



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

Basic Electric Arc Welding For Electrical Environments Training

Physical Planning and Construction / Electrical Infrastructure Construction

Unit Standard 114669 · NQF Level 2 · 8 Credits · 5 Days

COURSE OVERVIEW

This course equips learners with the fundamental knowledge and practical skills required to perform basic electric arc welding safely in electrical environments. It covers welding principles, equipment setup, and safety protocols specific to electrical contexts, ensuring compliance with South African health and safety regulations.

Category	Physical Planning and Construction
Subfield	Electrical Infrastructure Construction
Unit Standard	114669
Accreditation	SAQA Accredited · NQF Level 2 · 8 Credits
Duration	5 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Demonstrate safe work practices and use of personal protective equipment (PPE) for electric arc welding in electrical environments.
- Identify and explain the principles of electric arc welding, including arc initiation, electrode classification, and metal transfer modes.
- Set up and adjust welding equipment (e.g., power source, electrode holder, cables) correctly for basic welding tasks.
- Apply appropriate welding techniques to produce sound fillet and butt welds on mild steel in various positions.
- Inspect and evaluate weld quality, identifying common defects and their causes.
- Implement emergency procedures and fire prevention measures specific to welding in areas with electrical hazards.

WHO SHOULD ATTEND

- This course is intended for electricians, electrical technicians, and maintenance personnel who need to perform basic arc welding as part of their work in electrical environments, such as substations, switchyards, or industrial plants.

COURSE OUTLINE

Day 1: Introduction to Electric Arc Welding and Safety in Electrical Environments

- Overview of electric arc welding processes (SMAW, GMAW, GTAW).
- Electrical principles: voltage, current, and arc characteristics.
- Hazards: electric shock, arc flash, fire, and fumes.
- Safety regulations: OHS Act, SANS 10047, and SANS 10142.
- PPE selection and inspection for welding in electrical areas.
- Emergency procedures for electrical incidents.

Day 2: Welding Equipment, Setup, and Electrical Isolation Procedures

- Welding machine types: transformer, inverter, and engine-driven.
- Cables, electrode holders, and grounding clamps.
- Pre-weld inspection: cables, connections, and insulation.
- Lockout/tagout procedures for electrical circuits.
- Setting amperage, voltage, and wire feed speed.
- Selecting electrodes and filler metals for electrical environments.

Day 3: Practical Welding Techniques: Beads, Joints, and Positional Welding

- Arc striking methods: scratch and tap techniques.
- Travel speed, arc length, and electrode angle.
- Bead formation and visual inspection.
- Butt joint welding: edge preparation and alignment.
- Lap joint and fillet weld techniques.
- Horizontal position welding challenges.
- Weld defects: causes and prevention (porosity, slag inclusion).

Day 4: Advanced Welding and Quality Control in Electrical Contexts

- Vertical welding: uphill and downhill techniques.
- Overhead welding: control of molten metal.
- Welding galvanized steel and copper alloys.
- Visual inspection criteria per AWS D1.1.
- Dye penetrant and magnetic particle testing.
- Welding procedure specifications (WPS) and qualification.
- Documentation and reporting for quality assurance.

Day 5: Integration, Assessment, and Certification Preparation

- Simulated scenario: welding near live electrical panels.
- Practical test: multi-position weld on a mock-up.
- Troubleshooting: arc instability, spatter, and burn-through.
- Review of key theoretical concepts.
- Assessment criteria and evidence requirements.
- Final Q&A; and feedback session.

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 2**.

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 114669) 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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