

ROLLING WITH THE TIMES

Semi-fabricator adopts zero tolerance production

Hulamin, South Africa



South African semi-fabricator Hulamin is the only major aluminum rolling operation in Sub-Saharan Africa. It supplies customers around the world, with a focus on specific product and end-use markets.



HULAMIN

Think future. Think aluminium.

Hulamin General Manager **Tim Hawkins** said,

“As a responsible supplier, Hulamin naturally wanted to drive down waste to the absolute minimum. We visited several global service providers looking for a solution that could achieve the reduction of energy, production costs and waste products, while also increasing the quality of product.”

Hulamin’s primary activity continues to be aluminum rolling, supplying a range of high-quality aluminum sheet, plate and foil products. Hulamin’s biggest range of products is can-stock, which includes can-body stock, tab-stock and coated can-end stock that

it has supplied to independent and multinational can-makers for more than 30 years. In addition to supplying the South African market, Hulamin has significant exports to Europe, North America, the Middle East and Asia.

The availability of primary aluminum in South Africa, combined with Hulamin’s rolling and extrusion capabilities, is intrinsic to the growth of aluminum usage in the region, driving industrialization and regional economic growth.

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A STRONG BUSINESS CASE

The can stock market is considered notoriously as one of the most-demanding packaging markets in the world. Hulamin's products, however, have stood the test of time, allowing the company to form close relationships with both customers and supply chain partners. To maintain these relationships, it was essential for Hulamin to

ensure its customers that it provides products of consistent high quality.

Historically, a significant number of surface defects would appear during the manufacturing process, from the hot and cold rolling mills to the finishing machine centers. The material inspections were carried out manually at each machine center via physical sampling.

These defects can originate in the raw material (ingot phase) or be created during

the rolling or coating processes. This led to coils having to be scrapped completely or finished with low yields.

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HIGH STANDARDS

SmartView® is the market-leading surface detection platform combining synchronized camera technology, state-of-the-art software and lighting to capture defect images across multiple inspection angles. It delivers unprecedented monitoring, gauging, reporting and classification accuracy in real time.

Taking advantage of SmartView's flexible, scalable nature, the solution was installed over

several years, allowing Hulamin to spread the capital expenditure cost over that period.

The installation currently provides high-quality automated monitoring from the hot strip mill all the way down to the slitting and coating lines.

Information, which is saved in a SQL database, allows post-production tracking using AMETEK Surface Vision's Production Quality Advisor software suite. The system is fully integrated with Hulamin's in-house data management software to ensure seamless data connectivity and exchange.

The streaming video software also allows Hulamin to review a coil at any time without uncoiling and recoiling the material – a big time-saver when checking product quality.

Extra production assurance ensures that defective coils are not dispatched – should customer complaints be raised after shipping, Hulamin also has access to data regarding the coil's condition when it was supplied.

In addition, Hulamin benefits from AMETEK Surface Vision's service support program, which includes software revision updates, remote access support and regular site visits.

MEASURABLE BENEFITS

Having installed the system, the operating team found that the benefits were multiple. It increased yield by 4% over four years, while increasing customer satisfaction despite producing increasingly complex products.

Hulamin Surface Engineer Dominic Moreno

noted, "The SmartView system has exceeded our expectations. Its real-time information has proved invaluable for problem solving. By eliminating the reliance on post-production physical strip inspection, we were able to overcome our most significant hurdles.

"For example, on-line inspection allows us to monitor and troubleshoot our strip in mid production, so the hot rolling mill can now be

stopped after the second coil – because the process demands that the mill has to finish the existing coil and the next coil, which is already prepared – removing the sub-standard coil from the process at an early stage," he added.

"Now integrated into our production process, troubleshooting and efficiency are at the heart of our operations. This neatly positions us to produce more-demanding products."

PROCESS LOCATIONS

Coil coating lines

Slitting line

Hot strip mill

Cold rolling mill

ABOUT AMETEK SURFACE VISION

AMETEK Surface Vision (formerly Cognex Surface Inspection Systems Division) is a world leader in automated online surface inspection solutions with a broad product portfolio optimized for surface inspection, monitoring and process surveillance applications.

Surface Vision's product portfolio includes three distinct product lines: SmartView® systems, SmartAdvisor® systems and Slit Inspection. Each product line uniquely enables customers to inspect the surfaces of materials processed in a continuous fashion across the metals, paper, plastics, non-wovens and glass industries.

Surface Vision is unit of AMETEK Process and Analytical Instruments, a division of AMETEK, Inc., a global manufacturer of electronic instruments and electromechanical devices.



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