

SFC scheme proves a game changer

Karen Phelps

Structural steel is rapidly becoming the material of choice for many builders around New Zealand, says Steel Construction New Zealand (SCNZ) manager Darren O'Riley.

"Steel's proven ability to withstand seismic loading with little or no structural damage has led to the material becoming the preferred solution for buildings throughout New Zealand. Conservative estimates are that structural steel has around 50% market share in multi-storey buildings nationwide and more than 80% in Christchurch," he says.

The industry has responded to the increase in demand by investing heavily in research, technology and people. As a result of this innovation, the capacity of local structural steel fabrication has increased from 20,000 to 120,000 tonnes over the past 20 years. Darren says that a recent survey conducted shows that there is presently 34% of spare capacity in the local industry and that the estimated delivery performance against agreed programme sits at 96.51%.

The Steel Fabrication Certification (SFC) scheme has also proven a game changer and has had fast uptake from industry. The industry-led quality assurance scheme, which was introduced in 2014, aims to reduce risk for specifiers by ensuring that participating structural steel fabricators have the appropriate personnel and quality management systems in place to manufacture product to the specified quality standard. The qualification will become mandatory for SCNZ fabricator members from 2020, existing members have until then to meet the SFC requirement and new SCNZ members will have



• to page 48 Structural steel has around 50 per cent market share in multi-storey buildings in New Zealand.

Passion for value engineering

A key differentiator for consulting engineers Kirk Roberts is the ability to integrate engineering with the creative design process and brainstorm the best and most cost efficient outcome possible. Company Structural Manager Nick Calvert says that there are many different examples of how this philosophy plays out over a project from fabrication drawings to Building Information Modelling (BIM) drawings and even choice of materials.

For example; Kirk Roberts can often speed up a project by combining the fabrication drawings in with the design process, resulting in time and cost savings for the client.

Another example; is that he says Kirk Roberts is not afraid to use a variety of materials in a structure with the overall aim to use the right materials in each part of the building to give the best final result.

Designing in this way has also seen the company deliver specialist expertise around post tensioned, low damage design where each part of the building is fine tuned to deliver better performance. For example the Vodafone building in Christchurch, which has a concrete shear core with steel k brace to deliver optimal seismic torsional response.

Steel is often a clear favourite when it comes to materials, and one of the key benefits is that when it comes to assessing damage, it is easier to assess steel for damage following an event like an earthquake and easier to repair that damage.

"For example, when assessing concrete with reinforcing steel inside, it can be difficult to understand if the steel is damaged or not and cracks in the concrete can open, then close up again. With steel it is very accessible and visible," he explains.

He says that when using imported structural steel, Kirk Roberts can often offer expertise that can save the client time and money.

"With imported steel it's essential to get the right engineering advice to ensure compliance and mitigate potential problems, as well as assess the true cost of using imported steel compared with local product," he says.

He says that the company's specialist expertise and level of quality and detail is also apparent in its BIM drawings, which are delivered up to Level of Development 500 standard, with level of development 300 as par for the course.

Nick says BIM is more than just drawing in 3D and the company delivers drawings with a level of detail that means they can be used for cost planning and fabrication. Kirk Roberts has been operating since 2006, and has offices in Christchurch, Tauranga and Auckland employing close to 100 staff. Services include structural, geotechnical, environmental, fire and civil engineering, as well as software development and quantity surveying. Nick says the growth of the company boils down to a passion for value engineering, that is reinforced by a company culture built on leveraging innovation to benefit client projects every time.



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Certification gains traction with clients

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to qualify for SFC prior to being inducted into SCNZ. Fabricator members will first have to qualify then ensure they maintain the qualification.

They are audited by an independent third party, HERA Certification, which has been established to ensure steel fabricators have both the welding and the fabrication quality management systems in place to consistently produce fully compliant steelwork.

Darren says that approximately 30 fabricators, ranging from small to large operators and representing more than 80% of the sector's annual output, are already SFC qualified and that number continues to grow.

He says that the certification has already gained traction with clients that are increasingly requesting SFC on their projects.

It's an important factor that distinguishes New Zealand structural steel contractors from offshore producers and suppliers, he says.

Darren says that the current boom in construction activity has seen an increased amount of imported fabricated structural steel sections entering New Zealand however there have been cases where it has not been easy to prove the steelwork meets the required specification, leading to expensive and time-consuming testing to demonstrate compliance. The upshot has been costly project delays.

Darren expects the trend for New Zealand fabricated structural steel sections to grow around the country.

"In New Zealand the construction industry is served well by local structural steel contractors.

Increased certainty, reduced risk for engineers, builders and building officials



Steel Fabrication Certification (SFC)

Technical Requirements

Conformity Assessment

Risk-based Approach
Construction Categories

Auditing Authority through HERA Certification

"Our industry is taking the lead internationally on raising standards and is committed to providing compliant product of the highest quality for building and infrastructure projects.

New Zealand's ability to satisfy demand combined with the SFC scheme, means that procurers and specifiers, such as engineers, architects, quantity surveyors and building contractors, can now have certainty of product delivery, quality and enjoy significantly reduced compliance risk."

"In New Zealand the construction industry is served well by local structural steel contractors. Our industry is taking the lead internationally on raising standards and is committed to providing compliant product of the highest quality for building and infrastructure projects."



SFC BENEFITS

- Reduces the compliance risk for specifiers and procurers
- Potentially avoids project delays and costs associated with rework
- Independent verification of fabricator capability to meet the requirements of AS/NZS 5131
- Lower engineer and builder costs to ensure work meets the required standard
- Helps to evaluate tender bids



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