



ENGINEERING AND TECHNICAL TRAINING

Welding Technology and Inspection

5 day course

Classroom, online or in-house

Course overview

A weld is a small casting made under field conditions by hand, and almost everything that goes wrong with it was decided before the arc was struck. This course covers controlling that. Delegates work through the arc welding processes in industrial use and what each suits, metallurgy of the weld and heat affected zone, and the distortion and residual stress that follow from heat input. Procedure and welder qualification are covered, including what a qualification actually certifies. Defect types are studied with their causes rather than only their appearance. Inspection follows: visual technique, acceptance criteria and the non destructive methods appropriate to each defect. The course closes on repair welding and on documentation.

What you will learn

- Select an arc welding process appropriate to the material and position
- Explain weld and heat affected zone metallurgy
- Control distortion and residual stress through heat input and sequence
- Apply procedure and welder qualification requirements
- Identify defect types and trace each to its cause
- Inspect visually against defined acceptance criteria
- Specify repair welding and maintain the documentation required

Who should attend

- Welding inspectors and quality staff
- Welding and fabrication supervisors
- Mechanical and materials engineers
- Maintenance engineers specifying repairs
- Project engineers overseeing fabrication contracts

Course outline

- 01 Decided before the arc is struck
- 02 Arc welding processes and their application
- 03 Weld and heat affected zone metallurgy
- 04 Heat input, distortion and residual stress
- 05 Procedure and welder qualification
- 06 Defect types and their causes
- 07 Visual inspection and acceptance criteria
- 08 Non destructive methods, repair and documentation

Upcoming dates

Dates	Venue	Format	Fee per delegate
12 to 16 October 2026	Addis Ababa, Ethiopia	Classroom	USD 1,325
26 to 30 October 2026	Online	Online	R8,500
15 to 19 February 2027	Nairobi, Kenya	Classroom	USD 1,325
8 to 12 March 2027	Lusaka, Zambia	Classroom	USD 1,325



Fees and how to register

This 5 day course is **R8,500** per delegate online, **R19,950** in the classroom in South Africa, Botswana, Namibia, Lesotho and Eswatini, and **USD 1,325** in the classroom elsewhere in Africa. In-house training is quotation on request. Book 2 or more delegates on this course and save 10%.

To register or request an in-house proposal, visit www.afrisciencegroup.com, email info@afriscience.co.za, or WhatsApp us on **+27 63 479 1136**.

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