

NORTHERN TERRITORY DEEMED TO COMPLY MANUAL – National Construction Code (NCC) Volume 2

This product has been determined to satisfy NCC Performance Requirement H1P1 for structural resistance of materials and forms of construction in high wind areas

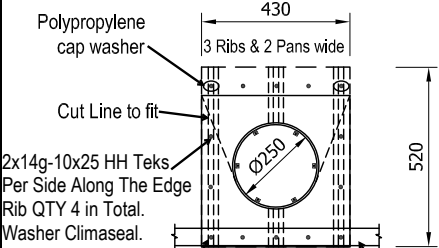
| Terrain Category | Internal Pressure Coefficient (Cpi) | Maximum Building Height of Building Solatube can be installed for Building Shape Ratio below (m) |          |          |                               |      |    | Tested pressure capacity of the Solar Star system |      | (kPa) | 8.9                            |      |                                                               |     |
|------------------|-------------------------------------|--------------------------------------------------------------------------------------------------|----------|----------|-------------------------------|------|----|---------------------------------------------------|------|-------|--------------------------------|------|---------------------------------------------------------------|-----|
|                  |                                     | Low ( $\frac{h}{d} \leq 0.5$ )                                                                   |          |          | High ( $\frac{h}{d} \geq 1$ ) |      |    | Building Shape                                    |      | Cpe   | Low ( $\frac{h}{d} \leq 0.5$ ) |      | High ( $\frac{h}{d} \geq 1$ )                                 |     |
|                  |                                     |                                                                                                  |          |          |                               |      |    | External Pressure coefficient                     |      |       | Cpi                            | 0.9  |                                                               | 1.3 |
|                  |                                     | Cpe = 0.9                                                                                        |          |          | Cpe = 1.3                     |      |    | Internal Pressure Coefficient                     | KL   | Cpn   |                                | 0.3  | 0.7                                                           | 0.3 |
| KL = 2.0         | KL = 1.5                            | KL = 1.0                                                                                         | KL = 2.0 | KL = 1.5 | KL = 1.0                      |      |    |                                                   |      |       |                                |      |                                                               |     |
| 1                | 0.3                                 | 20                                                                                               | 20       | 20       | 4.5                           | 17.5 | 20 | (Cpe.KL + Cpi)                                    | 2.0  | Cpn   | 2.1                            | 2.5  | 2.9                                                           | 3.3 |
|                  | 0.7                                 | 9.5                                                                                              | 20       | 20       | n/a                           | 7.2  | 20 |                                                   | 1.5  |       | 1.7                            | 2.1  | 2.3                                                           | 2.7 |
| 1.5              | 0.3                                 | 20                                                                                               | 20       | 20       | 8.5                           | 20   | 20 | Local Pressure factor (KL)                        | 1.0  | 2.0   | 1.2                            | 1.6  | 1.6                                                           | 2.0 |
|                  | 0.7                                 | 16.5                                                                                             | 20       | 20       | 4.2                           | 12.5 | 20 |                                                   |      |       |                                |      |                                                               |     |
| 2                | 0.3                                 | 20                                                                                               | 20       | 20       | 12                            | 20   | 20 | 2.0                                               | 4.24 | 3.56  | 3.07                           | 2.70 | Ultimate strength pressure capacity of the Solar Star system. |     |
|                  | 0.7                                 | 20                                                                                               | 20       | 20       | 8.2                           | 20   | 20 |                                                   |      |       |                                |      |                                                               |     |
| 2.5              | 0.3                                 | 20                                                                                               | 20       | 20       | 20                            | 20   | 20 | 1.5                                               | 5.39 | 4.34  | 3.96                           | 3.36 | 4.45                                                          |     |
|                  | 0.7                                 | 20                                                                                               | 20       | 20       | 15                            | 20   | 20 |                                                   |      |       |                                |      |                                                               |     |
| 3                | 0.3                                 | 20                                                                                               | 20       | 20       | 20                            | 20   | 20 | 1.0                                               | 7.42 | 5.56  | 5.56                           | 4.45 |                                                               |     |
|                  | 0.7                                 | 20                                                                                               | 20       | 20       | 20                            | 20   | 20 |                                                   |      |       |                                |      |                                                               |     |

KL=3 for RC1 & RC2 zones not included in this table. Structural design engineer to check that design pressure is less than 8.9kPa. Refer limitations

h/d ratio is the product of the average height of the structure divided by the span of the structure  
Notes: - All Solar Star flashed roof tray inserts & collars are manufactured from 3 mm polypropylene.  
- The collars are thickened to 8 mm thickness at screw fixing points.

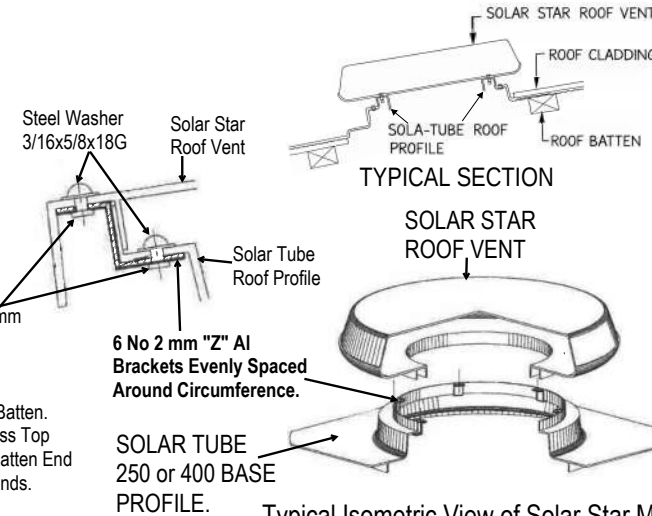
Screws to comply to AS3566.1-2002  
Self - Drilling Screws for the building and Construction Industries - General Requirements and Mechanical Properties.

NOTE - ALL FIXINGS SHALL BE CLASS 4 FINISH



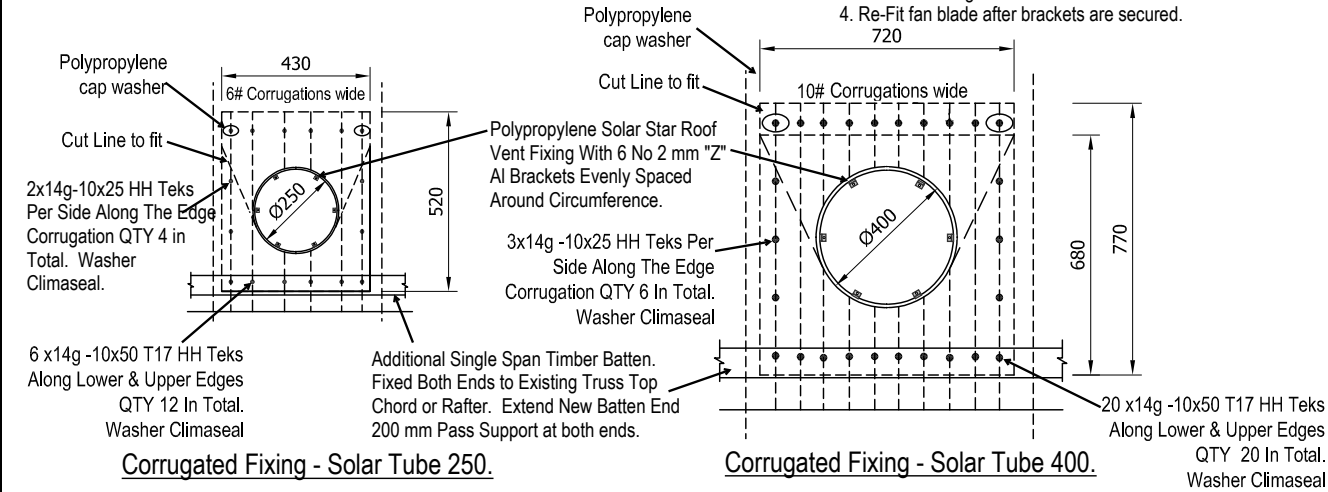
Trimdek Fixing - Solar Tube 250.

Additional Single Span Timber Batten. Fixed Both Ends to Existing Truss Top Chord or Rafter. Extend New Batten End 200 mm Pass Support at both ends.



Typical Isometric View of Solar Star Mounted to Skylight Sola Tube 250 or 400 Base Profile

**Fixing of Solar Star Vent to Sola Tube Base Profile**  
1. Remove Fan Blade  
2. Using a 5 mm drill and holes in brackets as a guide. Drill holes through plastic components.  
3. Fit rivets and place steel washer over end of rivet before securing.  
4. Re-Fit fan blade after brackets are secured.

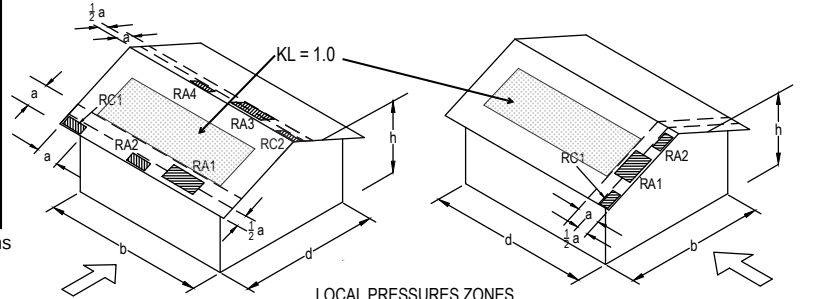


Corrugated Fixing - Solar Tube 250.

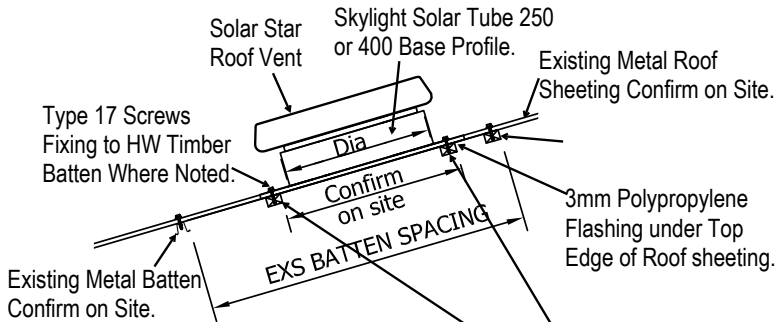
Corrugated Fixing - Solar Tube 400.

RA1 - KL = 1.5 - Upwind Roof Edges  $A \leq a^2$  ( $< "a"$  from edge)  
RA2 - KL = 2.0 - Upwind Roof edges  $A \leq 0.25a^2$  ( $< 0.5a$  from edge)  
RA3 - KL = 1.5 - Downwind side of hips & ridges of roof pitch  $\geq 10^\circ$   $A \leq a^2$  ( $< "a"$  from edge)  
RA4 - KL = 2.0 - Downwind side of hips and ridges of roof pitch  $\geq 10^\circ$   $A \leq 0.25a^2$  ( $< 0.5"a$  from edge)  
★ RC1 - KL = 3.0 - Upwind corners of roofs pitch  $< 10^\circ$   $A = 0.25a^2$  ( $< "a"$  from two edges)  
★ RC2 - KL = 3.0 - Downwind corners of roofs pitch  $\geq 10^\circ$   $A = 0.25a^2$  ( $< "a"$  from two edges & ridge)

★ Refer to Limitations



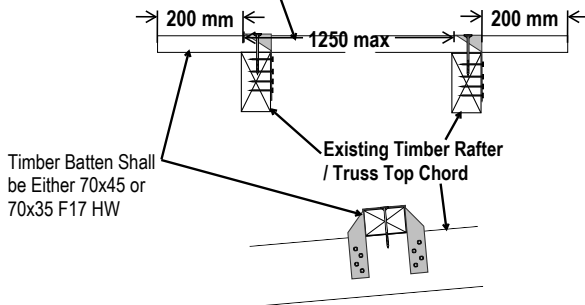
"a" = Lesser of 0.2b or 0.2d if h/b  $\geq 0.2$  or 2h if both (h/b) & (h/d)  $< 0.2$



Typical Section of Solar Star Fixing for Either Corrugate or Trimdek Sheeting

Additional Timber Batten at Solatube Fixing. Fixed with 32x0.8 G300 Metal Strap with 4-2.8diax30 mm Galv Clout as Per AS1684.3 - 2006 Table 9.25 (f) & 1x14g-10 T17 BB Screw with Minimum 35 mm Embedment into Predrilled Timber Rafter/ Truss Top Chord as Per AS1684.3 - 2006 Table 9.25 (d). Battens Shall extend 200 mm pass support at both ends.

Alternatively; Additional Timber Batten Fixed with 32x1.0 G300 Metal Strap with 4x10g-16x25 Tek screws Each Leg & 1x14g-20x60 Wingteks Screw into Minimum 1.2 mm BMT Steel Rafter / Truss Top Chord.



Typical Additional Roof Batten to Existing Truss / Rafter Fixing

Product Name

Solar Star Roof Vent for Corrugated and Trimdek Roofing Profiles

Product Description

Roof Ventilation

Manufacturer's Details

Solatube Australia Pty Ltd  
1/12 Sterling Road, Minchinbury NSW 2770

Design Criteria

- Wind speeds, pressures etc, have been determined in accordance with AS/NZS1170.2-2021, SAA Loading Code, Part 2:Wind Loads,
- Internal Pressure Coefficient (Outwards Load)
  - Building with a roof cavity, Cpi = +0.3
  - Building without a roof cavity, Cpi = +0.7
- External Pressure Coefficient (Outwards Load)
  - Building with h/d  $< 0.5$ , Cpe = 0.9
  - Building with h/d  $\geq 1.0$ , Cpe = 1.3
- Local Factor - KL = 1.0, 1.5, 2.0 & 3
- Test Rating =  $p \cdot (Cpe \cdot KL + Cpi) = \dots$  KPa
- Roof Sheeting - Minimum BMT for fixing - 0.42mm G550 AM125 Zincalume

Limitations

- Calculations limit the wind rating to internal pressure and external pressure coefficients based on the building shape and roof cavity. Refer Table for h/d values. Interpolation is permitted between h/d ratios.
  - h = average height of building
  - d = minimum of building length and building width
- Installation in RC1 & RC2 (KL=3) locations requires the design engineer to confirm that design pressure is less than 8.9kPa. Do not install in areas with design pressure of more than 8.9kPa.
- Suitable for Solatube products only that fit the 250mm and 400mm domes.
- Where fixed to timber battens, screw length increased where necessary to achieve 30 mm penetration into timber batten
- Weather proofing installed as per Solatube Instruction Manual
- Maximum Truss / Rafter spacing shall be 1250 mm

Accepted for inclusion in Deemed to Comply Manual

DTCM drawing number: M/464/01-01

Chairperson Signature:

Chairperson Name: Elisha Harris

Date of Approval: 11/06/2026 Expiry Date: 11/06/2031

Notes covering basis of DTC (Relevant test reports etc)

- Cyclic Loading of Skylights and Vent. Report No TS404 from JCU date 07 April 1993
- Low High Low Testing for Allowable Pressure for Solatube Skylight. Design Report dated 04 Nov 2014
- Solatube installation manual
- Static Loading of Solar Star Solar Powered Exhaust Fan mounted to Sola Tube 400 Corrugated Skylight Base Unit, Project Building Certifiers Pty Ltd Ref #BAS04/340 dated 29/09/2004.

Checking Engineer

Name: Wisnu Lim

Registration Number: 145651ES

Date: 05 June 2026

Signature:

Must be an Australian registered structural engineer

Certifying Engineer

Name: John L Towler

NT Registration Number: 24642ES

Date: 05 June 2026

Signature:

Must be a registered structural engineer in the Northern Territory