



Accredited Africa Training Institute for Capacity Development

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

Tel: +27 12 004 8389 · Mobile: +27 65 077 6310

Email: apply@aatikd.co.za · Website: www.aatikd.co.za

COURSE BROCHURE

Remove Replace Install And Adjust Section Insulator Phase Break Runners On 25 50kv Ac Overhead Traction Equipment Ohte Under Isolated And Earthed Conditions Training

Physical Planning and Construction / Civil Engineering Construction

Unit Standard 119883 · NQF Level 4 · 8 Credits · 5 Days

COURSE OVERVIEW

This course equips learners with the knowledge and practical skills to safely remove, replace, install, and adjust section insulator phase break runners on 25/50 kV AC overhead traction equipment (Ohte) under both isolated and earthed conditions. It covers critical safety procedures, tool usage, and regulatory compliance to ensure reliable traction power supply and minimize operational risks.

Category	Physical Planning and Construction
Subfield	Civil Engineering Construction
Unit Standard	119883
Accreditation	SAQA Accredited · NQF Level 4 · 8 Credits
Duration	5 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Demonstrate understanding of section insulator phase break runner components and their function in 25/50 kV AC Ohte.
- Apply safety procedures for working on Ohte under isolated and earthed conditions.
- Remove and replace section insulator phase break runners using appropriate tools and techniques.
- Install and adjust section insulator phase break runners to specification.
- Inspect and test installed runners to ensure correct alignment and operation.
- Record work performed and report deviations or defects according to workplace procedures.

WHO SHOULD ATTEND

- This course is designed for overhead traction line technicians, electrical artisans, and maintenance personnel responsible for the installation, maintenance, and repair of 25/50 kV AC OHTE in railway environments.

COURSE OUTLINE

Day 1: Fundamentals of Section Insulators and Phase Break Runners

- Overview of 25/50kV AC overhead traction equipment (OHTE).
- Types and construction of section insulators and phase break runners.
- Electrical isolation and earthing principles.
- Safety legislation and company procedures.
- Hazard identification and risk assessment for OHTE work.
- Introduction to tools and personal protective equipment (PPE).

Day 2: Removal of Section Insulators and Phase Break Runners

- Step-by-step isolation and earthing process.
- Use of insulated tools and live-line working methods.
- Removal of section insulators: disassembly sequence.
- Removal of phase break runners: handling and support.
- Inspection criteria and defect identification.
- Documentation: work permits, logs, and tagging.
- Practical exercise: removal of a section insulator.

Day 3: Replacement and Installation of Section Insulators

- Selection criteria for replacement insulators.
- Pre-installation checks and site preparation.
- Installation procedure: mounting, connections, and adjustments.
- Tensioning and alignment techniques.
- Electrical testing: insulation resistance and continuity.
- Practical exercise: installation of a section insulator.
- Quality assurance and sign-off procedures.

Day 4: Replacement and Installation of Phase Break Runners

- Types and specifications of phase break runners.
- Installation steps: positioning, fastening, and alignment.
- Adjustment for pantograph clearance and overlap.
- Mechanical tests: movement and spring tension.
- Electrical tests: continuity and insulation.
- Integration with section insulators and conductor rails.
- Practical exercise: installation and adjustment of a phase break runner.
- Troubleshooting common issues.

Day 5: Adjustment, Commissioning, and Practical Assessment

- Fine-tuning adjustments for optimal performance.
- Commissioning checklist and testing protocols.
- Live-line working: safety and techniques (if required).
- Documentation: completion reports, test records.
- Handover to operations and maintenance.
- Practical assessment: remove, replace, install, and adjust.
- Theoretical assessment and feedback.
- Course review and Q&A.

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 **8 NQF credits** at **NQF Level 4**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 23,000.00	R 23,000.00
1	In-House	R 29,900.00	R 29,900.00
1	On-Campus (Pretoria)	R 34,500.00	R 34,500.00

UPCOMING SESSIONS

Start	End	Method	Venue
10 Aug 2026	14 Aug 2026	On-Campus	Durban, South Africa
10 Aug 2026	14 Aug 2026	On-Campus	Abu Dhabi, UAE
10 Aug 2026	14 Aug 2026	On-Campus	Pretoria, South Africa
10 Aug 2026	14 Aug 2026	On-Campus	Dubai, UAE
10 Aug 2026	14 Aug 2026	On-Campus	Cape Town, South Africa
10 Aug 2026	14 Aug 2026	On-Campus	Mauritius
17 Aug 2026	21 Aug 2026	On-Campus	Dubai, UAE
17 Aug 2026	21 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 119883) 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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