

## Book Reviews

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### *Batteries for Cordless Appliances*

by Ralph J. Brodd, published by Research Studies Press Ltd., 1987; 190 pp.; £24.95.

This book is the second in a Battery Applications Series edited by M. Barak. Its author, Ralph J. Brodd, is widely experienced and well respected within the battery industry as well as in governmental and academic circles. The subject matter reflects the growing requirement for power sources for a wide range of portable, cordless, electric power appliances that now exist within domestic, industrial and military markets.

Chapter 1 provides a brief and easy to follow introduction to the physics and thermodynamics of battery technology, and describes the general performance requirements for a number of common applications including flashlights, buoys, and radiosondes. The following six chapters are then concerned with descriptions of the majority of cell chemistries which are currently available as commercial products. Primary batteries covered include the zinc-anode-based Leclanché, alkaline-manganese, and zinc-air technologies together with magnesium and, the increasingly important, lithium-anode-based systems. A chapter on rechargeable batteries includes nickel-cadmium, lead-acid, and nickel-hydrogen technologies.

In addition to the usual general description of cell chemistries and reaction schemes, the framework of each section is primarily directed towards the battery user. Included are lists of advantages and disadvantages of each cell, detailed drawings of cell construction, and plots of performance characteristics.

The final chapter contains some useful information regarding cell nomenclature and details of selected standard test regimes. Guidelines are given for battery selection criteria together with methods of predicting battery performance from known discharge curves.

The book will prove useful to a wide range of readers including students, potential battery users, and also researchers in the field who require an initial grounding in some different aspect of battery technology.

A. HOOPER

### *Polymer Electrolyte Reviews - 1*

Edited by J. R. MacCallum and C. A. Vincent, published by Elsevier Applied Science, Barking, U.K., 1987; x + 352 pp.; price £48.00; ISBN 1-85166-071-2.

This Review contains ten chapters each authored by active and well-respected workers in the field of polymer electrolytes.