

A better way to build

Steel-framing, the future of home building



Axxis[®]
STEEL FOR FRAMING
www.axxis.co.nz



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Building with Axxis[®] Steel for Framing

Find out how you can build with steel-framing made from Axxis[®] Steel.

**Axxis[®] Steel for Framing:
Better for business,
a better way to build**



Axxis® Steel for Framing is a brand of galvanised, high-tensile steel supplied by New Zealand Steel to New Zealand’s house framing market*. An increasing number of builders are constructing homes with steel-framing made from Axxis® Steel and are finding it good for business. With many benefits including the quality finish which steel-framing delivers, it’s easy to see why.



Speed of construction

Working with steel-framing is very fast and easy. Most steel-framing fabricators will both supply and erect it for you, but if you want to erect it yourself, you will find it very straightforward. Fabricators usually supply frames pre-assembled, strong and straight, and clearly identifiable. No welding is required. The frames come with service holes pre-punched and with plastic grommets to make it easy for your sub-trades to work with. Plus best of all the steel-frames do not absorb moisture so there is no delay waiting for frames to dry.



A superior finish

The rollforming technology behind steel-framing gives a high degree of dimensional accuracy, enabling consistently straight walls, square corners and an overall superior finish. The exactness that comes from building in this way helps later trades fitting internal linings, kitchens and other cupboards. Plus the stability of steel means no contraction or expansion with moisture changes, so frames won’t warp, twist, sag or shrink, eliminating many of the maintenance issues that create builder call-backs.



Homeowner appeal

Customers will find the benefits of steel-framing compelling. As well as the big draw-card of a top quality finish, they’ll benefit from a healthier indoor environment and knowing that they’ve made an environmentally responsible choice and because frames made from Axxis® Steel remain strong and true for years to come the likelihood of problems associated with excessive frame movement are greatly reduced, which means fewer call-backs and a home that looks as good as the day they moved in.



Healthy and safe

A steel-frame is lightweight and easy to handle (it’s approximately one third of the weight of a timber-frame). Steel has none of the additional preservative chemicals associated with timber, an important consideration for the health of builders and tradesmen working on-site. It’s also electrically safe and fire-resistant, and a healthy option for the homeowner as it won’t support mould growth or rot.



(*Note: Axxis® Specifications: Galvanised - [Z275 i.e. 275g/m2]. High tensile (G550). Manufactured to AS1397:2001)

The Axxis[®] difference: More reasons to make the change



With design and quality advantages, the benefits of building with Axxis[®] Steel for Framing cannot be ignored.

Peace of mind: A 50-year Durability Statement

Axxis[®] Steel has been developed and tested by New Zealand Steel, for New Zealand conditions. Galvanised with a 100% zinc coating for protection, it is backed by a 50-year Durability Statement, so you can trust that Axxis[®] Steel will stand the test of time.



From New Zealand Steel, a company you can trust

Axxis[®] Steel for Framing is manufactured by New Zealand Steel - the company who developed COLORSTEEL[®]. For decades, thousands of Kiwis have chosen COLORSTEEL[®] for their roofing. It has become one of this country's favourite and most trusted brands.

New Zealand Made

Axxis[®] Steel is manufactured in New Zealand at the Glenbrook Steel Mill, south of Auckland, and is made using local iron-sand.



Cost competitive

It may only represent around 10% of the total building cost, but the quality of the frame determines the quality of a home's finish. With every length straight, stable and strong a frame made from Axxis[®] Steel is a top quality product and contrary to common perception, all the benefits come at a price that's competitive with timber.

Design Flexibility

Steel-framing opens up a variety of design possibilities. Steel's high strength-to-weight ratio gives it excellent spanning capability, providing more design freedom to cost-effectively create wide, open spaces.



Environmentally sustainable

Axxis[®] Steel is made with consideration for the environment. It is manufactured in New Zealand from locally mined west coast iron-sand and is made with a component of recycled steel. Steel-framing requires no additional preservative chemicals and as it's pre-manufactured there's minimal wastage, reducing the environmental impact from building site waste going to landfill. Steel is also 100% recyclable, again and again, without losing its properties.

Builder Testimonial: **GOLDEN HOMES**



Builder: **Golden Homes**

Location: **Nationwide**

Framing: **Axxis® Steel for Framing**

As one of New Zealand's leading home-builders, Golden Homes have established a reputation for quality workmanship. The company began working with steel-framing three years ago, and since then they haven't looked back. Now more than 90% of their customers choose to build with steel.

Steel-framing was an obvious choice for Golden Homes. The company could see the benefits of steel's consistency, quality and durability. After putting both steel and timber-framing options to the market, steel is now their customers' preferred choice.

Steel-framing delivers quality and reliability.

Shane Helms from Golden Homes, said although they were successful building with timber, moving to steel-framing offered benefits in terms of results and a point of difference in the market. "We use Axxis® Steel only, it is a consistent and quality product backed by New Zealand Steel and our builders are saving time, as it's so easy and simple for them to erect."

Golden Homes' customers were quickly sold on steel's quality finish. "Clients have been rapt. All the customers that we've built steel-framed homes for have been very happy. We haven't had one bit of negative feedback."

Golden Homes' builders enjoy the benefits of steel.

David Grigor, a Golden Homes Authorised Licence Holder enjoys the fact that with steel-framing, call-backs have become a thing of the past, "Since building our first steel home in 2007, we haven't had to repair a single cracked ceiling, which is a constant bugbear in timber framed houses. Unlike timber, there's no movement."

"I am also impressed by the straightness of steel-framing and how it's so structurally sound. The accuracy of steel-framing is a big advantage. And because steel is stable and doesn't absorb moisture, there's little delay. "We don't have to wait for frames to dry if they're wet."

Steel's growing popularity with customers.

Golden Homes offers both timber and steel-framed homes, but now more than 90% of all their customers choose to build with steel. Eric and Lorraine are one such couple. Eric talks of his decision. "We had the option of going with timber-framing or steel, but decided to go with steel as it was the more modern option."

They say it was a good choice. "We've been happy with it," said Eric. "We've had a few people decide to build with steel after seeing our home." The couple also enjoyed the fact that the steel-frame home wasn't subject to weather constraints. "There's no hold ups, with steel you carry on straight through winter."

"Our builders are saving time, as it's so easy and simple for them to erect"

**Shane Helms,
Golden Homes**



"Unlike timber, there's no movement"

**David Grigor,
Builder**



"We've had a few people decide to build with steel after seeing our home"

**Eric and Lorraine,
Homeowners**



GOLDEN HOMES®

Builder Testimonial: Don Hawinkels Builders



Builder: **Don Hawinkels**
Location: **Te Anau**
Framing: **Axxis® Steel for Framing**

Don Hawinkels is a Registered Master Builder based in Te Anau. He has six staff and builds everything from residential homes to industrial and commercial properties. Since he put up his first frame five years ago, Don has found steel-framing to be a fast and easy way to build.

Don Hawinkels was convinced that steel was the best way to build after attending a steel-framing seminar. Five years later, Don says that his choice to use steel means he can finish more homes in less time, while losing nothing in quality.

“You can save a whole month in construction time, so you can do more jobs in a year and, at the end of the day you get more profit”

**Don Hawinkels,
Registered Master Builder**

Making the move to steel

A Registered Master Builder, Don Hawinkels had long built homes with timber-framing. Like any new product he said he was tentative at first about using steel. Yet by the time he'd got halfway through the first frame he said he was taken with it.

“At the time I was building a home for an older couple, I talked to them about steel-framing and they decided to go ahead with it. We'd allowed four months to do the job but we actually did it in three – it was a doddle.” Don was also drawn by the fact the steel product is New Zealand made. “I always buy local if I can.”

Steel-framing – fast to put up and easy to work with

For Don, steel-framing's speed and ease of use are major benefits. “With steel-framing, the profiles are pre-punched so everything is a lot quicker and there is less mess on site. Our system has all the uplift fixings and bracings built in, so it's automatically squared up – you just do the first corner and go from there.”

Don also said that because it's lighter to handle, it's easier to work with and needs less manpower. “Once you've got your head around it, it's easy. You can save a whole month in construction time, so you can do more jobs in a year and, at the end of the day you get more profit.”

Customers with steel-framed homes

“I get positive feedback from customers all the time,” says Don. “There are a lot of negative connotations around timber associated with chemicals, weathertightness, toxic mould syndrome - you won't get these problems with steel. The customers we've built steel-framed homes for wouldn't have anything else.”

“We've just done routine exterior maintenance on the first steel-framed home we ever built. On the interior of the home there has been no cracking and the home is still like the day they moved in.” Don thinks that people who buy steel-framed houses are making an investment for the future. “These people are looking for quality and are future-proofing themselves.”



Steel-framing - the building system of the future



Steel-framed homes are popular in many countries across the globe. In New Zealand, the popularity of steel-framing is growing year-by-year. The Axxis[®] Steel used in steel-framing follows overseas standards in that it is galvanised steel – the preferred corrosion protection method for steel-framing in the UK and the USA.

Australia



Australia's climate, termites and the threat of bush-fires have contributed to the increased popularity of steel-framing for residential and light commercial construction. Around, 15% of all house-frames across Australia are now made with steel and in South Australia, up to 30% of all homes are now being built with steel-framing.

Japan



The Japanese are known for their efficient and quality methods of construction. It is not surprising then, that steel-framing is so popular in this country – 150,000 steel-framed homes are built here each year.

USA



Steel-framing is common in homes across the United States – and it has been a popular method of construction for many years. The highest prevalence of steel-framing is found in warmer states such as Hawaii (approximately 40% of all homes), California and Florida.

New Zealand - A significant industry already operating



New Zealand is an international leader in the rollforming technology behind steel-framing with companies such as Framacad Solutions Ltd, Howick Ltd and Scottsdale Construction Systems, all based here in New Zealand, exporting their machines and technology around the world. As steel-framing's market share has grown so has the membership of the National Association of Steel-Framed Housing (NASH) which was established to represent the industry.

Answering your questions

If you are new to steel-framing you may have some questions. Here we explain the answers to some of the more commonly asked questions. More information can also be found at www.axxis.co.nz



“Will my sub-trades be happy working with it?”

Steel-framing is easy for sub-trades to work with, in fact after two or three homes most builders and sub-trades are sold on it. Frames are pre-punched with service holes, and creating new service holes is also simple.



Can a house plan be converted from timber to steel?

If house plans are already drawn for timber-framing, it's relatively easy to make the switch to steel. You may be surprised just how competitive it can be, and the additional benefits of steel make it an even more attractive option.

Do I (or my sub-trades) have to erect the frames ourselves?

Steel-frame fabricators are happy to provide advice and support for your builders and some offer a service to supply and stand frames, depending on where you're building.



Will there be any issues getting a building consent?

Building Consent Authorities are becoming increasingly familiar with consenting plans for steel-framed homes. Your fabricator will supply fully engineered detail drawings for your consent application. What's more, the National Association of Steel-Framed Housing (NASH) also provides support and training for building officials.

How are cladding and linings fixed?

Steel-framing enables you to apply exactly the same interior and exterior finishes as timber-framed homes. Gypsum board linings are glued and screwed to the frame. Thermal breaks are fixed to the exterior face of frames before building wrap is applied and cladding fixed.



When the weather changes, does steel contract and expand like timber?

Steel is relatively stable with a coefficient of linear expansion of 11.7×10^{-6} per degree Celsius, which equates to just 0.012mm per lineal metre of expansion for every degree Celsius change in temperature. Steel does not absorb moisture, therefore no dimensional change occurs as a result of variations in moisture levels.

If Axxis® Steel is cut or drilled, will it rust?

Axxis® Steel for Framing is made from galvanised steel. The zinc coating protects cut edges and penetrations from corrosion through sacrificial protection. New Zealand Steel provides a 50-year Durability Statement to meet the requirements of NZBC Clause B2-Durability for houses built within specification.



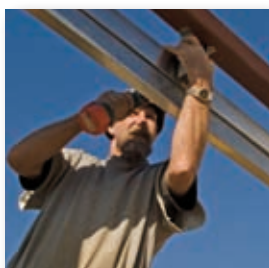
How easy is it for me to erect the frames myself?

It's very straightforward. Suppliers can deliver the frames pre-assembled and clearly marked for assembly with the type, positioning and number of all fixings also identified.

Working with steel



Working with steel-framing is relatively straightforward. But like anything new, you may have questions about how a steel-frame home is constructed, and what it might mean for you or your sub-trades. The following questions cover off some of the more practical aspects of erecting a steel-frame home.



Is steel slower or faster to work with?

Altogether working with steel can be faster. Frames and trusses are usually supplied pre-assembled and ready to erect, and some fabricators provide a supply and install service. Steel-frames are light and easy to move (approx 1/3 the weight of timber) and erecting steel is not so weather dependent. Steel-framing causes less maintenance problems so builders report less downtime from call-backs.



Will it be difficult to create service holes for pipes, wires and other services?

Axxis® Steel for Framing is sub-trade friendly. Service-holes are pre-punched and have plastic grommets to protect cable sheathing. Additional service holes are easily drilled or can be cleanly made (no swarf) with a stud punch.



How should I fix interior linings?

Wall linings are screw-fixed in accordance with manufacturer's specifications. The NASH Technical Bulletin ND-07 provides guidelines on fixing wall and ceiling linings (see www.nashnz.org.nz). Axxis® Steel for Framing has a similar expansion coefficient to gypsum plasterboard, minimising the incidence of cracking. It's already common practice to fix ceiling linings to steel ceiling battens.



Is it electrically safe?

Yes! Standard practice is to earth steel-frames, so if they are exposed to a live-wire the earthing creates a short and trips the residual current safety switch to reduce the chance of electrocution. In fact, steel-framing offers better protection in a lightning storm, as, if struck, the charge will be redirected to the ground, reducing the likelihood of fire or injury.



What tools do I need?

Steel-framing requires few specialist tools. There is no need for any welding equipment. To make it easy to work with steel-framing you'll need a good quality pair of aviation snips (left cut - red handle, right cut - green handle), a cordless impact driver with a selection of bits including 150mm bits for screwing into deep corners and a hole saw (34mm) to make any additional service holes. Alternatively, a 34mm stud punch can be used to cleanly create service holes without sharp edges or any swarf.

Building with Axxis[®] Steel for Framing



Where do I source frames and trusses made with Axxis[®] Steel?

Whether you build architecturally designed homes, or are a design and build expert, you'll find it easy to build your next home with a steel-frame. To find steel-frame and truss fabricators in your area simply visit www.axxis.co.nz

Further information is also available at www.nashnz.org.nz

Selecting a fabricator

Steel-frame and truss fabricators can be geographically searched at www.axxis.co.nz

To decide which fabricator is right for you talk to them about:

- the steel-framing system they use - each has subtle differences
- their geographic coverage relative to where you are building
- whether they supply only or can also stand frames / erect trusses for you
- the support they provide including on-site training
- references from other builders they work with

We recommend using fabricators who are members of the National Association of Steel-Framed Housing (NASH).

www.nashnz.org.nz





New Zealand Steel Limited

Private Bag 92 121, Auckland, New Zealand Ph (09) 375 8999 Fax (09) 375 8213
Freephone: 0800 100 523 info@nzsteel.co.nz www.axxis.co.nz

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