

Tentative list of papers to be presented at LABAT '93, Varna, Druzhba, Bulgaria, June 7–11, 1993

ANODIC OXIDATION OF LEAD ALLOYS

1. NEW ASPECTS OF THE SOLID PHASE EQUILIBRIA IN THE TERNARY (Pb,Sn, Ca) SYSTEM, FOR $x_{Ca} < 25$ at.%

J.HERTZ, C.FORNASIERI, J.P.HILGER, M.NOTIN, Université de Nancy I, Laboratoire de Thermodynamique Metallurgique, 54506 Vandoeuvre-les-Nancy, France

2. CHARACTERISTICS OF JOINTS MADE BY A LABORATORY CAST-ON-STRAP PROCESS USING LOW ANTIMONY AND CALCIUM ALLOYS

Z.W.CHEN, J.B.SEE, Pasmenco Research Centre, Product Development, Boolaroo 2284, New Castle, N.S.W. Australia
W.F.GILLIAN, Pasmenco Metals, The Broken Hill Associated Smelters Pty. Ltd., Sales Office, Melbourne, Vic. 3000, Australia

3. RECENT DEVELOPMENTS IN LEAD ALLOYS FOR LEAD-ACID BATTERIES

J.B.SEE, Pasmenco Research Centre, Product Development, Boolaroo 2284, New Castle, N.S.W. Australia

4. THE LEAD ALLOYS FOR THE MAINTENANCE-FREE AND SEALED LEAD-ACID BATTERIES

C.R.LONG, Chongqing Institute of Storage Batteries, Chongqing 630054, China

5. INVESTIGATIONS ON THE CORROSION BEHAVIOUR OF Pb-Ag-Sn ALLOY UNDER THE INFLUENCE OF A.C. SUPERIMPOSITION

R.VIJAYAVALLI, Central Electrochemical Research Institute, Karaikudi 623 006, Tamilnadu, India

6. ANODIC BEHAVIOUR OF Pb-Sn ALLOYS IN H_2SO_4 SOLUTIONS

M.BOJINOV, Central Laboratory of Electrochemical Power Sources, Sofia 1113, Bulgaria
K.SALMI, G.SUNDHOLM, Helsinki University of Technology, Dept. of Physical Chemistry, SF-02150 Espoo, Finland

7. PROPERTIES OF THE CORROSION LAYER OF POSITIVE LEAD-ACID BATTERY ELECTRODE IN DEPENDENCE ON MANUFACTURING PARAMETERS

H.DIETZ, H.NIEPRASCHK, H.DORING, K.WIESENER, Dresden University of Technology, Department of Chemistry, D-8027 Dresden, Germany

8. CORROSION OF POSITIVE GRIDS

H.BREQUEL, J.P.HILGER, J.STEINMETZ, J.HERTZ, Université de Nancy I, Laboratoire de Chimie Minerale, Vandœuvre-les-Nancy 54506, France

9. RESEARCH OF THE VERY LOW ANTIMONY ALLOY FOR MAINTENANCE-FREE SEALED LEAD-ACID BATTERY

Y.CHEN, J.CHEN, Y.ZHANG, Nankai University, Institute of New Energy Material Chemistry, Tianjin 300071, China

10. THE ELECTROCHEMICAL CHARACTERISTICS OF OVER LOW ANTIMONY ALLOY OF LEAD

L.S.YANG, Z.Q.SHAN, C.Y.YANG, Y.W.ZHOU, Tianjin University, Dept. of Applied Chemistry, Tianjin 300072, China

11. INFLUENCE OF Sb, Sn AND Ca ON THE AMORPHIZATION OF THE CORROSION LAYER

B.MONAHOV, D.PAVLOV, Central Laboratory of Electrochemical Power Sources, Sofia 1113, Bulgaria

12. SOLID STATE MECHANISM OF HIGH VALENCE LEAD OXIDES FORMATION - CATALYTIC EFFECT OF Sb AND Bi ADDITIVES IN GRID ALLOYS

M.BQJINOV, D.PAVLOV, Central Laboratory of Electrochemical Power Sources, Sofia 1113, Bulgaria

PbO₂ ELECTRODE13. FUNDAMENTALS ON PbO₂ ELECTRODE

D.PAVLOV, Central Laboratory of Electrochemical Power Sources, Sofia 1113, Bulgaria

14. PROCESSES DURING THE PRODUCTION OF LEAD-ACID BATTERY POSITIVE PLATES FROM 4PbO.PbSO₄ PASTES

J.VILHUNEN, Neste Oy, Scientific Services, Analytical Research, SF-06191 Porvoo, Finland

J.TUMMAVUORI, University of Jyväskylä, Department of Chemistry, SF-40351 Jyväskylä, Finland

15. INFLUENCE OF RECHARGING POTENTIAL AND ACID CONCENTRATION ON DISCHARGE BEHAVIOUR OF PbO₂ ELECTRODES

E.MEISSNER, Varta Batterie AG, R & D Centre, D-6233 Kelkheim, Germany

16. PREMATURE CAPACITY LOSS OF PURE LEAD POSITIVE PLATE. AN EXAMPLE OF PREFERENTIAL DISCHARGE IN THE NEAR GRID REGION

M.DIMITROV, Central Laboratory of Electrochemical Power Sources, Sofia 1113, Bulgaria

17. RESISTANCE MEASUREMENTS OF THE GRID/ACTIVE MASS INTERPHASE

M.CALABEK, Technical University, Dept. of Electrotechnology, 662 09 Brno, Czecho-Slovakia
K.MICKA, Heyrovsky Institute of Physical Chemistry and Electrochemistry, 182 23 Prague 8, Czecho-Slovakia

18. A DIRECT DETERMINATION OF CONTACT RESISTANCE BETWEEN THE GRID AND THE ACTIVE MASS

K.V.RYBALKA, L.A.BEKETAeva, Frumkin Institute of electrochemistry, Russian Academy of Sciences, Moscow 117071, Russia

19. POSSIBILITIES TO REDUCE/AVOID THE PASSIVATION OF THE POSITIVE ELECTRODE OF THE LEAD-ACID BATTERY

J.GARCHE, Center for Solar Energy and Hydrogen Research, Energy Storage, D-7900 Ulm, Germany

TECHNOLOGY

20. NEW DATA ON THE ENERGETIC COEFFICIENT ON THE POSITIVE PLATE OF LEAD-ACID BATTERIES

C.D'ALKAINE, Federal University of Sao Carlos, Department of Chemistry, 13560 Sao Carlos, Brazil

21. PASTING WITH HYDRAULIC POWER

D.MELNIK, MAC Engineering and Equipment Company. Inc., Benton Harbor, MI 49022, USA

22. PERFORMANCE CHARACTERISTICS OF LEAD OXIDES IN PASTED LEAD-ACID BATTERY ELECTRODES

S.E.AFIFI, A.E.SABA, A.Y.SHENOUDA, Central Metallurgical R & D Institute, Electrometallurgy Laboratory, Cairo, Egypt

23. INFLUENCE OF THE ELECTRODE PASTE COMPOSITION ON THE CHARACTERISTICS OF THE ACTIVE MASS

Y.V.KAMENEV, Accumulator Institute "Istochnik", 197376 St.Peterburg, Russia

24. INFLUENCE OF THE CURRENT-CARRYING AGENTS ON THE POSITIVE PLATE FORMATION

Y.V.KAMENEV, V.N.LEONOV, Accumulator Institute "Istochnik",
197376 St.Peterburg, Russia

25. THE INFLUENCE OF A REST PERIOD DURING ANODIC FORMATION ON THE ELECTROCHEMICAL BEHAVIOUR OF THE POSITIVE ELECTRODE

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H.DIETZ, U.MOLLER, H.NIEPRASCHK, K.WIESENER, Dresden University of Technology, Department of Chemistry, D-8027 Dresden, Germany

26. ENERGY CONSUMPTION AT LEAD-ACID BATTERY PLATES FORMATION

G.PAPAZOV, Central Laboratory of Electrochemical Power Sources, Sofia 1113, Bulgaria

27. ON THE CORRELATION BETWEEN MANUFACTURING TECHNOLOGY, PHYSICOCHEMICAL AND ELECTROCHEMICAL PARAMETERS AND THE AH-CAPACITY (C₅) OF TUBULAR LEAD-ACID BATTERY ELECTRODES

H.DIETZ, I.HEINICKE, K.WIESENER, Dresden University of Technology, Department of Chemistry, D-8027 Dresden, Germany

28. WRAPPING TECHNOLOGY FOR GAS-RECOMBINATION BATTERIES

A.SCHWETZ, Elbak Batteriewerke GmbH, Machinery Division, A-8055 Graz, Austria

29. INFLUENCE OF THE EXPANDRE STRUCTURE ON THE PERFORMANCE OF THE LEAD-ACID BATTERY NEGATIVE PLATE

S.GANCHEVA, D.PAVLOV, Central Laboratory of Electrochemical Power Sources, Sofia 1113, Bulgaria

30. STABLE EXPANDER MATERIAL FOR LEAD-ACID BATTERIES. NEW RESULTS ON THE INTERACTION OF HUMIC SUBSTANCES AND LEAD

I. von BORSTEL, G.HOOGESTRAAT, W.ZIECHMANN, Deta Akkumulatorenwerk GmbH, D-3422 Bad Lauterberg im Harz, Germany

MODELS

31. A SIMPLIFIED MODEL FOR THE LEAD-ACID BATTERY

P.EKDUNGE, The Royal Institute of Technology, Applied Electrochemistry, S-100 44 Stockholm 70, Sweden

32. ON THE AGGREGATE OF SPHERES MODEL THEORETICAL CONSIDERATIONS

A.WINSEL, Varta Batterie AG, R & D Centre, D-6233 Kelkheim, Germany

E.BASHTAVELOVA, Central Laboratory of Electrochemical Power Sources, Sofia 1113, Bulgaria

33. PbO₂-ACTIVE MASS AS AN ELECTROCRYSTALLINE NETWORK

E.BASHTAVELOVA, Central Laboratory of Electrochemical Power Sources, Sofia 1113, Bulgaria

A.WINSEL, University of Kassel FB-18, 3500 Kassel, Germany

34. EXPERIMENTAL STUDY ON THE MODEL OF ALKALIZATION OF THE PbSO₄ ANODIC LAYER

HANG HU, Qingdao University, Department of Chemistry, Shandong Province 266071, China

35. MATHEMATICAL MODELLING AND MODEL VALIDATION FOR THE LEAD-ACID CELL

J.LANDFORS, D.SIMONSSON, A.SOKIRKO, The Royal Institute of Technology, Dept. Applied Electrochemistry, S-100 44 Stockholm 70, Sweden

36. MODELING AND OPTIMIZATION OF THE LEAD-ACID BATTERY CHARACTERISTICS

V.K.LUZHIN, Moscow Power Engineering Institute, Dept. Chemistry, 105835 Moscow, Russia

37. SIMULATION OF THE PHOTOELECTRIC PLANTS WITH USE OF THE LEAD-ACID BATTERY AS AN ENERGY STORAGE

V.K.LUZHIN, Moscow Power Engineering Institute, Dept. Chemistry, 105835 Moscow, Russia

BATTERY CHARGE, DISCHARGE AND TESTING

38. FAST CHARGING OF LEAD-ACID BATTERIES

D.CALASANZIO, FIAMM S.p.A., R & D Laboratory, 36075 Montecchio Maggior, Italy

M.MAJA, P.SPINELLI, Polytechnical University of Turin, 10129 Turin, Italy

39. FAST BATTERY CHARGING

E.VALERIOTE, Cominco Metals, Product Research Centre
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40. PULSE CHARGING RECOMBINANT LEAD-ACID BATTERIES WITH VARIABLE FREQUENCY TIED TO THE STATE OF CHARGE

D.K.NOWAK, University of Alabama in Huntsville, Johnson Research Center, Huntsville, AL 35399, USA

41. THE COMPOSITE CHARACTER OF THE DISCHARGE CAPACITY OF THE LEAD-ACID CELL

N.F.COMPAGNONE, Societa Industriale Accumulator (SINAC), R & D Department, 24058 Romano di Lombardia (BG), Italy

42. DRIVING CYCLE TESTING OF EV BATTERIES AND EV SYSTEMS

D.D.BRANDT, Bitrode Corporation, Fenton, Missouri 63026, USA

43. A-C IMPEDANCE OF THE LEAD-ACID BATTERY

L.A.BEKETAeva, K.V.RYBALKa, Frumkin Institute of Electrochemistry, Moscow 117071, Russia

44. IMPEDANCE STUDY OF THE LEAD-ACID ELECTRODE FORMATION

Z.STOYNOV, T.KOSEV, B.STOYNOVA, Central Laboratory of Electrochemical Power Sources, Sofia 1113, Bulgaria

45. IMPEDANCE BEHAVIOUR OF THE LEAD-ACID BATTERY IN THE FIRST LIFE CYCLES

T.KOSEV, Z.STOYNOV, B.STOYNOVA, Central Laboratory of Electrochemical Power Sources, Sofia 1113, Bulgaria

46. ELECTROLYTE STRATIFICATION IN ANTIMONY AND ANTIMONY-FREE LEAD-ACID BATTERIES

L.APATEANU, A.F.HOLLENKAMP, A.M.HUEY, M.J.KOOP, K.K.CONSTANTI, CSIRO, Division of Mineral Products, Port Melbourne, Vic. 3207, Australia

47. ACID STRATIFICATION IN LEAD-ACID BATTERIES AND ITS EFFECT ON CYCLE LIFE OF SLI BATTERIES IN DEPENDENCE ON CELL DESIGN AND CHARGING PROCEDURE

K.WIESENER, H.DIETZ, A.PREUSSE, H.NIEPRASCHK, D.MOLLER, J.BAUER, Dresden Technical University, Department of Chemistry, D-8027 Dresden, Germany

BATTERIES

48. RECENT PROGRESS OF SEALED LEAD-ACID BATTERIES AND THEIR COMPETITIVE BATTERIES FOR VARIOUS APPLICATION IN JAPAN

A.KOZAWA, H. OGAWA, IBA Inc., 451 Nagoya, Japan

49. THE APPLICATION OF A LEAD-ACID/NICKEL-IRON DUAL BATTERY HYBRID IN A PHOTOVOLTAIC SYSTEM

J.GARCHE, Center for Solar Energy and Hydrogen Research, Energy Storage, D-7900 Ulm, Germany

P.ADELMANN, Technical University, D-7900 Ulm, Germany

50. TEN MINUTES RECHARGEABLE VALVE REGULATED LEAD-ACID BATTERY EVEN AFTER DEEPLY DISCHARGED AND STORED

T.YAZAKU, Y.EHARA, K.ASAI, J.TAKAHASHI, Japan Storage Battery Co., Ltd, Kyoto 601, Japan

K.MATSUMOTO, S.KUBOTANI, AIWA Co., Ltd, Kyoto 601, Japan

51. OPTIMIZATION OF ACTIVE MATERIAL COMPOSITION FOR VALVE REGULATED LEAD-ACID BATTERIES

J.KWASNIK, J.D.MILEWSKI, T.PUKACKA, B.SZCZESNIAK, Central Laboratory of Batteries and Cells, 61-362 Poznan, Poland

52. VALVE REGULATED LEAD-ACID BATTERIES. SYSTEMS, PROPERTIES AND APPLICATION

H.TUPHORN, Accumulatorenfabrik Sonnenschein GmbH, D-6470 Budingen, Germany

53. ON THE EFFECT OF H₂ EVOLUTION INHIBITORS IN SEALED AND VALVE REGULATED LEAD-ACID BATTERIES IN DEPENDENCE OF CELL DESIGN AND TESTING PARAMETERS

K.WIESENER, H.DIETZ, M.KLOSS, M.RADWAN, H.DORING, Dresden Technical University, Department of Chemistry, D-8027 Dresden, Germany

SEPARATORS

54. DEVELOPMENT OF A NEW BATTERY SEPARATOR FOR ENHANCED ELECTROCHEMICAL PROPERTIES

L.SYNG L.PAIK, Amerace Microporous Products, Inc., Piney Flats, TN 37686, USA

55. NEW SEPARATORS

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56. SLI BATTERY FAILURE MODE ANALYSIS PE ENVELOPE VS. CELLULOSIC LEAF-TYPE SEPARATOR

S.REISER, Grace GmbH, Battery Separator Technical Center, D-2000 Norderstedt, Germany

57. THIN FILM SEPARATORS IN LEAD-ACID BATTERIES

I.BASU MALLICK, Visva-Bharati University, Dept. of Chemistry, Dens Battery Lab., Santiniketan-731 235, West Bengal, India

SECONDARY LEAD RECOVERY

58. SECONDARY LEAD RECOVERY FROM SPENT SLI BATTERIES

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59. THE BASIS OF THE TECHNOLOGY OF WASTE AND BATTERY SCRAP PROCESSING

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