Residential Steel Buildings Buyer's Guide

By the purchasing experts at BuyerZone

Introduction

Pre-engineered steel buildings have become a popular choice for many types of bare-bones commercial applications: warehouses and factories, for example. These type of simple buildings are easily scaled down for small residential buildings like garages or sheds, and they're quite popular among consumers looking to add affordable storage space.

However, modern building materials, insulation, and finishing options make steel buildings a better choice for many types of buildings such as churches, retail stores, and offices – and homes. Their primary advantages over traditional construction – that they are cheaper and faster to build – stem from the fact that much of the work is done at a factory that fabricates the component parts of the building. They can be finished with any type of exterior you'd want – brick, stucco, siding, and more – to look like a traditional wood-framed house.

For almost any residential construction, steel framing is worth investigating. As with any construction project, there are some complicated decisions to make and potential pitfalls to avoid. This **BuyerZone Residential Steel Buildings Buyer's Guide** will explain the process and help you get the best steel building for your business.

Table of contents

Pricing guidelines

Actual costs for a steel building will vary enormously depending on the features you choose, the overall size of your building, and the design choices you make. Here are some very rough estimates – we'll go into more detail in **Phone system pricing** on page 6.

Type of Building	Estimated cost
Basic, rigid-frame building with little finishing	$16 to $20/sq ft
Standard building with more finishing	$20 to $30/sq ft
Custom buildings, complicated projects	$40/sf and up

Steel building process and benefits

The benefits of a steel building come from the construction material itself (steel) and how the structure is built. The combination of metal construction and pre-fabricated components provides three main advantages:

- **Cost.** Because the labor to put up your building is drastically reduced, you can save 30% or more over more traditional construction methods. However, if you choose steel construction for your home, you may find that costs win up very similar to traditional construction, once you include the finishing and extras that make your house look the way you want.
- **Speed.** A finished steel building can be ready in 60 to 90 days, instead of 6 months or more.
- **Durability.** Without requiring repainting or other maintenance, steel buildings are guaranteed to last 20 to 30 years, depending on the manufacturer. They're safer in fires since the main supports don't burn, they're invulnerable to termites, and they are less susceptible to mold and rot. They're also stronger than wood and better able to withstand earthquakes and high winds.

Here is an outline of how a typical steel building project progresses:

1. **Design.** Before any work can proceed, you need to specify the size and shape of the building. Many residential steel building vendors have plans you can choose from, or you can customize the building with the type of roof and interior walls you want, the number and placement of doors and windows, and any façade or other cosmetic enhancement.
2. **Engineering.** Once the basic design is complete and you've paid a deposit, an engineer needs to create the specifications and blueprints for the building. The blueprints will specify what materials should be used and what loads the building will need to be able to withstand to meet local building codes.
3. **Fabrication and delivery.** After the blueprints are signed off on, the real production begins. The beams, posts, girders, side and roof panels, and even the fasteners to hold the building together are all produced at a factory, then shipped to your construction site. The parts are pre-cut to the exact dimensions you need, pre-drilled, and ready to be bolted together. This step can take 3 to 6 weeks.
4. **Sitework.** While the components are being manufactured, the building site can be readied. Steel buildings require foundations, which for sheds and garages are usually simple concrete slabs. For a home, you may want to build over a basement instead.
5. **Construction.** Once the components arrive and the foundation is ready, the actual construction can take place.
6. **Finishing.** Adding insulation, interior walls, exterior finishes, doors and windows, steps, plumbing, and all the pieces that turn a metal box into a building you can appreciate.
7. **Walkthrough.** Like any construction project, your steel building needs to be approved by a building inspector once it is completed.

Designing your steel building

There are two major sets of factors that will influence the design and construction of your building. One is practical: the actual use of the building. If you're building a shed or garage, your needs may be as simple as an overhead door and a window; if you're using steel construction for your home, you'll need to include plumbing, wiring, and ventilation in your plans. (Note that all these subsystems need to be installed by the construction team you hire – they are not included in the price of the building itself.)

The second is legal. Every state has different building codes that will apply to your project. These will include things like snow load and wind load: how much of either your building must be able to stand up to. Other legal requirements include local zoning laws, drainage requirements, and more.

While steel building suppliers can often help you research these codes – most won't ship you a building that doesn't meet codes in your area – the ultimate responsibility for meeting them is yours. The bottom line on planning your building is that if you're not familiar with major construction projects, you'll need to rely on experts to assist your

planning.

Types of steel buildings

There are two main types of steel buildings to choose from. **Arch style** steel buildings (aka Quonset huts) became popular during World War II. They are built from a series of interlocking metal ribs that form the roof and sides of the building. Residential arch buildings are popular for garages and sheds because their construction methods are simple and they are less expensive per square foot. They are not very adaptable or customizable, however. Their construction only allows for doors and windows in the endwalls, not the sides, and the overhead clearance drops considerably as you get further away from the center of the building.

If you're building a home, you'll want to choose a **rigid frame** style building. These are constructed with steel skeleton framing and flat steel panels for the roof and walls. They can include doors and windows in any wall, and can be expanded with relative ease. While they are still much easier to build than traditional buildings, more expertise and equipment is required to construct a rigid frame building than an arch style building.

Extras

Unless your metal building is going to be an unoccupied storage building, you will need insulation. The same rating system used in traditional construction is used for steel buildings: R-7 is equivalent to 2" of insulation, and R-19 is 6". Because steel is a very efficient conductor of heat, the need for insulation is greater in a steel building than a wooden frame building.

It's a simple decision: if you're going to be heating and cooling the building year round, you'll save money by buying R-19 insulation. Even though it is more expensive initially, the savings in your energy bill will easily make up for the cost in just a year or two. You may also want a vapor barrier for the roof and walls, which can prevent condensation.

Other important extras include doors for people and vehicles, windows and skylights, and gutters and downspouts to manage runoff. Be sure to inquire about the insulation value of the doors and windows: look for double-pane glass and insulated doors.

The final set of add-ons for your building are cosmetic. At a minimum, you'll be able to choose the exterior color of your building. For a home, you'll probably want to choose a cosmetic finishing option such as wood, brick, or stucco. These options are expensive but really make your house look like a home.

How to buy metal buildings

There are three major ways to purchase metal buildings:

- **General contractors** (GCs) are the people who will actually put up your building. Typically a GC will get a general idea of the type of building you need, talk to a broker or several manufacturers, then present the options to you. In some cases, a GC may have a preferred manufacturer that they will always turn to.
- **Brokers** work with multiple factories. Like GCs, they will consult with you to determine your needs, then provide a proposal based on the manufacturer who can best meet your needs. However, their involvement ends once the pieces are shipped. You'll need to set up the building yourself or hire a GC.
- The **manufacturers** who actually create the component pieces do sell directly to customers in many cases. They will create and ship the building based on existing specifications you choose from, or can work with you to design a more customized building. Once again, you must handle the building construction.

Because of their experience, GCs are a better way to go if you're not familiar with planning and managing construction projects, especially if you have a GC who you work with on a regular basis.

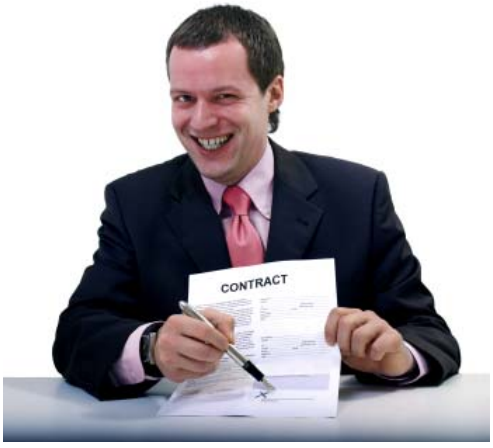
Brokers have more expertise with prefab metal buildings and can have leverage with multiple manufacturers – their relationships can help you save money. They can often help you find the best deal, and can put you in touch with qualified contractors in your area if you do not have one.

If you have more experience with building projects and know exactly what you want, you may be able to save money by going directly to a manufacturer. Cutting out the middleman also eliminates potential finger-pointing at later stages if anything goes wrong. Going direct can also be a good idea if your project is very small-scale – smaller arch-style buildings that you'll erect yourself, for example.

Evaluating dealers and suppliesr

The selection of a steel building supplier is important: there are unfortunately some less-than-reputable players in the market who will try aggressive sales techniques, insert deceptive language into contracts, and knowingly quote you a price on a building that doesn't meet the building codes for your area.

Watch for sales tricks



High-pressure sales pitches are a problem for this industry. In the course of talking to brokers and manufacturers, you may hear tired old sales clichés like "This is the last one on the lot" or "Another customer just cancelled an order for a house just like the one you're interested in, I can sell you their components cheap if you sign today", and other pitches designed to get you to ACT NOW!

Most of the time, these "opportunities" are simply untrue -- a major prefab steel building manufacturer recently got into legal trouble for misleading sales practices like these. Do not fall for them: real good deals will be there tomorrow, too.

Building to code

Reputable manufacturers and brokers do not want to sell you substandard buildings, so they often maintain databases of current building codes nationwide. However they won't usually depend on that information.

The best way to proceed is to have the manufacturer or broker list the codes your building has been specified to meet in your contract, then verify those figures with your local officials *before* you sign the contract. A supplier who wants you to sign a contract before you verify the specs independently isn't someone you should do business with.

Questions to ask

- How long have you been in business?
- Do you provide engineer-certified blueprints?
- What kind of guarantees do you offer on your buildings?
- How long will it take you to create and deliver my building? (This one is useful if someone pushes a "closeout special" on you – if it is already on their lot, they should be able to deliver it in a couple of days.)
- How do you ensure that my building meets the building codes in my area?
- Do you have a specialty? (Many companies focus on industrial buildings, so look for someone familiar with residential construction.)

It is worth checking with the Better Business Bureau in the supplier's area to find out if any complaints have been lodged against them. You should also read the contract they provide very carefully – more on that in **Steel Building Pricing.**

You should also ask the dealer for customer references. Even better, if the dealer can provide local references, you'll be able to see the buildings for yourself. When checking references, you can ask questions like these:

- How long have you been a customer of theirs? How many prefab steel buildings have you purchased?
- Would you buy from this dealer again?
- Are their deliveries complete and on time?
- Are you happy with your building?
- What could the dealer improve about their operation?

Steel building pricing

Estimating prices for metal buildings can be complicated, because there are a large amount of variables that go into each project. Local building codes have a big impact on price: a building in Denver has to be capable of a handling a huge snow load, so it requires significantly stronger components than a building in New Mexico. And extras like insulation and interior panels can make a big difference.

That said, a typical price for basic rigid-frame steel buildings is between $16 and $20 per square foot. This includes materials, delivery, the foundation, and construction. A more finished building may be closer to $20 to $30 per square foot, and extensively customized buildings with brick facades, unusual shapes, or complicated construction can reach $40 per square foot or more.

Materials alone can cost $5 to $15 per square foot. This varies according to size: small buildings cost more per square foot. A 20' x 20' garage might cost $6,000, or $15/sq ft.

Foundation costs are fairly standard, usually $4 to $8 per square foot for poured concrete. Remember that GCs may include this cost in their proposals, but brokers and manufacturers of metal buildings definitely will not.

Labor costs will vary widely depending on the size of the project but can range from $3 to $10/sq ft. These costs will be charged by the hour, so increased complexity will drive them up considerably.

Insulation will add thousands of dollars to the cost of a larger building – but as mentioned previously, is a very good investment. It will improve the resale value and soundproofing of your building, in addition to saving energy costs – so it isn't an area to skimp on.

Contract tips

You'll be asked to sign a contract that details the design loads and specifications for the building. As with any major business purchase, you should inspect the contract very carefully before signing it. Here are a few things to look for:

- **Substitution clauses.** Manufacturers may try to give themselves the right to use different materials if those specified are not available. The idea is sound, but is often used to substitute cheaper materials for those you wanted. Make sure any changes are "equal or greater value" or have to be approved by you.
- **Specifics.** The more specifics in the contract, the better. The contract should not just list a "10 x 10 overhead door" – prices range from $250 to $1200 on such doors. The contract should list brand names and model numbers, insulation values, locks, coatings or paints, and more. This is another way unscrupulous dealers may try to stick you with lower-quality materials, so make sure every component is detailed in the contract.
- **Responsibilities.** Since brokers, GCs, and manufacturers play different roles in the process, make the contract details exactly who is responsible for each phase of the project: design, engineer's specification, fabrication, delivery, construction, and inspection.

Buying tips

- **Do not pinch pennies.** If you're spending tens of thousands of dollars, a difference of $500 here or there is not significant. The building is going to last 30 years or more, so make sure you get the building you want.
- **Look closely at good deals.** When two dealers present bids for similar buildings that are thousands of dollars apart, you should investigate the details thoroughly. Chances are that one is not including everything you need.
- **Verify the building codes.** We can not stress this enough: **make sure** you get in touch with your local building officials once you have specifications from your supplier, but *before* you sign the contract. Changes to meet code will always drive your costs up, so to avoid late surcharges, you need to verify that the contract includes all the right specifications.
- **Get it in writing.** Some manufacturers may ask for a verbal go-ahead to "get the factory working" or to "lock in this price." This is never a good idea. Getting the details in writing will ensure that you know exactly what you're buying.