

**MANUFACTURING AND PRODUCTION**

# Wire Drawing and Cable Manufacturing

**3 day course**

Classroom, online or in-house

## Course overview

Wire is drawn by pulling it through a series of dies that each reduce it slightly, so a single worn die or a lubrication failure marks every metre produced afterwards until somebody notices. This course covers preventing that. Delegates work through rod quality, descaling and the surface preparation that lubricant depends on. Drawing mechanics follow, including reduction per pass, die angle, drawing stress and the limit at which wire breaks. Die materials, geometry, wear and maintenance are covered. Lubrication is treated in detail across dry and wet drawing. Work hardening and intermediate annealing are addressed, along with patenting for high carbon wire. Copper and aluminium conductor drawing are covered for cable manufacture. Stranding and laying up follow. Insulation and sheathing extrusion are addressed, including concentricity and wall thickness. Electrical testing is covered, including resistance, high voltage and spark testing. The course closes on drum winding, on packaging and on tracing a fault to the pass that caused it.

## What you will learn

- Prepare rod surface so lubricant carries into the die
- Set reduction per pass and die angle within the drawing limit
- Maintain dies and recognise wear before it marks product
- Apply dry and wet drawing lubrication
- Use intermediate annealing and patenting appropriately
- Strand conductors and extrude insulation to concentricity
- Test electrically and trace a fault back to the pass that caused it

## Who should attend

- Wire drawing machine operators and supervisors
- Cable plant production staff
- Quality staff testing conductors and cable
- Maintenance staff supporting drawing lines
- Engineers specifying wire and cable

## Course outline

- 01** One worn die marks every metre after it
- 02** Rod quality, descaling and preparation
- 03** Reduction per pass, die angle and drawing stress
- 04** Die materials, wear and maintenance
- 05** Dry and wet lubrication
- 06** Work hardening, annealing and patenting
- 07** Conductor drawing, stranding and laying up
- 08** Insulation extrusion, electrical testing and fault tracing

## Upcoming dates



| Dates                  | Venue                      | Format    | Fee per delegate |
|------------------------|----------------------------|-----------|------------------|
| 14 to 16 December 2026 | Johannesburg, South Africa | Classroom | R14,950          |
| 6 to 8 January 2027    | Windhoek, Namibia          | Classroom | R14,950          |
| 25 to 27 January 2027  | Durban, South Africa       | Classroom | R14,950          |
| 24 to 26 February 2027 | Online                     | Online    | R6,500           |

### 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](http://www.afrisciencegroup.com), email [info@afriScience.co.za](mailto:info@afriScience.co.za), or WhatsApp us on **+27 63 479 1136**.

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