

# Emerging Technologies and Industrial Applications of Corrosion Science

Part of the Advances in Chemical and Materials Engineering Book Series

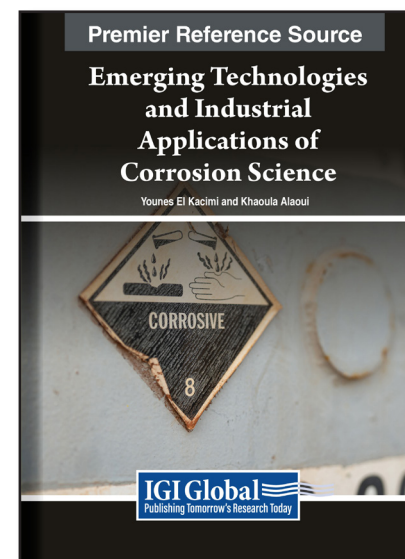
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## Description:

Corrosion stands as a persistent and costly challenge across numerous industrial sectors, posing threats to infrastructure integrity, financial stability, and safety. The progressive degradation of metals due to chemical reactions with their environment not only results in substantial financial losses but also raises significant safety concerns. The need for effective corrosion protection technologies has never been more pressing, as industries strive to maintain operational efficiency, extend the lifespan of critical assets, and ensure the safety of personnel.

**Emerging Technologies and Industrial Applications of Corrosion Science** emerges as a solution to the pervasive problem of corrosion, offering a deep dive into the latest advancements in corrosion protection. By delving into innovative techniques and protective methods, this book equips professionals with the knowledge and tools needed to combat corrosion effectively. Through a blend of theoretical insights and practical applications, the book empowers engineers, industrial chemists, researchers, and students to implement cutting-edge corrosion mitigation strategies across diverse industrial sectors.

With its interdisciplinary approach and coverage of emerging technologies such as smart coatings, biomaterials, and artificial intelligence, this book suggests innovations in materials science. By providing actionable insights and practical solutions, the book facilitates the development and implementation of sustainable corrosion protection strategies, ensuring the longevity and reliability of critical infrastructure. Ultimately, this book serves as a catalyst for progress, driving advancements in corrosion science and industrial applications for a safer, more resilient future.



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## Topics Covered:

- Artificial Intelligence
- Biomaterials
- Coating Inhibitors
- Corrosion Engineering
- Corrosion Protection
- Deep Learning
- Electrochemistry
- Machine Learning
- Molecular Modeling
- Smart Coating

**Subject:** Science & Engineering

**Classification:** Edited Reference

**Readership Level:** Advanced-Academic Level (Research Recommended)

**Research Suitable for:** Advanced Undergraduate Students; Graduate Students; Researchers; Academicians; Professionals; Practitioners

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