NEWS

Book reviews

Techniques in Electrochemistry, Corrosion and Metal Finishing — A Handbook
Anselm T. Kuhn (Ed), John Wiley & Sons Ltd., Chichester, 1987
586 pp. £65.00, ISBN 0 471 91407 X

The key to any experimental science is good technique and much of this knowledge tends to be of the folklore variety being passed down by word of mouth from generation to generation. Thus this book is one of relatively few attempts to fill a gap that is obvious, yet is inevitably difficult to achieve satisfactorily. It is clear that no one person is likely to have the expertise to cover the field and consequently this is an edited collation of expert chapters from seven associate authors, although in practice the editor has written a very substantial part himself.

It is inevitable then that choice of topics and the depth and style of their treatment is uneven and must represent personal standpoints and authors' diligence. It may also point, however, to a lack of firm editorial direction towards the individual contributors. Thus the chapter 'Acoustic emission methods' by R. D. Rawlings is a high quality review but with over fifty pages is a little misplaced, whereas the basic tool of potentiostatic polarization measurements has no specific chapter and perhaps twenty pages at various points. Another criticism; although most chapters are well referenced the text varies from in depth coverage to complete superficiality — ellipsometry has an excellent bibliographical approach but little critical appreciation or explanation of its virtues and limitations.

Any reviewer is bound to be tempted to criticise omissions of favourite techniques (e.g. coulometry) but this cannot be other than a passing personal view. More serious are some major omissions presumably by positive decision rather than accidental neglect. For a book specifically titled techniques in corrosion, to omit a chapter on corrosion testing is a serious error and while there are alternative monographs in this field (listed in a very full literature source chapter) it does mean that this volume makes little or no reference to important instrumental methods based on the Wagner–Stern–Geary concepts of polarization resistance. Equally serious is the absence of any critical treatment of electron microscopy and surface analysis methods (Auger, ESCA, LEED, LIMA, SIMS etc.) which are powerful but expensive and must therefore be used on a hire basis: foreknowledge of their existence and capabilities is highly desirable!

While the above criticisms will convey some level of dissatisfaction is should not discourage use of the book because it has a great deal of valuable material presented in a clear and readable manner. It should be readily available to all experimentalists in the field but cannot be considered to be comprehensive and cannot yet replace the well-proven traditional methods of learning techniques: trying it for onself and 'chatting up' friends and enemies alike.

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