

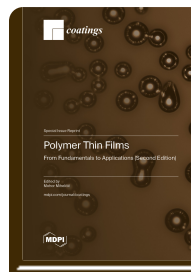
Special Issue Reprint

Polymer Thin Films

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The use of polymer thin films is currently implemented in almost every aspect of modern life, due to their cost-efficiency, lightness, flexibility, and unique physical and chemical properties. The reason for focusing research into polymer thin films is to understand the mechanisms that affect interfacial interactions, flow behavior, film formation, and relationships between deposition process parameters and the film structure, as well as other advanced functional properties.

This Special Issue highlights and discusses studies on the development and characterization of functional polymer coatings and films for various applications. In summary, the studies focus on the contribution of nano- and microfillers embedded in polymer matrices for enhancement of thermal and mechanical stability. It also covers the preparation and use of coated microcapsules, which effectively enhance antibacterial properties, and highlights the role of natural additives in improving performance. One study examines coatings for reducing foodborne pathogens on blackberries. Furthermore, the examination of different polyols in polyester-based polyurethane coatings demonstrates their influence on functional properties, while the layer-by-layer self-assembly technique for antistatic polyester fibers presents innovative approaches to modifying surface characteristics. Lastly, the synthesis and evaluation of bio-sourced plasticizer thin films highlight improvements in eco-friendly materials, as well as the use of a silicone coupling reagent for the preservation of oracle bones.

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