



# Remarks on Special Issue on Construction Technology

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*This Nippon Steel Technical Report titled Special Issue on Construction Technology collates reports related to the construction sector and is the first report to be issued since the Special Issue on Construction Products in 2015 and the Special Issue on Civil Engineering in 2016. The Special Issue on Construction Products in 2015 focused on products and technologies that would contribute to resolving various issues related to the following matters using them as keywords: Development of national resilience, rapid construction, shorter construction periods, higher labor productivity, securing of reliability and long-term durability of infrastructure, revival of Japan's worldwide competitiveness, and realization of a sustainable society. Many of the products and technologies introduced in the special issue are currently widely acknowledged and have been contributing to resolving actual issues.*

*Meanwhile, such issues remain key issues in the construction sector and the difficulty and urgency of the issues seem to be becoming increasingly severe partly because they are combined with other issues, such as more frequent and more terrible disasters, decreased and aging labor population in the construction sector, and increase in difficult construction and construction work under restricted conditions. Moreover, there are now new requirements and value evaluation factors, such as changes to the living and business environments due to the spread of COVID-19, challenges to resolve global environmental issues and to be carbon neutral, and digitization of the construction market represented by BIM/CIM. Such new requirements and factors are closely related to the aforementioned issues and as a result, the issues that we need to resolve seem to be getting larger and more complicated.*

*Under such circumstances and with an understanding of the issues, Nippon Steel Corporation has been constantly working to develop products and technologies, also with customers in and outside Japan and the supply chain of structural steel, while regarding the following items 1 to 4 as important fields to work on.*

- 1. National resilience including update, maintenance, management, and longer service life of disaster prevention infrastructure*
- 2. Higher construction productivity including rationalization and labor saving of construction at actual sites and reduction of construction periods and costs*
- 3. Contribution to realizing a carbon-neutral society including the processes from the con-*

*struction stage to the operation, maintenance, management, and recycling stages*

*4. Acceleration of digitization to achieve the aforementioned items 1 to 3 quickly and efficiently*

*Steel materials with excellent strength and toughness are processed at factories to manufacture and prefabricate structural steel under strict quality management. Likely, combining such structural steel with continuously evolving manufacturing and construction methods, design and construction technologies, optimization technologies by using ICT, and other application technologies can contribute to overcoming various issues in the aforementioned important fields. To explain such possibilities in an easy-to-understand way and contribute to resolving issues that many people face in daily business operations, we started providing the high-value-added solution ProStruct™ series: This series offers packages consisting of steel materials and application technologies that satisfy various needs, such as “strong and safe”, “rapid and reasonable”, “useful and reliable”, and “eco-friendly and sustainable”, along with technical support, such as design, welding, and processing technologies.*

*This Special Issue on Construction Technology first shows the outline and direction of Nippon Steel’s efforts for the aforementioned four items as a technical review. The succeeding technical reports describe specific packages of high-performance steel materials combined with high-level application technologies. This special issue also introduces slag products and their application technologies, technologies for combined use with other materials, Nippon Steel’s experimental technologies, testing and evaluation technologies, and facilities/equipment, in addition to structural steel. It is my great hope that you will come to understand Nippon Steel’s consistent efforts for solution technologies ranging from materials to application and processing technologies and testing/evaluation and give us your guidance and support toward further advancement of technologies and contribution to realizing a sustainable society.*