



# Absorbent Hygiene Products and Nonwovens Manufacturing Course: Diapers, Pads and Wipes



## **Absorbent Hygiene Products and Nonwovens Manufacturing Course: Diapers, Pads and Wipes**

### **Introduction:**

Absorbent hygiene products and nonwovens manufacturing, covering diapers, pads and wipes, is a 1-week course for production, process, quality and maintenance teams in hygiene plants that ends with a Hygiene Converting Line Waste and Quality Improvement Plan for a case plant. Plants lose margin when SAP dosing drifts, hot-melt patterns skip, ultrasonic bonds open and rewet or leakage complaints return without a traced cause. Nominees already run, set up or test a nonwoven, diaper, pad or wipes line and learn through inspection walkthroughs of roll goods, cores and finished products. CoreConcept Training Center delivers this absorbent hygiene course.

### **Course Objectives:**

- Explain how spunbond, meltblown, SMS, airlaid and spunlace webs are formed and bonded and match each roll good to a diaper, pad or wipe layer
- Specify topsheet, acquisition layer, absorbent core, backsheet and elastic components for baby diapers, adult incontinence briefs and sanitary pads
- Set fluff pulp defibration, SAP dosing and core forming drum conditions to hit core weight, profile and integrity targets
- Adjust hot-melt adhesive, ultrasonic bonding, elastic tension, cut-off and folding stations on high-speed converting machines
- Test absorption capacity, centrifuge retention, absorbency under load, strike-through and rewet and link failed results to line settings
- Measure waste, splice losses and OEE and build a Hygiene Converting Line Waste and Quality Improvement Plan

### **Target Audience:**

- Converting line operation teams responsible for running diaper, incontinence and pad machines on shift
  - Nonwoven roll-goods teams responsible for spunmelt, airlaid or spunlace production and winding
  - Process engineering teams responsible for core forming, adhesive systems and new product trials
  - Quality laboratory teams responsible for raw material inspection, product testing and lot release
  - Maintenance teams responsible for knives, anvils, ultrasonic horns, vacuum drums and glue applicators
  - Wet wipes production teams responsible for substrate folding, lotion dosing and pack sealing
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## **Course Outline:**

### **Day 1: Hygiene Product Families, Raw Materials and Plant Baseline**

- Baby Diaper, Adult Brief and Sanitary Pad Layer Anatomy
- Topsheet, Acquisition Layer, Core and Backsheet Function Mapping
- Fluff Pulp, Superabsorbent Polymer and Elastic Raw Material Specifications
- Wet Wipes Substrate, Lotion and Pack Format Overview
- Plant Baseline Review Using Waste, Downtime and Complaint Records

### **Day 2: Nonwoven Web Forming, Bonding and Roll-Goods Properties**

- Spunbond Polypropylene Filament Spinning, Quenching and Laydown
- Meltblown Die Air Attenuation and SMS Barrier Layer Build
- Airlaid Pulp Web Forming With Latex or Thermal Binders
- Spunlace Carding and High-Pressure Water Jet Entanglement Settings
- Calender Point Bonding, Hydrophilic Finish and Basis Weight Control

### **Day 3: Absorbent Core Forming and High-Speed Converting Line Operation**

- Hammermill Pulp Defibration and Knot Content Checks
- SAP Dosing, Core Forming Drum Vacuum and Core Profile
- Hot-Melt Spray, Slot and Spiral Adhesive Pattern Setting
- Leg Cuff, Waist Elastic Tension and Ultrasonic Bonding Adjustment
- Final Knife Cut-Off, Tri-Folding, Stacking and Bagging Sequence

### **Day 4: Product Testing, Defect Diagnosis and Waste Control**

- Free Swell, Centrifuge Retention and Absorbency Under Load Tests
- Liquid Strike-Through, Acquisition Time and Rewet Test Procedures
- Gel Blocking, Core Cracking and Leakage Root Cause Trees
- Splice, Start-Up and Reject Gate Waste Quantification by Station
- ISO 9001 Lot Release, Retained Samples and Complaint Traceability

### **Day 5: Inspection Walkthrough and the Converting Line Improvement Plan**

- Case Plant Walkthrough Against Converting Station Checklist
  - Core Weight and SAP Distribution Findings Log Review
  - OEE Availability, Speed and Quality Loss Calculation for Case Line
  - Waste and Rewet Loss Ranking by Cost and Frequency
  - Hygiene Converting Line Waste and Quality Improvement Plan Completion
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## Skills You Will Gain:

- Nonwoven Substrate Selection
- Absorbent Core Design
- SAP and Fluff Ratio Control
- Adhesive Pattern Optimisation
- Ultrasonic Bond Troubleshooting
- Absorbency and Rewet Testing
- Converting Waste Analysis
- Leakage Complaint Investigation

## Why Attend This Course:

- Deliver a Hygiene Converting Line Waste and Quality Improvement Plan for a case plant to the plant manager and the quality lead
- Decide which core, adhesive, bonding or nonwoven setting to change first when rewet, leakage or reject rates rise
- Avoid scrapped pallets, market complaints and excess SAP and pulp use caused by unrecorded line drifts
- Hand set-up sheets, core weight logs, test record templates and waste maps to shift crews and laboratory staff

## Conclusion:

Back at the plant, the participant hands the plant manager, quality lead and maintenance planner a Hygiene Converting Line Waste and Quality Improvement Plan covering nonwoven roll-goods specifications, core forming targets, adhesive and bonding settings, test limits and station waste figures. Management uses it to decide which losses to remove first and where raw material, spare parts and trial budgets go. After the first full month of production under the plan, the team should compare waste per thousand pieces, OEE, rewet results and complaints against targets and reset settings where results diverge.

## Frequently Asked Questions FAQ:

### What should participants know before an absorbent hygiene products and nonwovens manufacturing course?

Participants should already run, set up, maintain or test a nonwoven, diaper, pad or wipes line and read shift logs and test sheets. No engineering degree is needed. Bringing anonymised waste reports, core weight records or rewet results helps apply the walkthroughs to their own plant.

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## **How does absorbent hygiene products and nonwovens manufacturing differ from a tissue paper or packaging converting course?**

It covers making absorbent products: nonwoven web forming, SAP and pulp cores, high-speed diaper and pad converting and absorbency testing. Tissue courses cover forming paper on a paper machine, and packaging courses cover laminating film and box making, which this course does not address.

## **Why does superabsorbent polymer matter so much in absorbent hygiene products and nonwovens manufacturing?**

Superabsorbent polymer holds many times its own weight of liquid under pressure, far more than fluff pulp alone. Its dosing, distribution and ratio to pulp decide absorption capacity, rewet and gel blocking, and it is often the largest raw material cost in a diaper.

## **What do participants take back from the absorbent hygiene products and nonwovens manufacturing course?**

Participants take back a Hygiene Converting Line Waste and Quality Improvement Plan for a case plant, with a core weight log, adhesive set-up sheet, absorbency and rewet test record, station waste map and OEE loss template to adapt to their own lines.

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