



Accredited Africa Training Institute for Capacity Development

Unit FO409, Hatfield Plaza · 1122 Burnett St, Hatfield 0028 · Pretoria, Gauteng · South Africa

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COURSE BROCHURE

Identify Handle And Care For Electrical Systems Material In The Rail Sector Training

Physical Planning and Construction / Electrical Infrastructure Construction

Unit Standard 119885 · NQF Level 1 · 10 Credits · 7 Days

COURSE OVERVIEW

This course equips learners with the knowledge and skills to identify, handle, and care for electrical systems materials in the rail sector. It covers safe handling practices, storage requirements, and maintenance procedures to ensure compliance with industry standards. The aim is to reduce risks associated with electrical materials and enhance operational safety.

Category	Physical Planning and Construction
Subfield	Electrical Infrastructure Construction
Unit Standard	119885
Accreditation	SAQA Accredited · NQF Level 1 · 10 Credits
Duration	7 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Identify different types of electrical systems materials used in the rail sector.
- Apply correct handling procedures to prevent damage and ensure safety.
- Implement appropriate storage methods to maintain material integrity.
- Demonstrate care and maintenance techniques for electrical materials.
- Evaluate risks associated with improper handling and storage.
- Comply with relevant safety regulations and organizational policies.

WHO SHOULD ATTEND

- This course is designed for rail sector employees involved in the handling, storage, and maintenance of electrical systems materials, including technicians, storekeepers, and maintenance personnel.

COURSE OUTLINE

Day 1: Introduction to Electrical Systems in the Rail Sector

- Overview of rail electrical systems: traction, signalling, and auxiliary power
- Basic electrical theory: voltage, current, resistance, and power
- Common electrical materials: cables, connectors, switchgear, and transformers
- Introduction to relevant legislation: OHS Act, SANS standards, and rail-specific regulations
- Workplace safety: lockout/tagout procedures, personal protective equipment (PPE)

Day 2: Identification and Classification of Electrical Materials

- Cable types: power, control, and signal cables; armoured and unarmoured
- Connectors and terminations: lugs, splices, and junction boxes
- Switchgear: circuit breakers, isolators, and contactors
- Transformers and rectifiers: types and ratings
- Insulation materials: properties and selection
- Material coding systems: colour codes, markings, and certifications

Day 3: Handling and Storage of Electrical Materials

- Handling procedures for sensitive components: anti-static precautions
- Storage requirements: temperature, humidity, and cleanliness
- Shelf life and expiry considerations for batteries and insulation
- Stacking and racking: weight limits and stability
- Inventory management: FIFO, labelling, and stock rotation
- Documentation: receiving reports, inspection records, and material requisitions

Day 4: Inspection and Testing of Electrical Materials

- Visual inspection criteria: cracks, corrosion, loose connections
- Tools: multimeter, megohmmeter, and voltage tester
- Continuity testing: procedure and interpretation
- Insulation resistance testing: minimum acceptable values
- Testing of cables: conductor resistance and dielectric strength
- Non-conformance reporting: forms, corrective actions, and traceability

Day 5: Care and Maintenance of Electrical Systems

- Cleaning methods: dry, wet, and solvent-based; precautions
- Lubrication: types of lubricants for switches and contacts
- Tightening and torquing of connections: specifications and tools
- Replacement of worn components: fuses, brushes, and seals
- Maintenance schedules: daily, weekly, and monthly tasks
- Record keeping: maintenance logs, checklists, and work orders

Day 6: Fault Finding and Troubleshooting

- Fault-finding methodology: observation, testing, isolation
- Reading wiring diagrams: symbols, colour codes, and layouts
- Common faults: open circuits, short circuits, earth faults
- Testing procedures: voltage drop, load testing, and component checks
- Safety during troubleshooting: live testing precautions
- Documenting faults: root cause analysis and incident reports

Day 7: Practical Application and Assessment

- Practical exercise: set up a small electrical circuit using rail materials
- Hands-on inspection and testing of sample components
- Fault-finding scenario: identify and rectify a simulated fault
- Documentation: complete inspection and maintenance reports
- Assessment: written test and practical demonstration
- Course review: key takeaways, Q&A, and feedback

ASSESSMENT & CERTIFICATION

Delegates are assessed through exercises and a final test. A mark of **50% or above** earns an **AATICD Certificate of Completion**, issued digitally with a unique verification code. This course carries **10 NQF credits** at **NQF Level 1**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 28,200.00	R 28,200.00
1	In-House	R 36,700.00	R 36,700.00
1	On-Campus (Pretoria)	R 42,300.00	R 42,300.00

UPCOMING SESSIONS

Start	End	Method	Venue
07 Aug 2026	17 Aug 2026	On-Campus	Dubai, UAE
10 Aug 2026	18 Aug 2026	On-Campus	Abu Dhabi, UAE
11 Aug 2026	19 Aug 2026	On-Campus	Durban, South Africa
11 Aug 2026	19 Aug 2026	On-Campus	Mauritius
12 Aug 2026	20 Aug 2026	On-Campus	Cape Town, South Africa
13 Aug 2026	21 Aug 2026	On-Campus	Dubai, UAE
14 Aug 2026	24 Aug 2026	On-Campus	Pretoria, South Africa
17 Aug 2026	25 Aug 2026	On-Campus	Durban, South Africa

Contact us if no suitable date is listed – on-demand sessions can be arranged for groups.

HOW TO GET A QUOTE OR APPLY

1. **Get an instant quotation online:** visit www.aaticd.co.za, open the page for this course (Unit Standard 119885) and click **Get A Quote / Apply**. Select your training method and number of delegates – your quotation is generated immediately and emailed to you with the course brochure attached.
2. **Apply by email:** send the course title, your preferred training method (Online, In-House or On-Campus Pretoria), the number of delegates and your preferred dates to apply@aaticd.co.za – our team will reply with a formal quotation.
3. **Apply by phone or WhatsApp:** call +27 12 004 8389 or WhatsApp +27 65 077 6310 and we will prepare your quotation and reserve your seats.
4. **Confirm your booking:** accept the quotation and settle the invoice. As soon as payment is confirmed your delegates are enrolled and receive their AATICD LMS login details by email, along with joining instructions for their chosen training method.

Group discounts apply automatically – the more delegates you enrol, the lower the price per delegate. No payment is required to request a quotation.

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