

Intermittent Coating of Viscous and Low Viscous Fluids

Ralf Diehm, Sebastian Raupp, Marcel Schmitt, Philip Scharfer and Wilhelm Schabel

Institute of Thermal Process Engineering, Thin Film Technology (TFT)

Karlsruhe Institute of Technology (KIT), Kaiserstraße 12, 76131 Karlsruhe, Germany

Corresponding author: ralf.diehm@kit.edu

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For production of organic electronic devices such as organic photovoltaics (OPV) in a roll-to-roll manufacturing line, patterned coatings of the functional layers are important to separate the individual devices (e.g. Fig.1). There are various coating and printing techniques e.g. slot die coating and gravure printing, allowing the production of structured films for organic electronics [1]. To avoid leveling problems of the available printing techniques [2], intermittent slot-die coating can play an important role for the production of structured films in organic electronics.

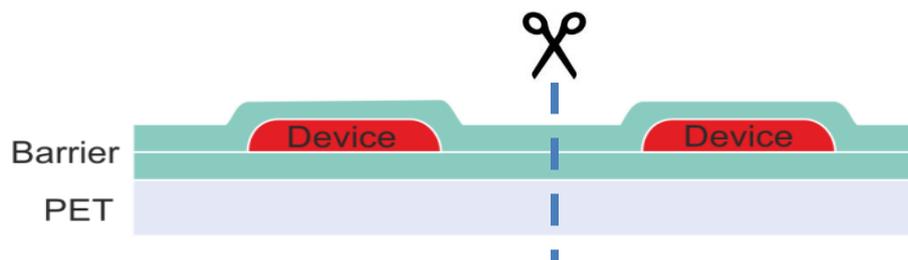


Fig. 1. Concept of isolated organic electronic devices between barrier-layers on top of a PET-foil.

A novel technology for intermittent coating of high viscous fluids and wet film thicknesses of about 100 μm was already presented elsewhere [3]. On this base we investigated intermittent coating techniques for viscous and low viscous fluids and wet film thicknesses in the range of 6 – 30 μm . In this work, fluid pressure profiles were measured in front of and inside the slot die and compared with profiles of the films, especially the starting and stopping edges and the film homogeneity.



Fig. 2: Coating defects at the stopping edge of an intermittent coating of low viscous fluids

References

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