

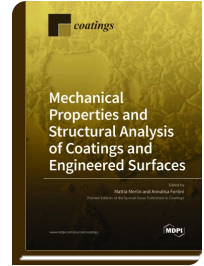
Special Issue Reprint

Mechanical Properties and Structural Analysis of Coatings and Engineered Surfaces

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The enhancement of life and the performance of metal engineering components is mainly determined by surface characteristics. The latter has a pivotal role in enhancing the life of products since they control the mechanical, electrical, thermal, and electronic properties. Nevertheless, the surface and near-surface properties are crucial in failure mechanisms since the loss of performance and failures mostly begin from the surface. Research advances in the designing, processing, and characterizing of textured surfaces broadly support innovative industrial applications and products.

The performance improvement in engineering components during operation is a challenging issue and surface engineering methods have been attracting considerable interest in both research and industrial fields. Even though many attempts have been made to face the wear of metals by tuning the physical, chemical, mechanical, and metallurgical properties of their surfaces, several important aspects need to be still deepened.

The present book collects original research papers and a review that covers the latest development in methods for enhancing the life and functionality of engineering components by tuning the physical, chemical, mechanical, and metallurgical properties of their surfaces. Attention is focused on processing and characterizing methods capable of supporting industrial applications and products to both tackle surface degradation and improve the performance and reliability of components.

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