

1. Record Nr.	UNINA9911004753503321
Autore	Bott T. Reg
Titolo	Industrial biofouling // T. Reg. Bott
Pubbl/distr/stampa	Boston, : Elsevier, 2011
ISBN	1-283-00615-4 9786613006158 0-08-093260-6
Descrizione fisica	1 online resource (221 p.)
Disciplina	628.1683
Soggetti	Fouling Industrial water supply Biofilms
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front Cover; Industrial Biofouling; Copyright; Contents; Preface; Acknowledgement; Nomenclature; Greek; Dimensionless number; Chapter 1 Industrial Biofouling; 1 Introduction; References; Chapter 2 Fluid Flow, Mass and Heat Transfer; 2.1 Introduction; 2.2 Fluid Flow; 2.3 Mass Transfer; 2.4 Heat Transfer; 2.5 Concluding Remarks; References; Chapter 3 Biofilms; 3.1 Introduction; 3.2 Microbiology; 3.3 Biofilms; 3.4 Requirements for Microbial Growth; 3.5 The Importance of Surfaces; 3.6 Adhesion of Microbial Cells to Surfaces; 3.7 Interacting Forces; 3.8 The Influence of Adsorbed Layers 3.9 The Physical Quality of the Surface3.10 Industrial Conditions; 3.11 The Establishment of Biofilms in Summary; 3.12 The Influence of Other Fouling Mechanisms; 3.13 Particle/Biofilm Interactions; 3.14 The Growth of Biofilms; 3.15 Structure and Stability of Biofilms; 3.16 Biofouling Modelling; 3.17 Biofilms and Corrosion; 3.18 The Cost of Biofouling; 3.19 Concluding Remarks; References; Chapter 4 Biofouling Control; 4.1 Introduction; 4.2 Chemical Control; 4.3 Physical Methods of Control; 4.4 Potential physical techniques for biofouling control 4.5 Combined Use of Physical and Chemical Techniques4.6 Potential Combined Physical and Chemical Control-concluding Remarks; References; Chapter 5 Cleaning Off-line; 5.1 Introduction; 5.2

Application of Cleaning Technologies; 5.3 Concluding Remarks on Off-line Cleaning; References; Chapter 6 Biofouling Monitoring; 6.1 Introduction; 6.2 Off-line Monitoring; 6.3 Process Plant Monitoring; 6.4 Monitoring in the Laboratory; 6.5 Biofouling Measurement Techniques; 6.6 The Accuracy of Test Data; 6.7 Concluding Remarks; References; Chapter 7 Biofilms in Industry; 7.1 Introduction 7.2 The Water Industry 7.3 Food Industry; 7.4 Paper Manufacture; 7.5 Cooling Water; 7.6 The problem of Legionella pneumophila; References; Chapter 8 Concluding Remarks; Index

---

Sommario/riassunto

Industrial Biofouling discusses the challenges--and to a lesser extent, the benefits--of biofilms on industrial processing surfaces. It addresses the operating problems caused by establishment and growth of microorganisms, thereby enabling effective equipment design and operation that minimizes biofouling. Discusses the chemical and physical control of biofilm growth, with coverage of dosing techniques, equipment cleaning, and cost managementPresents methods for monitoring and evaluating the effectiveness of control techniquesIncorporates explicit

---