

BOOK REVIEWS

Handbook of Recycling Techniques A.A. Nijkerk and W.L. Dalmijn,
Nijkerk Consultancy, The Hague, The Netherlands 2001, 256 pp.

This 5th revised edition of the handbook on recycling is divided into nine chapters: Cycle of materials, Concepts and terminology, Recycling through the ages, Early techniques, Current processing techniques, Ancillary equipment, Identification, sorting and separation, Emerging technologies and Economy of metal recycling. The Bibliography that follows is rather modest and does not contain, for instance, the 1993 textbook on *Physical Separation and Recovery of Metals from Wastes* by Veasey *et al.* Navigation within the book is not assisted by a rather unorthodox selection of keywords in the Index at the end of the book.

The publication is rather a picture book than an engineering handbook. It contains a wealth of excellent photographs and diagrams that take a reader on an interesting and undemanding walk through the history, the present and the future of recycling. The processing and sorting techniques are described in a simple fashion. Whilst limited and superficial attention is given to magnetic separation, eddy-current and electrostatic separations are treated in greater detail. Separation in magnetic fluids, an emergent production-scale technique in various areas of materials handling, is not mentioned at all.

All in all, the book does a good job of summarising comprehensively this broad field of techniques from different disciplines. However, taking into account the non-scientific character of the book, references for further, more detailed and technically advanced, reading should have been provided.

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Coal Preparation in South Africa T. England, P.E. Hand, D.C. Michael, L.M. Falcon and A.D. Yell (Eds), The South African Coal Processing Society, Johannesburg 2002, 300 pp. R250 (app-US\$25).

This exceptionally useful book is the 4th revised edition of a handbook published originally in three volumes in 1975. Although the book addresses mainly plant operators and students of art and engineering of coal preparation, it will be of significant benefit to all involved in mineral beneficiation. It is divided into sixteen chapters covering such a wide spectrum of subjects as geology, crushing and grinding, jigging, dense medium separation, solid-liquid separation, plant control and others. All chapters are lucidly written and are accompanied by numerous tables and high-quality drawings and photographs, black and white and in colour.

A section on sampling and analysis is a most useful introduction into these important procedures, rarely found in conventional textbooks on mineral processing. Sample preparation, sink-and-float analysis, and definition of various parameters such as density, relative and bulk density, partition and washability curves are covered consistently and in a sufficient detail. The section on Dense Medium Separation contains a condensed review of the existing bath and centrifugal separators and their function and performance. Attention is also paid to the recovery of dense medium, namely magnetite. Properties of magnetite, its demagnetisation and losses, and different types of magnetic separators used to recover magnetite are described in useful detail. A carefully prepared Subject index and a Glossary of standard symbols complete this intelligent book.

In addition to its highly professional technical content, this publication is a delightful book to have and touch. Its high-quality binding and printing and high-grade paper make it almost a coffee-table book. And the pleasant impression is capped by endpapers, which present, in colour, a reconstruction of a southern hemisphere coal forest based on the southern Transvaal coal fields painting by W. Stanford. This publication will be a useful addition to a reading list of every student of mineral processing.

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