A TYPICAL HOME REHAB IMPROVES

ENERGY EFFICIENCY AND APPEARANCE

By Ken Schweikhart

Two-story frame home shortly after renovation was begun. The first steps were gutting the interior and removing the aluminum siding from the 2,000-square foot house to expose the ½ inch sheathing underneath.

Most homeowners add aluminum siding to their house. Tom Baldwin of Raleigh, NC., removed it.

Baldwin, president of Baldwin Electrical Services in Raleigh, knew his 10-year-old, two-story, wood frame house in the hilly, wooded Arden Forest subdivision was a good deal when he bought it in mid-1992. But he wanted to add 1,700 square feet to the 2000-square-foot, four-bedroom home in a way that provided greater energy efficiency and an improved exterior appearance.

“I knew I wanted the insulation value and to blend the existing surface (of the house) with the new surface (of the addition),” Baldwin said.

To start, Baldwin had the interior of the existing house gutted in order to convert the kitchen to a bathroom, the dining room to a bedroom and a bedroom to a study.

The aluminum siding was stripped off to expose the ½-inch sheathing underneath. He then applied Celotex Quik-R™ Wall Insulation Board for exterior insulation and finish systems, a rigid polyisocyanurate foam core insulation with a 5.6 inch R-Value and special coated glass fiber facers. It is recommended for use in wood frame, masonry or steel stud construction as a substrate for EIFS.

This product was also a good choice because it is so lightweight—a 1 inch by 4 foot by 8 foot board weighs just about 4½ pounds, making it easy for one person to carry a good size stack of boards at once. And it can easily be cut to any shape with a utility knife.

Corrosion-resistant fasteners with Celotex Quik-Cap washers were used to affix the Quik-R to the 2 inch by 6 inch wood studs beneath. The deeper wall cavity allowed Baldwin to use R-21 insulation for the walls. Energy Pink Ash in a Sahara texture, with white trim, was used as the exterior finish.

The glass-faced foam sheathing was applied directly to the addition’s studs with fasteners, washers and glue.
The addition was also finished in Senergy Pink Ash with white trim.

A total of approximately 4,000 square feet of 2 foot by 8 foot sheets of the structural sheathing were used for the renovation and the addition, which includes a new bedroom, kitchen, living room, dining room and workshop.

“It saves a lot of time. You don’t need any meshing to get the finish to adhere,” said Celotex Representative Joe Kushy of the sheathing’s special coated glass fiber facers. “It makes the house look brand new.”

Kushy noted that it provides the highest R-Value of any wall insulation for EIFS. “In the case of 1 inch, you can improve the insulation value without the extra expense of using a structural sheathing,” Kushy said of Baldwin’s decision to forego sheathing on the addition. Inch for inch, the product has proved to provide 1½ times the insulation value of standard EPS year-round.

The home is approximately midway through the renovation process. Celotex Quik-R™ is being applied to the 17,000 square-foot addition (right); the exterior finish has already been applied to the existing house (left).

Surface finish is inspected. It was renovated to improve energy efficiency and exterior appearance.

With energy efficiency being a top priority, Baldwin also used R-38 batt in the ceiling and installed power attic ventilators throughout the house. All holes made from electrical-type work or stud penetrations were foam scaled, and all the windows are comprised of insulated glass.

It’s apples to oranges when you try to compare the utility bills from before the renovation with the house as it is today, because it’s now much larger than it was last July. But Baldwin says he has noticed a pleasant difference in his utility bills due to the water heater conversion from electric to gas. “We have seen immediate cost savings there,” he says.

Nine months after the renovation began, the exterior was complete. But there is still more “tweaking” to do on the inside, which he is doing himself.

About the Author
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