

Corrugator Online Link Shop Floor Data Collection

Live plant control and feedback from production

Increase Your Plant's Productivity with PC-Topp

- Reduce trim, improve corrugator productivity.
- Reduce work in progress and downtime due to lack of work with Pull Planning.
- React flexibly to production incidents and last minute schedule changes.
- Keep everybody informed on order progress and plant load.
- Connect Planning online to corrugator and conversion machines.
- Tight production control through instant feedback from production.
- Extensive production statistics, detailed production reports available instantly.



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04/11

The Experienced Scheduling System

Corrugator and Shop Floor Online Links

Live Feedback from Production

Up-to-Date Schedules at All Times

Extensive Production Statistics

Online Links

PC-Topp's online link to the corrugator and its shop floor data collection terminals in conversion send order data and schedules to the machines, and get permanent feedback from production. Thus planning is always up-to-date, schedules and production documents are available right at the machine. Production progress is visible in real time anywhere within the system which allows immediate reaction to production incidents.

■ Online Links to Corrugator and Conversion

- Up-to-date schedules and live production feedback throughout the plant

■ Online Link to the Corrugator

- Stay informed on production progress at all times.
- Transfer of slitter-scoring settings, no more error prone manual entry
- Communicates with corrugators of all major brands.
- Corrugator Terminal does semi-automatic production recording where no online link can be established.

■ Shop Floor Data Collection Terminals in Conversion

- Schedules, order data, drawings online at the machine
- Automatic capture of production data
- Live order progress, order status and schedules always up-to-date
- Detailed production statistics, performance diagrams

■ Online Link to "Smart" Conveyor System

- Brings automated conveyor systems to full efficiency.

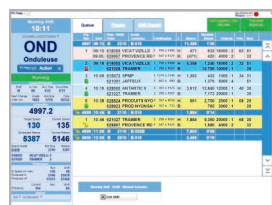
Online Link to the Corrugator

PC-Topp connects to modern corrugators from all major brands (but can also operate with corrugators that do not allow a direct link). Through its online link, the system keeps up-to-date with order progress, and distributes live production information throughout the plant. Besides, the online links allow the transfer of slitter-scoring and knife settings to the corrugator's dry-end controller and guarantee instantly available production statistics without the need for manual production data entry.

Corrugator Production Control

PC-Topp's online connection to the corrugator serves the following main objectives:

- Permanent display of the **situation at the machine**, including the current order, current and average speed, the last produced run, and the queue of runs to be produced.
- **Real time production information** throughout PC-Topp and the host system: The software gets production actuals from the machine and updates order progress and Program Memory with them. The production actuals are made available to the host system almost in real time, eliminating the need for manual production data entry.
- The **transfer of schedules** transmits all required data to the corrugator's dry-end controller, including order data, slitter-scoring and knife settings, and the scheduled linear meters.



The **Corrugator Control** page lets the machine operator (and not the planning office) control the transfer of schedules. He can pull up urgent runs or do other sequence changes right here instead of on the dry-end controller which informs Program Memory of the change. Also, he can print schedules or the paper program where they are needed.

The **Waste Terminal** is used on a PC at the end of the corrugator. It permits entering the number of waste sheets directly at the stacker which ensures correct quantities in conversion. Besides, with the Waste Terminal the system can calculate the exact number of good sheets (and pallets) when producing sheet orders.

The **Corrugator Monitor** page shows the corrugator crew the target speed for each run as well as the current actual speed in large figures and in a "speedometer". At shift begin the crew starts with 100%, and can see their current performance at any time, as an incentive to finish the shift with a high performance rate as well.

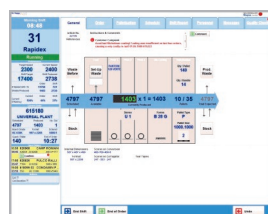
The Corrugator Terminal

Where the corrugator doesn't allow a direct connection, the Corrugator Terminal shows the schedules right at the machine. Even more importantly, it assures instant feedback of production progress data. The Corrugator Terminal keeps track of the produced meters with a counter, and detects order changes to allow semi-automatic production recording. All settings for slits, scores and tear tapes as well as special instructions for production are shown on-screen. Program Memory is kept up-to-date, and all production data – whether manually or automatically recorded – is available in the production statistics and to the host system as well. The Corrugator Terminal can also be used to print pallet labels right at the machine.

Shop Floor Data Collection Terminals in Conversion

PC-Topp's Machine Terminals extend the system to the shop floor. Mounted right next to the machine, they display the schedule of the next orders to be run as well as the current order and production history. The schedule is constantly kept up-to-date – any changes in Planning, or anywhere else in the plant, are instantly reflected.

Online Access to Schedules, Order Data, Drawings



The terminals permit online access to the order data right at the machine, including details like printing and cutting dies, ink colors or glue style. They show at all times which of the next orders is actually off the corrugator – just one of the advantages of PC-Topp's permanently up-to-date database. A tabbed navigation gives direct access to all information and functions. An animated graphical display realistically shows live production progress. With a tap on the terminal's touchscreen (optional) the view can be switched to job card, printing instructions, the CAD drawing for the current order, the machine schedule, shift information etc.

Ease of Operation

Built-in intelligence and the optional use with a touchscreen make the PC-Topp.NET Machine Terminal very easy to use. The terminal suggests the next scheduled order to be run, and the operator either confirms or selects another one by simple point-and-shoot. No more incorrect order numbers due to input errors, no need for barcoded order sheets! It is easy to pull an order forward, or even re-schedule an order from another machine. After any such action, the overall schedule is instantly updated, and Planning (and the other machine's crew) are alerted. **On-screen performance indicators** show the crew how well they are doing on the current job, or so far during their shift.

Automatic Capturing of Times and Quantities

Set-up and run times are sensed automatically, and the quantities processed are recorded via a **counter** at the machine. The terminal records the exact quantity on each pallet and uses it for real time printing of pallet labels, guaranteeing precise production data and correct pallet labels without any additional effort. **Breakdowns** are also sensed and recorded automatically, downtime causes are selected from a pre-defined list. Breaks and downtimes during set-up are also taken into account. And the crew leader can enter comments on exactly why a downtime occurred. Based on pre-defined rules, the terminal prompts for **quality checks**, and records the results in detail. It also allows **personnel data entry**: Each crew member signs in or out when coming or leaving, and the system knows at all times who is present, and at which machine.

Downtimes, set-ups, production counts, quality checks – all production events are recorded and archived, forming the basis for **comprehensive production reports**, available instantly and for any period of production history. Performance diagrams make it easy to analyze a shift in detail. All production data can be shared with the host system to replace manual data entry.

Online Link to the Conveyor System

The link to an automatic conveyor system sends the information required to identify any stack exiting the corrugator; each conversion machine publishes its current order and the next scheduled runs. That information enables the conveyor system to "think ahead" and prepare for a smooth material flow towards the machines. It is this **live and complete information** that allows a modern "smart" conveyor system to reach its full efficiency, in contrast to data entry by a human operator. PC-Topp is linked to **conveyor systems from all major manufacturers**, including Dücker, Martin, Minda and Pentek.