



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

Textile Dry Process Machinery Maintenance For Industry Professionals Training

Manufacturing, Engineering and Technology / Manufacturing and Assembly

Unit Standard 116332 · NQF Level 4 · 35 Credits · 32 Days

COURSE OVERVIEW

This course equips industry professionals with the knowledge and skills to maintain textile dry process machinery effectively. Participants will learn to apply maintenance strategies, analyze equipment performance, and implement preventive measures to optimize production efficiency and reduce downtime.

Category	Manufacturing, Engineering and Technology
Subfield	Manufacturing and Assembly
Unit Standard	116332
Accreditation	SAQA Accredited · NQF Level 4 · 35 Credits
Duration	32 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply maintenance procedures for textile dry process machinery according to manufacturer specifications and safety standards.
- Analyze common faults and failures in dry process machinery to determine root causes and corrective actions.
- Evaluate the effectiveness of preventive maintenance schedules and recommend improvements.
- Implement troubleshooting techniques to diagnose and resolve mechanical and electrical issues.
- Demonstrate the use of diagnostic tools and equipment for machinery inspection and performance monitoring.
- Design a basic maintenance plan that aligns with industry best practices and organizational requirements.

WHO SHOULD ATTEND

- This course is designed for maintenance technicians, engineers, and production supervisors working in textile manufacturing environments who are responsible for the upkeep and performance of dry process machinery.

COURSE OUTLINE

Day 1: Introduction to Textile Dry Processing and Machinery

- Overview of textile dry processes: opening, blending, carding, drawing, roving, spinning.
- Introduction to machinery: blowroom, cards, drawframes, combers, ring frames.
- Safety in the textile maintenance environment.
- Basic maintenance principles: preventive, predictive, corrective.
- Documentation and record-keeping basics.

Day 2: Fundamentals of Mechanics and Lubrication

- Mechanical power transmission: shafts, couplings, clutches.
- Bearing types and applications.
- Gear systems and gear ratios.
- Lubricants: oils, greases, additives.
- Lubrication points and frequency for blowroom and carding machines.
- Hands-on: lubrication of a carding machine.

Day 3: Pneumatic and Hydraulic Systems in Textile Machinery

- Pneumatic systems: compressors, valves, cylinders, filters.
- Hydraulic systems: pumps, reservoirs, actuators.
- Reading pneumatic and hydraulic schematics.
- Maintenance of air preparation units.
- Common issues: leaks, pressure drops, contamination.
- Practical exercise: servicing a pneumatic system on a drawframe.

Day 4: Electrical Fundamentals for Textile Machinery

- AC/DC motors used in textile machinery.
- Motor starters and protection devices.
- Sensors: proximity, photoelectric, limit switches.
- Electrical safety: lockout/tagout, grounding.
- Reading motor control schematics.
- Practical: testing a motor starter circuit.

Day 5: Blowroom Machinery Maintenance

- Bale opener: beaters, lattice aprons, settings.
- Step cleaner: grid bars, beaters, air currents.
- Mixer: blending chambers, feed rollers.
- Maintenance schedule: cleaning, belt tension, bearing checks.
- Fault finding: chokes, uneven feed, excessive fibre loss.
- Practical: adjusting settings on a step cleaner.

Day 6: Carding Machine Maintenance – Part 1

- Carding elements: clothing, settings, speeds.
- Maintenance of taker-in and cylinder: wire condition, stripping.
- Flats: grinding, setting, chain tension.
- Doffer and web removal system.
- Daily checks: air pressure, suction, drives.
- Defects: neps, slubs, web irregularity.

Day 7: Carding Machine Maintenance – Part 2

- Setting gauging: cylinder-to-flats, cylinder-to-doffer.
- Grinding of card clothing: in-situ and off-machine.
- Wire replacement criteria.
- Predictive maintenance: vibration analysis, temperature monitoring.
- Troubleshooting: high neps, fibre breakage, licker-in loading.
- Practical: gauging cylinder-to-flats clearance.

Day 8: Drawframe Maintenance

- Drafting system: roller pairs, top rollers, weighting.
- Autoleveller: principle, sensors, adjustment.
- Maintenance: roller cleaning, bearing lubrication, belt replacement.
- Common faults: uneven sliver, roller lapping, slippage.
- Practical: replacing a top roller and setting pressure.

Day 9: Comber and Lap Former Maintenance

- Lap former: feed system, lap preparation.
- Comber: timing, settings, combing cycle.
- Maintenance: nipper adjustment, comb segment cleaning, oiling.
- Common faults: lap breakage, noil percentage variation, web holes.
- Practical: timing the combing cycle.

Day 10: Roving Frame (Speed Frame) Maintenance

- Drafting system: roller settings, apron condition.
- Flyer and bobbin: balancing, bearings.
- Building mechanism: cone drum, belt shifting.
- Maintenance: cleaning, lubrication, belt tension.
- Common faults: roving breaks, soft bobbins, twist variation.
- Practical: adjusting cone drum belt position.

Day 11: Ring Spinning Frame Maintenance – Part 1

- Drafting system: top rollers, bottom rollers, aprons, cradles.
- Rings and travellers: types, selection, wear.
- Spindles: bearings, alignment, lubrication.
- Maintenance schedule: cleaning roller nips, changing travellers.
- Faults: end breaks, hairiness, uneven yarn.
- Practical: replacing travellers and checking ring condition.

Day 12: Ring Spinning Frame Maintenance – Part 2

- Spindle gauging: alignment, footstep bearing adjustment.
- Ring rail: levelling, travel, synchronisation.
- Yarn quality: evenness, strength, twist.
- Condition monitoring: spindle vibration, temperature.
- Troubleshooting: high end breakage rate, ring traveller burning.
- Practical: aligning a ring rail.

Day 13: Winding and Yarn Preparation Machinery Maintenance

- Winding drum: groove pattern, maintenance.
- Traverse mechanism: guides, cams.

- Yarn clearer: optical/electronic sensors, calibration.
- Splicer: pneumatic/mechanical, adjustment.
- Common faults: pattern winding, sloughing, yarn breaks.
- Practical: calibrating a yarn clearer.

Day 14: Doubling and Twisting Machinery Maintenance

- Two-for-one twister: spindle assembly, tension control.
- Doubling: creel, feed rollers, guide eyelets.
- Maintenance: spindle cleaning, bearing replacement, belt drive.
- Common faults: twist variation, yarn breaks, balloon instability.
- Practical: adjusting spindle tension.

Day 15: Advanced Fault Diagnosis and Root Cause Analysis

- Fault diagnosis methods: 5 Whys, fishbone diagram, FMEA.
- Data collection: downtime records, defect logs.
- Case studies: blowroom chokes, card neps, ring spinning end breaks.
- Root cause analysis in teams.
- Developing corrective action plans.
- Practical: RCA on a recurring drawframe fault.

Day 16: Predictive Maintenance Techniques and Condition Monitoring

- Vibration analysis: sensors, FFT, interpretation of spectra.
- Thermography: using IR cameras for hot spots.
- Oil analysis: sampling, wear debris, contamination.
- Condition monitoring on critical machines: cards, ring frames.
- Setting alarm thresholds.
- Practical: collecting vibration data on a carding cylinder.

Day 17: Maintenance Planning and Scheduling

- Maintenance planning: task lists, frequency, resources.
- CMMS (Computerized Maintenance Management System) basics.
- Spare parts management: critical spares, min-max levels.
- Shutdown planning: scope, sequence, safety.
- Key performance indicators: MTBF, MTTR.
- Practical: creating a weekly maintenance schedule for a spinning plant.

Day 18: Quality Control and Maintenance Interrelationship

- Quality parameters: yarn evenness, strength, imperfections.
- Impact of machine wear: roller eccentricity, wire damage.
- Using quality reports (e.g., Uster statistics) for maintenance.
- Case studies: reducing neps through card maintenance.
- Practical: correlating ring frame maintenance with yarn hairiness.

Day 19: Health, Safety, and Environmental Compliance in Maintenance

- OHS Act and textile industry regulations.
- Risk assessment methodology: hazard identification, control measures.
- Safe work permits: hot work, confined space, electrical.
- Environmental management: waste oil, cotton dust, noise control.
- Emergency response: fire, chemical spills.

- Practical: conducting a risk assessment for carding machine maintenance.

Day 20: Integration, Assessment, and Continuous Improvement

- Review of key concepts from all days.
- Group project: develop a maintenance plan for a specific machine line.
- Presentation of projects and peer feedback.
- Assessment preparation: knowledge test and practical demonstration.
- Continuous improvement methodologies: Kaizen, TPM.
- Action plan for applying skills in the workplace.

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 **35 NQF credits** at **NQF Level 4**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 92,200.00	R 92,200.00
1	In-House	R 119,900.00	R 119,900.00
1	On-Campus (Pretoria)	R 138,300.00	R 138,300.00

UPCOMING SESSIONS

Start	End	Method	Venue
03 Aug 2026	15 Sep 2026	On-Campus	Dubai, UAE
04 Aug 2026	16 Sep 2026	On-Campus	Pretoria, South Africa
04 Aug 2026	16 Sep 2026	On-Campus	Lagos, Nigeria
05 Aug 2026	17 Sep 2026	On-Campus	Johannesburg, South Africa
06 Aug 2026	18 Sep 2026	On-Campus	Mauritius
07 Aug 2026	21 Sep 2026	On-Campus	Cape Town, South Africa
10 Aug 2026	22 Sep 2026	On-Campus	Pretoria, South Africa
11 Aug 2026	23 Sep 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 116332) 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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