



INSPECTION, INTEGRITY AND CORROSION TRAINING

Fitness for Service Assessment

5 day course

Classroom, online or in-house

Course overview

When an inspector reports a pit cluster, a laminated plate or a dent in a shell, the plant must choose between running, rerating, repairing or replacing, and API 579 and ASME FFS 1 give that choice a quantitative basis. Delegates follow the standard's structure from flaw characterisation through the Level 1, Level 2 and Level 3 assessments. They assess general metal loss with critical thickness profiles, local thin areas, pitting, blisters and laminations, then weld misalignment, out of roundness, dents and gouges. Crack like flaws are treated with the failure assessment diagram, and creep damage and fire exposure are introduced at screening depth. Each part closes on remaining life and the monitoring condition attached to continued operation. Delegates work Level 1 and Level 2 examples, learn when a result needs a specialist, and leave able to scope a Level 3 assessment.

What you will learn

- Explain the structure of API 579 and ASME FFS 1 and the three assessment levels
- Characterise a flaw with the data each assessment part requires
- Calculate acceptability of general and local metal loss using critical thickness profiles
- Evaluate pitting, blisters and laminations against the standard's criteria
- Assess weld misalignment, out of roundness, dents and gouges
- Interpret a failure assessment diagram for a crack like flaw
- Determine remaining life and the conditions attached to continued service
- Specify the scope of a Level 3 assessment for a specialist

Who should attend

- Integrity and static equipment engineers
- Inspection engineers who report flaws in operating equipment
- Mechanical engineers in refining, chemicals, power and mining
- Asset owners who approve run, repair or replace decisions
- Engineering consultants performing defect assessments

Course outline

- 01 The fitness for service framework and assessment levels
- 02 Flaw characterisation and data requirements
- 03 General and local metal loss
- 04 Pitting, blisters and laminations
- 05 Weld misalignment, shell distortion, dents and gouges
- 06 Crack like flaws and the failure assessment diagram
- 07 Creep and fire damage at screening level
- 08 Remaining life and conditions for continued service
- 09 Worked assessments from inspection data

Upcoming dates



Dates	Venue	Format	Fee per delegate
2 to 6 November 2026	Mbabane, Eswatini	Classroom	R19,950
21 to 25 December 2026	Cape Town, South Africa	Classroom	R19,950
25 to 29 January 2027	Kampala, Uganda	Classroom	USD 1,325
8 to 12 March 2027	Johannesburg, South Africa	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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