

Poster-Session

Paving the way for new flexibility - Handling and functionalization of ultra-thin flexible glass in the S2S process chain

W. Langgemach, K. Täschner, J. Neidhardt

Fraunhofer FEP, Dresden

wiebke.langgemach@fep.fraunhofer.de

Ultrathin flexible glass with thicknesses of 100 µm and less is well suited for vacuum coating of thin films and has a high potential for electronic applications, e. g. displays, OLED lighting or high frequency applications. However, flexible glass requires dedicated handling throughout the functionalization chain, especially during cleaning, coating and inspection. To address R&D needs, a pilot scale process chain was established at Fraunhofer FEP. It comprises a fully automated inline ultrasonic cleaning system and two adapted handling and transfer systems for sheet-to-sheet inline vacuum coating of flexible glass up to a size of 600 x 1200 mm².

The poster introduces the new process chain and relates the processing to the latest research results. Here, the project CUSTOM elucidates the impact of various process steps and parameters on the mechanical strength of the glass. Moreover, applications such as thermochromic and super hydrophilic coatings on flexible glass will be shown.