



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

Precious Metal Recovery From Combustible Waste Using Incinerators Training

Manufacturing, Engineering and Technology / Fabrication and Extraction

Unit Standard 110436 · NQF Level 2 · 6 Credits · 3 Days

COURSE OVERVIEW

This course equips learners with the knowledge and skills to safely and efficiently recover precious metals from combustible waste using incineration processes. It covers the principles of incineration, metal recovery techniques, environmental compliance, and health and safety protocols essential for industrial operations.

Category	Manufacturing, Engineering and Technology
Subfield	Fabrication and Extraction
Unit Standard	110436
Accreditation	SAQA Accredited · NQF Level 2 · 6 Credits
Duration	3 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply the principles of incineration to combustible waste containing precious metals.
- Demonstrate safe handling and operation of incineration equipment for metal recovery.
- Evaluate environmental and health risks associated with incineration processes.
- Implement procedures for collecting and purifying precious metals from ash residues.
- Analyze waste composition to optimize recovery efficiency and minimize emissions.
- Comply with relevant South African legislation and standards for waste treatment and metal recovery.

WHO SHOULD ATTEND

- This training is designed for operators, technicians, and supervisors in waste management, recycling, and metallurgical industries who are involved in or responsible for precious metal recovery from waste streams.

COURSE OUTLINE

Day 1: Fundamentals of Precious Metal Recovery and Incineration

- Introduction to precious metals: gold, silver, platinum group metals.
- Sources of precious metal-containing combustible waste (e-waste, catalysts, jewellery scrap).
- Overview of recovery methods: incineration, chemical leaching, smelting.
- Principles of combustion and incineration.
- Incinerator types: rotary kiln, fluidized bed, multiple hearth.
- Key parameters: temperature, residence time, oxygen supply.
- Safety hazards: toxic fumes, fire, explosion, heavy metal exposure.
- Environmental regulations and emission control.

Day 2: Incineration Process and Ash Handling

- Feedstock preparation: sorting, shredding, blending.
- Incineration process control: temperature profiling, air flow, feed rate.
- Combustion products: flue gas, bottom ash, fly ash.
- Ash collection systems: cyclones, baghouses, electrostatic precipitators.
- Ash sampling and analysis for metal content.
- Material balance calculations: input vs output.
- Factors influencing recovery: ash fusion, volatilization, slag formation.
- Quality assurance: moisture content, particle size, metal grade.

Day 3: Advanced Recovery Techniques and Practical Integration

- Post-incineration recovery: acid leaching, cyanidation, smelting.
- Refining processes: electrolysis, precipitation, solvent extraction.
- Flow sheet design: from waste to pure metal.
- Troubleshooting: incomplete combustion, slagging, metal losses.
- Environmental management: waste water treatment, emission monitoring.
- Economic analysis: cost of incineration vs value of recovered metals.
- Case studies: industrial applications (e-waste recycling, catalytic converters).
- Regulatory compliance: SAQA unit standard 110436 requirements.

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 **6 NQF credits** at **NQF Level 2**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 17,900.00	R 17,900.00
1	In-House	R 23,300.00	R 23,300.00
1	On-Campus (Pretoria)	R 26,800.00	R 26,800.00

UPCOMING SESSIONS

Start	End	Method	Venue
03 Aug 2026	05 Aug 2026	On-Campus	Cape Town, South Africa
03 Aug 2026	05 Aug 2026	On-Campus	Lagos, Nigeria
04 Aug 2026	06 Aug 2026	On-Campus	Dubai, UAE
04 Aug 2026	06 Aug 2026	On-Campus	Johannesburg, South Africa
05 Aug 2026	07 Aug 2026	On-Campus	Pretoria, South Africa
05 Aug 2026	07 Aug 2026	On-Campus	Mauritius
10 Aug 2026	12 Aug 2026	On-Campus	Durban, South Africa
10 Aug 2026	12 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 110436) 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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