

Nippon Steel & Sumitomo Metal Corporation: a

Nippon Steel & Sumitomo Metal Corporation (NSSMC) is proudly Japan’s number one manufacturer of seamless stainless steel pipes and is world-renowned for its integrated steel production. The company was originally established in October 2012 with the successful merger of Nippon Steel Corporation and Sumitomo Metal Industries, Ltd. Today, it is a world leading manufacturer of special tubes offering tubes and pipes in a broad range of sizing options and in different material grades such as carbon steel, stainless steel, duplex, nickel-based alloys, and even titanium.

NSSMC’s state-of-the-art manufacturing capabilities and technologies are carried out across multiple steelwork facilities, major research centres, and laboratories located throughout Japan. Manufacturing high-quality and dependable products have solidified NSSMC’s reputation as a long-term supplier for top-tier companies across a multitude of industries.

Stainless Steel World Americas had the opportunity to speak with Nippon Steel and Sumitomo Metal U.S.A.’s Mr. Yuichiro Akamatsu, Senior Manager, Marketing, about the company’s integrated steel production, innovative R&D, its high-quality materials, and the many benefits NSSMC offers worldwide clients.

Mr. Akamatsu recently relocated to Houston, Texas, in July 2017 and on behalf of the company would like to express his deepest condolences to all of those who have been affected by the devastation resulting from Hurricane Harvey, which initially touched down on the Texas Gulf Coast on August 25th.

By Candace Allison

Integrated steel production

Mr. Akamatsu began our conversation by explaining that since the company started operations by joining two previously separate companies together, NSSMC offers many advantages that can greatly benefit global customers. The advantages that the Nippon Steel Corporation and Sumitomo Metals Industries, Ltd. had before the merger have helped the company both build a reputation and gain ground in the tube and pipe marketplace. For instance, before the merger Sumitomo Metals was strong in the field of seamless tubes and pipes, while Nippon Steel’s forte was welded carbon steel tubes and pipes. Combining these two different business fields into one company has allowed NSSMC to compete on a wider front through an increased product portfolio, which clients greatly benefit from.

Three of NSSMC’s steel works, which were originally Sumitomo’s Amagasaki and Wakayama Works and Nippon Steel’s Hikari Works, each bring their own merits to the company’s tube production. For example, the Amagasaki works produces high-end material like nickel-based alloys, whereas the Hikari Works produces the more common ‘work-horse’ stainless steel grades such as 304 and 316. The Wakayama Works can produce 10”-16” SMLS and STLS besides their main productions of OCTG and line pipes.

NSSMC is in the lucrative position to be

able to offer customers whatever tube and piping product is needed, whether the items need to be constructed out of standard carbon steel or a more specialty material like duplex. Clients can always depend on NSSMC to deliver the precise product solution required to complete a project, whenever and wherever it is needed.

Superior quality assurance

Regardless of the material being used, all of NSSMC’s products are manufactured in one of the company’s own steelworks, which ensures that each and every tube and pipe is produced using many developed materials. This is crucial because clients can feel confident that all NSSMC’s products are constructed in-house, using original, non-counterfeit material so that a specific product can then be trusted to successfully perform the job it was designed to do. This product dependability is essential since the majority of all NSSMC products are used in critical service environments.

Being in a position to closely monitor and trace the in-house manufacturing at the steel work facilities throughout Japan, NSSMC can strictly enforce integrated quality control and traceability for all of its products, ensuring that customer expectations are not only met but always exceeded. Mr. Akamatsu said that being able to trace each and every product with a full traceability system from the ini-



tial stage of steel melting to the final stage of shipping the product, allows the company full control and superior quality assurance.

Innovative R&D

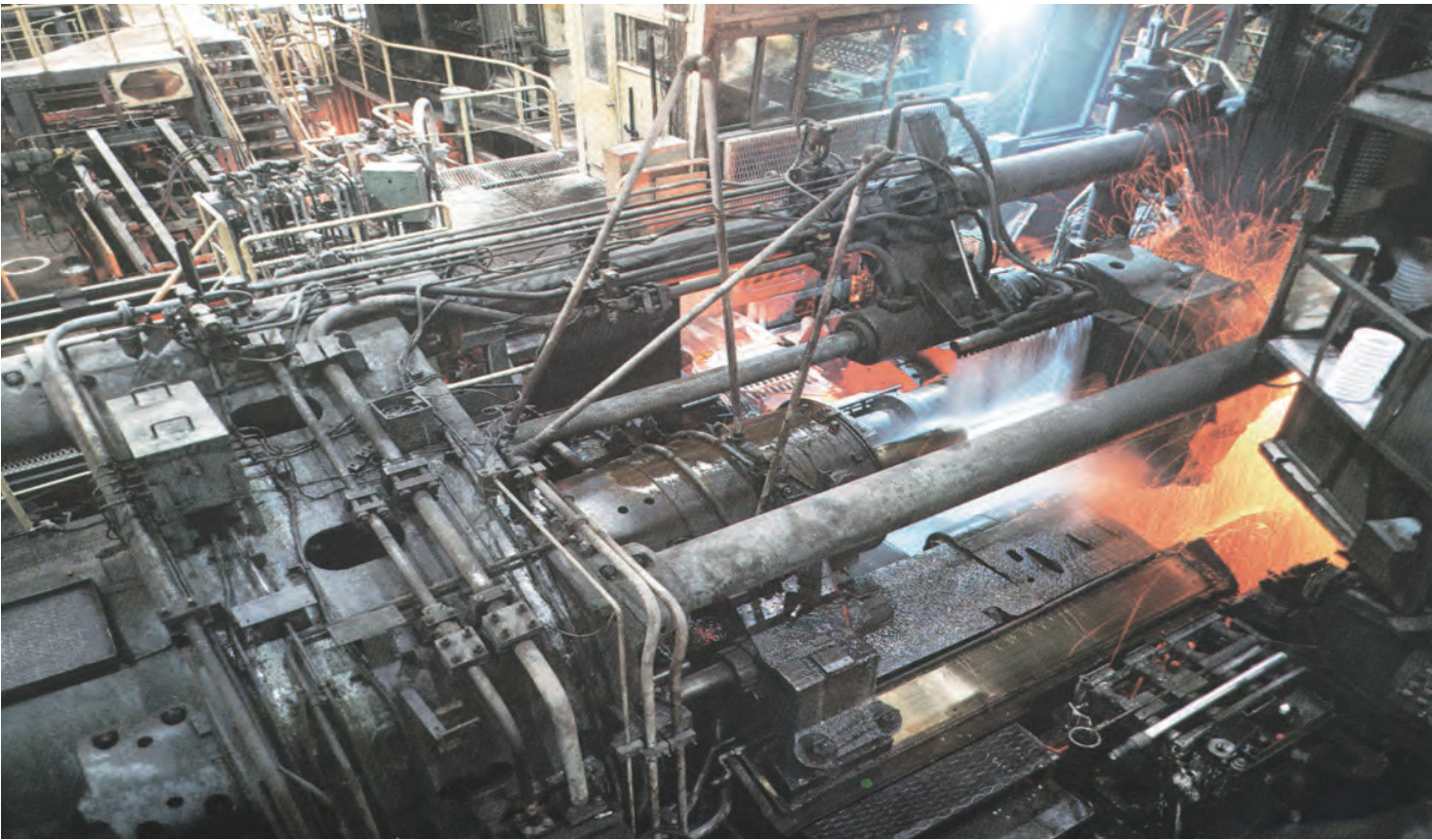
Along with its in-house steelworks and built-in traceability system, NSSMC also has two major R&D centres that provide enormous capabilities when it comes to researching and developing new products or even improving existing ones. The first is located at the Amagasaki Works (which was originally named Sumitomo Metals R&D Centre) and has approximately 300 workers. The second facility is located close to Tokyo and has approximately 700 employees.

These R&D centres are essential to de-

veloping the high quality products that have earned NSSMC the global reputation as a leading manufacturer of seamless tubes and pipes in a multitude of severe service industries. For example, NSSMC’s nickel-based alloys, specifically UNS N08825, N06625, N10276, and pure Ni (N02200/N02201), have already been used widely throughout the oil & gas, and offshore industries and have also been successfully used as heat exchangers in extremely corrosive environments.

High-quality materials

Mr. Akamatsu further explained NSSMC’s alloy offerings stating that the line-up of nickel-based alloys includes both com-



world-leader in the production of tubes and pipes



mon grades like No8825 and No6625 as well as the originally developed Ni-based alloy like NSSMC™ 845. NSSMC™ 845 is standardized as ASME Code Case 2794 and UNS No6845. Its chemical composition has less nickel and molybdenum contents than No6625, since it is controlled to have well balanced corrosion resistance in both oxidizing and reducing environments. It is expected to extend its application to various harsh environments. Another developed product Mr. Akamatsu also wanted to introduce was NSSMC™ 696, which is standardized as ASME code case 2652 and UNS No6696. This alloy has excellent resistance particularly to corrosion, but also high temperatures, carburization, and metal dusting.

Regarding the petroleum industries, NSSMC has been focusing on the offshore, and oil & gas industry through the production of materials like 25Cr super duplex stainless steel. Mr. Akamatsu detailed that 25Cr super duplex is used wherever high corrosion resistance is required, for example to protect against corrosion from seawater or in high-pressure, high-temperature environments such as in heat exchangers. It is often used at topside locations on platforms, FLNGs, and FPSOs as well as in umbilical tubing, and in subsea systems.

Impressive sizing capabilities

Mr. Akamatsu emphasized that regardless of the material or end-use application for the tubes and pipes, NSSMC accommodates a large range of sizing options, whatever is required by the client. “We can manufacture

from a small size to OD 16”, depending on the specific grade being used. Our Amagasaki and Wakayama mills have acquired NORSOK certification (the standards developed by the Norwegian Technology Centre) and are able to manufacture from a small to medium diameter (OD 14”). In particular, a medium diameter size can be up to 12m long. In addition, we have already obtained STATOIL TR 2000 certification and have developed DP3W independently specifically for offshore development. Additionally for special purposes, the forged pipe plant in Amagasaki can manufacture STLS SMLS pipe up to OD 762mm and DFARS can be supported at all of the mills in Amagasaki, Hikari, and Wakayama. Finally, with our heating furnace grades we can support an equally large range of sizes.”

Looking to the future

When asked about future goals, Mr. Akamatsu explained that as a company NSSMC is currently implementing a further cost and lead time reduction for products, especially products such as Alloy 800 grade, which will greatly benefit worldwide customers. The company will also continue to make full use of its strong R&D facilities to improve its production process even more and further set itself apart from the competition. He detailed that on a regular basis, the company organizes meetings between its R&D groups to discuss new materials. The aim is to ensure that knowledge and data are always being shared amongst the team so this exchange of ideas can help to create new and innovative products. These

meetings also encourage consistent communication within the already efficient and knowledgeable team, so they are always prepared to help customers with all of their product needs.

He further continued that as a company, the overall aim is to never become complacent. NSSMC will continue to be there for

clients and offer them product solutions and new materials that will improve their businesses and keep them ahead of the competition. He explained that it is vitally important that clients can trust NSSMC to provide them with the highest quality products developed from years of R&D and manufactured to the highest standards.

Nippon Steel & Sumitomo Metal Corporation offices around the world

Asia-Pacific
Sydney, Australia
Beijing, Shanghai, & Guangzhou, China
New Delhi, India
Jakarta, Indonesia
Singapore
Bangkok, Thailand
Ho Chi Minh City, & Ha Noi, Vietnam

Middle East
Dubai, United Arab Emirates

North, Central and South America
New York, Chicago, & Houston, United States of America
Mexico City, Mexico
São Paulo & Belo Horizonte, Brazil

Europe
Düsseldorf, Germany



► Nippon Steel & Sumitomo Metal Corporation at a glance

Company name:	Nippon Steel & Sumitomo Metal Corporation
Established:	October 1st, 2012 (Business merger)
Seamless stainless pipe mills:	Amagasaki, Hikari, and Wakayama in Japan
Products:	Seamless pipes and tubes
Materials:	Nickel-based alloys, duplex, stainless steel, carbon and alloy steel, boiler tube, and nuclear usage.
Industries:	Oil & gas, petrochemical, offshore, aerospace, power generation, pulp & paper, automotive.
End-use applications:	Heat exchangers, heater tubes, subsea systems, umbilical tubing, boiler tubes & pipes, steam generator tubing, composite tubing in pulp & paper mills, etc.
Website:	www.nssmc.com or www.tubular.nssmc.com