

Guidance for a Structural steel compliance path

The purpose of this guide is to assist applicants who intend on making a building consent application which involves the use of structural steel to determine the appropriate compliance path and to understand the evidence requirements needed for their application.

The scope of this guide is for the supply of all steel structural elements including rolled, formed, plate and all welded sections either locally or internationally fabricated.

It does not cover reinforcement steel.

The purpose of this document is to provide information on the key elements to be addressed in a “Structural steel compliance document” which shall be formally submitted as a controlled and client approved document, signed off as approved by the structural designer and/or the structural PS1 author, as part of the consent application for the structure.

It is not intended to address durability, stability, construction monitoring, erection, producer statements or issues other than what is listed below.

The elements forming the compliance document will be:

1. Quality of steel = Demonstrate compliance to steel grade and type as specified on the drawings
2. Manufacture = Demonstrate compliance to grade and dimensions of rolled sections as specified on the drawings
3. Fabrication = Demonstrate compliance of structural sections to dimensional and weld details as specified on the drawings

For additional information please refer to the Steel Construction New Zealand report SCNZ 111: 2018 available on their web site [here](#).

Verification Testing

In certain circumstances and solely at council’s discretion, 3rd party testing of landed welded sections may be required.

These may include but are not limited to:

1. Mechanical properties: yield strength, tensile strength, elongation and impact.
2. Chemical composition: product analysis
3. Weld quality: Destructive testing

Quality of steel pre-consent approval

Applicants must demonstrate compliance of the steel grade and type as specified on the drawings. This can be done in the following ways:

1. The applicant can provide a specific certificate of product performance issued by an approved and accredited 3rd party such as ACRS, BSI or JAS-ANZ. This certificate should be specific for each profile and size per grade of steel. See example fig 1. These requirements should form part of the compliance document.

Fig 1.

has satisfied the Authority that it complies with the relevant ACRS Quality and Operations Assessment Procedures. Where appropriate, and as listed below, it manufactures products as indicated by "✓", below and is entitled to use the ACRS mark with these products.

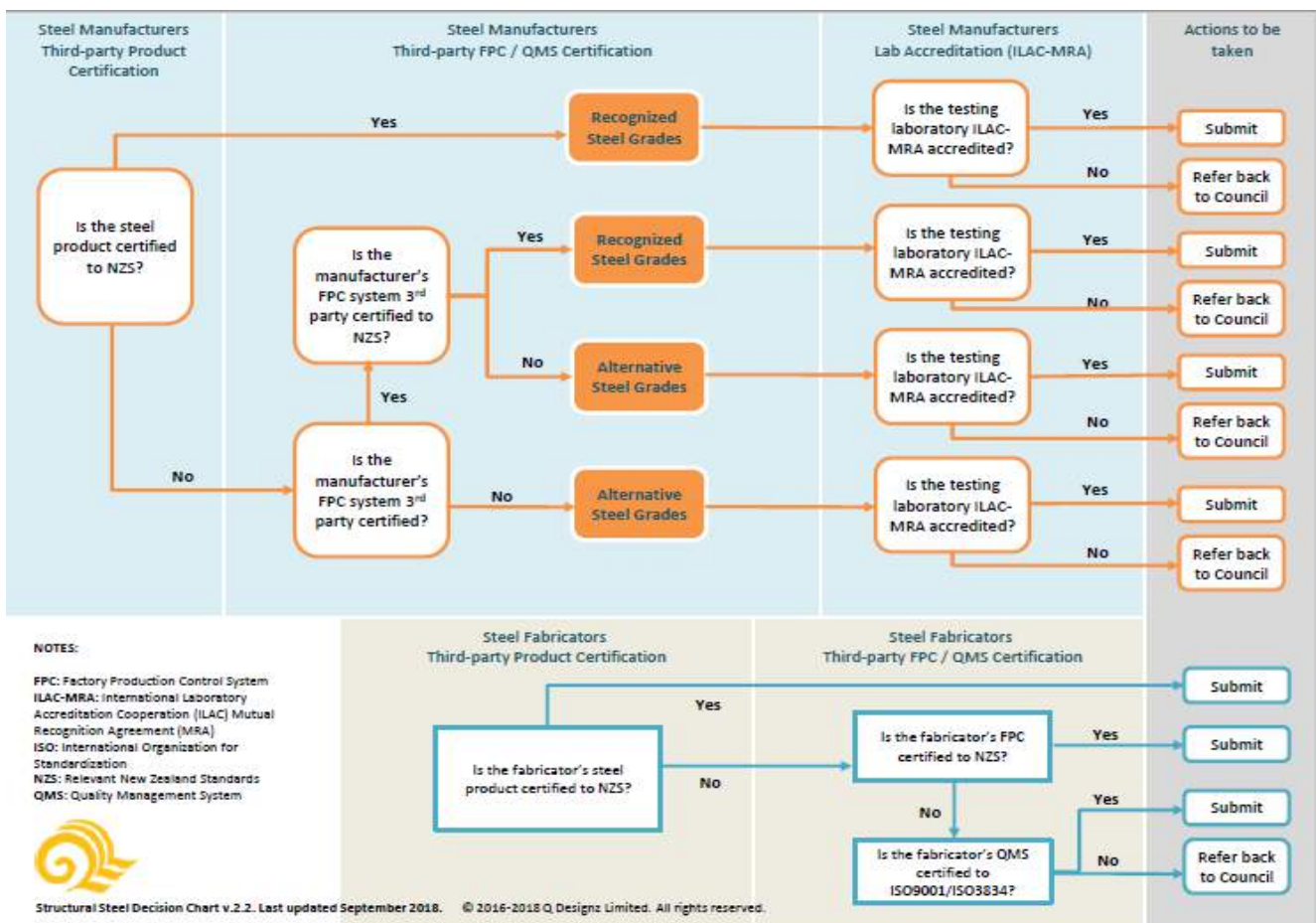
Hot-Rolled Sections to AS/NZS 3679.1

Structural Sections	Range	300	300LO	300SO	350	350LO	350SO
Universal Beams	150UB (14.0kg/m) to 310UB (46.2kg/m)	✓	✓	✓	✓		
Universal Columns	100UC to 200UC (52.2kg/m)	✓	✓	✓	✓		
Parallel Flange Channels	100PFC to 230PFC	✓	✓	✓	✓		

- An alternative method of demonstrating compliance may be through a 3rd party inspection of the factory and a Factory Production Certificate(FPC) report to an approved standard. Note: The reports must be specific to the sections, size and grade of steel. These requirements should form part of the compliance document.

Where neither of these is available a meeting between the authorised parties and council will be necessary to determine how compliance can be demonstrated. This is done using the structural steel decision tree below. Once agreed these requirements should form part of the compliance document.

Fig 2.



Manufacturing pre-consent approval

All rolled sections and plates for welded sections must be supplied from an approved mill. The compliance document must clearly demonstrate that the steel grade and size as shown on the drawings and that ordered and delivered for erection on site are the same. This can be demonstrated by a “material take off” for each size and grade indicating proposed supply mills.

Note: Sections may be supplied from one or more mill across all profiles, grade or size including plate. However, each mill proposed must meet the requirements of as set out above under Quality of Steel. These requirements should form part of the compliance document.

Fabrication pre-consent approval

All welded sections must be fabricated by an approved fabricator certified under the Structural Fabrication Certification (SFC) Scheme, or an approved equivalent. See Fig 2 Steel fabricators third-party QMS qualification or visit Steel Construction New Zealand web site for more details on the SFC

An alternative method of confirming compliance could be destructive and or non-destructive testing carried out by an approved 3rd party in New Zealand. The level, type, specification and amount of testing will need to be agreed between council and the authorised parties. This must be recorded and will form part of the compliance document.

Documentation post consent approval pre-erection

Before any on-site erection commences, a completed manufactures data report must be submitted. This shall provide but is not limited to, the following information:

- 1) List of contents
- 2) Inspection & test plan
- 3) Inspection release note
- 4) Material certificate summary: Material certificates: Test reports and mill certificates
- 5) Certificates of conformity
- 6) Welding records
- 7) Non-destructive testing records
- 8) Heat treatment records
- 9) Dimensional & tolerance records
- 10) Painting & coating records
- 11) Drawings: Data sheets
- 12) Miscellaneous certification, test reports & records
- 13) List statutory or 3rd party approval requirements
- 14) Statutory or 3rd party approval documentation

Note these documents will be required prior to issue of a CCC

Advice notes

Consents containing structural steel elements shall have attached the following advice notes which is in addition to any other advice notes arising from any part of the consent processing or technical decision

- 1) Manufacturing data report to be submitted to council for comment before any on site erection can proceed
- 2) Amendments to the building consent (S.40) Any proposed revisions to the “Steel compliance document” shall be by an amendment to the relevant building consent.