

# Building Systems: Frequently Asked Questions

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In recent years, building systems have gotten a lot of media attention; you just may not have realized it. From general discussions about green building to high-profile projects on prime-time television shows, prefabricated housing and systems-built technologies are getting a higher profile.

But, what is a building system, anyway? Is there more than one kind? And what does it mean to belong to the Building Systems Councils (BSC) of NAHB? The following FAQ should help both builders and home buyers who are unfamiliar with building systems learn more about the benefits of these homes and the benefits of working with members of the BSC.

## What is a building system?

Building systems do for housing what the assembly line did for automobile production: they streamline the process, improve quality control and minimize waste, all while reducing costs and making homes more affordable. Systems manufacturers cut and prebuild everything from individual components to entire homes within a factory-controlled environment and use highly engineered construction methods. Systems-built houses are of the highest quality, not just meeting but often exceeding code requirements.

## Who uses building systems?

Systems building techniques are prevalent in residential and commercial construction. From the panelized roof truss of a single-story home to the modular components of a high-rise apartment building or office, more and more builders are employing building systems into their structures because of their ease of use and speedy construction.

## Does using building systems affect the quality of a home?

Yes, for the better! Not only are concrete, log, timber, modular and panelized homes built to the same local building code as stick-built homes, these types of building systems often exceed the building codes. Modular and panelized homes must withstand the rigors of ground transportation, so manufacturers routinely reinforce the walls, ceilings and other components to ensure the highest quality product reaches its destination. Concrete homes are rising in popularity due to the highly durable and sustainable properties of the building material. Another benefit of using building systems is that the components are inspected before leaving the factory, virtually ensuring that there will be no unpleasant surprises during your walk-through.

## How much design flexibility comes with systems-built homes?

Just as much as a stick-built home! Most manufacturers maintain a portfolio of standard floor plans with a variety of personalization options. If you want to custom-design your own home, many manufacturers can accommodate you. With the help of computer-assisted design programs, home buyers can work closely with their manufacturers to design their dream homes. All manufacturers are unique, however, and engineering capabilities and product specifications will vary from company to company.

## What are the cost benefits of systems-built construction?

Owners of modular and panelized homes can see savings upfront and throughout the life of the home. Most manufacturers use state-of-the-art equipment and an efficient construction process to see that their homes are built with minimal waste and labor. When homes are delivered to a job site, they are assembled in less time than a stick-built home, greatly reducing the potential danger of inclement weather, theft and workplace vandalism. This labor reduction also results in significant savings in labor costs. In addition, home owners often save money on heating and air-conditioning costs because these structures can be incredibly efficient.

# Building Systems: Frequently Asked Questions

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## Who will finance and insure a systems-built home?

Just about anyone. Since these homes are built to the same codes as stick-built homes, most banks and lending institutions treat both types of construction the same. In fact, some financiers have established departments specifically for systems-built homes. Similarly, there is no difference in insuring a systems-built house from any other property.

## Are building systems green?

Building systems are inherently more environmentally friendly than other forms of construction for a number of reasons. First, the factory-controlled environment enables manufacturers to use resources more precisely, resulting in less waste that would otherwise end up in a landfill. Next, to deal with the waste that is generated, manufacturers often find ways to reuse those materials – even as fuel. Many log home manufacturers, for example, grind leftover pieces of timber into sawdust that is then converted into fuel to heat the mill and run machinery. Last, but certainly not least, by shipping pre-assembled components to the home site, the amount of construction staging area a builder needs is significantly smaller, resulting in less site disturbance and greater protection of the surrounding habitat.

## What is the difference between a modular and a panelized home?

While both employ factory-built construction techniques, the primary difference between a modular and a panelized home is that modular homes are shipped to a home site nearly complete, whereas panelized homes require more onsite assembly.

In modular construction, most individual modules are shipped to the site as fully finished rooms, complete with walls, flooring, ceilings, doors, windows, closets, stairs, etc. assembled. The number of modules required depends on the square footage of the home.

Panelized homes come together onsite a little differently. The manufacturer might pre-assemble the walls, floors and other structural components, but leave the union of those panels, as well as the interior finishing elements, to the builder.

Both modular and panelized building systems are shipped to the site via ground transport where the local builder secures the home's components to the foundation and customizing it with finishing touches such as decks, patios, stone or brick veneers and other decorative elements.

## Is a modular home the same as a manufactured or mobile home?

No. Manufactured homes, sometimes called mobile or trailer homes, are a separate type of housing that are constructed to a different building standard. This standard, the Federal Construction Safety Standards Act (HUD/CODE), unlike conventional building codes, requires manufactured homes to be constructed on a non-removable steel chassis. Many communities have restrictions on where manufactured can be located.

Concrete, log, modular and panelized systems, like their stick-framed counterparts, are constructed to the building codes required by your state, county and specific locality and therefore are not restricted by building or zoning regulations. Your new systems-built home is inspected at the assembly plant during each phase of construction. Evidence of this inspection is normally shown by the application of a state or inspection-agency label of approval.

# Building Systems: Frequently Asked Questions

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## How long does it take to build a modular home?

Because of the manufacturing process and ease of assembly, modular homes can be finished in significantly less time than stick-built construction. Depending on the size of the home, once all the materials for construction are received, assembly of the modules themselves typically takes only a day or two with use of a crane. Because a majority of the interior work is complete, including carpeting and wall finish, an experienced systems builder often can complete a home in a matter of weeks.

## How does log and timber home construction work?

Log and timber home construction is a craft as timeless as America itself. Though its roots are firmly planted in Europe, it is seen as a quintessential symbol of American home building.

Log and timber homes come in many styles and profiles, from stacked rounded logs with coped corner notches to hand-hewn square logs with thick beads of white chinking. Regardless of style, the timbers (called cants) are cut to size, shape and profile at the manufacturer's mill, then pre-assembled in the log yard to ensure all the components fit. Then the home is disassembled and shipped via ground transport to the site where it can be reassembled quickly – often in a matter of days.

## Who belongs to the Building Systems Councils?

The Building Systems Councils (BSC) of NAHB represent the manufacturers, builders and suppliers of concrete, log and timber, modular and panelized homes, which comprise the primary types of building systems. Membership is voluntary and represents a strong desire to advance systems-built technologies and promote their inherent benefits.

## How do I choose a manufacturer?

The manufacturer members of BSC are among the most respected and reputable in the industry. All BSC members adhere to a written creed ensuring a quality-built home and fair and open business practices.

You can browse a directory of current BSC member manufacturers for modular, panelized, and log and timber homes and at [www.loghomes.org](http://www.loghomes.org). Read each listing carefully, as most manufactures can ship their products far from their corporate headquarters. Often, manufacturers will market their product through a local builder or dealer.