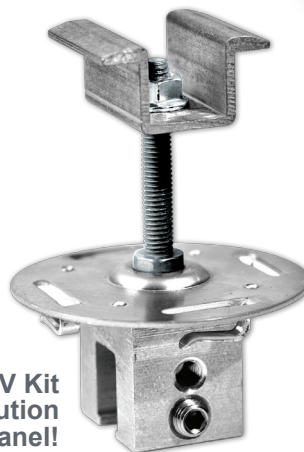


“ The specially designed S-5! clamps made the installation of the electrical chases easier. ”

Mark Shervin
Onsite Electrician



The S-5-PV Kit
provides a strong attachment solution
without piercing the roof panel!



At A Glance:

Customer:
PowerLight Corp.
Berkeley, CA

Location:
Sonoma County, CA

Industry:
Vineyard/Winery

Situation:
High-energy costs of maintaining a vineyard in California left Rodney Strong searching for a sustainable energy solution. Located in the “Sunshine State,” it ultimately made sense for Rodney Strong Vineyards to attach a photovoltaic system to the roofs atop their barrel aging warehouses. The solution to attaching the panels was found in the custom designed S-5!® PV Kits, which met all of PowerLight’s intricate requirements for the project.

Results:
The system will prevent 8872 tons of carbon dioxide from being poured into the environment during the next 40 years. Excess power produced by the array will be fed back into the utility grid and sold to the local utility, avoiding even more burning of fossil fuels. This will contribute to the quick payback of Strong’s investment for the system, which (post conversion) produces 680,000 watts of AC power.

- Stats:**
- The S-5!® PV Kit saved ≈ \$0.60 to \$1.00 per watt on installation costs
 - Final installation costs were only \$5.61 per watt DC
 - Final count = 4,032 solar panels
 - The array is 55,000 square feet of PV modules attached to standing seam metal roofing.
 - It will only take 10 years to have a complete system payback.
 - The system produces enough electricity to power 800 single-family homes.

■ A Quest to Conserve Energy

Rodney Strong is a family-owned vineyard and winery, founded in 1959. In efforts to cut energy costs and be environmentally responsible, Jim Magnus, facilities manager for the winery, began researching and ultimately decided upon the use of photovoltaic energy as a source of sustainable energy. He chose PowerLight to manage the project, stating that “There are a lot of outfits jumping into this PV business. We didn’t want to be a teething ring for some newcomer to the industry.”

■ What Worked?

Careful planning sped up the installation process. The vineyard already possessed a perfect mounting platform for the array - standing seam metal roofs which capped the existing barrel aging rooms. A chief concern was how the PV modules could be attached to the standing seam metal roofs without jeopardizing material and weather-tightness warranties. The answer was found with S-5!® attachment technology for standing seam metal roofing. The patented design of the attachment clamp and attendant round point setscrews enabled the entire installation without a single penetration through the

steel roof’s surface, even though there were more than 10,000 individual attachment points. One huge environmental perk is that the combination of PV installation over standing seam roofing may prove to be the ultimate cool roof, saving Rodney Strong Vineyards significant cooling costs in the summer. Having PV modules raised several inches above the surface of a roof casts the metal roof panel in shade and creates an air plenum. This reduces rooftop temperatures by as much as 65°F, reducing the building’s cooling load.

■ Long Term Outlook

After the power conversion from DC to AC power has taken place, the array provides about 680,000 watts of AC power - about 30% of the vineyard’s power requirements. The excess energy the system creates is being fed back into the utility grid and sold to the local peak output. The generation system will produce enough electricity to power about 800 single-family homes, and will keep enough carbon dioxide out of the environment during the next 40 years to equal the removal of 59 cars from the roadways each year. Fortunately, the concept of mingling PV arrays with standing seam metal roofing is growing - and for good reason. A 40-year power source on a 40-year roof without any surface penetration is perhaps the most sustainable roofing solution available today.