

Book reviews

The electrodeposition of tin and its alloys by Manfred Jordan, Eugen G. Leuze, Saugau/Wurt, Germany 401 pp. 1st Edition (in German), 1992, Translation (in English), 1995, ISBN 3-87480-118-7

Despite the fact that tin is the most important metal (by tonnage used or area covered) that is electroplated today, largely by virtue of the one product *Tinplate*, there have been few books devoted to the subject. The last was in 1983 (by W. J. Price) and relatively concise; others have been more specifically concerned with tinplate (Hoare, Hedges and Barry, 1965): this book is therefore a welcome addition to the literature. It emphasises the processing of alloys and consequently adds substantially to the information presented previously which although limited to tin remains surprisingly un-dated.

The book gives 'an overview of electrodeposition technology' and this claim is justified in the text which in over 400 pages gives a full account of the known technology. After a brief historical and scientific introduction to tin alloy deposition it proceeds through 35 chapters to cover every aspect of tin, its alloys, the deposit properties, solution analysis and coating stripping methods, both chemical and thermal

post-treatments with valuable recognition of the dominant position of tinplate and the important field of electronics usage including solderability.

Its logical layout, using decimal paragraph numbering, is irritatingly not so efficient (eg. solution conductivity has graphical data presented on pages 54 and 103 but is not cited in the index), but the contents and index do give generally a good means of finding information. Printing, layout and illustrations are good and very readable. References are listed by chapter and are substantial rather than comprehensive.

The book therefore covers old and new ground, the latter including a good account of 'tin pest' and 'tin whiskers', two of the infamous features of this metal. It also contains information not easily found elsewhere such as a summary of the additives used to stabilise divalent tin and the conductivity values of typical electroplating solutions. As a consequence, it deserves to be the new reference text for tin and has the authority of a German expert from a major supplier of tin technology, Schlotter AG to justify such a position.

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