



INSPECTION, INTEGRITY AND CORROSION TRAINING

Pressure Vessel Inspection to API 510

5 day course

Classroom, online or in-house

Course overview

Opening a pressure vessel costs a shutdown, so the internal entry has to find what the outside readings could not, and API 510 decides when that entry happens and what must be looked at once inside. Delegates begin with the code's scope, its exempt vessels and the roles of the owner user, the vessel inspector and the engineer. They then set internal, on stream and external intervals, judge when on stream methods may replace an entry, and plan the walk through of shells, heads, nozzles, trays, demister pads and linings. Required thickness for shells and heads under internal pressure, measured metal loss rate and remaining life are calculated from worked data, followed by rerating of the maximum allowable working pressure. Relief valve testing intervals and the contents of a vessel history file complete the programme.

What you will learn

- Explain the scope of API 510 and which vessels it exempts
- Describe the responsibilities of the owner user, the vessel inspector and the engineer
- Set internal, on stream and external inspection intervals for a vessel
- Evaluate when on stream inspection may substitute for internal entry
- Plan an internal walk through covering shells, heads, nozzles, internals and linings
- Calculate required shell and head thickness, metal loss rate and remaining life
- Apply the API 510 rules for rerating maximum allowable working pressure
- Specify relief device testing intervals and vessel record requirements

Who should attend

- Pressure vessel inspectors in refining, petrochemical and fertiliser plants
- Static equipment engineers
- Turnaround planners who schedule vessel entries
- Plant engineers in mining and mineral processing operating autoclaves and receivers
- Inspection supervisors reviewing vessel inspection reports

Course outline

- 01 Scope, exemptions and roles under API 510
- 02 Internal, on stream and external inspection intervals
- 03 Substituting on stream methods for internal entry
- 04 Planning and conducting the internal walk through
- 05 Shell and head thickness under internal pressure
- 06 Metal loss rate and remaining life
- 07 Rerating maximum allowable working pressure
- 08 Pressure relief device testing intervals
- 09 The vessel history file

Upcoming dates



Dates	Venue	Format	Fee per delegate
23 to 27 November 2026	Harare, Zimbabwe	Classroom	USD 1,325
30 November to 4 December 2026	Cape Town, South Africa	Classroom	R19,950
11 to 15 January 2027	Online	Online	R8,500
18 to 22 January 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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