

Remarks on Special Issue on Plate



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The world's economy is facing a period of great revolution as it reacts to the powerful effects of the pull from China. Japan's economy has finally reached its bottom and is showing recovery, though moderate. When looking at the field of the demand for steel plates, we also see activity levels in the shipbuilding industry that exceed those of the time of the Japanese economic bubble. This has been buoyed by the dramatic expansion of the demands placed on ships which has accompanied the increase in the amount of overseas trade. Furthermore, while it is expected that there will be increased demands for energy in the future, the worldwide demand for line pipes and offshore structures is quite favorable. Coupled with the continued construction of the infrastructure in China, supply and demand for steel plates is now extremely tight.

In this tight competitive environment, we have also noted higher levels of requests, stricter standards, and diversified requests for steel products from our customers. Particularly, there has been continued increase in demand for larger sizes, lighter weights and higher efficiency for workability onsite. In order to respond to these requests, Nippon Steel Corporation garnered all of its resources to relentlessly and independently develop high function products that are useful for our customers.

Nippon Steel Corporation developed HTUFF to dramatically improve the toughness of welding heat affected zones (or HAZ) to handle the higher level of requests we have received from our customers. These demands include those for high strength, extra-thick steel plates, and high heat input welding for improved working efficiency that have occurred as a result of the larger sizes of structures witnessed in recent years. This technology was independently developed using fine oxide particles and sulfides. However, regardless of the field this technology expands to all fields of steel plates. This issue, in addition to providing*

examples of its application to shipbuilding, offshore structures, and to each field of construction, will introduce to you a high heat input welding method (the development of two-electrode VEGA® welding method) which fully embraces that function.

It is said that the 21st century is the century for the global environment. The demands for energy conservation, safety and longevity are increasing from the point of view of protecting the global environment and LCA. As such it has become extremely important to submit measures for elemental materials that can handle these for configuration of society's infrastructure. We are proud of our efforts made in the generation of steel materials that are gentle on the environment through our new menus for steel such as our NSGP (Nippon Steel Green Protect) series. For example, the new S-TEN1 is a steel material that was developed considering the advancements in measures for the environment, particularly in refuse incineration facilities in recent years. Accompanying measures for handling dioxin, this steel material was dramatically improved in its resistance to corrosion from acids, and particularly hydrochloric acid that are generated in such facilities. This steel material has been gathering attention as a new type of corrosion resistant steel and is widely commercialized in machines that generate acids, or machines for storage and transport.

Nippon Steel Corporation has developed many other world class level products in other fields as well. In this issue, we shall introduce to you a method for assessing the application of Ni-advanced weathering steel and the development of a system for predicting corrosion for steel plates that are used unprotected in regions where salt is present such as near marine regions, as a result of our recent developments and some of the leading products. Also introduced in this issue are the development of super 9% Ni steel plates, the development of 590 N/mm² class steel for high strength and fire resistance that supports ultra high and large structures, and low Pcm, and extra heavy steel plates for construction debuts a new type of casting machine. It is my sincerest hope that our readers will study these new technologies and provide us with their invaluable advice.

Having such input from our many customers, Nippon Steel Corporation will continue to make every effort to provide products of value and solutions in our goal to contribute to the advancement and development of the world through our customers' prosperity. We continue to hope all our customers will provide the support and guidance needed to attain that objective.

** HTUFF®: Super High HAZ Toughness Technology with Fine Microstructure Imparted by Fine Particles*