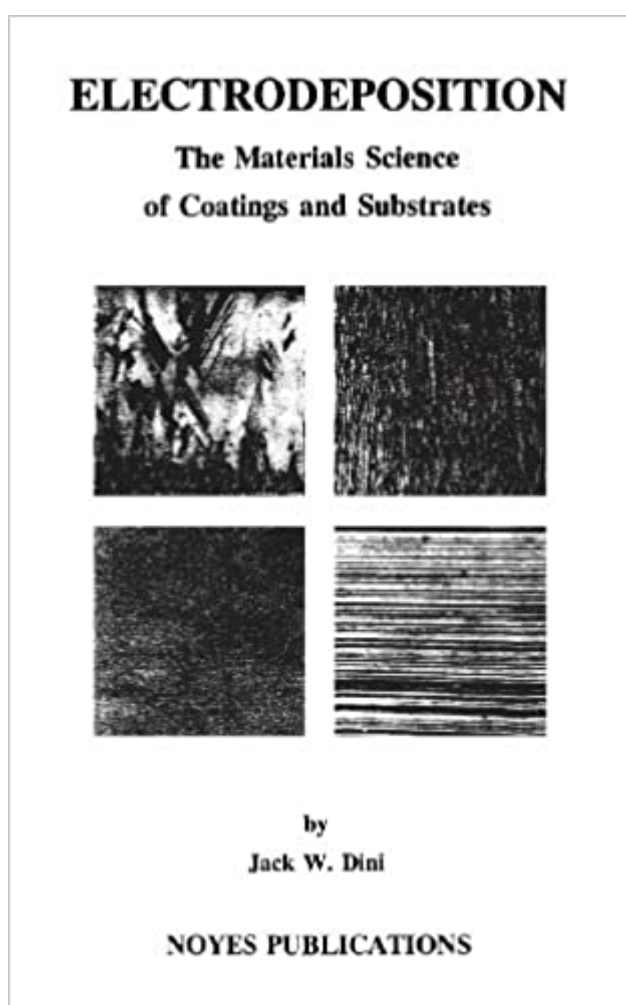


The book was found

Electrodeposition: The Materials Science Of Coatings And Substrates (Materials Science And Process Technology)



Synopsis

Electrodeposition allows the "tailoring" of surface properties of a bulk material or, in the case of electroforming, the entire part. Deposits can be produced to meet a variety of designer demands. For this reason and for the possibilities that exist in terms of "new materials" for a variety of applications, a thorough understanding of the materials science of electrodeposition is of utmost importance. This book provides that understanding.

Book Information

Series: Materials Science and Process Technology

Hardcover: 367 pages

Publisher: William Andrew; 1 edition (January 14, 1994)

Language: English

ISBN-10: 0815513208

ISBN-13: 978-0815513209

Product Dimensions: 6 x 0.9 x 9 inches

Shipping Weight: 1.3 pounds (View shipping rates and policies)

Average Customer Review: 5.0 out of 5 stars 1 customer review

Best Sellers Rank: #1,831,957 in Books (See Top 100 in Books) #77 in [Books > Engineering & Transportation > Engineering > Chemical > Coatings, Ceramics & Glass](#) #142 in [Books > Engineering & Transportation > Engineering > Materials & Material Science > Extraction & Processing](#) #443 in [Books > Engineering & Transportation > Engineering > Materials & Material Science > Metallurgy](#)

Customer Reviews

This is the first comprehensive book covering the topic of materials science and its relationship to electrodeposition. It demonstrates how the principles of materials science can be used to explain various structures of electrodeposits and how these structures influence properties. Although the title sounds specific to electrodeposition, other coating technologies such as physical vapor deposition, chemical vapor deposition, plasma spraying and ion implantation are also covered. The reason for this is that growth of coatings and their performance from a materials science viewpoint have a great deal of commonality regardless of the technique used to deposit the film. The fascinating field of electrodeposition allows one to "tailor" the surface properties of a bulk material or, in the case of electroforming, the entire part. Deposits can be produced to meet a variety of demands of the designer. For this reason and for the possibilities that exist in terms of "new

materials" for a variety of applications, a thorough understanding of materials science and principles is of the utmost importance. This book is intended to provide some of that understanding. The sequence of chapters in the book takes the reader from the substrate to the outer surface of the coating. It starts with the substrate (Hydrogen Embrittlement), then proceeds to the substrate/coating interface (Adhesion, Diffusion), then the bulk of the coating (Structure, Properties, Additives, Stress, Porosity) and finally to the environmental interface of the coating (Corrosion, Wear).

This is a really good book to learn about the various tests for electrodeposition. The book is succinctly written and very practical in application. I would highly recommend this book to anybody who is new to electrodeposition and is interested in doing electrodeposition as a part of their research or in a industry. This book is very useful to me since i am trying to understand the mechanical properties in relation to the microstructure during electrodeposition.

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