PRINT INSPECTION FOR CORRUGATED PACKAGING

100% inline inspection for flexo or digital printing

ISRA VISION

Part of Atlas Copco Group

- 100% inline inspection for each production technology
- Faster and more reliable than the human eye
- Monitoring throughout the entire printing process
- Increasing the amount of saleable material
- Avoiding waste from the earliest possible point in time

Learn more:

PRINT INSPECTION FOR CORRUGATED PACKAGING

ISRA VISION is your partner when it comes to finding solutions for print inspection. As a machine vision company with a global presence, we focus on providing customized solutions with modern high-performance cameras, lighting systems tailored to the respective application and intelligent software solutions and algorithms. Our experience in a wide range of industrial segments gives us comprehensive expertise in this markets.

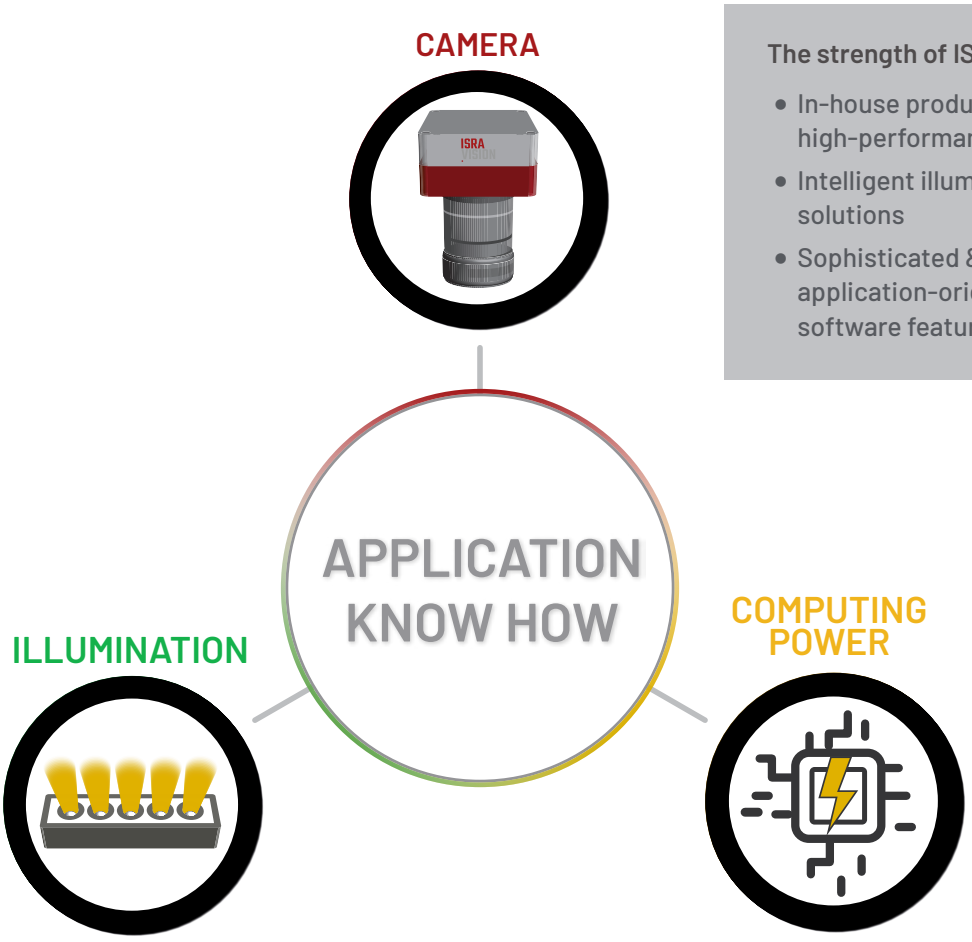
In view of the increasing cost pressure in packaging production, corrugated board is characterized by its sustainability in the circular economy. As it is easily recyclable and reusable, it offers considerable savings potential. Costs can be further minimized by reducing waste in the initial processes and detecting defects at an early stage.

However, the trend is towards complex printing for displays, shelf-ready trays and outer repackaging. The aim is to create a special unboxing experience or high visibility at the point of sale.

High quality is therefore required. Printing defects lead to rejects and increased costs. Our automatic print inspection helps to prevent printing defects and quickly find and eliminate unavoidable defects. This ensures high-quality corrugated board that guarantees customer satisfaction.

Markets we serve:

- Flexo printing on corrugated boards
- Digital printing on corrugated boards (postprint process)
- Digital printing on paper web (preprint process)



The strength of ISRA VISION:

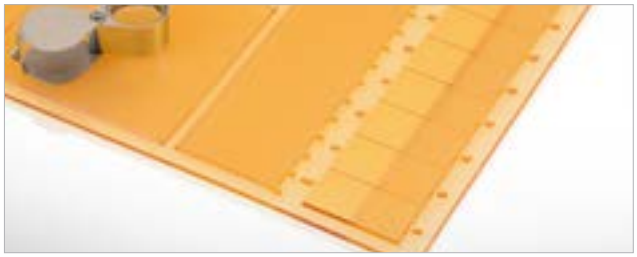
- In-house production of high-performance cameras
- Intelligent illumination solutions
- Sophisticated & application-oriented software features

See Video:

PRINT INSPECTION FOR CORRUGATED PACKAGING

Monitoring throughout the entire printing process

Our inspection systems and software accompany you through the entire production process. The raw materials may already have been inspected by ISRA VISION during production. This provides you with the full experience and expertise of industrial image processing. Whether for flexographic printing or in the digital workflow: we have a solution for you that starts with make-ready and leads to saleable printed material as well as supporting the ejection of defective sheets.



Potential cost-saving can start during the make-ready process: our inspection systems compares the future print image with a reference file approved by the customer. This allows you to find potential sources of defects directly, such as incorrectly inserted or faulty printing plates.

The LiveSheetView or LiveWebView function of our systems enables a live view of the currently printed sheet on a separate monitor.

Defects are detected and classified during the printing process. In this way, the inspection system differentiates serious defects from those that are tolerable and thus contributes to increasing the saleability of the goods.

Defective sheets can be ejected directly after printing. Reporting functions provide sufficient statistics on print quality and defects.

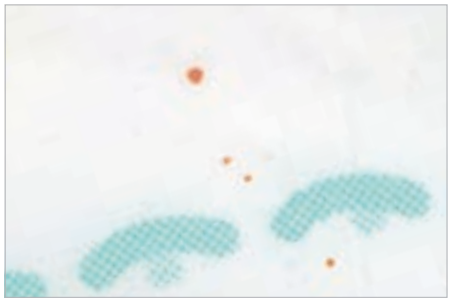
Thanks to production analysis software platforms such as EPROMI, you can statistically evaluate the quality of your printing process using real-time data and unique reporting functions. This allows you to discover hidden cost-saving potential.

PRINT INSPECTION FOR CORRUGATED PACKAGING

Flawless flexo printing

Corrugated cardboard is printed traditionally using the flexographic printing process, while digital printing is becoming increasingly popular with the growing demand for individualized packaging and faster changeovers. Printing defects in both printing processes lead to rejects and rising production costs. The CartonSTAR inline inspection system ensures consistently high product quality in the flexographic printing process by reliably detecting relevant printing defects in real-time. In addition, faulty corrugated sheets are automatically sorted out at an early stage. CartonSTAR is also flexible and adaptable to almost any printing application and, with its high form factor, fits into any machine on the market.

Dirt



Splashes

Stripes

missing print

Challenges

The surface, which is typical for corrugated board, is not flat but wavy due to the structure underneath the paper surface. This can be interpreted as a defect by inspection systems, even though there is no printing error.

Our Solution

Special algorithms ensure so-called "substrate compensation" and differentiate between actual defects and uneven surfaces.

The comparison with an approved customer PDF shows potential sources of defect even before printing begins in make-Ready.

The LiveSheetView function provides live images of the sheet currently being printed on a separate monitor. Certain areas can be viewed more closely by zooming in.

Thanks to the highly developed defect classification, CartonSTAR differentiates between relevant defects and those that are tolerable. This increases the quantity of saleable material.

PRINT INSPECTION FOR CORRUGATED PACKAGING

Digital printing inspection

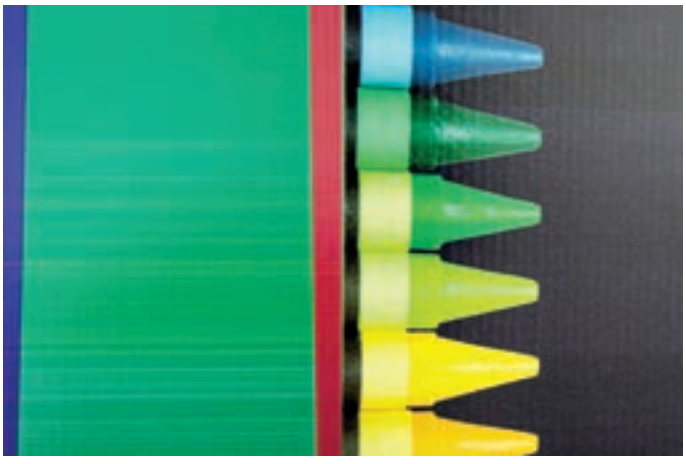
The demand for digitally printed corrugated board is constantly increasing. The big advantage of digital printing is the small batch size and the ability to personalize packaging more and more. This offers marketers many advantages for their campaigns. However, quality control is a decisive factor in keeping production costs stable, especially for small productions. In addition, digital printing processes are subject to special defects that are unique to this technology, such as streaking caused by clogged nozzles. For ISRA VISION, however, print image inspection is more than just the detection of these nozzle streaks but a real 100% inline inspection of the print image.

The inspection systems of the DigiSTAR series are specially designed for the detection of printing defects in digital printing. They check for all types of print defects: splashes or contamination, streaks, missing print image, color deviations and even detect defects that are difficult to see, such as banding. They also check the legibility of variable barcodes and QR codes.

The defect classification allows defects to be categorized as saleable goods or waste and also provides precise reporting on the defects found.

Whether you have your corrugated board printed using the preprint or postprint process, there is a suitable system for every application.

Streaking due to clogged nozzles is one of the most common printing defects in digital printing



Banding is very difficult to identify. DigiSTAR also finds this kind of defect.

Register defect

Checking variable codes

PRINT INSPECTION FOR CORRUGATED PACKAGING

Ejection & reporting

Defective corrugated cardboard sheets can be recycled immediately after printing. Thanks to the defect classification carried out by the inspection system during the printing process, it is possible to differentiate exactly which goods are still saleable and which need to be recycled. This prevents waste from entering downstream work processes, where it has to be laboriously and expensively removed.

The inspection systems therefore make a significant contribution to cost savings. In the preprint process, in which printing takes place on the paper web, comprehensive reporting tools ensure that defective sheets can also be sorted out after the web has been applied to the corrugator wave and subsequently cut.

Learn more:

PRODUCTION ANALYTICS

One solution for all data driven applications

With the EPROMI production analysis software, ISRA VISION offers a software platform that allows you to check the system status of all production lines at a glance or analyze production data in detail. With the quality management system, you can analyze historical data, monitor current inspection data in real-time and identify future trends in your production process.

Dashboards allow you to compare production lines and product data onsite or remotely, providing key insights for optimization. This enables you to make informed professional decisions along your value chain to increase the product quality as well as profitability. You can continuously track the progress of optimization measures and present them with visualized advanced reports.

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Global contacts:

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