



STRUCTURAL STEEL: 10 YEARS OF QUALITY AND 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.

The groundwork was laid in the '90s and 2000s, when steel's market share was minor compared to other building materials. The Heavy Engineering Research Association (HERA) created conditions for the market to grow; it set the foundations with the standards framework, training schemes and guidelines for engineers. However, it was the 2010 Stadium Southland roof collapse followed by the Canterbury earthquakes that accelerated the structural steel industry's work in the quality and compliance space.

In 2012, Steel Construction New Zealand (SCNZ) and HERA began to engage with industry to identify the best quality management scheme for New Zealand. In the wake of the Canterbury earthquakes, the industry had to scale up to match the demands of the rebuild. The pair guided the industry as it ramped up in response – an emphasis on training and quality management played a big part in this.

Structural steelwork was good in New Zealand prior to the earthquakes but the concept of quality management was still in its infancy – most structural steel contractors were focused on quality assurance, inspection and quality control.

It was an evolutionary process. HERA and SCNZ leveraged their strong international networks to explore best practice offshore with a view to adopting it in New Zealand. The result was the Steel Fabrication Certification (SFC) scheme.

STEEL FABRICATION CERTIFICATION

The SFC scheme was launched with publication of the SFC Code of Practice (COP) by SCNZ in 2014. The COP became the basis for the scheme's underlying quality standard AS/NZS 5131, which is based on the European standard EN1090. The industry-led quality scheme provides independent, expert certification of New Zealand fabrication companies and is a cornerstone of the industry's quality and compliance activities.

Over time, other quality assurance initiatives have been developed by the industry to complement SFC. These initiatives provide procurers and specifiers – such as engineers, architects and head contractors – with certainty of product quality and significantly reduced compliance risk. This is particularly important at a time when independent on-the-ground quality assurance of prefabricated structural steel sections procured from low-cost offshore sources is difficult to achieve.

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In the past 10 years, SCNZ has rolled out a range of initiatives to raise the bar 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.
- **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.
- **New Zealand Guide to the Sourcing of Compliant Structural Steels:** simplifies the local practice for demonstrating the conformity of structural steels.
- **New Zealand Structural Steelwork Specification in Compliance with AS/NZS 5131:** published in 2016, the specification is a tool to help engineers and industry to implement AS/NZS 5131.
- **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 sets out minimum requirements for metal deck construction. Where applicable, these are aligned with the recently revised stud welding standard AS 1554.1:2021.

Today, 57 structural steel fabrication companies nationwide, representing 92.5 percent of the sector's annual output, are SFC qualified and manufacture structural steelwork to international best practice.

The industry's immediate focus is to get everyone on board. Going forward, the industry will be firmly focused on streamlining the existing quality and compliance initiatives – making them work as seamlessly and efficiently as possible.



“The structural steel industry’s proactiveness, their ability to drive change, set up their own standards and get ahead of the game, which many other parts of the industry haven’t done, is a credit to them.”

Terry Buchan, GM Major Projects, Hawkins

“The steel industry has responded by developing pathways to measure and demonstrate compliance, and providing the necessary documentation in an easy-to-use format. It gives designers confidence in the procedures and the quality that is provided.”

Vijay Patel, Technical Director Structural Engineering, Beca

“With SFC, you are following a process, ticking lots of boxes, and it assures us that everything is done properly.”

Alfredas Tamosauskas, Design & Quality Assurance Manager, Pengelly Engineers

“The industry has become stronger, more resilient and much more aware of the quality management requirements of applicable standards. They are more self-confident, relying on their knowledge, not some third party advising them.”

Michail Karpenko, General Manager Welding Centre, HERA

“Today, our industry is much more sophisticated and more highly educated; it offers low-risk solutions that are well proven, well documented and repeatable across the industry.”

Wayne Carson, Managing Director, D&H Steel Construction

“There is little doubt that, while there is always room for improvement, the structural steel industry scores well in the quality and compliance space, particularly now the requirement to demonstrate compliance to AS/NZS 5131 is cited in the B1 building code.”

Andrew Boyd, Principal Project Lead Building Consents, Auckland Council