

PV SOLAR PANELS ON METAL ROOFS: A GOOD PRACTICE GUIDE



BLUESCOPE [COLORBOND®](#) pre-painted steel, rolled-formed into [LYSAGHT® KLIP-LOK® 406](#), [LYSAGHT® LOCKED SEAM®](#) or [LYSAGHT® ZIPDEK®](#) are suitable for steel roofing systems that incorporate photovoltaic (PV) panels to generate electricity.

The use of good practices mentioned in this newsletter during mounting of framed PV Solar panels to a [LYSAGHT®](#) steel roof will assist in maintaining water tightness, functionality and durability of the roof.

Take the following practices in this guide into consideration before installing PV panels onto the steel roof.

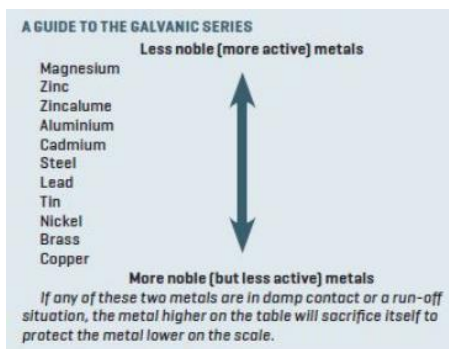
Clear Distance between PV Panel and Roof

- Provide sufficient clearance (good to be more than ~100 mm from the top of profile rib to bottom of PV panel). This encourages self-cleaning of debris and dust through run-off from rain. Sufficient clearance also provides adequate access for roof maintenance personnel. It also allows good air movement to dry areas below the PV panels. This also helps maintain good operating temperatures of the PV panels.
- PV panels shields the roof from the sun and prevents natural surface runoff from the rain.
- Insufficient clearance could lead to build up of grime, salt, dried leaves or other settled airborne particles. The retained moisture subjects the roof to accelerated corrosion.



PV Panel Components Material Compatibility with [COLORBOND®](#) Steel or [ZINCALUME®](#) Steel

- Components and accessories containing stainless steel, lead, brass, copper and alloys with copper are incompatible with steel roofing material in general.
- Avoid PV panels with lead or copper components as surface run-off will result in bi-metallic corrosion.
- Use sealant with "neutral cure" in contact with [COLORBOND®](#) steel or [ZINCALUME®](#) steel roof and avoid acetic acid-based sealants.



Foot Traffic on Roof Due to Roof Maintenance

- During maintenance of the PV panels, care should be taken to prevent dents or scratches when walking on the steel roof.
- Major dents caused by foot traffic will need to be rectified to avoid water ponding.
- Water ponding increases probability of corrosion due to prolonged period of moisture.



Prevent Swarf Staining

- Ensure proper housekeeping during installation of the PV panels.
- Daily removal of loose metallic particles should be performed to avoid swarf staining.

Electrical Cables

- Placement of electrical cables encourages the accumulation of dirt when placed directly on the roof.
- Attaching cables to the PV panel support structure is therefore highly encouraged.

Earthing

- The PV panel system must be properly earthed to prevent stray currents that may accelerate roof sheet corrosion.



Fastener and Brackets

- Use PV panel accessories with comparable service lifespans to the COLORBOND® steel or ZINCALUME® steel roof.



Maintenance

- Clean unwashed areas on the roof with fresh water once every 3 months for coastal or industrial areas. The frequency of washing can extend to once every 6 months in more benign environments. Regular cleaning reduces the risk of corrosion.
- Washing frequency may be synchronized with ongoing PV panel cleaning schedules.
- Inspect fasteners or clamps used to adhere PV panels to the roof during the regular maintenance schedules.
- With the above maintenance steps performed, a review of washing frequency can then be ascertained.

ASK LYSAGHT!

If you have any questions, please email us at lysaght.singapore@bluescope.com



LYSAGHT IS BIM READY!

Click [here](#) to visit our BIM Library for all BIM objects that are available for download.



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