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Solid coatings deposited from liquid methyl methacrylate via Plasma Polymerization LISA WURLITZER, WOLFGANG MAUS-FRIEDRICHS, SEBASTIAN DAHLE, Clausthal University of Technology — The polymerization of methyl methacrylate via plasma discharges is well known today. Usually, plasma-enhanced chemical vapor deposition (PECVD) is used to deposit polymer coatings. Solid coatings are formed out of the liquid phase from methyl methacrylate via dielectric barrier discharge. The formation of the coating proceeds in the gas and the liquid phase. To learn more about the reactions in the two phases, the coatings from MMA monomer will be compared to those from MMA resin. Finally, attenuated total reflection infrared spectroscopy, confocal laser scanning microscopy and X-ray photoelectron spectroscopy are employed to characterize the solid coatings. In conclusion, the plasma enhanced chemical solution deposition is compared to the classical thermal polymerization of MMA.

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