Senate Standing Committees on Economics
PO Box 6100
Parliament House
Canberra ACT 2600

economics.sen@aph.gov.au

By email

31 June 2015

I would like to present, on behalf of ACRS board of directors and for review and consideration by the Committee this report containing comment upon the current situation regarding the following:

- The availability of construction materials not conforming to Australian Standards supplied as meeting overseas Standards suitable for use in Australia construction;
- The availability of construction materials not conforming to Australian, or other Standards supplied as meeting Australian Standards, or other Standards ("counterfeit materials");
- The provision of a level paying field for building product suppliers conforming to Australian Standards;
- The use and limitations of documentation supporting supply of construction materials supplied as conforming to Australian or overseas Standards (e.g. the European CE Mark, or similar first party documentation);
- Overseas mechanisms for independent third-party product certification of construction materials (as opposed to quality management system certification, or testing body certification) to validate supplier claims of product conformity to local Standards;
- The availability and effectiveness in Australia of current conformity mechanisms for construction materials to validate supplier claims of product conformity to Australian Standards;
- The need to validate both steel manufacture and the subsequent transformation of the steel into its finished form;
- The differentiation, and complementarity, between independent certification of construction steels versus independent certification of the transformation of complying steel into complying fabricated elements (e.g. structural steelwork fabrication, or steel reinforcement ("rebar") processing);

Non-conforming building products submission - ACRS

- The ACRS independent third party product certification scheme for construction steels (steel reinforcing materials, steel prestressing materials and structural steels) to Australian and New Zealand Standards.

  The current member companies of ACRS are:

  1. Australasian Wire Industry Association (AWIA)
  2. Australian Constructors Association (AHCA)
  3. Australian Institute of Building (AIB)
  4. Australian Institute of Building Surveyors (AIBS)
  5. Australian Steel Institute (ASI)
  6. Austroads
  7. Building Officials Institute of New Zealand (BOINZ)
  8. Bureau of Steel Manufacturers of Australia (BOSMA)
  9. Concrete Institute of Australia (CIA)
  10. Consult Australia (formerly, ACEA)
  11. Engineers, Australia
  12. Heavy Engineering Research Association (HERA - NZ)
  13. Housing Industry Association (HIA)
  14. Master Builders Association (MBA)
  15. National Precast Concrete Association Australia (NPCAA)
  16. Post Tensioning Institute of Australia (PTIA)
  17. Steel Reinforcement Institute of Australia (SRIA)
  18. The University of Melbourne

The cornerstone of the ACRS scheme is the testing and data reviews undertaken by ACRS throughout the year. Qualified independent laboratories selected and monitored by ACRS undertake testing of samples taken at audit by the ACRS auditors. Data reviews of all products certified by ACRS are undertaken every three-months by ACRS own personnel to ensure continuing compliance with both the ACRS Scheme and the Australian Standard of supply.

What follows below is a discussion of the points above in the context of the ACRS Scheme. An overview with recommendations is provided in Section 1.

We hope this submission provides a clear picture of the current position of supply of steel construction materials to AS/NZS Standards and the longstanding role and operation of the ACRS product certification scheme. ACRS would of course be very pleased to provide further information to the Committee, or to answer directly any questions the Committee might have.

Non-conforming building products submission - ACRS

For and on behalf of the ACRS board of directors,

Prof. Graham Hutchinson, AM DPhil (Oxon)
Chairman ACRS

Adj. Prof. Dr John Fenwick AM BE DPhil DEng
Vice-Chairman ACRS, Chair ACRS Audit and Assessment Committee
(Austroads nominee to ACRS 2000-2008)

Philip Sanders BSc CPEng FIEAust FIStructE
Executive Director

Non-conforming building products submission - ACRS

1. Overview and recommendations

1.1. The Australasian Certification Authority for Reinforcing and Structural Steels (ACRS)[1] is the peak body of key organisations in Australia and New Zealand committed to the supply of construction steels conforming to the requirements of Australian and New Zealand Standards. ACRS membership (see below) consists of key industry and professional associations, non-government organisations and government observers who are involved in the planning, design, delivery and use of construction steels in our built environment. ACRS owns, administers and operates an internationally recognised, accredited, voluntary product certification scheme for construction steels, founded upon expert assessment and continual verification.

1.2. In the area of construction steels (particularly steel reinforcing and steel prestressing materials), from the activities and significant market coverage of the ACRS Product Scheme, which operates on the UK/EU model, Australia and New Zealand have not experienced the same levels of nonconforming construction steels as some countries;

1.3. However, in recent years there have been reports of increasing use of building materials that do not conform to the minimum expected requirements of Australian Standards (e.g. [2]), to the detriment of the industry, the public and conforming materials suppliers. This includes construction steels and associated products (e.g. [3]).

1.4. ACRS believes that should an appropriate national building product conformity framework be effected, the Australian public and construction industry will derive significant benefits from improved confidence in the provision of conforming steel products and reduction of “red-tape” through an internationally accepted scheme utilising the lowest cost, not-for-profit model for a minimum approved level of technical rigour.

1.5. Australia has several established, effective and internationally recognised product certification schemes providing technically competent review of supplier claims of conformity to Australian Standards. Australia is therefore well placed to formalise an effective building products validation framework building upon the achievements of these organisations. The APCC Procurement of Construction Products - A guide to achieving compliance[4] provides an excellent resource for users. There are also available many published documents from industry and trades associations providing detailed guidance (e.g. [5]).

1.6. Put simply, it is the view of ACRS that Australia already has in place many of the tools for effective management of product conformity; it simply lacks the national framework under which they can operate in a coherent and cohesive manner to the benefit of the construction industry and public.

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[1] ACRS website: www.steelcertification.com
[2] AI Group, The quest for a level playing field, November 2013: http://www.aigroup.com.au/portal/binary/com.epicentric.contentmanagement.servlet.ContentDeliveryServlet/LIVE_CONTENT/Publications/Reports/2013/REPORT_NCP_FINAL.pdf
[3] SA Government http://www.sa.gov.au/__data/assets/pdf_file/0015/122613/Advisory-Notice-12_2014-Non-conforming-building-products.pdf
[4] APCC, Procurement of Construction Products - A guide to achieving compliance, September 2014: http://www.apcc.gov.au/SitePages/Construction%20Product%20Quality%20Guide.aspx
[5] Master Builders Assoc. https://www.masterbuilders.asn.au/__data/assets/pdf_file/0006/339684/Non-conforming-products-Evidence-of-Suitabilityv2.pdf

2. The availability of construction materials not conforming to Australian, or other Standards supplied as meeting Australian Standards, or other Standards ("Counterfeit materials")

2.1. Many materials are supplied purporting to meet customer requirements, and/or Australian Standards solely on the basis of supplier test certificates (see 4.1 below).

2.2. The UK CROSS system "Confidential Reporting on Structural Safety" [6], is a part of Structural Safety and the first confidential reporting system to deal with structures. CROSS has produced a number of reports indicating supply of construction materials utilising forged certificates, or other incorrect documentation (e.g. CROSS reports 254, 259, 299, 326, 331, 338 and 284) is widespread.

2.3. In the USA, similar concerns have also been well documented (e.g. Zurich Insurance Group reported[7] *"The investigations revealed that many of these counterfeit fasteners were imported into the US. They had dimensional discrepancies, were made of inferior materials, or were not heat-treated consistently to required specification. They had incorrect head marks to indicate high strength classification."* In regard to the response from suppliers regarding supply of counterfeit products Minchin, et al reported[8] *"43% of the respondents noted that the counterfeiter denied that the item was counterfeit, denied supplying the counterfeit item, or never responded to inquiries."*

2.4. Counterfeiting has also been reported as, on occasion, being unintentional, e.g. *"Another source of counterfeiting is a lack of knowledge and understanding of foreign standards on the part of [foreign] manufacturers"* [4].

2.5. ACRS can confirm that throughout its 12-years of operation it has encountered a significant number of incidences where manufacturers of construction steels have proved unable to demonstrate conformity to the minimum requirements of the claimed Australian Standard of manufacture and/or supply, both from conscious misrepresentation and through lack of understanding of specific requirements of AS/NZS Standards.

2.6. Manufacturer's test certificates with any steel delivered should always be matched to the manufacturer's product conformity certificate from an independent third-party, accredited certification body to demonstrate that manufacturer's continuing conformity to the nominated Standard of supply.

3. The availability of construction materials not conforming to Australian Standards supplied as meeting overseas Standards suitable for use in Australia construction

3.1. ACRS has noted increasing notification of construction steels stated as having been manufactured to overseas standards but being supplied as "equivalent" to steel grades referenced in an Australian Standard. In ACRS experience, documents provided for such materials are often not sufficient to make effective determination of such claims. Often the claim relates solely to strength of

[6] Structural-Safety website: http://www.structural-safety.org
[7] Zurich Insurance, Strategies for managing risk of counterfeit products, January 2013: http://www.zurich.com.au/content/dam/risk_features/product_liability/risk_topic_strategies_for_managing_risk_of_counterfeit.pdf
[8] Counterfeit Construction Products From Low-cost Sourcing Countries, Minchin et al, June 2011 (ISBN: 9789052693958)

materials and not to other critical performance measures (such as ductility) required under Australian Standards.

4. The use and limitations of documentation supporting use of construction materials supplied as conforming to Australian or overseas Standards (such the European CE Mark, or similar first party documentation)

4.1. Perhaps the most frequent customer-related matter ACRS encounters is the difficulty experienced by customers, or their representatives, properly identifying the source-identity of the material (e.g. manufacturers' marks) to be able to match the delivered materials with the documentation supplied and validate materials conformity. Full-service certification schemes, such as the ACRS scheme, in addition to factory production control audits and independent testing, provide regular review and analysis of all products manufactured and supplied by the certified manufacturer to the Australian Standard that the manufacturer certified to. This makes matching material to conformity documentation simple and effective for the customer and any verifier.

4.2. A second commonly encountered customer-related matter is that of mixed supply (sometimes called "shandying") where conforming supply is declared but either a portion of the product supplied is sourced from a compliant supplier and some sourced from a non-compliant supplier, or alternatively the material is sourced from a supplier but the product delivered does not consistently meet the Standard. Effective continuous review by a full-service certifier, at both the manufacturer and the fabricator/processor is required to manage the risk of such mixed supply.

4.3. The EU CE Mark is increasingly presented as a means of demonstrating conformity assurance to acceptable international norms. The EU Construction Products Regulation[9] ("CPR") *"… lays down harmonised rules for the marketing of construction products in the EU. The Regulation provides a common technical language to assess the performance of construction products. It ensures that reliable information is available to professionals, public authorities, and consumers, so they can compare the performance of products from different manufacturers in different countries."* And aims to offer the following stakeholder benefits:

- *free circulation of construction products in the EU's Single Market - products have to be tested only once according to a harmonised European standard or European Assessment Document;*
- *national authorities can set performance requirements using the harmonised European standard or European Assessment Document;*
- *users of construction products can better define their performance demands;*
- *market surveillance can rely on one common information structure."*

4.4. EU CE marking[10] is called up within the CPR. However, even when taken in the context of the functional CPR, limitations exist with regard to the utility of CE marking. Cross reports (ref 284), that *"It is clear that CE marking alone may not*

[9] Construction Products Regulation 305/2011: http://ec.europa.eu/growth/sectors/construction/product-regulation/index_en.htm
[10] The 'Blue Guide' on the implementation of EU product rules Version 1.1 15/07/2015: http://ec.europa.eu/DocsRoom/documents/11502

offer the same level of confidence as quality schemes that have been used historically. CE marking is a standardised method of giving product characteristics against a harmonised EN. It is not a declaration of fitness for purpose in any particular circumstance of use and a reputable product manufacturer's technical information may be more useful if it gives advice on the use of the product in service." That is, CE marking is not a product certification mark: It is a supplier declaration of conformity.

5. Overseas mechanisms for independent third-party product certification of construction materials (as opposed to quality management system certification, or testing body certification) to validate supplier claims of product conformity to local Standards

5.1. From sections 2 and 4 above, it is clear that simple reliance on supplier declarations, supplier test certificates, or even CE marking-type approval systems is not, on their own or in any combination, satisfactory for the effective demonstration of conformity to Standards of high risk construction materials (such as steel). Use of independent product certification bodies appropriate to the building product concerned to validate manufacturers' claims of conformity are required, depending upon the risk profile of the product concerned.

5.2. For example, EU CE marking is not only not product certification, but are (as described above) solely the supplier's own declaration of conformity of its products to EU requirements that, in the case of construction steels (as a higher risk material), requires further validation by a suitably qualified Notified Body.

5.3. Notified Bodies are assessed for competence by each EU member state. CE Marking under the CPR depends upon four criteria: a harmonised system of technical specifications; an agreed system of assessment and verification; a framework of Notified Bodies and lastly; harmonised presentation of technical data. Without such controls, and without those controls being effectively policed, establishing equivalency of rigour and expertise by multiple Notified Bodies offering certification to the same standards would lead to substantive differences in technical outcomes and a degraded system. Due to the difficulties of establishing such equivalence, a number of EU countries have therefore established a single Notified Body per product type (E.g. UKCARES is the UK Notified Body for steel reinforcing and prestressing materials);

5.4. Note: ACRS is equivalent to an EU Notified Body operating to System 1+ (the highest level) under the EU CPR.

6. The availability and effectiveness in Australia of current conformity mechanisms for construction materials to validate supplier claims of product conformity to Australian Standards

6.1. Several organisations in Australia have developed compliance schemes for construction materials and building products that have proved effective and have been widely adopted, including the Australian Window Association scheme[11] and schemes operated by the Engineered Wood Products Association of Australasia[12]

[11] Australian Window Association website: http://www.wers.net/werscontent/certified-products-hub
[12] Engineered Wood Products Assoc. of Australasia website: http://ewp.asn.au/?q=certification

7. Differentiation between independent product certification of construction steels versus independent certification of the transformation of that steel into fabricated elements (e.g. structural steelwork fabrication, or rebar processing) complying with appropriate standards and specifications

7.1. The ACRS scheme commenced in 2000. The scheme currently covers the manufacture of reinforcing steels, prestressing steels and structural steels supplied as meeting AS/NZS Standards. The ASI Scheme (Steelwork Compliance Australia)[13] recently released certifies fabricators of structural steel elements, not the verification of conformity to Australian steel materials Standards of the steel itself. The two schemes are therefore entirely distinct, but complementary.

7.2. Construction steels manufactured to AS/NZS Standards can be rendered noncomplying by poor transformation, through such processes as cutting, bending, welding, etc. In steel reinforcing materials, the ACRS scheme, through its certification of steel reinforcement ("rebar") processors, in addition to the mills of manufacture, provides a rigorous mechanism for "bookending" the manufacture and transformation

7.3. Certification systems that only assess the mill of manufacture do not provide for validated performance to Standards of the as-delivered product; do not provide for fair competition (as non-compliant transformation is often cheaper, especially when "shandying" of materials is employed); may result in higher maintenance costs over the life of the structure, and; may have safety implications, both on site during construction and during the life of the structure (e.g. [2, 4]).

8. The ACRS independent third party product certification scheme

8.1. ACRS

The Australasian Certification Authority for Reinforcing and Structural Steels (ACRS) is the peak body of key organisations in Australia and New Zealand committed to the supply of construction steels conforming to Australian and New Zealand Standards. ACRS membership (see below) consists of industry and professional associations, non-government organisations and government observers who are involved in the planning, design, delivery and use of construction steels to our built environment. ACRS owns, administers and operates an internationally recognised, accredited product certification scheme for construction steels, founded upon expert assessment and continual verification.

8.2. History & Origins

Thirty years ago, most Roads Authorities had engineers with experience in structural steel and welding & testing, as well as in reinforcing and prestressing steels, and most of the steel used was locally made. There were few concerns about substandard steels unlike today where steels are sourced globally, imported from dozens of countries and which may be manufactured to one of many different standards, or indeed to no recognised standard at all. In addition, local standards can differ in some important respects from many overseas standards, both for technical reasons (such as fire and earthquake provisions)

[13] SCA website http://www.scacompliance.com.au

and for reasons of local construction practice (such as the more prevalent use of on-site welding).

Whilst suppliers could provide their own assertion or confirmation of the compliance of their products (1st-party attestation), Australia has also maintained a requirement for validation of the full suite of mechanical properties of the delivered materials, initially by government bodies (such as Road and Traffic Authorities) or by checking engineers acting for the customer (2nd-Party certification). Later, with the advent of performance-based materials standards containing conformity assessment provisions, these two avenues were augmented by a third option, 3rd-Party certification by an approved product certification body.

However, Australia has no overarching conformity assessment framework for building materials to test the claims of building product manufacturer that their products meet Australian standards and to provide a clear guide to suppliers, certifiers, customers and the public of fitness for purpose. Australia is unlike common overseas systems such as the EU Construction Products Regulation with the associated CE Mark system with Notified Body Approval for higher risk products such as building materials):

- Rigour (do all products require the same level of review and validation?)
- Consistency (either by the certification body, or between certification bodies)

Main Roads Queensland began testing prestressing strand in 1977 and further testing during the 1980's and 1990's showed that about 50% of supplies did not meet the Australian Standard. As a result MRDQ set up three test rigs at University of Queensland and operated an informal testing scheme.

Starting in 2001 with steel reinforcing materials, Australian materials Standards began to include detailed conformity assessment procedures as normative requirements. However, not only was this a new departure for domestic manufacturers and processors, it also impacted the increasing numbers of importers who, since the late 1990's, were forming an increasing proportion of the supply to Australian construction projects. This change to global procurement practice presented customers with significantly increased risks whilst presenting suppliers with an uneven playing field. Therefore a national certification scheme for steel reinforcing and prestressing materials was seen to be essential to ensure a common, credible mechanism for materials validation for all stakeholders.

Having assessed the established options for steel certification overseas (see "Model", below) and recognised that an independent, technically expert verification body was essential to ensure Australia did not become a dumping ground for steel increasingly rejected by the rest of the world, Austroads, Engineers Australia, the Master Builders Association, the Housing Industry Association and the Steel Reinforcement Institute of Australia combined resources in 2000 to form ACRS.

8.3. Structure

ACRS was established as a *not for profit* entity to ensure the ACRS certification scheme and provides a *service to designers and specifiers* at a minimum cost to

producers completely independent of any requirement to provide a financial return on investment to partnership or shareholders.

ACRS was established as an Authority, rather than a commercial product certification body, to ensure its independence from any stakeholder group. However, to ensure all relevant stakeholders have appropriate input to ACRS scope and development, and to ensure ACRS continued relevance to the construction industry, in its constitution ACRS provides for membership by any responsible organisation, including any *"authority, government or semi government instrumentality directly or indirectly involved with the [construction] Industry"* that *"is prepared to support and maintain the independence and impartiality of the Authority"*.

Since 2000, ACRS has developed to become an internationally recognised certification Authority accepted as a peer organisation by similar bodies overseas. ACRS performs a similar function and to similar levels of rigour and technical expertise to European organisations such as UKCARES in UK[14], Deutches Institut fur Bautechnik[15] in Germany and the Instituto Italiano Di Guarantia Della Qualita[16], with whom ACRS maintains regular contact and against whom ACRS periodically benchmarks its procedures and processes to ensure ACRS continued alignment with international best practice.

8.4. Operation

ACRS is the internationally recognised, independent, voluntary, not-for-profit, specialist third-party certification scheme for construction steels and associated products supplied to AS/NZS Standards and associated specifications.

ACRS operates as an interface between the construction industry and government. This choice of alignment is for two key reasons:

- government is the biggest construction client;
- governments set rules for industry: How government behaves therefore influences the whole construction industry.

ACRS

- has a wide range of stakeholders;
- provides industry leadership;
- makes good business sense;
- is a crucial enabler for steel building materials supply;
- results in better buildings (& infrastructure)

Conforming steel suppliers see ACRS as a "critical friend", as ACRS is evidence-based and fair to all parties.

ACRS Product Certification is based on the application of three essential elements:

- The manufacturers' management system as defined by BS EN ISO 9001
- The full requirements of the relevant product Standards

[14] UK Certification Authority for Reinforcing Steels website http://www.ukcares.com
[15] Deutches Institut fur Bautechnik (English language website): https://www.dibt.de/index_eng.html
[16] Instituto Italiano Di Guarantia Della Qualita (English language website): http://www.igq.it/en/

- The control of the manufacturers process in order that product of a consistent level of compliance will result

ACRS commenced certification to AS/NZS 4671 (steel reinforcing materials) in 2003 and AS/NZS 4672 (steel prestressing materials) in 2007. In 2011, at Austroads request, ACRS expanded its scheme to include certification to the recently published structural steels standards. In February 2014, the ACRS board of directors voted to establish a new line of ARCS certification as a Technical Approvals Body (TAB) certifying building materials and systems, such as structural bolts, not currently subject to product certification to existing AS/NZS or international standards.

ACRS certification is easy to use, rigorous, yet not onerous, and it removes the need for site personnel to review test certificates at every delivery (although test certificates may be required for certain products and applications).

8.5. ACRS Coverage of steels to AS/NZS Standards

ACRS certifies the majority of non-fabricated construction steels (steel reinforcing materials, prestressing steel materials and (non-fabricated) structural steels) used in Australia and New Zealand. ACRS is currently assessing additional suppliers and it is expected that ACRS coverage, especially in structural steels will increase.

ACRS certifies over one hundred and fifty facilities, belonging to over forty supplier companies, in fifteen countries[17] (including China, Japan, Korea, Germany), offering the Australian and New Zealand construction industries a wide range of products demonstrably compliant with current Australian/New Zealand Standards and associated specification.

Over the past three years, ACRS has refused certification to a growing number of steel companies that have been unable to provide the minimum evidence of the consistent product conformity required by the AS/NZS Standard of supply claimed by the manufacturer. This unseen benefit delivers a major reduction in the risk of nonconforming product arriving on Australian construction sites, provided ACRS Certification is specified by project owners.

8.6. ACRS Certification to AS/NZS Standards

The ACRS Product Certification Scheme currently offers certification to the following AS/NZS steel materials standards:

1. AS/NZS 4671 – Steel Reinforcing Materials
2. AS/NZS 4672 – Steel Prestressing Materials
3. AS/NZS 1163 – Cold Formed Steel Hollow Sections
4. AS/NZS 1594 – Hot Rolled Steel Flat Products
5. AS/NZS 3678 – Structural Steel - Hot rolled plates, Floorplates and Slabs
6. AS/NZS 3679.1 – Structural Steel - Hot Rolled Bars and Sections
7. AS/NZS 3679.2 – Welded I Sections

ACRS is currently extending its product certification scheme to include Technical Approvals for established, approved customer specifications (e.g. Austroads

[17] ACRS Certificate Holders (ACRS website) http://steelcertification.com/search1.html

members, such as RMS). Again based upon the internationally recognised UKCARES Approvals framework, the ACRS Technical Approvals model differs in that, uniquely, ACRS has included most of its product certification requirements to provide an additional, ongoing validation of product conformity and a higher level of technical assessment than provided by most international Approval systems, whilst following the well-recognised and cost-effective UKCARES/ACRS product certification model.

Lastly, ACRS has commenced the creation of a new ACRS ISO 9001 certification scheme. This scheme will be offered (on a voluntary basis) only to companies that already hold ACRS product certification. Unusually, the ACRS ISO 9001 scheme will be focussed only on construction steels manufacture, fabrication and supply. The advantage of a more specialised scheme (again based on successful UKCARES experience) is that ACRS' expert assessors have in-depth knowledge and direct experience with the processes concerned, leading to a more. It is anticipated that this new scheme will be released in 2016, after the issue of the new ISO 9001 standard.

8.7. Costs of the ACRS Scheme

The costs of the ACRS scheme are borne entirely by the applicant steel firms. There is no cost to steel purchasers or users of ACRS certificates, either directly by charges from ACRS, or indirectly by any impact on the cost of steels sold by steel companies certified by ACRS. Evidence shows that the costs to any certified firm of ACRS certification are typically less than 0.1% of the sales price of the materials.

As a not-for-profit body dealing only with construction steels, ACRS costs are the minimum required to deliver a credible, rigorous, focussed and technically competent certification scheme for steel purchasers.

The alternative to ACRS can involve testing of materials delivered on site where the cost may be 1000-times larger, plus project delays (plus claims?), than ACRS certification and continual verification at-source. Relying on test certificates for imported materials is now extremely high-risk (e.g. the UK CROSS system[18] ref. www.structural-safety.org/), due to proliferation of incomplete, inaccurate and fraudulent test certificates.

8.8. JAS-ANZ Accreditation

The ACRS product certification scheme is accredited by JAS-ANZ to the requirements of the governing international Standard, ISO IEC 17065 (2012) – "Conformity assessment - Requirements for bodies certifying products, processes and services". JAS-ANZ accreditation provides verification that ACRS:

a. operates independently, without regard for either the geographic location, or commercial affiliation of any applicant for certification;
b. operates competently and;
c. operates consistently to ACRS' own scheme rules and technical levels for certifying to its nominated standards.

ACRS understands that it was only the second product body to be accredited by JAS-ANZ to this new Standard and the first for building materials.

[18] Structural Safety website www.structural-safety.org/

8.9. The ACRS certification model

ACRS was founded on the UKCARES[14] model of steel certification successfully used in UK and internationally since the mid 1980's (see above. UKCARES is a Notified Body for steels under the CE marking system. The EU Construction Products Regulation requires that where a product is of higher risk (such as steel), the CE marking must be awarded by a "Notified Body", a body with sufficient expertise and resources to satisfactorily assess and validate a manufacturer's claims of product conformity*).*

Subsequently, ACRS has had 15-years of continuous development and 12-years of direct experience of evaluation of steel suppliers to the requirements of AS/NZS standards.

The ACRS scheme operates to internationally recognised principles to provide a simple, cost-effective and credible means for customers and suppliers to demonstrate compliance without the need for complex, project specific documentation, or on-site testing of delivered materials. Simply put, the use of ACRS certification enables confident specification and sourcing of AS/NZS compliant construction steels and, in place of site-based verification, significantly, reduces specifier and user risk, whilst saving time and cost to customers, checkers and suppliers.

Providing a seamless certification system building upon, but not duplicating, a manufacturer's established quality management (e.g. ISO 9001) and testing systems (e.g. NATA-accredited laboratories), ACRS delivers consumer and customer-oriented independent verification that the steel construction materials supplied by an ACRS certified company consistently meet the requirements of the appropriate Australian/New Zealand, or international Standards.

Specifying ACRS-certified suppliers in contract documents eliminates the need for rushed testing and investigation of materials when delivered to site and are often on the critical path. This can eliminate major delays and contract claims if product is found to be nonconforming.

The ACRS scheme, using the UKCARES[14] framework, provides a rigorous validation of steel suppliers claims. In steel reinforcing materials ACRS covers both the steel manufacturer and the steel processor. ACRS is currently examining means by which fabricated structural steels manufactured by ACRS certified mills may be traced through distribution to the final customer.

8.10. ACRS member companies

ACRS member companies reflect the breadth of the construction industry, comprising organisations representing designers, certifiers & specifiers, customers & users, and manufacturers & suppliers. The representation of such a broad range of industry professionals provides the ACRS board with the means to ensure balanced and credible delivery of product certification, meeting legitimate industry technical requirements by the most appropriate and cost effective means. Member companies endorse and support the ACRS Scheme on a non-exclusive basis (i.e a member company may support or recognise other, demonstrably equivalent certification bodies)

Austroads was a founder member of ACRS, together with Engineers Australia (then the Institution of Engineers, Australia); Consult Australia (then the Association of Consulting Engineers, Australia); the Master Builders Association; the Housing Industry Association; the Bureau of Steel Manufacturers, Australia; the Steel Reinforcement Institute of Australia, and; The University of Melbourne. Other peak bodies have joined subsequently.

The current member companies of ACRS are:

19. Australasian Wire Industry Association (AWIA) *[importers]*
20. Australian Constructors Association (AHCA) *[major building contractors]*
21. Australian Institute of Building (AIB)
22. Australian Institute of Building Surveyors (AIBS)
23. Australian Steel Institute (ASI)
24. Austroads
25. Building Officials Institute of New Zealand (BOINZ)
26. Bureau of Steel Manufacturers of Australia (BOSMA)
27. Concrete Institute of Australia (CIA)
28. Consult Australia (formerly, ACEA)
29. Engineers, Australia
30. Heavy Engineering Research Association (HERA - NZ)
31. Housing Industry Association (HIA)
32. Master Builders Association (MBA)
33. National Precast Concrete Association Australia (NPCAA)
34. Post Tensioning Institute of Australia (PTIA)
35. Steel Reinforcement Institute of Australia (SRIA)
36. The University of Melbourne

Several more peak bodies, from both Australia and New Zealand, are currently considering application.

8.11. ACRS Board of directors

ACRS is governed by a board of directors. The board sets ACRS policy and goals, meeting quarterly to discuss and review the progress and performance of the Authority. The board is intended to be as broadly representative of the construction industry as possible, and is made up of both independent directors and nominee directors.

Each member company has the opportunity to nominate a suitable person to act as a director on the ACRS board and for that person to nominate for one or more committees. Nominations are reviewed and accepted for recommendation to the ACRS board of directors by the Directors Appointments & Review Committee.

8.12. ACRS Audit & Assessment Committee

The Audit & Assessment Committee is the decision-making body by which ACRS provides certification and makes the technically rigorous certification decisions on which ACRS reputation is based.

The committee is made up of voting members (ACRS directors) and non-voting members (ACRS staff), none of whom are connected to firms who manufacture or supply steel materials, and all of whom have the technical skills to review the audit reports and test data related to each evaluation.

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8.13. ACRS Management and Auditors

All ACRS auditors are expert metallurgists with over 20-years experience in the types of materials they are auditing. In addition, all are lead-auditor trained, and undergo regular scheme training within ACRS. The ACRS model (as with UK) does not use auditors with only generic audit training to assess and make audit recommendations on materials, associated processes and Standards that they themselves do not understand intimately.

The ACRS Executive Director is required to be a professional engineer with appropriate engineering, auditing and managerial qualifications and experience.

8.14. ACRS assessment, testing and periodic production data review

The ACRS product certification scheme is ISO 17065 compliant, and a Type 5 scheme to ISO 17067 and includes:

- Initial type testing of manufacturers materials
- Review of periodic testing during production by the manufacturer
- Auditing of the manufacturers records
- Sampling of products from the market

The ACRS scheme also includes additional features past the scope of ISO 17067 Type 5 including:

- Quarterly review of Long Term Quality (LTQ - test records)
- Independent testing of samples selected by the auditor, not the manufacturer

The cornerstone of the ACRS scheme is the testing and data reviews undertaken by ACRS throughout the year. Qualified independent laboratories selected and monitored by ACRS undertake testing of samples taken at audit by the ACRS auditors. Data reviews of all products certified by ACRS are undertaken every three-months by ACRS own personnel to ensure continuing compliance with both the ACRS Scheme and the Australian Standard of supply.

This ongoing, periodic data review of each site and process, backed by site audits has provided ACRS with an unparalleled body of knowledge of the range of construction steels supplied to Australian and New Zealand Standards.