

INTERMITTENT COATING.

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The world of printed electronics on flexible substrates is moving fast. Worldwide billions of dollars are invested every year in production facilities as well as in research and development of applications like Lithium Ion batteries, Organic Lighting Diodes(OLED) for lighting and display applications, Organic Photo Voltaics (OPV) and other printed electronics. Universities, research institutes and companies all over the world are investing in all kind coating and printing equipment. They can choose from a large variety of coating and printing technologies with each its specific field of application. Recent publications show more and more interest in technologies like slot die and slide coating, which have proven their potential during several decades in industrial production processes e.g. for photographic film and magnetic tape manufacturing. However, these technologies are not easily transferable to the new emerging applications. These new products and processes have different, highly demanding requirements to endeavor.

New (flexible) electronic products like OLED and OPV or PPV cells need a stack of functional layers usually having a complex design to combine several functionalities for forming a working device. In contrast to printing, coating methods like slot die coating have the advantage of contact free deposition of extremely uniform layers. However, as mentioned before, the OLED and OPV devices need patterned layers. This can be achieved either via post patterning (selective removal of the layers by means of ablation or re-dissolving) or in situ processes like stripe coating, intermittent coating, self-patterning or combinations thereof.

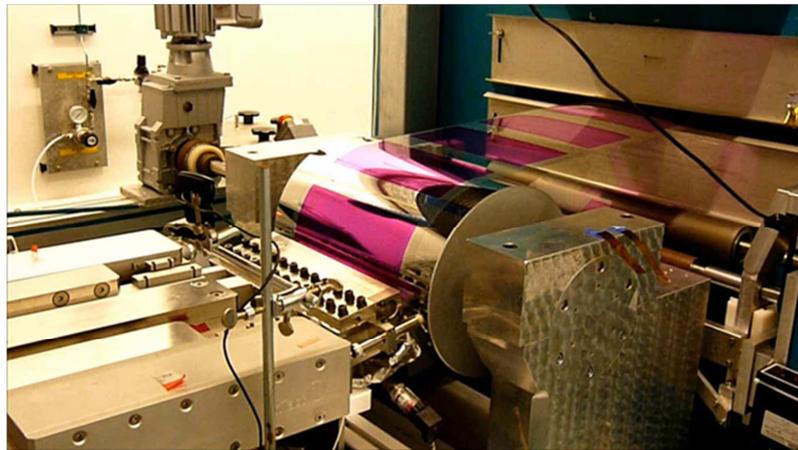


Figure 1. Intermittent coating in a R2R process using a fluorescent dye in the coating solution..

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