



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

Erect Assemble And Fit Ohte Steelwork Under Isolated And Earthed Conditions Training

Physical Planning and Construction / Civil Engineering Construction

Unit Standard 120219 · NQF Level 3 · 15 Credits · 12 Days

COURSE OVERVIEW

This course equips learners with the competencies required to erect, assemble, and fit overhead transmission and distribution (OHTE) steelwork under isolated and earthed conditions. It focuses on safe work practices, adherence to statutory requirements, and proper handling of steel structures to ensure electrical safety and structural integrity.

Category	Physical Planning and Construction
Subfield	Civil Engineering Construction
Unit Standard	120219
Accreditation	SAQA Accredited · NQF Level 3 · 15 Credits
Duration	12 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Demonstrate knowledge of safety procedures and statutory requirements for working on isolated and earthed overhead transmission line steelwork.
- Apply correct techniques to erect, assemble, and fit OHTE steelwork under isolated and earthed conditions.
- Implement risk assessment and control measures to prevent electrical hazards during steelwork erection.
- Use appropriate personal protective equipment (PPE) and tools for safe steelwork assembly.
- Verify the integrity and stability of erected steelwork in compliance with engineering specifications.
- Evaluate work procedures to ensure adherence to operational safety standards and quality control.

WHO SHOULD ATTEND

- This course is designed for electrical technicians, linespersons, and construction workers involved in the erection and maintenance of overhead power lines and steelwork in the electrical transmission and distribution sector.

COURSE OUTLINE

Day 1: Introduction to OHSE Steelwork and Safety Principles

- Course overview and unit standard requirements.
- Introduction to OHSE (Occupational Health, Safety and Environment) principles.
- Legal framework: OHS Act, SANS codes, and SAQA outcomes.
- Hazard identification and risk assessment basics.
- PPE requirements for steelwork erection.
- Safe working at heights and confined spaces.
- Emergency procedures and first aid basics.

Day 2: Understanding Steelwork Components and Drawings

- Types of steel sections: I-beams, channels, angles, hollow sections.
- Connection methods: bolted, welded, pinned.
- Reading structural steel drawings and erection diagrams.
- Symbols, abbreviations, and bill of materials.
- Material handling and storage requirements.
- Practical exercise: interpreting a simple steelwork drawing.

Day 3: Tools, Equipment, and Lifting Gear

- Hand tools: spanners, wrenches, levels, hammers.
- Power tools: drills, grinders, torque wrenches.
- Lifting equipment: cranes, hoists, chains, slings, shackles.
- Inspection and certification of lifting gear.
- Sling angles, load distribution, and SWL calculations.
- Practical: tool inspection and basic rigging practice.

Day 4: Foundations and Base Preparation

- Types of foundations: concrete pads, piles, strip footings.
- Foundation inspection: level, alignment, strength.
- Holding-down bolts: types, installation, tolerances.
- Base plates: positioning, grouting, and levelling.
- Use of shims and wedges for alignment.
- Practical: setting out and levelling a base plate.

Day 5: Erecting Columns and Beams

- Column erection sequence and lifting methods.
- Plumb and alignment techniques using spirit levels and theodolites.
- Bolted connections: torque requirements and bolt grades.
- Beam-to-column connections: end plates, cleats.
- Temporary bracing for stability during erection.
- Practical: erecting a column and connecting a beam.

Day 6: Advanced Connections and Welding Basics

- Welding processes: MMAW, MIG, TIG – overview.
- Weld types: fillet, butt, plug.
- Welding safety: electrical hazards, fume extraction, fire prevention.
- Weld inspection: visual checks, common defects.

- Welding in isolated/earthed conditions – special precautions.
- Practical: basic weld practice on sample plates.

Day 7: Working Under Isolated and Earthed Conditions

- Principles of isolation: lockout/tagout (LOTO).
- Earthing systems: equipotential bonding, earth electrodes.
- Testing for absence of voltage.
- Working near live electrical equipment – precautions.
- Static electricity and bonding.
- Practical: simulating isolation and earthing setup.

Day 8: Fitting and Aligning Steelwork Components

- Fitting procedures for beams, columns, bracing.
- Alignment tolerances per SANS 2001:CS1.
- Use of turnbuckles, drift pins, and spanners.
- Torque control and bolt tensioning methods.
- Dealing with misalignment: shimming and re-drilling.
- Practical: aligning and fitting a complex joint.

Day 9: Bracing Systems and Stability

- Types of bracing: cross, K, chevron, portal.
- Temporary bracing during erection – sequence and removal.
- Permanent bracing: connection details and installation.
- Load paths and stability analysis basics.
- Inspection of bracing connections.
- Practical: installing cross bracing on a frame.

Day 10: Cladding and Secondary Steelwork

- Secondary steelwork: purlins, girts, eaves beams.
- Cladding materials: sheeting, panels, fasteners.
- Roof and wall cladding installation procedures.
- Flashing, sealing, and weatherproofing.
- Safety on roofs: fall protection, edge protection.
- Practical: installing purlins and fixing a cladding panel.

Day 11: Quality Control, Inspection, and Documentation

- Quality control plan for steelwork erection.
- Inspection checkpoints: foundations, connections, alignment.
- Non-destructive testing (NDT) overview: visual, magnetic particle, ultrasonic.
- Documentation: daily reports, as-built drawings, test certificates.
- Corrective action procedures.
- Practical: conducting an inspection and filling a report.

Day 12: Final Integration, Assessment, and Close-out

- Integrated practical: erect a small steel frame including isolation/earthing.
- Summative assessment: theory and practical tests.
- Feedback and remediation.
- Course review and key takeaways.
- Certification requirements and next steps.

- Close-out: course evaluation, certificates.

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 **15 NQF credits** at **NQF Level 3**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 41,000.00	R 41,000.00
1	In-House	R 53,300.00	R 53,300.00
1	On-Campus (Pretoria)	R 61,500.00	R 61,500.00

UPCOMING SESSIONS

Start	End	Method	Venue
31 Jul 2026	17 Aug 2026	On-Campus	Johannesburg, South Africa
03 Aug 2026	18 Aug 2026	On-Campus	Cape Town, South Africa
04 Aug 2026	19 Aug 2026	On-Campus	Dubai, UAE
05 Aug 2026	20 Aug 2026	On-Campus	Pretoria, South Africa
05 Aug 2026	20 Aug 2026	On-Campus	Lagos, Nigeria
06 Aug 2026	21 Aug 2026	On-Campus	Johannesburg, South Africa
07 Aug 2026	24 Aug 2026	On-Campus	Mauritius
10 Aug 2026	25 Aug 2026	On-Campus	Dubai, UAE

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 120219) 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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