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**Automotive customers to benefit from new process: Quality Tracking enables defects on steel strip to be detected by barcode and removed**

Manufacturing steel is a complex process. So kilometer-long steel strips – wound into coils – frequently have a few typical surface defects. For car manufacturers, however, it is extremely important to know about such irregularities and exactly where they are. To meet this requirement, the Quality Tracking process was developed, which permits information on defects to be supplied digitally along with the coil and thus enables customers to remove damaged sheets or coil sections at the start of their production process. The equipment required to apply the barcode markings to the steel strips was installed in the exit zones of cold rolling mills. In the future, thyssenkrupp and others intend to offer the Quality Tracking system to their European customers to further improve quality and service and as an important contribution for Industry 4.0 applications. Quality Tracking is to be established as a European standard under the auspices of the European Steel Association EUROFER.

Nothing and nobody is perfect, so kilometer-long steel strips also have defects, such as scratches and metallurgical inclusions or small imperfections in the coating. Steelmaking is an extremely complex process. But OEMs, who use steel sheets in the body panels of their vehicles, and car buyers are placing ever increasing demands on quality. As the coils frequently have a minimum weight, it is often not possible for steel producers to cut out individual defects without changing the weight of the coil. To achieve customer satisfaction it is increasingly important to avoid defects as far as possible or – as with Quality Tracking – to inform users about them before the start of their production chain. When cutting the coil, customers can then identify damaged sections automatically without losing much time and remove them before they enter production.

To this end, the three European steelmakers thyssenkrupp Steel Europe, ArcelorMittal and Tata Steel formed a research & development cooperation in 2011 to develop a European standard that will enable them to supply their customers with information on significant defects along with the coil. Customers such as automotive OEMs and suppliers are informed about the exact position of the defects. To locate the damaged sections on the steel strip, which can be up to three kilometers long, defects identified by automatic inspection during the production process are assigned to the one-dimensional barcodes on the steel strip. These barcodes are printed onto the strip at roughly 50 centimeter to two meter intervals and contain information on position, manufacturer and coil number. The quality information on the position of a possible defect is provided to the customer via a separate dataset.

The process has been trialed with a customer to validate its suitability for industrial-scale use. The company was supplied with coils from the three steelmakers with Quality Tracking information. The trial was a success: Test runs showed that the Quality Tracking system allowed all identified defects to be rejected reliably. The barcodes were read with an accuracy of over 99.5 percent. These results confirmed that the process is suitable for industrial use. It provides enormous advantages both to suppliers and to automotive end customers.

Five steel manufacturers have now come together under the roof of the European Steel Association EUROFER, with voestalpine und Salzgitter Flachstahl joining ArcelorMittal, Tata Steel and thyssenkrupp Steel Europe to drive the technology and implement it as an open European standard. Several other companies, including suppliers of blanking equipment and system suppliers, have now also signed up to the Quality Tracking project. The steel division of thyssenkrupp is currently converting the first production lines to enable them to manufacture Quality Tracking coils. “Only in this way can we move closer to the OEMs’ goal of zero-defect deliveries. Many of our customers will benefit greatly from the development of this process, so we are confident that Quality Tracking will meet with a positive response”, it states.

Further information can be found at [www.eurofer.be/Issues&Positions/Quality Tracking](http://www.eurofer.be/Issues&Positions/Quality%20Tracking) or please contact the project manager at EUROFER, Chihyuan Liu, under [C.Liu@eurofer.be](mailto:C.Liu@eurofer.be).

More info [www.thyssenkrupp-steel.com/de/kundenmagazin/quality-tracking-html.html](http://www.thyssenkrupp-steel.com/de/kundenmagazin/quality-tracking-html.html)

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