

SUMMARY

- ASC Building Products recommends the use of standing seam metal roofing (Design Span hp® and Skyline® Metal Roofing) with seam clamps (such as S-5! clamps or similar) to attach photovoltaic arrays (solar panels) to metal roofs.
- Alternative methods that use multiple fasteners that penetrate through the roof surface could affect the performance of the roof over time.
- For additional information please contact ASC Building Products.

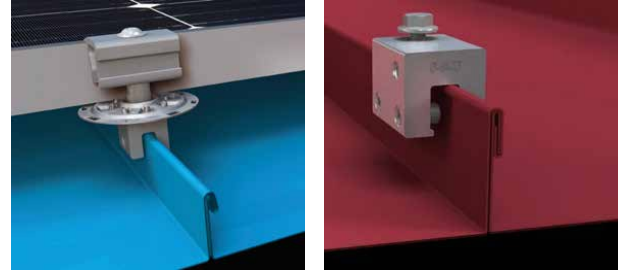
OVERVIEW

Installing solar photovoltaic (PV) panels offer several benefits, including lower electricity costs, a reduced carbon footprint, and increased home value. Federal and state incentives can also offset solar installation costs, such as The Inflation Reduction Act, which offers a 30% federal tax credit on solar installations.



Skyline roofing featuring solar panels

Metal roofs are an excellent roofing substrate for solar photovoltaic (PV) panels. The recommended approach for metal roofing is to install PV panels on standing seam roofing, such as Skyline, Skyline hp, and Design Span hp, using solar clamps. Solar clamps attach to the raised ribs of the standing seam profile and are fastened without penetrating the metal. Some solar clamps may also eliminate the need for solar PV racking, reducing the weight of the solar installation on the roof. There are different solar clamp designs available based on the type of standing seam panel used. Note that the seam is different between Skyline® and Design Span hp® and each product will require different solar clamp designs. Skyline uses a nailing flange and snap interlocking seam, whereas Design Span uses a clip and folded panel seam.



*Pictured above are examples of different S-5! Standing Seam Clamps for different panel designs
(Images courtesy of S-5!)*

A standing seam roof offers the advantage of concealed fasteners that limit the number of exposed roofing penetrations, extending the lifespan of the roof. By attaching solar panels to the roofing panel seam instead of through multiple penetrations, the solar clamps allow the panels to expand and contract with seasonal temperature variations. Allowing for thermal movement can help avoid aesthetic and performance issues from deformation, including oil canning (aesthetic waviness) and the elongation of exposed attachment holes over time, a potential source of roof leaks.



Design Span hp with solar panels

In addition to the performance and durability benefits, standing seam solar clamps can be installed on new or existing metal roofs. Solar panels are installed after the metal roof is installed and flashed. As the solar array is an accessory to the metal roofing system, it is imperative that the frequency of attachment points to the roof, and the roof to the building, be checked to meet any performance or building code standards. It is the responsibility of the installer to verify this information or seek assistance from a qualified design professional if necessary.



Design Span hp with solar panels

For additional information please submit your question via 'Ask ASC'
<https://www.ascbp.com/resource-center/ask-asc/>

Other Solar Installation Considerations

Avoid Unintentional Corrosion – In solar installations, premature corrosion can occur where exposed copper wire from the panels is in contact with the metal roof. This includes direct metal to metal contact, or indirect through rain or condensation run off. This issue is most prevalent in corrosive environments, such as marine settings but can occur in other settings. If the use of copper cannot be avoided, it is recommended to use insulated copper or a protective coating over the copper to prevent contact. Any electrical terminals that use exposed copper should also be sealed. This includes but is not limited to grounding wire for PV arrays and lightning protection.