Weld Australia

AS/NZS ISO 3834

How To Use It

Helping Secure The

FUTURE

Of Australia's Welding Industry

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AS/NZS ISO 3834

Specifies the quality assurance requirements expected for fusion welded products globally, whether fabricated on-site or in a workshop.

What Is AS/NZS ISO 3834 Certification?

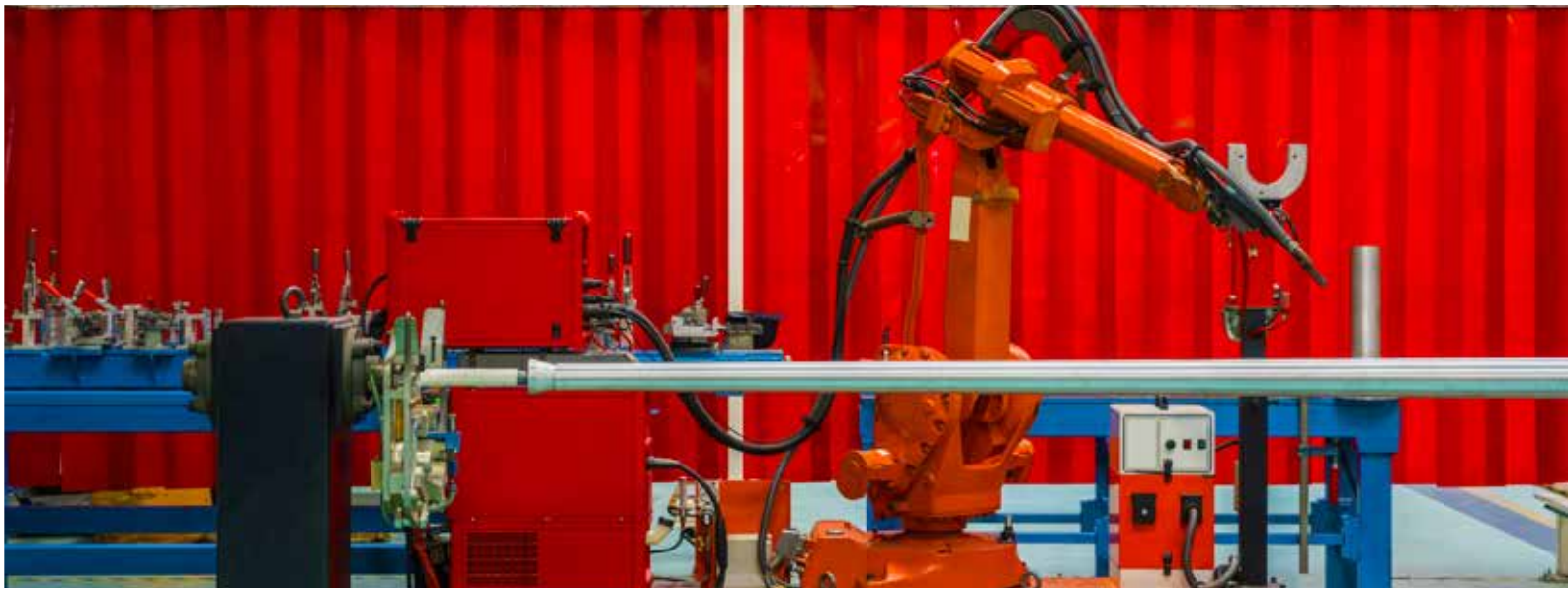
AS/NZS ISO 3834 is a factory production control system, drafted to complement—rather than replace—quality management systems such as ISO 9001. As a factory production control system, certification to AS/NZS ISO 3834 helps businesses operate more efficiently, improving client satisfaction.

AS/NZS ISO 3834 certification increases the likelihood of global supply chain opportunities and repeat business, bolstering profitability. Certification helps Australian businesses demonstrate their ability to deliver a compliant, quality fusion welded product on time and to budget. AS/NZS ISO 3834 is the minimum benchmark for welding quality globally. As more companies become certified to the standard, those without it will find it harder to win work from local and international suppliers alike.

Why Chose Weld Australia for Certification?

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

As such, Weld Australia certification to AS/NZS ISO 3834 is internationally



recognised, and highly regarded and respected throughout Australia's welding and industrial sectors.

Why You Need AS/NZS ISO 3834 Certification

Many companies across the world are certified to ISO 9001 for their quality management systems. However, where a special process such as fusion welding is used, ISO 9001 fails to demonstrate the specialist capability required by a company to manufacture products according to the necessary quality standard.

AS/NZS ISO 3834 certification overcomes this shortfall by controlling the entire lifecycle of the welding process, from design right through to inspection. AS/NZS ISO 3834 considers all aspects that could affect weld quality.

This type of approach is essential because it is impossible to undertake complete verification of a welded joint without destroying it.

Unfortunately, inspection after completion does not guarantee weld serviceability. As such, quality must be built into the welding process, right from the very beginning.

Improve Profits

AS/NZS ISO 3834 certification increases the likelihood of global supply chain opportunities and repeat business, bolstering profitability.

Benefits of AS/NZS ISO 3834 Certification

Certification and ongoing implementation of AS/NZS ISO 3834 delivers a range of benefits:

- **Compliance** with the current and future normative requirements, such as AS/NZS 5100.6:2017
- **Internationally recognised credibility and capability**
- The opportunity and ability to **expand into new markets**, with several sectors and major international contractors requiring all sub-contractors hold AS/NZS ISO 3834 certification
- **More efficient processes and procedures**, designed to reduce production time, costs and overheads, material and consumables waste, non-conformance and rework
- Demonstrable ability to **deliver a compliantly welded product, on time and on budget**
- **Increased technical knowledge** for all levels of personnel involved in the welding process, 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 Production Control 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 fusion welded products
- Keep records of any non-conforming products, processes or materials to make any requisite improvements

AS/NZS ISO 3834 builds factory production control into welding management to ensure quality, optimise manufacturing costs, and reduce expensive repairs and rework.

Factory product control is a structured approach that covers all phases of the welding process. Each of these phases is outlined on the following pages.

Increase Technical Knowledge

AS/NZS ISO 3834 certification increases the technical knowledge of all welding personnel, from trades and inspectors, to supervisors and management.

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, and the scope of work is within their capabilities. This review process helps avoids costly misunderstandings and variations after the quotation or purchase order stage. It also gives the client confidence that the welded product will not only be compliant, but will be delivered on time and to budget.

2. Sub-contracting

Manufacturers often sub-contract out parts of the fabrication process (such as welding, inspection, NDT, heat treatment, and so on), whilst retaining ultimate responsibility for the quality of the 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 as if the process had been handled in-house.

3. Personnel

AS/NZS ISO 3834 increases the technical knowledge of all levels of personnel involved in the welding process, 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. In addition, having well defined roles and responsibilities for personnel helps optimise the production process by avoiding duplication and omission of tasks.

3.1 The Responsible Welding Coordinator

AS/NZS ISO 3834 emphasises the importance of the Responsible Welding Coordinator (RWC). Usually, welding roles and tasks are shared amongst several people, under the leadership of a nominated RWC.

As they assume responsibility for all welding activities, the knowledge and competency of the RWC is of paramount importance. Companies that are not ready to train or employ a RWC can sub-contract out this responsibility.

4. Equipment

Maintaining accurate, up-to-date equipment records enables manufacturers to provide potential clients an immediate snapshot of their 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 and minimising delays due to equipment break-downs.

5. Planning

Proper Planning Prevents Poor Performance. Detailed planning of welding activities, from the fabrication sequence through to the development of welding procedures and environmental constraints, enables a manufacturer to accurately estimate project scope and timeframe. In-depth project planning, from the tender to the delivery of the product, instils confidence in the client that the product will be delivered within the promised timeframe.

6. Inspection

It is impossible to make a complete verification of a welded joint without

Expand Into New Markets

With several sectors and major international contractors requiring all sub-contractors hold AS/NZS ISO 3834 certification.

destroying it. As such, inspection after completion does not guarantee weld serviceability. Quality must be built into the weld, with inspections carried out prior, during, and after welding. By maintaining detailed records of inspections and non-conformance issues, manufacturers can deliver quality welded products, and convert every non-conformance issue into an opportunity for improvement.

7. Storage and Traceability

The materials used contribute significantly to the quality of the final welded product. The correct plates, forgings, castings and consumables must be selected during the procurement phase. All these materials must then be carefully stored to avoid mixing, scrapping and damage, as well as the use of unidentifiable materials.

Keeping in-depth, accurate storage and traceability records gives clients peace of mind that a manufacturer has full control over its processes and, therefore, the final product. Storage and traceability records also help manufacturers maintain rigorous expense management processes, and reduce unnecessary waste and product rejection.

How is AS/NZS ISO 3834 Structured?

AS/NZS ISO 3834 – *Quality requirement for fusion welding of metallic materials* is a suite of standards, comprised of five parts. It can be, however, be split into three separate sections.

Part 1: Criteria for the selection of the appropriate level of quality requirements

Part 1 of the Standard provides an introduction and lists the criteria to be considered during the selection of the quality level requirements (these are outlined in detail in Parts 2, 3 and 4). Part 1 does not specify requirements for a total quality management system.

Part 2: Comprehensive quality requirements; Part 3: Standard quality requirements); and Part 4: Basic quality requirements

Not all manufacturers will need, or seek to be certified to, the same quality level. Parts 2, 3 and 4 of the Standard define the three different quality level requirements for process control of metallic materials fusion welding. Conformity with Part 2 is the most stringent and requires thorough control, whereas conformity with Part 4 requires less control.

Part 5: Documents with which it is necessary to conform, in order to claim conformity to the quality requirements of AS/NZS ISO 3834.2, AS/NZS ISO 3834.3 or AS/NZS ISO 3834.4

In any control system, there is a need for documentation.

In order to claim conformity with the quality requirements of Part 2, 3, or 4, the manufacturer is required to conform with specific document requisitions.

Enhance Processes

Certification delivers more efficient processes that reduce production time, cost, materials and consumables waste, non-conformance and rework.

Where Should I Start?

While there is no legal obligation to be certified to AS/NZS ISO 3834, the compliance is starting to be mandated in Australian Standards, such as AS/NZS 5100.6. Plus, ISO 3834 is the minimum benchmark for welding quality globally. As more companies become certified, those without certification will find it harder to win work from local and international suppliers.

For many modern Australian manufacturing businesses, most of the AS/NZS ISO 3834 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 AS/NZS ISO 3834?
- **Tip 2**: Make sure the key stakeholders within your organisation understand the importance of AS/NZS ISO 3834, and are supportive of its implementation.
- **Tip 3**: Identify your organisation's processes, procedures, tasks and responsibilities. Pinpoint any possible risks or shortfalls. Make sure you understand your customers' requirements and can guarantee that these are met every time.
- **Tip 4**: Undertake an AS/NZS ISO 3834

self-assessment using Weld Australia's AS/NZS ISO 3834 Checklist, available for download at www.weldaustralia.com.au.

- **Tip 5**: Contact the Weld Australia to organise an official assessment.

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 AS/NZS ISO 3834 is internationally recognised, and highly regarded and respected throughout Australia's welding and industrial sectors. With its expert team of certified Welding Engineers, Weld Australia will provide guidance and assistance throughout your company's assessment and certification to AS/NZS ISO 3834.

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

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Further Information

For further information, or to become a Weld Australia member today, please contact:

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