



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@aaticd.co.za · Website: www.aaticd.co.za

COURSE BROCHURE

Aluminium Component Assembly Techniques

Physical Planning and Construction / Building Construction

Unit Standard 230064 · NQF Level 2 · 12 Credits · 9 Days

COURSE OVERVIEW

This course equips learners with the practical skills and theoretical knowledge required to perform the assembly of aluminium components in a manufacturing or construction environment. Participants will learn to interpret technical drawings, select appropriate tools and fasteners, and apply safe assembly techniques to produce high-quality aluminium structures. The course ensures compliance with industry standards and promotes efficiency in aluminium component assembly.

Category	Physical Planning and Construction
Subfield	Building Construction
Unit Standard	230064
Accreditation	SAQA Accredited · NQF Level 2 · 12 Credits
Duration	9 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Interpret engineering drawings and specifications for aluminium component assembly.
- Select and use appropriate tools, equipment, and fasteners for aluminium assembly tasks.
- Apply safe working practices and adhere to health and safety regulations during assembly.
- Assemble aluminium components accurately according to specified tolerances and.
- Inspect assembled components for defects and ensure compliance with quality requirements.
- Demonstrate effective teamwork and communication skills in an assembly environment.

WHO SHOULD ATTEND

- This course is designed for artisans, technicians, and assembly line workers involved in the fabrication and assembly of aluminium products, as well as apprentices seeking to formalize their skills in aluminium component assembly.

COURSE OUTLINE

Day 1: Introduction to Aluminium and Assembly Fundamentals

- Overview of aluminium: properties, benefits, and applications.
- Common aluminium alloys and their uses.
- Safety protocols: PPE, handling, and hazard awareness.
- Introduction to assembly techniques: mechanical fastening, bonding, welding.
- Workshop tour and tool identification.

Day 2: Hand Tools and Power Tools for Aluminium Assembly

- Hand tools: hammers, files, clamps, wrenches, screwdrivers.
- Power tools: drills, grinders, rivet guns, impact drivers.
- Tool safety and maintenance procedures.
- Practical: cutting aluminium sheet and drilling holes.

Day 3: Mechanical Fastening – Rivets and Bolts

- Types of rivets: solid, blind, structural.
- Bolts, nuts, washers, and thread locking.
- Joint design: edge distance, pitch, and hole preparation.
- Practical: installing rivets and bolted connections.

Day 4: Bonding and Adhesive Techniques

- Types of adhesives: epoxy, acrylic, polyurethane.
- Surface preparation: cleaning, abrading, priming.
- Application methods: dispensing, clamping, curing.
- Quality checks: peel test, shear test.
- Practical: bonding aluminium samples.

Day 5: Welding Aluminium – Basics

- Overview of aluminium welding: challenges and solutions.
- TIG welding: equipment, settings, and technique.
- Safety in welding: ventilation, protective gear.
- Practical: setting up TIG welder and running beads.

Day 6: Welding Aluminium – Joints and Techniques

- Joint types: butt, lap, T, corner.
- Heat control: travel speed, amperage, interpass temperature.
- Common defects: porosity, cracking, distortion.
- Practical: welding various joint configurations.

Day 7: Assembly of Aluminium Components – Integration

- Assembly planning: sequence, tooling, and workflow.
- Using jigs and fixtures for precision.
- Combining techniques: riveting + bonding, weld + bolt.
- In-process inspection: dimensional checks, fit-up.
- Practical: assembling a multi-component aluminium structure.

Day 8: Quality Control and Inspection of Aluminium Assemblies

- Quality standards: ISO, ASTM, customer specs.
- NDT methods: visual, dye penetrant, ultrasonic.

- Defect analysis: causes and corrective actions.
- Documentation: inspection reports, traceability.
- Practical: inspecting assembled components and recording findings.

Day 9: Final Assembly Project and Assessment

- Project briefing: specifications, drawings, and timeline.
- Independent assembly using chosen techniques.
- Final inspection and testing.
- Review of key concepts and feedback.
- Assessment: practical demonstration and written test.

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 **12 NQF credits** at **NQF Level 2**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 33,300.00	R 33,300.00
1	In-House	R 43,300.00	R 43,300.00
1	On-Campus (Pretoria)	R 50,000.00	R 50,000.00

UPCOMING SESSIONS

Start	End	Method	Venue
07 Aug 2026	19 Aug 2026	On-Campus	Pretoria, South Africa
07 Aug 2026	19 Aug 2026	On-Campus	Lagos, Nigeria
10 Aug 2026	20 Aug 2026	On-Campus	Durban, South Africa
10 Aug 2026	20 Aug 2026	On-Campus	Mauritius
11 Aug 2026	21 Aug 2026	On-Campus	Cape Town, South Africa
12 Aug 2026	24 Aug 2026	On-Campus	Dubai, UAE
13 Aug 2026	25 Aug 2026	On-Campus	Pretoria, South Africa
14 Aug 2026	26 Aug 2026	On-Campus	Abu Dhabi, 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 230064) 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.

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 · WhatsApp: +27 65 077 6310 · apply@aaticd.co.za · www.aaticd.co.za