

ROPLASS - PLASMA SYSTEMS FOR NANOTECHNOLOGY

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Abstract

ROPLASS company is a Czech producer of plasma sources for plasma modification of various materials. ROPLASS plasma systems are based on the technology of so-called Diffuse Coplanar Surface Barrier Discharge (DCSBD). This type of discharge is suitable for production of plasma systems with different geometry and with different plasma area depending on the application needs. A special remark should be noted, that the DCSBD plasma systems utilize the visually diffuse non-thermal plasma. This means that the risk of thermal damage of processed substrates is minimized. Moreover, the active plasma layer is of sub-millimetre thickness resulting in unique achieved power densities of more than 100 W/cm³. This enables very fast and efficient plasma processing various materials. Planar surfaces as glasses, ceramics, metals, woods and also woven/non-woven textiles, papers, polymeric foils, rubbers, leather, etc. are only a few examples of materials very suitable for effective plasma modification using presented DCSBD plasma systems. The overview of DCSBD plasma technology will be presented together with the examples of applications - from research to industry. The typical usage scenarios of DCSBD plasma technology will be given for the nano-modifications of solid surfaces and also for the treatment of solid surfaces before immobilization of different coatings and nanoparticles with emphasis on applications in the field of textile, electrotechnical and construction industry. Throughout the conference the live exhibitions of plasma treatment of solid surfaces will be presented using easy-to-use hand-held plasma system ROPLASS RPS40-25. So do not forget to visit our exhibition stand!

Keywords: DBD, DCSBD, coplanar discharge, large-area, plasma, treatment

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