

## Erhardt+Leimer Corrugated

Erhardt+Leimer Corrugated is an experienced specialist in system solutions and automation control technology for corrugators since 25 years now.

To improve the quality and increase the productivity of corrugated board production, E+L offers state-of-the-art products for the automatic web guiding, via control systems for the optimization of the web tension up to the automatic parameter setting of all important production parameters.

The extensive production range includes:

- + Process automation
- + Bridge quantity control and splice synchronization
- + Replacement of obsolete PLC control systems
- + PLC controlled hydraulic loading systems for single facers
- + Stand-alone temperature control systems for pre-heaters and pre-conditioners

Today, the Bielefeld Company concentrates their efforts intensively to the area of inspection technology. With these developments, E+L Corrugated has already successfully entered the converting sector.

In future the intention is to continuing emphasis on increasing board quality and quantity. Using the automation network ELCorruMatic it is possible, for example, to automate the corrugated production process step-by-step. This approach ensures consistent high board quality and high productivity such that systems can be operated optimally.

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## ELCorruMatic® - Process Automation for corrugators



The board quality and productivity of many corrugators is still largely dependent on the performance of the operators. With the trend of order lengths reduction the operators are not able to produce constant, high quality corrugated board whilst, at the same time, achieving a high productivity level from the corrugator.

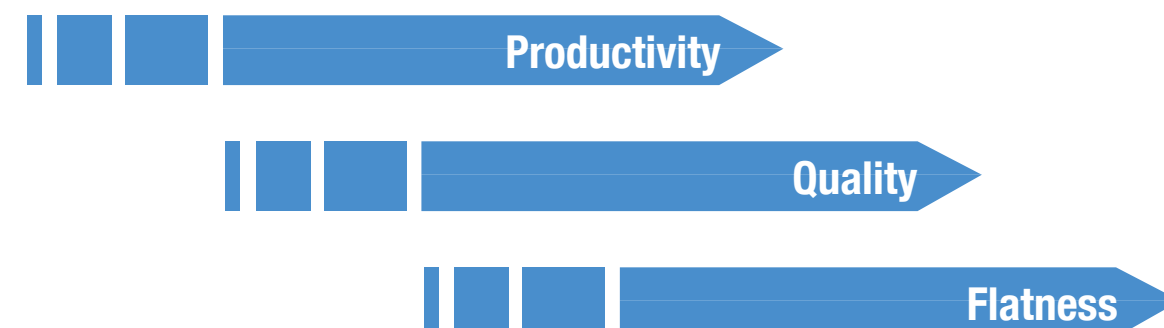
The solution to this situation is the automation of the corrugated board production process.

With the ELCorruMatic®, E+L Corrugated offers an automation network, which can be adapted to the specific requirements of the respective corrugated board production by its modular product design.

Consequently an extension of the ELCorruMatic® system is possible according to the increasing market demands. The product range includes modules for the automatic synchronization of the wet end and dry end section (product group CSM) and for the automatic control of all quality-related parameters product group TCCM).

The upgrade from the basic module to the high-end version can be done step by step – the extension to more functionality is possible at any time. Both systems are working separately and can be combined with one another. The systems run via a common hardware-level for the respective modules.

Aside these innovative systems the company has developed the Warp-Meter®, a board flatness measuring beam, to check the flatness of the current order. All machine settings are automatically adjusted according to pre-set values.



**Productivity**



**Module CSM**

The ELCorruMatic® CSM (Corrugator Speed and Splice Module) includes all corrugator settings in regard to speed, bridge quantity and splice synchronization.

The productivity module controls automatically via interface to the dry-end and the order management system all machine parameters related to splice speed, bridge festoon as well as splices ejections in regard to the specific orders listed in the order management.

All paper qualities, which are entered with their specific characteristics (or groups of them) are automatically selected.

Machine speeds between wet- and dry-end sections are harmonized and automatically matched to one another.

The effective production output is thereby achieved without any over/underproduction. The result is productivity increase, minimization of start-up waste and improved rest roll management.

**Quality**



**Module TCCM**

The ELCorruMatic® TCCM (Total Corrugator Control Module) controls all corrugator parameters regard to quality of corrugated board production.

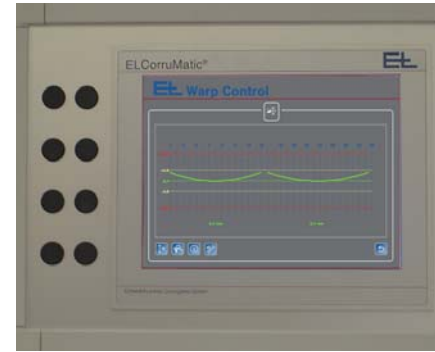
This module controls automatically all process parameters for the temperature, glue application, web tension as well as roller pressures and steam pressures in regard to the paper and flute profiles of the running order.

Variable values, such as speed changes or wrap arm positions are being considered and overlay the control characteristics automatically.

The control geometry is taken all recorded paper qualities into account as well as coatings, pre-prints or water resistant glue types.

Thus a quality production without any delamination or extensive warp is ensured, along with decreased energy consumption due to steam or glue optimization.

**Flatness**



**WarpMeter**

The Warp Meter is a laser based measuring system which monitors board flatness in machine cross direction.

The current produced number of sheets in cross direction (outs) are automatically differentiated without any operating interference.

Each out is independently evaluated and displayed according to the flatness situation.

Configurable threshold values and their exceedance are visually graphed as well as transferred as control offset to the flatness parameter of the ELCorruMatic®.

This function can be used as automatic offset control but also as analyzing tool for the production of specific qualities, coatings or different types of glue recipes.

**E+L goes interactive**



The ELCorruMatic® has been developed continuously over recent years and includes from now on an intuitive, icon-driven menu navigation. All E+L components installed in the corrugator are integrated.

Thus, the menu navigation of the web guiding and web tension control with CorrAligner®/TensionMaster®, the slitter

scorer control unit TrimMaster® or the WellpackTaper® are visualized and simple to operate.

As a result the status displays and/or navigation via tablet PCs or office stations is supported.



**CorrAligner**



This icon is intended to visualize and operate web guiding systems, such as CorrAligner® or ELTRAC® for the flute and inner liner.



**CSM**



This icon triggers the menu item for the ELCorruMatic® productivity module.



**TrimMaster**



The positioning of the slitter scorer and the web stabilization device in the dry-end section are visualized and operated via this menu item.



**Wellpack Taper**



The machine condition and – if necessary – the position of the taper applicators in the dry-end section could be visualized by means of this menu item.