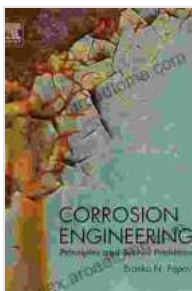


# Corrosion Engineering: Principles and Solved Problems

Corrosion is a major problem that affects industries worldwide, costing billions of dollars each year. It is the deterioration of materials due to their interaction with the environment. Corrosion can cause structural failures, equipment malfunctions, and product contamination.



## Corrosion Engineering: Principles and Solved Problems by Branko N. Popov

★★★★★ 5 out of 5

Language : English  
File size : 49055 KB  
Text-to-Speech : Enabled  
Screen Reader : Supported  
Enhanced typesetting : Enabled  
Word Wise : Enabled  
Print length : 761 pages



Corrosion engineering is the study of the causes and prevention of corrosion. Corrosion engineers develop and implement strategies to protect materials from corrosion. These strategies can include the use of protective coatings, cathodic protection, and corrosion inhibitors.

## Principles of Corrosion Engineering

The principles of corrosion engineering are based on the understanding of the electrochemical processes that occur during corrosion. These processes involve the transfer of electrons between metal ions and oxygen

atoms. The rate of corrosion is determined by the availability of electrons, the presence of oxygen, and the acidity of the environment.

Corrosion can be classified into two main types: uniform corrosion and localized corrosion. Uniform corrosion is the general attack of a metal surface, while localized corrosion is the attack of a specific area of a metal surface.

Uniform corrosion is caused by the均匀 corrosion of a metal surface by an electrolyte. The rate of uniform corrosion is determined by the concentration of the electrolyte, the temperature of the electrolyte, and the presence of oxygen.

Localized corrosion is caused by the attack of a specific area of a metal surface by an electrolyte. The most common types of localized corrosion are pitting corrosion, crevice corrosion, and stress corrosion cracking.

Pitting corrosion is the formation of small pits on the surface of a metal. Crevice corrosion is the formation of corrosion in the crevices of a metal. Stress corrosion cracking is the formation of cracks in a metal under the influence of stress.

## **Solved Problems in Corrosion Engineering**

This book contains numerous solved problems to help readers understand the concepts of corrosion engineering better. These problems cover a wide range of topics, including:

- The calculation of corrosion rates
- The design of cathodic protection systems

- The selection of corrosion resistant materials
- The development of corrosion prevention strategies

The solved problems in this book are a valuable resource for students, engineers, and other professionals who are involved in the field of corrosion engineering.

### **Benefits of Reading This Book**

This book provides a comprehensive overview of corrosion engineering and its principles. It is a valuable resource for students, engineers, and other professionals who are involved in the field of corrosion engineering.

The benefits of reading this book include:

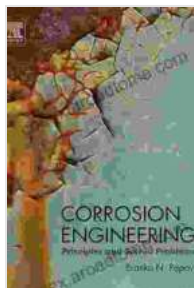
- A better understanding of the causes and prevention of corrosion
- The ability to calculate corrosion rates
- The ability to design cathodic protection systems
- The ability to select corrosion resistant materials
- The ability to develop corrosion prevention strategies

This book is a must-read for anyone who is involved in the field of corrosion engineering.

### **Free Download Your Copy Today**

Free Download your copy of Corrosion Engineering: Principles and Solved Problems today and start learning about the causes and prevention of corrosion.

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