

Preface

During the twentieth century and the following decade, industrial ceramics have made significant contributions to various fields, including electronics, communications, transports, aeronautics, astronautics, environment, and energy. Many of these new ceramic products have made tremendous contributions to our society. It may not be an exaggeration to say that ceramic products in fact enhance the quality of our daily lives. Japan is one of the most advanced countries in the world with regard to materials science and related technology. Over the years, Japan has spawned many world-class-level ceramics manufacturers that have provided many highly functional, high-quality ceramic products and exported them worldwide. This would not have been possible without the fundamental and important research contributions from universities and national laboratories as well as by industry's utilizing continuous product improvements resulting from advanced technology development and the enthusiasm of engineers.

This book is a collection of ceramic products that have played active roles in various fields of industry and describes in detail how different ceramics are used in society. In addition, we have included behind-the-scene stories on materials development and detailed illustrations of the products that have reached the world-class level in manufacturing. There is probably not a single book that has categorized ceramics from this point of view. By reading this book, the reader will learn the significance that ceramics play in each field, and realize how ceramics continue to play important roles in improving the quality of our lives.

Even at this very moment, many engineers in industry are working hard to develop new and innovative products. A proverb states, "Look at the past to predict the future". It is our desire that this book describing the past and current product technologies can somehow serve to guide engineers working in the manufacturing sector to strive even further for the benefit of us all. Past achievements are not a guarantee for future success, but ceramics technology and product development remains strong.

This book fundamentally consists of revised articles from a series first published as "Ceramics Archives" in the journal *Ceramics* and includes material from a book on fine ceramics published by the Ceramic Society of Japan in Japanese and then translated into English. Many people have been involved in completing this book. In particular, we thank the committee members of the "Ceramics Archives", the authors of the original article, and those who

have given advice and support in coordinating the English translation. We deeply thank the people listed in the Acknowledgements section.

For readers who are interested in learning more about Japanese ceramic products and technology, please see the Ceramic Society of Japan website <http://www.ceramic.or.jp/index.html>.

March 2012

Editor-in-Chief
Yoshihiko Imanaka

A handwritten signature in black ink, appearing to read 'Y. Imanaka', with a stylized, flowing script.

Editors
Yoshikazu Suzuki, Toru S. Suzuki,
Kiyoshi Hirao, Tetsuo Tsuchiya,
Hajime Nagata, Jeffrey S. Cross

Advanced Ceramic Technologies & Products
2012, XV, 585 p. 533 illus., 397 illus. in color.,
Hardcover
ISBN: 978-4-431-53913-1