NSSC: an integrated Japanese stainless steel powerhouse to be reckoned with

The new coil buildup line at the cold strip mill in the Hikari works.

Stainless Steel World last reported on Nippon Steel & Sumikin Stainless Corporation (NSSC) in July/August 2010. In October this year Stainless Steel World's Asian Correspondent, Gert-Wim Wijbrans, returned to talk to Mr. Hiroshi Kinoshita, Representative Director and President, in Tokyo. He was naturally keen to find out what has been happening to their product business and development in recent months as well as the changes behind the new parent company following the merger of Nippon Steel and Sumitomo Metal Corporation (NSSMC).

By Gert Wijbrans and Gillian Kersley

What has been happening at NSSC?

"Whilst NSSC is not one of the largest stainless steel manufactures in the world," begins Mr. Kinoshita, "in the industry, we pride ourselves in our technical and development capabilities and our ability to launch the highest quality new products onto the market. We have paid particular attention to those particular strengths. In addition to our various lineups of unique products, we recently launched a new stainless steel grade on to the market in our new FW Series®, which is expected to become one of the major generic stainless steel grades that we offer.

We are also extremely proud since, not only is the FW Series® a great addition to our range, we have also been granted the the Prime Minister's Prize of Monozukuri Nippon Grand Award for the series. This is the most prestigious award in Japan, awarded in order to develop and pass on the manufacturing and tradition that has supported Japan's industry and culture as well as the lives of citizens and to inspire further development. We have already applied for patents on the new grade in major countries throughout the world including Japan, the United States of America and other main consumer and production countries globally."

In their FW2 of FW Series® NSSC has replaced the nickel with tin and reduced the chrome content by a certain percentage resulting in a stainless steel with the equivalent corrosion resistance of 304 grade.

Mr. Kinoshita adds that he believes, in the long term, stainless steel consumption will go up leading to an increase in production. As the world population gets larger and daily life becomes more sophisticated, so stainless steel will be in even greater demand. The rarer metals such as nickel and chrome are more expensive and have limited natural available resources so it is logical for us that we try to replace them by other materials so as to reduce any effects by the drain on those resources and price volatilities. He continues: "The fact that we, at NSSC, have been successful in reducing the amount used in our stainless steel can be of benefit to users and it is a step in the right direction in terms of technological development since, in the future, as the price of the rarer metals soars, consumption will have to be cut accordingly."

Initially, it is NSSC's intention to approach various types of user groups involved in this segment of the market – users who are equipped with the technological knowledge and capability of processing this type of stainless steel – to demonstrate the cost and other advantages of the FW Series®. Also those user groups who are well informed and who would be open to supporting the idea of using less of the rarer metals are interested in using the Series proactively. NSSC feel that, once these user groups are on board then little by little, the new product series will go on to penetrate the rest of the market, eventually becoming as popular as, and comparable to, the use of SUS304 and 430.

We asked Mr. Kinoshita if he could give us an example of the type of user groups that NSSC would be concentrating on to begin with. He replied, "Kitchenware manufacturers are using it, and it is also being used in the manufacture of refrigerators and other such things."

However he also told us that, despite its qualities, there are those who are firmly of the belief that quality stainless steel must demonstrate magnetic properties and they stop short of conducting evaluation to check the actual properties of the grade such as stability or corrosion resistance. There is also a group of people who are of the opinion that the smaller consumption of rarer metals is the one of most important issues. These are the groups NSSC will target first.

Mr. Kinoshita believes that the latter opinion is the well-educated, eco-friendly and intelligent way to go given the dwindling resources available on Earth and that we should, therefore, make the most of them.

NSSC's duplex stainless steel, specifically NSSC2120 in heavy plate, is another example of an eco-friendly product. This is a newly developed material with higher tensile strengths and better weldability properties. "In conventional stainless steel the higher heat input welding of some grades can be very difficult, especially when it comes to heavier plate," Mr. Kinoshita explains: "Our new grade allows higher heat input welding, reducing the number of welding times needed. So the properties it displays contribute greatly to, for example, the construction industry. Because its weight is lighter due to the higher strength, it reduces the workload and helps to keep costs down.

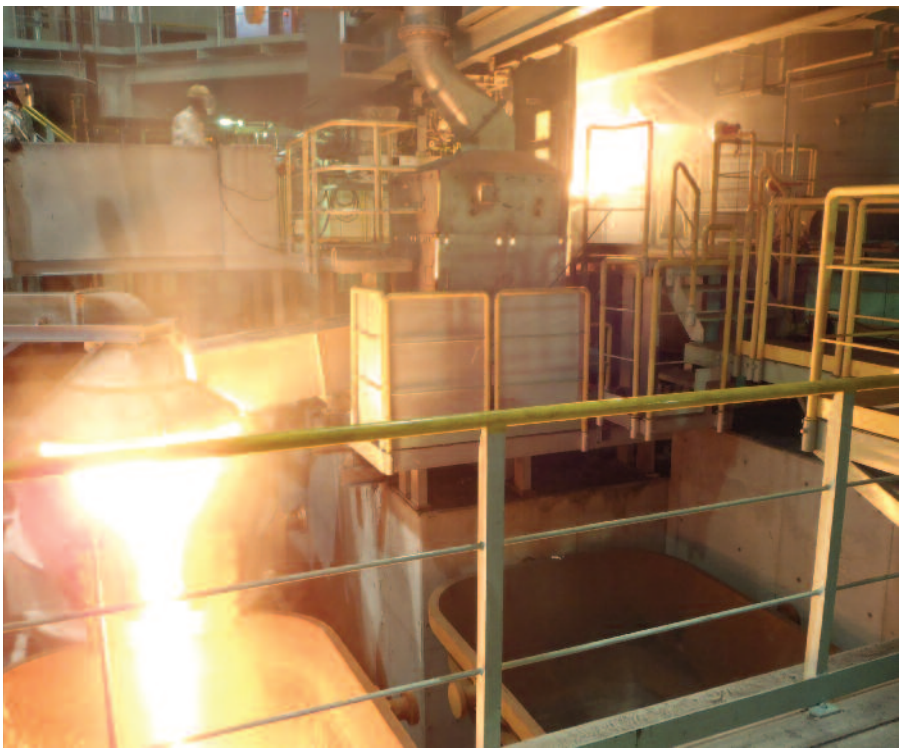
Mr. Hiroshi Kinoshita, Representative Director and President of NSSC.

Construction time is also reduced, resulting in lower costs overall." Such uses would include chemical tankers and sea water desalination units. NSSC2120 is available for a wide range of applications where plate has previously been used, offering multiple benefits to the customer.
Mr. Kinoshita then went on to describe the manufacturing process of the product. He told us that, at the end of September 2012 the SAF (submerged arc furnace) section of the company's production line at their Hikari works became operational. The purpose of the SAF is to make the most of the raw materials, firstly by taking waste products such as sludge and slags out of the production processes and, secondly, to recover rarer metals, including chrome and nickel, so they can be recycled back into the production processes, resulting in better use of raw materials which, in turn, leads to less waste material. Not only does this reduce the amount of new raw material required, it also cuts the amount of disposal. A Japanese government support initiative has been launched through the METI (Ministry of Economy Trade Industry) to promote efficient use of rarer metals.

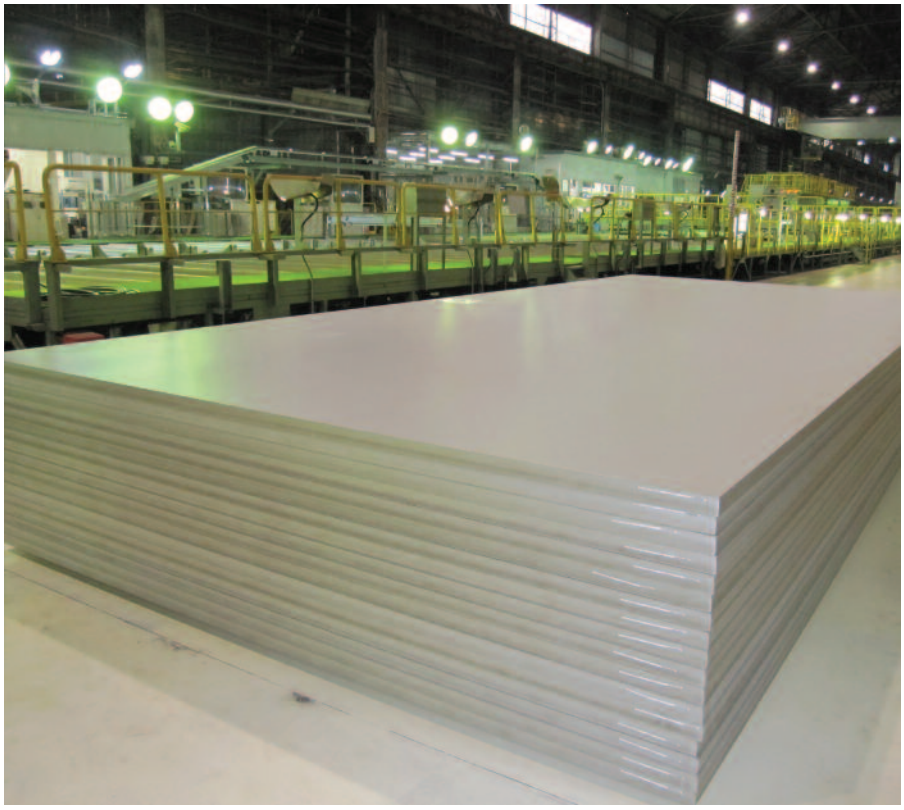
Does Mr. Kinoshita think that the new FW Series® will completely replace 304 and 430 stainless steel grades? He replied, "No, it won't be a total substitute for these two grades. We will have three major grades, each with their own beauty, strength and benefits, offering greater flexibility of choice depending on the application it is destined for. Initially there was some resistance to FW, especially amongst those who favor 304, because, at an operational level, people were used to working with 304. It's psychological really – a case of not wanting to change from what you know. Now people are starting to look more deeply into the properties and performances of the FW Series®, together with the conditions and application – and the competitive price – and are gaining a better understanding. Gradually it is becoming more widely used. And as customer requirements and applications change, or become more demanding, we will continue to look at evolving and improving grades accordingly.

Effects of the global economy

It is said that the world economy is slowing, especially in North America and Europe, and even the emerging markets such as Brazil, China and India are experiencing a slowing of their economic growth resulting in a global stagnation. Stainless steel makers have to contend with this business climate, compounded by the problem with the dramatic yen depreciation for Japanese manufacturers and the issues ensuing from the nuclear incident in March 2011 that have caused Japanese manufacturers to be faced with higher electricity costs. Currently, manufacturers the world over are suffering from the gap between supply and demand, which has led to an oversupply situation. In addition, in 2011 the EU brought in anti-dumping regulations, imposing a minimum price for stainless steel for Chinese companies or face a fine for non-compliance.
Does this mean that Chinese companies now approach the Japanese market or that is has become easier for NSSC to export to Europe? Mr. Kinoshita: "Although the external business environment has been extremely tough, we are still willing and able to invest in the development of technology as well as products, at the same time, doing what we can do to keep our competitiveness. That is just one weapon in our armory. We look at all possibilities, in all areas of our organization. In the long run, stainless



Tapping of the submerged arc furnace in the Hikari works.



NSSC 2120 plates.

steel will again enjoy a good growth rate – even better than carbon steel and we look forward to this time."

Positive development and the future

Having spoken about the past years and recent developments, Mr. Kinoshita was keen to tell us about another recent positive change – that of the merger, in October, between parent company Nippon Steel and Sumitomo Metals resulting in a new company, Nippon Steel & Sumitomo Metals Corporation (NSSMC). "This was welcome news for us," he said. "Previously, through a joint venture, an 80% stake was held by Nippon Steel and a 20% stake by Sumitomo Metals. Now it's a different picture. Not only are we working together on stainless steel production, parent companies had a rivalry with each other in certain fields and we will all be working together in all areas of the industry as well. Firstly we expect to benefit from the technical development and expertise of both companies for research, enabling us to widen our sphere of expertise and will be able to pass these benefits on to stainless steel users and customers."

Asked why he thinks customers should choose NSSC as their procurement partner, Mr. Kinoshita explains: "We have an insight into how our stainless steel would be used in their finished product so we can evaluate their exact requirements, taking into account how it is processed from the raw material through to the finished products, in both our processing lines and our customer's. We pay great attention to detail and make sure that we tailor our products exactly according to their needs and specifications, not under or over specification. Also, by understanding our customer requirements and listening to what they want, we can keep on improving and designing new products to cater for their needs. Our experience tells us our customers value this mindset and that's why they keep coming back to us. Our goal is to be a real partner who can provide customers with the best solutions."

Technological excellence

There are further high expectations for the company's future in terms of technological excellence. The current, unfavorable foreign exchange rates mean that NSSC will focus more on technological development activities to grow the business, which Mr. Kinoshita is sure will be even more valued by customers, both old and new.

He went on to say proudly that they will surely be looking at how to improve on this position in the future too. "Maybe we will have some news on that and on more new products for launch when you come to carry out the next interview in two years' time," he smiled.

NSSC and NSSMC company nameplates at the gate of the Hikari works.