

metal *architecture*

...visions & solutions for the design professional



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METAL ON METAL

Patented Sub-Purlin Provides Ideal Solution To Installing New Metal Roof Systems Over Old



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Peeling back the roof of a building can be a dicey proposition. It poses a danger to workers who are topside as well as those below, and risks damage to building contents as a result of falling debris or exposure to the elements. And then there's the periphery concerns, like material disposal, hazardous material handling and the loss of use of the building in question. It is for all of these reasons—and cost—that the Roof Hugger system is gaining acceptance among architects, building owners and contractors as a preferred method of dealing with metal roofs that have exceeded their viable

service life.

Roof Huggers are patented sub-purlins designed to install over the top of the old roof surface. Rather than sitting atop the panels, which would mean they could get no closer to the panel surface than the highest ribs allow, Roof Huggers are notched to nest in the pan yet still go over the high rib.

One of the most recent Roof Hugger success stories involves the Pine Crest Preparatory School in Boca Raton, FL. There, Roof Huggers were used to facilitate the installation of a new metal roof without interrupting activities inside.

Represented in the photos of the Pine Crest Preparatory School above are:

1. The Roof Huggers in place over the old metal roof surface.
2. The over-and-under brace strapping used to assure the vertical stability of the Roof Huggers under 125 mph wind shear loads.
3. A closer look at the brace strapping.
4. The new metal roof panels going on.
5. & 6. The completed project.

"The school gym roof was leaking in some places and rusted out in many others," said Red McConnohie, Roof Hugger Inc.'s chairman. "The school had contacted other metal roof companies who proposed only tearing off the old roof."

In addition to causing weeks of disruption at the school, a complete tear-off would mean the gymnasium roof insulation had to be replaced as well...even though it was still in good shape.

It was Jan Gammon, a project manager with Sheet Metal Roofing Technology Inc. of Miami, FL, who proposed using the Roof Hugger method instead. "No tear off, no loss of time inside the gym and no mess to clean up. That became my big advantage in getting the job," he said, adding the school was also very interested in the energy savings that would come with the creation of a cavity air space between the old and new roof surfaces, and the reflective properties of the new bright white panels. "Their savings on electric cooling systems will be considerable," he said.

The existing roof system featured 16"-wide standing seam panels with 3"-high ribs. The Roof Huggers used on the project were 3-1/2" high to clear the high ribs. They were placed on each run of existing structural purlins at 52" centers. Brace strapping was installed using an over-and-under method to assure vertical stability under 125 mph. wind shear loads as required by code.

The new roof panels are 18" wide with 2" vertical seams. The panels were formed on the site from 24-gauge Galvalume-coated steel in lengths sufficient enough to eliminate the need to splice the panels together. Englert Inc., Perth Amboy, NJ, supplied the panels.

The roof panels were attached with stainless steel sliders to facilitate thermal expansion. The two-piece clips feature 18-gauge bases and 24-gauge tops. The roof system's ridge caps were formed from 24-gauge, PVDF-coated steel.

Three-and-a-half-inch J channel seals against wind-driven rain. Bull-nosed drip flashing was used at the eaves, with panel pans cut and turned down 1" to lock on the bull nose.

With time off for the 4th of July holiday, the project was completed in six weeks. Neyda Otera, AIA, the school's project manager, was one of the many officials pleased with the way everything turned out.

"We are extremely pleased with the selection of Roof Huggers for our gymnasium," she said. "By applying the system over the existing roof, we had no loss of use of the facility nor potential cost issues of interior damage. We would recommend the system and use it again on other applications!"

Roof Hugger Inc.

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