

Preface to first edition

For many years I have felt that there has been a need for a book on the science and technology of paints and surface coatings that would provide science graduates entering the paint industry with a bridge between academia and the applied science and technology of paints. Whilst there have been many excellent books dealing with the technology there have not to my knowledge been any that have sought to provide a basic understanding of the chemistry and physics of coatings. Many of the one-time standard technological texts are now out of date (and out of print), so it seemed appropriate to attempt to produce a book that will, I hope, fill a gap. Nevertheless, it was with some trepidation that I undertook the task of editing a book covering such a diverse technology. The diversity of the technology is such that rarely will an acknowledged expert in one aspect of the technology feel confident to claim expertise in another. It therefore seemed to me that a work produced by a single author would not meet the objectives I had in mind, and I sought the help of friends and colleagues in the industry to contribute individual chapters on subjects where I knew them to have the requisite expertise. Fortunately, I was able to persuade sufficient contributions from individuals for whom I have the highest regard in respect of their knowledge and years of experience within the paint industry to satisfy myself of the ultimate authenticity of the book as a whole.

However, because of limitations of space it is impossible for a book of this kind to be completely comprehensive. Thus I have had to make decisions regarding content, and have adopted a framework which gives more space, for example, to the physics of paint and the physical chemistry of dispersions than most books of this kind. In doing so I have had to reduce the breadth (and in some cases the depth) of treatment of specific technologies. Thus, whilst the chapters on automotive painting and architectural paints are fairly detailed, the treatment of general industrial finishing is less an 'in depth' account of specific technologies, but is intended to illustrate the very wide range of requirements of manufacturing industry and the problems the paint technologist may encounter as a result of this.

In chapters dealing with the fundamental principles underlying the technology authors have been invited to provide critical accounts of the science and technol-

ogy as it stands today. This is reflected in the extensive lists of references to original work mostly published within the last decade. It is hoped that readers wishing to delve further to increase their understanding will find these references a valuable source of information.

It is important to record that apart from the authors, a number of individuals have contributed to the production of this book. I would like to record my thanks to Dr Gordon Fettis, Research Manager of ICI Paints Division, for his support and encouragement from its inception, and for the use of many of the facilities of ICI in the production of the manuscript. Thanks are also due to Mrs Millie Cohen (of ICI) and Mrs Kate Slattery (of Bristol University) who between them typed the major part of the manuscript.

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