

**„Documenting the coating thickness of new and used cars“
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BLOG 1-3 / 190509 / CCS CarCheck / Dr. G.G.

(Qnix press news-de-AUTdrg-030-v1 / 0109 / CarCheck)

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BLOG CCS Part 1:

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***Initial development situation for the new coating thickness measuring system
CarCheck***

During the past months we often heard that the sales of new cars, compared to previous years, are declining, while mileage and service life of such cars continue to improve. This development led to a crisis in automotive production. Especially since, according to surveys by the Federal Statistical Office, more and more customers prefer used cars. These tendencies that can not only be observed domestically but also worldwide. Considering this increase in used cars, their improving service lives and the growing number of owners per car, the question of concealed defects is of increasing importance.

Usually no layman can recognize such concealed damage. Due to the continuing perfection of repair technology, even experts often ask themselves whether or not previous damage is present.

However, due to the constant improvement of quality and longer warranty periods, it is increasingly important, during the mass production of new cars, that the coating of such cars is completed in accordance with given parameters despite increasing productivity.

For years, determining coating thickness of new or used cars has been a standard process in technology. Nowadays, it is one of the most important tests in the quality management of the automotive industry.

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Already during production of a new car the correct thickness of the complete coating system has to be ensured for all given spots on the car to meet all functional and decorative requirements. Any deviating coating thickness will cause problems with corrosion or unwanted discoloration during the service life of a car. Therefore, quality management has to evaluate up to five layers of coating one by one.

The main aspect of evaluating and reviewing used cars, is to reveal concealed defects and previous damages that can nowadays be repainted in a way no longer recognizable by sight alone. Every now and then, this leads to surprises when the door of an allegedly accident-free used car has a different coating thickness than the rest of the car, or when a filling at the fender has been artfully re-painted. The desirability and the value of a used car stand and fall with possible previous damages. The inspection is nowadays usually done by qualified experts evaluating damages and the value of a car on behalf of insurance companies. But also leasing companies and coating shops are interested in the measurement of coating thickness.

The current state of technology allows individual measurements of coating thickness using hand-held gauges and the documentation of measured values summarized in a report. The measurements are usually not written down by hand or processed as a printed list of unstructured data.

Until now a complete documentation providing experts and customers with conclusive information about the state of a coating has been unavailable.

No statistical data could be derived from such unsystematic measurements, nor was it possible to compare this data with comparison vehicles.

Increasing demands on productivity and documentation require new solutions for the systematic execution of coating thickness measurements during the production of new cars and the evaluation of vehicles.

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However, until now no mandatory standard on how to provide such documentation and what elements should be recorded exists. Therefore, each user provides his own logs, making comparison and statistical analysis difficult or even impossible.

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