

A Bibliography of Books on

**Corrosion &
Protection of
Metals**

Compiled by
E. Jackson

Institution of Corrosion
Science and Technology

ISBN 0 907379 02 8

A Bibliography of Books on
**Corrosion & Protection
of Metals**

(Second Edition)

Compiled by

E Jackson AMet BSc PhD CEng FIM FICorrT
Principal Lecturer in Chemical Metallurgy
Department of Metallurgy
Sheffield City Polytechnic

INSTITUTION OF CORROSION SCIENCE AND TECHNOLOGY

14 Belgrave Square. London SW1X 8PS

SEPTEMBER 1980

ISBN 0 907379 02 8

**Copyright © 1980 Institution of Corrosion
Science & Technology**

ISBN 0 907379 02 8

ADDENDUM

| <u>AUTHOR</u> | <u>TITLE</u> | <u>PUBLISHER (& YEAR)</u> |
|---|--|---|
| Bockris, J.O'M., Conway, B.E., Yeager, E. & White, R. (Eds). | Electrochemical Processing (Vol.2 of 'Comprehensive treating of Electrochemistry' series) | Plenum Pub.Corp. 1980. |
| I.Mech.E. | Experience of cathodic prot- ection in steam and process plant. | I.Mech.E. 1979. |
| Inst ⁿ . of Metallurgists | Environmental degradation of high temperature materials. | Inst ⁿ . of Metallurgists 1980 |
| Natesan, K.(Ed). | Corrosion-erosion behaviour of materials. (Proc ^S . Symp. St.Louis, Mo.1978) | The Metals Soc. AIME |
| Robinson, J.S. | Corrosion inhibitors-recent developments. | Noyes Data Corp. 1979. |
| Sarkar, A.D. | Friction and wear. | Academic Press 1980. |
| Silman, H., Isserlis, G. & Averill, A.F. | Protective and decorative coatings for metals. | Finishing Pub- lications Ltd. 1980. |

CONTENTS

| | <u>Page</u> |
|---|-------------|
| Introduction to the Second Edition | i |
| Introduction to the First Edition | ii |
| List of Abbreviations | iii |
| A. <u>SUBJECT CLASSIFICATION</u> | |
| 1.0 Electrochemistry | 1 |
| 2.0 Corrosion | |
| 2.1 General | 4 |
| 2.2 Corrosion and Environment | 9 |
| 2.3 Corrosion/Erosion, Wear and Fretting | 12 |
| 2.4 Corrosion and Stress | 12 |
| 2.5 Oxidation and Corrosion at Elevated Temperatures | 13 |
| 3.0 Protection Against Corrosion | |
| 3.1 General | 16 |
| 3.2 Cathodic Protection | 18 |
| 3.3 Corrosion Resistance and Materials Selection | 19 |
| 3.4 Inhibition of Corrosion | 22 |
| 3.5 Preparation, Protective Coating and Finishing of Materials | 22 |
| 3.5.1 General | 22 |
| 3.5.2 Surface Preparation, Conversion and Inorganic Coating | 25 |
| 3.5.3 Metal Coating | 26 |
| 3.5.4 Paint and Polymer Coating | 29 |
| 4.0 Corrosion Testing, Monitoring and Experimentation | 30 |
| B. <u>AUTHOR INDEX</u> | 32-63 |

SUBJECT CLASSIFICATION

1. ELECTROCHEMISTRY

- Atlas of electrochemical equilibria in aqueous solutions.
Pourbaix, M. Pergamon Press, 1966
- Atlas of metal-ligand equilibria in aqueous solution.
Kragten, J. Ellis Horwood Ltd. 1978
- Basic electrochemistry.
West, J.M. Van Nostrand-Reinhold
1973
- The chemistry of electrode processes.
Fried, I. Academic Press, 1973
- Determination of pH : theory and practice.
Bates, R.G. J. Wiley & Sons, 1973
- A dictionary of electrochemistry.
Davies, C.W. & James, A.M. MacMillan, 1976
- Electrochemical data.
Dobos, D. Elsevier, 1975
- Electrochemical data.
Conway, B.E. Elsevier, 1952
- Electrochemical kinetics - theoretical and experimental aspects.
Vetter, K.J. Academic Press, 1967
- Electrochemical science.
Bockris, J.O'M. & Drazic, D.M. Taylor & Francis, 1972
- Electrochemical systems.
Newman, J.S. Prentice Hall, 1973
- Electrochemical techniques for corrosion:
(Papers for 'Corrosion '76' Symposium). NACE, 1978
- Electrochemistry.
Davies, C.W. Newnes, 1967
- Electrochemistry (Modern chemistry background reader).
Groves, P.D. Murray, 1974
- Electrochemistry.
Koryta, J., Dvorak, J. & Bohackova, V. Newnes, 1967
- Electrochemistry.
Mathewson, D.J. MacMillan, 1971

- Electrochemistry.
Potter, E.C. Cleaver-Hume, 1956
- Electrochemistry at solid electrodes.
Adams, R.N. Dekker, 1967
- Electrochemistry : electrodeposition of metals and alloys.
Khomutov, N.E. (Ed.) (Trans. from Russian) I.P.S.T., 1969
- Electrochemistry for technologists.
Palin, G.R. Pergamon Press, 1969
- Electrode kinetics.
Albery, J. Clarendon Press, 1975
- Electrodics : modern ideas concerning electrode reactions.
Bauer, H.H. Halsted Press, 1973
- Elementary electrochemistry.
Denaro, A.R. Butterworth 1971 (2nd Ed)
- Experimental approach to electrochemistry.
Selley, N.J. Arnold, 1977
- Experimental electrochemistry for chemists.
Sawyer, D.T. & Roberts, J.L. (Jnr). Wiley-Interscience
1974
- Experimental electrode kinetics.
Greene, N.D. Rensselaer Polytechnic
Institute, New York,
1965
- Fundamental aspects of electrocrystallisation.
Bockris, J.O'M. & Razumney, G.A. Plenum Press, 1967
- A guide to the study of electrode kinetics.
Thirsk, H.R. & Harrison, J.R. Academic Press, 1972
- Handbook of electrochemical constants.
Parsons, R. Butterworth, 1969
- High temperature high pressure electrochemistry in aqueous
solutions.
Staehle, R.W., Jones, D de G. & Slater, J (Eds). Int. Corrs. Conf. Series
(Proc. Conf., U. of Surrey 1973) No.4, NACE, 1976
(Ref. Book No.4)
- Industrial electrochemical processes.
Kuhn, A.T. (Ed) Elsevier, 1971
- An introduction to electrochemical science.
Bockris, J.C'M., Bonciocat, N. & Gutmann, F. Wykeham Pubs. 1974
- An introduction to electrochemistry.
Glasstone, S. Van Nostrand, 1942

- Kinetics of electrode processes.
Erdey-Gruz, T. Hilger, 1972
- Marine electrochemistry.
Berkowitz, J.B. et al (Eds). (Proc^S symp.1972)
The Electrochemical Society.
- Modern electrochemistry.
Bockris, J.O'M. & Reddy, A.K.N. (2 vols) Macdonald, 1970
- New instrumental methods in electrochemistry.
Delahay, P. Interscience 1965
(2nd Ed).
- The oxidation states of the elements and their potentials
in aqueous solutions.
Latimer, W.M. Prentice Hall 1952
(2nd Ed)
- Principles and applications of electrochemistry.
Crow, D.R. Chapman & Hall, 1974
- Reference electrodes - theory and practice.
Ives, D.J.G. & Janz, G.J. Academic Press, 1961
- Ring-disc electrodes.
Albery, W.J. & Hitchman, M.L. Oxford University Press,
1971
- The rotating disc electrode.
Pleskov, Yu.V. & Filinovskii, V.Yu. Plenum Pub.Corp. 1976
- Selected constants : oxidation-reduction potentials of
inorganic substances in aqueous solution (IUPAC).
Charlot, G. Pergamon Press, 1971
- Techniques of electrochemistry, Vol.1.
Yeager, E. & Salkind, A.J. Wiley-Interscience,
1972
- Textbook of electrochemistry.
Kortum, G. & Bockris, J.O'M. Elsevier, 1951
- Theory and principles of electrode processes.
Conway, B.E. Ronald Press, 1965
- Tables of standard electrode potentials
Milazzo, G. & Caroli, S. J.Wiley & Sons 1978

2. CORROSION

2.1 General

- Advances in corrosion science and technology.
Fontana, M.G. & Staehle, R.S. (Ed). Plenum Pub. Corp.
Vol.1 (1971), Vol.2(1972), Vol.3(1973), Vol.4(1974), Vol.5(1975),
Vol.6 (1976), Vol.7(1979).
- Basic corrosion and oxidation.
West, J.M. Ellis Horwood Ltd. 1980
- BISRA corrosion publications 1931-63. BISRA 1963
- BISRA Corrosion publications 1963-68. BISRA 1969
- Cars go rusty. A.B.Svensk Bilprovning (Swedish Motor
Vehicle Inspection Co.)
- Chemisorption and reactions on metallic films.
Anderson, J.R. (Ed.) (2 Vols). Academic Press 1971
- Concise corrosion science.
Fraunhofer, J.A. Von. Intl. Pubns. Serv. 1976
- Corrosion. Volume 1. Metal/environment reactions.
Shreir, L.L. Newnes-Butterworth
1976(2nd Ed.)
- Corrosion (Griffin Project No.13).
Walsh, E.A. (Griffin project series for schools)
Mills & Boon Ltd.
- Corrosion and corrosion control.
Uhlig, H.H. J. Wiley & Sons 1971
(2nd Ed.)
- Corrosion and corrosion protection of aluminium.
(Lectures at international meeting of European
Federation of Corrosion).
Scientific Society of Mechanical Engineers. Omkok-Technoinform,
Budapest, 1976
- Corrosion and its prevention.
Hendrik, T.W. OECD Publications, 1964
- Corrosion and its prevention at bimetallic contacts.
Admiralty & Ministry of Supply, Interservice Metallurgical
Research Council. HMSO 1963 (3rd Edn)
- Corrosion and its prevention in motor vehicles.
I. Mech. E. 1968
- Corrosion and oxidation of metals.
Evans, U.R. Arnold 1960

- Corrosion and oxidation of metals - first supplementary volume.
Evans, U.R. Arnold 1968
- Corrosion and oxidation of metals - second supplementary volume.
Evans, U.R. Arnold 1976
- Corrosion and protection (Discussion of Hoar report)
I.Mech E 1972
- Corrosion and protection of materials used in industrial equipment.
Klinov, I.Ya. Plenum Press 1962
- Corrosion and protection of metals.
Bakhalov, G.T. & Turkovskaya, A.V. Pergamon Press 1965
- Corrosion and protection of metals.
Institution of Metallurgists Iliffe Books Ltd. 1965
- Corrosion and protection of pipes and pipelines (Conference Proc^s)
Truman, W.F. & McLoughlin, P. (Eds) Brintex Exhibitions Ltd. 1968
- Corrosion and protection of structural alloys (2 vols).
Mercer, A.D. (Russian Trans.) National Lending Library 1968
- Corrosion and the maintenance engineer.
Wilson, C. & Oates, J.A. Newnes 1968
- Corrosion attack and defence. B.S.C. & NCST Trent Polytechnic 1976
- Corrosion, causes and prevention.
Speller, F. McGraw-Hill 1951
- Corrosion chemistry background book.
Oliver, H.P.H. Penguin 1968
- Corrosion data survey.
Nelson, G.A. NACE 1967 (4th Edn)
- Corrosion data survey - metals.
Harmer, N.E. NACE 1974 (5th Edn)
- Corrosion educational manual.
European Federation of Corrosion, Working Party on Corrosion Education. European Federation of Corrosion 1972
- Corrosion engineering.
Fontana, M.G. & Green, N.D. McGraw-Hill 1978 (2nd Edn)
- Corrosion for marine and offshore engineers.
Rowlands, J.C. & Angell, B. Marine Media Mgmt. 1966

- Corrosion fundamentals symposium.
Brasunas, A.S. & Stansbury, E.E. U. of Tenn. Press 1957
- Corrosion guide.
Rabal, E. Elsevier 1968 (2nd Ed)
- Corrosion handbook.
Uhlig, H.H. (Ed). J. Wiley & Sons 1955
- Corrosion in action.
La Que, F.L., May, T.F. & Uhlig, H.H. International Nickel Co. Inc. 1955
- Corrosion in civil engineering.
(Proc^s Conf. 1979) Institution of Civil Engineers. Thomas Telford Ltd. 1979
- Corrosion in naval aircraft.
Naval Aircraft Materials Lab. Air Publication (Navy) 206, 1968
- Corrosion of building materials.
Knöfel, D. (Trans. from German by Diamant, R.M.E.) Van Nostrand-Reinhold 1978
- Corrosion of chemical apparatus.
Shvartz, G.L. & Kristal, M.M. Plenum Press 1959
- Corrosion of copper, tin and their alloys.
Leidheiser, H. J. Wiley & Sons 1971
- The corrosion of light metals.
Godard, H.P., Jepson, W.B., Bothwell, M.R & Kane, R.L. J. Wiley & Sons 1967
- Corrosion of metals and alloys (3 vols)
Booker, C.J.L. (ed) National Lending Library Vol. I 1964
Vol. 2 Pt. 1 and 2, 1967
- Corrosion of metals and alloys (Collection No. 2)
Tomashov, N.D. & Mirolyubov, E.N. (Eds) IPST 1966
- Corrosion of metals and alloys by fluorine.
Jackson, R.B. U.S. Atomic Energy Commission Rep. No. NP. 8845, 1960
- Corrosion of metals research, 1924-1968.
Wormwell, F. H.M.S.O. 1973
- Corrosion of nickel and nickel-base alloys.
Friend, W.Z. J. Wiley & Sons 1980
- Corrosion of stainless steels.
Sedriks, A.J. Wiley-Interscience 1979

- Corrosion of zirconium and zirconium alloys.
Parfenov,B.G., Gerasimov,V.V. & Venediktova,G.I. IPST 1967
(Trans.1969)
- Corrosion problems in energy conversion and generation.
Tedmon,C.S.(Ed) (Proc^S Symp.1974) The Electrochemical
Society 1974
- Corrosion problems of the petroleum industry.
(Proc^S Symp.) S.C.I.Monograph No.10,
1960
- Corrosion survey report.
Elliott,P. Institution of Chemical
Engineers 1973
- Elementary aspects of corrosion.
Neufeld,P. Portcullis Press 1975
- An engineer's approach to corrosion.
Trigg,C.F. Pitman 1952
- Fundamentals of corrosion.
Scully,J.C. Pergamon 1975 (2nd Edn)
- Galvanic and pitting corrosion - field and laboratory studies.
ASTM (STP 576) 1976
- An introduction to corrosion and protection of metals.
Wranglen,G. Chapman & Hall 1973
- An introduction to metallic corrosion.
Evans,U.R. Arnold 1979 (3rd Edn)
- Know about corrosion.
Automobile Association
1972
- Lectures on corrosion presented during the 'Corrosion day' of the
sixth international water supply congress, Stockholm 1964.
ICC Communication No.3 International Water Supply Assoc.
- Lectures on electrochemical corrosion.
Pourbaix,M. Plenum Press 1972
- Localised corrosion.
Staehle,R.W., Brown,B.F., Kruger,J. Int. Corrosion Conf. Series
& Agrawal,A. (Eds). Proc^S. Conf. Will- No.3, NACE 1974
iamsberg, Va. 1971) (Ref. Book No.3)
- Localised corrosion - cause of metal failure (Proc^S symp.1971)
ASTM (STP 516) 1972
- Metal corrosion.
Ross,T.K. (Engineering Design Guides No.21) Oxford U.Press 1977

- Metallic corrosion, passivity and protection.
Evans, U.R. Arnold 1948
- Metallic corrosion, Procs. 1st international congress, London 1961
Kenworthy, L. (Ed) Butterworth 1962
- Metallic corrosion, Procs 2nd international congress, New York, 1963
NACE 1966
- Metallic corrosion, Procs 3rd international congress, Moscow, 1966
(4 vols) Mir Pub. House, Moscow
1968
- Metallic corrosion, Procs 4th international congress, Amsterdam
1969. NACE 1972
- Metallic corrosion, Procs 5th international congress, Tokyo, 1972
NACE 1974
- Metallic corrosion, Procs 6th European congress (Eurocor'77)
London 1977 SCI 1977
- Passivity and its breakdown on iron and iron based alloys.
Staehle, R.W. & Okada, H. (Eds) NACE 1976
- Physics and chemistry of surfaces.
Oudar, J. Blackie 1975
- Principles of corrosion and protection.
Stewart, D. & Tullock, D.S. MacMillan 1968
- Principles of metallic corrosion
Chilton, J.P. RIC 1969 (2nd Edn)
- Process industries corrosion.
NACE 1975
- Pulp and paper industry corrosion problems, vol. 2.
(Articles from 1977 Symp. but includes text of
previous vol. 1) NACE 1977
- Report of the committee on corrosion and protection.
Hoar, T.P. (Chairman) HMSO 1971
- Rust and rot and what to do about them.
Diamant, R.M.E. Angus & Robertson (UK)
Ltd. (1972)
- The rusting of iron : causes and control.
Evans, U.R. Arnold 1972
- Scandinavian corrosion congresses, Proc^s.
Copenhagen 1954, Stockholm 1958, Oslo 1961, Helsinki 1964,
Copenhagen 1968, Gothenburg 1971. Swedish Corrosion
Institute.
- Sixth report of the corrosion committee.
ISI (Special Rep. No. 66)
1959

- Surface phenomena of metals (Procs.Symp).
SCI Monograph No.28,1968
- Theoretical foundations of metallic corrosion.
Skorchelletti,V.V. IPSI/Keter, distr. J.Wiley & Sons 1976
- Theory of corrosion and protection of metals.
Tomashov,N.D. MacMillan 1966
- Weld decay in austenitic stainless steels.
Welding Institute 1975

2.2 Corrosion and Environment

- Analysis of reactor vessel radiation effects surveillance programs.
ASTM (STP 481) 1970
- Atmospheric corrosion of metals.
Rozenfeld,I.L. (Trans. from Russian by NACE 1972
B.Tytel).
- Atmospheric corrosion of non-ferrous metals.
Procs symp., ASTM (STP 175) 1955
- Atmospheric factors affecting the corrosion of engineering materials.
Coburn,S.K.(Ed). ASTM (S.T.P.646) 1978
- Biochemical corrosion in pipes made of ferrous metal.
ICC Leeflang,K.W.H. (CEOCOR) International Water Supply Assoc.
- Biodeterioration of materials : microbiological and allied aspects.
Walters,A.H. & Elphick,J.P. (Eds) Elsevier 1969
- Chloride corrosion of steel in concrete. ASTM (STP 629) 1977
- Corrosion and irradiation.
Gerasimov,V.V. et al. (Trans. from Russian) C.C.M.I.C. 1963
- Corrosion and its prevention in waters.
Butler,G. & Ison,H.C.K. Krieger 1978
- Corrosion and protection of materials used in industrial equipment.
Klinov,I.Ya. Plenum Press 1962
- Corrosion by liquid metals.
Draley,J.E. & Weekes,J.R.(Eds) AIME Met.Soc.1969
Plenum Press 1970
- Corrosion in marine environment;
International Sourcebook 1 : Ship painting and corrosion.
Deere,D.H. (Ed) Hemisphere, distr.J.Wiley & Sons.1977
- Corrosion in natural environments. ASTM (STP 558) 1974

- Corrosion in nuclear applications.
Berry, W.E. J.Wiley & Sons 1971
- Corrosion of buried metals (symposium). ISI (Special Report No.45) 1952
- Corrosion of iron and steel by industrial waters and its prevention.
BISRA ISI (Special Rep.No.41) 1949
- Corrosion of metals in concrete. American Concrete Institute (Pub.SP.49) 1975
- Corrosion of metals in marine environments. Metals & Ceramics Information Centre, Columbus, Ohio 1978
- Corrosion of metals in the atmosphere.
Boyd, W.K. & Fink, F.W. Metals & Ceramics Information Centre, Columbus, Ohio Report MCIC-74-23, 1974
- Corrosion of structural materials in sodium.
Nevzorov, B.A. (Trans. from Russian) Ann Arbor-Humphrey 1970
- Corrosion studies: water systems of ordinary and atomic power plants.
Margulova, T.K. (Ed) CCMIC 1965
- Corrosive action of the soil on ferrous metal pipes and its determination.
ICC Goldstein, H. (CEOCOR). Communication No.2. International Water Supply Assoc.
- Effect of radiation on materials and components.
Kircher, J.F. & Bowman, R.E. (Eds) Reinhold Pub.Corp. 1964
- High purity water corrosion of metals. NACE 1961
- International water supply congresses, see p.49
- Irradiation effects in crystalline solids.
Gittus, J. Applied Science Publishers Ltd. 1978
- Irradiation effects in structural alloys for thermal and fast reactors. ASTM (STP 457) 1970
- Irradiation effects on structural alloys for nuclear reactor applications. ASTM (STP 484) 1971

Irradiation effects on the microstructure and properties
of metals.

ASTM (STP 611) 1977

Lectures on corrosion and protection of underground pipelines,
presented during the 'Corrosion Day' of the fifth international
water supply congress, Berlin 1961.

ICC Communication No.1 International Water Supply Assoc.

Lectures on corrosion and protection of underground pipelines,
presented during the 'Corrosion Day' of the Seventh international
water supply congress, Barcelona 1966.

ICC Communication No.6 International Water Supply Assoc.

Marine corrosion.

LaQue, F.L.

J. Wiley & Sons 1975

Marine corrosion.

Rogers, T.H.

Newnes 1968

Marine corrosion and fouling, Proc^S fourth international
congress.

Centre de Recherches et D'Etudes Oceanographiques, Boulogne
1977

Marine corrosion handbook.

Rogers, T.H.

McGraw-Hill 1960

Metal corrosion in the atmosphere.

ASTM (S.T.P.435) 1968

Microbial aspects of deterioration of materials.

Gilbert, R.J. & Lovelock, D.W. (Eds)

Academic Press 1975

Microbial aspects of metallurgy.

Miller, J.D.A. (Ed).

MTP 1971

Microbial corrosion.

Booth, G.H.

Mills & Boon 1971

Radiation corrosion.

Byalobzheskii, A.V. (Trans from Russian) IPST 1970

Seawater corrosion handbook.

Schumacher, M.M. (Ed).

Noyes Data Corp. 1979

Subsoil corrosion of steel.

Rosenquist, I.T.

Acta, Scand. Poly.
1961

Underground corrosion.

Romanoff, M.

National Bureau of Standards Circular 579,
U.S.Gov. Printing Office 1957

2.3 Corrosion-Erosion, Wear and Fretting

Cavitation.

Knapp, R.T., Daily, J.W. & Hammitt, F.G. McGraw-Hill 1970

Cavitation.

Rearsall, I.S. Mills & Boon 1972

Cavitation erosion and means for its prevention.

Bogachev, I.N. & Mints, R.J. IPST 1966

Cavitation corrosion and its prevention in diesel engines
(Symposium).

British Railways Board 1966.

Characterisation and determination of erosion resistance.

ASTM (STP 474) 1970

Erosion, wear and interfaces with corrosion.

ASTM (STP 567) 1974

Fretting corrosion.

Waterhouse, R.B.

Pergamon Press 1972

Wear of metals.

Sarkar, A.D.

Pergamon Press 1976

2.4 Corrosion and Stress

Corrosion fatigue.

Devereux, O.F., McEvily, A.J. & Staehle, R.W. (Eds).
(Proc^S. Conf. U. of Connecticut, 1971)

Int. Corros. Conf. Series
No.2, NACE 1972
(Ref. Book No.2)

Corrosion fatigue technology.

Craig, H.L., Crooker, T.W. & Hoepfner, D.W. (Eds).

ASTM (STP 642) 1978

Effects of environment and complex load history on fatigue life.

ASTM (STP 462) 1970

Engineering practice to avoid stress corrosion cracking.

(Proc^S Symp. Istanbul, 1969).

NATO (AGARD)

Technical Editing & Reproduction
Ltd. 1970

Fundamental aspects of stress corrosion cracking.

Staehle, R.W., Forty, A.J. & Van Rooyen, D. (Eds).

(Proc^S. Conf. Ohio State U, 1967).

Int. Corros. Conf. Series
No.1, NACE 1969
(Ref. Book No.1)