBONATE SHEETING



Clearly safe and strong

Fixing Instructions - Purlin

1. Cut the PSP Twinwall Sheets, F Sections & Glazing Bars to the required length. Allow 50mm overhang into gutters.
Note: The Twinwall sheets will thermally expand from heat and contract when cold. Allow 4mm per meter per panel thermal expansion. e.g. 3m long panels require a reduction of 12mm. Therefore at a glazing bar length of 3m make your panel length 2.988m.



2. Before placing any components on the structure. Insert the Rubber Gaskets into the Glazing Bar extrusions. 2 per bottom 2 per top section.
See Diagram 1. Note: When using F Sections to finish of the ends of your roof omit both the outside rubbers from the top and bottom Glazing Bar sections.

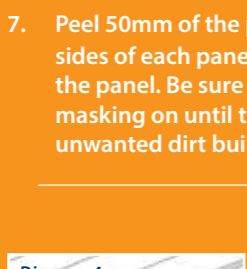
3. Use the narrow line extruded into top the centre of the of the Aluminium extrusion top as your centre point for drilling into the centre of the Aluminium extrusion tops and bottoms.
4. Pre-drill the top sections of the glazing bars with 5mm diameter holes at 150mm centres along the entire length of the top section. Be sure to drill the top section away from the bottom section to avoid damage to the bottom section securing centre U channel. Note: Start drilling at least 30mm from the lower end to allow the end cap fixing screw clear entry. During the 150mm centre to centre pre-drilling process make sure that the purlin fixing locations do not coincide with these holes.
5. **Starting from the centre of the structure**, fix all of the **bottom** sections to the purlins using 2 of the 8g x 50mm stainless steel fasteners per purlin. Utilising the underside narrow line & then drilling a 5mm hole directly through the centre U channel with the heads of the screws seated on the top of the U channel.



See Diagram 2. Note: Starting from the centre of the structure, will ensure that the 2 most outer panels are of an equal size. If necessary these panels can be cut to the new width on site.



6. Fit the end caps to the end of the Glazing bars at the gutter end only, using the 10g x 25mm Stainless steel Pozi Self Drilling Screws. See Diagram 3. Note: Ensure the end cap is fit flush to the bottom of the extrusion.



7. Peel 50mm of the protective masking back from the long sides of each panel (both top & bottom side) before installing the panel. Be sure to leave the remainder of the protective masking on until the job is complete to avoid damage & unwanted dirt build up.



8. **Start by Placing 2** of the Twinwall Glazing Panels side by side, spanning between the glazing rubbers onto the bottom sections of the aluminium extrusions. Be sure that these panels are centred by using the 2mm spacers provided. See Diagram 4. Note: Install the panel so that the sheet is hard up against the end cap with the thermal gap at the top of the Glazing Bar.



9. Fix your first **top** aluminium extrusion where the panels intersect by using the 5g x 20mm stainless steel cap screws at 150mm centres. See Diagram 5 & 6. Note: Wind down the cap screws until firmly seated, followed by a quarter turn of the screw to give the correct fixing pressure. (Over tightening of the cap screws will cause the panels to bow due to thermal expansion.)



10. Fit the Aluminium extrusion covers as you go (tap on with a rubber mallet until they click). See Diagram 7.



11. After the initial 2 panel placement install one panel at a time leaning over the installed panel securing the top sections as you go. Repeat the process to both ends of the structure.



12. Modify the last panel width (if necessary) & fit the F Sections. Insert the last of the cap screws. See Diagram 8. Note: Crawl boards will be necessary to complete the roof, for health & safety reasons do not walk directly onto the Twinwall Polycarbonate Roofing structure.

13. Remove the protective masking from the under and over sides of the Twinwall Sheets. Note: Do not clean the panels dry. Use an approved cleaner to remove any unwanted marks.

Fixing Instructions - Rafter

1. Cut the PSP Twinwall Sheets, F Sections & Glazing Bars to the required length. Allow 50mm overhang into gutters.
Note: The Twinwall sheets will thermally expand from heat and contract when cold. Allow 4mm per meter per panel thermal expansion. e.g. 3m long panels require a reduction of 12mm. Therefore at a glazing bar length of 3m make your panel length 2.988m



2. Before placing any of the components on the structure. Insert the Rubber Gaskets into the Glazing Bar extrusions. 2 per bottom 2 per top section. See Diagram 1. Note: When using F Sections to finish of the ends of your roof omit both the outside rubbers from the top and bottom Glazing Bar sections.

3. Start by pre-drilling 2 x 5mm holes into all of the glazing bar bottom sections 100mm in from each end, drilling from the underside utilising the extruded line as a centre point.
Note: Drill to create a hole only, the drill will foul if you attempt to drill into the extruded U channel. These holes will be used during the preliminary attachment of the glazing bar bottoms during your set out.

4. Whilst still at ground level, join the top & bottom sections of the Glazing Bar together at both ends with electrical or similar type tape.
Note: This is a temporary measure as both sections require drilling together as pairs to ensure hole matching. Mark each pair discreetly to ensure that the holes match precisely.

5. Drill all of the paired lengths from at 300mm centres making sure that your first hole is at least 60mm from the gutter end start position.
Note: The use of a 2mm pilot drill is essential for this process drilling completely through to the other side of the joined pairs. Use the 5mm bit one side at a time to complete the process. The 5mm bit cannot be used to drill directly through both sections at the same time, due to fouling difficulties arising from grooves located in the bottom section U channel.

6. Disassemble the Glazing Bars into the marked pairs.



7. Fix all of the bottom Glazing bar sections to the Rafters at the correct centres (600mm for 6mm sheet & 750mm for 8mm sheet) utilising the 100mm from both ends of the pre-drilled holes, as mentioned in step 3. Fasten directly through the U channel with the screw heads seated on top of the channel. Use 2 of the Pan Head Square Drive Self Tappers 8g x 50mm Stainless Steel Fasteners during this process channel. See Diagram 2.

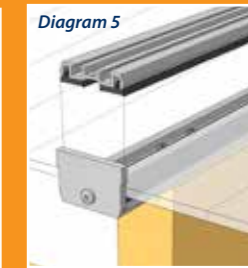


8. Fit the end caps to the end of the Glazing Bars at the gutter end only, using the 10g x 25mm Stainless Steel Pozi Self Drilling Screws. See Diagram 3. Note: Ensure the end cap is fit flush to the bottom of the extrusion.

9. Peel 50mm of the protective masking back from the long sides of each panel (under and over sides) before installing the panel. Be sure to leave the remainder of the protective masking on until the job is complete to avoid damage and unwanted dirt build-up.



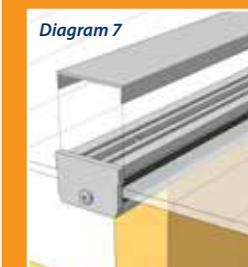
10. **Start by Placing 2** of the Twinwall Glazing Panels side by side, spanning between the glazing rubbers onto the bottom sections of the aluminium extrusions. See Diagram 4. Be sure that these panels are centred by using the 2mm spacers provided.
Note: Starting from the centre of the structure and working left and then right. Install the panel so that the sheet is hard up against the end cap with the thermal gap at the top of the glazing bar.



11. Fix your first top aluminium extrusion where the panels intersect by using the Pan Head Square Drive Self Tappers 8g x 50mm Stainless Steel Fasteners at 300mm centres. See Diagram 5 & 6. Note: Over tightening of the Pan Head Square Drive Self Tappers 8g x 50mm Stainless Steel Fasteners will cause the panels to bow due to thermal expansion.



12. Fit the aluminium extrusion covers as you go (tap on with a rubber mallet until they click). See Diagram 7.



13. After the initial 2 panel placement install one panel at a time leaning over the installed panel securing the top sections as you go. Repeat the process to both ends of the structure.



14. Modify the last panel width (if necessary) & fit the F Sections. Insert the last of the cap screws. See Diagram 8. Note: Crawl boards will be necessary to complete the roof, for health & safety reasons do not walk directly onto the Twinwall Polycarbonate Roofing structure.

15. Remove the protective masking from the under and over sides of the Twinwall Sheets.
Note: Do not clean the panels dry. Use an approved cleaner to remove any unwanted marks.

ROOF PITCH

PSP's Twinwall Polycarbonate Roofing System will provide correct run off of rainwater when the roof pitch is 10° or greater. If a flatter pitch is required (minimum 5°) then additional weatherproofing should be attained through use of extra flashing or sealing with a neutral cured silicone.

PSP GLAZING SYSTEM

Aluminium Glazing System with EPDM Rubber Glazing Gaskets, to greatly simplify the attachment of Twinwall sheets. System includes Glazing Bar, Gaskets and Glazing Cover.