

Press Facts

Automatic quality assessment and ship or block decisions in steel strip production

QuinLogic to automate quality management at ThyssenKrupp – Hoesch Hohenlimburg

Dynamic, rule-based Quality Execution System to be integrated into complete process chain.

Aachen, Germany, February 2, 2011 - Hoesch Hohenlimburg GmbH, a subsidiary of ThyssenKrupp Steel Europe AG, has contracted QuinLogic to implement an integrated, rule-based Quality Execution System (QES) into the complete process chain of the works. Through this, Hoesch Hohenlimburg will automate quality-related decision-making, taking into account specific customer requirements while further improving quality management at its works.

Hoesch Hohenlimburg will equip the complete works – comprising a hot strip mill, two pickling and three slitting lines - with QuinLogic's QES quality management software. The system combines all available quality data for evaluation based on a set of quality rules. A key element of the system is the capability of making automatic ship or block decisions for each individual coil.

With the introduction of the QES, Hoesch Hohenlimburg will further enhance its supply quality, as only coils fully meeting its customers' specific quality requirements will be shipped. At the same time, the information made available by the system will be directly fed back to improve internal processes.

The QES combines data from different sources, such as SAP, process control systems and other databases. It also integrates data generated by gauges for width, thickness, flatness, profile, temperature or strip wedge measurements and surface inspection systems.

The integrated set of quality rules evaluates the acquired information and triggers, if applicable, automatic blocking of strips and the appropriate processing procedure for the blocked material. It also directly updates the corresponding inventories in the production control system.

Especially the great variety of products and the small lots of customized steel products manufactured by Hoesch Hohenlimburg made it extremely complicated in the past to realize an EDP-based quality assurance system. The user-friendly Quality Execution System from QuinLogic finally makes the systematic introduction of automatic ship or block decisions possible at all strip production lines.

For Friedrich Lücking, one of the founders and managing director of QuinLogic, this confirms the outstanding capabilities of the QuinLogic software concept: “Until recently, many users had to give up their plans to automate the process of quality-based ship or block decision-making in the face of virtually insurmountable problems. Our new software programs now make it easy for our customers to manage quality on the basis of an EDP solution and make quality assessments that take into account several production stages.”

The automatic ship or block decision for a coil is made based on product and customer-specific control and release rules with dynamic tolerances. The tolerances vary depending on the process routes and steel grades being processed. The rules are defined and updated by the quality engineers in collaboration with the corresponding sales representatives, who are familiar with the customers' specific quality requirements. The results are documented and quality-certified relative to each individual coil and process step.

The web-based QES reporting module makes quality information and evaluations available across the entire organization – broken down according to criteria such as steel grades, production plants or defect position on the strip.

The system has already been installed. Commissioning is scheduled to be completed in spring 2011.

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Fig. 1: The QuinLogic QualityMonitor in use
File name: QualityMonitor.jpg



About QuinLogic

The Aachen-based company was established in 2008 with the objective to make large volumes of complex measuring data useful for quality management tasks in the steel and aluminium industry, enabling decisive improvements in productivity. The company's team of engineers has more than ten years of experience in the field of surface quality and yield optimization.

QuinLogic cooperates with VDEh-Betriebsforschungsinstitut in Düsseldorf in the fields of data mining and defect diagnosis. It has developed software for rule-based decision-making, which – based on data from most different sources – guarantees optimal use of material.

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