BOOK SECTION

New Publications

Solution Properties of Natural Polymers, published by the Chemical Society, London, Special Publication No. 23, 1968, £ 3 Sh. 10.

Management in the Science-Based Industries, published by the Royal Institute of Chemistry, London, 1968, 20 sh.

Survey of Progress in Chemistry—Volume 4, by A. F. Scott (Ed.), published by Academic Press, New York, 1968, 275 pages, approx., $ 10.

Demineralization by Ion Exchange, by S. B. Applebaum, published by Academic Press, New York, 1968, 400 pages approx., $ 17.50.

Ligand Reactivity and Catalysis, by M. M. Jones, published by Academic Press, New York, 1968, 258 pages, $ 14.

Zinc—A Mine to Market Outline, published by Zinc Institute Inc., New York, 82 pages.

Industrial Paint Application, by W. H. Tatton and E. W. Dres, published by Hart Co. Inc., New York, 200 pages.

Advances in Physical Organic Chemistry, Volume 6, by V. Gold (Ed.), published by Academic Press, New York, 1968, 349 pages, 100 sh.

Practical Polarography, by J. Heyrovsky and P. Zuman, published by Academic Press, New York, 1968, 238 pages, 50 sh.

Introduction to Magnetochemistry, by A. Earnshaw, published by Academic Press, New York, 1968, 128 pages, 37 sh. 6 d.

The Electric Industrial Truck, published by Australian Lead Development Association, Melbourne, 35 pages.

The Determination of Carbon and Hydrogen and the Use of New Combustion Catalysts, by J. A. Kuck (Ed.), Volume III of the Series: Methods in Microanalysis, published by Gordon and Breach, New York, 1968, 602 pages, $ 36.

Corrosion Guide, by E. Rabald, published by Elsevier Publishing Co., Amsterdam-London-New York, second revised ed., 1968, 900 pages, £ 30.

Introduction to Theromdynamics of Irreversible Processes, by I Prigogine, published by John Wiley & Sons Ltd., Chichester, Sussex, England, 3rd Ed., 1968, 147 pages, 56 sh.

Physical Metallurgy of Engineering Materials, by E. R. Patty, published by George Allen & Unwin Ltd., London, 304 pages, 45 sh.

Selection of Materials and Design, published for the Institution of Metallurgists, London by Iliffe Books Ltd., London, 92 pages, 25 sh.

Edited Proceedings Second International Conference on Lead, Arnhem, by the European Lead Development Committee: Lead 65, published by Pergamon Press Ltd., London, 1967, 337 pages, 110 sh.

Technique of Inorganic Chemistry, Volume 7, by H. B. Jonassen (Ed.), pubished by John Wiley & Sons Ltd., Chichester, 1968, 327 pages, 150 sh.

The Handling of Chemical Data, by P. D. Lark, B. R. Craven and R. C. L. Bosworth, published by Pergamon Press, London, 1968, 379 pages, 21 sh.

Handbook of Physicochemical Properties of the Elements, by G. V. Samsonov (Ed.), published by Plenum, New York, 1968, 941 pages.

1968 Finishing Handbook and Directory, by J. E. Bean (Ed.), published by Sawell Publications Ltd., London, 656 pages, 48 sh. (includes a year's subscription to Products Finishing).

Ruthenium, published by International Nickel Ltd., London.

High-Temperature Materials and Technology, by I. E. Campbell and E. M. Sherwood (Ed.) published by John Wiley & Sons Ltd., Chichester, 1968, 1022 pages, 260 sh.

The Use of Electronic Computers for the Control of Chemical Processes, published by DECHEMA, Frankfurt/Main, Germany, DM 35.

Low Priced Book from Britain: (1) W. Alexander and A. Street: Metals in the Service of Main, Penguin, 2 sh; (2) E. C. Rollason: Metallurgy for Engineers, Edward Arnold, 9 sh.; (3) G. Leach: The New Materials, Phoenix House, 3 sh; published by English Language Book Society, London.

Chemical Process Products: Catalyst Carrier Selection Made Easy, published by Norton Co., Worcester, Mass, U.S.A., 78 pages.

Anti-Corrosion Reference, presented with August 1968 issue of Engineering Materials and Design, published by Heywood—Temple Industrial Publications Ltd., London, 36 pages.

Electrodeposited Zinc and Cadmium Coatings for Protection against Corrosion, by T Biestek, published by Centrala Handlowa Metali Niezelaznych, Poland, 1967, 36 pages; in Polish.

Cavitation Corrosion and Its Prevention in Diesel Engines, Proceedings of a Symposium held in London, 1965, published by British Railways Board, London, 30 sh.

Interfinish '68—Conference Brochure, 7th International Metal Finishing Conference, Hannover, 1968, published by Deutsche Messe—und Ausstellungs—A. G., Hannover, Germany, 1968, 352 pages, DM 66.60.

Metal Finishing Guidebook Directory for 1968, published by Metals and Plastics Publication Inc, Westwood, N.J., U.S.A., 1967, 874 pages, $ 2.50.

Improvement of the Corrosion Resistance of Zinc Coatings by Chromating, by T. Biestek, published by Centrala Handlowa Metali Niezelaznych, Poland, 1967, 32 pages; in Polish.

Symposium on "Corrosion Resistant Plant and Equipment for the Chemical Industry" Australasian Corrosion Association—NSW Branch, Sydney, October 1968.

Titanium for the Chemical Engineer, published by Battelle Memorial Institute, Columbus, Ohio, 1968, DMIC Memo No. 234., 60 pages.

Gas Lasers, by A. L. Bloom, published by John Wiley—Interscience, New York, 1968, 172 pages, $ 8.50.

Physical Methods in Advanced Inorganic Chemistry, by H.A.O. Hill and P. Day (Ed.), published by Interscience, New York, 1968, 627 pages, $ 16.50.

Techniques of Metals Research, Volume I—Technology of Materials Preparation and Handling, Part I, by R. F. Bushah (Ed.), published by Interscience, New York, 1968, 385 pages, $ 16.95.

Science of Materials, by T. J. Lewis and P. E. Seeker, published by George G. Harrap & Co., Ltd., London, 1965, 256 pages, 27 sh. 6 d.

The New Materials, by D. Fishlock, published by John Murray, London, 1967, 240 pages, 45 sh.

Elementary Quantum Chemistry, by F. L. Pilar, published by McGraw-Hill Book Co. New York, 1968, 726 pages, $ 15.50.

Plant Design and Economics for Chemical Engineers, by M. S. Peters, published by McGraw-Hill Book Co., New York, 1968, 704 pages, $ 13.75.

Materials Data Book, by E. R. Parker, published by McGraw-Hill Book Co., New York, 1968, 416 pages, $ 8.95.

International Classification of Patents, Volumes 1-3, published by Morgan-Grampion Books Ltd., London, 1968, 320 pages per volume approx., £ 35 per set.

Publications Received

Australasian Corrosion Engineering, Vol. 12, No. 6-8, 1968, North Sydney, N.S.W.

CSIR News, Vol. 18, No. 16-21, 1968, New Delhi.

Economic Aspects of Continuous Casting of Steel, published by Economic Commission for Europe, United Nations, New York, 1968, 210 pages, $ 2.50; through UN Information Service, New Delhi.

United Nations Weekly Newsletter, Vol. 16, No. 37-47, 1968, UN Information Service, New Delhi.

ISI Bulletin, Vol. 20, No. 9-11, 1968, New Delhi.

The Nickel Bulletin, Vol. 41, No. 5, 1968, International Nickel, London through International Nickel (India) P. Ltd., Bombay.

Anti-Corrosion Methods and Materials, Vol. 15, No. 7, 8, 1968. Sawell Publications, Ltd., London.

British Patents, Division HI, Patent Office, London.

American Reporter, Vol. 18, No. 17-22, 1968, US information Service, New Delhi.

Scientific Research, Vol. 3, No. 12-17, 1968, McGraw-Hill, New York.

The Engineer's Plating Manual, published by Interlock Publications, Inc., Los Angeles, 1966.

OSU Research Review, Vol. 4, No. 9, 1968, Research Foundation, Ohio State University, Columbus, Ohio.

Stainless Steel, No. 7, 1968, Stainless Steel Development Association, London.

Molybdenum in Stainless Steels and Alloys, by L. Colombier, published by Climax Molybdenum Co., Ltd., London, 80 pages.

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Corrosion Bulletin, Vol. 5, No. 2, 1968, Jamshedpur.

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World-wide Galvanizing. ZDA London through Indian Lead Zinc Information Centre, Calcutta.

Science and Engineering, Vol. 21, No. 8-10, 1968, ISE, Calcutta.

Physical Methods in Inorganic Chemistry, by R. S. Drago, published by Reinhold Publishing Corpn., New York, 1965; Affiliated East-West Press P. Ltd., New Delhi, East-West Student Edition, 1968, 430 pages, Rs. 22.

Galvanotechnik, Vol. 59, No. 7, 8, 1968, Eugen G. Leuze Verlag, Saulgau/Wurtt, Germany.

Instruments News, Vol. 3, No. 3, 1968, CSIRO, Chandigarh.

Industrial Finishing, Vol. 20, No. 241, 242, 1968, Arrow Press Ltd., London.

Aluminium Courier, No. 82, 1968, Aluminium Federation, London.

Metal Finishing Journal, Vol. 14, No. 163, 164, 1968, Fuel and Metallurgical Journals Ltd., London.

Information News Letter—Industrial Liaison & Extension Services, Vol. 7, No. 2, 1968, CSIR, New Delhi.

Copper, Vol. 2, No. 4, 1968, CDA, London through Indian Copper Information Centre, Calcutta.

Inco Nickel, No. 22, 1968, International Nickel, London through International Nickel (India) P. Ltd., Bombay.

Metal Finishing, Vol. 66, No. 7, 8, 1968, Metals and Plastics Publications Inc., Westwood, N.J., U.S.A.

Metals Engineering Quarterly, Vol. 8, No. 3, 1968, American Society for Metals, Metals Park, Ohio.

Chemical Age of India, Vol. 19, No. 9, 10, 1968, Technicial Press Publications, Bombay.

NML Technical Journal, Vol. 10, No. 3, 1968, CSIR Silver Jubilee Number, Jamshedpur.

25 years of CSIR, published by CSIR, New Delhi, 1968, 76 pages.

Soviet Review, Vol. 5, No. 67, 1968, Information Dept. of the U.S.S.R. Embassy in India, New Delhi.

Zinc Abstracts, Vol. 26, No. 7, 8, 1968, ZDA, London, through Indian Lead Zinc Information Centre, Calcutta.

Corrosion Literature: (1) Corrosion Prevention by Cathodic Protection of Buried and Submerged Steel, (2) Hot Applied Coatings as Corrosion Prevention of Underground Pipes, (3) Stray Current Corrosion of Lead Sheathed Cables and Underground Pipes, published by Electro Corr-Damp, Bombay.

Lead Abstracts, Vol. 8, No. 7, 8, 1968, LDA London through Indian Lead Zinc Information Centre, Calcutta.

Australasian Corrosion Directory, 1966-67 Edition, published by Australasian Corrosion Engineering, North Sydney, N.S.W., 1967, 232 pages, $ 5.

Chartered Engineer, Vol. 8, No. 8-9, 1968, ICE, New Delhi.

The Electric Industrial Truck, published by Australian Lead Development Association, Melbourne, 35 pages; available from Indian Lead Zinc Information Centre, Calcutta.

Compass, Vol. 3, No. 3-4, 1968, Madras.

Electrosorption, by E. Gileadi (Ed.), published by Plenum Press, New York, 1967, 221 pages, $ 12.50.

Electron-Technology, Vol. 12, No. 4, 1968, Society of Electronic Engineers, Bangalore.

Journal of the Indian Institute of Science, Vol. 50, No. 4, 1968, Bangalore.

HTS Digest, Vol. 6, No. 1-4, 1966; Vol. 7, No. 1-4, 1967, Vol. 8, No. 1-3, 1968, HAL Technical Society, Bangalore.

X-ray and Electron Methods of Analysis, by H.V. Olphen and W. Parrish (Ed.), published by Plenum Press, New York, Progress in Analytical Chemistry, Volume 1, 1968, 164 pages.

Practical Emulsions, Vol. II—Applications, by H. Bennett, J. L. Bishop and M. L. Wulfinghoff, published by Chemical Publishing Co., New York, Third Ed., 1968, 204 pages, $ 13.

Electronic Properties of Semiconducting Solid Solutions, by A. B. Almazov, published by Consultants Bureau, New York, 1968, translated from Russian, 82 pages.

Electrochemical Machining, by A. E. De Barr and D. A. Oliver, published by Macdonald & Co. (Publishers) Ltd., London, 1968, 248 pages, 70 sh.

Battelle Technical Review, Vol. 17, No. 8, 1968, Battelle Memorial Institute, Columbus, Ohio.

Science Library Bibliographical Series No. 793, 1968, Science Museum, London.

Quality Metal Finishing Guide: (1) Zinc and Cadmium Coatings, 28 pages, $ 1; (2) Copper-Nickel-Chromium and Nickel-Chromium Coatings, 28 pages, $ 1, published by Metal Finishing Suppliers' Association, Inc., Birmingham, Mich., U.S.A.

Classifications Key for Patent Specifications, 1,100,001–1,150,000, Division H1—Circuit Elements, Patent Office, London.

BOOK REVIEWS

Physical Methods in Inorganic Chemistry, *by* R.S. Drago, published by Reinhold Publishing Corpn, New York, 1965; Affiliated East-West Press P. Ltd., New Delhi, East-West Student Edition, 1968, 430 pages, Rs. 22.

Written in two parts the book gives a concise summary of the fundamental requirements of inorganic chemistry in Part I, and in Part II, deals elegantly with the physical methods—the spectroscopic, which is the inevitable tool to the inorganic and organic chemists of the present day. The introduction to the instrumentation, to the various technical terms involved, and the discussion of the applications of the various spectroscopic methods, with their limitations, are dealt with great care to give the students a good understanding of all the methods including the recent developments like the Mossbauer spectroscopy. The appendices on Magnesium, Character Tables, etc., are a useful addition. The book will be a good refresher to the students of inorganic and organic research who might have to resort to the spectroscopic methods for a solution to their problems, and would considerably decrease the necessity for the consultation of a great number of books.

—R.S.

Corrosion, published by Materials Engineering, New York, M/DE Special Report No. 202, January 1963, pages 85-122.

The report contains the following articles: (1) The many faces of corrosion, (2) The theory behind corrosion, (3) Evaluating materials for corrosion service, (4) What we do and don't know about corrosion, (5) Designing to prevent corrosion, (6) Coatings to prevent corrosion, (7) Corrosion resistance data and (8) Corrosion terms.

The information provided in this concise report is an excellent basic background on what corrosion is, how to choose a proper material of construction and then take to design, and how to prevent corrosion where it occurs. The section on corrosion resistance data is quite exhaustive, and covers a larger number of materials—metals and alloys, plastics, elastomers, other non-metallics, coatings and linings; and corrosive media — atmospheres, water, acids, solvents, other chemicals. This portion is more or less a corrosion guide. There are illustrations and references to supplement the matter. Although published some years back, most of the information retains its value even today. The report is recommended as a useful reference source on corrosion—the problem and the cure.

—T.L.R.

Cabot Plastic Piping Handbook, Published by Cabot Piping Systems, Louisville, Ky, U.S.A., 1965-1966, 108 pages, $ 0.35.

The use of plastic piping for various applications—domestic, agricultural and industrial, has increased tremendously in recent years particularly in the developed countries of the world. This handbook serves admirably well as a reference on this subject, the purpose for which it is intended. It is divided into 6 parts: plastic piping materials; pressure piping, pumps, flanges and vavles; drainage piping make-up dimensions; plastic piping fabrication; installation data; miscellaneous. Although more suitable for users in the U.S.A., the information contained in this publication will be of general value to all those interested in the application of plastic piping.

—T.L.R.

Data Sheets: (1) Recovery Systems *by* Pfaudler for Metal Finishing Industry, No. 89, 1967; **(2) Pfaudler Cyanide Recovery Systems,** No. 88, 1967; **(3) Optimized Metal Finishing Recovery Systems;** from Pfaudler, Rochester, N.Y., U.S.A.

The data sheets provide useful information for the metal finishing industry—recovery of chemicals and treatment of waste disposal, both of which are of importance. The last one is a reprint of a paper published in Plating.

—T.L.R.

Molybdenum in Stainless Steels and Alloys, *by* L. Colombier, published by the Climax Molybdenum Co., Ltd., London, 80 pages.

The importance of molybdenum as an alloying element to impart corrosion resistant properties is now well known. This publication has emphasised the basic principles involved in a very simple style. There is an introductory chapter on the general considerations, and five other chapters on the effect of molybdenum on steels and nickel-base alloys. All of them are well written and illustrated, and a list of selected references is available at the end. An exceptional amount of information, including 70 references, has been assembled in a logical sequence in this short work. The discussion makes it clear that the empirical stage in the fabrication of molybdenum alloys may be a thing of the past.

—S.S.M.

The Electric Car: Possibilites in India, published by Indian Lead Zinc Information Centre, Calcutta, 1968, 9 pages.

This is the first in the series of publications brought out by the Indian Lead Zinc Information Centre under the title "Lead Power 68" to celebrate 1968 as the International Lead Power Year. Beginning with a historical introduction, the question of revival of interest in this vehicle has been touched upon, followed, by: the interest of electric supply undertakings, auto producer's future outlook, role of the automobile, and lastly, with the advantages, disadvantages and future possibilities in India. It is concluded that there is a bright future for the electric car in India. This article is particularly of interest at the present time, when the possibilities of the small car are being explored. It is a welcome publication on the subject.

—T.L.R.

Rural Electrification, Volume 10, published by Economic Commission for Europe, United Nations, New York, 1968, 236 pages, $ 2.50; through UN Information Service, New Delhi.

This is the tenth in the series of reports prepared by the Committee on Electric Power, Economic Commission for Europe, United Nations. As with the earlier volumes the present study on rural electrification serves admirably well the purpose of furnishing useful data to the developing countries. There are a large number of tables and figures to supplement the matter.

—T.L.R.

The Engineer's Plating Manual, *by* **M. Miller,** published by Interlock Publications, Inc., Los Angeles, Calif, U.S.A., 1966, $ 14.

This Manual has been prepared in order to familiarize the engineer with electroplating technology and guide him in the selection and use of plated finishes. It serves this purpose admirably well, with special reference to U.S. requirements.

The publication is divided into 7 sections: introduction, specifications, finish design, value engineering, purchasing plated coatings, inspection and plating metals. The last section covers the information that is necessary for the plating of cadmium, chromium, copper, gold, nickel, electroless nickel, palladium, platinum, rhodium, silver, tin and zinc. It is good to find a coverage of the precious metals, in view of their application in the electronics and other fields. For each metal, the plating process and deposit properties are described and this is followed by a summary giving the important characteristics and uses. There is an appendix relating to the properties, and a glossary in the end. Very valuable data are furnished in the 61 tables, supplemented with 25 figures.

This volume certainly serves as an excellent source of reference to the engineer, technologist and industrialist while handling electroplated components.

—T.L.R.

Australasian Corrosion Directory, 1966-1967 Edition, published by Australasian Corrosion Engineering, North Sydney, N.S.W., 1967, 232 pages, $ 5.

The directory of anti-corrosive products and services is published under the auspices of the Australasian Corrosion Association, to bring all information up-to-date and to furnish details of new products and processes. This publication contains technical details of most anti-corrosive products and processes available in Australia for the prevention or elimination of corrosion. The information about each is arranged in a 'self-contained block' under the sub-headings—Description, Properties, Applications, Application Procedures, Special Remarks and Availability (Company which can supply the particular item).

The entire matter is set out under thirteen main headings in the following order: (1) Surface Preparation, (2) Surface Pre-treatments, (3) Coatings, (4) Linings, (5) Metals and Alloys, (6) Plastics, (7) Equipment, (8) Temporary Corrosion Preventives, (9) Water Treatment, (10) Fuel Treatment, (11) Corrosion Inhibitors, (12) Cathodic Protection and (13) Corrosion Preventive services. Each of these sections contains several sub-headings in

alphabetical order, under which the many individual products and processes are listed. It covers almost all aspects of corrosion preventive measures, and will be of great help to corrosion scientists and engineers.

—R.P.D.

Economic Aspects of Continuous Casting of Steel, published by Economic Commission for Europe, United Nations, New York, 1968, 210 pages, $ 2.50 through UN Information Service, New Delhi.

This report has been prepared by a group of experts of the ECE Steel Committee who undertook a detailed study of the economic and engineering aspects of continuous casting. The matter has been prepared in 3 chapters: (1) Present state of continuous casting of steel, (2) Examples of the economic efficiency of continuous casting in comparison with conventional ingot casting and (3) Likely development trends of this process. There are 44 figures for illustration, and a fund of statistical information in 32 tables. References to literature have also been given where needed. The publication will be quite useful to the steel producing countries.

—T.L.R.

Electrostatic Finishing Literature : (1) Automated Electrostatic Finishing Systems, (2) Vinyl Coating Protects Steel Window, (3) Painting Wrought Iron Furniture Electrostatically, (4) How We Finish Steel Store Equipment, (5) How Arkla Finishes Gas Meters, (6) Magnetic Tape Controls Electrostatic Finishing At Steelcase; from H. G. Fischer & Co., Franklin Park, Illinois, U.S.A.

Electrostatic painting is used in several areas of finishing today, and the literature supplied by Fischer describes the process and the applications. This technique is suited to automation and offers some advantages comparable to other industrial finishing processes. Although devoted mainly to the Fischer system, the information provided here is of general value in this field.

—T.L.R.

World Mining Catalogue Survey Directory, published by 'World Mining', San Fransisco, U.S.A., Volume 21, No. 7, 1968, 238 pages.

This Directory is issued every year by the publishers of the well known Journal '*World Mining*'. It is divided into the following sections: technological advances in 1967, world mineral production, world wide mining developments, mineral production statistics, United States mining in 1967 and catalogue index of equipment and machinery. The publication is no doubt valuable for all those who wish to keep in touch with recent developments in mining in various parts of the world.

—T.L.R.

Electrosorption, *by* E. Gileadi (Ed.), published by Plenum Press, New York, 1967, 221 pages, $ 12.50.

This new book brings together discussions on a variety of specific aspects of solid-electrode adsoption. There are a total of seven chapters starting with an introductory one by the editor. The second chapter is a survey on organic adsorption at electrodes by Piersma. Reddy deals with the kinetics of diffusion-controlled electrosorption of neutral molecules in the next chapter. Oxygen adsorption and oxide formation on electrodes and their effect on adsorption is the subject of the fourth chapter. Argade and Gileadi discuss the potential of zero charge and its significance in electrosorption in the next chapter. The sixth chapter by Muller is a useful discussion of the role of solvents at electrodes. The last chapter is a sophisticated mathemtiral treatment of the double layer theory by Hurwitz. The treatments are of varying depth, but on the whole this timely review will prove useful to the large and ever increasing number of research workers in the vast field of electrochemistry.

—S. S. M.