



**Installation of eArc PV Panels on
Trapezoidal, Corrugated &
Klip-Lok Roof Sheetings Using
SikaSil®SG-20 Silicone Adhesive
Engineering Certificate**

For: Sunman Energy
Level 9, 153 Walker Street
North Sydney
NSW , 2060

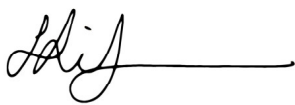

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Our Ref: 12040 B Rev1/HS

02 February 2023

Sunman Energy

Level 9, 153 Walker Street

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Installation of eArc PV Panels on Trapezoidal, Corrugated & Klip-Lok Roof Sheetings Using SikaSil®SG-20 Silicone Adhesive Engineering Certificate

Gamcorp (Melbourne) Pty Ltd, being Structural Engineers within the meaning of Australian Building Regulations, have carried out a structural design check of eArc PV System installation using **SikaSil®SG-20** structural silicone adhesive atop Trapezoidal, Corrugated & Klip-Lok roof sheetings within Australia. The assessment has been completed based on system information and silicone adhesive test reports provided by Sunman Energy.

For building dimensions definition, please see **Figure 1**.

For recommended glue lines pattern, please refer to **Figure 2a & 2b**.

We find the installation of eArc PV Panels on Trapezoidal, Corrugated & Klip-Lok roof sheetings to be structurally adequate and compliant with all relevant Australian standards listed below for the proposed solar installation, provided the conditions listed within this certificate are adhered to:

- Loading to:
 - AS/NZS1170.0:2002 – Structural design actions, Part 0: General principles;
 - AS/NZS1170.1:2002 (R2016) – Structural design actions, Part 1: Permanent, imposed and other actions;
 - AS/NZS1170.2:2021 – Structural design actions, Part 2: Wind actions;
- Site details:
 - Wind region **A(0-5), B(1-2), C & D**
 - Wind terrain category **2 & 3**
 - Wind average recurrence interval **200 years**
- Building details:
 - Maximum average building height **20 m**
 - Building aspect ratio **eArc panels attached to enclosed building with aspect ratios $h/d \leq 0.5$ and $h/b \leq 0.5$, see Figure 1**
 - Aerodynamic shape factor (Cfig) **-2.7, this is based on the worst case scenario (corner zone) obtained from Table 5.3(A) & Table 5.6 of AS/NZS1170.2:2021**

- Trapezoidal & Corrugated roof sheeting colors

Basalt
Calssic Cream
Cottage Green
Cove
Deep Ocean
Dune
Evening Haze
Gully
Ironstone
Jasper
Mangrove
Manor Red
Monument
Night Sky
Pale Eucalypt
Paperbark
Shale Grey
Surfmist
Wallaby
Windspray
Woodland Grey
Zincalume

- Fixing requirements of SikaSil®SG-20 glue:

Roof sheeting type	Glue width (mm)	Max. Glue lines spacing (mm)	Max. panels overhang (mm)	Min. number of glue lines per panel	Installation Condition
Trapezoidal & Corrugated	10	500	50	3 lines for portrait 5 lines for landscape orientations see Figures 2a & 2b	Within whole roof area
Klip-Lok 700 & 406	10	500	50		

- eArc PV panels to be installed flushed to roof sheeting
- SikaSil®SG-20 silicone adhesive to be applied in accordance with the adhesive technical data sheet
- Installation of eArc PV panels to be done in accordance with the Sunman’s installation manual
- The certification **excludes** assessment of roof structure and PV panels

NOTES:

- **The installation eArc PV Panels is assessed based on the capacity of SikaSil®SG-20 high strength structural silicone adhesive, not the roof structure and PV panel.**
- **The tensile strength of SikaSil®SG-20 is obtained SikaSil®SG-20 Technical Data Sheet.**
- **If any of the above conditions cannot be met, the structural engineer must be notified immediately.**

Construction is to be carried out strictly in accordance with the instruction manual. This work was designed by **Humam Sami** in accordance with the provisions of Australian Building Regulations and in accordance with sound, widely accepted engineering principles. Should you need to clarify anything please contact the designer. This certificate is only valid till 02/02/2025. Gamcorp should be contacted for future validation. Contact Gamcorp for customised system or if the site conditions are not covered by this certificate.

Yours faithfully,
Gamcorp (Melbourne) Pty Ltd



L. Van Spaandonk

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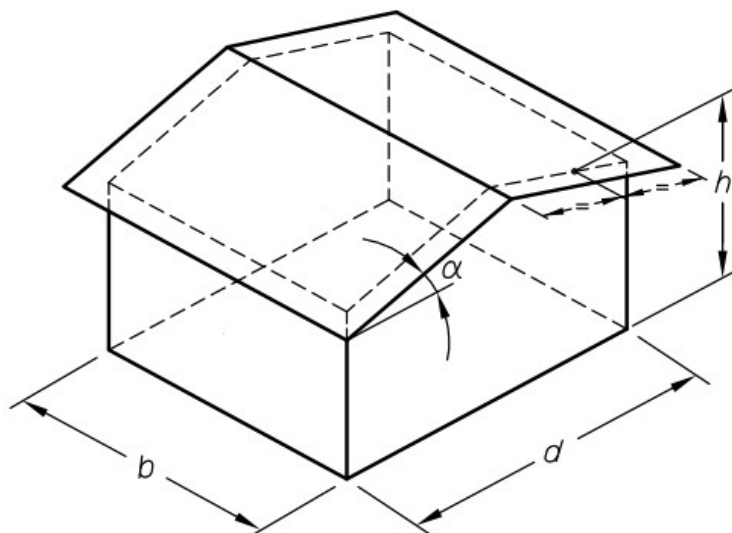


Figure 1 - Building Dimensions Definition

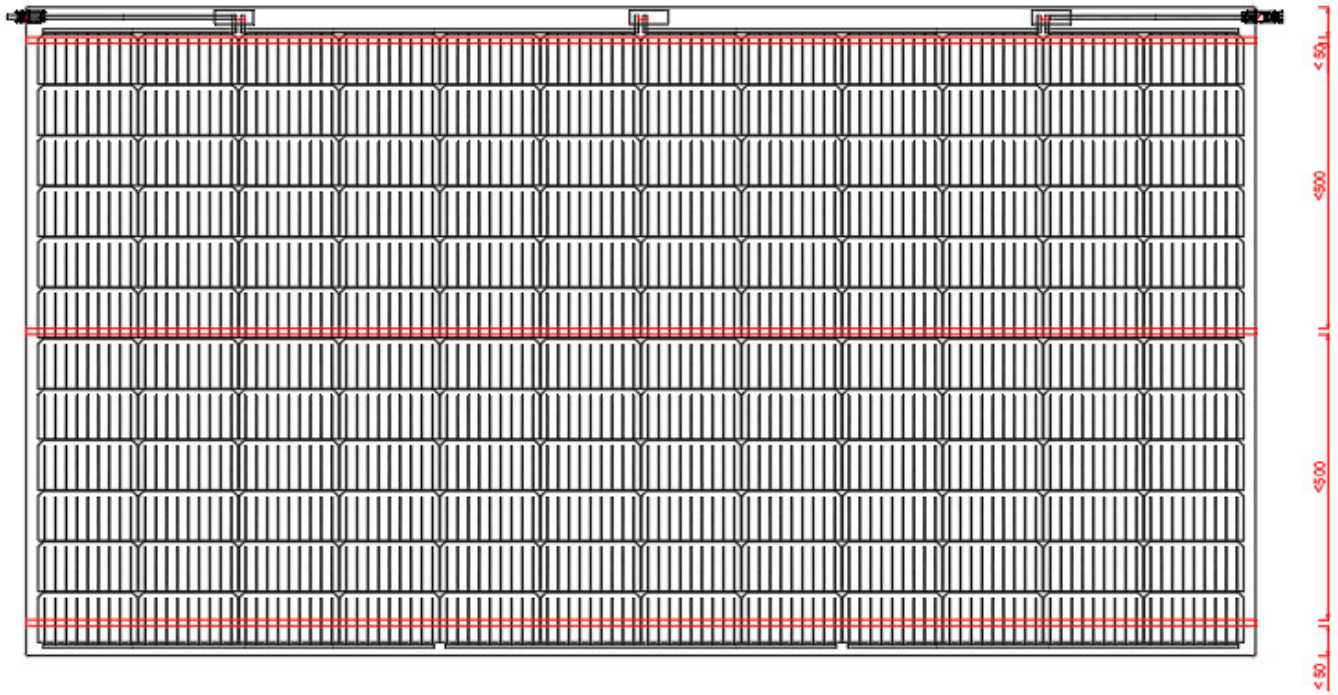


Figure 2a - Recommended Glue Lines Pattern - Portrait Installation

Note: glue bonding lines shall be distributed as evenly as possible across the width of the panel

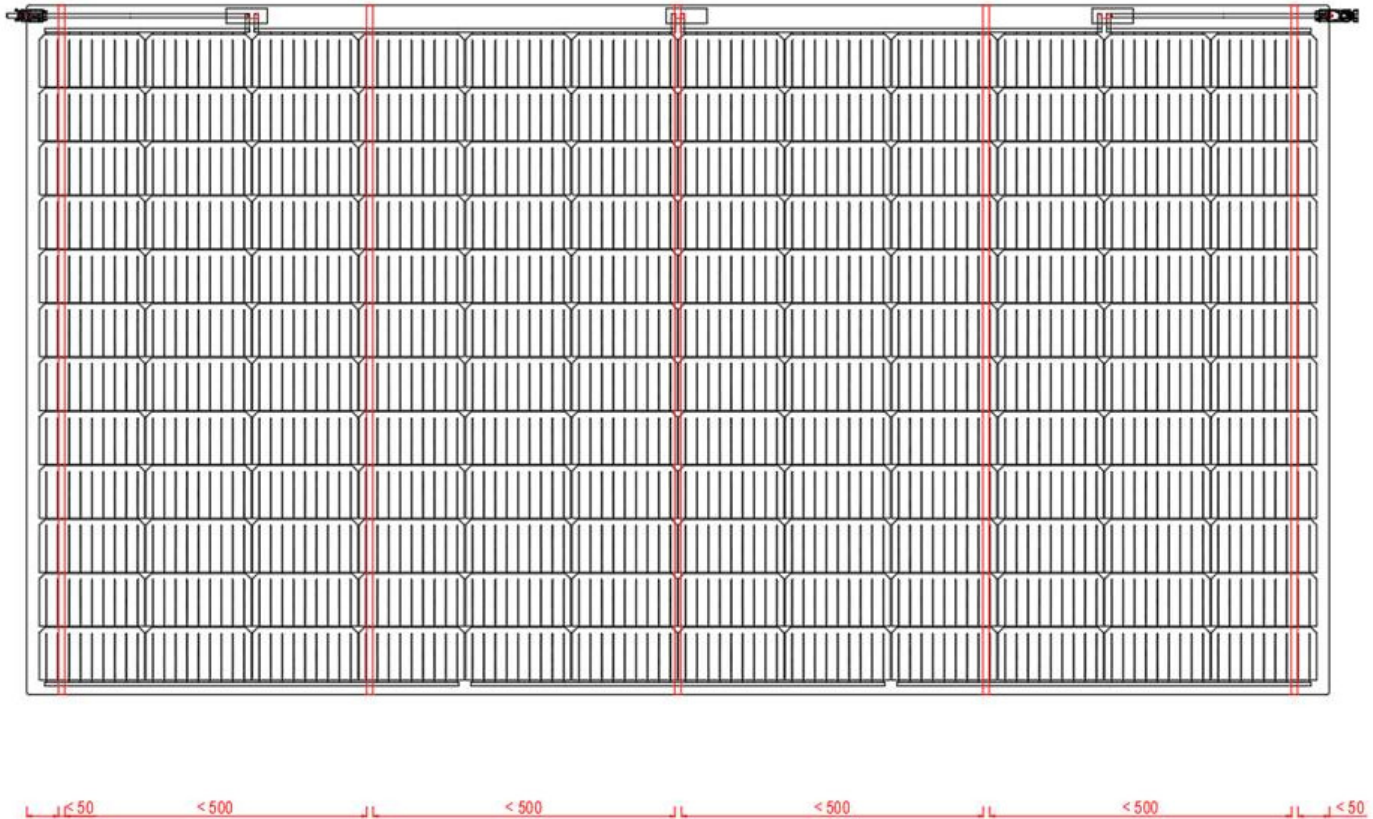


Figure 2b - Recommended Glue Lines Pattern - Landscape Installation

Note: glue bonding lines shall be distributed as evenly as possible across the length of the panel