

STRUCTURAL STEEL PRODUCT STANDARDS 2016

In April 2016, the suite of AS/NZS structural steel product standards (AS/NZS 1163, 3678, 3679.1-2) was revised and republished. To facilitate a systematic adoption of the updated standards, SCNZ is taking an active role to manage this transition. This Fact Sheet outlines the key changes to the standards and the likely timeframe for the supply of all steel products to the latest revisions.

PROCESS

In New Zealand, there is no recognised approach for adopting revisions to structural steel product standards. Changes to manufacturing standards can take one to two years to implement, depending on the nature of the revisions. In particular, steel mills need time to make changes to their production processes, as do steel importers who need to destock product manufactured to the previous edition of the standard.

CHANGES

There are a number of changes to these standards, a mix of technical and editorial. Some of the key technical changes concern the chemical composition of steels and the introduction of new product conformance requirements. This relates to activities the mill must undertake to demonstrate and maintain conformity with the standards' material performance requirements, such as yield and tensile strengths, tolerance and chemical composition.

TIMEFRAME

Most steel mills and structural hollow section makers supplying the New Zealand market are now manufacturing structural steel products to the latest standards. During 2017 there will be an increasing supply of products manufactured to the 2016 AS/NZS structural steel standards with full supply anticipated by early 2018.

CHANGES TO AS/NZS STEEL PRODUCT STANDARDS 2016

AS/NZS 1163:2016

- a) Requirements for type testing, and minimum production testing and inspections have been included in the normative appendix on product conformity.
- b) Test certificates are required to be available for all products produced to these standards.
- c) Alignment of definitions associated with test unit, test product, test sample, test specimen and test piece as noted in ISO 404, AS/NZS 3678, AS/NZS 3679.1 and AS/NZS 3679.2.
- d) The inclusion of cold-rolled and annealed coil with hot-rolled coil for steel feed.
- e) Revision to the chemical composition part of the Standard, which includes a new set of limits for finished product analysis (e.g. for C350, C450 steels, Si chemical composition reduced to 0.25% maximum; for C450 CHS the limit remains at 0.45%).
- f) Provision for suitability for zinc coating have been moved to the appendix on purchasing guidelines.
- g) Inclusion of the provision for individual length markings for New Zealand.
- h) Minor revision to test and inspection certificates.
- i) A new appendix on formulae for calculating cross-section properties.

AS/NZS 3678:2016

- a) Requirements for type testing, and minimum production testing and inspections have been included in the normative appendix on product conformity.
- b) Test certificates are required to be available for all products produced to these standards.
- c) Labelling requirements have been added to enable products compliant with this standard to be traceable back to their corresponding test certificate.
- d) Definitions, clause numbering and layout across the four steel-product Standards AS/NZS 1163, AS/NZS 3678, AS/NZS 3679.1 and AS/NZS 3679.2 are consistent, wherever practicable.
- e) Reduced sulphur limits for some Z grades (Z25 grades – sulphur 0.008% max.; Z35 grades – sulphur 0.005% max.).
- f) Internal soundness clause added.
- g) Tensile test dimensions defined.
- h) Through thickness tested grades down to 12mm thickness.
- i) Mechanically tested grades up to 200mm thickness.
- j) L0 impact-tested grades have been reintroduced.
- k) 'None' impact designation has been removed.
- l) Option of zinc coating classification referring to AS/NZS 2312.2, Clause 9.1.

AS/NZS 3679.1:2016

- a) Requirements for type testing, and minimum production testing and inspections have been included in the normative appendix on product conformity.
- b) Test certificates are required to be available for all products produced to these standards.
- c) Labelling requirements have been added to enable products compliant with this standard to be traceable back to their corresponding test certificate.
- d) The prescriptive requirement of a rolled in mark on hot-rolled sections greater than 150mm has been replaced by a performance-based requirement that provides the same level of permanency in identification.