

High Performance Builder Spotlight

Artistic Homes

Albuquerque, New Mexico



A Better Way

Artistic Homes is currently New Mexico's number one home builder, building 600-800 houses a year using the Building America process. Tom Wade, a principle of Artistic Homes, notes that this wasn't always the case.

"When we first got into the business, energy efficiency was not a high priority, but we wanted to learn more to remain competitive," explains Wade. "We did some research, found the Building America program, and we've worked with them ever since." Artistic Homes teamed up with Building Science Consortium (BSC), a Building America partner, to help guide them in the process.

“ We want to be on the cutting edge of this technology, because we know it works. ”

TOM WADE ARTISTIC HOMES

Innovations

Artistic Homes concentrates its efforts on production homes, and have even built energy-efficient affordable houses for families with an annual income of \$30,000 – \$80,000. Artistic Homes typically builds all their homes beyond standard construction norms, including:

- Walls with R-19 24 oc +R-1.2 asphalt impregnated sheathing to exterior, OSB on corners
- Foundation slab with R-5 perimeter insulation

- Double vinyl, low-e windows
- 12 SEER A/C
- Attic space R-38 insulation

The Gamlen House is a custom design, built as a learning experience for future projects. It is a good example of Artistic Homes' dedication to applying innovative energy efficiency standards to their craft.

Supply-only Ventilation

The ventilation system has an air duct running from the exterior of the house to the return side of the air handler, pulling outside air into the HVAC system easily and efficiently. An AirCycler™ FR-V controller runs the air handler periodically, switching on the fan after a fixed amount of time. A flow regulator furnishes fixed air quantities independent of air-handler blower speed while an electrically operated damper controls ventilation during peak-load usage, automatically closing the duct to prevent exterior air from over-diluting the conditioned air. This system reduces stagnation in the house by mixing the house air evenly, creating a healthier indoor environment. By pairing good ventilation with a tight seal, a comfortable indoor environment is established, virtually eliminating moisture buildup and household pollutants.

Conditioned Crawlspace

The crawlspace was designed so that ducts could be run through it, hiding them from view for a more aesthetic look. The design called for the home to have the same outside appearance as a slab-on-grade house, which meant that the top of the floor was within 8 in. of grade. This tricky maneuver

BUILDER PROFILE

Artistic Homes

www.artistichomes.com

Founded: 1987

Employees: 12 dedicated employees and over 300 employees in several building related companies, like plumbing.

House: Gamlen House

Square Footage: 2,700 square feet (4 bedroom, 3 bath)

This builder is described in Building America's Hot-Dry and Mixed-Dry Best Practices.



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Artistic Homes followed Building America's recommendation to locate ducts in conditioned space to further the energy savings

KEY FEATURES

Continuous air barrier—slab to walls to ceiling

Low-e spectrally selective windows

Unvented conditioned crawlspace

13 SEER A/C (First Air-Lennox)

Supply ventilation system; AirCycler with 10 minutes on, 20 minutes off

Condensing gas furnace for water and space heating

Ducts and air handler in conditioned space

was solved by removing a rim joist. “It was a little difficult to explain to the subcontractors and even the inspectors that this was to be conditioned space that needed no ventilation,” said Wade. “But BSC was on site and helped run interference.” In the end, blower-door tests proved that the conditioned crawlspace actually contributed to the tightness of the home.

Dollars and Sense

Artistic Homes conducts open house seminars to educate homeowners, potential buyers, and even other builders on cost-effective, healthy, and energy-efficient techniques such as refrigerated air. Wade points out that it's never too late to educate

the public: one couple in their eighties attended eight seminars; after doing so, they decided to buy a custom house from Artistic Homes.

The Bottom Line

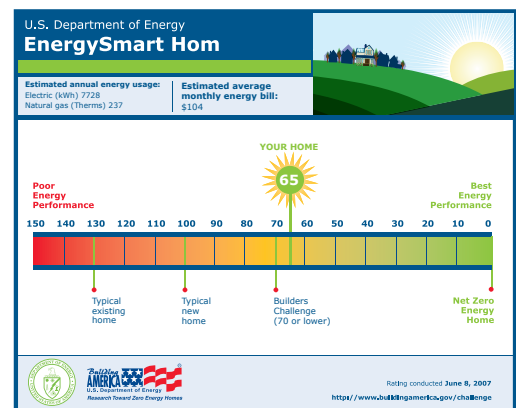
“Builders are stuck in their ways,” states Wade. “And there are a lot of mental gymnastics that Building America requires of us, a lot of rethinking. In fact, our plumbing subcontractor refused to conform to the Building America standards when we made the switch. Our solution was to start our own plumbing company. We're that committed to the methods we've learned. Everyone should build to these standards.”

U.S. Department of Energy Builders Challenge

DOE has posed a challenge to the homebuilding industry—to build 220,000 high performance homes by 2012. Homes that qualify for this Builders Challenge must meet a 70 or better on the EnergySmart Home Scale (E-Scale). The E-scale allows homebuyers to understand—at a glance—how the energy performance of a particular home compares with others. Through the Builders Challenge, participating homebuilders will have an easy way to differentiate their best energy-performing homes from other products in the marketplace, and to make the benefits clear to buyers.

The figure to the right shows an E-Scale example. The E-scale is based on the well-established Home Energy Rating System (HERS) index, developed by the Residential Energy Services Network. To learn more about the index and HERS Raters visit www.natresnet.org.

To learn more about the Builders Challenge and find tools to help market your homes, visit www.buildingamerica.gov/challenge.



For more information visit www.buildingamerica.gov. The website contains expanded case studies, technical reports, and best practices descriptions.

The Building America Program

Building America is a private/public partnership sponsored by DOE that conducts systems research to improve overall housing performance, increase housing durability and comfort, reduce energy use, and increase energy security for America's homeowners. Building America teams construct test houses and community-scale projects that incorporate systems innovations. The teams design houses from the ground up, considering the interaction between the site, building envelope, mechanical systems, and other factors, and recognizing that features of one component in the house can greatly affect others. More than 40,000 energy-efficient houses have been built by the seven teams to date.