The New AS/NZS 5131

Structural Steelwork – Fabrication and Erection

The new AS/NZS 5131 standard defines best practice for the fabrication and erection of fabricated structural steel in New Zealand. As of July 2018, it is cited in the Building Code as the sole approved document for fabrication and erection. Importantly, it also provides the basis for the industry-led quality assurance scheme, **Steel Fabrication Certification** (SFC). AS/NZS 5131 addresses:

- Requirements for documentation and specification.
- Materials, including steel, welding consumables, fasteners and grout.
- Preparation and assembly, including cutting, shaping and holing.
- Welding, including welding processes and qualification of welding procedures and personnel.
- Surface treatment and corrosion protection.
- Mechanical fastening (bolting, tensioning of bolts, special fasteners, post-fixed anchors).
- Architecturally exposed structural steelwork.
- Erections.
- Geometrical tolerances.
- Inspection, testing and correction.
- Site modifications and repair of existing structures.

AS/NZS 5131: how it works

Implementing AS/NZS in your project process is easy:

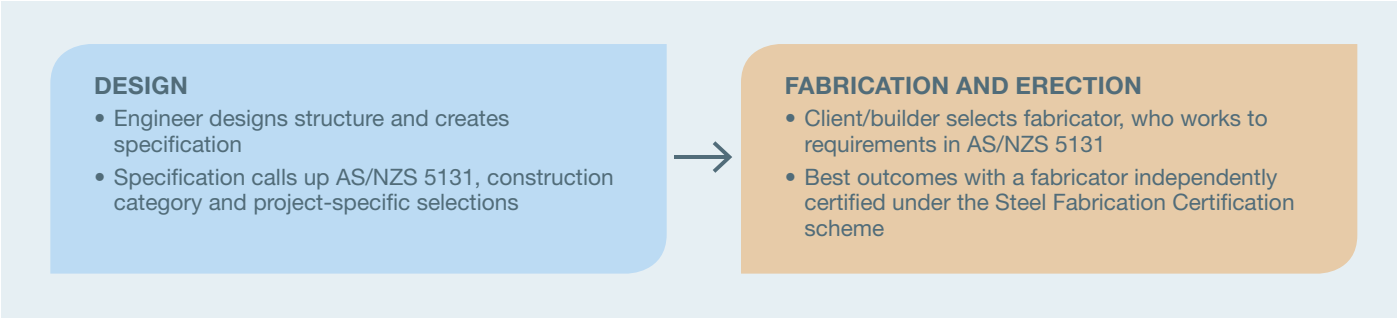

Figure 1

Fabricator certification and the Steel Fabrication Certification scheme

SCNZ and HERA have developed SFC, comprising four supporting pillars:

- AS/NZS 5131 as the technical foundation.
- Risk assessment and engineer selection of the construction category.
- Conformity assessment to the requirements of AS/NZS 5131.
- Auditing and certification of fabricators through HERA Certification Ltd.

STEEL FABRICATION CERTIFICATION
IN ASSOCIATION WITH SCNZ AND HERA

Industry association-led compliance schemes are commonplace in the UK, USA, Canada and Australia, and in Europe and the UK compliance is legislated as a mandatory safety requirement for all structural steelwork. Australia has joined New Zealand in developing an industry-led compliance scheme based on AS/NZS 5131.

Benefits of Steel Fabrication Certification

- Provides a high level of assurance that the fabricated structural steelwork for your project is from a qualified, competent fabricator.
- Saves significant project resources and time in checking of product compliance.
- Is effectively a prequalification scheme that in time will save significant costs in making the project tendering process more efficient.

Assessing the construction category

The assessment of the construction category for the project or components of the project utilises a very simple risk matrix with three input factors, including the structure importance level from AS/NZS 1170.0. Examples of construction categorisation to AS/NZS 5131 are given in figure 2.

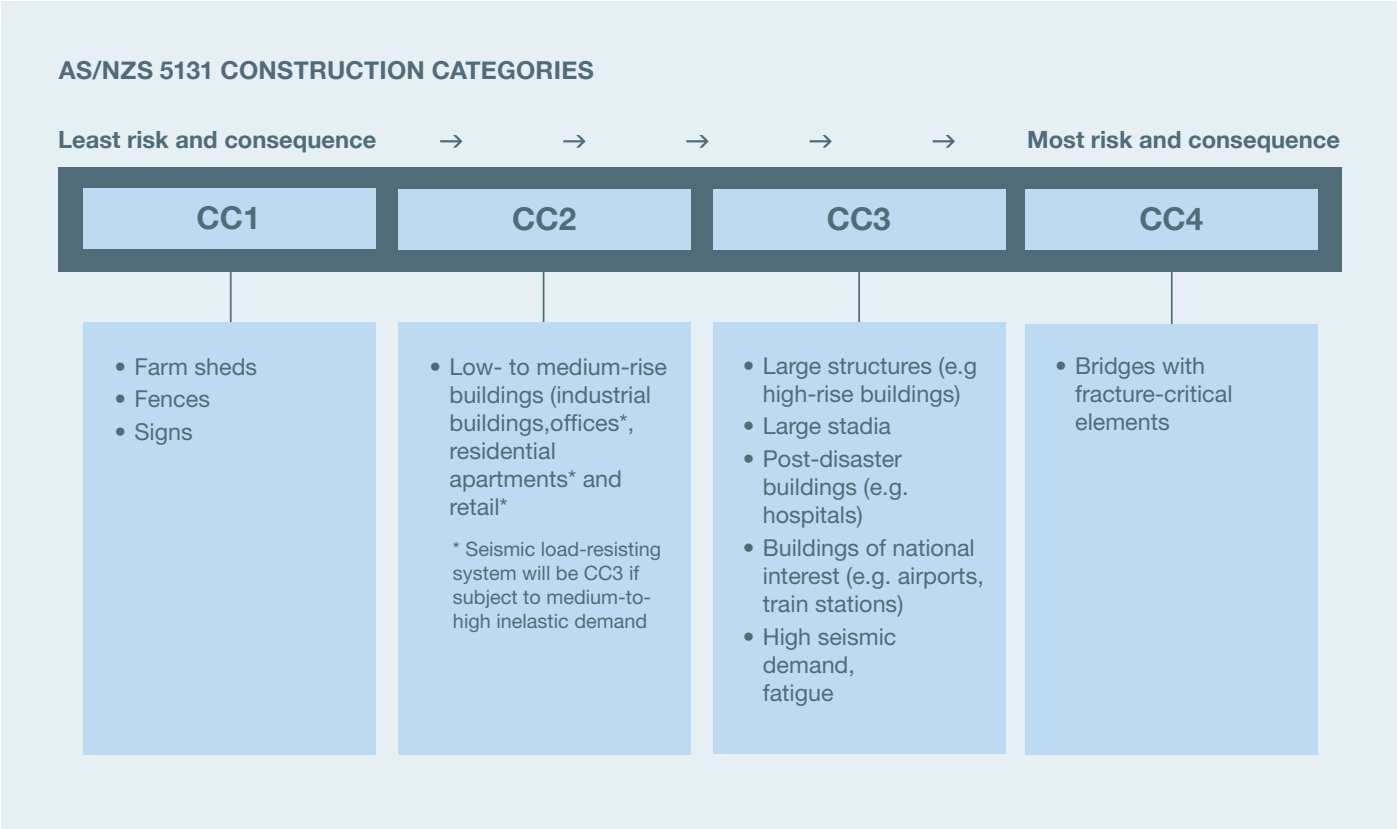

Figure 2

The New Zealand Structural Steelwork Specification

Based on an ASI document, SCNZ has created the New Zealand Structural Steelwork Specification (NZSSS) as a convenient implementation tool for industry to ingrain the AS/NZS 5131 requirements. The NZSSS presents a standardised template for creating project-specific and/or company-specific specification for fabricated structural steelwork.

A downloadable copy will be available from SCNZ from August 2018.

ENGINEERS

Engineer's role in the implementation of AS/NZS 5131 is to:

- Nominate the construction category for the particular structure or component.
- Utilise NZSSS in compliance with AS/NZS 5131 to ensure that, for the scope of work for which you are contracted, the construction specification has suitable wording to reference the Standard and the necessary project-specific detail selections.
- Review shop drawings and the submittals for materials and fabrication to confirm conformity.
- Provide a producer statement (PS4) – construction review at the completion of the work .

Structure of AS/NZS 5131

In essence, AS/NZS 5131 defines two 'layers' on top of the base layer that represents international good practice:

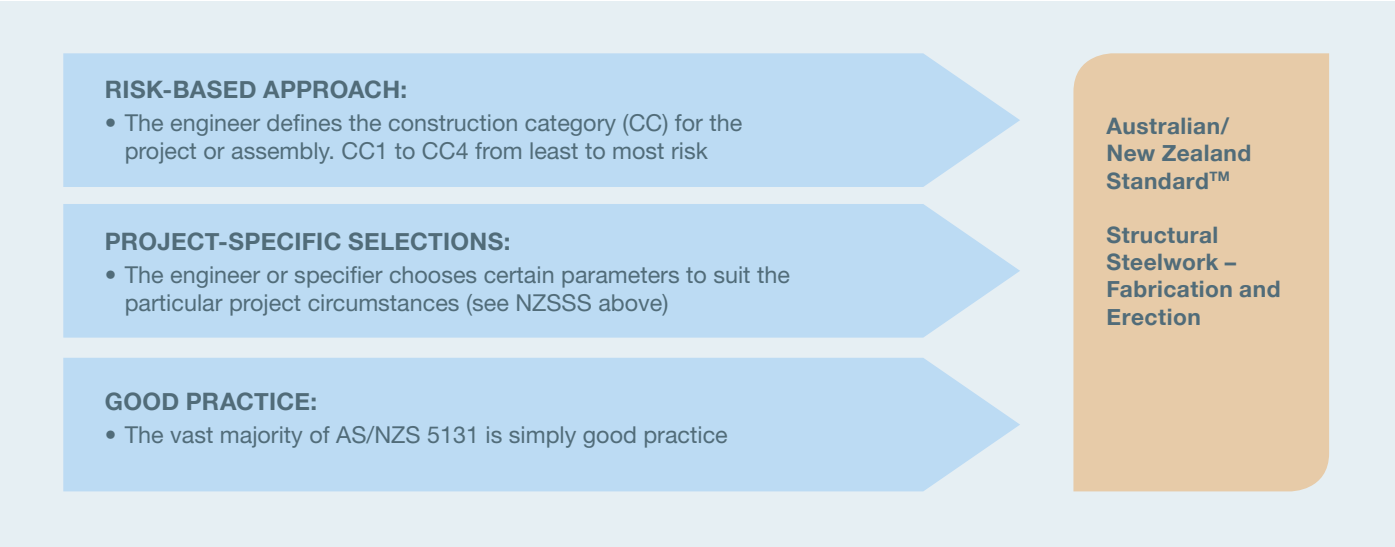

Figure 3

The benefits for you

AS/NZS 5131 and NZSSS provide engineers with:

- The means to make a clear quantitative risk-based categorisation of projects.
- A practical tool that in time becomes accepted industry practice.

BUILDERS

Builder's role in implementing AS/NZS 5131 is to:

- Ensure processes and documentation are consistent with the construction category for the project or component being undertaken. AS/NZS 5131 defines the requirements. Engaging an SFC-qualified fabricator is the simplest and safest way to ensure these requirements are met.
- Provide necessary project-specific documentation as and when needed.

The benefits for you

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

FABRICATORS

Fabricator's role in implementing AS/NZS 5131 is to:

- Ensure processes and documentation are consistent with the construction category for the project or component being undertaken. AS/NZS 5131 defines the requirements.
- Provide necessary project-specific documentation as and when needed.
- If required, provide a producer statement (PS3).

Achieving compliance with AS/NZS 5131 is greatly simplified if you choose to become SFC qualified. To find out more about SFC, visit the Steel Fabrication Certification website (www.steelfabcert.co.nz).

Steps to certification

Certification to SFC is configured in simple, staged steps to provide practical benefits early on while managing a journey towards final certification to your chosen construction category.

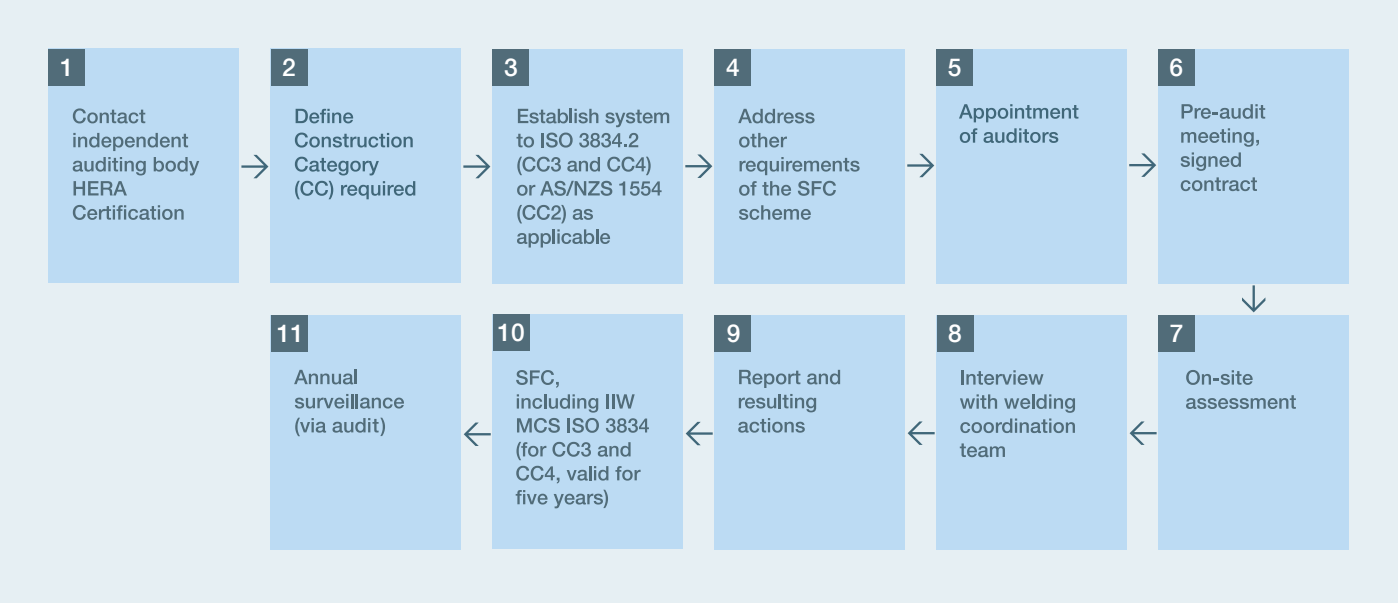

Figure 4

The benefits for you

The benefits to fabricators of being SFC qualified are significant, including:

- Independently verifies your capability to meet the requirements of AS/NZS 5131, via HERA Certification Ltd.
- Demonstrates your commitment to quality.
- Ability to improve productivity and reduce rework.
- Provides a point of difference to imported fabricated structural steelwork.
- Pre-qualification scheme that will, in time, save time and cost in tender submissions.

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