



PROCESS AND CHEMICAL ENGINEERING

Corrosion and Materials Selection

5 day course

Classroom, online or in-house

Course overview

Material selection is the cheapest corrosion control available and the only one that cannot be retrofitted, which makes it the decision worth getting right. This course covers making it. Delegates work through the metallurgy of the alloy families used in process service, the corrosion mechanisms each resists and each is vulnerable to, and the environmental variables that decide between them: fluid chemistry, temperature, velocity, chlorides and hydrogen sulphide. Non metallic materials, linings and cladding are covered as alternatives. The course addresses welding and fabrication effects on corrosion resistance, and closes on the whole life cost comparison that justifies a more expensive alloy.

What you will learn

- Describe the alloy families used in process service and their metallurgy
- Match a material to the corrosion mechanisms present
- Assess fluid chemistry, temperature, velocity and contaminants
- Select for chloride and hydrogen sulphide service specifically
- Evaluate non metallics, linings and cladding as alternatives
- Account for welding and fabrication effects on corrosion resistance
- Justify a more expensive alloy on whole life cost

Who should attend

- Materials and corrosion engineers
- Process and mechanical design engineers
- Inspection and integrity engineers
- Project engineers specifying equipment
- Maintenance engineers dealing with recurring failures

Course outline

- 01 Selection as the corrosion control that cannot be retrofitted
- 02 Alloy families and their metallurgy
- 03 Matching material to mechanism
- 04 Fluid chemistry, temperature and velocity
- 05 Chloride and hydrogen sulphide service
- 06 Non metallics, linings and cladding
- 07 Welding and fabrication effects
- 08 Whole life cost comparison

Upcoming dates

Dates	Venue	Format	Fee per delegate
7 to 11 December 2026	Kigali, Rwanda	Classroom	USD 1,325
25 to 29 January 2027	Online	Online	R8,500
15 to 19 February 2027	Pretoria, South Africa	Classroom	R19,950
22 to 26 February 2027	Cape Town, 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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