



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

Inspect Fault Find Remove Install Replace And Adjust A Steady Arm And Or Side Strain Insulator On Overhead Traction Equipment Ohte Under Live And Or Isolated And Earthed Conditions Training

Physical Planning and Construction / Civil Engineering Construction

Unit Standard 119887 · NQF Level 4 · 11 Credits · 8 Days

COURSE OVERVIEW

This course equips learners with the knowledge and skills to inspect, fault find, remove, install, replace, and adjust a steady arm and/or side strain insulator on overhead traction equipment (Ohte) under live and/or isolated and earthed conditions. It ensures safe and efficient maintenance of railway overhead line equipment, adhering to South African standards and safety protocols.

Category	Physical Planning and Construction
Subfield	Civil Engineering Construction
Unit Standard	119887
Accreditation	SAQA Accredited · NQF Level 4 · 11 Credits
Duration	8 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Demonstrate understanding of Ohte components, including steady arms and side strain insulators, and their functions.
- Apply safety procedures for working on live, isolated, and earthed Ohte systems.
- Inspect and fault find steady arms and side strain insulators using appropriate tools and techniques.
- Remove, install, replace, and adjust steady arms and side strain insulators in compliance with manufacturer specifications and industry standards.
- Evaluate the integrity of insulators and steady arms after installation to ensure operational reliability.
- Implement correct documentation and reporting procedures for maintenance activities.

WHO SHOULD ATTEND

- This course is designed for qualified overhead traction line technicians, electrical artisans, and maintenance personnel responsible for the installation, maintenance, and repair of OHTE in railway environments.

COURSE OUTLINE

Day 1: Introduction to Overhead Traction Equipment and Safety Fundamentals

- Overview of OHTE systems and components.
- Introduction to steady arms and side strain insulators.
- Safety regulations: OHS Act, SANS 10219, and Eskom standards.
- Hazard identification and risk assessment.
- Personal protective equipment (PPE) requirements.
- Documentation and permits for live and isolated work.

Day 2: Principles of Live and Isolated/Earthed Working

- Definitions and classifications of live, isolated, and earthed.
- Isolation and earthing sequences.
- Use of voltage detectors and proving dead.
- Personal protective equipment for live work.
- Emergency response procedures for electrical incidents.
- Practical demonstration of isolation and earthing.

Day 3: Steady Arm and Side Strain Insulator: Design, Materials, and Failure Modes

- Types of steady arms (e.g., rigid, hinged) and insulators (e.g., porcelain, glass, polymer).
- Mechanical properties and load ratings.
- Electrical insulation characteristics.
- Common defects: cracks, contamination, corrosion, wear.
- Failure analysis and consequences.
- Reading manufacturer datasheets and drawings.

Day 4: Inspection Techniques and Fault Finding

- Inspection schedules and checklists.
- Visual inspection: cracks, chips, pollution, corrosion.
- Mechanical inspection: alignment, tension, wear.
- Use of thermal imaging for hot spots.
- Fault categorization: minor, major, critical.
- Reporting and record-keeping procedures.

Day 5: Removal and Installation Procedures under Isolated/Earthed Conditions

- Work planning and risk assessment.
- Tools and equipment: spanners, torque wrenches, hoists.
- Step-by-step removal process.
- Installation: positioning, tightening, locking.
- Checking clearances and mechanical integrity.
- Practical exercise: removal and installation on a training rig.

Day 6: Removal and Installation Procedures under Live Conditions

- Live work regulations and authorization.
- Live-line tools: hot sticks, insulated platforms.
- Minimum approach distances for various voltage levels.
- Step-by-step live removal and installation.
- Communication and teamwork during live work.

- Practical exercise: live work simulation on a training rig.

Day 7: Adjustment and Replacement Procedures

- Adjustment criteria: droop, stagger, tension.
- Tools for adjustment: tension gauges, alignment jigs.
- Replacement procedures for insulators with damaged threads or glaze.
- Post-installation checks: mechanical stability, electrical continuity.
- Insulation resistance testing.
- Practical exercise: adjustment and replacement on a mock line.

Day 8: Integrated Practical Assessment and Course Review

- Integrated practical assessment: simulate a real-world scenario.
- Assessment criteria: safety, procedure, quality of work.
- Documentation: completion of checklists and reports.
- Feedback and remediation.
- Course review and Q&A.;
- Issuance of certificates of competence.

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 **11 NQF credits** at **NQF Level 4**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 30,700.00	R 30,700.00
1	In-House	R 39,900.00	R 39,900.00
1	On-Campus (Pretoria)	R 46,000.00	R 46,000.00

UPCOMING SESSIONS

Start	End	Method	Venue
03 Aug 2026	12 Aug 2026	On-Campus	Cape Town, South Africa
04 Aug 2026	13 Aug 2026	On-Campus	Dubai, UAE
05 Aug 2026	14 Aug 2026	On-Campus	Pretoria, South Africa
05 Aug 2026	14 Aug 2026	On-Campus	Lagos, Nigeria
06 Aug 2026	17 Aug 2026	On-Campus	Johannesburg, South Africa
07 Aug 2026	18 Aug 2026	On-Campus	Mauritius
10 Aug 2026	19 Aug 2026	On-Campus	Dubai, UAE
11 Aug 2026	20 Aug 2026	On-Campus	Pretoria, 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 119887) 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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