

Solar Roof Mounting System Installation Manual



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1.1 Determine Roof Installation Roof Areas

The use of this Paragraph (D6) shall be limited to the calculation of wind loads on solar panels with the following restrictions:

- Panels attached to enclosed building with aspect ratios $h/d \leq 0.5$ and $h/b \leq 0.5$.
- Panels be attached parallel to the roof plane.
- Panels with a gap of between 50mm and 300mm between the underside of the panel and the roof(s) (no pitched frames).
- Panels with a minimum distance between panel and roof edge of $2s$ where s is the gap between the underside of the panel and the roof surface, as shown in Figure D8 (roof edge includes ridges with pitch $\geq 10^\circ$).

The aerodynamic shape factor (C_{fig}) for calculation net pressures for solar panels satisfying the above conditions, as shown in Figure D8, is given in Table D11. The aerodynamic shape factor (C_{fig}) contains local pressure and area reduction effects for calculating net loads on individual panels installed as part of an array of panels in the areas of the roof identified in Figure D9.

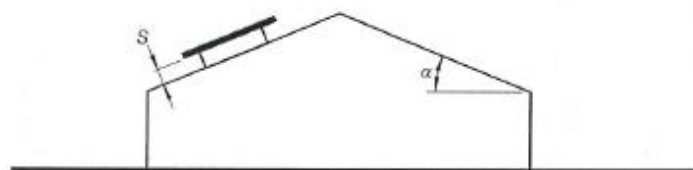


FIGURE D8 PANEL MOUNTED PARALLEL TO ROOF PLANE

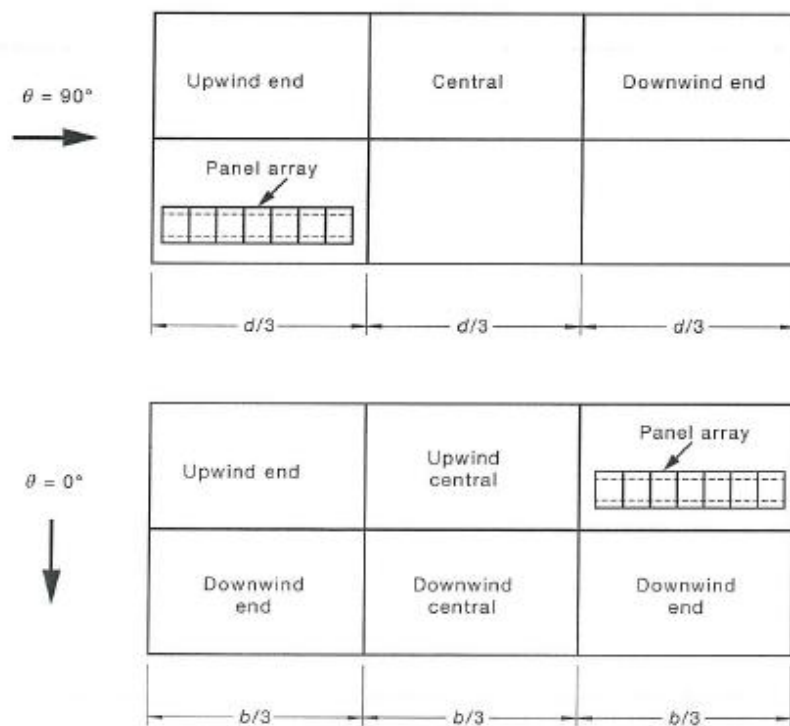


FIGURE D9 ROOF ZONES FOR PANEL ARRAY

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1.2 Determine the Maximum Rail Support Spacing(Fold Trignalge)

Please use the following table to determine the GD-Rail support spacing for the Triangle Bracket 1 #.
This table is suitable for the concrete and metal roof;

Table a : Max 1970mm Long Panels fixed to Metal Sheet Roof/ Concrete Roof		
Installation Height	25m/s & 30m/s	34m/s
5 Meters	1800	600
10 Meters	1800	600
15 Meters	1500	450
20 Meters	1200	450

Table b : Max 1600mm Long Panels fixed to Metal Sheet Roof/ Concrete Roof			
Installation Height	25m/s	30m/s	34m/s
5 Meters	2200	1800	720
10 Meters	1800	1800	650
15 Meters	1650	1500	570
20 Meters	1550	1200	510

Table a are based on modules lengths of up to 1970mm; **Table b** are based on modules lengths of up to 1600mm; maximum weight is 15Kg/m²

The above spacing applies for fixing through thin sheet purlins (greater than 0.75mm thickness) or a minimum embedment of 50mm into timber purlins.

Triangle system should be fixed to the purlins or concrete foundation under using two bolts M10 or M12.

For solar panel installed in the edge zone. The max support spacing should be half.