

# VERIFIED STEEL CONFORMITY

## FROM SOURCE TO SITE



WITH ACRS 2-STAGE CERTIFICATION

From the structural and reinforcing steels used in the construction of dams, treatment & desalination plants, bridges and other infrastructure, through to the reinforcing steel used in tanks, piling cages or precast concrete components, ensuring that the construction steels being used conform with all relevant Australian and New Zealand Standards and Building Codes - irrespective of their country of origin - is of paramount importance.

Notwithstanding the potential issues that can result from using non-conforming construction steels - including structural failure and the serious health and safety ramifications - in these days of widespread litigation and strict 'chain of responsibility' legislation, using materials that don't conform with all of the relevant Standards and Codes can spell disaster for engineers, specifiers, suppliers, builders and contractors in more ways than one.



Importantly, when it comes to conformity of construction steels, it's not only about the steel manufacturer. Philip Sanders, CEO, Australasian Certification Authority for Reinforcing and Structural Steels ("ACRS"), explained: "When designers and procurement officers specify steel to particular standards, steel suppliers, builders, and building surveyors not only need to actively confirm that the steel they receive and sign-off for is the right steel - they also need to confirm that this conforming steel was cut, bent, and welded so it is still compliant when it is delivered and installed on the project." "In short, even the best steel in the world can easily be ruined by inappropriate processing or fabrication - and if the steel was the wrong steel in the first place, the best steel processing, or fabrication won't make it right... and that's why ACRS 2-Stage steel certification is so important," he added.

### THE BENEFITS OF ACRS 2-STAGE CERTIFICATION

Adapted for Australian and New Zealand conditions from European best practice for high-risk building materials, ACRS' integrated, 2-stage certification system certifies both the steelmaking at the mill and again the last point at which the steel properties can be changed before delivery and installation in the structure.

Known as a "bookended" system, this type of 2-stage certification is far more robust than a single point certification of either just the mill, or just the processor or fabricator (or of one stage being certified by one certifier and the second stage by another).

As ACRS steel certification covers both ends of the supply chain, the ACRS 2-stage system inherently includes full materials traceability - not just for reinforcing and prestressing steels, but also for structural welded sections manufacture, covering CC1 to CC3 to AS/NZS 5131, which are increasingly used in construction.

Philip Sanders commented: "You cannot just accept certification of the steel mill (Stage 1). You need to know what arrives on site. Is all the steel as you expect? If it is, has it then been properly processed or fabricated?"

"Historically, Australia and New Zealand have accepted a more relaxed product verification regime at the processor or fabricator (Stage 2) level than most developed countries, and these less

onerous requirements have saved builders significant time and money in checking and testing costs."

"However, in today's dynamic market with global sourcing and supply, we can only maintain our traditional approach by the use of expert and independent certification systems to provide the minimum necessary assurance of both steel manufacture and equally the supply of that steel to site," he added.

"If not, as shown increasingly over the past few years, there will be more poorly performing structures as non-conforming materials are substituted for those the customer, and the public have been led to expect."

"Over the last 20 years, the ACRS 2-Stage certification system has been developed and expanded this to meet the specific needs of Australian and New Zealand construction industries, governments and public," Philip Sanders explained.

### CERTIFYING STEEL FROM SOURCE TO SITE

If you only have certificates from the steel mill, it means you only have half the story. The ACRS steel scheme certifies both the steel mill (Stage 1) and steel reinforcement ("rebar") processor, mesh manufacturer, or structural welded section manufacturer (Stage 2) - providing a rigorous mechanism covering the two critical aspects of steel supply, and the traceability of materials between them.

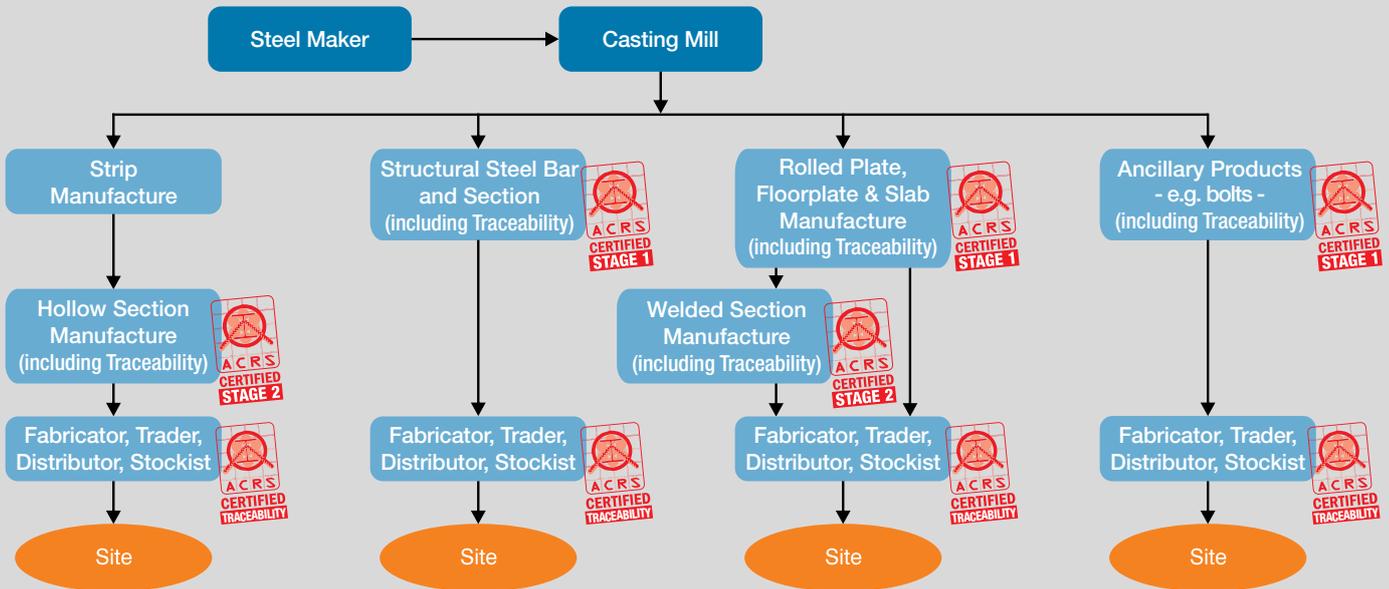
This 2-Stage 'chain of certification' provides a vital link between the steel producer, the reinforcement processor, or welded structural section fabricator, the steel supplier, and the construction site.

ACRS Stage 2 certification of the reinforcement processor, or welded structural section fabricators is the vital link between the steel producer (ACRS Stage 1 certified) and the end-user on the construction site, ensuring that:

- All steel is from an approved source and satisfies the requirements of the relevant product Standard(s).
- Steel is correctly handled and processed so materials performance is not compromised during subsequent rebar processing or steelwork fabrication.
- The necessary procedures and documentation are in place to ensure full product traceability from steel mill through materials scheduling and fabrication to delivery to site.

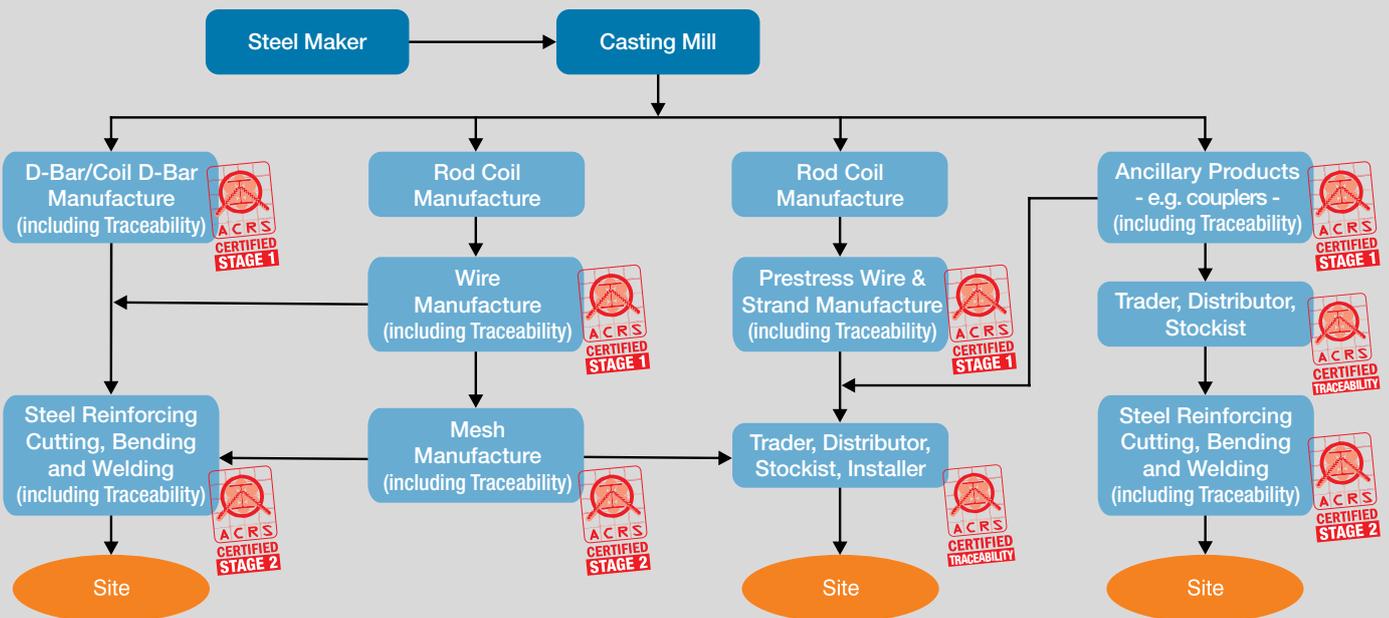
For your steel to be ACRS certified, it must be covered by both ACRS Stage 1 and ACRS Stage 2 certification. Any break in the 'chain of certification' between the steel mill and the processor or fabricator means the steel delivered to site is not ACRS certified.

# ACRS Structural Steel Chain of Certification



For structural steels, ACRS certifies BOTH the steel mill that manufactures the steel AND the manufacturer or fabricator of any welded structural steel sections. Verification of the outputs of both these supply streams is essential for any structural steels and steelwork claiming to conform with AS/NZS 5131. ACRS has worked with the ASI to deliver “end-to-end” certification from steel mill to construction site via the ASI’s Steelwork Compliance Australia fabricator scheme to provide consumers confidence in structural steelwork from the purchase of verified and traceable ACRS certified structural steels, through the supply chain to ACRS certified welded section fabricators and then through supply, delivery and erection of all finished fabricated steel on the project site.

# ACRS Reinforcing Steel Chain of Certification



For reinforcing steels, ACRS certifies BOTH the steel mill that manufactures the steel AND the steel reinforcement processor and mesh supplier. Verification of the outputs of both these supply streams is essential for any steel reinforcing materials claiming to conform with the Standards.



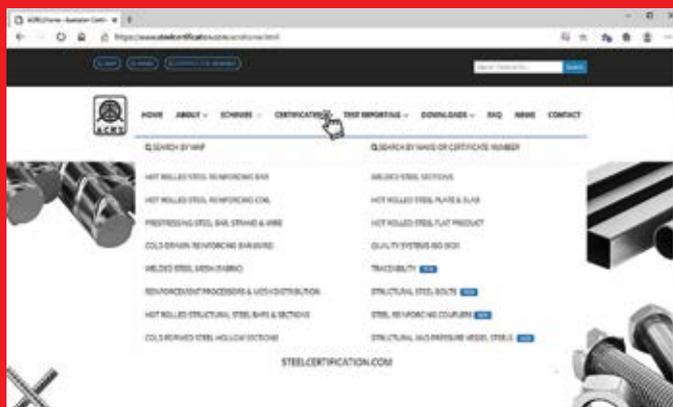
## STAY UP-TO-DATE AT [WWW.STEELCERTIFICATION.COM](http://WWW.STEELCERTIFICATION.COM)

Just because your supplier was previously ACRS Certified, don't take it for granted that they still are. Their ACRS Certification status may have changed due to factors including:

- Changes in ownership
- Changes in manufacturing locations
- Additional products
- Discontinued Products

That's why ACRS' comprehensive program of annual audits and rigorous 3-monthly data analysis is so important. It ensures that standards and quality are maintained, so you can have confidence in your construction steel supplies.

Importantly, checking and confirming that ACRS certificates for products/suppliers are current is quick and easy on the ACRS website. Visit: [www.steelcertification.com](http://www.steelcertification.com) for full details of all current certificates.



## INDEPENDENT, EXPERT, THIRD-PARTY CERTIFICATION

The only way to be truly sure that the materials being used conform fully with the appropriate Australian and New Zealand Standards and are fit for purpose, is through independent, expert, third party validation and certification.

ACRS provides a fully independent, expert assessment and certification for both Australian and internationally sourced construction steels, including reinforcing steels, structural steels and prestressing steels.

ACRS certification makes checking for compliance with the relevant Australian and New Zealand Standards easy. It demonstrates INDEPENDENTLY and EXPERTLY that the supplier consistently meets the Standards stated on the certificate.

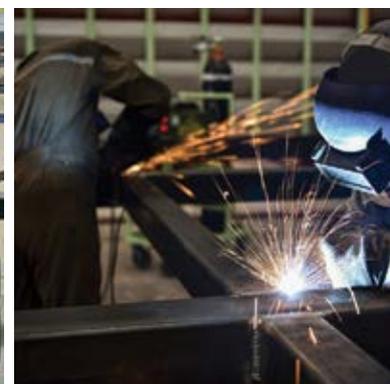
By using ACRS certified construction steels, builders and contractors can be confident that they are getting the AS/NZS compliant materials that they ordered, and engineers and building certifiers can be confident that steel meets the requirements of the Building Code and associated Standards.

Beyond checking the supplier's ACRS certificate, product markings and tags, there's no need for you to make any further checks on ACRS certified materials.

- No more checking materials properties against technical specifications;
- No more checking batch numbers against the test certificates.

All ACRS auditors are fully qualified metallurgists with many years of experience working with steels.

In addition to factory production control audits and independent testing, the ACRS scheme provides regular review and analysis of all products manufactured and supplied by the certified supplier. This makes matching material to conformity documentation simple and effective for the customer and for any verifier.



## HOW DO I SPECIFY ACRS CERTIFIED STEELS?

The easiest way to manage and minimise the risk of non-conforming construction steels, is to specify ACRS certified steels.

### FOR STRUCTURAL STEELS

"Structural steels shall comply with AS 1074, AS 1442, AS 1579, AS/NZS 1163, AS/NZS 1594, AS/NZS 3678, AS/NZS 3679.1, or AS/NZS 3679.2, as appropriate. Structural bolts shall comply with AS/NZS 1252.

Where applicable, materials shall be fabricated in accordance with the "Fabrication" requirements in Section 14 of AS 4100 or Appendix G of AS 5100.6, or AS/NZS 2327, or NZS 3404, and the requirements of AS/NZS 5131.

Acceptable manufacturers of structural steels, structural bolts, and the fabricators of structural welded sections must hold a valid certificate of approval issued by the Australasian Certification Authority for Reinforcing and Structural Steels Ltd (ACRS), or to such other accredited product certification system as shall be demonstrated by the supplier to be directly equivalent in scope and technical rigour to ACRS and approved as such in writing by the specifier.

**Evidence of the supplier's compliance with this clause must be obtained when contract bids are received."**

### FOR STEEL REINFORCING MATERIALS

"Steel reinforcing and steel prestressing materials for concrete shall comply with AS/NZS 4671 or AS/NZS 4672, respectively.

Where applicable, materials shall be cut and bent in accordance with the requirements of the "Material and Structural Requirements for Reinforcing Steel" clauses in AS 3600 or AS 5100.5, or the "Reinforcement" clauses of NZS 3109.

Reinforcing couplers shall comply with RMS specification RMS SF2013/184115 Approval of Mechanical Reinforcing Bar Splices, or NZTA SP/M/022 Bridge Manual (technical approval sections), as specified.

Acceptable manufacturers and processors of steel prestressing and steel reinforcing materials, including both manufacture and application of reinforcing couplers, must hold a valid certificate of approval issued by the Australasian Certification Authority for Reinforcing and Structural Steels Ltd (ACRS), or to such other accredited product certification system as shall be demonstrated by the supplier to be directly equivalent in scope and technical rigour to ACRS and approved as such in writing by the specifier.

**Evidence of the supplier's compliance with this clause must be obtained when contract bids are received."**



## ACRS 2020 CERTIFICATES AMENDED FOR ADDITIONAL CLARITY AND AVOIDANCE OF MISUSE

ACRS 2020 certificates have some important changes to protect builders, engineers and steel purchasers.

ACRS not only certifies steel at manufacture (Stage 1) and then the rebar processing/welded section fabrication of that steel (Stage 2), but also assesses materials' traceability between the two certificate holders. ACRS Stage 2 certificate holders can only source and use ACRS Stage 1 approved materials, and this is regularly checked by ACRS.

To assist Builders' personnel make their determinations, from 1 January, 2020 the wording on ACRS certificates was amended to state clearly that "ACRS certified" may only be applied to steel that arrives on the project with both ACRS Stage 1 (mill) certificates and ACRS Stage 2 (rebar processor, or structural welded section) certificate.

Ensure your staff are aware of these important changes to ACRS certificates and make sure your specifications call up ACRS certification not only for Stage 1 (mill manufacture) but also Stage 2 suppliers (processing and welded section fabrication) to manage your risk of inadvertently accepting non-ACRS approved materials.

If your staff have any questions, get them to email ACRS for assistance at: [info@steelcertification.com](mailto:info@steelcertification.com)

