



MANUFACTURING AND PRODUCTION

Hot Dip Galvanising Plant Operations

3 day course

Classroom, online or in-house

Course overview

Hot dip galvanising gives steel decades of protection in one immersion, and the coating that results is decided almost entirely by the steel's own silicon content, which the galvaniser does not choose and often does not know. This course covers working with that. Delegates work through the metallurgy of the zinc iron reaction and the alloy layers formed, then through the silicon and phosphorus effects that produce thick, grey, brittle coatings on reactive steels. Surface preparation is covered through degreasing, pickling and fluxing, with the flux condition that decides whether zinc wets the steel. Kettle operation follows, including bath temperature, zinc chemistry, additions and dross and ash management. Jigging, immersion and withdrawal rate are addressed, along with the venting and drainage holes fabricators must provide. Coating thickness, appearance and standards conformity are covered. Defects are diagnosed: bare spots, dross inclusions, runs and wet storage stain. The course closes on kettle life, on zinc consumption and on safety around molten metal.

What you will learn

- Explain the zinc iron reaction and the alloy layers formed
- Predict coating behaviour from steel silicon and phosphorus content
- Degrease, pickle and flux so zinc wets the steel
- Operate the kettle including temperature, chemistry and dross removal
- Jig, immerse and withdraw work correctly, and specify venting holes
- Measure coating thickness against standard requirements
- Diagnose bare spots, dross, runs and storage stain, and work safely

Who should attend

- Galvanising plant operators and supervisors
- Quality staff checking coating conformity
- Fabricators supplying steel for galvanising
- Engineers specifying galvanised protection
- Safety officers in molten metal areas

Course outline

- 01 The steel decides the coating
- 02 Zinc iron reaction and alloy layers
- 03 Silicon and phosphorus effects
- 04 Degreasing, pickling and fluxing
- 05 Kettle temperature and zinc chemistry
- 06 Dross and ash management
- 07 Jigging, immersion, venting and drainage
- 08 Thickness, standards, defects and molten metal safety

Upcoming dates



Dates	Venue	Format	Fee per delegate
21 to 23 September 2026	Durban, South Africa	Classroom	R14,950
18 to 20 January 2027	Kigali, Rwanda	Classroom	USD 995
27 to 29 January 2027	Online	Online	R6,500
15 to 17 February 2027	Johannesburg, South Africa	Classroom	R14,950

Fees and how to register

This 3 day course is **R6,500** per delegate online, **R14,950** in the classroom in South Africa, Botswana, Namibia, Lesotho and Eswatini, and **USD 995** 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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