Nace Corrosion Engineers Reference 3rd Edition By

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Best Practice Guide on the Control of Iron and Manganese in Water Supply - Adam Postawa 2013-08-14
This Best Practice Guide on the Control of Iron and Manganese in Water Supply is one of a series produced by the International Water Association's Specialist Group on Metals and Related Substances in Drinking Water. Iron and manganese are often found in soft upland water sources associated with natural organic matter and are also commonly found in the groundwater abstracted from confined and unconfined aquifers. The presence of iron and manganese in water is one of the most frequent reasons for customers' complaint due to aesthetic issues (yellow, brown and black or stains on laundry and plumbing fixtures). These two metals can be removed fairly readily by physico-chemical treatment. The municipal treatment systems deployed derive benefit from their larger scale, particularly in relation to control, but the processes used are less suitable for the numerous small supplies that are the most common water supplies throughout Europe, especially in rural areas. One important source of iron in drinking water is from old corroded cast-iron water mains, historically the material used most commonly in supply networks. Replacement and refurbishment is very expensive and the major challenge is how best to prioritize available expenditure. The purpose for this Best Practice Guide on the Control of Iron and Manganese in Water Supply is to give readers the broad view of a problem based on state-of-the-art compilation of the range of scientific, engineering, regulatory and operational issues concerned with the control of iron and manganese in drinking water. The Guide is of interest to water utility practitioners, health agencies and policy makers, as well as students on civil engineering and environmental engineering courses. Authors: Dr Adam Postawa, AGH University of Science and Technology, Faculty of Geology, Geophysics and Environment Protection, Krakow, Poland and Dr Colin R Hayes, University of Swansea, UK, Chair of IWA Specialist Group on Metals and Related Substances in Drinking Water.
Corrosion Atlas - Evert D.D. During 2018-09-28
Corrosion Atlas: A Collection of Illustrated Case Studies, Third Edition includes 679 case histories divided over 135 materials in 13 material groups, 25 systems (installations) and 44 different phenomena. It is an essential reference work on the design, fabrication, operation and maintenance of the extremely varied and often very complicated systems and machinery used in today's technology. Case histories, with cross-references and indexes, make this book a critical resource in the solution of many corrosion problems. In addition, it brings team members closer by presenting a common language for all parties. Finally, the book serves as an important educational aid for self-study. Because of its unique,

extensive, clear and beautifully produced material, the book presents a much closer link between education and the practice of corrosion prevention and control. Presents real life problems and describes materials, systems, parts, types, environments, causes and remedies Helps improve accuracy and speed of corrosion analyses Includes Information that is systematically organized for speedy look-up and ease of use Provides superb quality of visual information that gives the clues vital for analyzing problems

Corrosion Resistance of Aluminum and Magnesium Alloys - Edward Ghali 2010-05-05

Valuable information on corrosion fundamentals and applications of aluminum and magnesium Aluminum and magnesium alloys are receiving increased attention due to their light weight, abundance, and resistance to corrosion. In particular, when used in automobile manufacturing, these alloys promise reduced car weights, lower fuel consumption, and resulting environmental benefits. Meeting the need for a single source on this subject, Corrosion Resistance of Aluminum and Magnesium Alloys gives scientists, engineers, and students a one-stop reference for understanding both the corrosion fundamentals and applications relevant to these important light metals. Written by a world leader in the field, the text considers corrosion phenomena for the two metals in a systematic and parallel fashion. The coverage includes: The essentials of corrosion for aqueous, high temperature corrosion, and active-passive behavior of aluminum and magnesium alloys The performance and corrosion forms of aluminum alloys The performance and corrosion forms of magnesium alloys Corrosion prevention methods such as coatings for aluminum and magnesium Electrochemical methods of corrosion investigation and their application to aluminum and magnesium alloys Offering case studies and detailed references, Corrosion Resistance of Aluminum and Magnesium Alloys provides an essential, up-to-date resource for graduate-level study, as well as a working reference for professionals using aluminum, magnesium, and their alloys.

Corrosion Prevention by Protective Coatings - Charles G. Munger 1986

High Temperature Corrosion and Materials Chemistry III - Electrochemical Society. High Temperature Materials Division 2001

Corrosion Control for Offshore Structures - Ramesh Singh 2014-08-12

A variable game changer for those companies operating in hostile, corrosive marine environments, Corrosion Control for Offshore Structures provides critical corrosion control tips and techniques that will prolong structural life while saving millions in cost. In this book, Ramesh Singh explains the ABCs of prolonging structural life of platforms and pipelines while reducing cost and decreasing the risk of failure. Corrosion Control for Offshore Structures places major emphasis on the popular use of cathodic protection (CP) combined with high efficiency coating to prevent subsea corrosion. This reference begins with the fundamental science of corrosion and structures and then moves on to cover more advanced topics such as cathodic protection, coating as corrosion prevention using mill applied coatings, field applications, and the advantages and limitations of some common coating systems. In addition, the author provides expert insight on a number of NACE and DNV standards and recommended practices as well as ISO and Standard and Test Methods. Packed with tables, charts and case studies, Corrosion Control for Offshore Structures is a valuable guide to offshore corrosion control both in terms of its theory and application. Prolong the structural life of your offshore platforms and pipelines Understand critical topics such as cathodic protection and coating as corrosion prevention with mill applied coatings Gain expert insight on a number of NACE and DNV standards and recommended practices as well as ISO and Standard Test Methods.

Proceedings of the Third International Symposium on Corrosion and Reliability of Electronic Materials and Devices - Robert B. Comizzoli 1994

Durability of Reinforced Concrete Structures - Paul Chess 2019-12-19

Reinforced concrete structures corrode as they age, with significant financial implications, but it is not immediately clear why some are more durable than others. This book looks at the mechanisms for corrosion and how corrosion engineering can be used for these problems to be minimized in future projects. Several different examples of reinforced concrete structures with corrosion problems are described and the various life enhancement solutions considered and applied are discussed. The book includes a chapter on the effectiveness of corrosion monitoring techniques and questions why the reality is at odds with current theory and standards. Specialist contractors, consultants and owners of corrosion damaged structures will find this an extremely useful resource. It will also be a valuable reference for students at postgraduate level.

Cathodic Protection Survey Procedures (3rd Edition) - Holtsbaum W. Brian 2016

DeGarmo's Materials and Processes in Manufacturing - Degarmo 2011-08-30

Now in its eleventh edition, DeGarmo's Materials and Processes in Manufacturing has been a market-leading text on manufacturing and manufacturing processes courses for more than fifty years. Authors J T. Black and Ron Kohser have continued this book's long and distinguished tradition of exceedingly clear presentation and highly practical approach to materials and processes, presenting mathematical models and analytical equations only when they enhance the basic understanding of the material. Completely revised and updated to reflect all current practices, standards, and materials, the eleventh edition has new coverage of additive manufacturing, lean engineering, and processes related to ceramics, polymers, and plastics.

Uhlig's Corrosion Handbook - R. Winston Revie 2011-04-12

This book serves as a reference for engineers, scientists, and students concerned with the use of materials in applications where reliability and resistance to corrosion are important. It updates the coverage of its predecessor, including coverage of: corrosion rates of steel in major river systems and atmospheric corrosion rates, the corrosion behavior of materials such as weathering steels and newer stainless alloys, and the corrosion behavior and engineering approaches to corrosion control for nonmetallic materials. New chapters include: high-temperature oxidation of metals and alloys, nanomaterials, and dental materials, anodic protection. Also featured are chapters dealing with standards for corrosion testing, microbiological corrosion, and electrochemical noise.

Corrosion Control - S. Bradford 2012-12-06

Human beings undoubtedly became aware of corrosion just after they made their first metals. These people probably began to control corrosion very so on after that by trying to keep metal away from corrosive environments. "Bring your tools in out of the rain" and "Clean the blood off your sword right after battle" would have been early maxims. Now that the mechanisms of corrosion are better understood, more techniques have been developed to control it. My corrosion experience extends over 10 years in industry and research and over 20 years teaching corrosion courses to university engineering students and industrial consulting. During that time I have developed an approach to corrosion that has successfully trained over 1500 engineers. This book treats corrosion and high-temperature oxidation separately. Corrosion is divided into three groups: (1) chemical dissolution including uniform attack, (2) electrochemical corrosion from either metallurgicalor environmental cells, and (3) corrosive-mechanical interactions. It seems more logical to group corrosion according to mechanisms than to arbitrarily separate them into 8 or 20 different types of corrosion as if they were unrelated. University students and industry personnel alike generally are afraid of chemistry and consequently approach corrosion theory very hesitantly. In this text the electrochemical reactions responsible for corrosion are summed up in only five simple half-cell reactions. When these are combined on a polarization diagram, which is explained in detail, the electrochemical pro cesses become obvious.

Guidelines for Asset Integrity Management - CCPS (Center for Chemical Process Safety) 2017-01-06

This book is an update and expansion of topics covered in Guidelines for Mechanical Integrity Systems (2006). The new book is consistent with

Risk-Based Process Safety and Life Cycle approaches and includes details on failure modes and mechanisms. Also, example testing an inspection programs is included for various types of equipment and systems. Guidance and examples are provided for selecting and maintaining critical safety systems.

Corrosion Control in Petroleum Production, Third Edition - Robert J Franco 2020-09-09

This greatly updated and expanded third edition of Corrosion Control in Petroleum Production is written for non-experts who have the responsibility for corrosion management of subsurface, surface, and subsea equipment used for producing and processing oil and natural gas. It provides an overview and reference on the different corrosion threats, the methods for controlling corrosion, and the establishment of a management system based on risk and continuous improvement. The authors, Robert Franco and Tim Bieri, have distilled 80 years of personal experience--as well as the experience from multiple reviewers and contributors--into one comprehensive reference. Included are hundreds of photographs, figures, and tables to illustrate the practical aspects and essential theory of corrosion control and materials selection.

Proceedings of the ... International Joint Power Generation Conference - 2003

Concrete Solutions - Michael Grantham 2016-09-19

Concrete Solutions contains the contributions from some 30 countries to Concrete Solutions, the 6th International Conference on Concrete Repair (Thessaloniki, Greece, 20-23 June 2016). Strengthening and retrofitting are major themes in this volume, with NDT and electrochemical repair following closely, discussing the latest advances and technologies in concrete repair. The book brings together some interesting and challenging theoretical approaches and questions if we really understand and approach such topics as corrosion monitoring correctly. Concrete Solutions is an essential reference work for those working in the concrete repair field, from engineers to architects and from students to clients. The Concrete Solutions Series of international conferences on concrete repair began in 2003 with a conference held in St. Malo, France in association with INSA Rennes. Subsequent conferences have seen the Series partnering with the University of Padua (Italy) in 2009, with TU Dresden (Germany) in 2011 and with Queen’s University Belfast (Northern Ireland) in 2014. In 2016 Thessaloniki (Greece) hosted the conference, partnering with both Aristotle University of Thessaloniki (AUTH) and Democritus University of Thrace (DUTH). The next conference in the series will be held in 2019 in Istanbul.

Corrosion and Surface Chemistry of Metals - Dieter Landolt 2007-05-02

Textbook; grad.

Corrosion and Corrosion Control - Herbert Henry Uhlig 1971

Crude Unit Corrosion Guide - Gutzeit Joerg 2018-07-23

This revision is based primarily on the author's experience dealing with all aspects of corrosion and fouling in crude units. The Guide also reflects the Industry's consensus experiences reported at past meetings of the NACE1 STG34 Committee on Petroleum Refining and Gas Processing and the API2 Subcommittee on Corrosion and Materials.

Fluoropolymer Applications in the Chemical Processing Industries - Sina Ebnesajjad 2004-12-02

This is a self-contained collection of data and information on applications of fluoropolymers components for corrosion control in chemical processing industries. Due to their superior properties, fluoropolymers have been rapidly replacing metal alloys for preserving the purity of processing streams in the chemical processing, plastics, food, pharmaceutical, semiconductor, and pulp and paper industries.

Corrosion Basics - Pierre R Roberge 2018-03-22

This book provides general coverage of the wide field of corrosion control. It is designed to help readers being initiated into corrosion work and presents each corrosion process or control procedure in the most basic terms. Since the first edition was published in 1970, there have been major advances and changes in the technologies used to combat corrosion damage. The best techniques available for detecting corrosion,

determining the corrosion resistance of a material, or evaluating the efficacy of a control procedure serve as daily tools for attacking the problems faced by thousands of persons engaged in corrosion work. This book will foster a better appreciation for these procedures. As with the first and second editions of "Corrosion Basics: An Introduction," this third edition, also authored by Pierre R. Roberge, is intended to convey the scope of the field of corrosion prevention and control. It is important to realize the extent of the effort being made today in analyzing and combating corrosion. Much of the experience and many of the workable solutions developed in one area of corrosion work can be used to improve the control procedures of another area. While most people work in only one area of this total discipline, there is always the possibility that a shift in responsibilities or interest brings one to work in a completely different area of corrosion prevention and control.

Shreir's Corrosion - 2009-02-27

This four-volume reference work builds upon the success of past editions of Elsevier’s Corrosion title (by Shreir, Jarman, and Burstein), covering the range of innovations and applications that have emerged in the years since its publication. Developed in partnership with experts from the Corrosion and Protection Centre at the University of Manchester, Shreir’s Corrosion meets the research and productivity needs of engineers, consultants, and researchers alike. Incorporates coverage of all aspects of the corrosion phenomenon, from the science behind corrosion of metallic and non-metallic materials in liquids and gases to the management of corrosion in specific industries and applications Features cutting-edge topics such as medical applications, metal matrix composites, and corrosion modeling Covers the benefits and limitations of techniques from scanning probes to electrochemical noise and impedance spectroscopy

The Protective Coating User's Handbook - Louis D. Vincent 2004-01-01

Techniques for Corrosion Monitoring - 2008-02-01

Corrosion monitoring techniques play a key role in efforts to combat corrosion, which can have major economic and safety implications. This important book starts with a review of corrosion fundamentals and provides a four-part comprehensive analysis of a wide range of methods for corrosion monitoring, including practical applications and case studies. The first part of the book reviews electrochemical techniques for corrosion monitoring, such as polarization techniques, potentiometric methods, electrochemical noise and harmonic analyses, galvanic sensors, differential flow through cells and multielectrode systems. A second group of chapters analyses the physical or chemical methods of corrosion monitoring. These include gravimetric, radioactive tracer, hydrogen permeation, electrical resistance and rotating cage techniques. Part II also includes a chapter on the innovative nondestructive evaluation technologies that can be used to monitor corrosion. Part III examines corrosion monitoring in special environments such as microbial systems, concrete and soil, and remote monitoring and model predictions. A final group of chapters includes various case studies covering ways in which corrosion monitoring can be applied to engine exhaust systems, cooling water systems, pipelines, equipment in chemical plants, and other real world systems. With its distinguished editor and international team of contributors, Techniques for corrosion monitoring is a valuable reference guide for engineers and scientific and technical personnel who deal with corrosion in such areas as automotive engineering, power generation, water suppliers and the petrochemical industry. Provides a comprehensive analysis of the range of techniques for corrosion monitoring Specific case studies are included to highlight the main issues A valuable reference guide for engineers, scientific and technical personnel who deal with corrosion

Techniques for Corrosion Monitoring - Lietai Yang 2020-12-01

Techniques for Corrosion Monitoring, Second Edition, reviews electrochemical techniques for corrosion monitoring, such as polarization techniques, potentiometric methods, electrochemical noise and harmonic analyses, galvanic sensors, differential flow through cells and multielectrode systems. Other sections analyze the physical or chemical methods of corrosion monitoring, including gravimetric, radioactive tracer, hydrogen permeation, electrical resistance and

rotating cage techniques, and examine corrosion monitoring in special environments such as microbial systems, concrete and soil, and remote monitoring and model predictions. A final group of chapters case studies covering ways in which corrosion monitoring can be applied to engine exhaust systems, cooling water systems, and more. With its distinguished editor and international team of contributors, this book is a valuable reference guide for engineers and scientific and technical personnel who deal with corrosion in such areas as automotive engineering, power generation, water suppliers and the petrochemical industry. Provides an in-depth presentation of what current corrosion monitoring techniques are available Presents insights into how to choose the best technique(s) for specific corrosion monitoring needs Includes case studies that highlight the main issues Serves as a valuable reference guide for engineers and scientific and technical personnel who deal with corrosion

Corrosion Protection at the Nanoscale - Susai Rajendran 2020-03-10

Corrosion Protection at the Nanoscale explores fundamental concepts on how metals can be protected at the nanoscale by using both nanomaterials-based solutions, including nanoalloys, noninhibitors and nanocoatings. It is an important reference resource for both materials scientists and engineers wanting to find ways to create an efficient corrosion prevention strategy. Nanostructure materials have been widely used in many products, such as print electronics, contact, interconnection, implant, nanosensors and display units to lessen the impact of corrosion. Traditional methods for protection of metals include various techniques, such as coatings, inhibitors, electrochemical methods (anodic and cathodic protections), metallurgical design are covered in this book. Nanomaterials-based protective methods can offer many advantages over their traditional counterparts, such as protection for early-stage, higher corrosion resistance, better corrosion control. This book also outlines these advantages and discusses the challenges of implementing nanomaterials as corrosion protection agents on a wide scale. Explains the main methods of detection, monitoring, testing, measurement and simulation of corrosion at the nanoscale Explores how metals can be protected at the nanoscale using nanotechnology and nanomaterials Discusses the major challenges of detecting and preventing corrosion at the nanoscale

Uhlig's Corrosion Handbook - R. Winston Revie 2011-05-18

This book serves as a reference for engineers, scientists, and students concerned with the use of materials in applications where reliability and resistance to corrosion are important. It updates the coverage of its predecessor, including coverage of: corrosion rates of steel in major river systems and atmospheric corrosion rates, the corrosion behavior of materials such as weathering steels and newer stainless alloys, and the corrosion behavior and engineering approaches to corrosion control for nonmetallic materials. New chapters include: high-temperature oxidation of metals and alloys, nanomaterials, and dental materials, anodic protection. Also featured are chapters dealing with standards for corrosion testing, microbiological corrosion, and electrochemical noise.

Corrosion Atlas Case Studies - Fuad Khoshnaw 2021-11-28

Corrosion engineers today spend enormous amounts of time and money searching multiple detailed sources and variable industry-specific standards to locate known remedies to corrosion equipment problems. Corrosion Atlas Series is the first centralized collection of case studies containing challenges paired directly with solutions together in one location. The second release of content in the series, Corrosion Atlas Case Studies: 2021 Edition, gives engineers expedient daily corrosion solutions for common industrial equipment, no matter the industry. Providing a purely operational level view, this reference is designed as concise case studies categorized by material and includes content surrounding the phenomenon, equipment appearance supported by a color image, time of service, conditions where the corrosion occurred, cause, and suggested remedies within each case study. Additional reference listings for deeper understanding beyond the practical elements are also included. Rounding out with an introductory foundational layer of corrosion principles critical to all engineers, Corrosion Atlas Case Studies: 2021 Edition delivers the daily tool required for engineers today to solve their equipment’s corrosion problems. Solves equipment failure with easy-to-find remedies organized

by essential elements such as materials, system, part, cause, environmental, and phenomenon Grasps fundamental corrosion elements on all major industrial pieces of equipment, no matter the industry Identify failures by appearance with color figures within each case study

Materials Performance - 2003

Marine Corrosion and Cathodic Protection - Chris Googan 2022-02-28

Cathodic protection (CP) mitigates the high cost of steel and other alloys corroded in seawater and seabed sediments. Marine Corrosion and Cathodic Protection is a comprehensive guide to corrosion issues and presents methodologies to tackle common offshore code-based CP designs. Advanced theory is developed for non-routine CP applications, with and without subsea coating systems. The interactions between CP and the fatigue and hydrogen embrittlement characteristics of alloys are explained. Sacrificial (or galvanic) anodes and impressed current systems are examined, followed by descriptions of successful and unsuccessful applications on petroleum installations, harbours, jetties, pipelines, windfarm foundations, ships and floating production storage and offloading vessels FPSOs. Retrofit CP systems for the life extension of assets, together with methods for applying CP internally in both static and flowing systems are evaluated. A critical review of the role of physical and computational modelling in CP design and evaluation addresses the more geometrically complex applications. Techniques for, and limitation of, CP surveying, inspection and monitoring are explained in the context of system management. This text is ideal for engineers, designers, manufacturers, equipment suppliers and operators of offshore CP systems.

Physical Electrochemistry - Noam Eliaz 2018-09-13

This bestselling textbook on physical electrochemistry caters to the needs of advanced undergraduate and postgraduate students of chemistry, materials engineering, mechanical engineering, and chemical engineering. It is unique in covering both the more fundamental, physical aspects as well as the application-oriented practical aspects in a balanced manner. In addition it serves as a self-study text for scientists in industry and research institutions working in related fields. The book can be divided into three parts: (i) the fundamentals of electrochemistry; (ii) the most important electrochemical measurement techniques; and (iii) applications of electrochemistry in materials science and engineering, nanoscience and nanotechnology, and industry. The second edition has been thoroughly revised, extended and updated to reflect the state-of-the-art in the field, for example, electrochemical printing, batteries, fuels cells, supercapacitors, and hydrogen storage.

Metallurgy and Corrosion Control in Oil and Gas Production - Robert Heidersbach 2010-12-01

This book is intended for engineers and related professionals in the oil and gas production industries. It is intended for use by personnel with limited backgrounds in chemistry, metallurgy, and corrosion and will give them a general understanding of how and why corrosion occurs and the practical approaches to how the effects of corrosion can be mitigated. It is also an asset to the entry-level corrosion control professional who may have a theoretical background in metallurgy, chemistry, or a related field, but who needs to understand the practical limitations of large-scale industrial operations associated with oil and gas production. While the may use by technicians and others with limited formal technical training, it will be written on a level intended for use by engineers having had some exposure to college-level chemistry and some familiarity with materials and engineering design.

Handbook of Corrosion Engineering - Pierre Roberge 1999-09-30

Reduce the enormous economic and environmental impact of corrosion Emphasizing quantitative techniques, this guide provides you with: *Theory essential for understanding aqueous, atmospheric, and high temperature corrosion processes Corrosion resistance data for various materials Management techniques for dealing with corrosion control, including life prediction and cost analysis, information systems, and knowledge re-use Techniques for the detection, analysis, and prevention of corrosion damage, including protective coatings and cathodic protection More

NACE Corrosion Engineer's Reference Book - National Association of

Corrosion Engineers 2002
This reference provides a tool for corrosion technologists, including numerous tables and charts to assist in the evaluation of corrosion tests and data. All of the sections in the third edition have been updated and expanded, most significantly the sections on conversion tables, corrosion testing,

NACE Corrosion Engineer's Reference Book (4th Edition) - Baboian Robert 2016

NACE Corrosion Engineer's Reference Book - National Association of Corrosion Engineers 1980

Corrosion Tests and Standards - Robert Baboian 2005

Corrosion - Joseph R. Davis 2000
As the title suggests, this is an introductory book covering the basics of corrosion. It is intended primarily for professionals who are not corrosion experts, but may also be useful as a quick reference for corrosion engineers. Included in the 12 chapters are discussions of the physical principles and characteristics of corrosion, help in recognizing and preventing corrosion, and techniques for diagnosing corrosion failures.

Standard Handbook of Petroleum and Natural Gas Engineering - William Lyons 2015-12-08
Standard Handbook of Petroleum and Natural Gas Engineering, Third Edition, provides you with the best, state-of-the-art coverage for every aspect of petroleum and natural gas engineering. With thousands of illustrations and 1,600 information-packed pages, this handbook is a handy and valuable reference. Written by dozens of leading industry experts and academics, the book provides the best, most comprehensive source of petroleum engineering information available. Now in an easy-to-use single volume format, this classic is one of the true "must haves" in any petroleum or natural gas engineer's library. A classic for over 65 years, this book is the most comprehensive source for the newest developments, advances, and procedures in the oil and gas industry. New to this edition are materials covering everything from drilling and production to the economics of the oil patch. Updated sections include: underbalanced drilling; integrated reservoir management; and environmental health and safety. The sections on natural gas have been updated with new sections on natural gas liquefaction processing, natural gas distribution, and transport. Additionally there are updated and new sections on offshore equipment and operations, subsea connection systems, production control systems, and subsea control systems. Standard Handbook of Petroleum and Natural Gas Engineering, Third Edition, is a one-stop training tool for any new petroleum engineer or veteran looking for a daily practical reference. Presents new and updated sections in drilling and production Covers all calculations, tables, and equations for every day petroleum engineers Features new sections on today's unconventional resources and reservoirs

LaQue's Handbook of Marine Corrosion - David A. Shifler 2022-07-01
The new edition of LaQue's classic text on marine corrosion, providing fully updated control engineering practices and applications Extensively updated throughout, the second edition of La Que's Handbook of Marine Corrosion remains the standard single-source reference on the unique nature of seawater as a corrosive environment. Designed to help readers reduce operational and life cycle costs for materials in marine environments, this authoritative resource provides clear guidance on design, materials selection, and implementation of corrosion control engineering practices for materials in atmospheric, immersion, or wetted marine environments. Completely rewritten for the 21st century, this new edition reflects current environmental regulations, best practices, materials, and processes, with special emphasis placed on the engineering, behavior, and practical applications of materials. Divided into three parts, the book first explains the fundamentals of corrosion in marine environments, including atmospheric corrosion, erosion, microbiological corrosion, fatigue, environmental cracking, and cathodic delamination. The second part discusses corrosion control methods and materials selection that can mitigate or eliminate corrosion in different marine environments. The third section provides the reader with specific

applications of corrosion engineering to structures, systems, or components that exist in marine environments. This much-needed new edition: Presents a comprehensive and up-to-date account of the science and engineering aspects of marine corrosion Focuses on engineering aspects, descriptive behavior, and practical applications of materials usage in marine environments Addresses the various materials used in marine environments, including metals, polymers, alloys, coatings, and composites Incorporates current regulations, standards, and recommended practices of numerous organizations such as ASTM International, the US Navy, the American Bureau of Shipping, the International Organization for Standardization, and the International Maritime Organization Written in a clear and understandable style, La Que's Handbook of Marine Corrosion, Second Edition is an indispensable resource for engineers and materials scientists in disciplines spanning the naval, maritime, commercial, shipping industries, particularly corrosion engineers, ship designers, naval architects, marine engineers, oceanographers, and other professionals involved with products that operate in marine environments.