



The Schulz Group of Companies' state-of-the-art seamless pipe mill in Tunica, Mississippi, USA as photographed in November 2011. In less than two years the 130 million US-dollar investment for subsidiary Schulz Xtruded Products has been constructed and the first pipes have already been manufactured.

The Schulz Group of Companies: Schulz Xtruded Products (SXP) – fully operational

The Schulz Group of Companies with headquarters in Germany started operations in its state-of-the-art seamless pipe mill in Tunica, Mississippi, USA, in November 2011. In less than two years the 130 million US-Dollar investment for subsidiary Schulz Xtruded Products has been constructed and the first pipes have already been manufactured. This is just one step forward in the group's strategy. In addition, a new sales office has been opened in Indonesia and the group is now represented in about twenty countries worldwide. Schulz's global strategy is to supply full piping packages to their customers for the most demanding applications.

Stainless Steel World spoke to Marketing Manager, Mr Stefan Zwickardt, to get the latest news from the Schulz Group.

By Frank Wöbbing for KCI Publishing

“Passion for Piping”: For the Schulz Group of Companies this slogan sums up their philosophy. What does it mean for the customers? “Quality is key for us”, explains Mr Stefan Zwickardt. “We offer sophisticated piping solutions for clients all over the world. An obvious example of putting this into practice is the siting of our new mill. We have chosen the USA as the location for our investment since we find there a highly qualified workforce able to produce

according to our high standards.” These standards have been developed in the sixty-five years plus history of the company. What started as a small fabrication facility in Germany in 1945 has become a global player with manufacturing units all over the world.

Schulz Xtruded Products – Think big in seamless

The establishing of Schulz Xtruded Products in Tunica is a logical step. It is

the largest investment in the history of the Schulz Group of Companies. In the new facility the company showcases its expertise in manufacturing seamless pipes. The Tunica plant fabricates both hot and cold finished seamless pipes in stainless steel grades, duplex and super duplex grades, nickel alloys and various titanium grades. Additionally SXP produces seamless metallurgical bonded clad pipes. The maximum O.D. is currently 16”, wall thickness from



10S up to XXS in lengths up to 12 metres. Soon the size range will be increased to 24" O.D.

The facility in Tunica was built in a very short time. From the outset, in March 2010, until starting operation in

November 2011 it took only twenty months. The annual capacity is 20,000 tonnes. In the first phase SXP currently produces pipes with a diameter up to 16", and soon 24". In phase II – to be implemented in 2015 – it is planned to manufacture pipes up to 32". Additionally SXP will start producing seamless pipes in P-grades. Building this new plant was a huge investment in unstable times. "Due to our high quality products we were already very well established in the international markets so, in spite of the insecure economical outlook, our business is running very well. We will be one of the very few producers of seamless pipes with thick walls and diameters up to 24" in the Western world. We see a huge potential for our products and expect to gain new market shares", Mr Zwickardt explains. About 500 employees will work at the plant, when phase II is completed.

SX-Clad – seamless metallurgical bonded clad pipe

Based on their long experience the Schulz engineers have developed a highly improved extrusion process

which has also resulted in the development of a new product: SX-Clad pipe. In a joint research program together with their colleagues from Petrobras, Brazil, they have found an excellent solution for combining the advantages of clad material and seamless products.

"To explain it simply, we use an optimized process by extruding SX-clad pipes from bimetallic billets", says Mr Zwickardt. "The bimetallic billets are bonded by an ultra high pressure technique. By extrusion of these billets we produce seamless metallurgical bonded clad pipes which can be exposed to the most corrosive environments and stand up to the highest pressures in deepwater locations. Thus, together with the advantages of a standard seamless pipe, the products offer excellent weldability, heat transfer and thermal stability." Additionally Schulz offers a complete range of seamless clad BW fittings produced from this pipe. SX-Clad pipes and fittings provide huge economical advantages. With a thin CRA-layer in a less expensive host pipe these clad products can be provided at



The extrusion press (7,000 metric tones)



Pipes in the quenching process.

less cost compared to solid CRA pipes. "All in all SX-clad pipes and fittings provide superior mechanical properties, are economically more efficient, and are as corrosion resistant as a solid CRA product", Mr Zwickardt summarizes.

Shapes for aerospace

Based on extensive experiences in extrusion SXP the company also manufactures extruded shapes made from titanium alloys, nickel base alloys, PH grade stainless steel alloys and austenitic stainless steel alloys for the

Cold forming

"The Schulz Group of Companies is perhaps the only company in the world which can cold form products with wall thicknesses of up to six inches at room temperature", states Mr Zwickardt.

"The great advantage of cold forming is that the result is continually reproducible, thus making it possible to produce constant quality." As it is hardly subjected to heat, the consistency of the formed materials hardly alters – it is at best minimal. In turn, this guarantees the quality of the cold formed products and makes them particularly suitable for safety-related applications.

aerospace industry. Contacts with the main players Boeing and Airbus have already been established.

Piping packages

The sales force in the Schulz Group of Companies specializes in piping

Certifications

The Schulz Group of Companies produces according to the highest standards certified by organizations like ABS, AREVA NP/e-on, ASME, Bureau Veritas, Det Norske Veritas, Germanischer Lloyd, MCCR, Inspecta, National Board, Norsok, TÜV Nord and TÜV Rheinland. Moreover the products and production processes are approved by international nuclear power plant contractors and utilities.

packages. More and more clients want to have everything from one source.

"Based on our own products like our cold formed BW-fittings, the welded pipe from our Brazilian and German plants, the large diameter seamless pipe from SXP and the high quality products of our business partners, we are one of the few companies who can offer complete piping packages worldwide", Mr Zwickardt tells us. "Our enhanced production processes enable us to react very flexibly to

emergency demands from clients. Our flexibility was recently proven by an urgent demand from a refinery. They were in shut down and urgently needed a huge number of 180° elbows in grade UNS N08825. Due to our cold forming process we were able to produce these elbows from pipes we had in stock and the elbows were delivered within a few days. You can imagine that the owners of the refinery were impressed by this performance."

The Schulz Group of Companies

In total the Schulz Group of Companies runs six mills. The group's headquarters is located in Krefeld, Germany. There the company also runs three facilities. In one mill it produces cold formed seamless and welded

Packages

The sales force within the Schulz Group of Companies specializes in supplying complete packages for projects. These packages consist of BW pipe fittings, seamless pipes, welded pipes, flanges, forged fittings, special piping components as per customers' drawings and pipe spools as per customers' needs.



SXP seamless pipes.

Overview of products

- Seamless Pipes
- Welded Pipes
- Elbows
- Return Bends
- Straight and Reducing Tees
- Special Tees
- Concentric and Eccentric Reducers
- Caps
- Stub Ends
- Special Pipe Spools
- Special Piping Components as per Customers' Drawing

pipes and pipe fittings. Next to that is a special annealing plant with eight annealing furnaces for heat treatment of their products. In another plant Schulz builds its own presses and forming tools. "As we produce our pipes and fittings by self-developed specialized processes we also need specialized machinery which is 100% customized to our needs", Mr Zwickardt explains. That means every machine used in a Schulz-plant is individually constructed for its very special purpose.

In Brazil the Schulz Group of Companies runs two mills. Schulz BC produces cold formed seamless and welded BW pipe fittings up to 24" O.D. and the Schulz Tubos Soldados mill manufactures longitudinally welded pipes starting from 8" O.D..

Concerning its sales activities the Schulz Group of Companies has also extended its network. In 2011 a new sales office in Jakarta was opened where four sales representatives are exploring the Indonesian market. "We have local people over there who are very experienced in the industry", Mr Zwickardt explains. "Direct links with our local customers are the reason why we operate our own offices and stocks all over the world." This being said more Schulz offices worldwide can be expected. Even as Schulz's biggest investment ever, the Tunica plant is just one step ahead, many more steps will follow.

SX-Clad

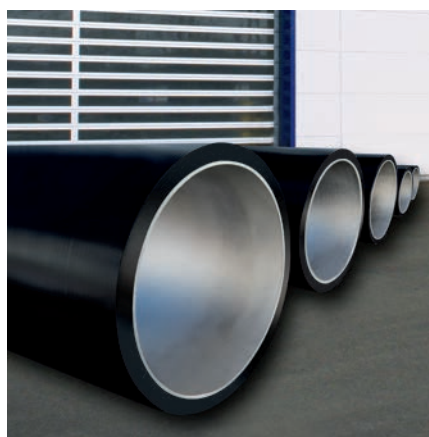
Pipelines and process piping are being exposed to increasingly severe corrosive environments as the new reserves of oil and gas are discovered in deeper and deeper locations. This increased depth results in higher temperatures and pressures which add to the aggressiveness of the corrosion encountered. Methods to combat this situation include the introduction of inhibitor systems and the use of more costly piping materials such as duplex, super duplex and nickel base alloys.

For these challenging applications the Schulz Group of Companies has developed a special process, seamless metallurgical bonded clad, which guarantees the highest quality at attractive pricing. Corrosion Resistant Alloy (CRA) clad pipe and fittings are composite products, combining the best properties of different metals, the high mechanical strength and economical advantages of carbon steel and the proven corrosion resistance of the NiCr family of alloys.

The advantage is a solid-state diffusion reaction between the carbon steel carrier pipe and the CRA metal cladding that does not require the addition of a low melting compound at the interface to promote diffusion. In addition to the pipes, the Schulz Group also supplies a whole range of Schulz cold-formed BW pipe fittings in all seamless clad combinations made from SX-Clad pipe.

Facts and Figures

Name:	Schulz Group of Companies
Materials:	Standard stainless steels, special stainless steels, high nickel alloys, duplex and super duplex steels, 6 Mo grades, super austenitics, titanium alloys, clad steels, CuNi grades
Industries:	Water treatment, oil and gas, nuclear, chemical, petrochemical
Employees:	Approx. 800 employees worldwide
Internet	www.wschulz.com



Seamless metallurgical bonded clad - SX-Clad



Clad fittings.