Book Section

New Publications :

Water Pollution Control Engineering, by A. L. Downing (Ed.), published by H. M. S. O., London, 70 pages, sh. 14.

Silicon Carbide-Structure, Properties and Uses, by I. N. Frantsevich (Ed.), published by Consultants Bureau/Plenum Publishing Corporation, New York, 1970, 275 pages approx., £ 16 sh 6.

Physics and Metallurgy of Superconductors : Proceedings of the Second and Third Conference on Metallurgy, Physical Chemistry, and Metal Physics of Superconductors, by E. M. Savitskii and V. V. Baron (Ed.), published by Consultants Bureau/Plenum Publishing Corporation, New York, 1970, 220 pages approx., 257 sh.

Introduction to Materials Science, by B. R. Schlenker, published by Wiley—Australia/Wiley Eastern P. Ltd., New Delhi, 1969, 351 pages, Rs. 47.25.

The Pipes and Pipelines Manual, published by Scientific Surveys Ltd., London, 3rd Edition. 344 pages, £ 5.

The Butterworth Group, London, 1970 : (1) International Symposium on Analytical Chemistry - I U P A C, 100 pages, £ 2.50 ; (2) International Symposium on Chemical Education - I U P A C, 222 pages, £ 5.50.

Metal Coating of Plastics, by F. A. Lowenheim, published by Noyes Data Corp , Park Ridge, N. J., U. S. A., 1970, 253 pages, $ 35.

Rare-Earth Metals in Steels, by N. Kippenham and K. A. Gschneider, published by the Rare-Earth Information Centre for Atomic Research, Iowa State University, Ames, Iowa, U. S. A.

Advances in Environmental Sciences, Volume 1, by J. N. Pitts and R. L. Metcalf (Ed.), published by Wiley—Interscience, New York, 1970, 356 pages, 150 sh.

Chlorine and Caustic Soda Manufacture Recent Developments 1969, by R. Powell, published by Noyes Data Corporation, Park Ridge, N J., U S. A., Chemical Processing Review No. 33, 265 pages, $ 35.

The Interaction of Science and Technology, by W. D. Compton (Ed.), published by University of Illinois Press, London, 1970, 135 pages, £ 2 sh 12.

Electrochemistry, by J. Koryta, J. Dvorak and V. Bohackova, published by Methuen and Co., London, 350 pages.

Electropainting, by R. L. Yeates, published by Robert Draper Ltd., Teddington, Middx., England, 2nd ed. 1970, 278 pages, £ 7.

Technological Developments in Lead and Zinc Production and Their Significance to Developing Countries, Rept. Expert Group Meeting on Lead and Zinc Industries, London 1969, published by U N I D O, 85 pages.

Academic Press, New York, 1970 : (1) Phase Equilibria, by A. Reisman, 550 pages approx., $ 27.50 : (1) The Theory of Adsorption and Catalysis, by A. Clark, 400 pages approx., $ 19.50 ; (3) Electron Transfer Reactions of Complex Ions in Solution, by H. Taube, 110 pages approx., $ 5.75 ; (4) Phase Diagrams - Materials Science and Technology, by A. M. Alper (Ed.), Volume 1 - Theory, Principles, and Techniques of Phase Diagrams, 357 pages, $ 16 ; Volume 2- The Use of Phase Diagrams in Metals, Refractories, Ceramics, Glass and Electronic Materials, 350 pages approx., $ 16 ; Volume 3 — The Use of Phase Diagrams in Electronic Materials and Glass Technology, 325 pages approx., in preparation : (5) Physical Chemistry — An Advanced Treatise, Volume 4 — Molecular Properties, by D. Henderson (Ed.), 775 pages approx., $ 39 ; (6) Catalytic Processes and Proven Catalysts, by C. L. Thomas, 250 pages approx., $ 12.50 ; (7) Advances in Quantum Chemistry, Volume 5, by Per-Olov Lowdin (Ed.), 325 pages approx., $ 17.

Index of Chemistry Films, Sixth Edition, published by the Royal Institute of Chemistry, London, 1970, 347 pages, 40 sh.

Reverse Osmosis, by S. Sourirajan, published by Logos Press Ltd , London, 580 pages, £ 8.

Batteries and Energy Systems, by C. L. Mantell, published by McGraw-Hill, New york, 1970, 265 pages, $ 14.

The Chemistry and Physics of High Energy Reactions, by E. J. Henley and E. R. Johnson, published by Plenum Publishing Corporation, New York, 1970, 475 pages, 210 sh.

R and D — A Select Bibliography, published by the Library, Indian Institute of Science, Bangalore, 1970, 36 pages.

Cobalt Monograph — Volume 1, Cobalt—Base Superalloys, 1970 ; Volume 2, Magnetic Materials, 1971 : published by Cobalt Information Centre, Brussels.

Technological Change : Its Impact on Man and Society, by I. G. Mesthene published by Harvard, 1970, 127 pages.

Robert Draper Ltd., Teddington, Middx., England : (1) Electroplating Science, by B. Gaida, 1970, 254 pages, $ 15 ; (2) Analysis of Electroplating and Related Solutions, by K. E. Langford and J. E. Parker, 4th revised and enlarged ed., 1971, 500 pages approx., $ 32.

Applications Manual for paint and Protective Coatings, by W. F. Gross,

published by McGraw-Hill Book Co., New York, $ 12.50.

Surface Treatment of Zinc Alloy Pressure Die Castings, by W. Ruegg. published by Juris Druck Verlag, Zurich, 1970, 493 pages ; in German.

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Platinum Metals Review, Vol. 14, No. 4, 1970, Johnson Metthey & Co., Ltd., London.

World Mining, Vol. 23, No. 10-12, 1970, Miller Freeman Publications, San Francisco.

British Patents, Division H1, Patent Office, London.

Science and Engineering, Vol. 23, No. 10, 1970, Vol. 24, No. 1, 1971 : India Society of Engineers, Calcutta.

American Reporter, Vol. 20, No. 25, 26, 1970 ; Vol. 21, No. 1-4, 1971, United States Information Service, New Delhi.

Endeavour, Vol. 29, No. 108, 1970, ICI Ltd., London.

Metal Finishing Journal, Vol. 16, No. 190-192, 1970, Fuel and Metallurgical Journal Ltd., London.

Current Titles in Electrochemistry, Vol. 2, No. 12, 1970 ; Vol. 3, No. 1, 2, 1971, SAEST, Karaikudi.

Corrosion Prevention and Control, Vol. 17, No. 4, 5, 1970, Scientific Surveys Ltd., London.

CSIR News, Vol. 20, No. 23, 24, 1970 ; Vol. 21, No. 1-3, 1971, New Delhi.

UN Weekly Newsletter, Vol. 18, No. 51, 52, 1970 ; Vol. 19, No. 1-10, 1971. UN Information Centre, New Delhi.

Metal Finishing, Vol. 10-12, 1970 Metals and Plastics Publications, Inc., Westwood, N. J., U. S. A.

OSU Research Review, Vol. 7, No. 2, 4, 1970, Research Foundation, Ohio State University, Columbus.

Australasian Institute of Metal Finishing. Monthly Newsletter, October, November, 1970, Melbourne Branch.

Anti-Corrosion Methods and Materials, Vol. 17, No. 10, 11, 1970, Sawell Publications Ltd., London.

Electroplating and Metal Finishing, Vol. 23, No. 10, 12, 1970, Wheatland Journas Ltd., London.

Cobalt, No. 48, 49, 1970, Cobalt Information Centre, Brussels.

American Cyanamid Company, Wayne, N. J. : (1) Mining Chemica's Handbook—Mineral Dressing Notes, No. 26, 101 pages plus tables ; (2) Chemistry of Dyanidation—Mineral Dressing Notes No. 23, (revision), 1968, 58 pages ; (3) Cynamid flocculants for the Mining Industry, 1967, 20 pages.

International Union of Pure and Applied Chemistry, Information Bulletins : Appendices on Tentative Nomenclature Symbols, Units and Standards -(1) No. 6--Nomenclature for Vitamin B6 and Related Compounds, 4 pages ; (2) No. 7-Carbohydrate Nomenclature —1, 71 pages; (3) No. 8-Nomenclature of Inorganic Boron Compounds, 25 pages plus figures, IUPAC Secretariat, Oxford, 1970.

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Transactions of the SAEST, Vol. 5, No. 3, 4, 1970, Karaikudi.

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Electrodeposition and Radiation Curing of Coatings, by M. W. Ranney published by Noyes Data Corporation, Park Ridge, N. J., U. S. A., 1970, 170 pages, $ 35.

News Letter, Institution of Engineers (India), Mysore Centre, Bangalore, January 1971.

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Electro Technology, Vol. 14, No 3, 4, 1970, Society of Electronic Engineers, Bangalore.

Galvanotechnik, Vol. 61, No. 9-18, 1970, Eugen G. Lenze Verlag, Saulgau Wurtt, Germany.

Metal Finishing Suppliers' Association, Inc., Birmingham, Mi., U. S A., (1) Quality Metal Finishing Guide—Zinc and Cadmium Coatings, 27 pages $ 1 ; (2) Quality Metal Finishing Guide—Copper - Nickel - Chromium and Nickel—Chromium Coatings, 28 pages, $ 1 ; (3) Guide to the Regulations Governing the Packaging, Labeling and Shipping of Hazardous Materials used in Metal Finishing, 1970, 62 pages.

Lead Abstracts, Vol. 10, 1970 LDA, London through Indian Lead Zinc Information Centre, Calcutta.

HTS Digest, Vol. 10, No. 4, 1970, HAL Technical Society, Bangalore.

Journal of the Indian Institute of Science, Vol. 52, No. 4, 1970, Bangalore.

Meta's Engineering Quarterly, Vol. 10, No. 4, 1970, American Society for Metals Park, Ohio.

Australasian Corrosion Engineering, Vol. 14, No. 9, 1970, North Sydney N. S. W.

Cuba, No. 22-25, 970, Embassy of Cuba, New Delhi.

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Quarterly Bulletin of Steel Statistics for Europe, Vol. 21, No. 1, 1970,

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Chemical Age of India, Vol. 21, No. 12, 1970, (21st Anniversary); Vol. 22, No. 1, 1971, Technical Press Publications, Bombay.

Information News Letter, Industrial Liaison and Extension Service, Vol. 9, No. 3, 1970, C. S. I. R, New Delhi.

Rural Electrification, Vol. 12, published by U. N., New York, 1970, 43 pages blus annex., $ 0 65 ; through UN Information Centre, New Delhi.

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Korrozios Figyelo, Vol. 10, No. 4, 5, 1970. Budapest,

Cobalt-Base Superalloys – 1970 Cobalt Monograph Series Volum 1, published by Cobalt Information Centre, Brussels 1970, 72 pages.

Current Contents Science and Technology, Vol. 1, No. 1, 1971, Indian Documentation Service, Gurgaon.

Zinc Abstracts, Vol 28, No 10, 11, 1970, ZDA, London through Indian Lead Zinc Information Centre, New Delhi.

BOOK REVIEWS

Edelmetal - Galvanotechnik (Precious Metal Electroplating), by Arvid von Krusenstjern, published by Eugen G. Leuze, Verlag, Saulgau, Wurttemberg, 1970, 367 pages, DM 40 (in German).

The publication is Vol. 14 in the " Electroplating Series ", and includes results of researches made after the publication of Vol. 5 in the same series by Johann Fischer in 1960. The book aims at a unique presentation of collected data on Precious Metal plating in 3 chapters : chapter I deals with silver, chapter II with gold, and chapter III with the platinum group metals Rh, Pt, Pd, Ru, Ir and Os. The first two chapters are written in greater detail and include : general properties of the metal, bath compositions in use - both cyanide - free and cyanide type, bright and hard coatings, physico - chemical properties of the electrolytes, anodes and cathodes, properties, pre—, and post-treatments for coatings, addition agents, alloy plating and important applications. In the case of the the platinum group metals, up - to - date information is included as far as is available, though not very detailed. 146 illustrations and 55 tables are used in the presentation, which is in a simple language, and the treatment of the subject seems to aim at a two - fold objective : to explain the how and why of precious metal plating to the practical electroplater, and to help to form a firm foundation to build further on for the research worker. To achieve the latter a list of 547 references is included, which is quite valuable.

—E.S.D. and K.I.V.

Metal coating of Plastics by F A. Lowenheim, published by Noyes Data Corporation, Park Ridge, N.J., U. S. A., 1970. 254 pages, $ 35.

The metallizing of plastics has made big headway in the industrial field during recent years, and the publishers are to be congratulated in bringing out this valume based on U. S. Patent information. Dr. Lowenheim is, of course, well known to metal finishesrs and electrochemists.

There are 11 chapters : preparation for electoless, substrates, other pre-treatments, adhesives-inks, silvering, electroless copper-nickel - cobalt-magnetic alloys - precious metals, organic solvents - organometallics, vacuum metallizing-gas phase - spray, and specific end use. In the end 3 indices are included : company, inventor and patent number.

The presentation of the subject matter is excellent, with details covering the procedure, composition and operating conditions, and illustration with examples. The uses include ornamental, printed circuits, fuel cells and miscellaneous The information furnished here is not readily available from the normal literature sources. Noyes Data Corporation have published quite a large number of books of this type in chemical technology and other areas, and the current one is certainly a valuable addition.

—T.L R.

Cobalt – Base Super Alloys - 1970, Cobalt Monograph Series by C. P. Sullivan, M. J. Donachie, Jr., and F. R. Morral, published by the Centre D'Information du Cobalt, Brussels, 72 pages.

The monograph covers a critical survey of cobalt - base superalloy development with emphasis on the relationship between mechanical properties and microstructure. This issue replaces the older one published a decade ago. Although cobalt-base superalloys are used at present only to a limited extent in high temprature applications like turbines, exhaust case assemblies, burner liners, etc , the future is shown to be very promising even to the extent of replacing the nickel - base alloys.

The recent advances in the technology of cobalt-base superalloys are presented in 14 chapters, including

a list of 239 references. The subject matter includes compositions and property data of the alloys, strengthening due to precipitation of carbides and intermetallic compounds, grain size effects, dispersion hardening, effects of minor element additions, corrosion and prevention in different environments, effects due to allotropic hcp-fcc transformation, dislocations and stacking faults, processing techniques including vacuum and powder metallurgy, and thermal fatigue in cobalt-base alloys. The monograph contains very impressive optical and electron micrographs. The authors have succeeded to a great extent in relating the microstructure to the mechanical properties of the alloys. In addition to the concluding chapter, each chapter ends in 'Summary and Critical Comments'

—V.V.R.K.P and K.I.V.

Current Corrosion Research in Scandinavia : Lectures delivered at the IVth Scandinavian Corrossion Congress, Helsinki, 1964 ; by J. Larinkari (Ed. — in — Chief), published by Kemian Keskusliitto, Helsinki, Finland, 1965, 363 pages, £ 6 sh10.

The proceedings of the Corrosion Congress held at Helsinki during 1964 are covered in this publication. There are 39 papers on various aspects of corrosion (ferrous and non - ferrous) : fundamentals, testing, pulp and paper corrosion, marine corrosion, special applications, and five reviews. It is interesting to note that one - third of the contributions are on the theoretical aspects. The latter are quite important from the view point of the mechanism of corrosion as well as the proper choice of a material to suit a given system. Practically all the facets of the subject are covered here. The volume gives a good insight into the recent advances made in Scandinavia in this field. The get-up and printing leave nothing to be desired. This is a 'must' for corrosion scientists and engineers

—T.L.R.

The Chemical Analysis of Electroplating Solutions : by Terrance, H. Irvine, published by Chemical Publishing Co., Inc., New York, 1970, 181 pages, $ 8.50

This book has been brought out with the object of acquainting the chemist/electroplater with the theory behind the various analytical procedures in controlling within proper limits, the concentration of the pertinent constituents of the plating baths. It provides a practical treatise on the inorganic analytical processes employed in electroplating, a science which has a definite place in the realm of chemistry.

The publication consists of eleven chapters. Analytical techniques like normality, end point, indicators, preparation of standard solution, handling of laboratory waxes, etc., are described in the first chapter. The other chapters have been arranged periodic family groupwise pertaining to the metal. The second chapter consists of chromium, molybdenum and tungsten (Gr. VI-B family). The third chapter consists of manganese group, and since none of these metals have found significant industrial application details of analytical procedure have not been included. In the next chapter (Group VIII-family), electroplating solutions from metals like iron, ruthenium, osmium, cobalt, palladium, etc., are dealt with. In a similar manner all types of plating solutions like copper, tin, zinc, gold, etc., are covered in the remaining chapters.

In each chapter analysis of the metal content, and other radicals like chloride, sulphate, cyanide, hydroxide, etc., are described. In giving the procedures in each chapter details like the solutions required and the theoretical explanation of the reaction are included. Analysis of alloy solutions and brief instrumental analytical procedures are described. A useful appendix on indictors, percentage of the metals and salts in chemicals used in electroplating, suggestions for storing of chemicals, conversion tables, etc., are included.

This book is well written by a specialist in the field and it will prove quite useful to the chemists engaged in electroplating processes, in doing his job well.

—S.K.

TI Stainless Tubes Technical Data, published by T I Stainless Tubes Ltd. Oldbury, Warley, Worc., England, 1969.

There are 13 sections in this loose-leaf publication containing valuable information concerning stainless steels used for the manufacture of seamless and welded tubes and tubular products : product range, metallurgy, corrosion resistance, specifications, materials data, manufacturing processes, dimensional tolerances, quality control, tube manipulation, welding, machining, general tables and pipe fittings.

—T.L.R.

Permutit Co., Paramus, N. J., U. S. A., (1) Permutit Pollution Control for Metal Finishing Processes, Bulletin 5427, 1969, 12 pages ; (2) Plating Waste Treatment Systems, 1 page ; (3) Permutit Engineered Reserve Osmosis Systems, Bulletin 5572 4 pages.

Interesting information is available in these pamphlets put out by Permutit whose operations are well known everywhere. They are help-

full while dealing with pollution control, waste treatment, and fluid treatment by the important technique of reverse osmosis.

—T.L.R.

Design Engineering Series-Metals : Vol. I & II, edited by John Dancy, published by Morgan Grampian (Publishers) Ltd., London, 1970 208 pages (Vol. I) and 168 pages (Vol. II), £ 2.75 each.

These handbooks of the Design Engineering Series form a valuable guide for the selection of materials for design purposes. It is of late that the design engineers realized the necessity of a background knowledge of the properties of materials during the selection and specification of materials. Unfortunately there was a dearth of good quality books to provide the necessary information. These handbooks of the Design Engineering Series fill the vacuum in this respect, and the editors and the publishers deserve all praise for their admirable contribution.

Metals-Vol. I of this series provides data on ferrous metals; the iron and steel metallurgy, essential information for the selection and specification of irons and steels, various types of metallic coatings on steel, the art of casting and the various metal forming techniqes including a chapter on superplastic metals and another chapter on powder metallurgy.

Metals—Vol. II of this series provides data on non-ferrous metals and alloys, including chapters on joining, and metal spraying and electroplating techniques. Chapters 1 to 10 give essential information for the selection and specification of non-ferrous metals and alloys in cast, wrought and forged forms, with examples of typical applications. Chapter 11 discusses the modern composites, the fibre reinforced metals, while chapters 12 to 14 are devoted to the methods of welding brazing and soldering for joining of metals. The last two chapters are concerned with metal spraying and electroplating on metals.

The technical value of the two volumes is considerably enhanced by (1) the large number of references given at the end of the main chapters, (2) by the beautiful illustration through figures, diagrams, and photographs, and (3) by including a section called Product Locator. The Product Locator has been compiled to assist designers and engineers in locating suppliers or metal workers to fill the requirements of a particular product. The Product Locator includes both ferrous and non-ferrous matals, and concludes with a list of suppliers' names and addresses This type of information is invaluable to the design and production engineers, and the authors are to be congratulated for the pains they have taken in compiling this information.

The book is excellently printed and the price is not high in view of the usefulness of the book; enormous efforts are required to produce a handbook of this type. These volumes will adorn the bookshelves of all technical libraries, offices and individual engineers.

K. I. V.

Rural Electrification, Volume 12, published by Economic Commission for Europe, United Nations, New York, 1970, 43 pages plus annexes, $ 0.65.

The developing countries are very much concerned with rural electrification, and this publication is twelfth in the series beginning with Volume 1 in 1956, based on the findings of the working parties set up for this purpose: It is divided into 7 parts: general considerations; application of regulations, codes and standards; atmospheric and mechanical conditions; components of overhead electric lines in rural networks; rural transformer sub-stations; features of particular solutions adopted, and conclusion. The matter is well supplemented with tables and figures. This is certainly a worthwhille volume, as with its predecessors.

—K.I.V.

Lectrodip Process, by Carrs Paints Ltd., Birmingham, technical information —8 pages, and press releases 4 and 2 pages.

The advantages of the electrocoating techniques are well known, and details of the Lectrodip process developed by Carrs Paints are described here. They include the process, control. plant and electrical requirements and stoving; operation of a new plant for coating million car wheels per year.

—T.L.R.

Lectures of the 3rd Symposium on Electroplating, held at Budapest Dec. 1-3,1970,published by Scientific Society of Mechanical Engineers, Budapest, 1970, 242 pages.

The volume under review comprises 28 lectures delivered at the 3rd sympoium on Electroplating, organized by the Scientific Society of Mechanical Engineers, Hungary, at Budapest during early December 1970. Six of them are in English, while ten of the remaining are in German. The articles fall into the following categories : reviews of a general nature, plant experiences and research reports. Throughout, the emphasis is on the practical aspects rather than on theoretical niceties.

A large number of papers (seven) is devoted to the electroplating of organic materials, a field which has been developing fast in the past few years. Of particular interest are the articles by Schwarz, and Rempell, the first, a general review of the field and

a step – by -step description of the process, and the other, a contribution to explain the mechanism of bonding of metals and ABS-polymers. Orgovan's paper on the manufacture by electrochemical means of tools used in the plastics industry is also very informative. Other articles in this category deal with specific problems of the process, e.g. simultaneous pickling and activation of surfaces, plating of PVC-based mixtures and the stability of electroless copper baths used for plating of plastics.

Another important new field, viz., that of printed ciruits is covered by five articles. Macneill and Hasko, in separate articles discuss the various aspects of electroplating as applied to the electronic industry. Ehrich reports a new technique, the patented NOVOPRINT process, for making printed circuits, which offers several advantages including economic ones, over the conventional methods, and makes use of a thixotropic single-component substrate leadidg to uniform layer formation. Chalkley and Polcrenczky describe some specail aspects of manufacture of through-hole printed circuits, the former in the use of copper pyrophosphate electrolytes and the latter in the use of a punched tape drawing machine.

Various aspects of chromium aud nickel plating are dealt with in several articles ¡While Solowjowa et al. discuss the production and properties of electrolytic chromium produced at high current densities, Fullop, and Csokan and Royik, deal in their articles with the production, structure and properties of hard chromium. Deposition of porous chromium layers and chromium plating of pressure cylinders form the subject matter of other articles. The deposition of hard ceramic particles in an electrolytic bath of nickel salts is the interesting topic of an article by Metzger. Other articles deal with the deposition of palladium, gold, silver and shiny lead-tin surfaces.

There are also papers devoted to various technological aspects of electroplating. Such topics as design of filtering equipment for electrolytes, a casting method for a plating plant, and air actuated storing of electrolytes are covered in these.

It can be seen thus, that the proceedings cover a large spectrum of the subject of electroplating. This has resulted in a heterogeneous collection of papers without any common theme This is, of course inevitable, once a symposium is organised without defining the area very clearly. Electroplating to-day has grown into such a vast field that it would be advizable, when organizing conferences, to focus attention on any particular aspect at a time. Alternatively some amout of editing of the proceedings into broad specialized areas, would seem worth the while.

T.R & K.I.V.

Oakite Products Inc., Berkeley Heights, N J., U S. A: (1) Metal Cleaning Fundamentals, Materials and Methods, 1970, 20 pages; (2) The Oakite Chromicoat Process, 1970, 4 pages; (3) Better Phosphate Coatings, 1969, 4 pages.

These three brochures contain interesting information, with special reference to use of Oakite proprietary materials for metal cleaning, chromicoat conversion coating on aluminium, and a phosphate coating with new surface activators.

—T.L.R.

Current Contents Science and Technology, Vol. 1, No. 1, 1971, published by Indian Documentation Service, Gurgaon, Haryana, 94 pages.

This is a new monthly to cover the contents page of Indian periodicals. Indeed, with the increasing output of literature in India during the last decade, publications of this nature will help in keeping in touch with the recent papers published in this contry. It contains, in addition, the journals covered, together with the author index and address directory. It is to be hoped that more journals will be covered in subsequent issues.

—T.L.R.

Guide to the Regulations Governing the Packaging, Labeling and Shipping of Hazardous Materials used in Metal Finishing, compiled by Metal Finishing Suppliers' Associatton, Inc., Birmingham, Mich., U.S.A., 1970, 62 pages.

In this publication, Metal Finishing Suppliers' Association (MFSA) have listed alphabetically the chemicals used in metal finishing processes. In each case a brief properties of the chemical grades, packing and the relevant shipping regulations are given as a guidance to the user, shipper aud carriers. The internationally accepted labels to indicate the type of hazard are also indicated under each chemical,

Shipping regulations for transportation by rail, water and by air are indicated. Labels, which would be attached to the package and which indicate the type of hazard, are given with illustrations and size. A list of chemical safety data sheets is included. This publication will be useful both to to the electroplater, electrochemist and the manufacturers of chemicals. A publication like this should be available in all libraries for refernce. The MFSA should be complimented for this publication.

S.K.

Rare-Earth Metals in Steels by N. Kippenhan and K. A. Gschneidner, Jr., published by Molybdenum Corpn. of America, New York, 1970, 61 pages.

This report has been prepared by the Rare-Earth Information Centre, Institute for Atomic Research, Iowa State University. There are 7 sections: introduction, low alloy steels, high alloy steels, Miscellaneous information, summary, addendum and 88 references. It highlights the literature published during the 1960's. It is interesting to note that about two-thirds of the information available is from the U.S.S.R. Rare earths impart beneficial as well as deleterious effects on steel, and it is good to know the details from publications of this type. One will be in a better position with respect to choice of a material to meet a specific need.

—T.L.R.

Engineering Index of India, Vol. 1, No. 4, 1970, published by Malaviya Regional Engineering College, Jaipur, 420 pages, Rs. 35 annual.

There are 11 sections in the index to serve as a guide to literature published in India in various branches of engineering. An author and subject index are included. Quite a large number of journals have been covered. It is a useful publication, coming as it does from a College.

—T.L.R.

Dalic Process for Selective Area Plating, by Metadalic Ltd; Crawley, Sussex, England.

This process electroplates selective areas without using immersion tanks. The operation is simple and rapid deposition is possible. This leaflet describes the method and the applications. Quite a large number of metals can be plated, and the substrate could be iron and steel, stainless steel, copper and zinc alloys, and some aluminium alloys. The applications include missile and electronic components, and aircraft. The technique first originated in France in the early 1940s, and has developed very much eversince. This is an interesting publication for metal finishers.

—T.L.R.