

Preface

Originally, this book was written in Norwegian, primarily for the teaching of corrosion theory and technology for students at the faculties of mechanical engineering and marine technology and for other interested people at various faculties of the Norwegian Institute of Technology (NTH) in Trondheim, now being a part of the Norwegian University of Science and Technology (NTNU). The book has also been used at some other universities and engineering schools in Scandinavian countries, and as a reference book for engineers in industry.

The book was written with the aim of combining a description of practical corrosion processes and problems with a theoretical explanation of the various types and forms of corrosion. Relatively much attention was paid to the effects upon corrosion of factors such as flow, heat, materials selection, design, surface conditions, and mechanical loads and impacts, as well as their roles in the development of different corrosion forms. The scope of the book is wet corrosion in general. However, because of the vital position of the offshore industry in Norway, several cases and aspects dealt with are related to marine technology and oil and gas production.

In general, this edition is based on my own work on corrosion and related subjects at NTH/NTNU and its associated research foundation, SINTEF, during 35–40 years. Results and experience from our research and engineering activities at SINTEF Corrosion Centre have deliberately been included because this work was done with the same objective in mind as was the teaching: to solve practical corrosion problems by more extensive use of theoretical tools and understanding, combined with empirical knowledge. My approach in this direction was particularly inspired by professor Almar-Næss. He started the first modern teaching of corrosion for students at the faculty of mechanical engineering and other typical engineering students at NTH in the early 1960s, and stimulated to my own engagement in the discipline. Considering the further work, I will like to acknowledge my nearest co-workers during many years, including the permanent staff at SINTEF Corrosion Centre as well as many former students. These people have carried out much of the research and engineering work that I have referred to. I hope that the many references that are made to their contributions show how important they have been. Results from ones own research milieu are valuable directly as well as by the personal engagement they contribute to the teaching. These contributions to the book have, however, been balanced with a major proportion of general knowledge

and research results from the world around. Several figures and tables are reproduced from external publications.

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