



INSPECTION, INTEGRITY AND CORROSION TRAINING

Pipeline Welding and Inspection to API 1104

5 day course

Classroom, online or in-house

Course overview

On a cross country pipeline the girth weld is made in the open, often downhill, by a spread of welders advancing several kilometres each week, and every joint must pass before the ditch is closed. API 1104 governs that work. Delegates start with procedure qualification for cellulosic stick, low hydrogen and mechanised welding, and the changes that force requalification, then move to welder qualification by single and multiple qualification tests. Nick break, root bend and face bend specimens are interpreted on real samples. The production acceptance standards for radiography and automated ultrasonic testing are covered defect by defect, followed by welding on pressurised lines, hot tap fittings, burn through and hydrogen cracking. The final session introduces alternative acceptance criteria based on engineering critical assessment, and the girth weld records a spread should keep.

What you will learn

- Explain the scope of API 1104 for new construction and in service pipeline welding
- Qualify a welding procedure for cellulosic, low hydrogen or mechanised girth welds
- Identify the essential variables that require pipeline procedure requalification
- Plan single and multiple welder qualification tests
- Interpret nick break, root bend and face bend specimens
- Apply the acceptance standards for radiographic and automated ultrasonic testing
- Evaluate burn through and hydrogen cracking risk when welding onto live lines
- Describe when engineering critical assessment acceptance criteria may be used

Who should attend

- Pipeline construction engineers
- Welding inspectors on pipeline spreads
- Pipeline contractors' quality managers
- Gas and liquids pipeline operators' integrity engineers
- Hot tap and in service welding supervisors

Course outline

- 01 Scope of API 1104 and pipeline welding practice
- 02 Procedure qualification for girth welds
- 03 Essential variables and requalification
- 04 Welder qualification tests
- 05 Nick break and bend testing
- 06 Radiographic acceptance standards
- 07 Automated ultrasonic testing of girth welds
- 08 Welding on pressurised lines and hot tap fittings
- 09 Alternative acceptance criteria

Upcoming dates



Dates	Venue	Format	Fee per delegate
19 to 23 October 2026	Harare, Zimbabwe	Classroom	USD 1,325
2 to 6 November 2026	Windhoek, Namibia	Classroom	R19,950
23 to 27 November 2026	Online	Online	R8,500
30 November to 4 December 2026	Maseru, Lesotho	Classroom	R19,950

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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