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Emissivity measurement along the value chain – Monitoring from deposition, tempering to window testing

Excelling in today's architectural glass coating industry means providing advanced emissivity properties. This particularly applies to the automotive glass applications with regards to electrical cars which have no waste heat for heating, air conditioning or windshield deicing and defogging. LowE layers provide for those applications an additional benefit which will drive the demand for high quality LowE glass.
Today´s glass runs through numerous processes before achieving a satisfying emissivity and quality. After Silver and Oxide have been deposited the high temperature processes, such as tempering or bending, significantly affect the emissivity. Hence, controlling those processes requires constant monitoring of the optical and electrical properties to achieve the desired performance level in the final process step. As the incoming properties of the product can vary at different points of the process, controlling is a challenging task which can be supported by inline measurement of the emissivity.
This talk presents challenges and potentials when using electrical and optical metrology solutions for quality assurance in the respective fields. It shares insights on state-of-the-art achievements in process control, when applying metrology applications. It focuses on non-contact Eddy Current measurement technology and suggests closed-loop control to consider the interdependencies of electrical properties for subsequent processes.