

Submission 126 - Australian Steel Institute

The Australian Steel Institute made submission 19 to the inquiry into non-conforming building products in the 44th Parliament.

This document is intended as a supplementary submission to the original submission 19.

All submissions received in the 44th Parliament can be accessed via the following link:

http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Economics/Non-conforming_products/Submissions

Senate Inquiry into Non-conforming Building Products

**2nd Submission by
the Australian Steel Institute**



AUSTRALIAN STEEL INSTITUTE

**Prepared by Ian Cairns on behalf of the ASI
(January 2017)**

Executive Summary

The Australian Steel Institute (ASI) supports the Senate Inquiry into non-conforming product as the prevalence of steel product and materials not being fit for purpose or meeting relevant Australian standards has increased significantly since the move to global sourcing and purchasing practice in recent years.

The ASI in this second submission seeks to reinforce our major recommendations and provide further information not available at the time of our original submission.

Our Industry is cognisant of a need to reduce regulation and therefore is taking the lead to fix the problem by assisting in the introduction of a new Australian Standard (AS/NZS 5131), introducing compliance schemes and educating the market on these latest initiatives. However, it cannot succeed on its own and needs government support.

Non-conforming Building products is now becoming a major issue within all sectors of the building and construction industry and needs to be acted on urgently.

Introduction

The ASI is submitting these comments on behalf of its member companies, although some of these companies may also submit their own individual company views. These members include the full spectrum of companies and individuals involved in the design, manufacture, distribution, fabrication, design detailing, education, surface protection and construction of steel, as well as suppliers of goods and services to the steel industry.

In the steel industry the 'building product' may be a fabricated assembly to engineering design specifications or a finished proprietary 'branded' product, both produced to Australian standards, and this report reflects that mix.

We stress that this problem is not just restricted to the housing market as infrastructure, industrial and commercial construction is also affected by NCP.

Representation

With over 100,000 direct jobs (see page 8 for more detail), the Australian steel industry is a significant employer and key industry in this country. The ASI is Australia's peak steel industry association representing and promoting Australian steel in manufacturing and construction and representing the whole steel value chain.

The majority of member companies are small to medium enterprises (SME) within the steel fabrication and processing segment of the value chain. The ASI's core membership comprises:

The ASI's direct membership covers over 9000 individuals and over 600 companies and has member associations through 15,000 stakeholders and over 2000 businesses. This covers the full spectrum of steel industry activity from the steel mills and manufacturers through distribution and fabrication to engineering design, architecture and education. The majority of member companies are small to medium enterprises (SMEs) within the steel fabrication and processing segment of the value chain. The ASI's core membership comprises:

- **Steel manufacturers**
- **Steel distributors/processors**
- **Steel fabricators**
- **Associate companies**
- **Engineering and design companies and individuals**
- **Building industry**
- **University students and early graduates**

The ASI is a not-for-profit organisation comprising three sustaining members, BlueScope Steel, OneSteel and Fletcher Group and a large number of company members, associates and individuals.

Through industry association partners like the Welding Technology Institute of Australia (WTIA), Australasian Corrosion Association (ACA), Galvanizing Association of Australia (GAA) and the Australian Institute of Non-Destructive Testing (AINDT) who support this submission, the overall representation covers the supply chain and those industries that see the effect of non-conforming product in the field.

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1. Background

This issue of non-conforming building products has been widely known and reported on for some time. For example, the following extract on standards and conformity from the Prime Minister's Manufacturing Taskforce Report of non-government members (August, 2012) states:

“Australian manufacturers acknowledge and support the role of standards in facilitating commerce and underwriting consumer and business confidence. Australia has a strong standards infrastructure but one that is at risk of being undermined by non-conformity and, in some cases, misrepresentations about conformity.”

Australian manufacturers are increasingly finding that they are competing against products that do not conform to regulatory requirements and do not meet standards to which domestic businesses adhere. This places complying and conforming businesses at a cost and competitive disadvantage.

The non-government members of the Taskforce recommend that the Commonwealth Government develop an approach to conformity marking along the lines of Europe's CE Marking; that it evaluate, in consultation with industry, the effectiveness of existing regulators with responsibilities for product assessment with a view to improving the effectiveness of conformity assessment; and that it enters a dialogue with the ACCC and, through the State and Territory Governments, Offices of Fair Trading, to increase the priority given to addressing misleading claims of conformity with regulation and voluntary standards.”

Additionally...

The following quote from the Australasian Procurement and Construction Council (APCC) provides the context to this report as follows:

“The Australian construction industry operates in a global marketplace and utilises a vast, increasingly complex and innovative range of construction products, many of which are manufactured overseas... Regardless of the origin of the manufacturer of the construction product there is a lack of credible and accurate information available in Australia to assist all stakeholders involved in construction projects to verify construction product conformance and performance. This has the potential to create significant constraints and risks to a construction project. In Australia there have been numerous instances where non-compliant construction products have caused the collapse of buildings, motorway signs, glass panels and more. The risk of loss of life and severe injury should not be underestimated. The quality and compliance of construction products is a major risk management issue which needs to be addressed. It is vital that we create an environment in Australia in which all stakeholders in the building and construction process, including the community, are assured that all construction products meet a minimum acceptable level of performance and are fit for the purpose to which they are intended.”

APCC Director Strategic Projects, Jane Montgomery-Hribar

2. The impact of the Problem on the Australian steel industry

Size and scope of Australian steel manufacturing and fabrication

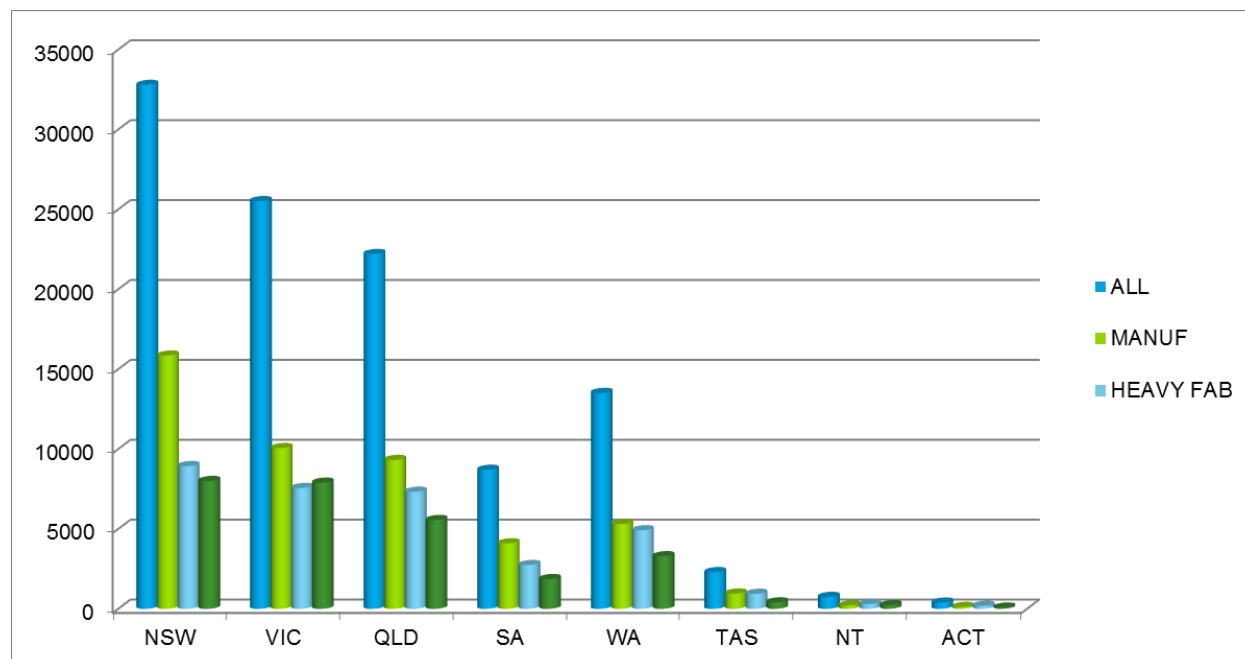
There are 106,144 people employed in the steel industry nationally (Source ABS Census 2011).

The State breakdown is as follows:

ALL EMPLOYEES - STEEL INDUSTRY BY STATE

STATE	ALL	MANUFACTURING	HEAVY FABRICATION	MEDIUM FABRICATION
NSW	32786	15849	8936	8001
VIC	25517	10058	7563	7896
QLD	22205	9319	7327	5559
SA	8700	4095	2740	1865
WA	13510	5302	4916	3292
TAS	2297	957	940	400
NT	741	214	300	227
ACT	388	118	189	81
TOTAL	106144	45912	32911	27321

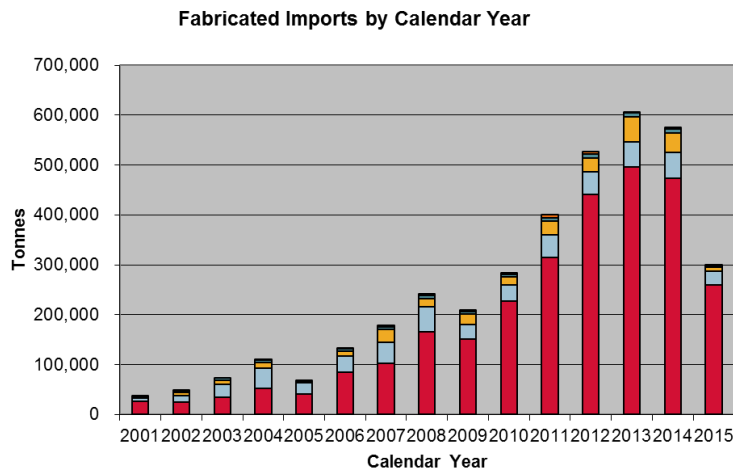
Source: ABS 2011 Census



Australian Steel Institute 2nd submission to Senate Inquiry into non-conforming building products

The Australian steel fabrication and manufacturing industry is being adversely affected by the high level of low-cost non-compliant imports particularly from China. The Australian steel industry believes this competition is unfair because of the savings this provides the importer in not meeting the requirements of Australian Standards.

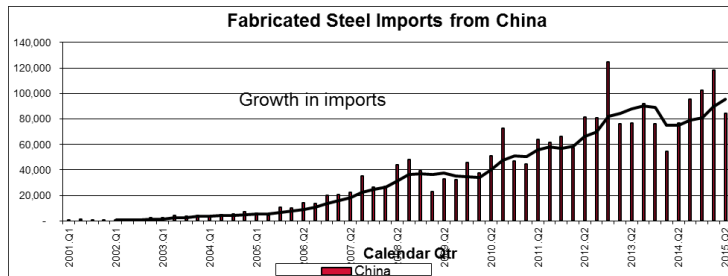
The following graph shows the level of increase in imported fabricated structural steelwork. The ASI does not have data on the growth in imported of manufactured steel goods but it is likely to be similar.



Note 1: 2015 data only represents a 6 month period

Note 2: This data excludes import tariff categories of fabricated product such as specialised capital equipment (e.g; iron ore and LNG plant and equipment)

Import statistics as supplied by ABS using the HTISC system



What the ASI is doing

The ASI an active partner of the Construction Products Alliance (CPA) has been a co-author of the APCC report⁴ and supported the AiG in the NCP survey⁵.

As indicated earlier, the ASI has initiated third party conformance associated with the National Structural Steelwork Compliance Scheme (NSSCS), The ASI also has a scheme called ShedSafe deemed necessary by the shed industry to provide safe shed structures in Australia following many failures, particularly after cyclones in Queensland. The ASI also supports the Australasian Certification Authority for Reinforcing and Structural Steels (ACRS) for surveillance of steel at the mill level.

The ASI has also been integrally involved in assisting the development of the new Australian Standard for fabrication and erection of structural steelwork, AS/NZS 5131. For more information on the new Australian Standard refer Appendix 1.

3 Existing policing framework for fabricated steelwork used in Construction

Overseas Regulation and Australian Steelwork Compliance

1. European Union (including UK)

The **CE Mark** states that a product has been assessed before being placed on the market and thus satisfies the legislative requirements (e.g; a harmonised level of safety and compliance). It means that the manufacturer has verified that the product complies with all relevant essential requirements and if required, has been certified by a qualified conformity body. CE Marking is a self-certification scheme based on a manufacturer's declaration but a range of products requires type testing against technical standards by notified bodies. Because steel components are deemed 'safety critical', CE Marking is mandated in legislation and certification is not allowed unless the Factory Production Control (FPC) system under which they are produced has been assessed by a suitable certification body that has been approved by the European Commission.

2. USA

The American Institute of Steel Construction (AISC) initiated a contractor certification system in the mid 1970s that has developed into a Total Quality Management system. This system is audited by an independent Quality Management Company (QMC). This is an open to all countries, voluntary system but one which has universal acceptance across the country and has over 1500 fabrication companies certified. Qualification follows categories of construction like general fabrication, erection and bridge fabrication.

3. Canada

The Canadian Institute of Steel Construction (CISC) runs a fabricator certification program. The CISC program is similar to that run by its American counterpart, the AISC. It is also open to non-Canadian members. Fabricators must have a valid current and audited letter of validation to the Canadian Welding Bureau (CWB). CWB certification is legislated through parliament and so this is a powerful tool in keeping steel construction products and materials quality controlled and audited by Canadians. There are two categories of certification offered by CISC: Structures and Bridges. Both are subject to independent auditing.

4 Australia

In December 2016 Australian Standards implemented a new Standard for fabrication and erection of structural steelwork. AS/NZS 5131 defines good practice in these endeavours and is the basis for the new National Structural Steelwork Compliance Scheme (NSSCS).

It is modelled on the steel product compliance principles used in the UK where there is a risk categorisation for each type of structure and the fabricator capability requirements are commensurate with the level of complexity and nature of the risk profile involved. This is also a voluntary scheme as per the model used in the USA.

The scheme is open to all fabrication companies from any country and provides the engineer and client reassurance that the subcontractor is certified as being capable of carrying out the work to Australian Standard requirements at a predetermined risk category of the project.

Steel reinforcing and structural steel product manufactured in or imported into Australia is covered by a compliance scheme managed by the Australasian Certification Authority for Reinforcing and Structural Steels (ACRS). This scheme seeks to certify compliant structural and reinforcing steel by auditing at the steel mill level. It is well established and has a very good track record in ensuring compliant quality steel is used in construction.

Steel garages and sheds are managed by the ASI scheme called ShedSafe. This seeks to ensure that the shed design is appropriate for the climatic zone categorisation and the design and product meet the relevant Australian Standard. This scheme has universal acceptance from the Australian shed industry.

These schemes can only be effective if they have industry and Government engagement and support.

The ASI is seeking that all governments, State and Federal, get behind appropriate industry-led compliance schemes and for structural steelwork stipulate that all Government projects should be built in accordance with all applicable Australian Standards, most notably AS/NZS 5131, using suitably certified steel fabricators. This is also a recommendation of the APCC report.

Assessment Systems - Surveillance of imported building products

The current regime of self-inspection and certification for structural steelwork (self-certification) does not work and Australia needs a better compliance regime in which to operate.

In past years it was commonplace that the building's engineer was contracted to be responsible for ensuring all products used in the building were compliant with his original design specifications. Typically today, the engineering community is no longer contracted to do site inspections and is predominantly contracted only for the base design. The ASI is aware from regular discussions with our members that engineers and architects are being continuously put under pressure to sign off on substituted foreign materials and material standards where there is a cost saving to their contractor.

ASI members express frustration at being unable to safely report NCP due to confidentiality clauses in construction contracts and sensitivity of relationships in the building products supply chain. This makes continuous improvement or a 'Safety Alert' process impossible. The key to the success of reporting NCP is anonymity coupled with qualified review of the matter reported.

This is ably demonstrated through the confidential reporting scheme previously known worldwide as CROSS, now known as Structural Safety, an authority that operates a confidential reporting on

structural safety scheme that allows stakeholders to report anonymously on unsafe building products and practices in structures. This is funded by the UK structural and civil engineering as well as health and safety sectors supported by the UK Government. This has positively influenced change to improve safety in the UK construction industry.

A major instance of structural failure of a bridge truss in Sydney was recently reported on through this mechanism. The ASI has proven its effectiveness to Australia.

The ASI has been active in endeavouring to gain support for a confidential reporting system for instances of fraudulent supply of steel and steelwork and has been in discussion with Engineers Australia on this matter. ASI members support the availability of such a scheme.

This issue of non-compliant substitutions concerns building surveyors or inspectors who do not have the engineering expertise, knowledge or often opportunity to identify steel defects or check whether the steel supplied is compliant.

Builders and project managers may take on the responsibility of site inspection but often do not have the skills or knowledge to understand compliance at a material or fabrication level. For structural steelwork there is currently no reliable system for surveillance of imported building products apart from product failure. However, if defects with major structural steel items are discovered, the prime contractor often has no alternative to meet the time constraints but to accept faulty product or try to patch repair any defects.

The implementation of a system that requires the supplier and all stakeholders in the construction chain to ensure that the products that they are selling are certified to comply with relevant standards and fit for purpose responsibilities within their scope, will be good for Australia.

4 Restrictions and penalties on non-conforming products

The ASI believes that the current systems in place through the Australian Competition and Consumer Commission (ACCC) or the Building Code of Australia (BCA) are demonstratively ineffective in preventing non-conforming steel building products.

We see no effective discouragement or penalty for contractors to seek conforming product where the non-conforming product is cheaper. When failure occurs, the current industry practice is to employ the local industry to undertake rectification works under confidentiality contracts.

These confidentiality contracts restrict the opportunity for disclosure of important safety information which could be in the public interest.

The local industry sees an un-level playing field in this area as local suppliers are treated quite differently to overseas suppliers in terms of rectification commitments and responsibilities.

5 Recommendations for Government action supported by actions from steel industry

The ASI recommends that the Federal and State governments establish a clearly defined framework for product and material conformity based on the National Construction Code (NCC) and Australian Standards. Our recommends are as follows:

1. That all State and Federal government procurement guidelines fully support and stipulate the use of the 12 principles in the APCC guide for procurement.
2. That all Government contracts stipulate the use of all appropriate Australian Standards, most notably AS/NZS 5131 and industry backed third party compliance schemes for key structural product areas (e.g; structural steel) where available. Appendix 1 provides more information.
3. That the State-based Workplace Health and Safety Act be strengthened and clearly articulated to support the enforcement of penalties for unsafe supply of non-conforming product in the building industry and that the Act or guidance documents from the Act provide specific examples relating safety and non-conforming product.
4. That the liability for non-conformance for building products and certification of conformity be available at point of sale.

Point of sale certification places responsibility on manufacturers or importers to provide appropriate evidence to companies along the supply chain such as fabricators, distributors and end users to be able to satisfy them that the products they are buying comply with relevant standards and fit for purpose responsibilities. This is important because of the current inability of the construction industry client to be assured of compliance through existing processes. Point of sale product compliance will need to be accompanied by clearly defined regulatory authorities and policies so that all stakeholders are aware of their requirements and what policy enforcement applies to them.

This does not abdicate responsibility from the rest of the supply chain who should also be ensuring that their documentation of contract for products they order be required to comply with specifications. If they have not done this then as per other 'chain of responsibility' criteria, they should also be held responsible.

5. The ASI believes that the NCC and Australian Standards are good documents, but lack effective conformity assessment support mechanisms. The ASI recognises that industry needs to reduce regulation and 'red tape'. In the context of conformity assessment it is important that there is a risk categorisation of the project, project component or product that guides the level of assessment.

In the case of structural steel the ASI has introduced the concept of 'construction categories' to ensure that the industry recognises that low conformity assessment is adequate for low risk items. This is consistent with overseas practice. The Australian steel industry believes that this principle should guide any recommendation to lessen the added burden of industry regulation in assessing compliant product.

6. There needs to be strict enforcement of the compliance to building code processes and penalties for knowingly signing off on NCP. In some states the engineer needs to sign off on the structural soundness of a structure and the ASI is often contacted by members about pressure being applied from the builder to do this where there is evidence of NCP.

7. That all Government building contracts seek to have transparency of non-conformance reporting. This could be through the supply contract (e.g: contractor agrees that any record which is evidence of non-conformity is not kept confidential). This seeks to ensure that NCP is brought to the attention of the client and not repeated in the next project, particularly where safety is involved.
8. That Government support industry to set up a confidential reporting scheme for non-conforming product similar to the UK Structural Safety scheme (previously CROSS) as per the Construction Products Alliance (CPA) recommendations to the Building Ministers conference.

6 The Building and Construction Industry (Improving Productivity) Act 2016

The ASI welcomes the passing of the Building and Construction Industry Act 2016. That we believe if operated effectively, and in the spirit in which it is intended should assist the issue of NCBP's. As the Act was passed in the last days of the 2016 Parliament, it is too early at this stage to tell how effective it will be on the ground. However, we look forward to working with the Government on aspects of the Act that can reduce the prevalence of NCBP's.

On our original review of the Act, some issues that we would like further discussion and clarification on are listed below:

1. How the requirement imposed that requires the Federal Safety Commissioner to audit National Construction Code performance would operate.
2. Identification of any desirable additions to the National Construction Code.
3. The proposed requirement for procurement rules to adopt the national competition policy 'public interest test'
4. Contents of a 'building code' (cf. the NCC) which will require people building things for the Commonwealth to comply with standards.
5. Are all Government entities 'funding entities' within the Act, e.g. Australian Submarine Corporation.
6. Progress on accession to the WTO Government Procurement Agreement.

7 Endnote

It is clearly in the Economic and the Public interest that we minimise the amount of Non Conforming Products in the Building and Construction industries for both productivity and public safety reasons.

The ASI is keen to see the suggestions and recommendations above looked upon favorably and adopted at the earliest. We stand ready to assist or clarify any part of this submission to the Inquiry.

Further information on the ASI and the member companies involved in this submission can be found by following the web link:

www.steel.org.au

For further information about this submission, please contact:



Australian Steel Institute
PO Box 6366, North Sydney, 2060 NSW
Level 13, 99 Mount Street, North Sydney, 2059 NSW

8 Appendices

Appendix 1

The New AS/NZS 5131 and link to NSSCS



The new Australian Standard AS/NZS 5131 defines **good practice** for fabrication and erection of structural steelwork for projects in Australia, and is the basis for the new National Structural Steelwork Compliance Scheme (NSSCS). AS/NZS 5131 addresses:

- ◆ Requirements for **documentation and specification**
- ◆ **Materials**, including steel, welding consumables, fasteners and grout
- ◆ **Preparation and assembly**, including cutting, shaping and holing
- ◆ **Welding**, including welding processes and qualification of welding procedures and personnel
- ◆ **Surface treatment and corrosion protection**
- ◆ **Mechanical fastening** (bolting, tensioning of bolts, special fasteners, post-fixed anchors)
- ◆ **Architecturally exposed structural steelwork**
- ◆ **Erection**
- ◆ **Geometrical tolerances**
- ◆ **Inspection, testing and correction**
- ◆ **Site modifications and repair of existing structures**

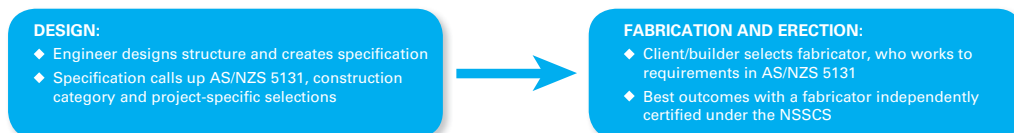
AS/NZS 5131 utilises a **risk-based fit-for-purpose approach** implemented through the classification of the 'Construction Categories' for the whole or parts of the structure. This establishes a **Quality Benchmark** responsive to the needs of your project and client.

Why was it created?

Prior to the publication of AS/NZS 5131, Australia was the only country in the developed world without a dedicated stand-alone Standard for fabrication and erection of structural steelwork. In today's increasingly 'open borders' procurement environment, where structural steelwork for Australian projects is being supplied by both local and overseas based fabricators, a rigorous and transparent definition of good quality is more necessary than ever. AS/NZS 5131 sets the quality benchmark Australia expects to ensure safe structures.

AS/NZS 5131 in the project process

Fitting AS/NZS 5131 into your project process is easy:



Fabricator certification and the National Structural Steelwork Compliance Scheme

The Australian Steel Institute (ASI) has developed the **National Structural Steelwork Compliance Scheme (NSSCS)**, comprising four supporting pillars:

- ◆ AS/NZS 5131 as the technical foundation
- ◆ Risk assessment and engineer selection of the 'Construction Category'
- ◆ **Conformity assessment** to the requirements of AS/NZS 5131
- ◆ Auditing and certification of fabricators through Steelwork Compliance Australia (SCA)

Industry association led compliance schemes are commonplace in the UK, US, Canada and New Zealand and in Europe (and the UK) compliance is legislated as a mandatory safety requirement for all structural steelwork. New Zealand has joined Australia in developing an industry-led compliance scheme based on AS/NZS 5131.

Benefits of the NSSCS and certification:

- ◆ Provides a **high level of assurance** that the fabricated steel for your project is from a qualified competent fabricator
- ◆ Is an **open scheme** and any fabricator based in Australia or overseas who can demonstrate capability to meet the requirements of the new Standard can be certified
- ◆ **Saves significant project resources and time** in checking of product compliance
- ◆ Is effectively a **National Steelwork Technical Prequalification Scheme**, which in time will save the Australian community significant costs in making the project tendering process more efficient



Go to <http://steel.org.au/key-issues/compliance> to learn more!

Appendix 2

Falsification of test reports

Steelwork tested and analysed by ALS NATA certified laboratory

Tensile testing showed the steel was 338 MPa yield strength versus a 450 MPa grade to AS/NZS 1163 Grade C450L0 called up in the engineer's documentation.

Extract:

COMPLIANCE STATEMENT: The tensile test results reported herein **fails to comply** with the requirements specified in Table 6 of the AS/NZS 1163: 2009 for Grade C450L0.
CVN impact test results reported herein **comply** with the requirements specified in Table 7 of the AS/NZS 1163: 2009 for Grade C450L0.

Non- Compliant welding statement



Appendix 3

Independent AEC group Report Summary



Industry Capability Network (ICN) is an Australian and New Zealand-based organisation that helps local suppliers gain access to the supply chains of major projects.

Since 1984, ICN has monitored the economic impact of its services and the benefits to the economy when a local supplier wins or keeps business. It uses these studies to report benefits to the Australian economy including:

- ♦ job creation
- ♦ revenue to governments in taxes and statutory charges
- ♦ economic value adding.

In 2012, ICN commissioned AECgroup to update these economic indicators for the manufacturing and services sectors. The updated data is based primarily on ABS information on Australian industries to 30 June 2010, published in June 2011. Other ABS data sets (regarding price indices and labour force information) are also used where relevant.

The significance of manufacturing

The manufacturing industry has been under pressure from a number of global macro-economic issues, such as a weakened global economy following the global financial crisis (GFC), competitive pressure from increasing wages and the strong Australian dollar, and competition for

labour from the resource industry. The industry is likely to face additional pressure in the future from the introduction of a carbon tax and rising energy costs.

Over the last six years, the manufacturing industry contributed an average of 9.5% to gross value added (GVA) and an average of 9.5% of total employment in Australia. In the period 2004-05 to 2009-10, turnover grew in absolute terms by 19.5%, GVA increased in absolute terms by 10.3% and total employment decreased by 7.3%.

Economic benefits – manufacturing

For every \$1 million that is new or retained manufacturing business for Australia, the following effects flow through the economy:

- ♦ \$713,400 worth of gross value added (GVA) generated
- ♦ 6 full-time equivalent jobs created
- ♦ \$64,900 worth of welfare expenditure saved
- ♦ \$225,300 worth of tax revenue generated.

Produced by Industry Capability Network (ICN) from data compiled by AEC Group Limited (AECgroup)





The significance of services

The Australian services sector makes up more than half of Australian gross domestic value added (GVA). The services sector has been affected by the global financial crisis (GFC), the strengthening of the Australian dollar, and rising wages. Retail services have experienced increased competition due to changing spending habits and the affects of the GFC.

Over the last four years, the services sector contributed an average of 52.7% to GVA and an average of 76.2% of total employment in Australia. From 2006-07 to 2009-10, turnover in the sector grew at an average of 3.8% per annum, employment increased by 7.9%, wages rose slightly by 1.1% and labour productivity grew by 6.7%

Economic benefits – services

For every \$1 million that is new or retained services business for Australia, the following effects flow through the economy:

- \$837,500 worth of gross value added generated
- 8 full-time equivalent jobs created
- \$85,300 worth of welfare expenditure saved
- \$264,500 worth of tax revenue generated.

Produced by Industry Capability Network (ICN) from data compiled by AEC Group Limited (AECgroup)

Flow-on benefits to the wider economy

Every dollar spent on new or retained business in the services and manufacturing sectors creates benefits to not only those sectors but also the wider Australian economy. Industries that meet the consumption demands of the manufacturing and service sectors also benefit which results in more jobs, wages and salaries.

For full copies of the AECgroup reports go to www.icn.org.au or call your local ICN office on 1300 961 139.

