

SUMMERHILL HOMES

San Francisco Bay Area

Every Home an Energy-Efficient Home

SummerHill Homes, based in California's San Francisco Bay area, doesn't offer energy efficiency as an upgrade option, it's a standard feature of every home they build. "We just think it's the right thing to do," said Santos Alvarez, SummerHill's vice president of operations.

According to Alvarez, SummerHill builds about 250 homes per year and the homes typically exceed California's energy code by 18% to 22%. "Our goal is 20%" said Alvarez. They achieve that savings through better insulation, a higher efficiency furnace, an engineered duct system, and more attention to details like caulking and sealing.



Alvarez also attributes the savings to training and on-site inspections. Building America team leader ConSol is one of the inspectors SummerHill works with, using ConSol's ComfortWise version of ENERGY STAR®. "Their field inspectors are sometimes on our job every day. Teaching, training, keeping us up to date—these are some of the things they do for us. They provide formal classroom training and on the job training, including classes for assistants and supervisors, to make sure we are meeting requirements and installing things correctly. They'll also do walk-throughs with our supervisors at the site, pointing out what needs to be paid attention to," said Alvarez.

SummerHill moved to a consistent policy of energy-efficient construction shortly after Alvarez joined the company four and a half years ago. Alvarez had known about ConSol from previous jobs. "Every where I've worked I've pursued energy efficiency," said Alvarez.



Careful duct sealing with mastic helps improve comfort and energy efficiency at low cost.

INTRODUCTION

Taking action in your community



HOMEOWNERS

Shopping for value, comfort, and quality



MANAGERS

Putting building science to work for your bottom line



MARKETERS

Energy efficiency delivers the value that customers demand



SITE PLANNERS & DEVELOPERS

Properly situated houses pay big dividends



DESIGNERS

Well-crafted designs capture benefits for builders, buyers, and business



SITE SUPERVISORS

Tools to help with project management



TRADES

Professional tips for fast and easy installation

CASE STUDIES

Bringing it all together



CASE STUDY: SUMMERHILL HOMES

The policy seems to be a winner for the company as well as the environment. “The sales associates love it,” said Alvarez “they look forward to talking to home buyers about it.”

Alvarez also noted that callbacks have gone down since they started building to ComfortWise standards. “I would attribute this to the additional third-party inspections and training,” said Alvarez.



Installing window and roof flashing is critical for long-term durability and must happen at the correct stages of construction.



Housewrap provides a drainage plain behind stucco and other finishes.

Key Features:

Field certification with two inspections of each model and each floor plan per release using diagnostics: blower door test, duct blaster test, air flow measurements at each register, insulation density measurements; visual inspection that specified components are installed correctly.

Caulking and sealing of all joints and penetrations

Engineered HVAC system and duct layout

Sealed ducts with duct blaster testing

Correct sizing of air conditioning equipment

Dual-paned vinyl windows with Low-E glass for improved energy savings

All exterior doors feature full weather stripping

Dual-zone high-efficiency forced air gas furnace with electronic ignition and energy efficient electronic set-back thermostat

Energy saving 100-gallon gas water heater with recirculation pump to all fixtures

BUILDER PROFILE

SummerHill Homes,
a division of **Marcus
& Millichap**

Where:

San Francisco Bay Area,
California

Founded:

1976

Employees:

120

Development:

Villa Savona Homes in
Fremont, California

Number of Homes:

26

Square Footage:

3,545 - 3,889 sq. ft.

3 - 5 bedrooms

3.5 - 4.5 baths

Price Range:

from the mid \$1,500,000's



High efficiency windows improve comfort and help protect furnishings from solar radiation. This National Fenestration Rating Council label shows a U-factor of 0.35 and solar heat gain coefficient of 0.31. The window also qualifies as an ENERGY STAR product.

CASE STUDY: SUMMERHILL HOMES

Innovations

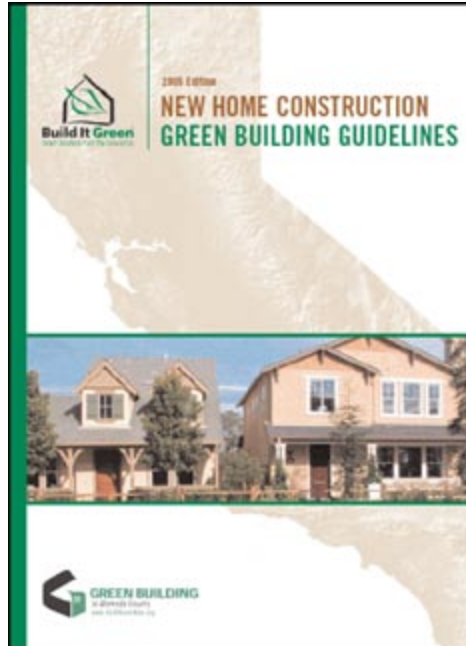
SummerHill has gone beyond the ENERGY STAR standards to incorporate green building practices in their homes as well. Alvarez said this started about two years ago with their Sycamore Heights development located in Alameda County. They implemented several green building features including using recycled materials, protecting native soil, minimizing disruption of existing plants and trees, recycling at the construction site, using formaldehyde-free insulation, and installing gas water heaters with a recirculation pump to all fixtures. Several of these features were required by Alameda County as part of the county's Green Building Guidelines. Sycamore Heights achieved the county's Gold Level Status for green construction. Now SummerHill incorporates these features in all of its new construction.

"When we looked at what was required to achieve Gold Level Status, 90% of it we were already doing," said Alvarez.

SummerHill's efforts have been recognized by the building community. SummerHill developments have received several coveted Best In American Living Awards from the National Association of Home Builders, and SummerHill was the winner of two Golden Nugget Grand Awards and five Gold Nugget Merit Awards at the 2005 Pacific Coast Builders Conference.

Don't Duck Duct Details:

ConSol contends that sealing HVAC ducts is a key to improving a home's energy efficiency. ConSol aims for a duct leakage goal of less than 6% leakage. "The biggest source of leakage in duct systems is from not sealing the can that holds the AC duct to the register. The can should be sealed to the drywall with caulk. We estimate that 40% of duct leakage is due to that omission alone," said Doug Dryer, ConSol's national marketing director. To ensure that ducts are tight, ConSol performs field inspections and diagnostics including duct blaster tests and measurements of air flow at each register in the home. ConSol's mechanical engineers design the HVAC system for each floor plan to determine the correct size for the heating and air conditioning equipment and to optimize the duct layout. "The ideal is a perfectly balanced house, pressure wise, with a correctly sized HVAC system and adequate air flow into each room," said Dryer.



Green Features

In addition to energy efficiency, SummerHill Homes's Sycamore Heights development meets the requirements of Alameda County's Green Building Program. These include:

Materials & Products

- 15% fly ash in concrete
- Engineered lumber for floors, structural beams and headers
- Wood I-joists for floors and ceilings
- OSB for subfloors and sheathing
- Finger-jointed trim
- Non-chromium/arsenic treated wood
- Fiber-cement exterior siding (James Hardie Hardiplank and Hardishingle)
- Durable concrete roof tiles (Monier Lifetile)

Other Green Features

- 75% recycling of construction waste
- Reused form boards
- Built-in recycling center
- Stormwater management and soil protection during construction
- High-efficiency irrigation system and resource-efficient landscapes
- Range hoods vented to outside
- Low-VOC* interior paint (*volatile organic compounds)

ConSol's ComfortWise ENERGY STAR promotes Building America's Common Sense Building Science Principles

ConSol is the team lead for the Building Industry Research Alliance, one of Building America's research consortia. ConSol's ComfortWise ENERGY STAR program is based on the common sense building science principles that Building America has developed and promotes. By following this whole house systems approach, builders can build high-quality durable homes that use at least 30% less energy for space heating and cooling than homes built to meet the National Model Energy Code or 15% savings over homes built to the California Energy Code. ConSol provides builders with an HVAC layout and design as well as full energy code and lender documentation. ConSol specifies spectrally selective low-emissivity windows and tight ducts and provides on-site third-party inspections and diagnostic testing including duct blaster, blower door, insulation density, air flow, and other measurements. ConSol also provides marketing support and materials, sales staff and contractor training, and information on energy-efficient mortgages to help builders implement energy efficiency practices and use them to expand markets and increase profitability.

The Bottom Line

According to Alvarez: "Cost is not a big issue. It's not hard and it's not expensive. It's just a little more work. It takes a little more attention. And you've got to allow the time for testing and inspection."