

Advantages of a Metal Structure

Steel frame houses are fast becoming a popular choice among builders, who understand the many benefits that come from using steel. Steel framing lasts longer, is light and is proven to withstand even the most extreme of temperatures. The outward and inward appearance of a steel home when completed versus a wood framed house is indistinguishable to the normal eye.

Here's a closer look at just some of the benefits of using steel framing:

1. Ease of Installation

Most if not all of the framing for the walls, window and door openings are already pre-engineered and assembled prior to arrival on the job meaning that assembly and erection is much quicker than stick built homes where workers have to cut, hammer and put together frames on site. Steel studs are lighter than their wood counter parts so manipulating walls, trusses and other members is much easier.

2. Cost effectiveness

Although the initial cost of framing can be slightly higher than wood, the price of steel tends to be more consistent since it is used in so many other industries. Wood prices can rise dramatically during a project and destroy your budget. Since fewer workers are required to fit steel, this can save on labor cost making steel a more cost-effective material. When using wood there is normally a 15-20% waste factor due to cutting boards to length, and culling through unusable lumber due to knotted, warped, or damaged raw materials. This is not the case with metal framing. Job site cleanup is also reduced dramatically as well, saving time and money for excess labor and disposal fees. Projects normally are completed quickly meaning reduced finance charges for building loans. Due to steel's fire, insect, wind, and earthquake resistance, homeowner's insurance premiums can be much lower. A program called "STEEL Advantage" can help reduce premiums by 25 to 75%. This program was designed by Arthur J. Gallagher & Co., an insurance service in Itasca, Ill. They have been successful in negotiating specialized insurance products when steel framing is used in a construction project. You can learn more at www.ajg.com.

3. Speed

Since most of the walls are preassembled and rough openings are sized for windows and doors and the fact that service holes can be pre-punched for electrical, plumbing and cabling prior to arrival, the erection of the frame and

trusses can be accomplished much quicker than wood framed houses. It is not uncommon for builders to report that they were able to erect the walls and trusses for medium size homes in as little as a day. Being that metal structures can be “dried in” quicker than their wood counterparts, delays due to inclement weather are often reduced.

4. Accuracy

Since steel tends to not only arrive straighter than wood does, and also doesn't warp on the jobsite or after construction, this means that the other trades such as the drywall, siding, and trim work go up easier and better due to having a straighter frame.

5. Defense of Elements and More

Steel is not combustible, so it will not feed a fire. Most structural damage is due to water and moisture rotting the wood frame components of the house. Steel does not contain moisture or absorb moisture like wood can. Steel is resistant to termites, bugs, rodents, mold and fungi, all of which can cause extreme damage to a home and can also be a health concern. Steel framing doesn't have to be treated with the chemicals that timber does, and the likelihood of steel being hit or impaired by lightning is minimal.

6. Durability and Strength

Steel frames have a high strength to weight ratio. Steel frames under normal conditions will not buckle, divide, distort, rot or splinter. Steel is corrosion resistant due to zinc coatings, and future climate changes shouldn't be a problem. Steel-framed houses have withstood fires, hurricanes and earthquakes. Steel's qualities allow it to meet the strictest wind and seismic standards in the building codes. The strength of steel means excellent support for larger spaces, greatly increasing the scope of design possibilities. With steel, design capabilities are infinite and for those wanting to customize their home design the only limitation is one's level of imagination and budget. A typical weight-bearing steel fabrication is 30% to 50% lighter than a wooden equivalent. This makes steel frame construction far stronger and more durable than traditional wood framed alternatives.

7. Flexibility

Steel's strength allows for architectural and design flexibility, and frames can be molded into long spans and can be easily incorporated to suit a buildings design.

8. Environmentally friendly

Steel framing lasts longer, is light and creates minimal raw material waste. One of the greatest benefits of steel is that it can be recycled. About 50 trees are needed to build the average house. Large tracts of land are cut down each year

to provide lumber for traditional wood-framed homes. This destroys habitat for many species of animals. When you choose to build a steel-framed house, you aren't contributing to the loss of habitat.

9. Sustainability

Steel is "truer": Unlike lumber, which is often warped, steel is straighter. Even if the lumber from the lumber yard arrives straight, it can warp in a matter of days due to exposure to the weather. Steel framing eliminates bows in the walls or twisted or warped studs. Sheetrocking is much easier when walls are straight. It also eliminates "nail pops" that show up in sheetrock due to the nails backing out over time since screws must be used in the installation of the sheetrock.

10. Smart

Walls and trusses are engineered giving you peace of mind that your structure can last for generations to come. With all the advantages of strength, speed, overall cost effectiveness, and other advantages, steel is always the smart choice.