



Australian Steel Institute Seminar “Implications of the new Work Health and Safety Act 2011 on Compliance in Construction Steelwork” held in Brisbane, 26 November 2012

Answers to specific questions put to Workplace Health & Safety Qld by the ASI on the relevance of compliance to Designers’, Contractors’ and Importers’ duties under the WHS Act.

Please note that compliance and the issues highlighted below are relevant to all construction products. ASI has taken a lead in working to provide industry clarification and direction on this important topic.

Scenario 1 - Designer duties

As a designer, what responsibilities do I have to check steel materials, when I have designed and specified them to the Australian Standards, and during the tendering/procurement process, I am told the steel materials are being sourced from overseas and have not been manufactured to an Australian Standard? I have been asked to certify that these materials are acceptable. In my opinion, and based on the recommendations for type and extent of information from our industry body, documentation supplied is quite inadequate. I have asked for more information, but it has not been forthcoming.

The duty that most readily applies to designers of structures is set out at section 22 – Duties of PCBUs that design plant, substances or structures, of the *Work Health and Safety Act 2011*.

A designer must ensure, so far as is reasonably practicable, the structure is designed to be without risks to the health and safety of any person that uses the structure and this includes construction and demolition.

The term “reasonably practicable” incorporates specific notions of what is known, or ought be known, about risks and ways of minimising those risks.

From this scenario two main issues arise:

In the instance a designer designs to an Australian Standard assuming, correctly, materials certified to an Australian Standard will be used, then it is difficult to see how that duty will have been not discharged should the material fail (for a reason specific to the material, not the design). The premise here that “saves” the designer is the assumption that certifying systems in place for the manufacture of Australian steel are valid. The validity arises from the circumstance of the system of both in-house and independent testing of product, a functioning regulatory system and the absence of incidents where product fails.

If on the other hand a designer is required to use a non Australian Standard certified steel then the question begged is what is known about the steel. There may be many non Australian Standard certified steels that match or exceed Australian Standard rigor in certification. The suggestion in this scenario is that that is not the case.

If steel of initially unknown character is used in a design then it can be quite

confidently stated that the duty on the designer incorporates the testing of that steel. The definition of reasonably practicable militates towards this, as does subsection (3) of section 22 which, summarised, says a designer must carry out, or arrange the carrying out of, any calculation, analysis, testing or examination that may be necessary for the performance of the designer's duty.

ASI Comment: Specifying effectively certified materials (steels, bolts, welding consumables etc) to appropriate Australian Standards is one way in which Designers can discharge their duty under the ACT.
For uncertified materials the designer must take steps through appropriate statistical testing to assure him or herself of the compliance to the design requirements of that material. Clearly the designer has a duty of care to ascertain the veracity and appropriateness of steel materials and products used in his design, where this falls within his project responsibilities. That duty of care includes both known steel to Standards other than the Australian Standards used as the design basis and also steel of initially unknown character.
Of consideration is that the time and cost of testing and if necessary rectification of un-known or non compliant product can be considerable and often more than the original value of the product.

Scenario 2 - Designer duties

Further to the above, if I certify this steel and subsequently there is a failure (perhaps with loss of life) that can be directly attributed to the steel performance, what are my liabilities and will I be held responsible?

If steel is certified without knowing the character of the steel it is prima facie a breach of a designer duty (whether or not the structure fails or whether or not any person is injured).

It does not take a failure or an injury to fail the duty. Not complying with the duty is the breach.

ASI Comment: Designers must be rigorous in their review and approval of steel materials and products. In general, designers would be considered the primary technically competent party in this regard. However, all stakeholders have a shared responsibility to ensure the designer is provided with sufficient information and support to carry out their duty of care, as clearly it is a breach of the Act if steel is certified without knowing the character of the steel. It does not take a failure to be held in breach. For uncertified materials the designer must take steps through appropriate statistically based testing to assure him or herself of the compliance to the design requirements of that material.
Of consideration is that the time and cost of testing and if necessary rectification of un-known or non compliant product can be considerable and often more than the original value of the product.

Scenario 3 - Importer duties

I am an importer of steel sections for the construction market. Designers have requested an extensive range of information concerning the performance and traceability of the steel products. The manufacturers I use can provide some of this information but not all of it. If the designer ultimately accepts the

reduced amount of information I provide, and there is a structural failure, who is liable, me or the designer?

The designer's duty remains the same as the previous scenarios.

An importer's duty, summarised, is to ensure, so far as is reasonably practicable, that the structure¹ is without risks to the health and safety of persons who, at a workplace, use the structure for a purpose for which it was designed or manufactured.

The term "reasonably practicable" incorporates specific notions of what is known, or ought be known, about risks and ways of minimising those risks.

The importer must carry out, or arrange the carrying out of, any calculations, analysis, testing or examination that may be necessary for the performance of the duty imposed or ensure that the calculations, analysis, testing or examination have been carried out.

Further, the importer must give adequate information to each person to whom the importer provides the structure concerning each purpose for which the structure was designed or manufactured and any conditions necessary to ensure that the structure is without risks to health and safety when used for a purpose for which it was designed or manufactured.

The information an importer is required to give to discharge their duty under the Act is governed by the Act, and is not narrowed in any way by what the designer "requests". Further, any decision made by a designer is irrelevant to whether an importer has discharged the importer's duty.

Again, it does not take structural failure to fail the duty.

Note also that duties may (and probably will) rest on both importers and designers concurrently.

ASI Comment: The importer of construction materials, such as steels, has a responsibility to ensure that the material is what it is claimed to be through testing or other means. False, incomplete or misleading information on test certificates for example would be caught up in this and the importer has a duty to ensure that test certificates provided are from an ILAC accredited laboratory, are complete and product is marked according to the standard. (one way to avoid problems would be to call for third party product testing, for example by ACRS) . Additionally the importer has a responsibility to provide all relevant compliance information to the parties concerned in the supply chain in construction i.e. distributor, fabricator/ erector, builder, designer.

Scenario 4 - Importer duties

I am a main contractor. The market is very tight and we are looking at how to secure cost savings. I am aware that the Australian industry body for steel has put out information about the importance of providing compliant product but sourcing product that can demonstrate 100% of the compliance suggested as necessary results in increased costs and I will lose the tender. My designers have alerted me to the fact they are not comfortable with the lack of traceability on the proposed steel products. What can I do? Am I liable?

¹ The imported steel would be considered a structure as the definition includes part of a structure, or alternatively a "substance". The duty relates to the importation of structures, plant or substances.

The importer (and supplier if different) of the product must carry out, or arrange the carrying out of, any calculations, analysis, testing or examination that may be necessary for the performance of the duty imposed or ensure that the calculations, analysis, testing or examination have been carried out.

Further the importer must give adequate information to each person to whom the importer provides the structure concerning each purpose for which the structure was designed or manufactured and any conditions necessary to ensure that the structure is without risks to health and safety when used for a purpose for which it was designed or manufactured.

The information an importer is required to give to discharge their duty under the Act is governed by the Act, not by the designer's "requests". Further, any decision made by a designer is irrelevant to whether an importer has discharged the importer's duty.

It does not take structural failure to fail the duty.

Note also that duties may (and probably will) rest on both importers, designers and suppliers concurrently.

ASI Comment: The Work Health and Safety Act does not identify a "main contractor" as a separate entity. Rather, the Act identifies a work function and in the scenario mentioned above, Workplace Health and Safety Queensland have treated the main contractor with similar responsibilities and duty of care as an importer. Therefore, the main contractor must ensure sufficient information is made available to the relevant stakeholders in the process to enable the compliance of the steel material or products to be ascertained, or arrange to undertake sufficient calculations, analysis, testing or examination to satisfy their duty of care under the Act.

Scenario 5 - Importer duties

I am a large project proponent in the resources sector. We are currently fabricating modules offshore (in Malaysia) for parts of an LNG plant in Western Australia. We usually design and fabricate these to our American Standards. How do we meet our obligations under the Work Health and Safety Act 2011? Will I be held responsible for the workmanship and processes of our Malaysian fabricator if a problem should occur?

The *Work Health and Safety Act 2011* (Qld) has no application to this scenario.

You would need to apply Western Australian legislation and that should be checked with the Western Australian regulator.

If this situation were in Queensland it would be similar to the other scenarios.

A problem does not need to occur for the duty to be breached. Not doing what the duty requires is breaching the duty.

If the steel is of unknown character all duty holders must ensure they find out what it is and be able to provide that information to all other relevant duty holders in the supply chain.

If the steel meets the American Society for Testing and Materials standard – it may meet the Australian Standards, but the importer needs to confirm that it

does.

Australian regulators hold no jurisdiction of companies in Malaysia, the manufacturer of the modules would fall outside our jurisdiction. However Workplace Health and Safety Queensland do hold jurisdiction over work that is carried out in Queensland, so the designer, and importer/procurer/supplier would all hold (most likely concurrent) duties.

ASI Comment: It is clear that any project that is undertaken (i.e. constructed) within Australia must conform to the Work Health and Safety Act, regardless of the country of origin of the materials, products or assemblies that are used on the project. Therefore, the responsibilities and duty of care for the various stakeholders as detailed elsewhere in this document, remain unchanged. The “project proponent” assumes the role of an importer. In effect, the project proponent assumes the responsibilities that might otherwise have rested with the manufacturer or fabricator in the case where he imports foreign material, products or assemblies.

Scenario 6 - Designer duties

As a designer I have requested a few tensile coupon tests be done on imported steel material. The yield stress from those tests suggests the steel is Grade 250. However, the steel industry body has published several papers alerting the industry to the fact that a large range of tests, and sufficient traceability is required to ensure all steel is from the same production batch is necessary. What should I do to ensure I meet my obligations under the legislation?

The obligation on a designer using steel produced to an unknown standard has previously been addressed.

Reframed, this question is: If a batch of steel comes from an unknown origin (and possibly more than one origin) what testing is required to ascertain the characteristics of the steel.

You need to know what it is. If you do not know that it all came from the same batch, then it would be necessary to test all of it. If you do not know what the product is, you will not be able to supply the information you are required to supply by statute and you will likely not have met your duty.

ASI Comment: The designer must be satisfied that all of the steel from an unknown origin or mixed batches of steel meet specification.

It is a requirement of Australian Standards that plate, hot rolled sections and structural hollow sections are supplied with test certificates from an ILAC accredited laboratory. The proper certification of unknown steel material or products is not a trivial task and must be undertaken with a statistically relevant sample size and scope consistent with that undertaken by material or product manufacturers. It also requires proper traceability of the material or product to ensure the correct scope and sampling is undertaken. If the designer cannot be satisfied that the steel comes from a known origin, then all the steel must be tested, not simply one or a few samples.

A reliable way to ensure that any steel product is consistently meeting standard is for the designers documentation to require third party product certification.

Refer ASI technote TN010 <http://steel.org.au/elibrary/asi-technical-notes/>

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ASI Comments

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