

APPLICATION NOTE

Application of FISCHER products

AN017en

Automated coating thickness measurement in production facilities

More and more often adherence to a specification for the coating thickness of a product is directly monitored in the production facility. This reduces the risk for failure and enables the process to be adjusted in a timely manner. The prerequisite for such an application is a reliable measurement instrument that allows communication with control and monitoring units in the production facility.

To control and if necessary adjust a manufacturing process it is optimal to monitor the process itself and provide direct feedback to regulate the process. For a coating process with tight tolerances regarding the layer thickness this means to measure the coating thickness right after applying the coat. Such process monitoring is an ideal task for the FISCHERSCOPE® MMS® PC2. Coating thicknesses at different positions can be measured simultaneously with up to eight probes.

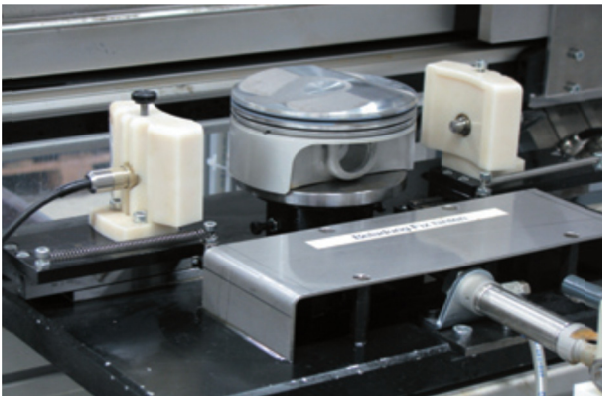


Fig. 2: Measurement of coating thickness on aluminium pistons from 2 sides, with automated handling and positioning of the workpieces for 100% control

A key feature for automated process control is the communication between all technical units involved. In industrial manufacturing plants control and monitoring normally take place via a PLC.

The FISCHERSCOPE® MMS® PC2 has USB, LAN and serial communication interfaces as standard, in addition it can be equipped with a digital I/O module which allows remote control of the unit from a PLC.

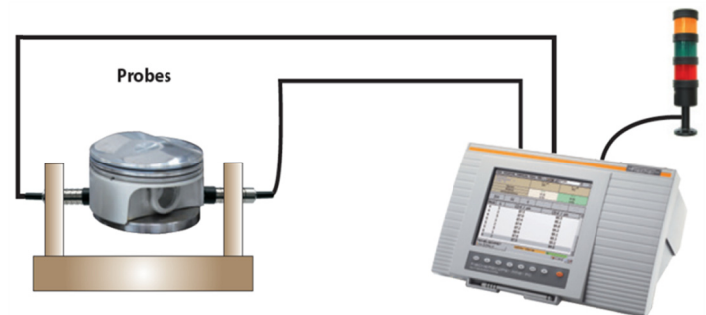


Fig.1: Schematic layout of automated coating thickness measurement with FISCHERSCOPE® MMS® PC2

The readings of the probes are presented on a TFT display with a good read-out capability. Direct operation of the unit takes place via an integrated touch screen or with an external keyboard and/or mouse. Microsoft Windows™ CE is used as the operating system, a familiar user interface from many PC programs. The software of the instrument is multilingual and is capable to generate reports in CSV and ASCII format.

Additionally, tolerance limits can be defined for each probe individually, either for parts sorting or just to indicate violation of the tolerance limit using a signal lamp and/or acoustic alarm.

For automated coating thickness measurement in a production facility FISCHER provides a suitable solution with the FISCHERSCOPE® MMS® PC2, connected via modern communication interfaces to a PLC. Up to 8 probes can be controlled, selected according to application needs out of the wide variety of FISCHER probes. Ask your local FISCHER representative for further information.

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