

# 4312PS PSP SUNTUF POLYCARBONATE ROOFING & SKYLIGHTING

## 1. GENERAL

*If you have pre-customised this work section using the "questions and answers" provided as part of the downloading process, it may be necessary to amend some clauses to suit the final project-specific version.*

*The section must still be checked and customised to suit the project being specified, by removing any other irrelevant details and adding project-specific details and selections.*

This section relates to the supply and fixing of:

- **PSP Limited** SunTuf™ Polycarbonate sheeting to roof structures.

*0.8mm thick corrugated and Greca profile.*

- **PSP Limited** SunTuf™ Diffused Skylighting Polycarbonate sheeting to roof structures.

*1.2mm thick in a range of profiles.*

*Modify or extend the above descriptions to suit the project being specified.*

*At the time of writing a fire group number of 1S was available for SunTuf™ Diffused Skylighting Polycarbonate sheeting. A fire group number for SunTuf™ Polycarbonate sheeting was not available, but was in the process of being obtained. Contact PSP Limited for the group number, or limit the use of SunTuf™ Polycarbonate sheeting to roof structures attached to buildings that are Risk Group SH as defined by NZBC Acceptable Solution C/AS1 and other attached or detached roof structures not subject to fire group number requirements.*

### 1.1 RELATED WORK

Refer to 7411 RAINWATER SPOUTING SYSTEMS for rainwater disposal.

*Include cross references to other sections where these contain related work.*

*This section does not include rainwater gutters, spoutings and pipework. Some flashing work is also often covered elsewhere.*

### 1.2 ABBREVIATIONS

The following abbreviations are used throughout this part of the specification:

NZMRM New Zealand Metal Roofing Manufacturers Inc

*Refer general section 1232 INTERPRETATION & DEFINITIONS for abbreviations used throughout the specification.*

### Documents

### 1.3 DOCUMENTS

Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

[NZBC C/VM2](#) Verification method: Framework for fire safety design

[AS/NZS 1170.2](#) Structural design actions - Wind actions

[AS/NZS 1562.3](#) Design and installation of sheet roof and wall cladding - Plastic

[AS/NZS 4389](#) Roof safety Mesh

[NZS 3604](#) Timber-framed buildings

[NZMRM CoP](#) NZ metal roof and wall cladding Code of Practice

*Delete from the DOCUMENTS clause any document not cited. List any additional cited documents. The following are related documents and if referred to in the work section need to be added to the list of DOCUMENTS.*

[AS 2424](#) *Plastics building sheets - General installation requirements and design of*

### 1.4 MANUFACTURER'S DOCUMENTS - SUNTUF™ POLYCARBONATE SHEET

Manufacturer's and supplier's documents relating to work in this section are:

Suntuf Overview Flyer

PSP Suntuf Brochure

Suntuf Product Technical Statement

Copies of the above literature are available from PSP Limited

Web: [www.suntuf.co.nz](http://www.suntuf.co.nz)

Email: [info@psp.co.nz](mailto:info@psp.co.nz)

Telephone: 0800 786 883

Facsimile: 09 415 2809

*It is important to ensure that all personnel on site have access to accurate, up to date technical information on the many products, materials and equipment used on a project. In most cases individual products are not used in isolation, but form part of a building process. Also a particular manufacturer's and/or supplier's requirements for handling, storage, preparation, installation, finishing and protection of their product can vary from what might be considered the norm. Access to technical information can help overcome this potential problem.*

- 1.5 MANUFACTURER'S DOCUMENTS - SUNTUF™ DIFFUSED SKYLIGHTING  
Manufacturer's and supplier's documents relating to work in this section are:  
Suntuf Diffused Skylighting Brochure  
PSP Polycarbonate Products Care & Maintenance  
Suntuf Diffused Skylighting Technical Statement  
Group 1S Fire Report (BRANZ Type Test Summary, report number FI 5466)

Copies of the above literature are available from PSP Limited

Web: [www.skylighting.co.nz](http://www.skylighting.co.nz)

Email: [info@psp.co.nz](mailto:info@psp.co.nz)

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## Warranties

- 1.6 WARRANTY - INSTALLER/APPLICATOR

Provide an installer/applicator warranty:

5 years: For installation

- Provide the warranty in the Plastic Roofing installers' standard form.
- Include a copy of the **PSP Limited** maintenance requirements with the warranty.
- Commence the warranty from the date of completion of the roof.

Refer to the general section 1237 WARRANTIES for additional requirements.

*Check general section 1237 WARRANTIES for the date of commencement of warranties; which is normally practical completion of the contract. Refer to the chosen conditions of contract as it may also contain information on warranties/guarantees.*

- 1.7 WARRANTY - MANUFACTURER/SUPPLIER - SUNTUF™ SHEET

Provide a material manufacturer/supplier warranty:

25 years For light transmission

15 years For breakage and hail damage

- Provide this warranty on the manufacturer/supplier standard form.
- Commence the warranty from the date of purchase.

Refer to the general section 1237 WARRANTIES for additional requirements.

*Modify or expand the clause to suit project or manufacturer/supplier requirements, options include:*

- *Change the standard form to be used (check with the manufacturer/supplier, use the general section 1237WA WARRANTY AGREEMENT if required)*
- *Commence the warranty from the date of purchase (check with the manufacturer/supplier)*

- 1.8 WARRANTY - MANUFACTURER/SUPPLIER - SUNTUF™ DIFFUSED SKYLIGHTING

Provide a material manufacturer/supplier warranty:

25 years For light transmission

20 years For breakage and hail damage

- Provide this warranty on the manufacturer/supplier standard form.
- Commence the warranty from the date of purchase.

Refer to the general section 1237 WARRANTIES for additional requirements.

*Modify or expand the clause to suit project or manufacturer/supplier requirements, options include:*

- Change the standard form to be used (check with the manufacturer/supplier, use the general section 1237WA WARRANTY AGREEMENT if required)
- Commence the warranty from the date of purchase (check with the manufacturer/supplier)

## Requirements

- 1.9 QUALIFICATIONS  
Workers / Installers / applicators to be experienced, competent trades people familiar with the materials and techniques specified.  
*This clause includes generic text which should be expanded only if there are specific qualification requirements.*
- 1.10 INFORMATION FOR OPERATION AND MAINTENANCE  
Provide relevant PSP Limited maintenance requirements at completion of the work.  
*Refer to PSP Limited documents for maintenance guidance:  
Suntuf: [www.suntuf.co.nz/range/downloads/brochure.pdf](http://www.suntuf.co.nz/range/downloads/brochure.pdf)  
Suntuf Diffused Skylighting: [www.skylighting.co.nz/downloads/Care-and-Maintenance.pdf](http://www.skylighting.co.nz/downloads/Care-and-Maintenance.pdf)*
- 1.11 NO SUBSTITUTIONS  
Substitutions are not permitted to any of the specified systems, components and associated products listed in this section.

## Performance

- 1.12 CO-ORDINATE  
Co-ordinate to ensure substrate and preparatory work is complete and other work programmed in the order required for access and completion of the roof.
- 1.13 PERFORMANCE  
Accept responsibility for the weather-tight performance of the completed roofing system, including all penetrations through the roof and junctions with walls and parapets.
- 1.14 FIRE GROUP NUMBER - SUNTUF™ DIFFUSED SKYLIGHTING  
The Group Number Classification to NZBC C/AS1-AS6, Table 4.1, has been determined in accordance with NZBC C/VM2 Appendix A, following testing ISO 9705. Refer to BRANZ Type Test Summary (report Number FI 5466) for fire performance results.  
Product:                      Group number:  
Suntuf™ DIFFUSED SKYLIGHTING                      1S  
*Delete clause if not required. A Group Number may not be required in situations such as, the surface area is less than 5m<sup>2</sup> (NZBC C/AS2-AS7, 4.17.6.a), or the design is to NZBC C/AS1 risk group SH (houses etc.).  
Consult with the project Fire Consultant and/or the Services Engineer if necessary.*
- 1.15 FIXINGS, WIND  
Use the fixings appropriate for the design loads of this site; refer to general section 1220 PROJECT for details of wind zone. Allow for specific loadings at corners and the periphery of the roof, where localised pressure factors apply.  
*Delete if using Wind (design by contractor) clauses. Refer to PSP Limited for fixing specifications and details.*

### Performance - Wind (design by contractor)

*The next two mutually exclusive clauses, are setting a standard of performance for design by the contractor to meet. Specifiers should therefore consider adding some means of confirming (say by testing or certification) that the performance criteria will be or have been met. Delete the clause which does not apply.  
Ensure correct information is supplied in 1220 PROJECT.*

- 1.16 DESIGN PARAMETERS - NON SPECIFIC DESIGN  
Design the installation to the wind zone parameters of NZS 3604, table 5.4.  
Refer to general section 1220 PROJECT for details.  
*Delete the clause if using DESIGN PARAMETERS - SPECIFIC DESIGN.*
- 1.17 DESIGN PARAMETERS - SPECIFIC DESIGN  
Design the installation to the wind pressure parameters of AS/NZS 1170.2.  
Refer to general section 1220 PROJECT for details.

*Obtain information from the project structural engineer.  
Delete the clause if using DESIGN PARAMETERS - NON SPECIFIC DESIGN.*

## 2. PRODUCTS

### Materials

*Select the product that suits the brief and use the PRODUCTS and EXECUTION clauses that follow to suit the product selected.*

- 2.1 SUNTUF™ SHEET  
0.8mm thick Polycarbonate sheet with UV coating to top side. Refer to SELECTIONS for profile.  
*Corrugated or Greca profiles.*

- 2.2 SUNTUF™ DIFFUSED SKYLIGHTING  
1.2 mm thick profiled Polycarbonate roofing with co-extruded UV layer. Refer to SELECTIONS for profile.  
*Corrugated and trapezoidal profiles.  
Sheets may be draped to a curve, refer to PSP Limited for minimum allowable curving radius.*

### Components - Suntuf™ Sheet

- 2.3 SUNTUF™ NOISE REDUCTION TAPE  
White PE foam tape, 3mm thick, 20mm wide.  
*Used between purlins and polycarbonate sheet to reduce expansion and contraction noise.*
- 2.4 SUNTUF™ EAVES FILLERS  
Profiled foam filler, 20 mm thick.  
*Nominate black or white colour to suit.  
Provide a means of closing the corrugate/greca cavities if required.*
- 2.5 PSP - SUNTUF™ RIDGE FLASHING  
Profiled polycarbonate ridge flashing.
- 2.6 PSP - SUNTUF™ APRON FLASHING  
Profiled polycarbonate apron flashing.
- 2.7 FIXING SCREWS  
Refer to SELECTIONS.

### Components - Suntuf™ Diffused Skylighting

- 2.8 PURLIN TAPE ANTI NOISE  
White PE foam tape, 5mm thick, 50mm wide.  
*Used between purlins and polycarbonate sheet to reduce expansion and contraction noise.*
- 2.9 SEALING TAPE  
Butyl (light grey) joining/lapping tape, 1mm thick, 25mm wide.
- 2.10 EAVES FILLERS  
Profiled white foam filler to suit profile.  
*Provides a means of closing the rib cavities if required.*
- 2.11 FIXINGS  
Purlin Screws - crest fixing Suntuf Diffused Skylighting Multi-purpose 65mm x 12g screw with matching Crest Rider (Profile/Storm Washers) with EPDM gasket.
- Overlapping screws, Suntuf to Suntuf - side stitching 9.5mm x 25mm Stitching Screws (Grommet seals) with EPDM seal for overlapping sheets.
- Overlapping screws, Suntuf to metal - 35mm Self-Tapping Screws with 19mm Neo Washer for overlapping sheets.  
*Alter if required to suit profile or exposure zone.*

## Components - Safety Mesh

- 2.12 SAFETY MESH  
Safety mesh to [AS/NZS 4389](#).  
*Safety mesh is used in high studs and open spans, such as commercial, industrial and warehouse buildings, and particularly under plastic roofing to prevent fall through.  
Amend clause if using 4161 UNDERLAYS, FOIL AND DPC for mesh.*

## 3. EXECUTION

### Conditions

- 3.1 SAFETY MESH  
Install to [AS/NZS 4389](#) and [AS/NZS 1562.3](#)  
*Check the span capabilities of the sheet profile and determine whether safety mesh is required, to comply with AS/NZS 1562.3. Add a new clause if required.  
Delete clause if using 4161 UNDERLAYS, FOIL AND DPC for mesh.*
- 3.2 INSPECTION  
Inspect the roof framing and supporting structure to ensure that it is complete ready for roofing. Do not start work until all requirements are complete to the required standard.  
*Expand if required to cover the painting of the support structure prior to installation of roofing system.*
- 3.3 STORAGE - SUNTUF™ SHEET  
Take delivery of and accept packs of sheets dry and undamaged on delivery. Reject all damaged material. Store packed sheets in a protected, shaded, ventilated area, with no direct exposure to sunlight, excessive heat and wind.
- 3.4 STORAGE - SUNTUF™ DIFFUSED SKYLIGHTING  
Take delivery of packs of sheets dry and undamaged on delivery. Reject all damaged material. Store packed sheets in a protected, shaded, ventilated area, with no direct exposure to sunlight, excessive heat and wind.
- 3.5 HANDLING  
Avoid distortion and contact with damaging substances. Do not drag sheets across each other and other materials. Protect edges and surface finishes from damage.

### Application - General

- 3.6 GENERALLY  
To [AS/NZS 1562.3](#) with all sheets square and oversailing the gutter true to line. Check during fixing to eliminate creep.
- 3.7 SETOUT  
Set out the planned layout before fixing commences, to ensure true lines and the correct relationship of sheets to pitch, module, grid, roof framing and roof features.  
*Modify or expand the clause to suit project or manufacturer/supplier requirements.*

### Application - Suntuf™ Sheet

- 3.8 GENERALLY  
Install and fix in accordance with the [NZMRM CoP](#) NZ metal roof and wall cladding Code of Practice requirements, and to **PSP Limited** requirements.
- Check that adjoining walls and parapets are prepared ready for the installation of the roofing. Lay Suntuf Noise Reduction Tape to purlins.
- Carefully set out sheets with the correct side facing up, widths of end sheets the same and all sheets square and oversailing the gutter true to line. Check during fixing to eliminate creep or spread. Use string lines along purlin centres to keep fastenings in line.

- 3.9 **PENETRATIONS AND JUNCTIONS**  
Check that adjoining walls and parapets are prepared ready for the installation of the translucent roofing. Confirm that openings have been prepared ready for the installation of translucent roofing and other penetrations through the roof. Required work includes the following:
- underlay turned up at wall and parapet lines
  - underlay finished and dressed off to all openings, ready for the installation of translucent roofing and other penetrations
  - roofing installation neatly finished to all sides of openings and to all wall and parapet junctions
  - installation of flashings (those required to be installed prior to installation of penetrating elements and/or wall linings).
- 3.10 **FIXING**  
Fix sheets in place using the fastening system required by **PSP Limited**, making due allowance for dynamic local wind pressures on the building and the thermal movement in the sheet.
- 3.11 **END LAPS**  
End laps are only permitted where specifically detailed. Ensure any end laps are a minimum of 200mm and fully sealed at both ends of the lap using a neutral cure silicone sealant.
- 3.12 **FLASH**  
Flash roof to verges, walls and penetrations to detail and **PSP Limited** requirements.  
*Add details of associated overflashings to penetrations, parapets and the like, either here or in other sections as appropriate to the project.*
- 3.13 **PENETRATIONS**  
Flash and overflash all penetrations through the roof.  
*Expand this very general clause to better describe the various types and forms of penetrations needing to be flashed.*
- Application - Suntuf™ Diffused Skylighting**
- 3.14 **GENERALLY**  
Install and fix in accordance with the [NZMRM CoP](#) NZ metal roof and wall cladding Code of Practice requirements, and to **PSP Limited** requirements.
- Check that adjoining walls and parapets are prepared ready for the installation of the roofing. Lay PSP Anti-noise tape to purlins.
- Carefully set out with widths of end sheets the same, all sheets square and oversailing the gutter true to line and sealing tape installed. Check during fixing to eliminate creep or spread. Use string lines along purlin centres to keep fastenings in line.
- Lay Suntuf™ Diffused Skylighting to overlap metal sheets on both sides, with all lapped edges neatly seated down with sealing tape. Install side fixings in accordance with **PSP Limited** requirements.  
*Suntuf™ Diffused Skylighting to overlap metal sheets on both sides, if this is not feasible the Suntuf™ Diffused Skylighting must underlap the metal roof sheets against the primary direction of rain.*
- 3.15 **PENETRATIONS AND JUNCTIONS**  
Check that adjoining walls and parapets are prepared ready for the installation of the translucent roofing. Confirm that openings have been prepared ready for the installation of translucent roofing and other penetrations through the roof. Required work includes the following:
- underlay turned up at wall and parapet lines
  - underlay finished and dressed off to all openings, ready for the installation of translucent roofing and other penetrations
  - roofing installation neatly finished to all sides of openings and to all wall and parapet junctions



- installation of flashings (those required to be installed prior to installation of penetrating elements and/or wall linings).

- 3.16 **STOP ENDS**  
Before lifting into place, set in neutral cure silicone sealant and pop rivet stop-ends to sheets.
- 3.17 **FIXING**  
Fix sheets in place using the fastening system required by **PSP Limited**, making due allowance for dynamic local wind pressures on the building and the thermal movement in the sheet. Pre-drill for fixings.
- 3.18 **END LAPS**  
End laps are only permitted where specifically detailed. Ensure any end laps are a minimum of 200mm and fully sealed at both ends of the lap using a neutral cure silicone sealant.
- 3.19 **FLASH**  
Flash roof to verges, walls and penetrations to detail and **PSP Limited** requirements.  
*Add details of associated overflashings to penetrations, parapets and the like, either here or in other sections as appropriate to the project.*
- 3.20 **PENETRATIONS**  
Flash and overflash all penetrations through the roof.  
*Expand this very general clause to better describe the various types and forms of penetrations needing to be flashed.*

### **Completion**

- 3.21 **REPLACE**  
Replace damaged or marked elements.
- 3.22 **LEAVE**  
Leave this work complete with all necessary flashings, undercloaks, valleys, ridges and hips all properly installed as the work proceeds so the finished roof is completely weathertight.
- 3.23 **REMOVE**  
Remove trade rubbish and unused materials from the roof and surrounds daily during the work. Sweep down at the end of each day, and clean out spoutings, gutters and rainwater pipes on completion of the roof. Remove debris, unused materials and elements from the site.
- 3.24 **PROTECTION**  
Protect the completed work from damage for the remainder of the construction period. If access is given to the roof for later work, provide properly constructed walkways or platforms to eliminate damage.

## **4. SELECTIONS**

For further details on selections go to:

[www.suntuf.co.nz](http://www.suntuf.co.nz)

[www.skylighting.co.nz](http://www.skylighting.co.nz)

Substitutions are not permitted to the following, unless stated otherwise.

*If substitutions are permitted modify the statement above, ensure the NO SUBSTITUTIONS clause from GENERAL is treated the same.*

*Select the options to suit the project and delete options not specified.*

### **Materials**

- 4.1 **SAFETY MESH**  
Location: ~  
Finish: ~  
*Finish:- galvanized or PVC coated.*

*Normally galvanized but PVC coated is available for visual purposes or for sea spray zones and chemical environments. Stainless Steel is sometimes available for extreme environments, check availability. Avoid Stainless Steel contact with Steel or Aluminium roofs. Delete clause if using 4161 UNDERLAYS, FOIL AND DPC for mesh.*

#### 4.2 PSP - SUNTUF™ POLYCARBONATE SHEETING

Location: ~  
Type/Brand: Suntuf™ Polycarbonate Sheeting  
Profile: ~  
Thickness: 0.8mm  
Colour: ~  
Fixing: ~

*Profile: Corrugated, Greca  
Colour: Clear - 90% light transmission  
Grey Tint - 35% light transmission Corrugated,  
Grey Tint - 30% light transmission Greca  
Bronze Tint - 43% light transmission  
LightTech - anti-glare and light diffusing qualities, 85% light transmission  
CoolTech Ice - reduced heat gain qualities, 25% light transmission  
CoolTech Grey - reduced heat gain qualities, 20% light transmission  
Fixing: Select to suit exposure Zone.  
Galvanised SupaDrive Multi - multi-purpose fixing suitable for timber and steel, cuts correct sized hole to allow for expansion (avoids pre drilling).  
PSP 50mm Galvanised Roof Fasteners  
PSP 25mm Galvanised Wall Fasteners  
PSP Suntuf 50mm Stainless Steel Roof Fasteners  
PSP Suntuf 25mm Stainless Steel Wall Fasteners  
PSP Suntuf Galvanised Roof Fixings with Storm Washers  
Sheet width: 860mm Corrugated, 760mm cover  
810mm Greca, 760 mm cover  
Sheet length: Up to 7200 mm*

#### 4.3 PSP - SUNTUF™ RIDGE FLASHING

Profile: Ridge flashing to suit profile  
Colour: Clear  
*Ridge flashing 2060mm lengths, for use with*

#### 4.4 PSP - SUNTUF™ APRON FLASHING

Profile: Apron flashing to suit profile  
Colour: Clear  
*Apron flashing 2060mm lengths*

#### 4.5 PSP - SUNTUF™ DIFFUSED SKYLIGHTING

Location: ~  
Type: Suntuf™ Diffused Skylighting  
Profile: ~  
Thickness: 1.2mm  
Colour: Diffused

*Profile: Match metal roofing profile - a profile matching service is available, minimum quantities apply, contact PSP Limited to confirm selection.*

*Standard Suntuf™ Diffused Skylighting translucent roofing profiles:  
Corrugated - 5° minimum pitch  
5 Rib Plumdek - 5° minimum pitch  
5 Rib TrimSpan - 5° minimum pitch  
6 Rib TrimSpan - 5° minimum pitch  
7 Rib MaxSpan - 5° minimum pitch  
10 Rib V Rib - 5° minimum pitch*

*Sheet length: Up to 9.0m*