



Steel Roof

Habitat for Humanity Goes for LEED Platinum Certification

by Randy Franz, freelance writer for the construction industry



Allen Jones couldn't believe what he was seeing. The house under construction had not yet been insulated when the roof went on. "Normally, that makes it like an oven inside," Jones said. "But this was noticeably cooler. I had a hard time keeping my guys outside working."

Jones, the construction supervisor for Habitat for Humanity Riverside, had only one explanation for the frosty interior of the single-story house in Southern California: The roof.

The previous day, John Popa Roofing, Anaheim, Calif., had installed a stone-coated steel roof system by Metro Roof Products. The product's assembly design provides natural venting and air flow that reduces attic temperatures compared with traditional roofing such as asphalt shingles. It also has high emissivity, which means heat absorbed by the roof panels dissipates

quickly, a benefit over other types of roofing materials. The temperature outside hit 107°. Inside the un-insulated, un-air conditioned house, Allen's workers found relief.

Color it Green

In building the 1,863-sq-ft. home for a family in Riverside, Calif., Habitat for Humanity wanted to make it as environmentally friendly as possible. In fact, the designers wanted the highest energy-efficiency rating, platinum status, under the national U.S. Green Building Council's LEED standards. "We build houses that are both affordable to buy and affordable to live in," Habitat Riverside stated in announcing the home.

Why This Roof?

Jones had completed one previous Habitat project that had a stone-coated steel roof. He was amazed by its beauty. Then he

heard about its performance. "We know it is very energy efficient," he said. "It obviously keeps the attic cooler than asphalt or even standing-seam (metal). It's practically 'everything-proof,' in terms of fire, wind, and earthquake safety. Plus, it has a 50-year warranty by the manufacturer. You can't beat that. Anyone who can afford it should get this type of roof."

"Easy" Build

Installing the roof was a relatively simple job. "Nothing out of the ordinary," Popa said. "MetroShake II over plywood, 40-lb felt. We were in and out in 1½ days."

A detached garage behind the house was designed to be covered with a solar panel on one side. Therefore, the builder opted for an asphalt shingle roof on the garage, which Popa's crew installed.

"Knowing we are helping people out is a big draw for these projects," Popa said.

Showing Versatility

Jon Wilson of RAM Metal Roof Mart supplied the steel materials for the Habitat job. He said the project helped to highlight the variety of applications for stone-coated steel. "RAM and Metro are community-minded in our efforts to integrate products into both the top real-estate investments and those contributing to Habitat for Humanity," Wilson said. "This is a conscious effort to supply long-term roof solutions that have environmentally, energy and climatically friendly performance values."

"From multimillion dollar castles to Habitat for Humanity budget-sensitive housing, Metro and RAM meet the concerns of the builder and homeowner," Wilson said.

Meeting LEED Standards

Habitat for Humanity incorporated a long list of environmentally friendly features into the home, such as a "gray water" cistern for irrigation, energy-saving appliances, and solar panels on the garage for electrical power. The organization wanted the home to meet the standards established in the LEED program. LEED for Homes is a voluntary rating system that promotes the design and construction of high-performance "green" homes. A green home uses less energy, water, and natural resources; creates less waste; and is healthier and more comfortable for the occupants. Benefits of a LEED home include lower energy and water bills; reduced greenhouse gas emissions; and less exposure to mold, mildew, and other indoor toxins. The net cost of owning a LEED home is comparable to that of owning a conventional home.

For the Riverside house, builders liked the stone-coated steel roofing for more than its cooling effects. They also valued the fact that a majority of the steel used to make the panels is recycled. In addition, its 50-plus year durability means it will not need to be torn off and tossed into a landfill like short-life roofing.


"Besides having a very long life, metal roofs are also recyclable at the end of their life," said Mick Dalrymple, LEED accredited professional. "Newer coatings technologies



allow you to have a spectrally selective roof in a wide range of available colors that act as a 'cool roof' in that it reflects heat away from the home." Dalrymple added that metal's use as a roofing material is a "good choice" for environmentally concerned builders and homeowners.

Market Friendly

After the new Habitat for Humanity house was dedicated in Riverside on July 29,

Jones reflected on the use of more energy-friendly products such as stone-coated steel roofing. "Like all sustainable products being introduced, it's the knowledge of the product being available in general construction that will help drive its wider use," Jones said. "I think it will change with the awareness of the public. "This type of roofing is so attractive, everyone should be aware of it. In fact, it would be perfect for any environment, from Riverside to Hollywood." 

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