

A large-scale photograph of a building's steel frame under construction. The structure is composed of numerous vertical and horizontal steel beams, creating a complex grid. The sky is clear and blue, and some trees are visible in the background. The steel frame is the primary focus, showing the intricate details of the construction.

COLD-FORMED STEEL VS. WOOD FRAMING

Steel vs. Wood: compare the **whole** **framing system.**

The useful comparison isn't steel price versus lumber price. It's the total cost and risk of delivering the structure: engineering, material, labor, waste, schedule and rework.

01 ENGINEERING

02 MATERIAL

03 LABOR

04 WASTE

05 SCHEDULE

06 REWORK

01 • THE COMPARISON THAT MATTERS

Price per stick is the **wrong question.**

Steel framing material often costs more per pound than lumber, and wood is cheaper at the lumberyard. But the total project cost is usually competitive, and sometimes lower, once labor, waste, rework, insurance and long-term maintenance are factored in.

So compare the six things that actually decide what it costs to deliver the structure.

01 • ENGINEERING

Resolved upstream, or in the field?

Digitally manufactured steel can't be left to field interpretation. The structure has to be resolved in the model before production. Every Volstrukt structural package is stamped by a licensed engineer in the project's jurisdiction.

ASK Who resolves load paths, openings and bracing, and when?

02 • MATERIAL

Initial price vs. price stability.

Wood usually has the edge on initial material cost. Steel rates stronger on material cost stability. Every CFS frame contains at least 25% recycled content and is 100% recyclable at end of life.

ASK What's in the number: raw studs, or the delivered structural solution?

03 • LABOR

Crew hours, not just crew rates.

Panels arrive assembled, so crews set, connect, align and brace instead of measuring and cutting. That lets experienced crews accomplish more per day. With wood, it's easier to find a framer on short notice.

ASK How much measuring, cutting and sorting happens on site?

04 • WASTE

Offcuts are paid for twice.

When steel is manufactured to the required lengths and organized around the assembly model, there's less cutting, fewer offcuts and less scrap on site: less to order, less to handle and less to clean up.

ASK Is material cut to length before it ships, or in the field?

05 • SCHEDULE

A known timeline beats a fast guess.

Typical Volstrukt timelines: 10–12 weeks from order confirmation to standing frame for a stock model with no custom changes; 12–16 weeks for custom designs, depending on engineering complexity. Stock-model frame assembly typically takes 1–2 weeks.

ASK What sets the date: the plan, or field decisions?

06 • REWORK

Tolerances engineered, not negotiated.

CFS components are cut to ± 1 mm, against a typical wood field tolerance of about $\pm 1/4$ ". Steel doesn't absorb moisture or move with humidity. Information missing from the drawings gets solved in the field at full labor and schedule cost.

ASK Who pays when the frame doesn't match the plans?

The point isn't that steel is always the cheaper material. It's that the delivered structure is what you actually pay for, so that's what to compare.

02 • WHERE THE RISK SITS

Move the complexity upfront.

Both approaches deal with the same total complexity. The difference is when it gets resolved. Traditional construction pushes decisions into the field, where every fix is most expensive. A coordinated steel framing system resolves the structure before a single panel ships.

TRADITIONAL CONSTRUCTION

Complexity accumulates in the field

DESIGN	QUOTE	ORDER MATERIALS	BUILD	SOLVE PROBLEMS ON SITE
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THE VOLSTRUKT SYSTEM

Complexity resolved before fabrication

DESIGN	DIGITALLY RESOLVE	ENGINEER	MANUFACTURE	DELIVER	ASSEMBLE
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A VOLSTRUKT FRAMING KIT, CRATED FOR DELIVERY

What that changes on site

- **Fewer jobsite surprises.** More coordination happens before fabrication, reducing field interpretation and rework.
- **Faster, cleaner assembly.** Components are labeled by panel, with the hardware schedule and assembly drawings packed alongside.
- **Delivered in install order.** Panels are bundled, labeled and delivered in the order they install.
- **Predictability across projects.** Resolved framing systems make it easier to build ADUs, small homes and multi-home projects with the same scope clarity.

TYPICAL STOCK-MODEL PATH • 5 PHASES

10–12 weeks, order confirmation to standing frame

01 Talk DAYS 1–7	02 Decide WEEK 2	03 Engineer WEEKS 3–4	04 Manufacture & ship WEEKS 5–10	05 Build WEEK 11+
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The building is still built on your site by your builder. The framing just arrives more complete, so there's less to figure out in the field.

03 • THE MATERIAL ITSELF

Side by side, row by row.

What changes in the building itself when the frame is cold-formed steel (CFS) instead of wood.

ATTRIBUTE	WOOD FRAMING	COLD-FORMED STEEL
Weight	BASELINE Heavy and variable by species and moisture content.	40-60% LIGHTER Less to handle, less crane time, easier on tight infill sites.
Fire	ISO CONSTRUCTION CODE 1 Combustible. "Frame" is the least fire-resistive category.	ISO CONSTRUCTION CODE 3 Noncombustible. Steel does not ignite.
Insurance	HIGHER PREMIUM Frame construction is the most expensive insurance category.	TYPICALLY 10-20% LOWER On standard policies. Builders Risk can save 50% or more. Actual premiums depend on carrier, jurisdiction and underwriting.
Precision	±1/4" TYPICAL Cut on site; studs vary, plates get shimmed.	±1 MM Roll-formed from a CAD file, punched, labeled and numbered. No on-site cutting.
Stability	HYGROSCOPIC Moves with temperature and humidity; shows up as nail pops and cracks.	NO MOVEMENT Doesn't absorb moisture or move with humidity.
Pests & mold	ORGANIC Food for termites, substrate for mold.	INORGANIC Doesn't host insects, grow mold or rot.
Lifespan	30-60 YEARS Before major structural work.	100-YEAR DESIGN LIFE Galvanized CFS framing.
Sustainability	~40 TREES PER HOME End-of-life lumber is typically landfilled.	100% RECYCLABLE At least 25% recycled content in every CFS frame.

WHERE WOOD HAS THE EDGE

- Initial material cost: cheaper sticks at the lumberyard.
- Subcontractor availability: easier to find a framer on short notice.

CODES & DESIGN NOTES

- Covered by AISI S201, IRC Section R603 (residential) and the IBC (commercial).
- Thermal bridging is designed out with continuous exterior insulation outside the framing.

A managed framing solution, **not raw studs.**

A roll former manufactures the frame. Volstrukt manages the process that makes the frame work. As your primary CFS project partner, we coordinate the framing system from design through production, so the number you plan around is the delivered structural solution.

WHAT VOLSTRUKT COORDINATES

- Design review and engineering coordination
- Detailing and panelization
- Production planning and procurement
- Fabrication coordination and QA/QC
- Logistics and delivery sequencing
- Field support during assembly

WHAT YOUR BUILDER RUNS

- Permit submission and local approvals
- Foundation and site work
- Frame assembly on site
- MEP rough-in and final
- Finishes, fixtures and exterior cladding
- Commissioning and punchlist

Machine-agnostic by design

Different machines produce different profiles. Instead of making the building fit one machine, we ask: what does the building need, and who is best equipped to produce it? We compare the overall solution (capability, quality, schedule, freight and total landed cost), not just the lowest machine rate.

Choose how much we coordinate

Four delivery levels, depending on how much of the build you want packaged together. The right level depends on your builder, your market, and how much procurement you want to manage locally.

LEVEL 1

Structural Frame Package

Bring your design. We deliver the engineered steel framing system.



LEVEL 2

Exterior Shell Kit

Structure plus a weatherproof envelope.



LEVEL 3

Exterior Complete Kit

Adds windows, exterior doors and exterior finishes.



LEVEL 4

Complete House Kit

A coordinated material package around the model.



Custom vs. repeat

If a design will be built more than once, the first project can create a reusable digital framing package (model, details, BOM and production logic) that carries into future units, so the engineering isn't re-solved every time.

One point of contact

You deal with Volstrukt as the primary CFS project partner. We manage the interfaces, production sequencing, scope boundaries, logistics, documentation and delivery coordination.

The right number, not a fast number. Every figure starts as a planning range and is validated against your plans, site and scope before it becomes a price.

05 • COMPARE IT ON YOUR PROJECT

Send us **your plans.**

The whole-system comparison only becomes real on a real project. Send the current drawings and we'll identify the right next step. If it's still early, we'll tell you exactly what to resolve first.

☐ Current plan set (a concept sketch is fine)☐ Project location: address or lot☐ Intended delivery scope or kit level☐ Timing: what's driving your start date**01****You send plans**

Early drawings, permit drawings, builder sketches, or a description of what you're building.

02**We review**

We confirm what we can price and what's still to resolve. We respond within one business day.

03**Your next step**

Ready: a project-specific budget. Still early: a paid feasibility & budget study.

SEND US YOUR PLANS

volstrukt.com/contact<https://www.volstrukt.com/contact>

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