



PETER BOND

& Associates (Pty) Ltd.

Co No. 2012/003986/07

Civil & Structural Engineers, Architecture &
Quantity Surveying

OFFICES 31 & 32
KYALAMI ON MAIN SHOPPING CENTRE
DYTCHLEY / MAIN (R55) ROADS
BARBEQUE DOWNS, KYALAMI
MIDRAND

P.O. BOX 30611
KYALAMI
1684

TEL: 011 466 0364
E MAIL: gp@peterbond.co.za
WEB: www.peterbond.co.za

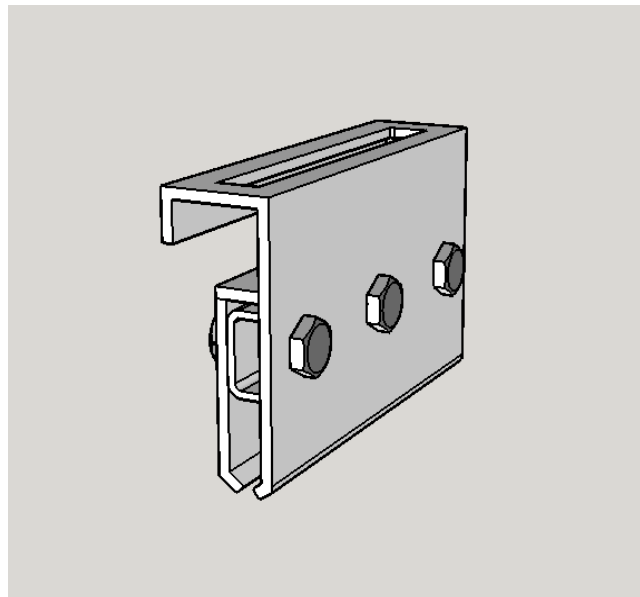
FAX: 011 466 1644
E mail fax: 086 581 5322
CELL: 082 4434943

F553/11/6824 KDS-DD120-PCSOT

20 October 2023

PANEL SUPPORT BRACKET: KDS- DD120-PCSLOT

The KDS-DD120-PCSLOT is a fixing bracket designed for securing the support frame for solar panels to a roof truss where the roof covering is Diamond Deck roof sheeting. When installed in accordance with the KDS installation guide for framed panels and the bracket is correctly clamped to the sheets, the KDS-DD120-PCSLOT will provide anchoring of the panel frame to the roof sheets.



The assumptions in calculating the pull out force required to be withstood by the bracket are:-

- Solar panel size 2 x 1.2m anchored by 2 KDS-DD120-PCSLOT Brackets per panel
- Wind loads calculated in accordance with SANS 0160: The general procedures and loadings to be adopted in the design of buildings with the following parameters.
- The worst case wind loads were considered, these being

Terrain category 1 (Flat smooth terrain, sea coast, lake shores of flat plains)

Maximum regional wind speed for South Africa

A return period of 1 in 50 years.

Density of air at sea level

The wind loads were calculated using the formulas $q_z = k_p V^2$ and $p_z = C_p q_z$

Where q is free stream velocity pressure

K_p is a constant dependent on altitude

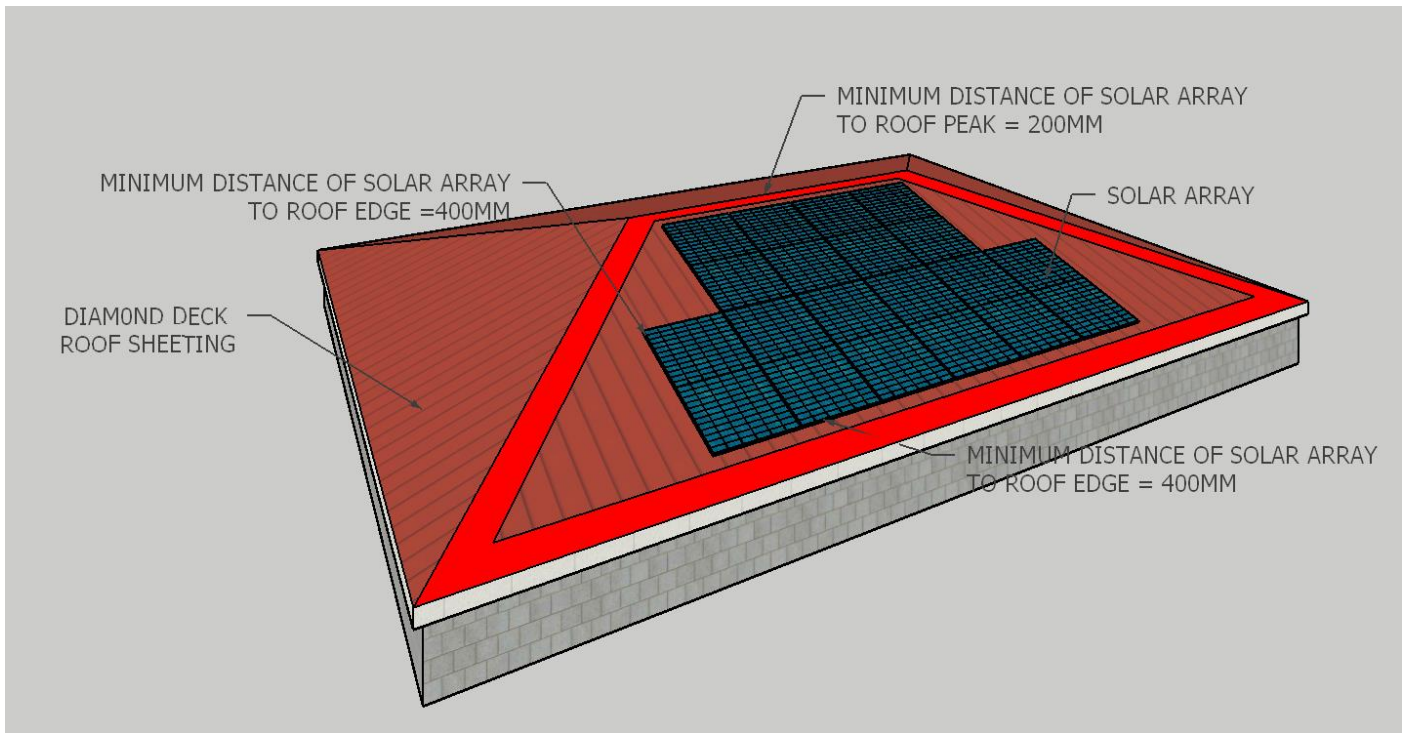
V is characteristic wind speed

C_p is pressure coefficient for the particular part or surface of the building

p_z pressure on the surface of the building

A value of $C_p = 1$ was taken as covering a worst case for the multitude of permutations possible in determining this coefficient.

Wind loads at the edges of roofs localized high wind loads. The installation guide limits the placement of solar panels to the areas indicated in the below layout diagrams.



Graeme Parker
PETER BOND & ASSOCIATES (PTY) LTD
Pr Eng. 20160449