



# Inox Tech consolidates its position

**Italian manufacturer of stainless steel welded pipes, Inox Tech, recently finished part of a continuous investment programme geared to expanding its production facilities and product range.**

**Through these investments, the company is strengthening its market position in heavy-wall, large-diameter pipes, preparing it for the future.**

**Stainless Steel World went to Lendinara, in the north-east of Italy, to speak to Managing Director Giuseppe Poggio and learn more about Inox Tech's plans for the future.**

**I**nnox Tech first began producing stainless steel welded pipes in 1992, primarily targeting the energy markets. Since then, the company has been able to quickly establish itself as a major player in the international stainless steel pipe markets, specialising in thick-wall, large-diameter pipes and tubes. According to Mr Poggio, it has done so through its dedication to product quality and production flexibility and through its partnership with the Ronda industrial group, a partner boasting 30 years of leadership in working stainless steel. Already from the start, Inox Tech has been specialised in manufacturing big pipes. When the company was founded in 1989, it was decided that the highly competitive market for thin-wall, small-diameter tubes made in mass-production systems was to be left alone. After careful consideration and market research, the Ronda group concluded that Inox Tech's future would be in the production of thick-wall, large-diameter pipes in view of the constantly growing demand

for this type of product in the various parts of the world, especially in the market for natural energy. The company started actual production of the tubes and pipes in 1992, offering a product range comprising pipes with a diameter of 100 to 2000mm and wall thickness of 5 to 20mm in a limited number of grades. Through modification and improvement of the original production equipment, the range was gradually extended to cover pipes with 40mm wall thickness, made also from more sophisticated materials.

In 1997, motivated by the successful penetration of most international markets and encouraged by the identified market potential, Inox Tech decided to instigate an extensive expansion programme. With the help of the Ronda group, this finally resulted in the completion of an invest-

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ment that doubled the manufacturing floor space. Furthermore, a 600-ton edge-forming press, a 4000-ton forming press, a plasma arc cutting machine and several submerged arc welding machines for external welding of the pipes were installed by the following year. The new equipment has enabled the company to expand its product range not only to pipes with 60mm wall thickness, but also to work with a wider range of materials.

**IN-LINE**

Inox Tech's latest investment has been aimed at optimising production procedures. Mr Poggio explains how the investment programme came about: "In order to strengthen our position we are constantly investing to expand our product range and service to the customer. This year we completed a unique project for the manufacturing of 12-metre long pipes with only one welding seam. This production line had to include the most advanced manufacturing concepts, whereby the complete process, from raw material to final delivery, will be performed in-line." To achieve this, Inox Tech needed to



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install some of the best manufacturing equipment there is and therefore called in the help of the Ronda group. The Ronda group has a long-standing experience in the field of design, development and construction of highly sophisticated industrial manufacturing equipment. Mr Poggio: "This experience enabled us to invest in the most advanced custom-made production equipment for pipe forming, welding, heat treatment and calibration, so that we can now manufacture in-line, stainless steel pipes up to two metres in diameter and 12 metres in length." For the forming of their pipes, Mr Poggio explained, Inox Tech uses the cold-drawn press process. Although this might not appear to be the most logical choice at first, it certainly is when considered more closely. Mr Poggio: "The process may not be competitive for thin-wall pipes, it is



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competitive for the production of pipes with larger diameter and wall thickness. In fact, we have obtained remarkable results with the cold-drawn press by optimising its organisation and the logistics of the job flow line. As a result of our experience we are also quite efficient in welding these high-alloy materials, allowing us to achieve fast, high-quality welds. Our bevelling machine ensures accurate bevels, securing 70 per cent of the quality of the weld. The new production line has increased the market potential of Inox Tech considerably and we are now able to serve additional clients, whose projects foresee the 12-metre pipe length as a basic requirement. We think that the introduction of 12-metre pipe length will continually attract new opportunities, especially with engineering companies active primarily in the American and Asian market. Already 95% of our production is being exported, primarily to Asia.”

Of course, buying new machines is only part of Inox Tech's total investment. Besides investing in machinery hardware,

computer software has been also installed to monitor the production process. During an extensive trip through the manufacturing facilities, Mr Poggio showed that the entire production line is controlled by a computer network which monitors every step of the production process, from precision cutting and folding to welding and calibrating. Mr Poggio further explained that the system also ensures that products are manufactured according to customer specifications, ensuring total quality.

Mr Poggio summarises: “We were able to consolidate our position as a leading manufacturer of heavy-wall, large-diameter pipes and tubes in duplex, super duplex and nickel alloy. The ability to manufacture these pipes makes Inox Tech really stand out. As a result of the investment programme, the company has access to the international project business in the field of natural gas and the opportunity to respond better to the demand of engineering companies. We have, for example, been able to participate as a supplier in important projects such as LNG plants in Malaysia, Nigeria, Indonesia and Qatar. We have also supplied to gas tanker vessels in Korea, PTA plants in Taiwan, Indonesia and Pakistan and plants for the production of ammonia in India, China and Egypt as well as offshore installations in the North Sea, Malaysia and Indonesia. Furthermore, our company is now on the preferred supplier list of most renowned oil & gas companies and engineering companies.” In fact, Mr Poggio said, the large pipe business is becoming more and more important and now represents a considerable part of the Ronda group's total production. “The secret of our success is that we're practically the only ones able to manufacture these large heavy-wall, double random-length stainless steel pipes. Another thing is that demand is on the rise. Pipelines are getting longer, which boosts the demand for longer sections. We now produce between 30 and 40 pipes per day and have been able to book a few very large projects around the world.”

#### FACTS & FIGURES

Inox Tech manufactures welded stainless steel pipes in a vast range of sizes and materials. The dimensional range covers diameters from 100mm to 2000mm, while the wall thickness range starts at 5mm and goes up to 60mm. The standard length of pipes is six metres, but it can be also shorter or longer, up to 12 metres, if required.

The Inox Tech technology permits the manufacture of welded pipes from several grades of stainless steel including the series 300 of austenitic steel (304, 304L, 316 etc.), the ferritic austenitic grades (duplex, super duplex), and also from nickel alloys.

**FLEXIBLE**

During the interview it became obvious that Inox Tech's production facilities are not only aimed at product quality but at production flexibility as well. Mr Poggio: "By increasing our production capacity and introducing multiple production lines we have become more flexible in responding to customer demand. Our tailor-made manufacturing equipment provides the company with its primary differentiation from the competition, namely flexibility. With the usual type of production machinery only the continuous production of the same size and type of product provides efficiency and good productivity. The specially designed Inox Tech equipment permits the "insertion" in the line of a single odd-size product without causing any loss of productivity. This flexibility allows

Inox Tech to satisfy small special customer orders efficiently with short lead times, independently of the large project work being processed at the same time. Whatever the requirements are, whether it's unusual size, small or large orders, unique specifications or special stainless steel grades, we can fulfil any customer requirement."

Mr Poggio said that the versatility of the production system allows Inox Tech to apply a large variety of welding procedures including GTAW, plasma and SAW in order to meet specific customer specifications and to be able to weld the type and thickness of the material required. Finally, extensive tests are run on the finished product to ensure that every piece of pipe that leaves our plant is of top quality and therefore the welded pipes are inspected with X-ray, UT, PT

and hydro-tested. In addition, random pipe samples are also mechanically and/or chemically tested on a regular basis." The versatility of the production process also allows Inox Tech not only to satisfy demand from the large projects business but also to still pay attention to small quantity orders with short delivery times. The company can do this as a result of the continuous talks between the machinery hardware and software technicians who are part



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**About the Ronda group**

The Ronda family members are founders and owners of an industrial group, Ronda Europe, which is located in the highly industrialised part of the Italian Veneto region, housing 520 businesses in seven square kilometres. The Veneto region is associated with the University of Padua and Verona, giving Ronda the opportunity to enjoy the first-class technological knowledge. The Ronda group is headed by Ronda Spa, producer of stainless steel components for the food-beverage and furniture industry.

**Quality**

Inox Tech has obtained the Det Norske Veritas Quality System certification according to UNI EN ISO 9002; 1994. All INOX TECH

products are accompanied by a material-certificate, mill test report issued in accordance with the European standard UNI EN 10204. All tests and inspections required by international regulations can be carried out by the company: hydrostatic, heat treatment, Dye penetrant, X-rays, ultrasonic and Eddy Current examinations; mechanical, technological and corrosion tests; metallographic investigations and chemical analysis, in accordance with the main standards and codes (e.g. ASME, ASTM, DIN, AFNOR, etc.). Every pipe carries a mark with the ink-jet system for identification purposes and also to testify that all required controls have been completed. Standard packaging consists of bundles of strapped pipes and, on request, the pipes can be externally protected with polyethylene foils or wooden crates or cages.

of the Ronda group. For the future, Inox Tech intends to grow and,

according to Mr Poggio, the company will have doubled its production capacity in five years' time. Mr Poggio: "We will use the experience we have gained with this investment to instal new equipment for pipe forming, welding and mechanical operation. The major investment has been completed and we are now upgrading and rationalising the production system but our next step will be to increase our capacity even more."