

***ADVANCES IN
CORROSION SCIENCE
AND TECHNOLOGY
VOLUME 4***

ADVANCES IN CORROSION SCIENCE AND TECHNOLOGY

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PREFACE

This series was organized to provide a forum for review papers in the area of corrosion. The aim of these reviews is to bring certain areas of corrosion science and technology into a sharp focus. The volumes of this series are published approximately on a yearly basis and each contains three to five reviews. The articles in each volume are selected in such a way as to be of interest both to the corrosion scientists and the corrosion technologists. There is, in fact, a particular aim in juxtaposing these interests because of the importance of mutual interaction and interdisciplinarity so important in corrosion studies. It is hoped that the corrosion scientists in this way may stay abreast of the activities in corrosion technology and *vice versa*.

In this series the term "corrosion" is used in its very broadest sense. It includes, therefore, not only the degradation of metals in aqueous environment but also what is commonly referred to as "high-temperature oxidation." Further, the plan is to be even more general than these topics; the series will include all solids and all environments. Today, engineering solids include not only metals but glasses, ionic solids, polymeric solids, and composites of these. Environments of interest must be extended to liquid metals, a wide variety of gases, nonaqueous electrolytes, and other nonaqueous liquids. Furthermore, there are certain complex situations such as wear, cavitation, fretting, and other forms of degradation which it is appropriate to include. At suitable intervals certain of the review articles will be updated as the demands of technology and the fund of new information dictate.

Another important aim of this series is to attract those in areas peripheral to the field of corrosion. Thus, physicists, physical metallurgists, physical chemists, and electronic scientists all can make very substantial contributions to the resolution of corrosion problems. It is hoped that these reviews will make the field more accessible to potential contributors from these other areas. Many of the phenomena in corrosion are so complex that

it is impossible for reasonable progress to be made without more serious and enthusiastic interdisciplinary interest.

This series, to some extent, serves as a “dynamic” handbook. It is well known that preparing a handbook is a long, tedious process and parts become out of date by the time the final volume is published. Furthermore, certain subjects become out of date more quickly than others. Finally, in a handbook it is never possible to prepare the individual discussions with sufficient detail and visual material to be properly useful to the reader. It is hoped that the format of this series serves to overcome some of these difficulties.

In addition to the discussion of scientific and technological phenomena the articles in this series will also include discussions of important techniques which should be of interest to corrosion scientists.

M. G. FONTANA
R. W. STAEHLE

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P. Hancock and R. C. Hurst

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