Accredited Africa Training Institute for Capacity Development
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COURSE BROCHURE

Slitting Machine Operation And Maintenance Training

Agriculture and Nature Conservation / Secondary Agriculture

Unit Standard 114151 · NQF Level 4 · 16 Credits · 13 Days

COURSE OVERVIEW

This course equips learners with the knowledge and practical skills to safely operate and maintain slitting machines in a manufacturing environment. It covers machine setup, operational procedures, routine maintenance, and troubleshooting to ensure efficient production and compliance with safety standards.

Category	Agriculture and Nature Conservation
Subfield	Secondary Agriculture
Unit Standard	114151
Accreditation	SAQA Accredited · NQF Level 4 · 16 Credits
Duration	13 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS — verifiable online

LEARNING OUTCOMES

- Apply safe operating procedures and lock-out/tag-out protocols for slitting machines.
- Demonstrate correct machine setup, including blade alignment and tension adjustments.
- Analyze common operational faults and implement corrective actions.
- Perform routine maintenance tasks such as lubrication, cleaning, and blade replacement.
- Evaluate machine performance and optimize settings for material and quality specifications.
- Implement record-keeping procedures for maintenance logs and production data.

WHO SHOULD ATTEND

- This course is designed for machine operators, maintenance technicians, and production supervisors who are responsible for operating and maintaining slitting machines in industries such as packaging, paper, or metal processing.

COURSE OUTLINE

Day 1: Introduction to Slitting Machines and Workplace Safety

- Overview of slitting process and applications.
- Types of slitting machines: razor, shear, crush, and score slitting.
- Key components: unwind stand, slitting station, rewind mandrels, knives.
- Workplace safety regulations (OHSA) and hazard identification.
- PPE requirements and emergency procedures.
- Introduction to lockout/tagout (LOTO) procedures.
- Housekeeping and fire safety in slitting areas.

Day 2: Slitting Machine Components and Functions

- Detailed study of unwind, slitting, and rewind sections.
- Knife types: shear, score, razor, and crush cut.
- Knife holders, anvils, and blade materials.
- Web guiding systems and edge sensors.
- Tension control devices: brakes, clutches, load cells.
- Control panels and operator interface.
- Safety interlocks and emergency stops.

Day 3: Machine Setup and Preparation

- Pre-start checks: electrical, pneumatic, mechanical.
- Reading job orders and specifications.
- Selecting and installing knives.
- Setting knife overlap and side pressure.
- Adjusting unwind and rewind tension.
- Setting web guides and edge position.
- Verifying safety devices before operation.

Day 4: Operating the Slitting Machine

- Start-up sequence and acceleration.
- Monitoring tension, speed, and web alignment.
- Adjusting knife pressure and angle during run.
- Handling web breaks and re-threading.
- Managing roll changes and splicing.
- Troubleshooting common problems: wrinkles, telescoping, edge defects.
- Logging production data and quality checks.

Day 5: Quality Control and Inspection

- Quality specifications: width tolerance, edge finish, roll hardness.
- Inspection tools: micrometers, rulers, gauges.
- In-process checks: periodic sampling.
- Final inspection before packaging.
- Common defects: burrs, wavy edges, loose winding.
- Corrective actions: knife adjustment, tension change.
- Quality documentation and traceability.

Day 6: Preventive Maintenance Fundamentals

- Preventive maintenance philosophy and benefits.
- Daily checks: cleanliness, fluid levels, knife condition.
- Weekly tasks: filter cleaning, belt tension, bearing inspection.
- Lubrication points and grease types.
- Knife sharpening and replacement criteria.
- Inspecting belts, chains, and couplings.
- Maintaining sensors and electrical connections.

Day 7: Troubleshooting Mechanical Issues

- Symptom analysis: vibration, noise, misalignment.
- Diagnosing bearing failures and shaft wear.
- Replacing belts and chains.
- Adjusting knife holders and anvils.
- Repairing pneumatic and hydraulic systems.
- Using manuals and schematics.
- Safe lockout/tagout during maintenance.

Day 8: Troubleshooting Electrical and Control Systems

- Electrical safety and isolation procedures.
- Reading electrical diagrams.
- Testing sensors: photoelectric, ultrasonic, load cells.
- Troubleshooting motor drives and controllers.
- PLC fault codes and error messages.
- Resetting drives and calibrating tension controls.
- Replacing fuses, relays, and contactors.

Day 9: Knife Maintenance and Sharpening

- Knife wear patterns and life expectancy.
- Sharpening equipment and techniques.
- Setting knife angles and clearances.
- Balancing and aligning knives.
- Safe handling and storage of knives.
- Documentation of knife maintenance.

Day 10: Advanced Slitting Techniques and Material Handling

- Material properties: thickness, tensile, coefficient of friction.
- Slitting thin films: tension control, anti-static.
- Slitting foils and laminates: knife selection.
- Managing multiple slit widths with spacers.
- Dust extraction and web cleaning systems.
- Static elimination equipment.
- Changeover procedures for material type.

Day 11: Production Planning and Efficiency

- Job sequencing and material preparation.
- Calculating yield: trim loss, scrap reduction.
- Knife layout optimization for multiple widths.
- SMED: single-minute exchange of dies.

- Standard work procedures.
- Key performance indicators: uptime, waste, throughput.
- Lean manufacturing concepts in slitting.

Day 12: **Safety Audits and Risk Assessment**

- Safety audit checklists and procedures.
- Risk assessment methodology: identify, evaluate, control.
- Hierarchy of controls: elimination, engineering, administrative, PPE.
- Common hazards: nip points, sharp edges, flying debris.
- Lockout/tagout verification.
- Incident reporting and investigation.
- Legal requirements under OHSA.

Day 13: **Integration, Assessment, and Certification**

- Review of key learning outcomes.
- Practical assessment: setup, operation, adjustment.
- Practical assessment: preventive maintenance tasks.
- Troubleshooting scenarios.
- Written knowledge test.
- Feedback and improvement plan.
- Certification requirements and next steps.

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 **16 NQF credits** at **NQF Level 4**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 43,500.00	**R 43,500.00**
1	In-House	R 56,600.00	**R 56,600.00**
1	On-Campus (Pretoria)	R 65,200.00	**R 65,200.00**

UPCOMING SESSIONS

Start	End	Method	Venue
10 Aug 2026	26 Aug 2026	On-Campus	Abu Dhabi, UAE
11 Aug 2026	27 Aug 2026	On-Campus	Durban, South Africa
11 Aug 2026	27 Aug 2026	On-Campus	Mauritius
12 Aug 2026	28 Aug 2026	On-Campus	Cape Town, South Africa
13 Aug 2026	31 Aug 2026	On-Campus	Dubai, UAE
14 Aug 2026	01 Sep 2026	On-Campus	Pretoria, South Africa
17 Aug 2026	02 Sep 2026	On-Campus	Durban, South Africa
18 Aug 2026	03 Sep 2026	On-Campus	Shenzhen, China

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 114151) 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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