# FOREWORD

KOBAYASHI Toshinori

Vice President,
Director, Sheet Business Planning Function,
JFE Steel

In the sheet and strip field, JFE Steel is not only developing materials but also developing technologies envisioning the customer's processing and application technologies and performances. This special issue introduces JFE's recently-developed steel sheets and application technologies in order to respond to the remarkable progress of technologies in automotive and electrical appliance fields.

In the field of automotive steel sheets, JFE Technical Report No. 4, "Special Issue on Materials and Application Technologies for Automotive Use," introduced early vender involvement (EVI) technologies, which is a distinctive feature of JFE Steel, and some of this company's line of automotive steel sheet products, and JFE Technical Report No. 10, "Special Issue on High Strength Steel Sheets," summarized the current condition and future outlook for both materials and processing/application technologies, focusing on high strength steel, and presented various application technologies in technical papers. In the 6 years since that time, a number of the new products and new technologies introduced in JFE Technical Report have already been studied concretely as automotive parts through collaboration with customers or in their parts development/manufacturing processes, and are adopted. Thus, a wider range of applications is expected in the future. On the other hand, several of these technologies have also produced new solutions through continuing technical development in JFE Steel.

In the area of materials, beginning with the concepts of product design and product lines of JFE Steel's hot-rolled high strength steel sheets for automotive suspensions and high strength cold-rolled/ galvannealed steel sheets (GA) for automobile body parts, this Special Issue introduces the practical performance of "UNI HITEN™," which was introduced in JFE Technical Report No. 4 and No. 10 and has been adopted in outer panel parts of actual automobiles, and proposes new solutions for high strength/weight reduction in hard-to-form parts by warm forming of "NANOHITEN™" and application of the high lubricating property GA sheet "JAZ™" to high tensile strength parts. For application to drive train parts, this issue introduces simplification of the part manufacturing process and integration of parts by

use of “SUPERHOT™-F,” which imparts excellent press formability to formerly developed “SUPERHOT™” with the aim of expanding the range of applications of special steel thin sheet and strip products. On the other hand, in the area of application technologies, this issue focuses on technologies for application of high tensile strength sheets to automotive body parts. Here, we propose technologies for improving press formability and spot welding quality stability, which become issues when using high strength materials, and forming and joining methods that realize structures without sacrificing rigidity when using thin-gauge materials.

Next, in the field of electrical appliances, in addition to the development of chromate-free materials, agile, timely product development by further shortening the product cycle is desired. Because makers of electrical appliances are exposed to an environment of intense cost competition with the developing countries, centering on Korea and China, it is necessary to develop competitive steel sheets including quality performance.

In this special issue, we propose new products that were developed in a timely manner, such as “Eco Frontier™ JM,” which enhances the customers’ performances due to excellent weldability and brazing ability in addition to improved corrosion resistance, the ultra-thin coating “eNano™,” which gives high formability, and scratch resistance to general-purpose anti-fingerprint steel sheets, and others.

JFE Steel is committed to contributing to the manufacturing required by the times by continuing to develop new steel materials and new technologies as a good partner with the automotive and electrical appliances industries. We welcome your encouragement and guidance.