

STRUCTURAL STEEL

Market update - 26% spare capacity

The '6Cs' - the local steel advantage

Our local structural steel industry is committed to building skills, capacity and processes to maximise steel's contribution to a low-emissions, climate-resilient and economically strong society. Our network of 153 fabrication companies has a strong track record of investing in our people, embracing technology and collaborating to deliver the best possible outcomes.

The strengths and unique qualities of our industry are characterised by the '6Cs' - carbon, capacity, competitiveness, capability, compliance and collaboration. As a result, demand for structural steel solutions has grown substantially in the past two decades.

CAPACITY: The industry has proven capacity to deliver on all projects - there is no need for procurers to go offshore to satisfy demand. In the past 12 months the New Zealand structural steel sector turned approximately 100,000 tonnes of structural steel into buildings and bridges through its network of steel distributors, fabricators and erectors.

SCNZ's latest quarterly fabricator forward-workload survey indicates there is significant spare industry capacity for the year ending December 2023 - estimated at 26 percent, based on a current estimated total capacity of 120,000 tonnes per annum.

SCNZ Estimated Fabrication Tonnages (per quarter)



CARBON: Our structural steel industry is working to reduce its emissions and progress towards a circular economy with the support of the Sustainable Steel Council (SSC) and the Heavy Engineering Research Association (HERA). Our aim is for steel to be a critical enabler in New Zealand's journey to a low-emissions economy. Notably, a zero carbon steel offset programme has been developed; 95 percent of steel waste in construction is recycled; and research is underway into carbon-alternative reductants for the steelmaking process.

COLLABORATION: Our highly collaborative network of 153 fabricator companies has proven ability to meet demand, regularly partnering with each other nationwide - and with the head contractor and lead consultants as part of Early Contractor Involvement (ECI) - to ensure a project is delivered to a high standard, on time and on budget. From the get-go, ECI allows our fabricators to add value to the design team by helping to explore buildability, timeframes and risk. The approach delivers projects that carry much less risk, enjoy fewer variations and are typically better planned.

CAPABILITY: Our structural steel industry has proven capability to handle a range of construction projects. Local investment in R&D and innovation has led to world-firsts in seismic load-resisting systems and performance-based fire design. We are also committed to developing our people: 10.6 percent of the total workforce employed by local structural steel contractors are in a training programme, and 70 percent of structural steel contractors employ an average of five apprentices.

COMPETITIVE: Structural steel is a cost-effective building solution. Investment in fabrication technology and workshops, and the modern approach of simple bolted connections, has improved productivity in New Zealand's structural steel industry. Overall construction programmes for multilevel commercial projects using structural steel are generally 10-15 percent shorter compared to other materials.

COMPLIANCE: Ten years ago, New Zealand's structural steel industry turned its attention to quality and compliance in earnest. In the time since, it has delivered multiple initiatives to drive best practice and help 'raise the bar' across the sector. Today, as a result, the structural steel sector is generally perceived to be ahead of the wider building industry in the quality and compliance space.

- **Steel Fabrication Certification:** launched in 2014, the industry-led quality assurance scheme ensures participating structural steel contractors have appropriate personnel and quality management systems in place representing international best practice.
- **New Zealand Structural Steelwork Specification in Compliance with AS/NZS 5131:** published in 2018, the specification is a tool to help engineers and industry to implement AS/NZS 5131.
- **New Zealand Guide to the Sourcing of Compliant Structural Steels:** simplifies the local practice for demonstrating the conformity of structural steels.
- **Distributor Charter:** ensures that structural steel supplied to the local steel construction sector is sourced using best-practice procurement. It represents a mark of excellence for structural steel distributors in New Zealand.
- **Bolt Importer Charter:** ensures that fasteners and anchor bolts supplied to the local steel construction sector are sourced using good procurement practice.
- **Metal Decking and Stud Welding Code of Practice (COP):** The COP, which will be launched in 2023, sets out minimum requirements for metal deck construction. Where applicable, these are aligned with the recently revised stud welding standard AS 1554.2:2021.

Industry who's who

Manufacturers (steel mills) produce structural steel products, including hot-rolled elements (I beams and columns, channels, plate and angles) and hollow sections (circular, rectangular and square).

Merchants / distributors import steel for use in the construction industry. Such companies have extensive warehousing facilities to carry a large inventory required to service market needs and provide limited pre-processing of structural material prior to fabrication.

Structural steel fabrication companies physically prepare the structural steel for a building or bridge through a process of developing detailed drawings (the work of a detailer) based on the construction drawings provided by a structural engineer. They are responsible for material management, cutting, drilling, shop fitting (bolting or welding), painting and galvanising (when required), and shipping.

Erectors assemble the structural steel members into a structural frame on the project site by bolting and field welding structural steel components together according to the construction documents. In New Zealand the fabricator will typically manage the erection process of its steelwork either through the use of its own rigging crews or subcontracted resource.

Key industry facts

In the past two decades demand for structural steel solutions has grown substantially. Today, structural steel's share of the multilevel construction market is more than 50 percent nationwide. In Christchurch, due to structural steel's strong seismic performance, its market share is over 80 percent - up from virtually nil before the Canterbury earthquakes.

Market share: 50 percent nationally and >80 percent in Christchurch.

Annual output: circa 100,000 tonnes in the past 12 months.

Structural steel fabrication companies: 153 nationwide.

Current annual capacity: estimated at 120,000 tonnes, which could be increased by multi-shifting to meet demand.

Employment: approximately 5,000 workers.

Industry investment: significant investment in several new state-of-the art workshops since 2007.

Fabrication certification: 57 structural steel fabrication companies representing 92.5 percent of the sector's annual output participate in independent quality assurance scheme SFC.

For more information about who's who in structural steel, visit scnz.org and steelfabcert.co.nz