



The ICAMS Seminar presents

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ICAMS Seminar room UHW 11/1102

Coating of solid substrates

Coating symbolizes a very broad and complex technological but also scientific issue. A diversity of scientific problems is arising when dealing with organic coating processes aiming at sustainable coated substrates with specific surface functionalities. The physico-chemistry of a coating process involves wetting, spreading, and film formation and in the case of chemically grafted coatings also the formation of stable bonds between substrate and polymer coating, to guarantee adhesion and the desired performance.

The importance of the investigation of physico-chemical values for an industrial coating process will be demonstrated by describing the influence of flow additives on surface tension and viscosity of the polymer melt during film formation of a powder coating. As a second example the manufacturing of covalently attached ultrathin polymer films (polymer brushes) on oxidic surfaces and the adjustment of distinct functionalities, will be described. The application of very thin polymeric films becomes more and more important because they offer the ability to add an additional surface functionality without changing the optical performance of the substrate.