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

Install And Secure Ohte Switches Under Isolated And Earthed Conditions Training

Physical Planning and Construction / Civil Engineering Construction

Unit Standard 120222 · NQF Level 3 · 11 Credits · 8 Days

COURSE OVERVIEW

This course equips learners with the knowledge and skills to safely install and secure Overhead Transmission and Distribution (OHTE) switches under isolated and earthed conditions. It covers critical safety procedures, isolation verification, earthing practices, and switch installation techniques to ensure compliance with South African electrical regulations and industry standards.

Category	Physical Planning and Construction
Subfield	Civil Engineering Construction
Unit Standard	120222
Accreditation	SAQA Accredited · NQF Level 3 · 11 Credits
Duration	8 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS — verifiable online

LEARNING OUTCOMES

- Demonstrate the correct procedures for isolating and earthing OHTE switches prior to installation.
- Apply safe work practices and use appropriate personal protective equipment (PPE) when working under isolated and earthed conditions.
- Install OHTE switches in accordance with manufacturer specifications and regulatory requirements.
- Analyze potential hazards associated with OHTE switch installation and implement control measures.
- Evaluate the integrity of earthing systems and isolation points before commencing work.
- Implement proper documentation and reporting procedures for installation and safety checks.

WHO SHOULD ATTEND

- This course is designed for electrical technicians, linesmen, and maintenance personnel responsible for installing and maintaining OHTE switches in high-voltage environments.
- It is also suitable for supervisors and safety officers overseeing live-line work.

COURSE OUTLINE

Day 1: Introduction to Switch Types and Safety Principles

- Overview of switch types: knife switches, disconnectors, earthing switches
- Basic electrical theory: voltage, current, resistance, and earthing
- Safety standards: SANS 10142, OHS Act, and SAQA requirements
- Hazards: electric shock, arc flash, and short circuits
- Introduction to personal protective equipment (PPE
- Lockout/tagout (LOTO) fundamentals

Day 2: Tools, Equipment, and Pre-Installation Checks

- Tools: insulated screwdrivers, spanners, torque wrenches, multimeters
- Testing equipment: insulation resistance testers, voltage detectors
- Pre-installation inspection: physical damage, corrosion, label verification
- Rating verification: current, voltage, fault current withstand
- Work area preparation: isolation, barricading, and signage
- Documentation: job cards, permits, and material lists

Day 3: Installing Switches Under Isolated Conditions

- Isolation procedure: identify source, verify zero energy, apply LOTO
- Mounting techniques: backplate, DIN rail, and panel cutouts
- Conductor preparation: stripping, crimping, and lugging
- Torque specifications: manufacturer and standard values
- Insulation resistance testing post-installation
- Visual and mechanical checks: alignment, clearance, and tightness

Day 4: Installing Switches Under Earthed Conditions

- Earthing systems: TN, TT, IT configurations
- Earthing switch types: manual, motorised, and automatic
- Installation of earthing switches: positioning, fixing, and connections
- Earthing conductor sizing and routing
- Continuity testing and earth fault loop impedance
- Bonding of metallic enclosures and cable armour

Day 5: Securing and Locking Mechanisms for Switches

- Mechanical interlocks: padlock hasps, lockout devices, and key interlocks
- Trapped key systems: principle, installation, and sequence
- Padlocking procedures: multiple lockout, group lockout
- Verification of interlock operation: sequence testing
- Documentation: lockout tags, interlock checklists
- Maintenance of locking devices: lubrication, inspection

Day 6: Testing, Commissioning, and Fault Finding

- Insulation resistance testing: phase-to-phase, phase-to-earth
- High-potential (hipot) testing: procedure and safety
- Functional testing: open/close operation, auxiliary contacts
- Load testing: current measurement, temperature rise check
- Common faults: loose connections, misalignment, incorrect wiring

- Fault rectification: tightening, replacement, adjustment
- Commissioning reports: test results, sign-offs

Day 7: **Maintenance, Inspection, and Record Keeping**

- Inspection frequency: monthly, quarterly, annual
- Visual inspection: cleanliness, arcing marks, loose parts
- Preventive maintenance: cleaning contacts, lubricating mechanisms
- Thermographic inspection: hot spots identification
- Record keeping: maintenance log, inspection checklist
- Condition-based maintenance triggers
- Replacement criteria: end-of-life, damage, obsolescence

Day 8: **Integration, Safety Review, and Assessment**

- System integration: switches with fuses, breakers, and relays
- Control circuits: remote operation, status indication
- Safety review: LOTO, PPE, arc flash boundaries
- Practical assessment: install and secure a switch under isolated and earthed conditions
- Theoretical assessment: multiple-choice and short questions
- Feedback and improvement areas
- Certification and career pathways

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 3**.

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
04 Aug 2026	13 Aug 2026	On-Campus	Johannesburg, South Africa
05 Aug 2026	14 Aug 2026	On-Campus	Mauritius
06 Aug 2026	17 Aug 2026	On-Campus	Cape Town, South Africa
07 Aug 2026	18 Aug 2026	On-Campus	Dubai, UAE
10 Aug 2026	19 Aug 2026	On-Campus	Abu Dhabi, UAE
11 Aug 2026	20 Aug 2026	On-Campus	Durban, South Africa
11 Aug 2026	20 Aug 2026	On-Campus	Mauritius
12 Aug 2026	21 Aug 2026	On-Campus	Cape Town, 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 120222) 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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