

Steel framing porkies

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Does a steel frame need chemical or physical termite protection?

The Building Code of Australia specifies chemical and physical termite barriers only where structural members are subject to termite attack. A steel frame is completely resistant to termite attack and a house built with a steel frame without a termite barrier is a reasonably safe option for an owner. One of the safest possible options is a steel frame plus non-structural fixtures of termite-resistant materials.

Visit the National Association for Steel Framed Housing's (NASH) [Termite Information Site](#).

I have heard that steel frames are made of thin steel. How do I know they will be strong enough?

The properties of steel are known and consistent, and conform to Australian standards or their equivalent. Steel framing components are designed around those properties. Most modern systems use high tensile steel components and appropriate jointing methods and are engineered to pass strict performance tests. So strong is steel that is the material of choice in high cyclonic areas.

I've heard a steel framed house is dangerous in lightning?

Lightening will have minimal effect on a steel frame as steel creates a positive earth allowing the energy to conduct straight to the ground and not be released destructively within the frame. Correctly installed steel frames are electrically safe because they are earthed and it is a requirement that all new housing be fitted with circuit breaking safety devices.

I've heard steel frames are not electrically safe. Is this true?

It is a BCA and AS/NZS3000 standard that any new dwelling, regardless of framing materials, must be fitted with a safety switch known as an RCD (Residual Current Device) or an ELCN (Earth Leakage Circuit Breaker). These devices are designed to prevent death by accidental electrocution.

I've heard you can't earth steel frames. And if electrified, the current will flow through any humans who are nearby. Is this true?

As outlined on the [NASH website](#), steel house frames must be permanently earthed in accordance with the requirements of the local electricity authorities. A temporary earth should be established until the permanent earth is installed.

An electric current will follow the path of least resistance, the amount of current being in inverse proportion to the resistances involved. In other words, if there are two paths the current can follow, it will split into two, the stronger current being conducted through the lower resistance. If that resistance is very low relative to the other, nearly all the current will flow through it. This is how the process of “earthing” works. Steel is an excellent conductor of electricity so it is improbable that any electric current would actually pass through a human body (high resistance) instead of the frame to earth system (low resistance). Non-conducting building materials with higher electrical resistances than steel actually increase the chance that more current will pass through the human. For more information on Electrical Safety, check the [National Association of Steel-Frames Housing \(NASH\) website](#)

If I use a steel frame how much flexibility do I have with design?

Steel frame manufacturers and fabricators can produce almost any one or two storey home designs seen in the Australian market today. Furthermore, it is possible to produce designs in steel that are difficult to replicate using other materials due to its spanning capabilities. By taking advantage of this feature a homeowner can often build with less expense than by using more conventional materials.

Is steel framing suitable for cyclonic areas?

Yes. Steel is used extensively in these areas because of its inherent strength and high tensile properties. It is recommended that you consult with your local steel framing fabricators for details.

Steel expands and contracts as the temperature changes. Is this a problem?

Whether a steel frame is mechanically jointed or welded, in a properly constructed and insulated home, thermally induced movement and noise is equally as likely as with other materials. Steel framing expands and contracts at rates not too dissimilar from other materials, which means it's unlikely that there will be noise or cornice cracking problems.

What warranties are available to the homeowner?

Generally, there are two types of warranty that may be available to BlueScope Steel customers. Material Warranties* cover the materials (such as TRUECORE® steel) that certain steel products are made from. Performance Warranties are offered by some manufacturers of these end products to assure users they will perform as expected when installed. (If a homeowner asks you about warranties, refer to either the project supervisor, your supplier or call BlueScope Steel Direct 1800 800 789.)

*Conditions apply, see our [warranty page](#) for more information.

Why are people building more steel-framed homes?

Steel is the product to use to protect the long-term investment of the homeowner and to reduce the amount of call backs for the tradie. It's lightweight and strong, won't burn, is termite and borer proof and won't shrink, warp or twist - so the home is maintained for the future.

You can't build a steel frame on piers or concrete slabs? Is this right?

No, this is not correct, you can build on either. Steel framing can be fixed directly to a concrete slab, or to steel flooring systems on brick, concrete, or steel piers.