

Increasing competition has forced aluminium producers and processors to increase production efficiency and product quality. Manufacturing and processing aluminium requires precise defect detection and classification, as well as continuous production improvement.

Isra Parsytec provides a fully automatic visual inspection

Inspecting all of the aluminium strip surface is not a new procedure.

ISRA Parsytec's inspection system checks the surfaces far more efficiently than comparable equipment, finding up to 100% of all defects even with high strip speeds, and thereby delivers reproducible measurement results.

The company's access to a portfolio of surface inspection systems is unique. These systems are used along the entire process, from hot rolling through cold rolling, hardening, coil treatment and coating to finishing.

At the beginning of the production process, the inspection of aluminium ingots is made possible even in harsh environmental conditions. Producers find ingot errors early in the production process, saving time and materials.

ISRA systems' applications range up to the final product in the packaging phase, and even in the coating and printing processes for aluminium foil.

Complete inspection solutions take on the quality control of aluminium cans - starting from the input material to the areas to be cut in final inspection.

Decor quality inspection checks the quality of printing applying pattern-matching by using a master PDF.

Aluminium is increasingly used in automobile construction. ISRA inspection solutions are also used to solve automation requirements for quality control of car bodies.

This starts with surface inspection of the input material. Robot vision solutions provide for press automation. An exact 3D



Complete inspection system product portfolio for all steps of aluminium production

measurement ensures perfect fit of body parts, and examines the dimensional accuracy of parts. Even small bumps and dents on metal sheets can be safely identified using a novel 3D method for measuring topography. The product range is made possible by efficient algorithms and advanced computer technology which enable detection of all relevant defects, as well as robust defect classification of results on the production lines.

Self-learning classification software processes the inspection data in real time and makes possible defect classification. Efficient defect classification leads to short start-up times for production lines, as results are available right after installation.

An integrated database stores the inspection results and makes available all information for complete quality documentation. The portfolio of inspection systems across aluminium

production processes is available from the ISRA group as a single-source supplier.

The experts at ISRA have developed a rich base of know-how and expertise based on inspection system installations.

Revenue maximisation

The use of complementary software tools provides for systematic yield maximisation.

At all stages of the process chain, inspection systems generate quality data and assist with relevant analysis tools for process analysis and control.

A prerequisite for use of existing information is an intelligent combination of the assessments.

Plant operators can easily find answers to each question for revenue or process optimisation on the basis of these answers. Intelligent software mentors, such as Sitting Optimization, Coil Repair and Defect Tracking are tailored to customer requirements, and provide access to production and product-related data. They analyse and weigh information relating to various production goals and create knowledge-based solutions for decision makers.

Aluminium producers benefit from revenue maximisation, rapid ROI and optimisation of their processes based on the results of the analysis. ■

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