

Modern Technologies of Thin Films Deposition

Chemical Phosphatation

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Summary:

Thin phosphate coatings are very attractive technologically; in terms of reliability, manufacturing cost and environmental impact. For one thing, the book presents research aimed at obtaining thin phosphate layers that offer good corrosion protection of finished parts. The other aim was to develop techniques that result in coatings with good lubricating properties, as they are required in plastic deformation processing.

Presented are alternatives to obtain and characterize phosphate layers by means of the co-precipitation of cations and surfactants in acidic aqueous solutions; resulting in the production of dendritic structures with optimal chemical, physical-structural and mechanical properties. Decisive here are the processes of nucleation and the formation of compact layers that are uniform and well adherent to the substrate.

Another general aim was the development of phosphating technologies with high reliability, minimal use of materials and energy and with minimal impact on the environment and operator.

