**DESCRIPTION**

The result of decades of research by a pioneer in the field, this is the first book to deal exclusively with achieving high-performance metal-polymer composites by chemical bonding.

Covering both the academic and practical aspects, the author focuses on the chemistry of interfaces between metals and polymers with a particular emphasis on the chemical bonding between the different materials. He elucidates the various approaches to obtaining a stable interface, including, but not limited to, thermodynamically driven redox reactions, bond protection to prevent hydrolysis, the introduction of barrier layers, and stabilization by spacer molecules. Throughout, chemical bonding is promoted as a simple and economically viable alternative to adhesion based on reversible weak physical interaction.

Consequently, the text equips readers with the practical tools necessary for designing high-strength metal-polymer composites with such desired properties as resilience, flexibility, rigidity or degradation resistance.

**ABOUT THE AUTHOR**

Jörg Friedrich was the Department Head of Polymer Surfaces at the Federal Institute of Materials Research and Testing (BAM) in Berlin, Germany. He has obtained his academic degrees from Humboldt University Berlin, Academy of Sciences Berlin (AdW) and the Technical University of Berlin. He spent most of his career working for AdW before taking up his present appointment at
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