Accredited Africa Training Institute for Capacity Development
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COURSE BROCHURE

Paper And Board Coating Machine Operation Training

Manufacturing, Engineering and Technology / Manufacturing and Assembly

Unit Standard 114248 · NQF Level 4 · 17 Credits · 14 Days

COURSE OVERVIEW

This course equips learners with the knowledge and practical skills required to operate a paper and board coating machine efficiently and safely. It covers the entire coating process, from machine setup and adjustment to quality control and troubleshooting, ensuring consistent output that meets industry specifications.

Category	Manufacturing, Engineering and Technology
Subfield	Manufacturing and Assembly
Unit Standard	114248
Accreditation	SAQA Accredited · NQF Level 4 · 17 Credits
Duration	14 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS — verifiable online

LEARNING OUTCOMES

- Demonstrate the correct procedures for starting up, running, and shutting down a paper and board coating machine.
- Apply quality control measures to monitor coating weight, uniformity, and adhesion during production.
- Analyze machine performance data to identify and resolve common operational issues.
- Implement safety protocols and personal protective equipment (PPE) requirements specific to coating machine operations.
- Evaluate the condition of coating components and perform routine maintenance tasks.
- Design a production schedule considering coating parameters, raw material properties, and customer specifications.

WHO SHOULD ATTEND

- This course is designed for machine operators, production supervisors, and technical staff working in paper and board manufacturing or converting industries who need to operate or oversee coating machine operations.

COURSE OUTLINE

Day 1: Introduction to Paper and Board Coating

- Overview of paper and board coating industry
- Types of coatings: pigment, binder, additives
- Coating application methods: blade, rod, air knife, curtain
- Machine components: unwind stand, coating head, drying section, rewind
- Quality parameters: coat weight, smoothness, gloss
- Safety considerations in coating operations

Day 2: Coating Raw Materials and Formulations

- Pigments: clay, calcium carbonate, titanium dioxide
- Binders: starch, latex, polyvinyl alcohol
- Additives: dispersants, lubricants, defoamers
- Formulation design: solids content, viscosity, pH
- Raw material quality testing
- Health and safety when handling chemicals

Day 3: Coating Preparation and Supply System

- Batch preparation: weighing, mixing, dispersion
- High-shear mixers and agitators
- Filtration: pressure screens, vibrating screens
- Storage tanks and agitation
- Pump types: centrifugal, progressive cavity
- Piping, valves, and flow control
- Cleaning procedures for coating system

Day 4: Machine Components and Mechanical Systems

- Unwind stand: chucks, brakes, splice table
- Web tension control systems
- Coating head: backing roll, applicator roll, metering system
- Drying sections: infrared, air flotation, cylinder dryers
- Rewind stand: slitting, winding, tension control
- Rolls: rubber-covered, chrome-plated, grooved
- Lubrication and bearing maintenance

Day 5: Coating Application Methods – Blade and Rod

- Blade coating: bent blade, trailing blade, fountain
- Rod coating: wire-wound rod, smooth rod
- Factors affecting coat weight: blade pressure, rod speed, solids
- Coating defects: streaks, scratches, orange peel
- Blade wear and replacement
- Rod cleaning and maintenance

Day 6: Coating Application Methods – Air Knife and Curtain

- Air knife coating: air pressure, slot gap, web distance
- Curtain coating: curtain stability, edge guides, flow rate
- Comparison of application methods

- Defects: air knife chatter, curtain breakup
- Maintenance of air knife slots and curtain dies
- Safety around high-pressure air systems

Day 7: Drying and Web Handling

- Drying mechanisms: convection, radiation, conduction
- Drying zones: pre-dry, main dry, after-dry
- Temperature and humidity control
- Web tension control: load cells, dancer rolls
- Web alignment: edge guides, spreader rolls
- Defects: blistering, picking, curl
- Energy efficiency in drying

Day 8: Quality Control and Testing

- Coat weight measurement: grammage, ash content
- Smoothness and gloss testing
- Brightness and opacity measurement
- Surface strength: picking resistance
- Moisture content and profile
- SPC charts: X-bar, R-chart
- Calibration of testing instruments

Day 9: Machine Operation – Startup and Shutdown

- Pre-start checks: alignment, tension, coating supply
- Threading the web through the machine
- Gradual speed increase and coating application
- Monitoring initial coat weight and defects
- Emergency stop procedures
- Shutdown sequence: reduce speed, stop coating, clean
- Lockout/tagout procedures

Day 10: Machine Operation – Running and Adjustments

- Monitoring displays: speed, tension, temperature
- Adjusting coat weight via blade pressure or rod speed
- Correcting web wrinkles and misalignment
- Handling splices and breaks
- Managing coating color changes
- Efficiency: minimizing waste and downtime
- Communication with team

Day 11: Troubleshooting Common Problems

- Defect analysis: streaks, scratches, mottling, orange peel
- Mechanical issues: roll vibration, bearing noise
- Coating supply problems: air bubbles, settling
- Drying issues: blistering, insufficient drying
- Web breaks: causes and prevention
- Troubleshooting checklists
- Root cause analysis (5 Whys, fishbone diagram

Day 12: Maintenance and Cleaning Procedures

- Cleaning: coating head, rolls, drying sections
- Preventive maintenance: lubrication, belt replacement
- Inspection: roll condition, doctor blades, seals
- Wear parts: blades, rods, filters
- Maintenance logs and schedules
- Safety: confined spaces, hot work permits
- Spare parts management

Day 13: Advanced Topics and Optimization

- Multilayer and specialty coatings
- Process optimization: design of experiments (DOE
- Waste reduction: broke handling, coating recovery
- Environmental compliance: effluent, emissions
- Energy management strategies
- Data analysis: yield, efficiency, downtime
- Lean manufacturing principles

Day 14: Review, Assessment, and Certification

- Course summary and Q&A;
- Written assessment (theory
- Practical assessment: startup, running, shutdown
- Troubleshooting simulation
- Feedback and improvement areas
- Certification process
- Continuous learning resources

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 **17 NQF credits** at **NQF Level 4**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 46,100.00	**R 46,100.00**
1	In-House	R 59,900.00	**R 59,900.00**
1	On-Campus (Pretoria)	R 69,200.00	**R 69,200.00**

UPCOMING SESSIONS

Start	End	Method	Venue
04 Aug 2026	21 Aug 2026	On-Campus	Cape Town, South Africa
05 Aug 2026	24 Aug 2026	On-Campus	Dubai, UAE
06 Aug 2026	25 Aug 2026	On-Campus	Pretoria, South Africa
06 Aug 2026	25 Aug 2026	On-Campus	Lagos, Nigeria
07 Aug 2026	26 Aug 2026	On-Campus	Johannesburg, South Africa
10 Aug 2026	27 Aug 2026	On-Campus	Cape Town, South Africa
11 Aug 2026	28 Aug 2026	On-Campus	Dubai, UAE
12 Aug 2026	31 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 114248) 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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