



MANUFACTURING AND PRODUCTION

Cement Manufacturing Process and Optimisation

5 day course

Classroom, online or in-house

Course overview

Cement production is dominated by two costs, thermal energy in the kiln and electrical energy in the mills, and by a quality specification that the raw mix must hit before the kiln ever sees it. This course covers both. Delegates work through raw material selection and mix design, raw grinding and homogenisation, and pyroprocessing including the preheater, calciner and kiln. Clinker chemistry and quality are covered, along with cooling and its effect on grindability. Cement grinding and additives follow. The course closes on energy consumption, alternative fuels and the emissions controls now central to plant operation.

What you will learn

- Select raw materials and design a mix to hit clinker specification
- Operate raw grinding and homogenisation
- Run the preheater, calciner and kiln within their limits
- Control clinker chemistry, quality and cooling
- Operate cement grinding and use additives correctly
- Reduce thermal and electrical energy consumption
- Apply alternative fuels and emissions controls

Who should attend

- Cement plant process engineers
- Kiln and mill operators and supervisors
- Quality control and laboratory staff
- Maintenance and energy engineers
- Production managers in cement and lime

Course outline

- 01 The two dominant costs
- 02 Raw materials and mix design
- 03 Raw grinding and homogenisation
- 04 Preheater and calciner
- 05 Kiln operation and control
- 06 Clinker chemistry, quality and cooling
- 07 Cement grinding and additives
- 08 Energy, alternative fuels and emissions

Upcoming dates

Dates	Venue	Format	Fee per delegate
28 September to 2 October 2026	Lagos, Nigeria	Classroom	USD 1,325
5 to 9 October 2026	Online	Online	R8,500
11 to 15 January 2027	Lusaka, Zambia	Classroom	USD 1,325
15 to 19 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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