



Builders Challenge

Recognizing Energy Leadership in Homebuilding

High Performance Builder Spotlight

Artistic Homes

Albuquerque, New Mexico

Artistic Homes of New Mexico has completed 11 net zero energy homes. Artistic has been a Building America partner for ten years, working with Building America teams Building Science Consortium and Building Industry Research Alliance (BIRA).

In 2008, Artistic Homes of Albuquerque, New Mexico, became the first production home builder in the United States to offer a true net zero energy upgrade option on all its homes. A year later, the builder has completed and sold 11 true net zero energy homes. The builder has also sold another 18 homes under its “solar 30” plan that adds just enough photovoltaics to get the homes down to a HERS 35. Artistic’s standard home averages a low HERS score of 51.

Every one of the 170 homes Artistic sold in 2009 qualified for the U.S. Department of Energy’s Builders Challenge, ENERGY STAR’s Indoor airPLUS criteria, and LEED’s silver level.

Standard features include advanced framed 2x6 24-inch on center walls, R-21 blown insulation in the walls, high-efficiency windows, slab-on-grade foundations with R-10 rigid foam insulation under the slab and R-5 rigid foam slab edge insulation. Ducts are located in conditioned space in a dropped ceiling in the hallway and the airhandler is located inside in a utility room. This year Artistic added R-50 blown fiberglass attic insulation (up from R-32) to its list.

To improve air quality, every home has a heat recovery ventilator with a HEPA filter, radon mitigation with a passive pipe venting from below the slab to the roof, and a garage venting system that uses a motion sensor to switch on a garage fan mounted to an outside wall.

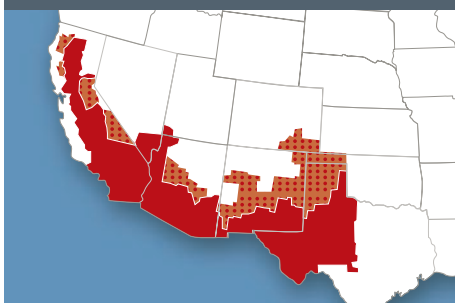
Air sealing details include gasketing the sill plate and caulking or foam sealing all wiring and piping holes. Every home is tested for whole house and duct leakage. Whole house air leakage ranges from 500 to 800 cfm: a code-built house would typically be about 2,700 cfm according to Tom Wade, co-owner of Artistic Homes, who said Artistic’s goal is to get every home below 500 cfm in 2010.

In markets outside of Albuquerque, where Artistic is competing primarily with local builders, their 1,300-2,900 square foot homes often sell for less, sometimes several thousand dollars less, than competitors’. In Albuquerque, where they are

“Zero energy was not much harder than what we are already doing. When we sat down with our subs and told them our goals, they got excited about hitting that zero too.”

TOM WADE, co-owner Artistic Homes

HOT-DRY & MIXED-DRY CLIMATES



BUILDER PROFILE

Builder: Artistic Homes

Founded: 1986

Employees: 13, not counting subs

Square Footage: 1,305-2,905 sq. ft.

Price Range: \$160,000 to \$300,000

sometimes underpriced by national builders selling code-typical homes, they hold their own by marketing energy efficiency. “At least half of the buyers coming in are looking for energy efficiency,” said Wade.

The zero energy package includes roof-mounted solar photovoltaic panels ranging in size from 4.2 to 7.0 kWh at added costs of \$40,000 to \$60,000. The zero energy homes also have a roof-mounted solar thermal water heater and 80-gallon storage tank. Artistic’s “Solar 30” package includes a 1.3 to 2.0 kW system and costs about \$11,000 to \$16,000. Rebates, incentives, net metering, or renewable energy certificates (currently 13 cents per produced kW paid by the Public Utility of New Mexico) make the solar systems much more affordable.

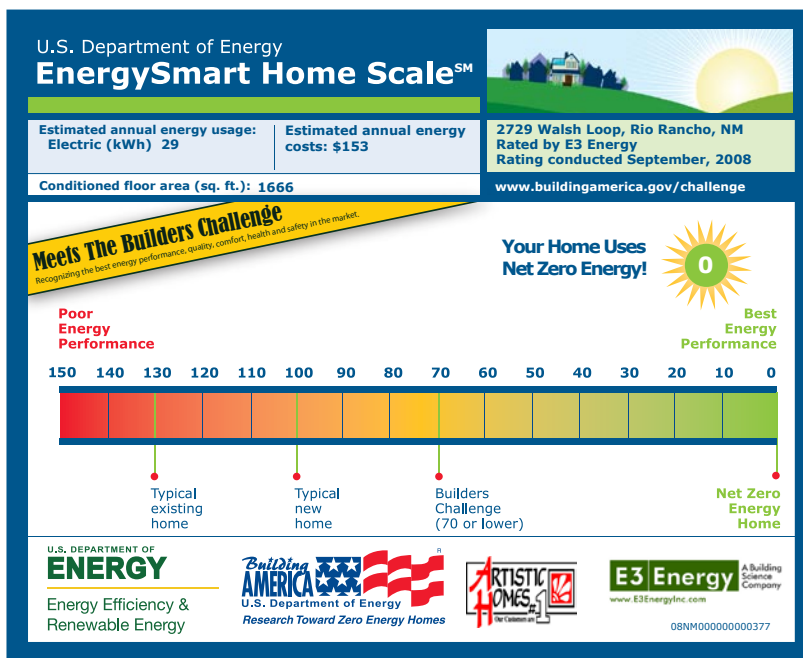
Four of the 11 zero energy homes Artistic has built were model homes. The other seven were sold on contract. Artistic sales staff reported that just offering the zero energy homes attracted home buyers, even if they didn’t buy a zero energy home. According to Wade, Artistic has sold at least 15 homes to buyers attracted by the zero energy models.



Artistic installs ducts in conditioned space in a duct chase in a dropped hallway ceiling. The air handler for the 9.0 HSPF furnace is also located in conditioned space.

U.S. Department of Energy Builders Challenge

DOE seeks to give every consumer the opportunity to buy a cost-neutral, net-zero energy home anywhere in the U.S. by 2030. Homes that qualify for this Builders Challenge must achieve a 70 or less on the EnergySmart Home Scale (E-Scale) which is based on the Home Energy Rating System (HERS) index (www.natresnet.org). The E-Scale allows homebuyers to understand—at a glance—how the energy performance of a particular home compares with others.



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

Energy-Efficient Features

- Air handler in sealed utility closet
- Ducts in conditioned space
- R-21 blown insulation in walls, R-50 blown insulation with wind baffles at soffit vents in attics
- Advanced framing techniques
- Heat recovery ventilator with HEPA filter
- Gasketing, foam sealing, and caulking of all envelope penetrations
- Fresh air inlet jump ducts
- 3rd party HERS rater blower door and duct blaster testing of every house
- 15 SEER AC and 9.0 HSPF electric furnace
- Heating and cooling energy usage and comfort are guaranteed
- Low-e, dual-pane, fibrex windows
- Borate treatment of studs and bottom plate
- Low and no VOC products
- Job-site recycling

True net zero upgrade package includes:

- Roof-mounted photovoltaic power system (4.2 to 7.0 kWh)
- Solar thermal hot water heating