

## Book news

● *Corrosion technology: An information source book*, by Judith Ann Douville. Taylor & Francis, 1989. 188 pp. £32.

This is a resource for *all* studies in corrosion technology: this book marks the first time that the international review literature has been gathered into one source. All the material is summarized and includes complete bibliographic, language of origin, and source information. Chapters provide reviews by major categories, which are further subdivided and made easily accessible via indexes.

● *Stainless steel buyers guide 1990*. Southern Africa Stainless Steel Development Association (P.O. Box 4479, Rivonia, 2128), 1990. Free.

This reference on stainless steel contains the names and addresses of suppliers and fabricators, technical notes on the use of stainless steel, tables of specifications and properties, product classification, and profiles of companies handling stainless steel.

● *Fatigue and stress of engineering materials and structures*, edited by H.P. Lieurade. IITT International (40 Promenade Marx-Dormoy, 93460 Gournay-sur-Marne, France), 368 pp. US\$ 109.

Mechanical failure results in many injuries and much financial loss. Failure due to repeated loading, called fatigue, has accounted for at least half these mechanical failures. The object of this book is to give up-to-date information about new developments in this important field, including crack initiation and propagation, high-temperature and multi-axial fatigue, and the assessment of residual stresses and generation of residual stresses by surface treatments to improve the fatigue life of industrial components.

● *Titanium and aluminium*, edited by P.A. Coulon. IITT International (40 Promenade Marx-Dormoy, 93460 Gournay-sur-Marne, France), 200 pp. US\$ 80.

The major topics covered include metallurgical aspects, fatigue and wear behaviour, physical properties, manufacturing, testing applications, surface treatment of titanium and aluminium, technology.

● *Engineering applications of stochastic processes. Theory, problems and solutions*, by A. Zayezdny, D. Wulich, and D. Tabak. Chichester, John Wiley, 1989. 525 pp. £54.50.

This book presents a systematic approach to the theoretical and practical notions of probabilistic calculations associated with engineering systems. It is particularly relevant to the disciplines of electronic communication, radar, and automatic control.

● *Metal behaviour and surface engineering*, edited by S. Curioni, B. Waterhouse, and D. Kirk. IITT International (40 Promenade Marx-Dormoy, 93460 Gournay-sur-Marne, France), 413 pp. US\$ 109.

The ever-greater loading to which industrial structures are subjected, and the continually increasing competition between various construction materials, mean that a better knowledge of the stress fields and in-service behaviour of such structures is required. Techniques for improving fatigue resistance usually lead to surface modification using thermochemical treatment (carburizing, nitriding, carbonitriding), mechanical treatment (shot peening, hammering, etc.), or quick heat treatment (HF quenching, laser hardening, neutron-beam hardening). This book covers the above-mentioned aspects; the papers deal with both theoretical and experimental aspects. It is intended not only for research engineers, but also for design and fabrication engineers.

● *Fuzzy control and fuzzy systems*, by W. Pedrycz. Chichester, John Wiley, 1989. 272 pp. £37.50.

Extensive and up-to-date coverage of fuzzy control and fuzzy systems is provided in this volume. Particular emphasis is placed on the role of fuzzy sets in control engineering, where their application can provide flexible control algorithms.

● *CILO (carbon-in-leach with oxygen) cost study*, by Minproc Engineers (USA). Free.

This cost study compares CILO (carbon-in-leach with oxygen) and conventional CIL circuits designed for equivalent extraction. The key assumption is that CILO can reduce the retention time by a factor of four compared with CIL—something that can be demonstrated in laboratory tests for a specific ore. The study provides capital and operating cost comparisons for the leach-absorption section of CILO and CIL circuits of 1000, 3000, and 5000 t/d throughput. Costs for an open design for moderate climates and for an enclosed design for more severe climates are included for each case. Capital savings range from approximately \$900 000 for the 1000 t open plant to approximately \$3.2 million for the 5000 t enclosed design. The savings become increasingly significant as the capacity increases, and may suggest some new options for large-tonnage, low-grade projects that are currently being considered only for heap leaching.

This cost study is available free of charge from the Minerals Processing Department, Kamy, Inc., Ridge Center, Glens Falls, New York 12801, tel. 518-793-5111, fax. 518-793-1917.