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**Overview of the interaction between sputtered deposited metal layers and PET surfaces**Martin Amberg<sup>1</sup>, Enrico Körner<sup>2</sup>, Sebastien Guimond<sup>2</sup>, Barbara Hanselmann<sup>2</sup>, Dirk Hegemann<sup>2</sup><sup>1</sup>EMPA Materials Science and Technology, St. Gallen, Switzerland <sup>2</sup>EMPA Materials Science and Technology, St. Gallen, Switzerland

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Metallic films are used in a broad field of application and manufactured for advanced electronics, optical and mechanical devices ranging from displays over biosensors to food packaging.

Independent of the applications, polymer metallization is interesting from the fundamental point of view because of contrasting properties of polymers and metals. The complex processes on the interface of polymer metal are influenced by many factors such as mechanical and chemical reasons. The surface can basically be contaminated and therefore lead to a weak boundary layer. Cleaning, roughening and activating the surfaces are well studied and understood and mentioned in many publications hence improving the adhesion. Beside that, the parameters during metal deposition have already an effect on the surface interaction, involving metal atom diffusion on polymer surfaces and into the polymer bulk, aggregation and re-emission are far from being understood. The polymer metal interface is furthermore the origin of adhesion and the later growing morphology of the metal film. In general this poster contribution tries to give an overview of the effects between the metal and polyester surface outlined above. Approved and latest results will be combined and on the poster presented.

**Keywords**

Polymersurface

Metal coating

Interface

Sputtering