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Nota di contenuto	Contents; Preface; Keynote Papers: Status and Potential of Newer Microscopical Techniques in Oxidation Studies; High-Resolution Transmission Electron Microscopy of Metal/ Metal Oxide Interfaces; Application of Dynamic Secondary Ion Mass Spectrometry to the Study of Oxidation; The Use of a Hot-Stage Microscope in High-Temperature Corrosion Studies; Developments in Raman Microscopy and Applications to Oxidation Studies; Acoustic Microscopy of Oxidation;

Oxidation of Mild and Low Alloy Steels

Study of the Corrosion of Steel in Concrete by Backscattered Electron Imaging in the Scanning Electron Microscope
The Study of Atmospheric Corrosion in Steel by Backscattered Electron Imaging; Oxidation of a Precipitation-Strengthened Die Steel; Mixed Oxidant Corrosion in Non-equilibrium CO-CO₂-H₂-H₂S Gas Mixtures at 400 and 550°; Oxidation of Nickel, Chromium and Their Alloys; Scanning Tunnelling Microscopy Study of the Atomic Structure of Thin Anodic Oxide Films Grown on Nickel Crystal Surfaces; The Incorporation of Internal Oxide Precipitates into Growing Oxide and Sulphide External Scales
The Analytical Electron Microscopy of Thin Oxide Films Formed on Cerium Implanted Nickel
The Effect of Ceria Coatings on Early-stage Oxidation of Nickel Single Crystals; The Effect of Reactive Element Additions upon Alloy Depletion Profiles Resulting from the Preferential Removal of the Less Noble Metal During Alloy Oxidation; The Oxidation of a Re-containing y/y' Alloy; TEM Investigation of the Oxidation of Nickel-based Superalloys and Ni-Cr Alloys; The Oxidation of Nickel-based Alloys Containing Sulphur
A Sulphur Segregation Study of PWA 1480, NiCrAl, and NiAl Using X-ray Photoelectron Spectroscopy with in situ Sample Heating
Effect of Sulphur in the Initial Stage of Oxidation of Ni-20Cr Single Crystals; An Investigation of the Effect of Sulphur on the Adhesion and Growth-Mechanism of Chromia Formed on Low-Sulphur Chromium; Contribution of the Water Vapour-Induced Effects to SIMS-Spectra from Scales Growing on Chromium During Isotopic Exposures; A Study of the Oxidation Behaviour of Sputtered Oxygen-enriched 304 Stainless Steel; Oxidation of Alumina-Forming Ferritic Steels
Alumina and Chromia Scales Formed at High Temperature
Oxidation of an Alumina-forming Alloy: Morphological and Structural Study; Microstructural and Diffusional Studies in α -Aluminas and Growth Mechanism of Alumina Scales; Initial Stage of Oxidation of Fe-20Cr-5Al Single Crystals With and Without Additions of Yttrium; Methodology Underlying Oxide Scale Growth Mechanism Investigation by Sequential Isotopic Exposures; The Effect of Yttria Content on the Oxidation Resistance of ODS Alloys Studied by TEM
Oxidation of Incoloy MA956 After Long-term Exposure to Nitrogen-containing Atmospheres at 1200°C

Sommario/riassunto

An understanding of oxidation is essential for the study and development of advanced materials, particularly those which must withstand high temperatures. The 56 papers in this volume examine the behaviour of metals, alloys and ceramics when exposed to different environments and discuss the latest analytical microscopical techniques currently used in materials science.