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Growth Opportunities in the 1990's

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The Australian Institute of Metal Finishing

The Singapore Metal Finishing Society

In Conjunction with MetalAsia/AutomAsia 90 Exhibition

Secretariat: Applied Research Corporation
Architectural Finishing

1 The Corrosion of Architectural Aluminium in the Atmosphere.
   F.W. Fahy; Department of Mechanical Engineering,
   University of Canterbury, ........................................New Zealand.

2 Aluminium Extrusions Powder Painting: An Overview
   Dr. L. Cadorna, M. Raisi & H. Bruckner; Aluengineering s.r.l., ....................Italy.

3 Fluoropolymer Finishes for Architectural Aluminium.
   R. Stoneberg; PPG Industries, Inc., ..........................................USA.

Engineering Coatings (1)

4 Wear Behaviour of Engineering Coatings and Surface Treatments.
   Dr. J.K. Dennis & K.S. Sagoo; Department of Mechanical and
   Production Engineering, Aston University, ........................................U.K.

5 Electroforming Today.
   Dr. S.A. Watson; Nickel Development Institute, .......................................U.K.

6 Electrodeposited CrAl₂O₃ Composite Coating for Wear Resistance.
   Harbin Institute of Technology, .....................................................China.

Processes for the 90’s (1)

7 Nickel Plating Industry Outlook for the 1990’s.
   R.A. Covert & Dr. G.A. Dibari; International Nickel Inc., .............................USA.

8 Decorative Hard Coatings - Superior Finish to High Surface Quality.
   Dr. U. Kopacz; Leybold AG, ..................................................West Germany.

9 Alkaline Non-Cyanide Copper Plating.
   Dr. G.A. Kline & J.M. Szotek; Enthone-OMI Inc., .....................................USA.

10 A Zinc Plating System to Achieve Substantially Improved Corrosion Resistance.
   John Wai; M & T SEA Pte. Ltd., ..................................................Australia.

11 Electroplaters are Agitators: A Guide to Improved Performance.
   Dr. D.R. Gabe; Institute of Polymer Technology and Materials Engineering,
   Loughborough University of Technology, ............................................U.K.
Pretreatment Processes

12 A Novel Zn-Ca System Phosphating Process.
Zhou Ji-Ping; Shanghai Dongfeng Phosphating Agent Factory, China.

13 Industrial Robotics for Surface Conditioning and Finishing.
T. Graf; 3M Co, USA.

Engineering Coatings (2)

14 Recent Advances in High Speed Chromium Plating.
Dr. K.R. Newby; Atochem North America Inc., USA.

15 BTL-1 Universal Bright Chromium Plating Process at High Efficiency and Substantially Free of Cathodic Low Density Etching.
Professor Fang Jing-Li, Wu Nai-Jun, Wang Zhan-Wen, Fang Jing & Yie Xiang-Rong; Applied Chemistry Institute, Nanjing University, China.

16 The Use of Pulse Rectifiers in Anodising and Hard Chromium Plating.
Dr. C. Colombini; ELCA s.r.l., Italy.

17 Behaviour of Trichrome Electroplating in Cathode Polarization.
Zhang Jing-Shuang, Professor Tu Zhen-Mi, Yang Zhe-Long, Miao Shen-Long & Qu Shu-Zhi; Department of Electrochemical Engineering, Harbin Institute of Technology, China.

Processes for the 90's (2)

18 Trends in Alloy Plating in Japan.
Prof. T. Hayashi; University of Osaka Prefecture, Japan.

19 Mechanical Plating and Galvanising.
J. Kleine; McDermid Australia Pty. Ltd., Australia.

20 Comparison of Modern Processes in Vacuum for the Improvement of Metallic Surfaces.
Dr. J. Moll, A. Feverstein, D. Hofmann & F. J. Korber; Leybold AG, West Germany.

21 Electroplating in the Nineties.
Dr. D. Snyder; Engelhard Corporation, USA.
Organic Coatings

22 Powder Coatings - Asia Pacific Technology and Markets.
R. McMahon; ICI Paints Asia Pacific, Singapore.

23 The Advance of Thermosetting Powder Coatings.
G. Wright; Oxyplast (New Zealand) Ltd., New Zealand.

24 Electrophoretic Coatings for Non Ferrous Metal Castings Giving Improved Properties and Reduced Pollution.
P. Ryder; Hawking International Limited, U.K.

Electroless Plating

25 BLE-1 High Speed Bright Electroless Nickel Plating at Low Temperature.
Professor Fang Jing-Li, Xin Jian-Shu & Ye Xiang-Rong;
Applied Chemistry Institute, Nanjing University, China.

26 A Study of the Kinetics of Electroless Composite Plating.
Professor Hu Xin-Guo & Li Nai-Chao;
Department of Applied Chemistry, Harbin Institute of Technology, China.

Electronics (1)

27 Advances in Acid Gold Plating for Electronics.
S.J. Hemsley; Engelhard Limited, U.K.

28 New Chemical Processing Technologies to Improve Multilayer Printed Wiring Board Quality.
Dr. H.W. Tan & K. Nargi-Toth; OMI Chemical Industries Pte. Ltd., Singapore.

29 Current Status of IC Lead Frame Plating in Japan.
Y. Okamura; Electroplating Engineers of Japan Ltd., Japan.

30 Corrosion Prevention and Chromates - The End of an Era.
Dr. B.R.W. Hinton; DSTO, Aeronautical Research Laboratory, Australia.

31 “Reflections on an Era”
Guest Lecturer: Dr. S. Wernick, OBE, U.K.
Anodising (1)

Dr. W. Dalla Barba; Italtecno s.r.l., .................................................. Italy.

33 Innovations in Architectural Anodizing and Multi Colouring of Aluminium.
J.L. Woods; Nova Color Inc., .......................................................... USA.

Engineering Coatings (3)

Xu Qiang-Lin, Ling Xiao-Tong, Guo Guo-Cal & Gu Yiao-Qian;
Shanghai Light Industry College, .................................................. China.

Electronics (2)

35 Pulse Plating for Printed Circuit Technology.
Dr. D.R. Gabe, M.R. Kalantary & M. Goodenough;
Loughborough University of Technology, ...................................... U.K.

36 Permalloy Pattern Electrodeposition for Magnetic Heads.
Professor P.L. Cavallotti, P. Barbieri, L. Nobili & G. Poupon;
Dipartimento Di Chimica Fisica Applicata del Politecnico Di Milano, .............. Italy.

37 Improvement of Reliability to Electroless Copper Plating by Applying of Vibratory De-Foaming Equipment.

Research Studies (1)

38 The Electron Spectroscopy of Chromium Deposits from Trivalent and Hexavalent Chromium Baths.
Dr. A.K. Hsieh, K.N. Chen & M.F. Chung;
National University of Singapore, .................................................. Singapore.

39 The Development of Modified Anodising Treatments for Aluminium Alloy/Metal Matrix Composites for Adhesive Bonding Purposes in the 1990's.
Dr. R.J. Davies & M.D. Ritchie; Rialtech Limited, ................................ U.K.
Anodising (2)

40 The Electrolytic Colouring of Anodised Aluminium.
G. Moritz; Candor Sweden AB, ................................................................. Sweden.

41 Effect of Different Anodic Oxidations on the Passivity Current of a Ti-6Al-4V Alloy.
Professor A. Cigada, P. Pedeferrri & M Cabrini; Dipartimento Di Chimica Fisica
Applicata, Politecnico di Milano, .............................................................. Italy.

42 Studies on the Electrocolouring of Aluminium Alloy.
Professor Zhou Shao-Min, Cai Xiao-Rong, Cai Jia Le & Yao Shi-Bing;
Department of Chemistry, Xiamen University, ............................................. China.

Brush Plating

43 Brush Plating onto Aluminium Bearing Alloys.
Dr. D.R. Eastham, Dr. J.K. Dennis & M. Turner; T & N Technology Ltd., .......... U.K.

44 Precision Selective Area Plating by the Dalic Process.
H. Levin & M.E. Levin; Levco-Dalic Company, ........................................... Australia.

45 Electrochemical Metallizing - A New Manufacturing Tool.
M. Rubinstein; Selectrons Ltd., ................................................................. USA.

Electronics (3)

J. Hupe & W. Metzger; Blasberg Oberflachentechnik GmbH, ............. West Germany.

47 Non-Woven Technology in Surface Preparation and Finishing for the Printed
Circuit Board.
K. Seita; Sumitomo 3M, ........................................................................... Japan.

48 Tin-Lead Plating on Encapsulated Semiconductor Leadframes.
H. van der Heijden & P.W. Meuldijk; Meco International B.V., ................. Holland.

Research Studies (2)

49 Influence of Ultrasonic Agitation on the Electrodeposition of Copper from Cu(II) -
EDTA Bath.
Dr. A. Chiba & Wu Wen-Chang; Faculty of Engineering,
Yokohama National University, ................................................................. Japan.

50 A New Process of Electroplating on Titanium and Titanium Alloys.
Yang Zhe-Long, Prof. Tu Zhen-Mi, Li Meng-Chu & Zhang Jing-Shuang;
Harbin Institute of Technology, ................................................................. China.
Alloy Plating (1)

51 Electrodeposition of Zn-Co Alloys from Zincate Type Baths.
M. Kume; Nagoya Municipal Industrial Research Institute, Japan.

52 Electrodeposited Zinc-Nickel Alloy Coatings.
Dr. S.A. Watson; Nickel Development Institute, U.K.

Coated Steels

53 Corrosion Behaviour of Coated Body Steel Metal Influenced by Surface Elements.
Dr. K. Bettenhausen; Mercedes-Benz AG, West Germany.

54 Characteristics of Thermal Diffused Zn/Su/Ni Triple Coated Steel Sheets.
R. Yoshihara, R. Wake & M. Yamamoto; Nippon Steel Corporation, Japan.

Plating Equipment

55 Filtration, Purification and Pumping of Electroplating Solutions.
J.H. Berg; Serfilco Ltd., USA.

56 The Atmospheric Evaporator and its Applications to the Metal Finishing Industries.

57 Fluoropolymer Heat Exchangers.
S.R. Wharry; Ametek/Haveg Division, USA.

58 Trends in Surface-Finishing Technologies in the Nineties and Related Challenges.
Dr. G.J. Rudzki; International Forecasting Institute, USA.

Alloy Plating (2)

59 Studies on the Anomalous Electrodeposition of Zn-Ni Alloy.
Prof. Zhou Shao-Min, Zhang Ying Zhou & Gu Zhi-Jun;
Department of Chemistry, Xiamen University, China.

60 Mechanism of Additives in Electroplating Sn-Zn Alloy.
Prof. Tu Zhen-Mi, Zhang Jing-Shuang, Zhang Ying-Jie, Yang Zhe-Long & An Mao-Zhong;
Harbin Institute of Technology, China.
WORKSHOP (1)
Plating Topics

61 Paper: Chromium Plating Simplified - Video
C.H. Peger; Hard Chrome Plating Consultants Inc., ........................................... USA.

WORKSHOP (2)
Management Topics

R. Fong Yan; S.E.C. Plating Pty. Ltd., ............................................................... Australia.

63 Workshop: Managing Manufacturing for the 1990’s.
Speaker: R.R. Green; Technology Transfer Council, .......................................... Australia.

Supplementary Papers

64 An Electrochemical Method to Control the Anodizing Process and Increasing the Crack of Porous Anodic Oxide Films.
Dr. Xavier Albert Ventura, Electroplating Consultant Camprodon, Barcelona, ................................................................. Spain.

65 Corrosion Testing of Zinc and Zinc Alloy Electrodeposited Coatings.
N. Gage and D.A. Wright
Materials Research Laboratory
Defence Science and Technology Organization, ........................................... Australia.

66 Ni-Sic Composite Plating
Material Research Laboratories, Industrial Technology Research Institute ... Taiwan.

67 Study on the electrodeposition of Ni-Zn alloys by means of potential sweep method with a titanium electrode.
Mitsuo Kurachi, and Masatoshi Ueno
Department of Metallurgy, Faculty of Engineering, Kyoto University, .............. Japan