Weld Australia

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STRUCTURAL STEEL FABRICATION, ERECTION AND WELDING SCHEME

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Specifies the comprehensive quality assurance requirements expected for structural steel fabrication, welding, coating and erection globally, whether completed on-site or in a workshop.

WHAT IS THE STRUCTURAL STEEL FABRICATION, ERECTION AND WELDING SCHEME?

The Weld Australia Structural Steel Fabrication, Erection and Welding Scheme is a comprehensive production control system that combines the internationally recognised IIW MCS ISO 3834 standard with AS/NZS 5131 compliance. This integrated approach provides complete coverage of all aspects that could affect fabricated steel product quality including welding, coating, and erection.

The scheme is drafted to complement rather than replace quality management systems such as ISO 9001. As an integrated factory production control system, certification helps businesses operate more efficiently across the entire structural steel fabrication lifecycle.

Dual certification increases the likelihood of both critical infrastructure opportunities and global supply chain participation, bolstering profitability. Certification helps Australian businesses demonstrate their ability to deliver compliant, quality structural steel products on time and to budget.

The combined IIW MCS ISO 3834 and AS/NZS 5131 certification is rapidly becoming the benchmark for structural steel quality globally and domestically. As more companies become certified to the integrated scheme, those without it will find it harder to win work from local and international clients alike.

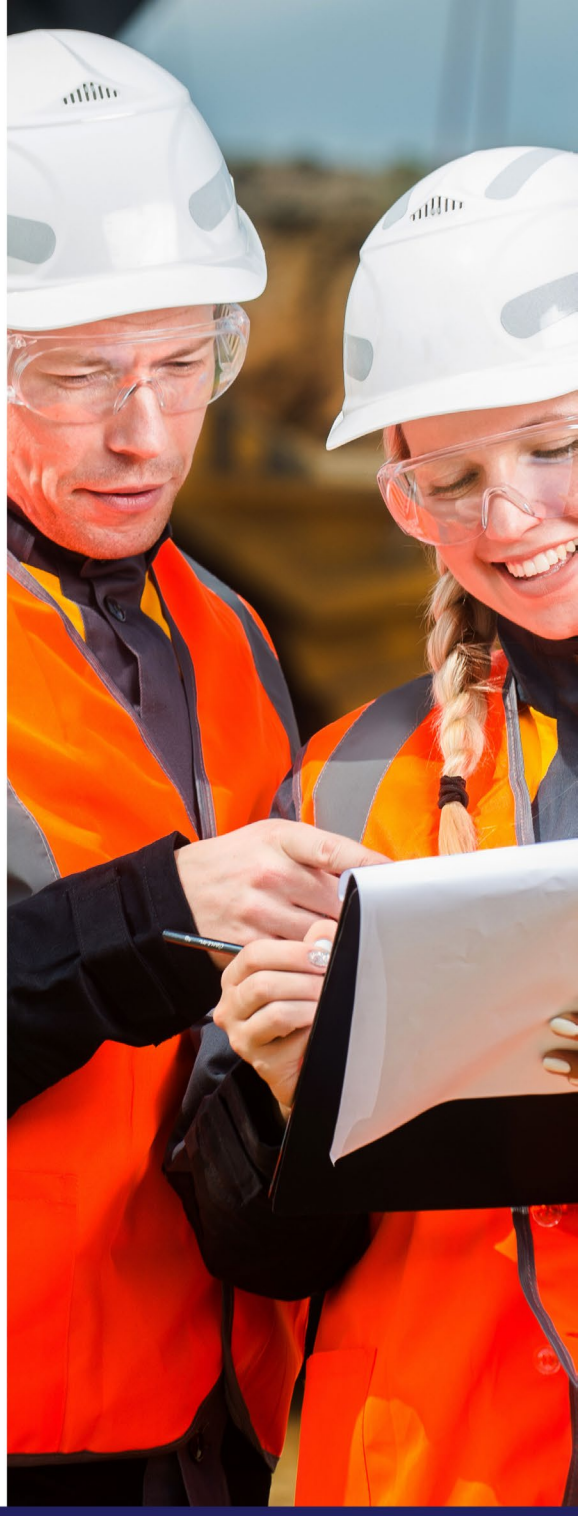
WHY CHOOSE WELD AUSTRALIA FOR CERTIFICATION?

Not only is Weld Australia a highly respected independent third-party, we are the International Institute of Welding (IIW) Authorised Nominated Body. This makes Weld Australia the premier welding and structural steel certification body in Australia.

As such, Weld Australia certification to the Structural Steel Fabrication, Erection and Welding Scheme is internationally recognised, and highly regarded and respected throughout Australia's construction, infrastructure and industrial sectors.

Many companies across the world are certified to ISO 9001 for their quality management systems. However, where special processes such as structural steel fabrication, welding, coating and erection are used, ISO 9001 fails to demonstrate the specialist capability required by a company to manufacture and install products according to the necessary quality standards.

The Structural Steel Fabrication, Erection and Welding Scheme overcomes this shortfall by controlling the entire lifecycle of structural steel processes, from design and procurement right through to installation and final inspection. The scheme considers all aspects that could affect structural steel product quality throughout the complete supply chain.



WHY US?

- A highly respected and independent third-party, we are the International Institute of Welding (IIW) Authorised Nominated Body for Company Certification
- Weld Australia's certification process ensures a rigorous audit and testing system is in place, positioning your business as a leader welding and fabrication
- All our assessors are: experienced quality management; certified in Integrated Management System (IMS); ISO 19011 certified; either IWE or IWT qualified; and have extensive industry experience
- Responsible IIW Member in Australia

IMPROVE PROFITS
IIW MCS ISO 3834 certification increases the likelihood of global supply chain opportunities and repeat business, bolstering profitability.

BENEFITS OF THE STRUCTURAL STEEL FABRICATION, ERECTION AND WELDING SCHEME

Compliance with current and future normative requirements, including critical infrastructure standards and building codes.

Dual market access, with AS/NZS 5131 applicable to Australia's critical infrastructure projects and IIW MCS ISO 3834 for international contracts and export opportunities.

The opportunity and ability to expand into premium markets, with major infrastructure clients and international contractors requiring comprehensive structural steel certification.

More efficient processes and procedures, designed to reduce production time, costs and overheads, material and consumables waste, non-conformance and rework across fabrication, coating and erection.

Demonstrable ability to deliver compliant structural steel products, on time and on budget with full traceability.

Increased technical knowledge for all levels of personnel involved in structural steel processes, from trades and inspectors, through to supervisors and management.

Improved client satisfaction, which can increase the likelihood of repeat business and growth in profitability.

WHAT IS A FACTORY CONTROL PRODUCTION SYSTEM?

A factory product control system is essentially a documented quality system that enables you to:

- **Monitor, document and demonstrate** that you are meeting all the processes, technical specifications and performance standards required for structural steel fabrication, welding, coating and erection

- **Keep records** of any non-conforming products, processes or materials across all phases to make any requisite improvements

- **Ensure seamless integration** between welding, coating and erection processes to maintain structural integrity.

The scheme builds factory production control into structural steel management to ensure quality, optimise manufacturing costs, and reduce expensive repairs and rework across the entire project lifecycle.

Integrated factory production control is a structured approach that covers all phases of the structural steel process.

Each of these phases is outlined on the following pages.

INCREASE TECHNICAL KNOWLEDGE

Certification increases the technical knowledge of all structural steel personnel, from trades and inspectors, to supervisors and management across welding, coating and erection processes.

WHAT IS A FACTORY PRODUCTION CONTROL SYSTEM? (CONTINUED)

1. Requirements and Technical Review
Before submitting a proposal, manufacturers have a duty to review contractual and other requirements to confirm that all required information and specifications are available for fabrication, welding, coating and erection, and the scope of work is within their capabilities. This comprehensive review process helps avoid costly misunderstandings and variations after the quotation or purchase order stage. It also gives the client confidence that the structural steel product will not only be compliant across all processes, but will be delivered on time and to budget.

2. Sub-contracting
Manufacturers often sub-contract out parts of the structural steel process (such as specialist welding, coating, NDT, heat treatment, transportation and erection), whilst retaining ultimate responsibility for the quality of the complete structural steel product delivered. Evaluation, control, transmission and recording of documentation and information pertaining to sub-contractor processes ensures that all specifications and quality standards are met across fabrication, coating and erection as if the process had been handled in-house.

3. Personnel
The scheme increases the technical knowledge of all levels of personnel involved in structural steel processes, from trades and inspectors, through to supervisors and management. Increased technical understanding ensures that the workforce possesses all necessary capabilities and authority to deliver each project phase. In addition, having well defined roles and responsibilities for personnel helps optimise the production process by avoiding duplication and omission of tasks.

WHAT IS A FACTORY CONTROL PRODUCTION SYSTEM? (CONTINUED)

3.1 The Responsible Welding Coordinator

The scheme emphasises the importance of both the Responsible Welding Coordinator (RWC) and competent structural steel management. Usually, structural steel roles and tasks are shared amongst several people, under the leadership of nominated coordinators for each process phase.

As they assume responsibility for welding activities and overall structural steel quality, the knowledge and competency of key personnel is of paramount importance. Companies that are not ready to train or employ qualified coordinators can sub-contract out these responsibilities to specialists.

4. Equipment

Maintaining accurate, up-to-date equipment records for fabrication, welding, coating and erection equipment enables manufacturers to provide potential clients an immediate snapshot of their comprehensive capabilities, and can help manufacturers identify areas for expansion. In addition, accurate records help ensure that equipment undergoes regular safety and performance inspections and maintenance, keeping productivity high across all processes and minimising delays due to equipment breakdowns.

5. Planning

Proper Planning Prevents Poor Performance. Detailed planning of structural steel activities, from the fabrication sequence through to coating application, transportation logistics and erection procedures, enables a manufacturer to accurately estimate project scope and timeframe.

Comprehensive project planning, from the tender to the delivery and installation of the structural steel product, instils confidence in the client that the product will be delivered and erected within the promised timeframe.

EXPAND INTO NEW MARKETS

With critical infrastructure projects and major international contractors requiring comprehensive structural steel certification covering fabrication, welding, coating and erection.

WHAT IS A FACTORY PRODUCTION CONTROL SYSTEM? (CONTINUED)

6. Inspection
It is impossible to make a complete verification of structural steel integrity without comprehensive inspection at each phase. As such, inspection after completion does not guarantee long-term serviceability. Quality must be built into every process stage, with inspections carried out prior, during, and after fabrication, welding, coating and erection.

By maintaining detailed records of inspections and non-conformance issues across all processes, manufacturers can deliver quality structural steel products, and convert every nonconformance issue into an opportunity for improvement.

7. Storage and Traceability
The materials used contribute significantly to the quality of the final structural steel product. The correct steel grades, welding consumables, coating materials and fasteners must be selected during the procurement phase. All these materials must then be carefully stored to avoid mixing, contamination and damage, as well as the use of unidentifiable materials.

Storage and traceability records also help manufacturers maintain rigorous expense management processes, and reduce unnecessary waste and product rejection.

HOW IS THE SCHEME STRUCTURED?

The Weld Australia Structural Steel Fabrication, Erection and Welding Scheme combines two internationally recognised standards into a comprehensive certification framework.

IIW MCS ISO 3834 Component
The welding quality component follows the established structure of ISO 3834 – *Quality requirements for fusion welding of metallic materials*, comprised of five parts addressing different quality levels and documentation requirements.

AS/NZS 5131 Component
The structural steel fabrication and erection component addresses the comprehensive requirements for structural steelwork including material selection, fabrication processes, coating systems, transportation, and erection procedures.

Integrated Assessment Approach
Rather than requiring separate assessments for each standard, the scheme provides a streamlined evaluation process that:

- **Reduces audit frequency** through combined assessments
- **Eliminates documentation duplication** by integrating quality system requirements
- **Maintains full compliance** with both international and Australian standards
- **Provides comprehensive coverage** of the complete structural steel supply chain

The integrated approach ensures that all interactions between welding, coating, and erection processes are properly controlled and documented, providing superior quality assurance compared to individual certifications.

It is to be noted that for AS/NZS 5131 CC3 applications, comprehensive welding quality requirements are required, meaning certification to AS/NZS ISO 3834 part 2.

ENHANCE PROCESSES
Certification delivers more efficient processes that reduce production time, cost, materials and consumables waste, non-conformance and rework across fabrication, welding, coating and erection.

WHERE SHOULD I START?

While there is no legal obligation to be certified to the Structural Steel Fabrication, Erection and Welding Scheme, compliance is increasingly being mandated in Australian Standards for critical infrastructure, and IIW MCS ISO 3834 is the minimum benchmark for welding quality globally.

AS/NZS 5131 is essential for major structural steel projects in Australia. As more companies become certified to the integrated scheme, those without certification will find it significantly harder to win work from both local critical infrastructure clients and international suppliers.

For many modern Australian structural steel businesses, most of the scheme requirements will already be in place, without the business even realising it.

So, before starting the certification process, a few hints that you may want to consider.

Tip 1: Define your objectives: why do you want to implement the integrated scheme? Are you targeting critical infrastructure, export markets, or both?

Tip 2: Make sure the key stakeholders within your organisation understand the importance of comprehensive structural steel certification, and are supportive of its implementation.

Tip 3: Identify your organisation's processes, procedures, tasks and responsibilities across fabrication, welding, coating and erection. Pinpoint any possible risks or shortfalls. Make sure you understand your customers' requirements.

Tip 4: Contact Weld Australia to organise an official integrated assessment via certification@weldaustralia.com.au

HOW CAN WELD AUSTRALIA HELP?

Weld Australia is the Authorised National Body of the International Institute of Welding (IIW), responsible for awarding AS/NZS ISO 3834 certification.

Weld Australia certification is also backed by the European Welding Federation (EWF) for Welding, Cutting and Joining, fostering international credibility and capability recognition.

Weld Australia certification to the Structural Steel Fabrication, Erection and Welding Scheme is internationally recognised, and highly regarded and respected throughout Australia's construction, infrastructure and industrial sectors.

With its expert team of certified Welding Engineers and structural steel specialists, Weld Australia will provide guidance and assistance throughout your company's assessment and certification process.

Certified companies will be listed on:

- Weld Australia website (www.weldaustralia.com.au) for maximum national exposure
- EWF website (www.ewf.be) for maximum international exposure

Weld Australia

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