

ReVISION House™ Orlando 2011

Manufacturer: Oldcastle ® Product: Suretouch ® Category: Exterior Cladding



Before renovations, the ReVISION House™ was a prototypical Florida concrete block (CMU) home. While originally built with a highly durable wall system able to withstand termites and hurricanes, it also lacked quality insulation. The preferred "insulation" system for this type of construction has, for decades, been foil-backed kraft-paper stapled to 3/4" furring strips with the foil surface facing the air-space and block wall. This type of radiant/emissivity barrier insulation has a rated equivalent R-value of R-4, but in realiity is nowhere near that. Direct thermal bridging and loss of air-space by the presence of the furring result in an overall R-value of 2.5. Viewed from the ReVISION House team's perspective, this represented not an obstacle, but rather a significant (and repeatable) opportunity.

Since the wall's existing thermal performance is a weak link, a small improvement would yield a considerable improvement, and a big improvement would yield a major improvement. Given the goals of this project, the team selected the big improvement in the form of Oldcastle's Suretouch® insulated masonry veneer system. Consisting of a nominal 3" thickness of molded expanded polystyrene (EPS), the insulation boards are anchored directly to the exterior house framing, or in this case, the exterior surface of the block walls. The result is a continuous R-13.5 thermal barrier at the exterior of the building enclosure, with the advantages for thermal mass provided by the CMU exposed to the building's conditioned space.

The foam insulation is molded to exactly accommodate the manufactured stone (or brick) veneer in a fast and precise operation. The veneer is pressed into a corresponding molded space, with the mortar joints filled and tooled after.

Prior to renovation, the R-2.5 walls were a major contributor to both heating and cooling loads. The "before" walls contributed loads of 6.8 MBTU to heating and 14 MBTU to cooling on an annual basis. After renovations with the Suretouch installed, annual loads had dropped to 1.9 MBTUH for heating, and 2.5 MBTUH for cooling: a reduction of nearly 80%! These dramatic reductions not only save energy directly, they also improve occupant comfort and allow for a much smaller HVAC system, providing additional savings.

The Suretouch system also includes drainage channels in the back of the insulation panels to drain away any water that may get between the panels and wall. Additionally, the Suretouch units do not sit flush against the panels, allowing further drainage of water that may infiltrate between the masonry units and panel front. The end product being energy-efficient, durable, simple to install, attractive, and applicable to under-insulated houses in many regions and climates.