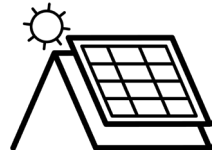




Case Study — Walmart, Roosevelt, Guatemala City, Guatemala PVKIT® & S-5-MX™ Mini



At-A-Glance

Project Name

Instalación FV Walmart Roosevelt

Location

Ciudad de Guatemala, Guatemala

Engineer

Xavier Jara (Dicoma)

General Contractor

Dicoma Corporación

Module Manufacturer

Seraphim

Inverter Manufacturer

Solis

Roofing Contractor

SOLCON

Roof Profile

KR-18 standing seam metal

Industry

Retail commerce

The Situation

This Walmart store wished to supplement the power required to run its facility and desired a lightweight solution for its retrofitted roof that would not penetrate the roof and cause leaks.

The Result

The S-5-MX Mini, specifically designed for this roof profile, together with the PVKIT allowed for rail-less PV mounting to the new standing seam metal roof at only 15% the weight of a railed system. The non-penetrating clamps do not compromise the roof integrity and have eliminated the risk of voided roof warranties.

Project Stats

- Roof Measurements: 7,560 m²; surface installed: 3,360 m²
- Roof Pitch: 10 degrees
- Project Size: 690kW
- Solar Modules: 1,260 (545W)
- Inverters: 8 inverters (60kWLV)

S-5! Products Supplied:

- S-5-MX™ Mini (2,675)
- PVKIT® (2,675)



The Project

Walmart, the world's largest retail corporation, operates hundreds of stores throughout Central America, including the region's largest Walmart store located in Roosevelt, Guatemala City, Guatemala.

Recently, the store replaced its older Ternium TR-101 trapezoidal rib metal roof with a new KR-18 standing seam roof and installed a 690kWp solar array, which generates 1GW per year and reduces carbon emissions by 31 tons annually.

The project was completed in less than a month, with the solar installation completed in just eight days by two crews of four installers each. The facility's 1,260 rooftop solar modules were held in place utilizing the S-5! PVKIT® rail-less solar mounting solution along with S-5-MX™ Mini clamps.



The Challenge

The client wished to supplement its power needs and reduce its overall carbon footprint. However, a primary concern was finding a mounting system that would not penetrate the roof resulting in leaks. Dicoma, the general contractor, recommended the S-5-MX Mini and S-5! PVKIT, a non-penetrating, low-profile aesthetic solution, which would provide visual order for the facility—an ongoing goal and differentiator for Dicoma.

Additionally, they wanted a lightweight mounting system that would add minimal dead load on the roof since the existing building was not designed to carry a large amount of additional weight. An added benefit would be the ease of transporting lightweight materials both to the site and up onto the roof.

The Solution

The client selected the PVKIT rail-less solar mounting solution along with the S-5-MX Mini clamps, designed for the specific metal roof profile—providing a simple, secure method to “lay & play” PV modules with tested, engineered, cost-saving, direct attachment onto the seams of the metal roof.

Providing a faster and easier installation than a traditional rail system, the PVKIT allows panels to be installed anywhere on the roof. The compact and lightweight nature of the S-5! mountings not only simplified freight and transporting logistics but reduced the load on the roof by 85% compared to traditional racking by eliminating the need of rails.

Paired with the S-5-MX Mini clamp, an economical solution for both single-folded and double-folded profiles, the end-result was a rooftop solar system that supplemented 30% of the power needs for the facility and did not penetrate the roof, potentially cause leaks. The client has peace of mind knowing they selected a solution that would outlast the 35-yr ± life of the solar array.

How Did the S-5! Products Help?

- Significantly reduced the cost and complexity of transporting mounting materials to the site
- Reduced material costs, including freight costs
- Reduced installation time by 30-50%
- Minimized the amount of time workers must spend on the roof
- Improved system aesthetics
- Eliminated the risk of a voided roof manufacturer warranty—no damage
- And, the PVKIT is 85% lighter than rails, while providing 25% better load distribution

Long-Term Outlook

By utilizing the PVKIT direct-attach solar mounting solution paired with the S-5-MX Mini clamps, the client has supplemented its power needs, achieved the quality look desired, maintained the roof's integrity, and complemented the look of the roof with a clean appearance, designed and engineered to last the life of the roof.

“The Dicoma team found the PVKIT direct-attach system incredibly quick and easy to install. We installed one module per minute with a three-person crew; this kind of efficiency and speed is revolutionary for the solar industry. Not only does it dramatically increase labor efficiency, but it offers cost savings of around 25% compared to rails and an 85% reduction in weight (of the rail structure) on the roof. The installation team was completely in awe of the system and never wants to use a rail system again!”

—Daniel Cháves, Energy Manager, DICOMA Corporación

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