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Coating thickness measurement – state of the art:
Paint and corrosion protection measurements using innovative technology

Part 8:

State of the art coating thickness measuring technology optimizes the quality management of laboratory, paint and production technology

When manufacturing and developing paints and lacquers, many varying parameters lead to different characteristics of the final coating. Some of these characteristics are influenced by the coating's thickness and the paint or lacquer applied.

Efforts of manufacturers to achieve characteristics of high quality and decoration using less material led to reduced coating thickness. An important reason to inspect such coatings precisely and reproducibly. In order to measure the simple coating thickness of wet film, so called wet film measuring combs are used that are dipped into the paint film down to the substrate surface.

When determining the coating thickness of dry coating, non-destructive measuring electronic gauges are used that display the desired measurement fast and precise, based on magnetic procedures such as the Hall effect or the eddy-current. Especially the modular QNix® 8500 measuring system can easily be adjusted to each measuring task – even duplex measurements – on the most different types of measuring substrates when combining various measuring probes. The wireless transmission of measurements via radio from probe to gauge is also possible.

Quality management during development and production using statistical analysis

To ensure the monitoring of quality in laboratories and production, coating thickness gauges and systems are required that provide advanced features for documentation and statistics in addition to simply taking a measurement. The statistical analysis of the measurements taken concerning average, standard deviation, minimum and maximum value offers an overview about the quality of complete production batches. This allows successful measures for increasing quality and process capacity to be quickly implemented. The documentation of measurements is achieved by simply transferring data to a PC and saving it for further analysis using a spreadsheet program. This provides a reliable, fast and convenient working method. The new modular QNix® 8500 measuring system for instance, transmits measuring data using a convenient wireless connection to a PC. As no interface connections are exposed, the transmission of measurements is safe from dirt and damage.

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