

## Sandvik Materials Technology: Seamless prod

Sandvik is a global engineering group that specializes in tooling, materials technology, mining and construction. The Swedish-based company conducts operations in five specific business areas, each responsible for its own research and development (R&D), production and sales.

One of these five business areas is Sandvik Materials Technology (SMT), which itself is a global developer and manufacturer of advanced stainless steels grades, special alloys, titanium and other high-performance materials specially designed for demanding industries. Just some of the SMT product categories include tube, strip steel, wire and heating technology.

Recently when the *Stainless Steel World Americas* team was in Houston, Texas, we had the pleasure of sitting down and speaking with Mr. Marcelo Senatore, who is part of SMT's Global Technical Marketing team for the product area of tube. We discussed the company's rich history, its North American production, its cutting edge products and the company's goals for 2015 and beyond.

By Candace Allison

### A strong foundation

Sandvik began operations in 1862 in Sweden under the direction of Göran Fredrik Göransson, who was the first person to successfully use the Bessemer method on an industrial scale. This method allowed for the mass-production of steel from molten pig iron by removing impurities from the iron by oxidation in the form of blowing air through the molten iron.

The company started out producing drill steel for rock drilling before venturing into manufacturing stainless steel in 1921. Approximately 40 years later in the 1960s, a comprehensive investment program took place at the main plant in Sandviken, in Gävleborg County, Sweden. Only a decade later the company's name was officially changed to Sandvik AB before becoming a decentralized organization consisting of a parent company with separate business areas, regional companies and service offices in 1984.

Even from the very beginning, despite these various company changes over the last 150 years, Sandvik always focused on providing high quality and added value to all of its customers by investing in R&D, maintaining close client communication and exporting products. These days, Sandvik helps to ensure its continued success by adhering to the principles of being growth oriented, flexible, agile, global, a technological leader and employing exceptional people.

"The key for the success of the company is to keep reinventing ourselves," explained Mr. Senatore. "We are a small mill compared to some of the traditional players or large Asian producers, but we're leaders in what we do. We provide dependable high quality products, which makes a big difference to our customers."



Mr. Marcelo Senatore who is part of Sandvik Materials Technology's Global Marketing Team for the product area of tube.

He further described how as a company, SMT offers customers a large variety of premium standard products along with highly engineered products based on an integrated production platform and extensive R&D. Just as important are the wide range of services that are available to the client to ensure that all purchased products attain, and exceed, their performance expectations. Some of the technical services include material consultations through the global sales network and practical advice on process optimization. Best of all, SMT's products and services are based on the company's decades of materials expertise and application knowledge.



### A collaborative team

Since SMT is a global company employing over 7,000 workers worldwide, there are sales offices all around the world. In North America, the sales offices for the tube product area are located in Houston, Texas along with warehouse facilities, and in Scranton, Pennsylvania (PA) along with the local main warehouse and mill. The Houston sales office, which currently is made up of about 20 engineers, is undergoing an expansion to grow its team in an effort to better accommodate clients and their product needs associated with the upstream oil & gas and chemical markets. As well, the mill in Scranton is having a new bright annealing furnace installed that will significantly increase production capacity.

In terms of the production process, Senatore clarified that, "Everything starts in Sweden; all the melting is done there. Since I work with tube, the next step is

sending the raw material, the bars, to the extrusion mills. There are three around the world: One in Sweden, one in India and the other in Scranton. These extrusion mills make a hollow bar or hot pipe for our eight cold pilgering mills located around the world, including one in Canada and the one in Scranton. The final product is a cold finished tube that can be shipped wherever needed."

Senatore emphasized that the more often he and his team can come up with new ideas and solutions that involve less investment and R&D, the better for everyone involved. However, he did stress that everything starts with a customer need, hence the reason why so many of the products are geared towards a very particular application—it was the solution to a specific problem a client encountered. This is the very reason that SMT considers it so important to work alongside the end-user. As he stated, "We work together with our customers. Everything starts



## Products combined with devoted customer service



SMT tubes being used in a chemical plant.

with them and it is because of them we are always discovering new products and solutions that will bring them value. Working closely with the customers is the entire base of the company as outlined in the core values that date from 150 years ago."

### A variety of CRA products

In SMT tube product area, some of the innovative products that have been created to solve a client's needs are seamless tube and pipe offered in a variety of materials such as stainless steels, nickel alloys, titanium and zirconium. Sizes range from 0.5mm to 260mm outside diameter. In addition, SMT is on the approved manufacturer lists (AML) such as Lloyd's register and DNV just to name a few, all sites are ISO 9001:2008 and ASME/NCA-3800 approved and the tubular products can be delivered in accordance with most international standards like Norsok M-650.

SMT offers customers hydraulic and instrumentation tubes in a broad range of corrosion-resistant stainless steels and nickel alloys covering outside diameters from (OD) 1.59 to 50 mm (0.0625 to 1.968 in.). All of these sizes come with smooth surfaces and close dimensional tolerances, which reduce the risk of leakages when connecting tubes with couplings. As well, these hydraulic and instrumentation tubes are delivered in straight lengths of six meters, but there is also the option to have them arrive as coiled tubing, which helps reduce installation costs. They are also characterized by high cleanliness and tubes with OD larger than 5 mm (0.196 in.) are delivered with plugged ends for transport protection against inside contamination.

"When we talk about Sandvik Materials Technology, it is quite common to think about duplex stainless steel, and we are developing duplex, and will continue to develop it, but we are moving in the opposite development direction as some of

the other companies," clarified Senatore. He continued, "We've developed a hyperduplex stainless steel called Sandvik SAF 2707 HD™, which is very corrosion resistant and has high mechanical strength to be used for heat exchangers. It's a material that can be comparable with titanium and used as an alternative to other expensive nickel materials."

Even more on the cutting edge is Sandvik Safurex™. It is a duplex material that renders tubes extremely corrosion resistant and was developed especially for the Stamicarbon urea process, urea being a relatively inexpensive form of nitrogen fertilizer. Sandvik Safurex™ is used in urea fertilizer plants because it can withstand the severe operating condition in strippers used for urea production. The material was specifically designed to allow an oxygenless process that helps to increase both output and safety within the plant. Also, used within these plants is Sandvik 2RE69™, which is a high-alloy stainless steel with a very low, or zero, ferrite content. This renders the material resistant to corrosion in highly aggressive environments allowing process equipment to run a lot longer than it normally would be able to using a different type of material.

### Customer assurance

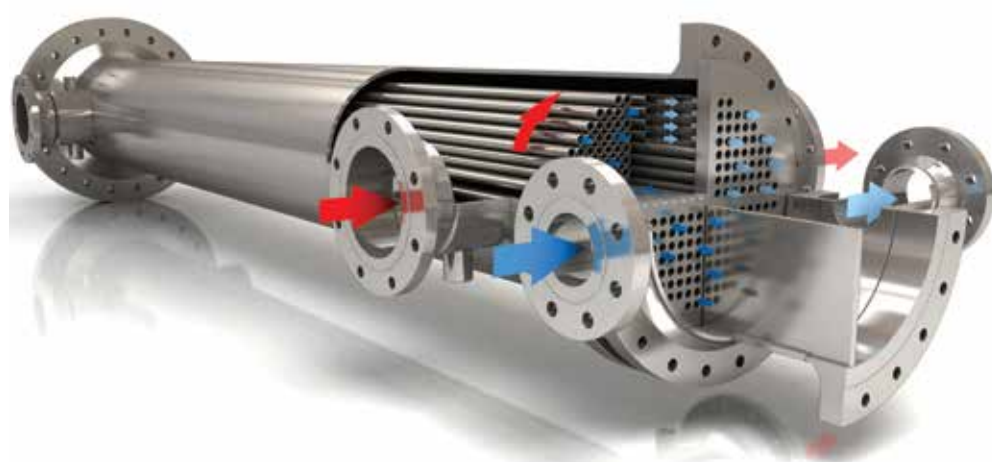
Regardless of whether the product being purchased is a tube in Sandvik SAF 2707 HD™ or a pipe in Sandvik Safurex™, Senatore maintained that what the client is actually getting is peace of mind. "What they get is a product that allows them to go home at night not having to worry about what equipment they have installed in their plant. No problems with leakage... it's peace of mind. We're offering products with which we are raising the standards.

Raising the standards not only for SMT but also for Sandvik as a whole. It is the standard within the standard. We raise the bar and lead the industry. We bring value to our customers by increasing time between shutdowns, reducing the amount of shutdowns and reducing downtime during the shutdown in turn increasing their profit and reducing their costs."

With the customer being at the center of SMT's operations, any future goals are made with them in mind and how the company can better serve them by fulfilling their needs. Senatore stated that one of the company's main goals for 2015, and even beyond, is to further grow the business. This could take the form of new R&D operations in India and China or expanding already existing sales offices in North America and Asia in addition to other parts of the world. Investing in new equipment such as the bright annealing furnace at the Scranton mill is yet another example of company growth. On the materials side, he explained that they are looking at moving more towards nickel materials and adding more of these grades to SMT's product offering as these materials are in high demand throughout the oil & gas industry.

According to Senatore, what continually helps the company stand out among their competition, in addition to their quality products is that, "The reason for existing, and growing, for any company, is the customer, so they should be number one. Many companies have that listed in their core values but that often isn't how it turns out. In order to make a difference as a company, making the customer number one has to happen. That's what makes Sandvik not only better but different."

Photos: Sandvik Materials Technology



### Sandvik Materials Technology at a glance

<b>Company Name:</b>	Sandvik Materials Technology
<b>Number of employees:</b>	Approximately 7,100 worldwide
<b>American sales office (tubes):</b>	8618 West Little York Road, Suite 100, Houston, TX 77040
<b>Products:</b>	Tubular products, furnace products and heating materials, strip steel, wire, bar and hollow bar, etc.
<b>Materials:</b>	Austenitic stainless steels, duplex stainless steels, ferritic stainless steels, nickel alloys, titanium and zirconium
<b>Industry markets:</b>	Aerospace, automotive, chemical processing, industrial heating, medical devices, nuclear power generation, oil and gas upstream & downstream and renewable energy
<b>Website:</b>	<a href="http://www.smt.sandvik.com">www.smt.sandvik.com</a>