NEWS SECTION

SOCIETY REPORT

New Members

Member: S. Ganguly

Life Substaining Member: Eastern Electronics, Faridabad (New Delhi)

Personals

N. R. Kuloor has been elected as Registrar, Indian Institute of Chemical Engineers.

Meetings

Under the auspices of the Electroplating and Metal Finishing Association, Madras, Dr. Ram Dev Bedi of M/S. M & T Chemicals, USA, gave a talk on 'CHROMIUM PLATING' on March 6, 1965. The Director of Small Industries Service Institute presided. Shri A. K. Bose, Director-General Manager of Wheel and Rim (I) Ltd., introduced the speaker, and said that Dr. Bedi has studied in detail the various aspects of high speed chromium plating. Dr. Bedi traced the history of chromium plating and said that commercial chromium plating was originated by Prof. C. G. Fink of Columbia University with the conventional chromic acid sulphate ratio. M/S Unichrome bought the plates from Prof. Fink and kept on improving the process so that M & T could have a lead over other commercial chromium plating processes. He explained the salient features of SRHS process, the chief of which being better efficiency of the bath which is 22 per cent as against the usual 15 per cent of the conventional bath. The SRHS bath, the speaker said, corresponds to automation in plating in that the ratio of chromic acid to sulphate is automatically balanced by releasing the sulphate ion from the catalysts potassium silicofluride and strontium sulphate. The SRHS bath gives a deposit which is crackfree and hence affords better protection to the steel surface over the undercoat of nickel. It also gives brighter plating over the normal range of current density and is less susceptible to temperature changes. This bath has less tendency for build up of iron. For both decorative and hard chromium, the same bath could be used. Then the speaker touched on the materials of construction for operating the SRHS bath. He mentioned that SRHS bath could be used for plating on aluminium, the undercoat being provided by their patented Alstan-70 process stannate bath. There was an interesting discussion after the lecture. With the vote of thanks proposed by the Secretary of the Association, Shri Govindarajulu, the meeting terminated.

The Eighth Meeting of the Governing Council of the Society was held on April 26, 1965 at the Indian Institute of Science, Bangalore.

The Second Annual General Body Meeting of the Society was held on May 28, 1965 at the Indian Institute of Science. The Minutes of the Meeting held on August 27, 1964 were confirmed. The Secretary-Treasurer presented the Annual Report for 1964 covering office-bearers, technical and business meetings, the Journal, membership and miscellaneous matters.

GENERAL NOTES

Symposium on the Alkali Metals

An International Symposium on 'The Alkali Metals' has been arranged by the Chemical Society, London at the University of Nottingham England during July 1966. It is intended to reflect recent developments in the chemistry of the alkali metals.

Electrolytic Method for Sewage Treatment

A new electrolytic method of treating sewage in coastal areas has been devised recently. The sewage is reduced to pulp, mixed with sea water and electrolysed under a low voltage in a bank of specially designed cells. The chlorine which is produced immediately deodorizes the liquid and commences a sterlization process which continues in the next stage. The electrolysis also generates a lime-magnesia flocculating agent which greatly hastens the sludge separation. About 90 per cent of valuable minerals in the sewage, especially phosphate, is stated to be held back in the sludge. This new system will provide clean beaches and safer bathing at less cost in plant installation, and the maximum amount of automatic control will be possible.—Chemistry in Britain, Vol. 1, No. 1, 43, 1965.

Battery Symposium

The December 1964 issue of Zinc Abstracts has published abstracts of 9 papers presented at the Fourth International Battery Symposium, Brighton, September 1964. They cover nickel-cadmium cells, silver-zinc secondary batteries, porous electrodes, Leclanche-type and silver-cadmium batteries.

International Lead Conference

The Second International Lead Conference will be held in Arnhem, Holland during October 1965. It will be concerned with the manufacture and use of lead sheathed cables, lead acid batteries and many other applications of lead and its alloys. The technical programme will be supplemented with an exhibition of materials and equipment of interest to the lead-using industries.

High Speed Anodizing

The International Anodizing Corporation, Illinois, U. S. A. has set up a plant for the high speed anodizing and dyeing of coil stock. This 250 ft. long, quarter of a million dollar line, can process coil stock 0.010 to 0.091 inch thick and up to 50 inch wide at a speed of up to 40 ft. per minute and produces anodic coating thicknesses of 0.0005 to 0.002 inch. Depending on the application, anodizing is carried out using 20 per cent sulphuric acid with current densities of 100 to 125 asf at 90 to 110 F. The sealing takes about 1.5 minutes and dyeing 2 minutes.—Metal Finishing J., Vol. 11, 74, 1965.

Symposium on Micro-Metallurgy

The National Metallurgical Laboratory, Jamshedpur held a Symposium on "Micro-Metallurgy—The Role of Minute Additions to Ferrous and Non-ferrous Metals and Alloys" in March 1965. Abstracts of the 29 papers presented have been published in NML Technical Journal, February 1965.

Australian Conference on Nickel-Chromium Plating

The Third Australian Conference of the American Electroplaters' Society was held at Melbourne during October 1964. The following papers were presented in 2 technical sessions: (1) Recent developments in nickel-chromium plating, (2) Microporous chromium for durable decorative plate, (3) The behaviour of primary nickel in electroplating, (4) Applications of titanium in nickel-chromium plating and (5) Metallic impurities in nickel plating solutions. Abstracts of these papers can be found in Electroplating and Metal Finishing, December 1964.

Corrosion Chart Guides

'Corrosion Technology' has started the publication of Chart Guides containing a fund of information of value to Corrosion technologists. The February and March 1965 issues cover respectively the corrosion behaviour of metals in natural environments and in chemicals.

ECS Meeting

At the San Fransisco Meeting of the Electrochemical Society held during May 1965, 270 papers were presented under the following technical sessions: electric insulation; electronics — luminescence and semi-conductors; electro-organic — industrial electrolytic and theoretical electrochemistry; electrothermics and metallurgy; battery; theoretical electrochemistry. Abstract have been published in the March 1965 issue of JECS.

Corrosion Conference in London

In December 1964 the Corrosion Conference was held in London in conjunction with the Corrosion and Metal Finishing Exhibition. The March 1965 issue of Corrosion Prevention and Control has published detailed abstracts of the 6 papers: (1) The preparation of metals for protective finishes, (2) Maintenance of steel structures within the Central Electricity Generating Board, (3) The application and performance of pre-construction primers on steel plate, (4) Recent advances in cathodic protection, (5) The corrosion protection of pre-stressed concrete pipes and (6) The design of steel structures and prospective measures with corrosion in mind.

Caustic Soda Plant at Renukoot

The caustic soda plant of Kanoria Chemicals and Industries Ltd. has a rated capacity of 50 tons of caustic soda per day and ranges as one of the largest of about 15 factories in India. The rectifier unit supplies D.C. of 50,000 amperes and 160 volts through a heavy copper busbar system to the electrolytic cell plant. The installation consists of 32 mercury cells of Krebs type ZT-50 which are of the latest design and have proved very successful in the economic production of high purity rayon grade caustic soda.—Chemical Age of India, Vol. 16,323, 1965.

Vacuum Coated Steel Strip

Some American steel producers seem to think that vacuum evaporation as a method for

strip coating is a real competitor to hot dip aluminized strip or to the electrophoretic methods which are still largely in the development stage. It is, of course, only relatively recently that the problems of vacuum evaporation of thick metal coatings on metal substrates have been solved sufficiently to make practical application a sound proposition.—Electroplating and Metal Finishing, Vol. 18, 97, 1965.

Anodizing by Plasma

In experiments carried out at the General Instruments Corpn. in Newark, N. J., U.S.A., aluminium has been anodized in a plasma of oxygen ions which has been generated by a low pressure glow discharge in oxygen gas. In this arrangement the anodizing cathode is the glow discharge anode, the oxygen ions being extracted by the anodizing potential. The only practical application of the process so far in mind is for producing thin film capacitors for microcircuits, i.e., on vacuum evaporated aluminium films.—Electroplating and Metal Finishing, Vol. 18, 97, 1965.

Economics of Corrosion Control

Four papers on the economics of corrosion control have appeared in the March 1965 issue of Materials Protection: (1) Economic comparison of alternatives in equipment service life, (2) Evaluating new materials and new techniques by capitalized cost method, (3) Calculated-risk as a tool in corrosion economics and (4) Economics of using non-destructive testing in corrosion control programs.

Corrosion Symposium in Australia

A Symposium on "Reduction of Factory Operating Costs by Corrosion Control" was held by the Australasian Corrosion Association at the University of New South Wales during May 1965. The March 1965 issue of Australian Chemical Engineering has published the titles of the 13 pages presented under the following sections: (1) Economics of factory and plan maintenance, (2) Identification of the problem (3) Choice of materials of construction, and (4) Selection of surface coatings for protections.

Symposium on Chlorine

A Symposium on 'Utilisation of Chlorine and Development of Chlorine-based Products' was held at Madras during March 1965 under the joing sponsorship of the Development Council for Alkali and Allied Industries and the I.I.T., Madras. Twentytwo papers presented therein have been published in Chemical Age of India. May 1965. The full proceedings will be published by the I.I.T.

Industrial Finishing Exhibition

'Corrosion Prevention and Control' will once again be the sponsor of the International Industrial Finishers Exhibition to be held in London during April 1966. A technical conference will also be arranged to facilitate discussion of practical problems in industrial finishing.

Electrophoretic Coatings

Electrophoresis has made rapid strides, for example, in the development of coating teachniques for insulating or semiconducting deposits. These include the deposition of thermionic and insulating materials on to electron tube filaments, the formation of rubber gloves by elctrophoretic deposition of latex on to a mandrel and more recently, the fabrication of aluminium clad steel. One example for application of the process in space projects in that of a graphite rocket nozzle insert in the exhaust of a hydrogen-oxygen rocket motor which was protected by a tantalum carbide-iron-nickel coating sintered at 2300 C for 30 minutes in argon. Another is that of coating cutting tools with carbide. A major effect is presently being devoted to the development of oxidation-resistant coatings for refractory alloys.—Electroplating and Metal Finishing, Vol. 18, 137, 1965.

Coatings and Linings

There are 7 papers on coatings and linings of interest to corrosion technologists in the April 1965 issue of Materials Protection. (1) Protective coatings for ship bottoms, (2) Polyester coatings, (3) Inspection of thick film linings, (4) How to test coatings for specific applications, (5) Polyurethane liner extended life of cyclone dust separator in abrasive service, (6) Development and case history data on zinc dust-sodium silicate coatings, (7) Edge corrosion on aircraft: experiments with aluminium, magnesium and steel.

Electrochemical Society of Japan Meeting

The 32nd Annual Meeting of the Electrochemical Society of Japan was held at Tokyo during April 1965. The sessions covered: theoretical elctrochemistry and applied physical chemistry, industrial elctrolytic, corrosion and anti-corrosion, electrodeposition and sur-

face treatment, electro-organic, extractive metallurgy, electro-analysis, electric-discharge chemistry, electronics and materials for electrical industry, battery and high temperature chemistry and fused salts. Titles of the 124 papers presented have been published in JECS of Japan, Vol. 32, No. 4, 1964.

At the sessions on corrosion and anti-corrosion, V .K. V. Unni and T. L. Rama Char, Bangalore, contributed a paper on "Inhibition of the Corrosion of Aluminium-Manganese Alloy in Hydrochloric Acid Solutions by Butylamines".

Sea Horse Institute Meetings

The annual discussion meetings of the Sea Horse Institute were held from June 1 to 4, 1965, at Wrightsville Beach, N.C., U.S.A. Metals and Alloys, and some special topics covered the agenda.

Electroforming with Nickel

Electroformers need to know about mandrels, anodes, plating solutions, special techniques and applications for electroformed products. Current developments in these areas were reviewed in a recent seminar held by International Nickel Co. Inc. A detailed digest of the topics discussed has been published by Products Finishing, U.S.A., April 1965: (1) Nickel anodes, titanium baskets, anode bags; (2) A high-speed nickel electroforming solution for electrotypes; (3) Fast electrodeposition with concentrated nickel sulphamate; (4) Photography in electroforming; (5) Applications for electroformed screens; (6) Flexible molds and mandrels from silicone rubber, (7) Electroformed molds and dies; and (8) Electroforming prototypes.

AES Annual Convention

New York was the venue for the 52nd Annual Convention of the American Electroplaters' Society from July 12 to 15, 1965. Thirtytwo papers were presented covering various topics: fundamentals of plating, alloy plating, electroforming quaternary alloys, electrocoating paint, properties of deposits, surface preparation, surface conversion coatings, miscellaneous. Titles of the papers can be found in the April 1965 issue of Products Finishing.

Analytical Reviews

The April 1965 issue of Analytical Chemistry gives review reports on 16 subjects including coatings, ferrous and non-ferrous metallurgy, rubber and water analysis. There are a large number of references at the end of each report.

—T.L.R.