

PRESS RELEASE

Measurement Precision as Advantage for Health and Economy Optimal Use of Antimicrobial Coatings Due to X-ray Fluorescence Analysis

Sindelfingen, Germany, 05/25/2021. With reliable measurement technology and its usual high measurement precision, Helmut Fischer GmbH contributes to the critical development of antimicrobial coatings. With AGXX, the Berlin-based company Largentec offers an innovative technology that is characterized, among other things, by an excellent, long-lasting antimicrobial effect. It is essential for both the antimicrobial efficacy and the cost-effectiveness of the products to adjust the layer thicknesses of the AGXX surface very precisely. X-ray fluorescence analysis instruments serve as the optimal solution for the layer thickness measurements required here.

The application of antimicrobial coatings minimizes the damage caused by microorganisms to people and the economy. Microorganisms do not only spread diseases and infections. They also cause biocorrosion and fouling, which impairs equipment functionality and reduces the quality of the goods produced.

The patented AGXX technology is based on catalytically active layers and layer systems of different precious metals. It is effective against more than 130 microorganisms, including the SARS-CoV-2 viruses. Precise and homogeneous formation of the layer thicknesses is required to ensure antimicrobial efficacy and cost-effectiveness. Correspondingly accurate and efficient measurements in the nanometer range are of great importance for developing such surface systems.

The measurement precision and reliability required for this are provided by X-ray fluorescence (XRF) analysis spectrometers from Fischer. In a large number of measurements in cooperation with Largentec, it was possible to measure essential parameters in a short time and with the highest accuracy. Using the Fischerscope X-ray XDV- μ , one of the most powerful XRF analysis instruments in the portfolio, PVD and CVD coated films were measured. With a measurement time per measuring point of only 15 seconds, the precision achieved was in the sub-nanometer range.

Such precision with such short measurement times establishes the necessary conditions for optimizing the effectiveness of AGXX technology and its application for the large-scale production of products such as coatings, surface alloys, films and textiles. Because it enables faster iterations with greater accuracy in development. In other words: because of this new agility, products can be developed faster and more cost-effectively. It also allows users to specifically address the technical and economic requirements of different application areas.

More information about the measurement method, measuring devices and their various applications can be found on www.helmut-fischer.com