

"The Centex 21st Century Performance Home is redefining production homebuilding. New technologies, better building materials and green design are bringing benefits to production homebuyers that, until now, have only been seen in custom homes."

David Johnston President

What's Working Consultants in Environmental Construction



Imagine a home that is

always comfortable yet uses a minimal amount of energy and is friendly to the environment. Well, now Centex Homes is helping to redefine homebuilding with its 21st Century Performance Home. Using new technologies, better building materials and green design in the Performance Home brings benefits to production homebuyers that, until now, have only been seen in custom homes.

The Performance Home has been reinvented from the ground up, with major improvements in energy efficiency, indoor air quality and responsible resource use. A wide range of industry experts have partnered with Centex to bring this

home to the market. Participating organizations include the U.S. Department of Energy; the National Renewable Energy Laboratory; Davis Energy Group, the Florida Solar Energy Center and the Alameda County Waste Management Authority. No other builder in Northern California has assembled this combination of advanced technology and engineering expertise to

offer homebuyers the first 21st Century Performance Home in the Bay Area.

"Centex is extremely progressive. We really didn't expect a high volume builder with the national status of Centex Homes to have an interest in this program. We are very pleased to have Centex as a partner on the Performance Home project." said David Springer, President of the Davis Energy Group.

The Performance Home, now under construction at Centex's Los Olivos community in Livermore, will soon be put to the test. The home's energy-use performance will be monitored for a period of up to one year. Test results should provide evidence on the energy conservation benefits of the combined systems in this house.

"Our desire to create more energy-efficient, green homes is a major Centex initiative," said Trece Herder of Centex Homes. "With the Performance Home at Los Olivos, we hope to take the first step toward demonstrating the effectiveness of these energy-efficient systems and green features."

Energy efficiency requires whole systems thinking in order to realize significant cost savings.

From an insulated slab to superior

No other builder in Northern California has assembled this combination of advanced technology and engineering expertise to offer homebuyers the first 21st Century Performance Home available in the Bay Area. insulation to storing cool nighttime air for use on hot summer days, the Performance Home balances and integrates many features. The solar panels on the roof help reduce demand on the electrical grid during periods when blackouts are most likely to occur. The result is a home that is cool in the summer using only one third the air conditioning required

to cool a conventional house, warm in the winter with super insulation, and energy independent with solar hot water heating and photovoltaic electric panels.

Comfort, efficiency and environmental protection are the foundation for the 21st Century Performance Home.

Every green feature Centex has incorporated in the house holds benefits for homebuyers, builders and our environment.

Showen

Photovoltaic Panels **decrease reliance on conventional power plants** by using sunlight to generate electricity. Note: any excess electricity can be sent back into the utility grid for a credit on electric bills.



Sunny Delight

Solar Hot Water System backed up by an efficient instantaneous gas water heater assures **low water** heating costs and a never-ending supply of hot water.

High Comfort

Low-E2 Milgard SunCoat[™] windows increase window insulation capacity (R-value), **cut down on noise and filter heat and UV rays from sunlight.**

Serious Siding

Fiber-Cement HardiPlank® Exterior Siding, carries a 50-year warranty, can stand up to hurricane-force winds, won't rot, is immune to water damage, is fire-resistant and termite resistant, and holds paint longer than redwood or cedar siding, **reducing exterior home maintenance.**

How **Cool** is this?

TechShield® Radiant Barrier Sheathing laminates a thin layer of aluminum to standard roof sheathing. TechShield® prevents up to 97 percent of the sun's radiant heat from entering the home and **brings attic temperatures down as much as 30 degrees on the hottest days,** keeping the whole home cooler and reducing energy consumption for air conditioning.



On-Demand Hot Water Circulation with motion sensors send hot water to kitchen and bathroom faucets, eliminating the need to let the water run until it reaches the desired temperature, **saving water and energy.**

The Buzz on Flyash

Using up to 15 percent recycled Flyash in concrete increases the strength and durability of home foundations, **reduces the amount of cement used** in the concrete mixture and **decreases the overall environmental impact** of cement production.

Cool Breeze

The NightBreeze[™] Ventilation System, with its smart thermostat, works in conjunction with the home's air conditioner and heater **increasing the efficiency of both.** The system provides fresh air ventilation and filters outside air, **reducing allergy and health risks.**

Heads up

Use of engineered lumber for headers and beams results in stronger, straighter and defect free construction using wood fiber instead of solid sawn lumber from old-growth trees.



Spray cellulose insulation in walls and ceilings keeps the house more comfortable by filling cavities and preventing air infiltration, which results in **less energy used for heating and cooling and lower energy bills.** Cellulose is formaldehyde-free (for better indoor air quality), and is mold-, fire-, pest- and insectresistant.

Breathe Easy

All exposed particleboard is sealed reducing formaldehyde off gassing into the home. In addition, use of paint that contains low volatile organic compounds (VOC's) or formaldehyde, low-VOC or water-based wood finishes and solvent-free adhesives reduces emissions of harmful or toxic gasses into the home and helps improve indoor air quality.



Small but Powerful

Compact fluorescent light bulbs may last ten years or more saving energy and money. Dimmer switches reduce energy use (and cost) by only using the energy required for dimmed lighting levels.

Your Biggest Fans

Ceiling fans reduce the need for air conditioning helping to circulate air and equalize interior temperatures.

Go with the Low Flow

Faucets with flow reducers save water and money by reducing the flow from as much as three gallons per minute to one gallon per minute with little noticeable effect.

Made in the Shade

South, east and west windows are shaded with roof overhangs or other architectural features, reducing sun exposure and unwanted heat gain in the home.



Advanced Infiltration Reduction System–expandable foam and caulk—**further seals the home** at corners, between floors and stud cavities, and along plumbing and electrical runs.







The walls have it

A feature you can't see but may feel is the 5/8-inch gypsum wallboard used throughout the Performance Home (1/2-inch is standard on most homes). The heavier walls give the house a more solid feel, but more importantly, they improve comfort by absorbing heat and moderating indoor temperature. They also provide better sound insulation and are fire resistant. UStec bundled wiring package (RG-6 cable and Category 5e enhanced wiring) includes dual runs to bedrooms, library, kitchen and family room. Allows for telephone, data, television, satellite and camera to be available at every location. Can accommodate future HDTV, cable modem and DSL service by others.

Foundation for comfort

The concrete foundation is insulated at the outside edge, resulting in a warmer floor in winter and less air conditioner use in summer. The large areas of tile improve summer comfort by absorbing heat during the day, require less maintenance, and unlike carpet, do not provide a breeding ground for dust mites, a common contributor to allergies. For two-story homes, Centex uses I-joists to support floors, making them squeak-free and stronger while using 50 percent less wood.

A sensible subfloor

Oriented Strand Board (OSB) for subfloor and wall sheathing is stronger than plywood and is not made from large diameter old-growth trees.

A roof to top it all

In addition to R-38 attic insulation, Eagle[™] concrete roof tile is used for its long-lasting good looks and low maintenance requirements.

A breath of fresh air

Tightly built homes are more energyefficient but can also suffer from poor indoor air quality. The Performance Home design improves indoor air quality two ways: by reducing pollutant sources (filtration), and by providing fresh air ventilation. The heating and cooling system automatically delivers just the right amount of filtered fresh air to every room. Paints and adhesives used on interior surfaces are low in volatile organic compounds (VOC's) and are formaldehyde-free.

Made for the shade

The sun is a good friend in winter, but can be the biggest enemy in summer. The Performance Home uses architectural and landscaping elements such as deep roof overhangs, porches and trellises. These features are not only attractive, they strategically shade the home to improve summer comfort, yet let the sun enter in winter to keep the home bright and warm.

The 21st Century Performance Home is beautiful on the outside and works better on the inside making the home comfortable, economical and friendly to the environment.

Working hand-in-hand

Centex Homes understands that one of our most precious assets is land. Our company and our employees proudly support The Nature Conservancy, a leading international non-profit habitat and land preservation organization, and its mission to help preserve the Earth's last great places, which are home to some of our most endangered plants and animals. During the past two years, Centex Homes has provided approximately \$1.3 million in donations to support the mission of The Nature Conservancy. Centex Homes donates \$35 for each new home purchased from the company.

Here in the East Bay, Centex is working with the Alameda County Waste Management Authority to develop recycling programs at construction sites and incorporate green building standards and materials in their production homes.



At Los Olivos, Centex recycles waste wood. The wood scrap is used at pulp mills to make paper; and recycled into ground cover, sawdust products, mulch and particleboard. Cardboard is recycled through several companies and used to manufacture paper, insulation and other products.

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