



Remarks on Special Issue on Construction Products

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Japan is continually plagued by a variety of natural disasters including not only earthquakes but also torrential rains, floods, landslides, tsunamis, tidal waves, and also volcanic eruptions. As a result, in Japan, which is an advanced country, many people lose their lives each year, and also resulting losses incurred due to the stagnation of economic activities are huge. From another perspective, the very things that have supported economic growth in Japan, which is exposed to such severe natural disasters, are the preparation and expansion of disaster prevention infrastructures such as river dikes and seawalls that protect our lives from natural disasters, traffic and logistics infrastructure for supporting a variety of economic activities, and buildings and housings that constitute the basis of man's bountiful economic, cultural and daily life.

In recent years, taking as a turning point the Great Eastern Japan Earthquake, which caused unprecedented damage, Japan has been powerfully promoting land development resiliently in the face of disasters, and spurred on by the decision to hold the Tokyo Olympic and Paralympic Games, increasingly brisk activities are being carried out with the aim of restoring Japan's international competitiveness and constructing a self-sustaining society, through efforts directed at the reconstruction of an attractive urban infrastructure and also the revitalization of the provinces.

Against this background, in the construction of infrastructures in recent years, there are stronger demands than ever before for realizing the following points.

- 1) Rapid construction method and reduction of construction period that allow for completion of construction within a limited amount of time, in order to realize preparedness against repeatedly occurring natural disasters, swift reconstruction from disasters, and a more economically rational high investment*
- 2) Realization of methods of overcoming the deficiency of labor resulting from the rapid increase in the number of recent infrastructure projects, and also realization of high labor productivity commensurate with the advance of the decreasing birthrate and aging society*
- 3) Realization of long-life structures that have greater reliability from the aspects of function and quality and also have long-term durability, in the face of issues of quality control and aging of infrastructures coming to light as a result of the ceiling panel drop-off accident, which*

occurred in the Sasago Tunnel

As structures that contribute to the overcoming of these needs and issues, methods and structures that use steel materials have recently become the focus of renewed attention. Basically, the use of steel construction products that are prefabricated in a factory enables the work period at the worksite to be reduced. River embankment work, which is difficult to carry out at times other than the non-flood seasons, has conventionally necessitated a large quantity of steel sheet piles. Also, restoration work in the aftermath of the recent earthquake disaster involves the use of much material for reinforcing dikes. In addition, along with the recent deficiency of labor required for construction work, the use of prefabricated/precast structures is increasing. For example, there are an increasing number of cases in which public buildings such as hospitals, administrative structures and residential buildings, which until recently have consisted primarily of reinforcement concrete structure, are being constructed using steel structures. These members are produced under stringent quality control at the steelworks, and then made into formed and assembled members by each fabricator or factory. Steel members fabricated in this way basically have high reliability from the aspects of function and quality, and these members are expected to exert an advantage in the construction of facilities having excellent long-term durability, provided appropriate materials are selected.

In order to meet the needs of the construction market, we develop and offer steel materials that have excellent strength, toughness, and durability. In addition, together with various customers both in Japan and overseas, we develop a range of coherent activities including the making of proposals concerning the structural form and details that allow the characteristics of the materials to be optimized, the establishment of reliable forming and assembly technology using simplified bending and welding methods, and also the development of methods for allowing raw materials and structural members to be efficiently erected and installed on-site.

In this construction products issue, we introduce our new products and technologies for meeting the above needs that have come to light particularly as a result of the Great Eastern Japan Earthquake. I hope that this issue will be conducive to your understanding of the efforts that we are making to realize integrated solution technology ranging from materials to utilization and forming technology, and be useful to you in some way or other.