

READ BEFORE DESIGN AND INSTALLATION.

1. SIRP and Signature Skylight System; and 2. SIRP and Signature LED Strip System:
Design and Installation Notes on thermal expansion and contraction.
 - 1) Roof and Ceiling Temperatures; 2) Coefficients of thermal expansion;
- 3) SIRP and Signature Skylight System - 3.1) Structural Insulated Roof Panels (SIRP); 3.2) Fibreglass Diffuser on top of SIRP;
3.3) Acrylic Diffuser in SIRP on Ceiling.
- 4) SIRP and Signature LED Strip Systems - 4.1) Structural Insulated Roof Panels (SIRP); 4.2) Aluminium Extrusion in SIRP on
Ceiling; 4.3) Acrylic Diffuser in SIRP on Ceiling.

1. Roof and Ceiling Temperatures:

1.1 The National Construction Code (NCC), Volume Two [Ref. 1.1] and the Housing Provisions Standard [Ref. 1.2] do not provide guidance and information on roof surface of temperatures in Australia based on geographic location, orientation, extent of any shading, roof colours (light, medium, dark) and solar absorptance.

1.2 AS 1562.1 [Ref. 1.3], which is referenced in the NCC, Volume Two [Ref. 1.1] states - "*an unrestrained 15 m steel sheet expands through approximately 12 mm and aluminium 24 mm for a temperature variation from 0° C to 65°C. In practice, cladding movements in roofs may be less than this due to many factors including friction and flexibility of the supporting structure*" [Ref.1.3, Clause 3.2.6, page 11].

1.3 Installation code for metal roof cladding [Ref. 1.4] includes a Table [Table 7.7, page 74] with expansion and contraction of metal sheeting for temperature changes of 50°C and 75°C.

1.4 Industry literature on metal cladding [Ref. 1.5] states - On a clear hot summer day, with no wind, the steel temperature of roof cladding can reach approximately 50°C for COLORBOND® steel in colour SURFMIST®, 60°C in plain ZINCALUME® and **more than** 80°C in COLORBOND® steel in colour NIGHT SKY®.

Versiclad

3 BERRIWERRI PLACE, CASULA, NSW 2170
PH: 02 9821 2199 FAX: 02 9601 1152

EMAIL: info@versiclad.com.au WEB: www.versiclad.com.au

Drawn by:
MPV

Checked by:
KH

Job Name:

VERSICLAD STRUCTURAL INSULATED ROOF PANELS (SIRP);
TYPICAL RESIDENTIAL BUILDING CONSTRUCTION DETAILS.

Drawing Title:

SIGNATURE SKYLIGHT & SIGNATURE LED SYSTEM. DESIGN AND INSTALLATION
NOTES ON THERMAL EXPANSION AND CONTRACTION.

Scale

NOT TO SCALE

Date

09/06/2024

Drawing No.

CONDET-19

Sheet

1 of 5

Revision

A

1.5 Industry literature on metal cladding [Ref. 1.6] states - roofing and cladding products exposed to direct sunlight can reach or even exceed 80°C.

1.6 Industry literature on fibreglass diffuser [Ref. 1.7] on top of SIRP, includes expansion values for temperature variation of 0°C to 40°C. This literature also includes a recommended service temperature range - 20°C to +96°C

1.7 In order to obtain realistic values for temperature movements, it is necessary to identify an ambient temperature at which the SIRP is deemed to be straight and unstressed and to assume that all temperature-induced actions commence from this starting temperature. The choice of 'starting temperature' is unclear as it raises issues of curing as well as assembly / installation on site. This matter does not appear to be addressed in any of the Standards, Codes of Practice and industry literature [Refs. 1 & 2].

1.8 Temperatures of building members in direct sunlight, are greater than the temperatures given in weather reports.

1.9 In the construction details drawings of VERSICLAD SIRP with Signature Skylight System and Signature LED Strip System, the temperature changes considered are as follows, as indicative and for the purpose of guidance only:

- 1) Outside roof face temperature changes: a) 75°C; b) 50°C.
- 2) Inside ceiling face temperature changes a) 40°C; b) 25°C.

Note: The project Architect / Designer / Professional Engineer / Builder / Installer / End User, shall consider temperatures changes for their specific project and site situation based on due diligence engineering assessments.

2. Coefficients of thermal expansion, α : As follows: -

2.1 Steel: $\alpha = 11.7 \times 10^{-6}$ per °C.

2.2 WonderGlas_{GC} gel coated Fibreglass Reinforced Polyester Sheeting: $\alpha = 3 \times 10^{-5}$ per °C [Ref. 1.7].

2.3 High Impact Acrylic: $\alpha = 12 \times 10^{-5}$ per °C [Ref. 1.9].

2.4 Aluminium: $\alpha = 24 \times 10^{-6}$ per °C.

Versiclad

3 BERRIWERRI PLACE, CASULA, NSW 2170
PH: 02 9821 2199 FAX: 02 9601 1152

EMAIL: info@versiclad.com.au WEB: www.versiclad.com.au

Drawn by:
MPV

Checked by:
KH

Job Name:

VERSICLAD STRUCTURAL INSULATED ROOF PANELS (SIRP);
TYPICAL RESIDENTIAL BUILDING CONSTRUCTION DETAILS.

Drawing Title:

SIGNATURE SKYLIGHT AND SIGNATURE LED SYSTEM. DESIGN AND INSTALLATION
NOTES ON THERMAL EXPANSION AND CONTRACTION.

Scale

NOT TO SCALE

Date

09/06/2024

Drawing No.

CONDET-19

Sheet

2 of 5

Revision

A

3. Thermal Expansion & Contraction Values:

3.1 In response to temperature changes (increase and decrease), thermal expansion and contraction occurs in all building members.

3.2 In Structural Insulated Roof Panels (SIRP), the thermal expansion and contraction is in the span (longitudinal) direction, from the centre of the SIRP to the ends. Provided the construction detailing allows expansion and contraction at both ends - for the SIRP, building components fixed on the SIRP top profile (fibreglass diffuser), included in the SIRP ceiling lining (acrylic diffuser, aluminium extrusion), the movement at each end is half the total expansion or contraction.

3.3 For SIRP in Australia, current National Construction Code (NCC) [Ref. 1.1], Housing Provisions Standard [Ref. 1.2], applicable Australian Standard [Ref. 1.3] and Installation Code [Ref. 1.4], do not provide guidance on - 1) assessment of thermal expansion & contraction; and 2) installation temperature range.

3.4 For SIRP in Australia and overseas, there is no research and testing information available in the public domain on any actual measured values of thermal expansion and contraction of SIRP installed in roofing systems, in a laboratory and / or at building sites.

3.5 For the construction detailing of VERSICLAD SIRP with Signature Skylight System and Signature LED Strip System, the expansion and contraction in the span (longitudinal) direction is calculated based on the equation: $\Delta L = \alpha L_0 \Delta T$

where: ΔL = change (expansion or contraction) in length

α = coefficient of thermal expansion

L_0 = length of installed SIRP

ΔT = change in temperature in °C as in section above on: **Roof and Ceiling Temperatures.**

Versiclad

3 BERRIWERRI PLACE, CASULA, NSW 2170
PH: 02 9821 2199 FAX: 02 9601 1152

EMAIL: info@versiclad.com.au WEB: www.versiclad.com.au

Drawn by:

MPV

Checked by:

KH

Job Name:

VERSICLAD STRUCTURAL INSULATED ROOF PANELS (SIRP);
TYPICAL RESIDENTIAL BUILDING CONSTRUCTION DETAILS.

Drawing Title:

SIGNATURE SKYLIGHT AND SIGNATURE LED SYSTEM. DESIGN AND INSTALLATION
NOTES ON THERMAL EXPANSION AND CONTRACTION.

Scale

NOT TO SCALE

Date

09/06/2024

Drawing No.

CONDET-19

Sheet

3 of 5

Revision

A

4. Overseas Standards, Codes of Practice and Industry Literature:

4.1 Overseas Standards, Codes of Practice and References [Ref. 2] provide guidance on - 1) outside (roof) and inside (ceiling) face temperatures; 2) assessment of thermal expansion & contraction; 3) installation temperature range. However there are no studies and recommendations available based on the suitability of the overseas guidance for SIRP manufactured in Australia and Australian conditions.

4.2 Designer(s) who may choose to use these Overseas Standards, Codes of Practice and References [Ref. 2], shall do so based on due diligence engineering assessments on the applicability of these recommendations in Australia and for their project & site conditions / situations.

4.3 In Southern Europe, with adverse combination of factors as colour, air temperature, altitude and orientation, temperatures in excess of 90°C are not Unusual [Ref. 2.1]

4.4 A Technical Manual of collected experiences of 4-off Italian manufacturers of sandwich panels [Ref. 2.5] recommends the following: - a) consider the need to use dark coloured panels, especially with lengths over 5 m; b) choose a suitable panel thickness for use and for the calculated deformations; c) evaluate and adopt fastening systems to allow for expansion and contraction.

5. REFERENCES:

[1] Australian National Construction Code (NCC), Standards and Industry Literature:

- [1.1] National Construction Code (NCC), Volume Two, Building Code of Australia 2022, Class 1 and Class 10 Buildings, Australian Building Codes Board, GPO Box 2013, Canberra, ACT.
- [1.2] Housing Provisions Standard 2022, Australian Building Codes Board, GPO Box 2013, Canberra, ACT.
- [1.3] Australian Standard AS 1562.1:2018, Design and installation of sheet roof and wall cladding. Clause 3.2.6, Thermally induced movement or loadings. Page 11.
AS 1562.1:2018 is referenced in NCC, Volume Two [Ref. 1]
- [1.4] Standards Australia SA HB 39:2015, Installation code for metal roof and wall cladding including Appendix A, Insulated Panels. Clause 7.7. Thermal expansion / contraction. Page 73.
- [1.5] Lysaght: Flashing guide. For Architects and detailing professionals. LYT0043 - 03/2024. Section 3.14. Expansion. Background on thermal expansion, Page 20.
- [1.6] Understanding thermal expansion & contraction. Steeline. Accessed and downloaded on Thursday 9th May 2024. 4-off pages.

Versiclad

3 BERRIWERRI PLACE, CASULA, NSW 2170
PH: 02 9821 2199 FAX: 02 9601 1152

EMAIL: info@versiclad.com.au WEB: www.versiclad.com.au

Drawn by:

MPV

Checked by:

KH

Job Name:

VERSICLAD STRUCTURAL INSULATED ROOF PANELS (SIRP):
TYPICAL RESIDENTIAL BUILDING CONSTRUCTION DETAILS.

Drawing Title:

SIGNATURE SKYLIGHT AND SIGNATURE LED SYSTEM. DESIGN AND INSTALLATION
NOTES ON THERMAL EXPANSION AND CONTRACTION.

Scale

NOT TO SCALE

Date

09/06/2024

Drawing No.

CONDET-19

Sheet

4 of 5

Revision

A

- [1.7] WonderGlas_{GC}, Gel Coated Polyester Sheeting. Ampelite Australia Pty Ltd, AL162_MM05-20v1 May 2020. 4-off-pages. Received from Versiclad Pty Ltd on Tuesday 18th July 2023.
- [1.8] Fibreglass sheeting installation. Bulletin AFG3, May 2017. Ampelite Australia Pty Ltd. 1-off page. Received from Versiclad Pty Ltd on Tuesday 18th July 2023.
- [1.9] REDOX plastics. Specification ACRYPT IRH70. Redox Ltd Plastics Division. Form21022, Revision 5, 2-off pages, Document 23860764, 02 May 22. Received from Versiclad Pty Ltd on Thursday 21st January 2023.

2. Overseas Standards, Codes of Practice and Industry Literature:

- [2.1] European Recommendations For Sandwich Panels. Part 1: Design, January 2001. ECCS - TWG 7.9 - Sandwich panels and related structures. CIB - W 56 - Lightweight constructions. CIB Report - Publication 257. ECCS/CIB Report. 161-off pages.
- [2.2] J. M. Davies (Edited by), Lightweight Sandwich Construction. Blackwell Science. 2001.
- [2.3] BS EN 14509:2013. Self-supporting double skin metal faced insulating panels - Factory made products - Specifications. 180-off pages.
- [2.4] J. Michael Davies, Thermal elongation of sandwich panels, Proceedings of the Institution of Civil Engineers. Structures and Buildings, Volume 166, March 2013, Issue SB3. Pages 125 - 138.
- [2.5] Handbook Sandwich Panels, Handling, Storage and Assembly For Designers / Installers / End Users. Rev 02 05/2022. 62-off pages. This Technical Manual collects experiences of 4-off producers/manufacturers of sandwich panels: Isolpack - Isometal - Isotecnica - R&WPI.
- [2.6] Kingspan Installation Guide, 08/2023 (v2), 42-off pages. Page 37: 4. Different colour groups. 4.1 Guidelines for using panels in dark lining. 4.1.1 Static diagram and means of assembling. 4.1.2 Assembly temperature.

END OF DOCUMENT



3 BERRIWERRI PLACE, CASULA, NSW 2170
 PH: 02 9821 2199 FAX: 02 9601 1152

EMAIL: info@versiclad.com.au WEB: www.versiclad.com.au

Drawn by:

MPV

Checked by:

KH

Job Name:

VERSICLAD STRUCTURAL INSULATED ROOF PANELS (SIRP);
 TYPICAL RESIDENTIAL BUILDING CONSTRUCTION DETAILS.

Drawing Title:

SIGNATURE SKYLIGHT AND SIGNATURE LED SYSTEM. DESIGN AND INSTALLATION
 NOTES ON THERMAL EXPANSION AND CONTRACTION.

Scale

NOT TO SCALE

Date

09/06/2024

Drawing No.

CONDET-19

Sheet

5 of 5

Revision

A

READ BEFORE DESIGN AND INSTALLATION.

SIRP and Signature Skylight System - Important Design and Installation Instructions.

1. This drawing shall be read / studied in conjunction with all the sheets in drawing number CONDET-19.
2. The Signature Skylight System including the Fibreglass Roof Diffuser and Acrylic Ceiling Diffuser are **non-trafficable for foot and maintenance traffic** (e.g., for roof maintenance and servicing of roof mounted equipment, air-conditioning units, solar panels and the like).
3. Notices in accordance with statutory regulations, warning persons not to step onto the Fibreglass Roof Diffuser, shall be provided in conspicuous positions on all points of access to the roof and walkways. This does not apply to domestic installations. However from a perspective of Safe Design of Structures, while the structure is in service / use / operation, it is highly recommended to install warning notices for domestic installations.
4. The Signature Skylight System shall be used only on roofs of Class 10a buildings - patios, shade structures. Class 10a in accordance with NCC, Volume Two, BCA 2022.
5. The Signature Skylight System shall be used only in non-cyclonic wind regions.
6. The Signature Skylight System shall not be used on roofs of Class 1 dwellings and on roofs of all other Classes of buildings. Class 1 in accordance with NCC, Volume Two, BCA 2022 and all other Classes in accordance with NCC, Volume Two, BCA 2022.
7. For wind load spans, refer - Wind load span tables for SIRP installed with Signature Skylight System.
8. The Fibreglass Roof Diffuser and the Acrylic Ceiling Diffuser shall be installed with **NO JOINTS** - butt and / or overlap.

Versiclad

3 BERRIWERRI PLACE, CASULA, NSW 2170
PH: 02 9821 2199 FAX: 02 9601 1152

EMAIL: info@versiclad.com.au WEB: www.versiclad.com.au

Drawn by:
MPV

Checked by:
KH

Job Name:

VERSICLAD STRUCTURAL INSULATED ROOF PANELS (SIRP):
TYPICAL RESIDENTIAL BUILDING CONSTRUCTION DETAILS.

Drawing Title:

CORROLINK 1000 AND VERSALINK PLUS 1100: SIGNATURE SKYLIGHT SYSTEM.
IMPORTANT DESIGN AND INSTALLATION DETAILS.

Scale

NOT TO SCALE

Date

09/06/2024

Drawing No.

CONDET-20

Sheet

1 of 7

Revision

A

IMPORTANT INSTALLATION DETAILS - READ BEFORE DESIGN AND INSTALLATION.

CORROLINK 1000 PANEL WITH SIGNATURE SKYLIGHT SYSTEM

FASTENERS:

FOR SPECIFICATIONS OF ROOFING SCREWS AND RIVETS - REFER DRAWINGS:

JOB NAME : VERSICLAD STRUCTURAL INSULATED ROOF PANELS (SIRP);
DRAWING TITLE: RECOMMENDATIONS FOR FASTENERS - SHEET 1OF 4 TO SHEET 4 OF 4. TOTAL 4 OFF SHEETS.
DRAWING NO'S: GEN-03 / 1 TO 4
REVISION: CHECK AND CONFIRM WITH VERSICLAD PTY LTD FOR CURRENT APPLICABLE DRAWING

SKYLIGHT FIXING SCREWS - STORMTITE 14G - 10 X 25mm WITH 32mm DIAMETER METAL FLANGE.

PANEL SPACING:

1. CORROLINK 1000 PANELS - 1000MM COVER WIDTH. EACH SIGNATURE SKYLIGHT ADDS 150mm TO THE TOTAL WIDTH OF THE PATIO STRUCTURE.
2. EXAMPLE: 4 x CORROLINK 1000 PANELS AND 3 SIGNATURE SKYLIGHTS (4 x 1000 + 3 x 150 = 4450mm TOTAL WIDTH, EXCLUDING FLASHINGS).
3. SKYLIGHT SYSTEM SHALL BE INSTALLED AT LEAST ONE FULL WIDTH PANEL FROM THE ENDS OF THE STRUCTURE.

IMPORTANT INSTALLATION ELEMENTS (NOT NECESSARILY IN ORDER):

1. TURN UP AND TURN DOWN ENDS OF ALL PANELS.
2. CUT OFF THE OVERLAP SECTION ON CORROLINK 1000 PANELS WHERE SIGNATURE SKYLIGHT IS TO BE INSTALLED. SEE DETAIL C.
3. PEEL BACK PROTECTIVE FILM ON CEILING SKIN OF PANELS ENOUGH SO CLEAR OF RECEIVER AND SUPPORT BEAMS.
4. USE TOWELS ON BEAMS TO PROTECT THE CEILING SKIN OF PANELS WHILST MOVING THEM INTO POSITION.
5. CUT ACRYLIC CEILING DIFFUSER TO APPROPRIATE LENGTH TO ALLOW FOR THERMAL EXPANSION AND CONTRACTION. THIS IS IMPORTANT TO AVOID THE DIFFUSER BUCKLING WITHIN THE CONFINES OF THE RECEIVER AND Z FLASHING UNDER EXPANSION, OR RETRACTING OUT OF THE RECEIVER OR Z FLASHING UNDER CONTRACTION. REFER DETAIL 1 AND 2, AND TABLE 1 AND 2.
6. FIXING HOLES FOR CORROLINK 1000 FIBREGLASS ROOF DIFFUSER - PREDRILL 10mm or 15mm HOLES TO ALLOW FOR EXPANSION, POSITIONED ON THE OUTER 2 RIDGES. SEE DETAIL B. ENSURE THE STORMTITE SCREWS ARE INSTALLED IN THE CENTRE OF THE OVERSIZE HOLE. REFER BELOW - NOTES ON OVERSIZE HOLES.
7. PUSH FOAM INFILL STRIP INTO THE OPENING ABOVE THE Z FLASHING AND UNDER THE FIBREGLASS SKYLIGHT ENSURING IT IS PUSHED AGAINST THE EPS CORE OF THE ROOF PANELS AT THE SIDES.
8. REFER DETAIL 1 ON THIS DRAWING INDICATING PROVISIONS FOR THERMAL MOVEMENT OF SIRP AND FIBREGLASS ROOF DIFFUSER.

Versiclad

3 BERRIWERRI PLACE, CASULA, NSW 2170
PH: 02 9821 2199 FAX: 02 9601 1152

EMAIL: info@versiclad.com.au WEB: www.versiclad.com.au

Drawn by:
MPV

Checked by:
KH

Job Name:

VERSICLAD STRUCTURAL INSULATED ROOF PANELS (SIRP);
TYPICAL RESIDENTIAL BUILDING CONSTRUCTION DETAILS.

Drawing Title:

CORROLINK 1000 AND VERSALINK PLUS 1100: SIGNATURE SKYLIGHT SYSTEM.
IMPORTANT DESIGN AND INSTALLATION DETAILS.

Scale

NOT TO SCALE

Date

09/06/2024

Drawing No.

CONDET-20

Sheet

2 of 7

Revision

A

IMPORTANT INSTALLATION DETAILS - READ BEFORE DESIGN AND INSTALLATION.

VERSALINK PLUS PANEL WITH SIGNATURE SKYLIGHT SYSTEM

FASTENERS:

FOR SPECIFICATIONS OF ROOFING SCREWS AND RIVETS - REFER DRAWINGS:

JOB NAME : VERSICLAD STRUCTURAL INSULATED ROOF PANELS (SIRP):
DRAWING TITLE: RECOMMENDATIONS FOR FASTENERS - SHEET 1 OF 4 TO SHEET 4 OF 4. TOTAL 4 OFF SHEETS.
DRAWING NO'S: GEN-03 / 1 TO 4
REVISION: CHECK AND CONFIRM WITH VERSICLAD PTY LTD FOR CURRENT APPLICABLE DRAWING

SKYLIGHT FIXING SCREWS - STORMTITE 14G - 10 X 25mm WITH 32mm DIAMETER METAL FLANGE.

PANEL SPACING:

1. VERSALINK PLUS PANELS - 1100MM COVER WIDTH. EACH SIGNATURE SKYLIGHT ADDS 150mm TO THE TOTAL WIDTH OF THE PATIO STRUCTURE.
2. EXAMPLE: 4 x VERSALINK PLUS PANELS AND 3 SIGNATURE SKYLIGHTS (4 x 1100 + 3 x 150 = 4850mm TOTAL WIDTH, EXCLUDING FLASHINGS).
3. SKYLIGHT SYSTEM SHALL BE INSTALLED AT LEAST ONE FULL WIDTH PANEL FROM THE ENDS OF THE STRUCTURE.

IMPORTANT INSTALLATION ELEMENTS (NOT NECESSARILY IN ORDER):

1. TURN UP AND TURN DOWN ENDS OF ALL VERSALINK PLUS PANELS PRIOR TO LIFTING INTO POSITION.
2. PEEL BACK PROTECTIVE FILM ON CEILING SKIN OF PANELS ENOUGH SO CLEAR OF RECEIVER AND SUPPORT BEAMS.
3. USE TOWELS ON BEAMS TO PROTECT THE CEILING SKIN OF PANELS WHILST MOVING THEM INTO POSITION.
4. CUT ACRYLIC CEILING DIFFUSER TO APPROPRIATE LENGTH TO ALLOW FOR THERMAL EXPANSION AND CONTRACTION. THIS IS IMPORTANT TO AVOID THE DIFFUSER BUCKLING WITHIN THE CONFINES OF THE RECEIVER AND Z FLASHING UNDER EXPANSION, OR RETRACTING OUT OF THE RECEIVER OR Z FLASHING UNDER CONTRACTION. REFER DETAIL 1 AND 2, AND TABLE 1 AND 2.
5. FIXING HOLES FOR VERSALINK PLUS FIBREGLASS ROOF DIFFUSER - PREDRILL 10mm OR 15mm DIAMETER HOLES TO ALLOW FOR EXPANSION, POSITIONED ON THE OUTER 2 RIDGES. SEE DETAIL B. ENSURE THE STORMTITE SCREWS ARE INSTALLED IN THE CENTRE OF THE OVERSIZE HOLE. REFER BELOW - NOTES ON OVERSIZE HOLES.
6. FIX EXPANDING FOAM STRIP TO Z FLASHING, HARD UP AGAINST THE EPS CORE OF THE ROOF PANELS, BEFORE FITTING THE FIBREGLASS ROOF DIFFUSER.
7. REFER DETAIL 1 ON THIS DRAWING INDICATING PROVISIONS FOR THERMAL MOVEMENT OF SIRP AND FIBREGLASS ROOF DIFFUSER.

Versiclad

3 BERRIWERRI PLACE, CASULA, NSW 2170
PH: 02 9821 2199 FAX: 02 9601 1152

EMAIL: info@versiclad.com.au WEB: www.versiclad.com.au

Drawn by:
MPV

Checked by:
KH

Job Name:

VERSICLAD STRUCTURAL INSULATED ROOF PANELS (SIRP):
TYPICAL RESIDENTIAL BUILDING CONSTRUCTION DETAILS.

Drawing Title:

CORROLINK 1000 AND VERSALINK PLUS 1100: SIGNATURE SKYLIGHT SYSTEM.
IMPORTANT DESIGN AND INSTALLATION DETAILS.

Scale

NOT TO SCALE

Date

09/06/2024

Drawing No.

CONDET-20

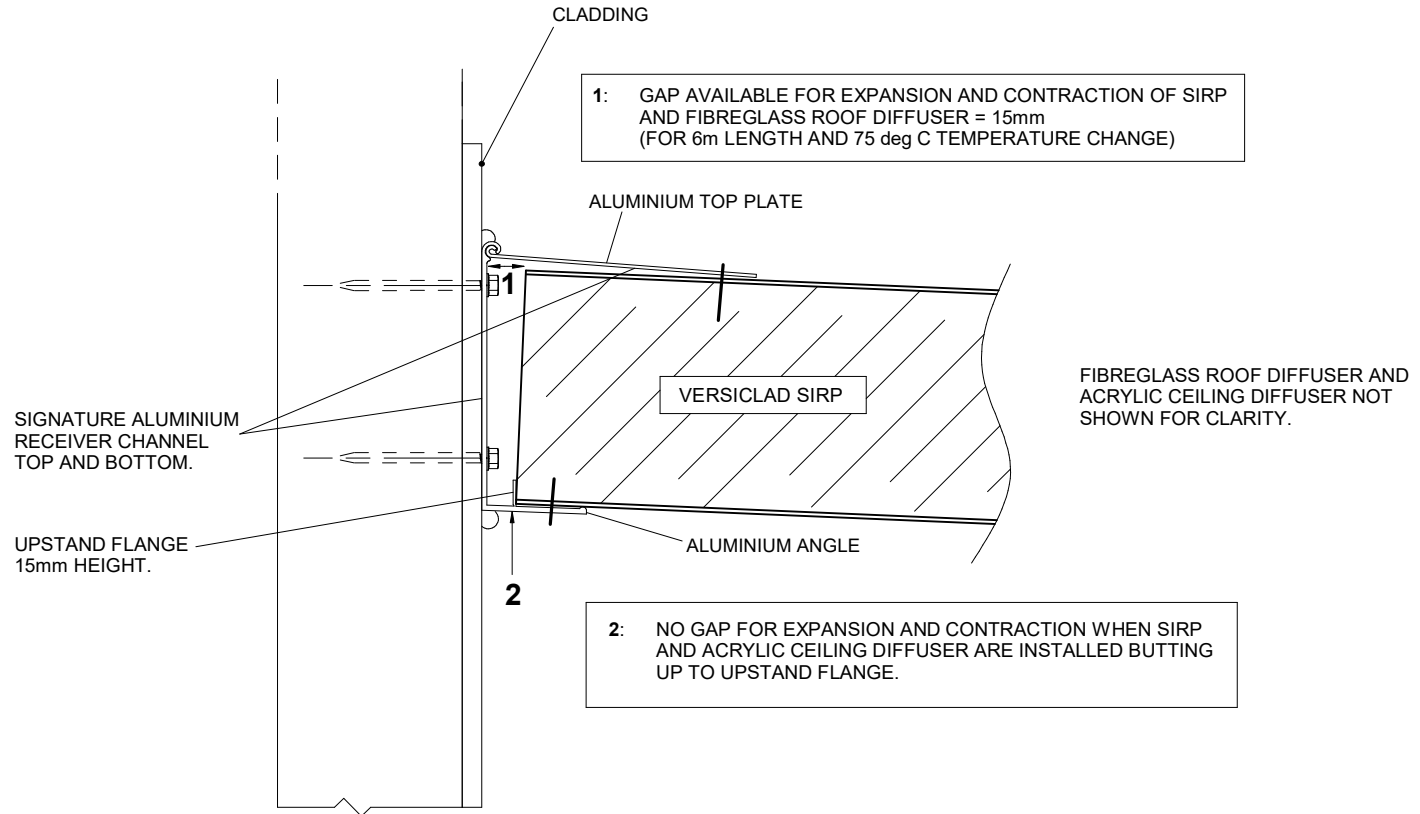
Sheet

3 of 7

Revision

A

DETAIL 1: REFER TABLES 1 AND 2 FOR TOTAL VALUES OF THERMAL EXPANSION AND CONTRACTION OF SIRP, FIBREGLASS ROOF DIFFUSER AND ACRYLIC CEILING DIFFUSER.



TYPICAL SECTION VIEW INDICATING PROVISIONS FOR THERMAL EXPANSION AND CONTRACTION

Versiclad

3 BERRIWERRI PLACE, CASULA, NSW 2170
 PH: 02 9821 2199 FAX: 02 9601 1152

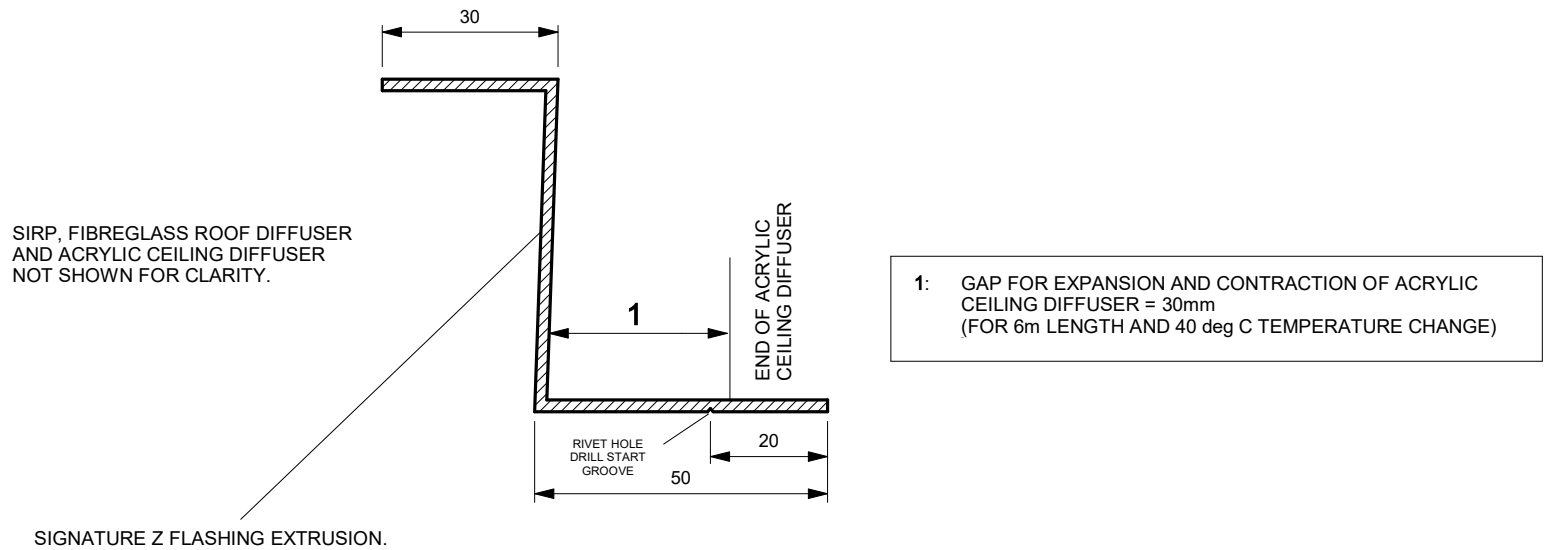
EMAIL: info@versiclad.com.au WEB: www.versiclad.com.au

Drawn by:
 MPV
 Checked by:
 KH

Job Name:
 VERSICLAD STRUCTURAL INSULATED ROOF PANELS (SIRP):
 TYPICAL RESIDENTIAL BUILDING CONSTRUCTION DETAILS.
 Drawing Title:
 CORROLINK 1000 AND VERSALINK PLUS 1100: SIGNATURE SKYLIGHT SYSTEM.
 IMPORTANT DESIGN AND INSTALLATION DETAILS.

Scale
 NOT TO SCALE
 Date
 09/06/2024
 Drawing No. CONDET-20 Sheet 4 of 7 Revision A

DETAIL 2: REFER TABLES 1 AND 2 FOR TOTAL VALUES OF THERMAL EXPANSION AND CONTRACTION OF SIRP, FIBREGLASS ROOF DIFFUSER AND ACRYLIC CEILING DIFFUSER.



TYPICAL SECTION VIEW INDICATING PROVISIONS FOR THERMAL EXPANSION AND CONTRACTION

Versiclad

3 BERRIWERRI PLACE, CASULA, NSW 2170
 PH: 02 9821 2199 FAX: 02 9601 1152

EMAIL: info@versiclad.com.au WEB: www.versiclad.com.au

Drawn by:
 MPV

 Checked by:
 KH

Job Name:
 VERSICLAD STRUCTURAL INSULATED ROOF PANELS (SIRP):
 TYPICAL RESIDENTIAL BUILDING CONSTRUCTION DETAILS.

 Drawing Title:
 CORROLINK 1000 AND VERSALINK PLUS 1100: SIGNATURE SKYLIGHT SYSTEM.
 IMPORTANT DESIGN AND INSTALLATION DETAILS.

Scale
 NOT TO SCALE

 Date
 09/06/2024

 Drawing No. Sheet Revision
 CONDET-20 5 of 7 A

Table 1: Indicating total values of thermal expansion and contraction in span (longitudinal) direction of SIRP and Fibreglass Reinforced Polyester Roof Sheeting.

Length of SIRP and Fibreglass Reinforced Polyester Sheeting	75°C temperature change on outside roof face		50°C temperature change on outside roof face	
	SIRP	Fibreglass	SIRP	Fibreglass
3000 mm	3 mm	7 mm	2 mm	5 mm
4000 mm	4 mm	9 mm	2.5 mm	6 mm
5000 mm	5 mm	12 mm	3 mm	8 mm
6000 mm	6 mm	14 mm	4 mm	9 mm

- Notes:**
- 1) Values in Table above have been rounded-off to the nearest higher number to a single decimal point.
 - 2) Value at each end of SIRP and Fibreglass is half the total value in the above Table.
 - 3) Gap available for thermal expansion of Fibreglass Roof Diffuser - Refer Detail 1.

Table 2: Indicating total values of thermal expansion and contraction in span (longitudinal) direction of SIRP and High Impact Acrylic Ceiling Diffuser.

Length of SIRP and High Impact Acrylic Ceiling Diffuser	40°C temperature change on inside ceiling face		25°C temperature change on inside ceiling face	
	SIRP	Acrylic	SIRP	Acrylic
3000 mm	1.5 mm	15 mm	1 mm	9 mm
4000 mm	2 mm	20 mm	1.2 mm	12 mm
5000 mm	2.5 mm	24 mm	1.5 mm	15 mm
6000 mm	3 mm	30 mm	2 mm	18 mm

- Notes:**
- 1) Values in Table above have been rounded-off to the nearest higher number to a single decimal point
 - 2) Value at one end only of SIRP and Acrylic Diffuser is the total value in the above Table, because SIRP and Acrylic Ceiling Diffuser cannot expand when installed fully butted on the 15 mm height flange on the bottom flange of Aluminium Two Piece Receiver Channel.
 - 3) Gap available for thermal expansion of Acrylic Ceiling Diffuser on bottom flange of Aluminium Z Flashing (i.e., Signature Z Flashing Extrusion) - Refer Detail 2.

Versiclad

3 BERRIWERRI PLACE, CASULA, NSW 2170
PH: 02 9821 2199 FAX: 02 9601 1152

EMAIL: info@versiclad.com.au WEB: www.versiclad.com.au

Drawn by:
MPV

Checked by:
KH

Job Name:

VERSICLAD STRUCTURAL INSULATED ROOF PANELS (SIRP);
TYPICAL RESIDENTIAL BUILDING CONSTRUCTION DETAILS.

Drawing Title:

CORROLINK 1000 AND VERSALINK PLUS 1100: SIGNATURE SKYLIGHT SYSTEM.
IMPORTANT DESIGN AND INSTALLATION DETAILS.

Scale

NOT TO SCALE

Date

09/06/2024

Drawing No.

CONDET-20

Sheet

6 of 7

Revision

A

Notes on oversize holes in Fibreglass Roof Diffuser:

1. Oversize holes in Fiberglass Roof Diffuser: Installation Contractors shall ensure that the screw fixing is located at the centre of an oversize hole, to obtain the benefit of the larger diameter hole.

2. For 75°C temperature change on outside roof space: - Oversize hole diameters

Length of Fiberglass Roof Diffuser	Oversize hole diameter in Fiberglass Roof Diffuser
3000 mm	10 mm
4000 mm	15 mm
5000 mm	15 mm
6000 mm	15 mm

3. For 50°C temperature change on outside roof space: - Oversize hole diameters

Length of Fiberglass Roof Diffuser	Oversize hole diameter in Fiberglass Roof Diffuser
3000 mm	10 mm
4000 mm	10 mm
5000 mm	15 mm
6000 mm	15 mm

END OF DOCUMENT

Versiclad

3 BERRIWERRI PLACE, CASULA, NSW 2170
PH: 02 9821 2199 FAX: 02 9601 1152

EMAIL: info@versiclad.com.au WEB: www.versiclad.com.au

Drawn by:
MPV

Checked by:
KH

Job Name:

VERSICLAD STRUCTURAL INSULATED ROOF PANELS (SIRP):
TYPICAL RESIDENTIAL BUILDING CONSTRUCTION DETAILS.

Drawing Title:

CORROLINK 1000 AND VERSALINK PLUS 1100: SIGNATURE SKYLIGHT SYSTEM.
IMPORTANT DESIGN AND INSTALLATION DETAILS.

Scale

NOT TO SCALE

Date

09/06/2024

Drawing No.

CONDET-20

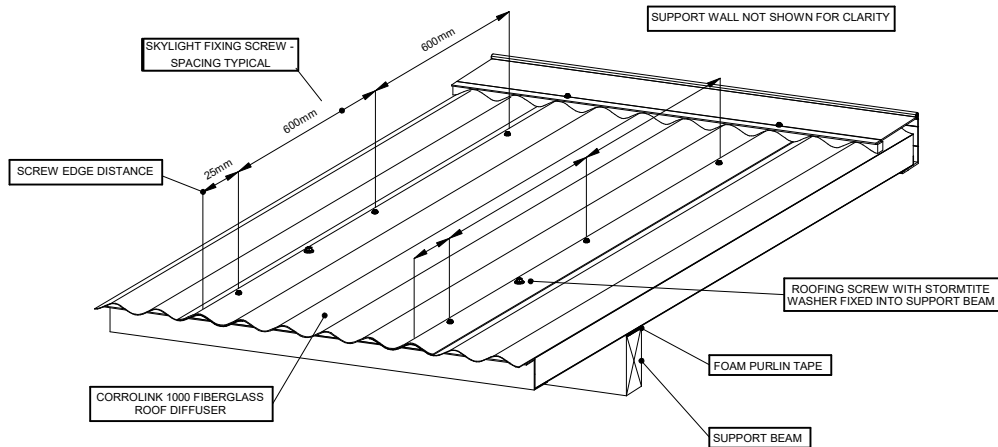
Sheet

7 of 7

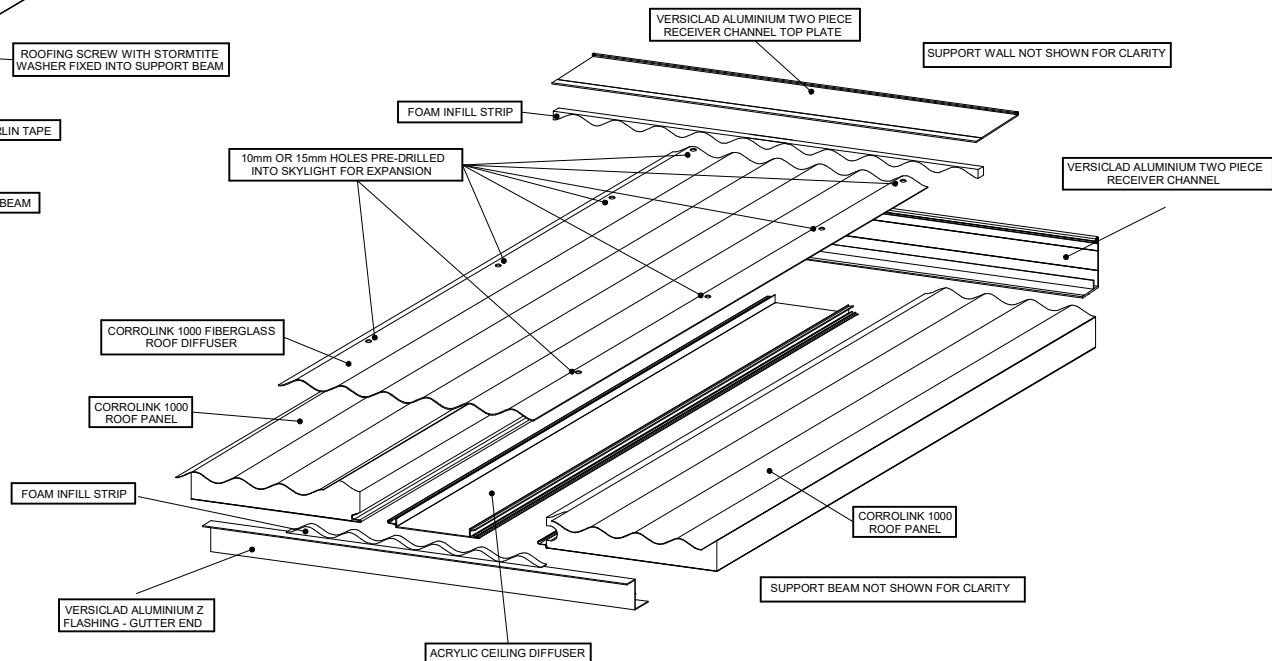
Revision

A

SUITABLE FOR MAXIMUM WIND CLASS N3



TYPICAL PANEL ARRANGEMENT



VIEW INDICATING "BREAK-UP" / EXPLODED ARRANGEMENT OF COMPONENTS / MEMBERS IN SKYLIGHT SYSTEM

1. NO FOOT - TRAFFIC OR ACCESS FOR PEOPLE SHALL BE PERMITTED ON SKYLIGHTS

THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING No'S: CONDET-19 AND 20 , ALL SHEETS.

ALL CONSTRUCTION DETAILS SHALL BE STUDIED IN CONJUNCTION WITH STRUCTURAL ENGINEERING DESIGN CERTIFICATION AND SAFETY REPORT CONDITIONS STATED IN THAT DOCUMENT.



3 BERRIWERRI PLACE, CASULA, NSW 2170
PH: 02 9821 2199 FAX: 02 9601 1152

EMAIL: info@versiclad.com.au WEB: www.versiclad.com.au

Drawn by:
MPV
Checked by:
KH

Job Name:
VERSICLAD STRUCTRAL INSULATED ROOF PANELS (SIRP):
TYPICAL RESIDENTIAL BUILDING CONSTRUCTION DETAILS.

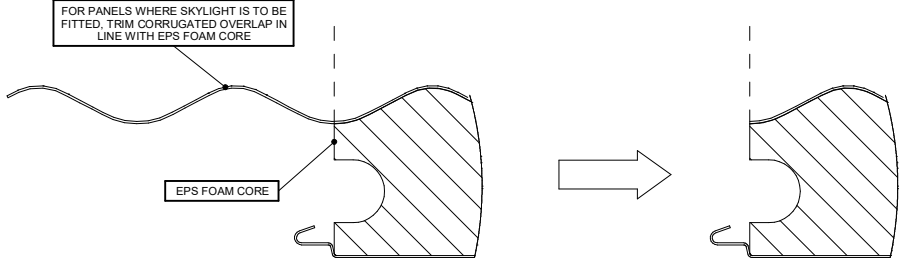
Drawing Title:
CORROLINK 1000 SIGNATURE SKYLIGHT SYSTEM:
TYPICAL SKYLIGHT ARRANGEMENT.

Scale
NOT TO SCALE

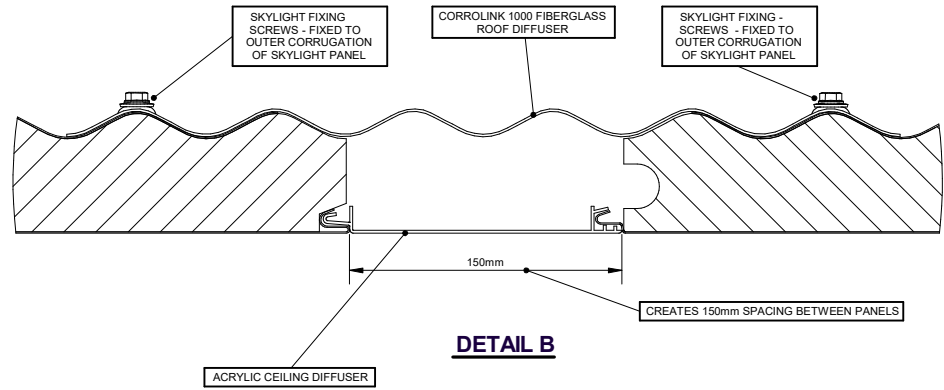
Date
09/06/2024

Drawing No.	Sheet	Revision
CONDET-21	1 of 2	A

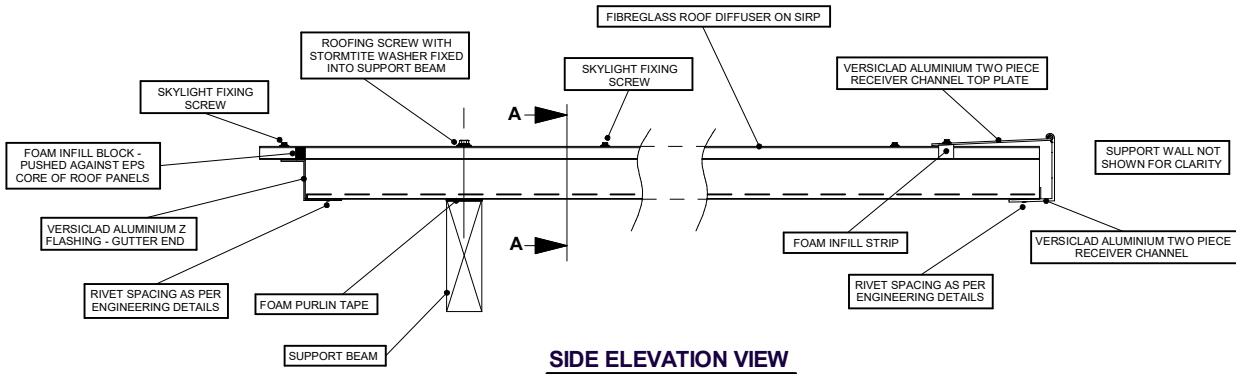
SUITABLE FOR MAXIMUM WIND CLASS N3



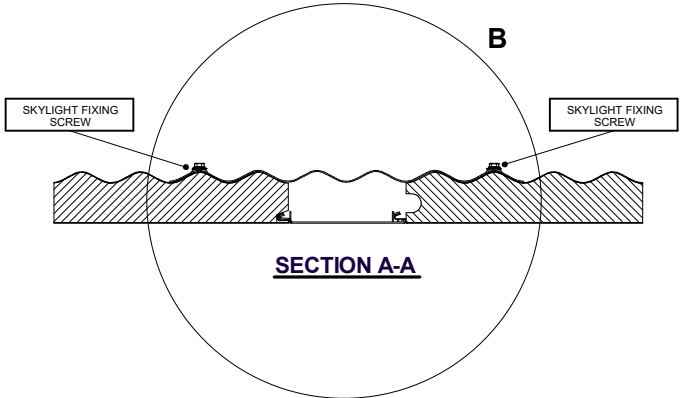
DETAIL C - SKYLIGHT ROOF PANEL PREPARATION



DETAIL B



SIDE ELEVATION VIEW



SECTION A-A

NOTE: FOR EXPANSION AND CONTRACTION OF FIBREGLASS ROOF DIFFUSER AND ACRYLIC CEILING DIFFUSER REFER: - 1) DESIGN NOTES ON THERMAL EXPANSION AND CONTRACTION; 2) IMPORTANT DESIGN AND INSTALLATION DETAILS.

NO FOOT - TRAFFIC OR ACCESS FOR PEOPLE SHALL BE PERMITTED ON SKYLIGHTS

ALL CONSTRUCTION DETAILS SHALL BE STUDIED IN CONJUNCTION WITH STRUCTURAL ENGINEERING DESIGN CERTIFICATION AND SAFETY REPORT CONDITIONS STATED IN THAT DOCUMENT.

Versiclad

3 BERRIWERRI PLACE, CASULA, NSW 2170
 PH: 02 9821 2199 FAX: 02 9601 1152
 EMAIL: info@versiclad.com.au WEB: www.versiclad.com.au

Drawn by:
 MPV
 Checked by:
 KH

Job Name:
 VERSICLAD STRUCTURAL INSULATED ROOF PANELS (SIRP):
 TYPICAL RESIDENTIAL BUILDING CONSTRUCTION DETAILS.
 Drawing Title:
 CORROLINK 1000 SIGNATURE SKYLIGHT SYSTEM:
 TYPICAL SKYLIGHT ARRANGEMENT.

Scale
 NOT TO SCALE
 Date
 09/06/2024
 Drawing No. Sheet Revision
 CONDET-21 2 of 2 A