

Steel Framing: *Strengthening Homes and Businesses*

Builder's Experience



Challenges: Planning construction; educating subcontractors

Would he do it again? Yes

Steel Framing Attributes:

- Energy Efficiency
- Quality and Durability
- Environmental Performance
- Disaster Resistant

Builder Tips: "If you've done a good job in the office, you should have everything you need in the field. If you don't, then your guys will be standing around the site, scratching their heads, trying to figure it out."

Builder:

Jason Greene, Greene Building and Construction Company
Northport, Alabama

Builder Type:

Small Custom/Spec Builder

The Technology:

Steel Framing

The Project:

A 1,700-square-foot, single-story spec home in Northport, Alabama.

"Currently, less than five percent of the residential market is with light gauge steel. The opportunity for growth is tremendous."

— Jason Greene

GREENE'S STORY

"We broke ground on a spec home at Northwood Gardens, a development we share with two other builders, at the end of May," says Greene. "The entire home was framed with steel. Eight weeks later, everything was done, including the landscaping. We finished well ahead of the wood framer who started his house—a similar size house in the same development—two months before he did. It only took us six days to frame the entire home."

PLANNING AND PREPARATION

Greene says the framing process starts before you get to the job site and evolves much differently than traditional wood framing.

"It takes some planning and preparation. You aren't going to go down to your local hardware store and buy steel studs, so it requires a bit more office time to get



Once completed, Greene Construction's 1,700-square-foot spec home looks like other homes in the development. In reality, it is more durable, storm resistant, and energy efficient than its stick-built counterparts.

your materials and put together everything you need on the jobsite," Greene says. "Essentially, you build the project in the office before you ever get to the site."

"On a wood house, you get a set of house plans, you hand it to the framer, and he figures out what he needs. With steel, you give the plans to someone in the office who can efficiently get all the materials the framers need."

TRAINING AND SUBCONTRACTORS

"When a home goes up in just six days, you have to give a lot of credit to the framers in the field," Greene says. "Mind you, it is not difficult to train steel framers, but they have to get used to different tools



Jason Greene, owner of Greene Building and Construction Company, has been in the homebuilding business since 1995. After graduating with a degree in civil engineering, Greene went to work for a traditional stick-frame builder, before meeting a homebuilder using steel framing techniques normally seen in commercial construction. Impressed by the quality and the advantages to the builder, Greene started his own steel framing residential construction business. He now builds about 20 homes a year.

Why he uses steel framing:

"The strength of steel allows you to build designs with much larger open spaces and larger spans. Throw in the fire resistance, the reduced waste, and how easy it goes up, and you end up with a home that is far superior to wood."



Thanks to proper planning, it took Greene Construction only six days to erect the home's steel frame.



Homeowners benefit from greater durability, disaster resistance and energy efficiency, plus greater design flexibility.

and techniques. For example, you're using a screw gun, rather than a nail gun. But if you are a good framer with wood, you are going to be a good framer with steel as long as you have an open mind and want to learn."

"The more difficult adjustment with steel framing is finding reasonably priced subcontractors. Steel isn't a new product, but it's relatively new to the residential market. That means you end up hiring people with commercial construction backgrounds, and those subs sometimes want more for a job because they are used to the commercial pay scale. Sometimes it can be a hard sell to get subcontractors that are new to steel or new to residential homebuilding to work within your budget."

"We've been fortunate to work with the same subcontractors over several years. We got them up to speed on steel techniques and what products to use to make their work most cost-effective."

DOLLARS AND SENSE

Greene notes that many of his customers need to be educated about the process and the benefits, particularly with the slightly higher price tag attached to a steel-framed home.

"Percentage-wise, the cost difference for the framing is less than 10 percent, so the additional cost is minimal," Greene says. "Still, some reject the slightly higher price or can't come to grips with a different technology."

"On the other hand, some customers know steel is what they want. They were sold on the design flexibility and the structural integrity before ever coming to us. They

THE STRENGTH OF STEEL

Residential steel framing uses cold-formed steel members for walls, floors, and roofs. The framing members are C-sections with standard dimensions similar to wood framing studs. Framing members are generally produced in thicknesses of 12 to 24 gauges with 3-1/2 and 5-1/2 widths, equivalent to 2x4s and 2x6s. Manufacturers of steel framing members adhere to strict tolerances, resulting in consistent strength, straightness, and stability. Steel framing provides excellent design flexibility since it can span longer distances than wood. Steel also provides better wind and earthquake resistance.

Read these PATH Field Evaluations:

- Hopke Buildings & Grounds: Sturgeon, MO
- Hughes Construction: Lexington, SC
- K. Hovnanian: Freehold Township, NJ
- Beaufort Demonstration Homes: Beaufort, SC

TECHNOLOGY HIGHLIGHTS

This project included the following PATH-profiled technologies:

- Steel framing

are more interested in the higher quality, and they aren't concerned about penny-pinching on the bottom line."

"Steel framing piques the interest of a lot of people. Flexibility is certainly a big seller for many customers. The strength of steel allows you to build designs with much larger open spaces and larger spans than with wood. Throw in the fire resistance, the reduced waste, and how easy it goes up, and you end up with a home that is far superior to wood. And it's easy to recycle."

Greene notes that waste reduction does require planning.

"When you plan a steel frame correctly, it reduces the amount of waste that goes to a landfill. It goes back to preparation. Since everything we do is cut to length, on-site

waste can be carried off in a 50-gallon drum. On a wood frame, it's a couple dump trucks. Typically what we do waste, we just turn around and recycle."

"You can better manage costs as well because steel framing generally has more price stability than wood. You also manage onsite labor costs better since more of the work is done in the office. Then there are the big savings on waste management."

"From a builder's perspective, steel is a product that is going to continue to grow. Currently, less than 5 percent of the residential market is with light gauge steel, but it is becoming more and more attractive to homebuyers. The opportunity for growth is tremendous."

The Partnership for Advancing Technology in Housing (PATH) brings together builders, manufacturers, researchers, government agencies, and other members of the housing industry. PATH partners work to improve the quality and affordability of new and existing homes. The program is administered by the U.S. Department of Housing and Urban Development's Office of Policy Development and Research.

To learn more about PATH, visit www.pathnet.org.
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Greene says that it is not difficult for a wood framer to transfer his skills to steel. "If you are a good framer with wood, you are going to be a good framer with steel..."