



NASF SURFACE TECHNOLOGY WHITE PAPERS
81 (11), 45-48 (August 2016)

The 16th William Blum Lecture
Presented at the 62nd AES Annual Convention in Toronto, Ontario, Canada
June 23, 1975

Theoretical and Practical Aspects of Alloy Plating

Part 3

by

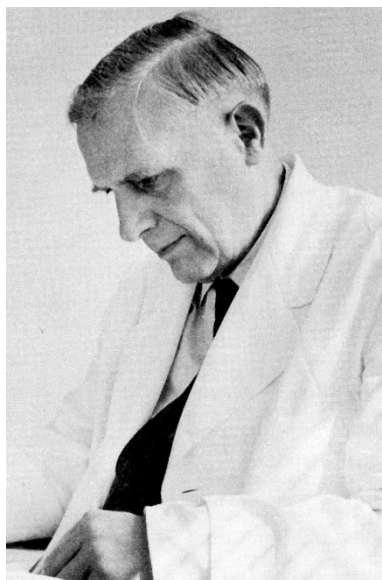
Ernst Raub

Forschungsinstitut für Edelmetalle und Metallchemie

Schwäbisch-Gmünd, Germany

Recipient of the 1974 William Blum

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Reference List and Author Biography

Editor's Note: This paper comprises the reference/citation list and author biography of Dr. Ernst Raub for the 16th William Blum Lecture, presented at the 62nd AES Annual Convention in Toronto, Ontario, Canada, on June 23, 1975.

References

1. W. Blum and G.B. Hogaboom, *Principles of Electroplating and Electroforming*, McGraw-Hill Book Company, Inc., New York, NY, 1949; p. 396.
2. A. Brenner, *Electrodeposition of Alloys*, Academic Press, New York and London, 1963.
3. AEG-Telefunken-Forschung *Untersuchungen über Herstellung und Eigenschaften dünner Permalloy-Schichten*, AEG-Telefunken, Fachbereich Informationstechnik, Konstanz.
4. H. Fischer, *Elektrolytische Abscheidung und Elektrokristallisation*, Springer-Verlag, Berlin, 1954.
5. H. Fischer, *Electrochim. Acta*, **2**, 50 (1960).
6. H. Fischer, *Interfinish 1968 Tagungsbericht*, p. 6.
7. H. Fischer, *Electrodeposition Surface Treatment*, **I**, (1973); pp. 239 and 319.
8. H. Gerischer, *Z. Elektrochem.*, **57**, 604 (1953).
9. W. Vielstich and H. Gerischer, *Z. Phys. Chem. [NF]*, **4**, 10 (1955).
10. E. Raub and D. Krause, *Z. Elektrochem.*, **50**, 91 (1944).
11. E. Raub, *Z. Metallkunde*, **39**, 33 (1948).
12. E. Raub, *Mitt. Forschungsgesellsch. Blechverarbeitung und Oberflächenbehandlung*, (1951); p. 279.
13. J. Lendvay and Ch.J. Raub, in print.
14. E. Raub, *Z. Metallkunde*, **38**, 87 (1947).
15. H. D. Hedrich and E. Raub, in print.
16. A. Knodler, *Metalloberflaeche*, **21**, 321 (1967).
17. E. Raub, A. Knodler, A. Disam and H. Kawase, *ibid.*, **23**, 293 (1969).
18. E. Raub and F. Elser, *ibid.*, **11**, 165 (1957).
19. A. Knodler, in print.
20. D.R. Mason, *Gold Bulletin*, **7**, 107 (1974).
21. E. Raub, *Metalloberflaeche*, **7**, 17 (1953).
22. A. Knodler, *Oberflaeche-Surface*, **10**, 390 (1969).
23. E. Raub and M. Wittum, *Z. Elektrochem.*, **46**, 71 (1940).
24. E. Raub and A. Disam, *Metalloberflaeche*, **13**, 308 (1959).
25. E. Raub and A. Disam, *ibid.*, **15**, 193 and 229 (1961).
26. E. Raub, G. Dehoust, A. Neumann and G. Baumüller, *ibid.*, **20**, 62 (1966).
27. E. Raub, G. Dehoust and A. Disam, *ibid.*, **22**, 75 (1968).
28. E. Raub and T. Schiffner, *ibid.*, **25**, 114 (1971).
29. Ch.J. Raub, in print.

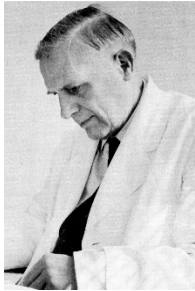
NASF SURFACE TECHNOLOGY WHITE PAPERS 81 (11), 45-48 (August 2016)

30. E. Raub and S. Pahlke, *Metalloberflaeche*, **23**, 37 (1969).
31. E. Raub, G. Dehoust, A. Disam, W.R. Haupt, H. Kawase and F. Mangold, *ibid.*, **22**, 1 (1968).
32. E. Raub and W. Blum, *ibid.*, **9**, 54 (1955).
33. E. Raub and M. Wittum, *Korrosion u. Metallschutz*, **15**, 127 (1939).
34. Ph. Javet and H.E. Hintermann, *Chem. Ing. Tech.*, **36**, 679 (1964).
35. Ph. Javet, Dissertation, Universitat Neuchatel, 1966.
36. Ph. Javet, N. Ibl, and H.E. Hintermann, *Electrochim. Acta*, **12**, 781 (1967).
37. Ph. Javet and H.E. Hintermann, *ibid.*, **14**, 527 (1969).
38. E. Raub and B. Wullhorst, *Z. Metallkunde*, **40**, 266 (1949).
39. E. Raub, S. Pahlke and H.P. Wiehl, *Metall.*, **25**, 735 (1971).
40. E. Raub and B. Wullhorst, *Z. Metallkunde*, **38**, 33 (Ag-Cd) and **38**, 41 (Ag-Zn)(1947).
41. E. Raub and A. Schall, *ibid.*, **30**, 149 (1938).
42. E. Raub and A. Engel, *ibid.*, **41**, 485 (1950).
43. A. Knodler, E. Raub and W. Pfeiffer, *Plating*, **53**, 765 (1966).
44. E. Raub, *Metall.*, **21**, 709 (1967).
45. E. Raub, *Interfinish. Basel 1972*, Forster Verlag, Zurich (1973). p. 158.
46. G.B. Munier, *Plating*, **56**, 1151 (1969).
47. L. Holt and J. Stanyer, *Trans. Inst. Metal Finish.*, **50**, 24 (1972).
48. R.G. Baker and T.A. Palumbo, *Plating*, **58**, 791 (1971).
49. NASATMX-2290, (1971).
50. D.R. Mason and A. Blair, *Trans. Inst. Metal Finish.*, **50**, 138 (1972).
51. E. Raub, Ch.J. Raub, A. Knodler and H.P. Wiehl, *Werkst. Korros.*, **23**, 643 (1972).
52. A. Knodler, *Metalloberflaeche*, **28**, 465 (1974).
53. P.S. Willcox and J.R. Cady, *Plating*, **61**, 1117 (1974).
54. E. Raub and B. Wullhorst, *Arch. Metallkunde*, **3**, 323 (1949).
55. E. Raub and A. Disam, *Metalloberflaeche*, **16**, 317 (1962).
56. J. Socha, E. Raub and A. Knodler, *ibid.*, **26**, 125 (1972).
57. J. Socha, E. Raub and A. Knodler, *ibid.*, **27**, 1 (1973).
58. E. Raub and K. Muller, *Fundamentals of Metal Deposition*, Elsevier Publishing Company, Amsterdam-London-New York (1967).
59. E. Raub and A. Knodler, *Trans. Inst. Metal Finish.*, **38**, 131 (1961).
60. E. Raub and F. Sautter, *Metalloberflaeche*, **13**, 129 (1959).
61. L. Yang, *J. Electrochem. Soc.*, **97**, 241 (1950).
62. E. Raub, *Metalloberflaeche*, **9**, 88A (1955).
63. A. Knodler, *ibid.*, **17**, 161 (1963).
64. E. Raub and A. Disam, *ibid.*, **19**, 173 (1965).
65. E. Raub and A. Engel, *Metallkunde*, **37**, 76 (1946).
66. E. Raub and F. Sautter, *Metalloberflaeche*, **10**, 65 (1956).
67. G. Tammann and H. Jaacks, *Z. anorg. allgem. Chem.*, **227**, 249 (1936).
68. F.I. Nobel, D.W. Thomson and J.M. Leibel, *Plating*, **60**, 720 (1973).
69. J.C. Turn and E.L. Owen, *ibid.*, **61**, 1015 (1974) (AES Research Project 29).
70. E. Raub, still unpublished.

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About the author

This piece was written at the time Dr. Raub was announced as the recipient of the 1974 Scientific Achievement Award:



Dr. Ernst Raub has been chosen by the AES Scientific Achievement Award Selection Committee as the 1974 recipient. The announcement was made at the opening session of the 61st Annual Technical Conference of the American Electroplaters' Society in Chicago on June 17, 1974.

Dr. Raub was born on April 5, 1905 in Klöttingen/Westphalia. He obtained his Ph.D. at the University of Münster and immediately afterwards started his work as a research assistant at the fledgling Forschungsinstitut für Edelmetalle in Schwäbisch Gmünd. The wide scope of his interests already shows up in his first papers in 1928, "On the Behavior of Natural and Cultured Pearls in UV Light," "Investigations on the Ag-Cu Eutectic" and "Equilibrium Studies in the Systems Co-S-O and Ni-S-O."

His first paper on an electroplating problem appeared in *Mitteilungen des Forschungsinstituts* in 1930, dealing with the analysis of chromium plating solutions. From this time on, papers from Dr. Raub and coworkers appeared in various German and international journals at an average rate of about seven per year.

In 1934, Dr. Raub was appointed director of the Forschungsinstitut für Edelmetalle and in the same year he started giving lectures on plating and precious metals technology at the University of Stuttgart. From 1930 on, the Forschungsinstitut arranged highly esteemed two-week training courses of electroplating. These courses grew into classes for electroplating engineers in the later Fifties and formed the basis for the electroplating branch of the Staat-liche Ingenieurschule Aalen, of which Dr. Raub became the founding director in 1962. He retired from this position in 1970.

Dr. Raub has published more than 300 papers, about half of which are concerned with electroplating problems. He is author or coauthor of several books on noble metals and electroplating. His book, *Die Edelmetalle und ihre Legierungen*, is the first book covering this subject from scientific and technical aspects. From 1955 to 1967, Dr. Raub was an editor of *Metalloberfläche* and the founding president of the Deutsche Gesellschaft für Galvanotechnik, of which he has been honorary president since 1968. He is an active member of numerous German and international societies.

He received the AES Bronze Medal in 1959 and the Grosse Verdienstkreuz der Verdienstorden of the Federal Republic of Germany. He has many personal friends all over the world and has been to the United States several times. Many foreign visitors have spent an enchanted evening in his home.

His son, Dr. Christoph J. Raub, succeeded him as head of the Forschungsinstitut. He has three grandsons, the oldest a resident of California. Together with his wife he is interested in painting, his specialty being animal paintings of various styles and periods. In addition to this hobby, he likes to go swimming and walking and to grow his own fruits and vegetables in what spare time he has left while still arriving at the Institute regularly at 6:30 A.M.