



Tiny House Blog

Entry #1 . . . It All Starts With Steel

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Ernest Hemingway once said that he would have to write a long story because he didn't have time to write a short one. Fortunately for us at ThinHaus, our story is already a long one so this is not going to be a problem. Even so, let's break things up into bite-sized reading pieces and let you go for as much as you want, whenever you want. Also, rather than start from the beginning on how ThinHaus came to be, let's begin with what might be the most important part of a ThinHaus, the steel frame. It's what makes our homes so incredibly strong and light.



When you design with steel, you start at the end and come backwards. By “the end” we mean, what are the loads on this structure, both static and dynamic. Once you know these things, you can figure out how to build it. Static loads are basically standing weight ... the weight of the thing (roof and walls) and weight on top of it (snow and rain ... Arizona Sun is a beast, but it doesn't really weigh much). Dynamic loads are the real killer and really need to be understood. Moving a ThinHaus means 55mph for hours on end. Every square foot of surface contributes to the dynamic pressure. If you want to withstand 150mph, you better build it with thick steel.

The steel stud tables tell us that 12' spans of 2x4 steel studs require 16ga metal. This is not available at Home Depot and you have to buy several tons with each order from the manufacturer. It's not really a product for a DIY tiny house builder. Even if you did have it, putting it together requires something special ... the self-driving, pancake head, #10 philips steel sheet metal screw.



To build a ThinHaus, you'll need over 10,000 of these guys and big surprise ... you can't get these at Home Depot, either (there's also a rubber grommet that is used to keep the weather out and guess what ... not available at Home Depot).

The steel frame of a ThinHaus is lighter, stronger and stiffer than wood and costs only a little more. It's an obvious choice ... if you can get it and know what to do with it once you do. The stiffness thing has another really a great benefit: It allows the walls to be thinner while still providing great insulation. It means there's more room inside a steel ThinHaus than if we made it with wood. Walk into a ThinHaus or just lean against one and you'll see what we mean. It's crazy solid.

So, that's where we start ... crazy solid ... wicked strong and aircraft light. It's what engineers make when they start with a blank piece of paper and a world of interesting materials.

For more data and building details concerning the ThinHaus frame, email to: engineering@thinhaus.com and we'll share the specifications and techniques that we use to build our industry leading ThinHaus.