

## INHALT

### DÜNNSCHICHTTECHNOLOGIE

- 7 ANWENDUNGEN AUF KUNSTSTOFF UND GLAS
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### DÜNNSCHICHTTECHNOLOGIE – ANWENDUNGEN

#### 19 Enhanced processing of coatings on glass surfaces

Introducing atmospheric pressure plasmas to laser processes

*Christoph Gerhard, Alexander Gredner, Nils Mainusch, Wolfgang Viöl*

A plasma-induced upgrade for manufacturing processes: Laser-Plasma Hybrid Technology increases energetic process efficiency and improves machining results e.g. in material removal, cleaning and surface modification.

#### 23 Protecting and preserving clear barrier layers for flexible packaging materials

In-line thermal evaporation of organic topcoat layer

*Antje Titzmann, Alexander Wolff, Gerd Hoffmann and Roland Trassl*

Environmentally friendly and ready to replace conventional methods: Vacuum deposition techniques use reactive processes to deposit high barrier transparent coatings protected by a topcoat and able to withstand slitting, laminating or printing.

#### 26 Benefit of Modern Arc Management in MF Dual Magnetron Sputtering Power Supplies

Stable deposition process for a wide range of materials

*Moritz Heintze and Thomas Kroyer*

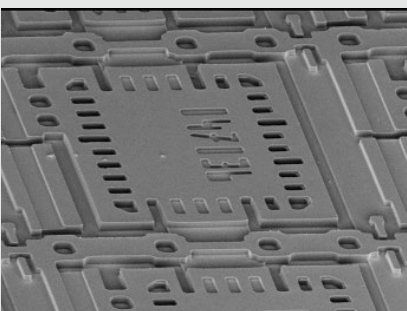
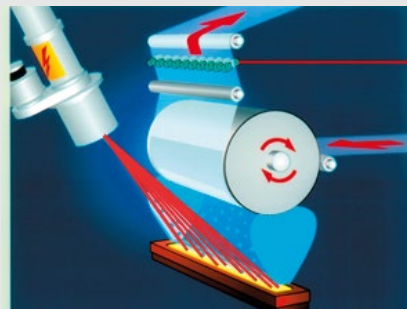
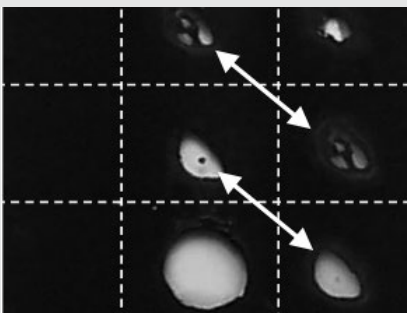
Overcoming difficulties in sputter deposition processes: Modern power supplies manage "micro-" as well as "hard-" arcing events by analyzing the persistence of an arc before blanking and allow for stable sputtering of heavily used targets and demanding materials.

#### 30 Roll-to-Roll processing of flexible devices and components

Utilization in wearable and mobile electronics and the coming IOT era

*Neil A. Morrison*

Paving the way for the internet of things: a modular roll-to-roll multi-process vacuum coating system meets the challenges presented by the wide variety of new electronic applications using flexible substrates.



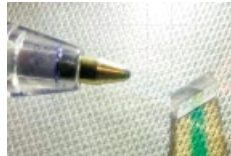
## DÜNNSCHICHTTECHNOLOGIE – ANWENDUNGEN

### 36 Recent Developments in the Field of Precision Optical Coatings

Customized interference filters for a wide field of photonic applications

Marcus Frank

Tailored specifically for each photonic application: anti-reflection coatings or high transmission, low-loss UV-filters, amongst others, demonstrate the capability of close cooperation with customers in combination with process competence.

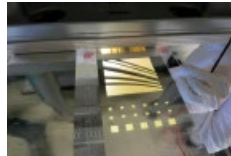


### 40 Roll-to-roll coating of flexible glass

Equipment, layer stacks and applications

Carsten Deus, Jaroslava Salomon, Uwe Wehner

Requirements specifications for R2R equipment: aspects that need to be considered when applying different deposition techniques to flexible glass. Layer stack examples reveal the capability of such a facility.



### 45 From color to chemometrics

Strategies to determine coating thickness and quality

Chris Hellwig, Torsten Büttner, Mario Krause

Extracting information from chemical systems by data-driven means: Once the correlation between color and thickness is determined the coating process can be tuned with the help of inline spectrometers.



## ANWENDERBERICHT

### 48 Large Area Co-Sputtering

Considerations for Power and Control

David J. Christie

## MAGAZIN

49 TAGUNGEN: ICCG11 – 11. INTERNATIONALE TAGUNG ZUR BESCHICHTUNG VON GLAS UND KUNSTSTOFFEN

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TITELBILD 4/2016:

Der Werkstoff Glas im Spannungsfeld zwischen Architektur und Funktion. (Bild: Fraunhofer IST, Rainer Meier/BFF Wittmar)



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