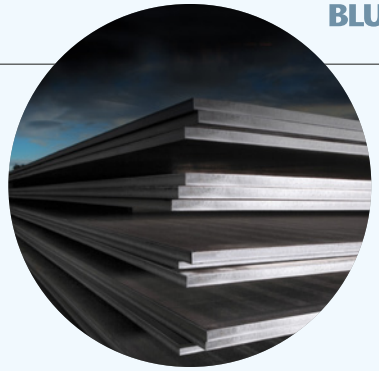
Technical Summary

Revised Structural Steel Standards

August 2016



Structural Steel

This summary covers changes to standards: AS/NZS 3678, AS/NZS 3679.1 and AS/NZS 3679.2 (released April 2016; replacing the 2010 (AS/NZS 3679.1 and .2) and 2011 (AS/NZS 3678) versions). Some changes are common across all three standards and some changes are specific to AS/NZS 3678 only (as described below).

Common changes

What has changed?	Why has it changed?
Identification Requirements • Dimensions as a mandatory requirement of the label. • Strengthening of requirements regarding the stencilling.	Improved identification and traceability of the product: • Assists QA through the supply chain • Reduces the risks posed by unmarked steel • Ensures traceability back to the original test certificate.
Test and Inspection Certificates Test certificates must • Be available for all product • Must be an original or a copy without alteration (except to delivery quantity) • Copies of test certificates must ensure traceability of the product and that the original manufacturers test certificate must be available on request.	• Reduce the risk of material not meeting the specified property requirements, particularly where customers are not familiar with material specifications. • Avoid sourcing from diverted non-compliant material.
Type Testing and Minimum Testing and Inspection Requirements • Minimum sampling, testing and inspection requirements for both new products (type testing) and established products.	Type testing: • Ensures that material supplied is properly designed to meet the specific requirements of AS/NZS 3678. • Limits the supply of substitute or alternative material that has not undergone type testing. • Aligns with ATIC 10 requirements Minimum production testing and inspection requirements ensures that: • That the material supplied complies with the standard. This has not always been the case with imported material
Factory Production Control (FPC) • New mandatory requirement of all three standards.	• FPC aims to ensure the manufacturer has a robust manufacturing system that ensures products conform to the standard. • FPC also reduces the variability in material properties supplied.

Changes specific to AS/NZS 3678

What has changed?	Why has it changed?
Steelmaking Requirements • Lower Sulphur limits included for Z25 and Z35 grades (Clause 6, Table 1) • Internal soundness clause added (Clause 8.5 and Appendix A3) • Requirement for Boron to be reported on Test Certificates • Boron should not be deliberately added to steels covered in AS/NZS 3678	• Guidance included to ensure that ultrasonic testing requirements are considered at time of purchase • Material supplied, where the test certificate does not report Boron, is NOT compliant to AS/NZS 3678:2016 • Recognition that Boron can potentially reduce the weldability of structural steels if not taken into consideration when designing the welded joint • If Boron levels are >0.0008% proof of suitability for welding and thermal cutting should be requested.
Extended Grade Availability • WR350 thickness range extended to 80mm, from the previous limit of 20mm. • Introduced an "L20" option for WR350 grades. • Through thickness tensile tested grades down to 12mm • Mechanically tested grades up to 200mm thick for strength levels up to and including 350 grade. • L0 impact tested grades reintroduced to the standard • Product with no impact test requirement (previously listed as "None") in Table 10 of AS/NZS 3678 has been removed from the AS/NZS 3678 standard.	All the changes listed increase the range of products that are covered by the standard. This gives engineers greater guidance in specifying and checking compliance of materials. • Increasing the thickness range of WR350, enables it to be used for structural applications such as bridges. • Weathering resistant steels provide advantages in terms of corrosion resistance in certain environments and applications that can reduce overall costs. • "L0" is a commonly specified grade referenced in design codes. • The inclusion of "L0" grades removes the disconnect between AS/NZS 3678 and AS 4100 that was previously the case.
Option for Zinc Coating Classification Classifies steel with respect to Silicon (and phosphorus) levels and the impact of Silicon levels on the thickness and appearance of the galvanized layer.	Provides clarity for customers when purchasing steel when galvanizing is a consideration.

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1800 800 789
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9 320075 081751

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