1. Record Nr. UNINA9910462329703321 Handbook of environmental degradation of materials [[electronic **Titolo** resource] /] / edited by Myer Kutz Pubbl/distr/stampa Amsterdam: ; Boston, : Elsevier / WA, 2012 **ISBN** 1-4377-3456-1 Edizione [2nd ed.] Descrizione fisica 1 online resource (933 p.) Altri autori (Persone) KutzMyer Disciplina 620.1 620.1/122 620.11223 Soggetti Materials - Effect of environment on Environmental degradation Electronic books. 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; Handbook of Environmental Degradation of Materials; Copyright Page; Contents; Preface to the Second Edition; Preface to the First Edition; One: Analysis; 1 Analysis of Failures of Metallic Materials Due to Environmental Factors; Chapter Outline; 1.1 Introduction; 1.2 Classification of Failures; 1.2.1 Material/Manufacturing-Related Causes; 1.2.2 Environment-Related Causes; 1.2.3 Environment-Related Categories; 1.2.4 Environmentally Induced Failures; 1.3 Analysis of Failures; 1.3.1 SITE Visit; 1.3.2 Testing of Samples; 1.3.3 Analysis, Interpretation, and Diagnosis of the Failure 1.3.4 Submission of Failure Analysis Report1.4 Case Histories of Environmental-Related Failures; 1.4.1 Failure of A Natural Gas Feed Preheater in a Fertilizer Plant; 1.4.2 Failure of a Reformer Tube in a Fertilizer Plant: 1.4.3 Failure of a Furnace Tube in a Petrochemical Plant: 1.4.4 Failure of Plate Elements in a Plate Type Heat Exchanger in a Sulfuric Acid Plant: 1.4.5 Failure of Tubes in an Alcohol Superheater in a Petrochemical Plant; 1.4.6 Failure of Package Boiler Tubes in an Alcohol Distillery; 1.5 Conclusions; References; 2 Laboratory Assessment of Corrosion: Chapter Outline

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Sommario/riassunto

Nothing stays the same for ever. The environmental degradation and corrosion of materials is inevitable and affects most aspects of life. In industrial settings, this inescapable fact has very significant financial, safety and environmental implications. The Handbook of Environmental Degradation of Materials explains how to measure, analyse, and control environmental degradation for a wide range of industrial materials including metals, polymers, ceramics, concrete, wood and textiles exposed to environmental factors such as weather, seawater, and fi