

Poster-Session

Abrasion resistant coatings by roll-to-roll technologies

Stefan Hinze, Dr. Steffen Günther

Fraunhofer Institute for Organic Electronics, Electron Beam and Plasma Technology FEP, Dresden

stefan.hinze@fep.fraunhofer.de

Most materials are sensitive against abrasion and mechanical stress like for example scratches. For instance, polymers are showing change in their optical properties. Its function will fail and leads to replacement effort and costs. Protecting such surfaces may be done by different technologies to deposit abrasion resistant topcoats in roll-to-roll processes. In different applications these abrasion resistant coatings are used to improve the live time of functional layer stacks and devices. The poster will show vacuum based (arcPECVD) and wet chemical based (electron beam curing) technologies and respective results in terms of pencil hardness, optical properties and nano indentation hardness. Application examples will be given like Smart and Switchable Windows (FLEX-G 4.0) and Window protection films for Police cars (ZIM LeiPa).