

# WESTERN ROOFING

INSULATION AND SIDING

*The magazine of the  
Western Roofing Professional*

On the cover...

Solar Power & Single-Ply  
Combine for LEED Project  
(page 14)



In this issue...

Reroofing in the West  
Western Roofing Expo Recap  
TPO Attachment Methods  
Roofing Maintenance  
Reroofing with Tile





## Green Accommodations

### *PVC & PV Combine for LEED Platinum Certification for Hotel & Spa in Napa Valley*

*by Fred Sitter, marketing director, Duro-Last Roofing, Inc.*

 When the Bardessono Inn & Spa opens in February 2009, it will be ready, not only to provide luxury accommodations in each of its rooms, but also to submit to the U.S. Green Building Council for LEED® Platinum certification. The USGBC's Leadership in Energy and Environmental Design program promotes sustainable building management and construction practices.

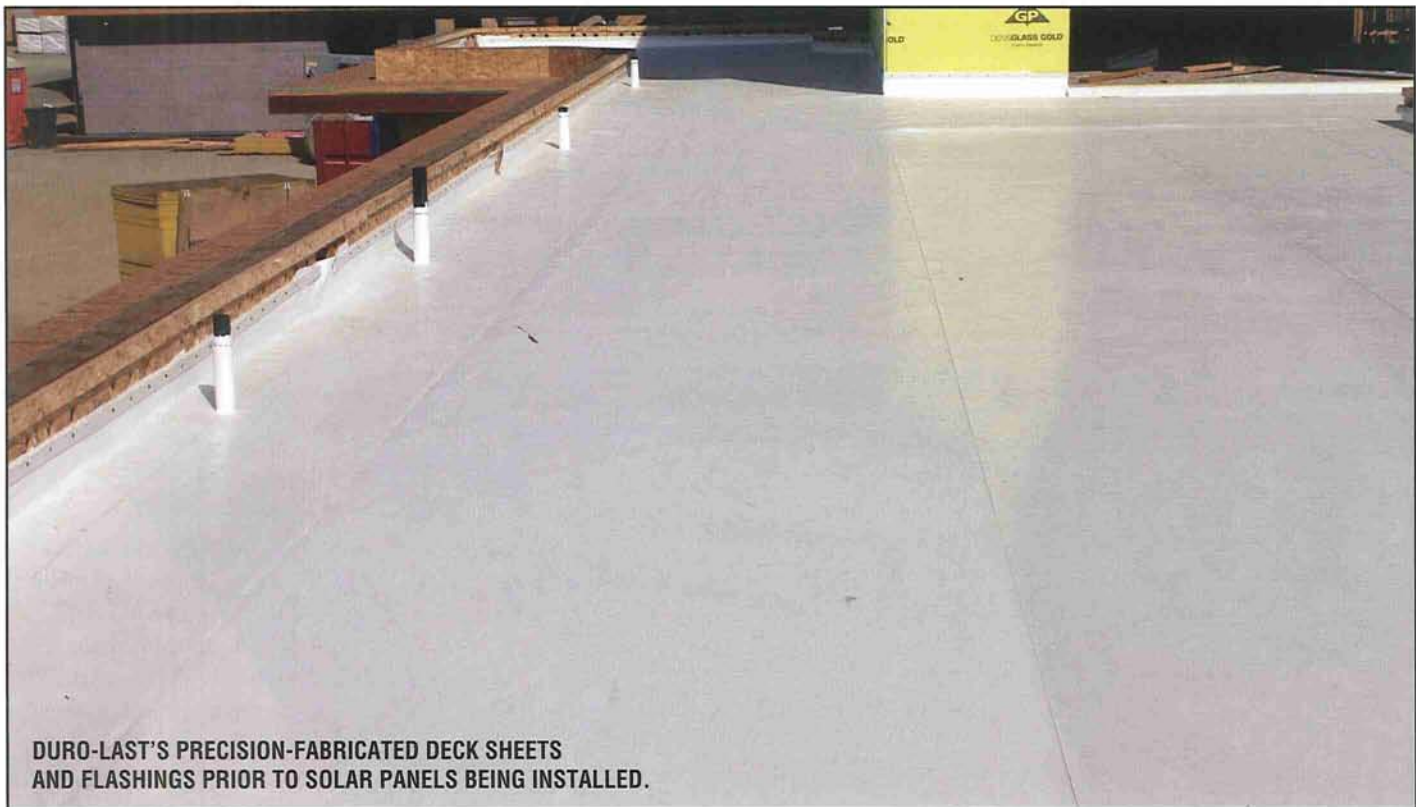
Situated on a beautiful property in Yountville, Calif., the 62-room hotel, spa, and restaurant facility is being built to provide a high-class, memorable Napa Valley experience for guests. But beyond that, it will make a strong environmental statement, and two important building compo-

nents are the facility's photovoltaic (PV) solar panels and its precision-fabricated Duro-Last PVC roofing system.

Bardessono owner and developer Phil Sherburne and his construction team considered several roofing options before choosing the Duro-Last roofing system and Fidelity Roof Company of Oakland, Calif. Napa-based Cello & Maudru Construction Company is the general contractor on the project. According to Sherburne, Cello & Maudru had worked with Fidelity on other occasions. "We knew that Fidelity was a strong roofing company, with solid roofing and solar experience," he said. "They helped detail all the waterproofing

requirements for the roof and other parts of the complex." The spa consists of five separate buildings that include almost 80,000 square feet of roof.

Steve Cadet, co-owner of Fidelity, said the project turned into a virtual partnership among a number of the players, including Sherburne, Fidelity, Cello & Maudru, and the Seattle based staff of architectural firm WATG. "This was a unique and very complex project that demanded a high level of trust between all of us," said Cadet. "We worked especially close with WATG on many of the architectural details to ensure they made sense from a roofing standpoint, as well as maintained the aes-



**DURO-LAST'S PRECISION-FABRICATED DECK SHEETS AND FLASHINGS PRIOR TO SOLAR PANELS BEING INSTALLED.**

thetics and integrity of the spa's design. It's been a great team effort."

Fidelity is both an authorized Duro-Last contractor and an approved installer for SunPower, the manufacturer of the PowerGuard solar system that will provide electricity to the spa. Premier Solar Company of Sacramento designed the solar system, provided the panels and installed the inverters.

Duro-Last custom manufactures deck sheets in sizes up to 2,500 square feet each, and prefabricates most flashings and other accessories.

The Bardessono roof was custom prefabricated in Duro-Last's Grants Pass, Oregon, facility. Because up to 85% of membrane seaming for a Duro-Last system is done in the factory, less on-site workmanship is needed to complete the job. This means less chance for installation errors that can lead to leaks, an important consideration when installing a roof underneath a roof-covering photovoltaic system.

Cadet said that the Duro-Last roofing system was ideal for the Bardessono project. "Duro-Last man-

ufactured the roof to fit the building dimensions exactly, and we were able to install it without all the on-site fabrication that other single-ply systems require. That was important because, although the overall size of the project is pretty large, it consists of several small buildings that have different deck dimensions. There were also lots of flashing details on the project, parapets, curbs, stacks, and these were all pre-made by Duro-Last and delivered to the jobsite ready for installation. The prefabrication really made us more efficient and cut down our installation time."

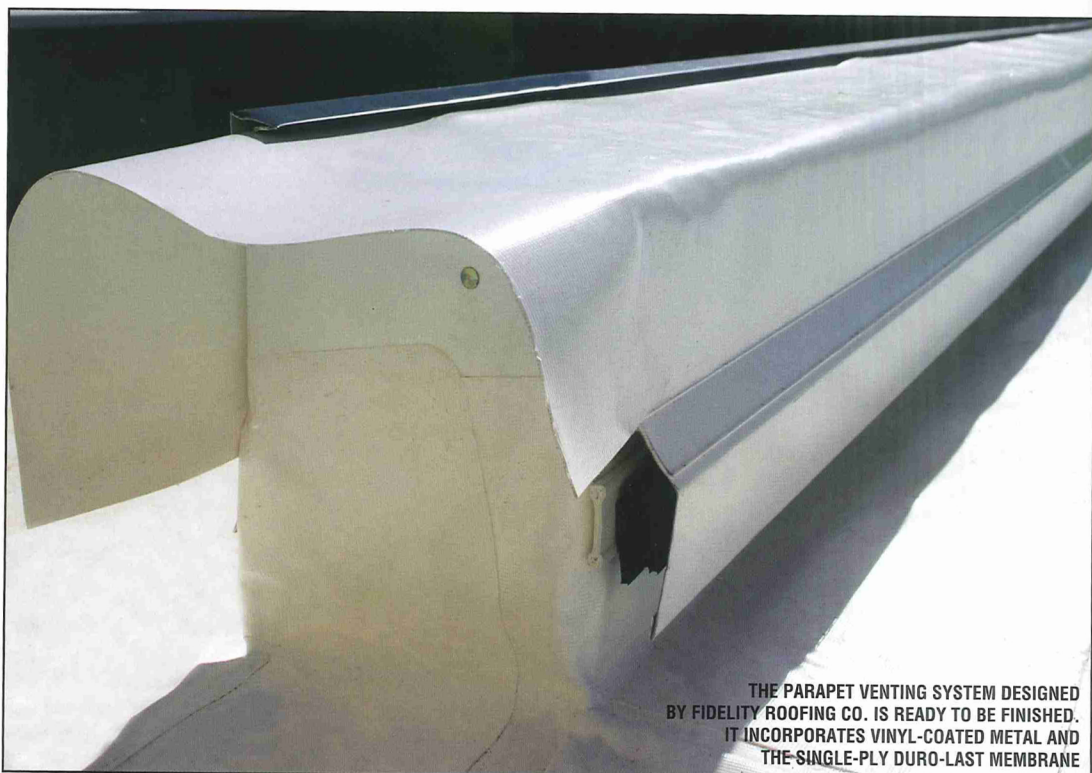
Fidelity is licensed in California to do roofing and sheet metal work, and this enabled them to create and install much of the metal flashing used throughout the spa, around doors and windows, for example. They were also able to create a unique parapet venting system that combined vinyl-coated 24-gauge sheet metal with the Duro-Last single-ply membrane.

"We worked closely with Duro-Last's engineering department and sales representative Chris Hemphill to design the interior venting system," Cadet said. "Duro-Last factory-welded membrane skirts onto

(Continued on Page 16)



**THE DECK WITH THE SOLAR PANELS INSTALLED.**



THE PARAPET VENTING SYSTEM DESIGNED BY FIDELITY ROOFING CO. IS READY TO BE FINISHED. IT INCORPORATES VINYL-COATED METAL AND THE SINGLE-PLY DURO-LAST MEMBRANE

## Green Accommodations

(Continued from Page 15)

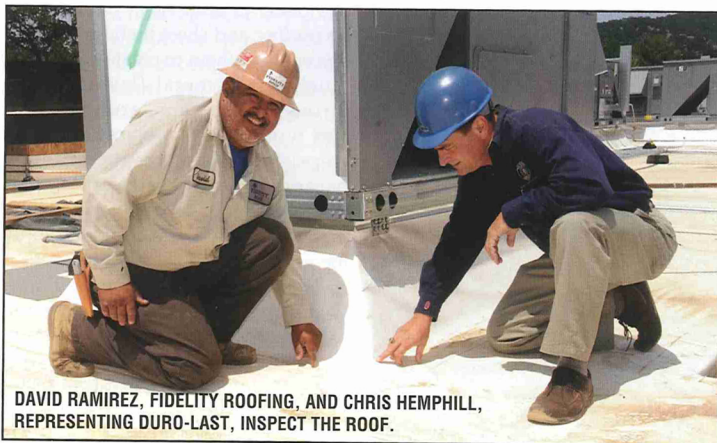
lengths of vinyl-coated metal, and then we installed the entire assembly on the parapet, which is intended to allow air flow from the interior of the building. Because it's made with the same Duro-Last membrane material, we were easily able to heat-weld sec-

tions on the job site to the installed deck sheet. In my opinion, we were only able to do this because of Duro-Last's ability to prefabricate metal and membrane together."

The Duro-Last roofing system promotes good environmental steward-

ship in several areas, beginning with reflectivity and emittance characteristics that exceed California's Title 24 building requirements. Because it's prefabricated, less on-site waste is produced during installation. As a company, Duro-Last recycles manufacturing scrap back into roofing membrane or other construction products. The Duro-Last system is also recyclable at the end of its useful life.

A number of financial incentives make the installation of photovoltaic systems more practical in California than in other parts of the country. According to Sherburne, the spa will recoup its \$1.5 million PV investment in less than six years, and that's assuming a modest 3% increase in electricity rates. "In reality," he said, "rates will probably increase more quickly and our payback will most likely be closer to four years." The PV system is expected to generate



DAVID RAMIREZ, FIDELITY ROOFING, AND CHRIS HEMPHILL, REPRESENTING DURO-LAST, INSPECT THE ROOF.

more than 280,000 kilowatt hours of electricity annually.

"Together, the Duro-Last white roofing system and PowerGuard are the perfect match for this 'green' structure," added Cadet. "PowerGuard is a high-efficiency solar roof panel that is laid flat on the installed Duro-Last system. It also has an R10 insulation factor that reduces heating and cooling loads and helps protect the roof system from ultraviolet exposure and thermal degradation. Plus, it's 'non-penetrating,' which reduces the possibility of leaks that can occur with other PV systems that require roof membrane penetration for installation."

The Duro-Last/PV roofing assembly complements the spa's many other sustainable building features. Among them: a ground source heat pump will provide both heating and cooling; every room will have occupancy sensors to control electrical usage; the spa makes extensive use of wood salvaged from native California trees. For example, flooring is made from "past-production" orchard walnut trees that would otherwise have been destroyed; concrete and steel materials include a high percentage of recycled content; low-VOC paints and adhesives are used throughout the complex.

What are the business benefits of going green? Sherburne says there are several. "Green construction can be financially attractive in a very real sense. For example, we expect our utility costs to be significantly lower within a reasonable time frame. Other areas are less measurable but no less important. With the LEED certification, we will clearly be a showcase for green construction, and we expect to attract a number of clients who want to support environmental responsibility. Conference coordinators and meeting planners can expose their company executives to what can be done in their own facilities. We want them to look at all the components of our facility, from the roofing system above to the heat pump below, and understand that there's no inconsistency between providing luxury and being environmentally responsible."

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