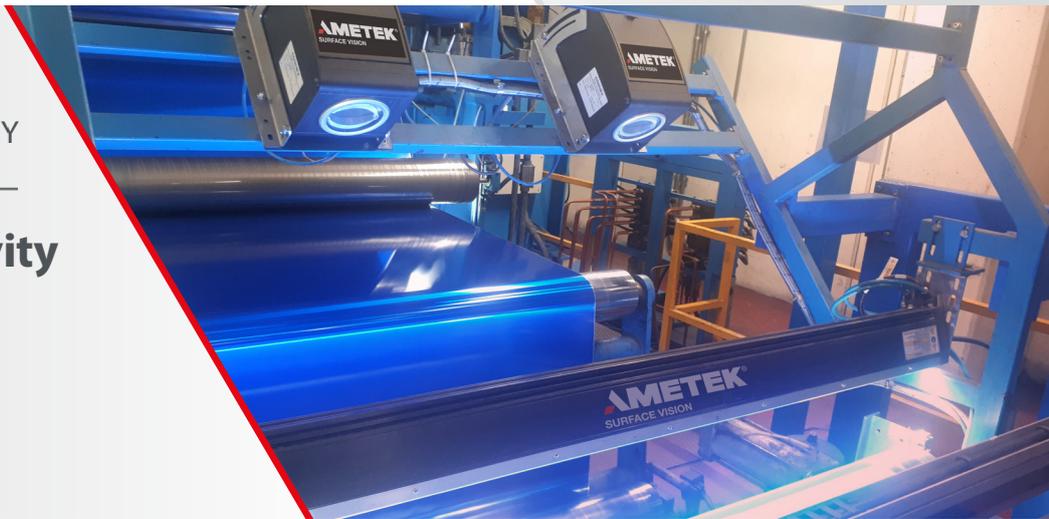


ENSURING ALUMINUM QUALITY

Improving productivity while reducing quality claims



AMETEK Surface Vision supplies Italcot S.r.l. with an inspection solution for aluminum color coating lines.



As a manufacturer of coated rolled aluminum products based in Pignataro Maggiore, Italy, Italcot S.r.l. takes coils of rolled aluminum from its mother plant, Laminazione Sottile, and applies a color coating to the metal surface. There are several hundred colors of coating that are applied, ranging from matte to glossy finishes.

**SMART
VIEW®**
DEFECT DETECTION & IDENTIFICATION

SmartView® Surface Inspection Systems
on Color Coating Lines.

However, rising customer requirements for high-quality products drove Italcot to improve productivity while reducing quality claims to a minimum.

Italcot needed a surface inspection system to maintain product quality on its LV1 and LV2 organic color coating lines. These lines produce color-coated aluminum chiefly for

use in pharmaceutical applications, construction, fin stock, food packaging and general use. The speed of these lines is approximately 150 meters per minute.

THE NEED FOR CONTINUOUS SURFACE INSPECTION

For its surface inspection requirements, Italcot used human eye inspection and periodic checks. However, these methods were inefficient in the face of an increasing market demand for defect-free material.

The company wanted to replace manual inspection with a continuous surface quality

checking system that covered 100% of the material being processed. The aim was to keep the production of scrap material to a minimum.

There are numerous defects to monitor the metal for: scratches, spots, stains, uncoated areas, coating voids, uneven coating, lacquer drops, streaks or discrete contaminations, and

coating solvent issues such as microbubbles. Additionally, there may be repeat defects caused by the coating process or previous process steps. The new quality control system needed to provide visibility of defect distribution, and immediate alarms for prompt operator action

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AMETEK®
SURFACE VISION

Antonello Ferone, Italcot Process Engineer, said: *"The demand for high quality material has risen over the past few years. We were looking for an inspection system that was reliable and could be easily adopted into the production process. Our goal was to minimize the time and cost of physical checks, which were increasing the downtime of the line."*

"For food and pharma packaging, in particular, a defect-free material is essential as any defect that causes the material to break or lose its impermeability must be identified."

The different markets served by Italcot have varying requirements for surface quality, and the quality of the final product must be highly detailed to reduce the scrap after slitting.

Italcot needed to reduce scrap material at an early stage, with the option to take immediate action to remedy any defects. The solution had to provide a detailed map of the defect distribution over the material surface in order to manage yield optimization.

A PROVEN INSPECTION SOLUTION

Italcot conducted extensive research before settling on AMETEK Surface Vision's SmartView® system for its color coating lines.

In order to evaluate the feasibility of the detection requirements, the company performed detailed sample studies at AMETEK Surface Vision's laboratory in Karlsruhe, Germany.

They then performed a trial installation on site to judge the system's usability, defect detection, and classification performance. They also tested the system's capability to evaluate the coating quality through the Surface Quality Monitoring (SQM) package.

Through the study and trial, AMETEK Surface Vision clearly proved the system could fulfill Italcot's requirements. Italcot selected the SmartView inspection system that featured two cameras on each side of the metal, installed in brightfield with the SQM and Streaming Video packages.

One of the key factors in selecting AMETEK Surface Vision was the quick adoption of SmartView into the production process, which provided fast results.

The system is not currently integrated with any process control systems in the mill,

and inspection results are evaluated manually. However, Italcot plans to integrate the inspection system into process control systems in the future.

Marco Saitta, Sales Account Manager at AMETEK Surface Vision, explained: *"The SmartView system's modular nature allowed Italcot to quickly install it for immediate quality advantages, while allowing for control integration options in the future."*

DELIVERING THE EXPECTED RESULTS

The system fully met Italcot's expectations, delivering significant benefits to the coating lines.

Once SmartView was installed and operational, the visibility of the surface quality and increased knowledge of the defect types helped Italcot optimize the product quality and improve the process.

"The increase in product quality has secured our repeating business, while significantly reducing scrap production," Antonello said. "We have also reduced quality claims, resulting in significant cost reductions."

Italcot Process Engineer Vincenzo Nigliato added: *"We were fully satisfied with*

the commissioning and ongoing support from AMETEK Surface Vision. We were also impressed by the skills and experience of their senior project management team to provide effective support remotely."

The SmartView system reliably detects defects on Italcot's many different colors and surfaces, requiring only a small number of detection settings and parameters to manage the inspection system. Streaming video capabilities provide a full, real-time overview of the surface in high resolution and full width.

The system also generates direct alarms in real-time when defects occur, while adaptive

detection features and automatic light control minimizes the administrative work required.

"The inspection tools and operator's interface are highly modular and easy to use," Vincenzo said. "Defect detection and classification parameters are under our control, and the need for support from AMETEK Surface Vision to tune the performance of the detection and classification is really low."

"Most importantly, our customers are now confident of getting 100% inspected material that satisfies their highest quality demands," he added.

PROCESS LOCATIONS

Coating Lines

ABOUT AMETEK SURFACE VISION

AMETEK Surface Vision is a world leader in automated online surface inspection solutions with a broad product portfolio optimized for web and surface inspection and monitoring and process surveillance applications.

Its product portfolio includes two distinct product lines: SmartView® systems and SmartAdvisor® systems. Each product line uniquely enables customers to inspect the surfaces of materials processed in a continuous fashion across the metals, paper, plastics, nonwovens, and glass industries. Learn more by visiting ameteksurfacevision.com.

AMETEK Surface Vision is a unit of AMETEK Process and Analytical Instruments, a division of AMETEK, Inc., a global manufacturer of electronic instruments and electromechanical devices with annual sales of approximately \$5 billion.



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