Efficient print control for corrugated board

Zero defects thanks to automatic 100% inspection of digital printing

Corrugated board packaging is becoming increasingly popular and has been the proven shipping medium for a long time, even in demanding applications. When combined with the opportunities offered by digital printing, the recyclable material offers a variety of design options ranging from custom-made products to series production. This printing process is also expected to be of high quality. The enhanced version of the CartonSTAR 100% inspection system from ISRA VISION for checking the print image on corrugated board can now also be used for digital printing.

Corrugated board is traditionally printed using the flexographic procedure. This printing method can be expensive to set-up and is traditionally chosen for longer production runs. Due to the growing demand for individualized packaging and quicker changeover, digital printing is becoming increasingly popular. The advantage is obvious: Because there is minimal make-ready in digital printing, smaller print quantities are possible – right down to a batch size of one repeat. This gives digital printing a cost advantage for small and medium-sized print runs, in particular, while also ensuring very high print quality.

A flexible partner in digital printing
The CartonSTAR 100% inspection system for continuous quality and process monitoring can be used in both post-press and pre-press and is the ideal companion for digital printing thanks to its flexibility. The system is easy to integrate into the digital printing workflow and covers all requirements placed on an inspection solution as an intuitive and finely configurable solution. Alongside classic print defects such as register accuracy, missing motifs, or color deviations, CartonSTAR also identifies defects typically found in digital printing, such as mottling, banding, streaks, or smears.
A particularly powerful and reliable feature is the adjustable detection and classification of defects through the integrated compensation of the material surface. Known as the defect classifier, this differentiates between quality-relevant defects and irregularities caused by the inhomogeneous surface structure of the corrugated board quickly and precisely, thereby preventing unnecessary waste. Instant defect-recognition enables defective product to be rejected at an early stage preventing defective sheets from being processed further, thus conserving resources and saving costs in the production process.

**Rugged and reliable**

CartonSTAR itself is highly compact and is therefore easy to integrate into most presses. All ISRA components are extremely robust and protected against heat, dust, and high levels of humidity. Moreover, the system can run for years without any maintenance thanks to its highly efficient and durable ISRA LED lighting. The condition monitoring feature observes all important system functions continuously, thereby preventing any unpleasant surprises.

**Summary**

Thanks to highly efficient, automatic 100% inspection with CartonSTAR, companies can rest assured knowing that only perfectly printed goods will leave their facility. Quality reports make every single job traceable and give customers peace of mind while also helping prevent defects in the long term and assisting in achieving the ideal configuration for the entire process. Moreover, the solution reduces the amount of waste produced and facilitates the more efficient use of resources, which – given consistently rising raw material prices – lowers production costs.
Clogged nozzles during the printing process result in nozzle streaks in the print image. CartonSTAR reliably detects these during inspection.
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