

## ● 25 Years of Building Green Orlando, Fla.

Overlooking Lake Nona, a 6725-square-foot, plantation-style house makes Orlando, Fla. its home. As The New American Home (TNAH) 2008, it's a showcase for innovative, cutting-edge, energy-efficient green-building technologies. This year's project continues the legacy of advancing the idea of what home construction can be and raises the bar for contractors and builders nationwide.

Celebrating the project's 25th anniversary, the showcase home of The International Builders Show—cosponsored by The National Council of the Housing Industry, the Portland Cement Association, and BUILDER magazine—is the first house built and gold certified using the National Association of Home Builders' (NAHB) National Green Building Program. The association's new scoring protocol, launched this year, provides building tips for environmentally friendly home building techniques.

The layout of the two-story house accommodates some of the home building trends seen over the years—accounting for multigenerational families and creating multiuse spaces. The first floor features a master bedroom, leisure room, and family suite for a live-in guest, elderly parent, or bounce-back child. In

addition, the kitchen floor plan opens up to a 2950-square-foot outdoor seating space featuring a fireplace that overlooks the pool and spa—bringing the indoors and outdoors together with the use of telescoping doors. Climb the stairs to find a multiuse clubroom with theater-like entertainment center, wet bar, fireplace, and game-table area.

### STRONG AND DURABLE

More than 500 cubic yards of concrete can be found throughout the project, including the exterior walls, poured concrete columns, concrete veneer bricks in the family room fireplace, and concrete roofing tiles finished with cement-based stucco.

The 2008 TNAH features exterior walls constructed of lightweight autoclaved aerated concrete (AAC) blocks and traditional poured-in-place concrete to achieve an insulating value of R-8—a primary reason this system was chosen. The 8-inch x 8-inch x 24-inch cored AAC blocks use grout and steel reinforcement placed

### Project Participants

**Builder:**  
Robertson Homes

**Home designer:**  
The Sater Group

**Interior designer:**  
Robb & Stucky

**Landscaper:**  
Outside Productions



The New American Home 2008 features plantation-style architecture and accommodates for some of this year's building trends, including multi-generational families and multiuse living spaces. Photo: Erin O'Boyle Photographics/PCA



The open floor plan on the first floor combines the main kitchen with an outdoor seating area using telescoping doors. The fireplace features concrete veneer bricks. Photo: Erin O'Boyle Photographics/PCA



Left: Concrete roof tiles were finished with a cement-based stucco system and completed cupola—a traditional element found in Victorian architecture. Photo: Erin O'Boyle Photographics/PCA

Right: The exterior walls combine autoclaved aerated concrete blocks that are filled with poured concrete. Photo: Robertson Homes



around windows to create durable, strong walls that are lighter than traditional concrete. In the back of the home where walls featured windows, poured concrete was used.

In addition to the other benefits associated with concrete walls—such as sound reduction, and fire, mold, and termite resistance, this concrete wall system helps reduce heating and cooling energy consumption by 62%. This exceeds the ENERGY STAR requirement of a 15% energy reduction.

The walls were further insulated using R-4 rigid foam insulation on the interior of the structure and R-5.7 rigid foam insulation system on the exterior. The attic is unvented and sealed airtight with a thermal/air barrier under the roof sheathing and insulated with R-20 spray foam insulation, minimizing heat from escaping through the roof. Moisture was controlled using the combined benefits of expanded polystyrene insulation, aerated concrete blocks, and extruded polystyrene insulation.

## ENERGY EFFICIENT

To meet the energy-efficiency requirements of the NAHB National Green Building Program, two U.S. Department of Energy Building America teams were involved throughout the project to provide performance testing: the Industrial Housing Partnership and IBACOS (Integrated Building and Construction Solutions) Inc. In addition to reducing energy use of the heating and cooling system, TNAH also features a system that reduces hot water energy use by 57%. To achieve this, the building team chose a solar thermal water heater, complete with an electric backup.

The entire project was built by integrating the various systems—from the building materials to the HVAC equipment—to optimally create a cohesive, energy-efficient space. These systems were tested throughout construction to check for humidity control, thermal properties, air flow, air tightness, and energy efficiency. Results from this analysis then can be integrated into future homes in the development.

## GOING FOR GOLD

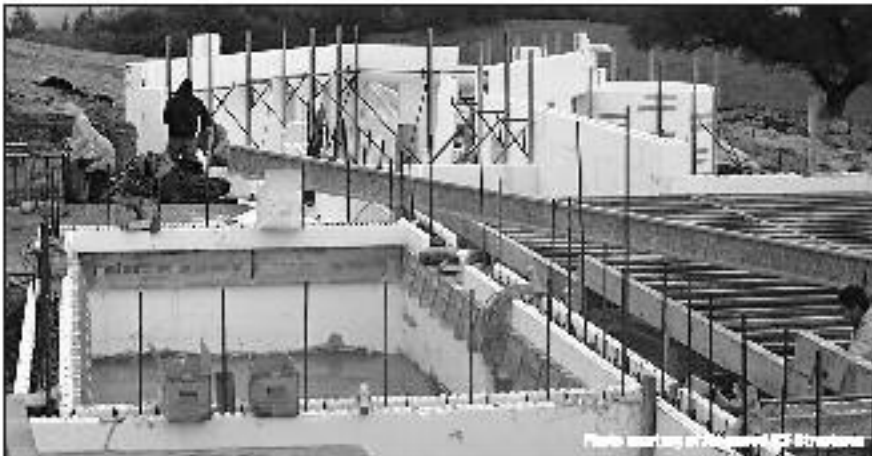
Achieving gold certification under the NAHB's Green Building Program includes implementing green-building techniques in seven areas: water, energy, and resource efficiency; lot and site development; indoor environmental quality; global impact; and homeowner education. Designed as a verification and certification system, homes are inspected by



local experts that offer input and feedback, which is sent to the NAHB Research Center for consideration. Based on each level's requirements, the home then receives a national certification if it qualifies. At [www.nahbgreen.org](http://www.nahbgreen.org), a dynamic scoring tool helps builders accrue points and demonstrates the requirements for bronze, silver, and gold certifications.

A slide show of the home is available on our Web site [www.residentialconcrete.com](http://www.residentialconcrete.com). For more information on the suppliers that contributed to this home, Circle 1.

— Kate Hamilton



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