INTRODUCTION

The first book, Enamels, authored by A. I. Andrews was published in 1935 and the revision, Porcelain Enamels, published in 1963, provided such an excellent foundation in the technology of porcelain enameling that the authors have focused on adding new information about the technologies, equipment and processes while leaving much of the original text as possible. In the writing of Porcelain (Vitreous) Enamels and Industrial Enamelling Processes, we have deliberately maintained the original text to substantially change the original book but to update it with the numerous developments of the past 50 years to the state-of-the-art of porcelain enameling in the 21st Century. During this time there have been significant changes in enamel formation, coated application techniques (i.e. electrostatic powder), base metal chemistries and processing, metal preparation processes and end product attributes/requirements. There are an additional 3 appendices on new topics of interest to enamellers. Over the years this book has been an invaluable resource for industry leaders, engineers, consultants and students of porcelain enamelling. It continues to make progress by employing contemporary technologies, developing new materials and implementing superior processes. The worldwide enamelling industry, represented by the various national organizations and the International Enamelling Institute have been key contributors to the growth of porcelain enamelling technologies for their work to provide venues for the exchange of technical information and the dissemination of the information to enamellers in published literature. This has been a cooperative international effort and we would note that in the English text both Metric and English units are used. We are certain thanks to the contributions of the many materials and equipment suppliers, industrial enamellers, engineers, scientists, designers and artists who have helped grow the application and use of this technology by sharing the results of their work with industry colleagues. While there is certainly more information on the topic of porcelain enamelling available in today’s wealth of literature, it has been our intention, as it was with Dr. Andrews, to put much of it into one book.

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