

RTI International Metals is one of the leading players on the titanium mill products and extrusions market. The company has been in the business from the very start. In fact, 2001 marks the 50th anniversary of RTI's wholly owned RMI Titanium mill division. A good reason to feature RTI in a cover story. Therefore Stainless Steel World travelled to RTI's European headquarters in Birmingham, United Kingdom, where we talked to Managing Director Mr David Hall along with his European and US-based colleagues to discuss the world-wide activities of the RTI Group.

RTI: a world of possibilities . . .

One of the first things that you realise when visiting the Birmingham site is the fact that RTI is a technology-driven business. Much emphasis is given to explaining the differences and specific characteristics of particular materials with a number of new titanium alloys exhibited in the meeting room. In fact, RTI has been at the forefront of groundbreaking developments in the industry for the past 50 years, Mr Hall emphasises. As an example he mentions the newly developed TiRu-26/27™ alloys that were recently developed for the corrosion-resistant market (see *Stainless Steel World*, Volume 12, November 2000). With the rocketing price of palladium RTI feels that TiRu-26/27™ alloys will be successful and in fact RTI has received a number of inquiries and already secured several orders.

Although of great importance, the RTI team believes that technological know-how is not the only key to the success of the company. They feel that an equally important reason for the company's continuing profitability, and therefore continued investment, is that RTI is one of the few titanium companies with a culture based on 'customer focus.' Very often customers will order a material from a certain supplier because they can only get it in one place. Mr Hall and his colleagues at RTI feel that this is not a

good thing. They want the customer to come to RTI because they are the 'supplier of choice,' thanks to the quality and service they offer. Not that they believe for one moment that RTI is perfect. Occasionally the company gets things wrong, but it is the effort they put into getting things right that underlines the responsiveness to customers and the true quality of the RTI offering the team feel. From this point of view it should not come as a surprise that RTI is constantly expanding the range of products and services it offers to the market. Today the company has a diverse range of niche products and services, so that not only the full range of titanium alloys but also nickel alloys and stainless steels belong in RTI's product portfolio. Primarily based in the US, RTI's nickel and stainless steel business has been a relatively small part of the company's activities, but these areas are rapidly turning into a growing and promising business. For these materials RTI acts as a value-added distributor and buys from renowned mills in order to provide a full-line service to customers capitalising on synergies from the core titanium business.

MADE TO MEASURE

RTI has always been strong in the titanium flat rolled market for CP and alloy sheets and plates. Therefore the company has been closely involved in a number of emerging applications

such as titanium armour programmes. In these areas titanium is often perceived as an expensive material. In many instances these and comparable applications made use of simple carbon or stainless steels which makes high-value materials in the first instance a less likely choice. "In many cases titanium would not seem to be the first choice. If you look at it a little closer, though, and take performance characteristics, weight and strength into account the picture changes," Harry Klein, General Manager-European Sales, explains. "Titanium becomes an even more likely option when RTI's expertise in getting the maximum value out of one piece of material is taken into account. It is amazing how much you can reduce the costs of a component by careful design of the production process. We have invested significant resource in working with our customers to minimise scrap and get the maximum number of parts from one piece of input material and, equally important, from one cycle of their manufacturing process. This can significantly reduce our customers' final component costs. Optimised mill manufacturing processes, CAD/CAM, water-jet cutting, plate milling and grinding are the tools to allow us to do this in-house, providing a fast and effective service for our customers. It's called competitive advantage – for RTI and our customers."

Coming from the same customer-oriented philosophy is RTI's interest in extrusions. The company has been a significant supplier of titanium extrusions for applications such as oil tool housings, valve bodies, aerospace components, etc., and sees extrusions as another way to offer a unique opportunity to their customers to save cost. Because of the extruding, process products can again be supplied very close to their final shape. Therefore RTI recently invested several millions of dollars in its new 5000-tonne extrusion press that is now operational in Houston, Texas. According to Mike Wellham, President, RTI Extruded Products, "this press is the world's newest speciality metals extrusion press able to produce close tolerance direct and indirect extrusions in stainless steel, nickel and titanium alloys. The design, commissioning and start-

up phases of this investment are behind us and now we have state-of-the-art technology available to our customers. Our unique ability to produce extrusions close to final dimensions gives RTI and our customers a competitive cost advantage." The company has also invested in additional equipment for heat treatment, straightening, machining, etc., in order to complement the extrusion press. "Our investment in the new extrusion press was driven by capability but also reflects our belief that the market is not properly aware of how extrusions can save costs. Now that we are marketing our new service aggressively we are getting a great response from the market," Mr Wellham remarks.

The extrusion press is not RTI's only investment programme, however. At RTI's Galt Alloys facility in Canton, USA, continued investments have been made in scrap processing and plasma melting. The company has a several-thousand-tonne state-of-the-art scrap-processing line that can separate scrap into various grades and for various uses. In addition RTI's Galt Alloys recently invested tens of millions of dollars in plasma furnaces which are capable of melting titanium on specification in one single melt. RTI invested in the plasma-melting process because the bulk of RTI's business is in alloyed titanium, and plasma-melting lends itself ideally to this. According to Steve Giangior-dano, President, Galt Alloys, "this is a key technology for the future in order to expand the market size through cost and manufacturing cycle time reduction".



Installation of RTI's new extrusion press in Houston.

PARTNERSHIP

Rather than acquire companies solely to secure growth RTI has decided to develop partnerships in order to broaden its service to the customer. A good example is its close co-operation with NKK Corporation of Japan, which enables RTI to offer new alloys and products to new market segments. Especially interesting is the SP-700™ alloy developed by NKK. The alloy offers high strength and has unique forming possibilities with the result that in many applications customers can combine the high strength and very good fatigue properties of titanium with the unique fact that you can forge and form the alloy at much lower temperatures than the traditional 6Al-4V alloy. "Although the initial material costs might be higher than the traditional 6Al-4V alloy the finished component cost will often be significantly lower. More competitive advantage for our customers", according to Fred Janowski, Vice President-Sales at RTI's RMI Titanium mill products division. However, the co-operation between NKK and RTI is not limited to SP-700™. It has also led RTI to assist NKK with the sales and marketing of titanium roll clad roll bonded plates, for the CPI market, for which NKK has a unique production capability at its Fukuyama manufacturing plant. Through RTI the clad plates can be distributed quickly and effectively to the customer, and additional service can be provided such as cutting or machining and packaging the material

with tubes for heat exchangers, for example. All in all RTI feels that the partnership is an excellent marriage between NKK's alloy technology and roll-clad expertise and RTI's manufacturing and value distribution capabilities.

APPLICATIONS

Looking at end user applications is the true proof of RTI's capabilities. Pat Boster, Presi-

dent of RTI Energy Systems, is particularly exited about their activities in oil & gas and energy industries. "There is strong growth in this segment due to the current energy shortages, which some say will continue to hold on". Therefore RTI established RTI Energy Systems to design and manufacture a whole range of products such as risers, flowlines, stress joints and manifolds to name but a few. The Energy Systems group works in close co-operation with the end user and engineering companies to design and fabricate components on a turn key basis. Mr Boster: "The Energy Systems group is a new ven-



A drilling riser in production at RTI Energy Systems.

ture for RTI and is paying out very well. We have a backlog of over 20 million dollars, which clearly underlines the success of the business. As platforms become smaller, water becomes deeper, and fields become more remote there is undoubtedly a need for higher performance materials and higher performance systems offshore. We feel the RTI Energy Systems group is well placed to help provide this service to the world energy market, whether it be in oil and gas or in geothermal power extraction." Another interesting application is the BAE Systems XM-777 lightweight howitzer. In recent years the need for rapid reaction forces has increased in order to intervene before a conflict gets out of hand. Getting the weapons in on time has become a vital factor and the weight of weaponry has thus become crucial. Therefore there is a definite need for lightweight and high-performance materials, and the

An 8-E-2220E heat exchanger destined for Total Fina Elf Exploration's Elgin/Franklin platform in the North Sea. It is approximately one-tenth the weight and size of the equivalent conventional shell and tube heat exchanger. Its maximum heat transfer capacity is 34MW. Courtesy of Rolls-Laval Heat Exchangers.



used anywhere that a traditional shell and tube heat exchanger is used today. Rolls-Laval Heat Exchangers Ltd and RTI have been in close contact from the earliest days of the development programme, RTI

supplying prototype material and advice on

how to process the 6Al-4V titanium. This application makes use of RTI's true technological leadership in superplastic forming and diffusion bonding (SPF/DB) of titanium sheet and plate materials and Rolls-Laval's renowned skills in SPF/DB manufacturing and customer marketing. "All in all the forecasts show a very interesting market with great potential and as a result Rolls-Laval Heat Exchangers is blossoming into a very significant business", Mr Klein remarks.

IMPROVEMENTS

Mr Hall sees the main improvements for the near future in two areas. For one RTI should focus on its distribution network. If you are focussed on the customer you need to be as close as possible to him. Not only do you have to make sure you have a good personal relationship with the customer but you also have to be geographically nearby and ensure you make a contribution to the supply chain at every stage of the sales transaction. "There are no free rides today, everyone must contribute," Mr. Hall remarks. "If we take our European op-

erations as an example, you will see that in the past years we have considerably increased the number of facilities we have to include locations in Birmingham, Milan, Paris and Wuppertal. All fully functional now with experienced sales and manufacturing personnel, with technical support backed by our main manufacturing plants in the USA. We believe this has worked well for our customers and is a key strategic area for RTI to enhance our customer service further in the future," comments Charles Barbary, President of RTI-Reamet, RTI's French distribution arm.

Also, RTI should provide an even wider range of products and services to the market, Mr Hall remarks. "Where there is a natural fit with customers, and where our customers feel we do a good job within our core business, we can offer to supply other materials and services to them. By doing so we believe we can bring economies of scale to our customers' businesses. We are constantly exploring this with end-users and encouraging them to give us ideas for further improvements to our services. Today the major companies in the world are interested in fewer but more capable suppliers. We will ensure that RTI is able to meet these criteria. This means we should use the synergies and expertise throughout the RTI Group to diversify beyond our core titanium business, focusing on being a more capable supplier offering a wider range of products and services. We have already made a number of significant steps forward adding distribution, extrusions and energy systems to our core titanium mill products business. Our clear focus is to continue along this path, satisfying our customers' ever increasing demands".

FACTS & FIGURES

Name:	RTI International Metals Inc.
Products:	Titanium, titanium alloys, extrusions, titanium-clad plates, nickel alloys and stainless steels in a wide range of product forms.
Distribution network:	RTI has offices in Birmingham (UK), Connecticut, Houston, Los Angeles, Milan, Paris, Pittsburgh, Hong Kong, St Louis and Wuppertal.
Production:	approximately 10,000 tonnes a year
Number of employees:	1600
Turnover:	USD 250 million
NYSE:	RTI
Website:	www.rti-europe.com