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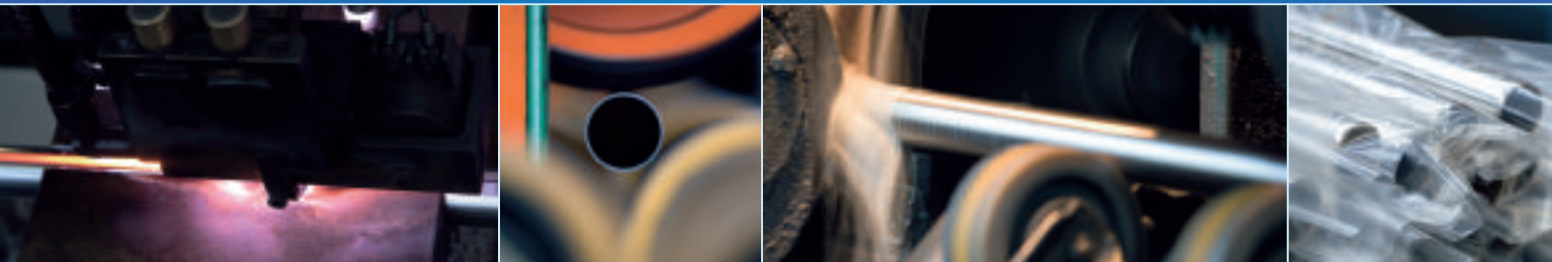
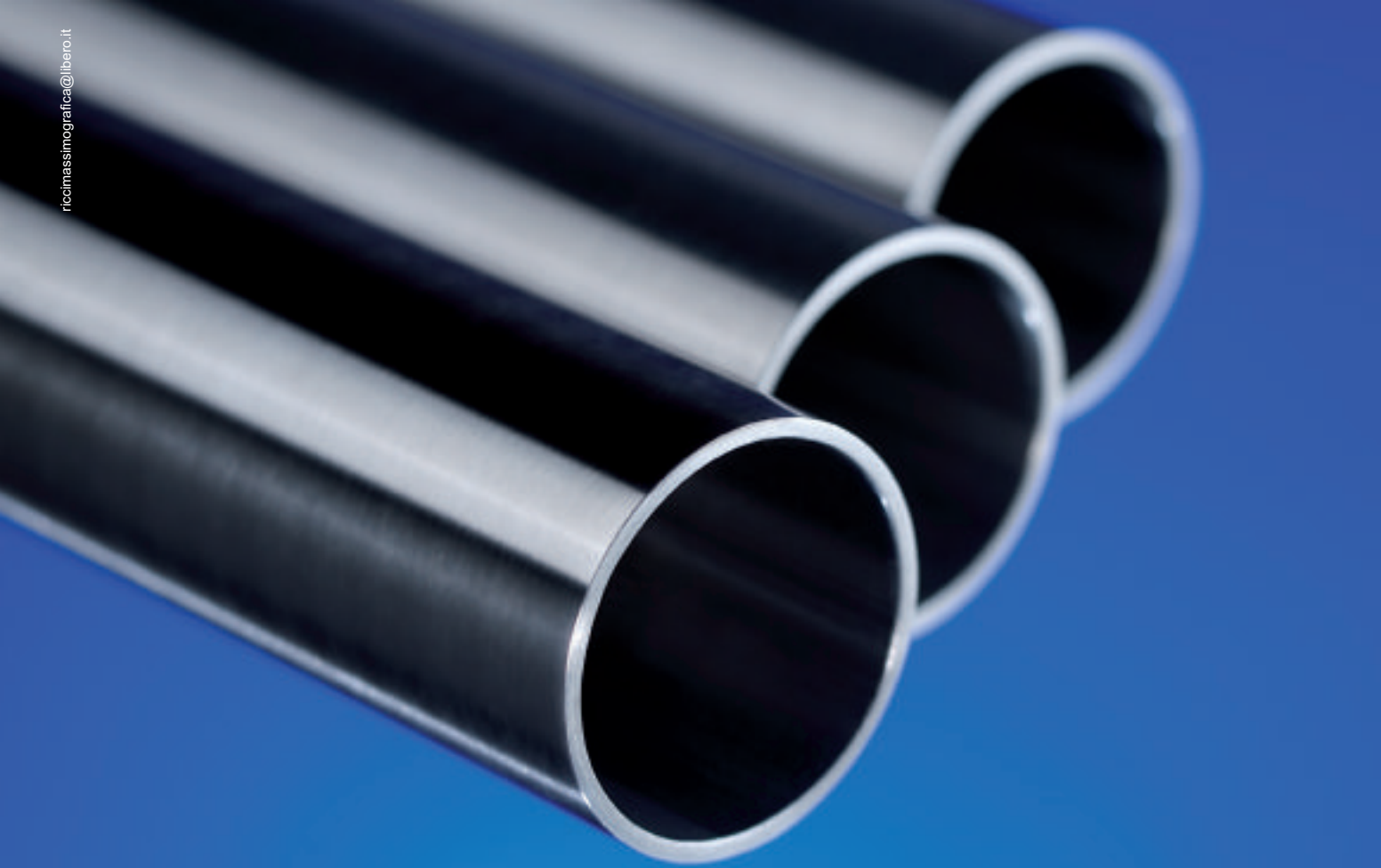
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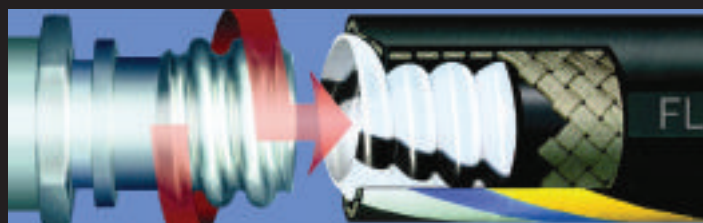
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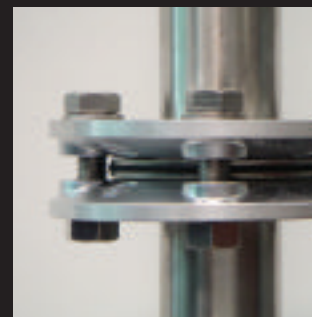
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TubeProducts

INTERNATIONAL

The World of Tube & Pipe Products, Materials & Ancillaries

A Positive Response!



We have just come back from the highly successful wire & Tube 2008 exhibition in Düsseldorf, Germany. The first issue of Tube Products INTERNATIONAL magazine was distributed to both visitors and exhibitors at this event and we are all overwhelmed with the positive response we have received for the magazine so far.

We will also be distributing the magazine at the upcoming Tube & Fittings Ukraine 2008 exhibition that will be held in Kyiv, Ukraine in June this year (more information on page 38) as well as Tube China in Shanghai, Fabtech in Chicago, and EuroBlech in Hanover (see diary of events on this page for dates & contact information). We hope to receive a similar response from these very important manufacturing regions for the tube and pipe industry.

In this issue we are running features on water, gas and OCTG pipes and pipelines and also a section on companies that manufacture inspection equipment that test the bond integrity, corrosion, and leakage of those lines. We also keep you up to date with more exciting industry news and product launches in our regular news sections.

Also, be sure to catch our forthcoming July issue where we will be running a feature dedicated to the Tube China 2008 exhibition – the key tube and pipe industry event in the Far East.

Paul Hogg
Editor

events calendar

2008

- 27-30 May **Tube Russia 2008**
International Exhibition
www.metallurgy-tube-russia.com
- 2-4 June **Middle East Plastic Pipes**
International Exhibition
www.amiplastics.com
- 17-20 June **Tubes & Fittings Ukraine**
International Exhibition
www.tube-ukraine.com
- 23-26 September **Tube China 2008**
International Exhibition
www.tubechina.net
- 6-8 October **Fabtech 2008**
International Exhibition
www.sme.org/fabtech

2009

- 11-14 January **Tube Arabia 2009**
International Exhibition
www.alfajer.net
- 5-8 March **Boru 2009**
International Exhibition
www.boru.com.tr
- 12-15 May **Tube Russia 2009**
International Exhibition
www.metallurgy-tube-russia.com
- 17-19 June **Tubes & Fittings Ukraine**
International Exhibition
www.tube-ukraine.com
- 6-8 October **Tubotech 2009**
International Exhibition
www.cipanet.com.br
- 13-15 October **Tube Southeast Asia 2009**
International Exhibition
www.tube-southeastasia.com
- November **Fabtech 2009**
International Exhibition
www.sme.org/fabtech

For further information on any of the above events please contact INTRAS Limited UK office (address and contact details on page 4)

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This R/D Tech® phased array system is qualified to inspect tubes and vessels with diameters ranging from 48 mm to 2438 mm in compliance with the ASME Boiler and Pressure Vessel Code.

EPOCH LTC

Ultrasonic Flaw Detector

Weighing just 2.12 lbs (0.96 kg), the new handheld EPOCH LTC is a rugged, easy-to-use flaw detector built to withstand the rigors of field work, while providing powerful features and software options. Its IP67 sealed case ensures operation in harsh conditions. And the full VGA multicolor transfective display provides superior readability in direct full sunlight as well as indoors.



business & market news



Photo – Muller Europe Ltd

Viking Johnson secures three-year Stockholm Water contract

Pipe joint specialist Viking Johnson, UK, has secured a contract with Stockholm Water, thanks to its comprehensive product range, quality and provision of accurate tendering documentation.

▼ Viking Johnson's UltraGrip



Negotiated by the company's Swedish distributor, Industri Belos, the contract is for the supply of UltraGrip and large diameter MaxiFit pipe couplings for the next three years, with an option for a further year.

"This was a difficult contract to win because the incumbent supplier had held the contract for 12 years, but we were able to offer a high quality

▼ MaxiFit couplings can accommodate pipes with variations in OD of up to 17mm



product at competitive market price levels – something that was recognised by our high points score in Stockholm Water's quality appendix," commented Industri Belos managing director Gote Mattsson. "Another important consideration today is the way in which quotations are presented, so the support over documentation that we had from our Viking Johnson colleagues in the UK was invaluable."

UltraGrip pipe couplings, flange adaptors, Pecatadaptors and end caps are supplied complete with grippers that offer full end restraint to most pipeline materials, to prevent axial movement due to the internal pressure in the pipeline. This makes them particularly suitable for transitions between grey cast iron and PE when repairing or rehabilitating pipelines.

The convenience of UltraGrip is further enhanced by its wide tolerance range of up to 44mm, which simplifies both stockholding and installation.

In appropriate cases, pipes of different materials and diameters can be joined by a single UltraGrip coupling.

MaxiFit (which Stockholm Water will take in sizes up to DN600) is used for repairing pipes of the same nominal bore when their exact outside diameter is unknown. It can accommodate plain-ended pipes with variations in OD of up to 17mm, reducing the number of fittings that have to be held in stock and transported to site.

When it is bolted up, MaxiFit's 'slide easy' gasket provides maximum sealing pressure, even on the scored, pitted and corroded pipe surfaces that are often encountered during repair work.

MaxiFit is available in sizes from DN50 (2") to DN300 (12"), and is suitable for use with steel, ductile iron, PVCu, cast iron and asbestos cement, and other conventional pipe materials (excluding PE).

The range includes standard, long-sleeve and stepped couplings, flange adaptors, and variants to suit customers' needs, such as stainless steel bolts and Nitrile gaskets.

Viking Johnson – UK
info@vikingjohnson.com
www.vikingjohnson.com

Chinese steel market report

Shanghai Steelhome Information Technology Co, China, has completed a series of research reports on the Chinese steel market.

In 2007, the Chinese steel industry experienced a bullish trend. Construction steel prices hiked 1,400-1,500 yuan/ton in total compared with early 2007, medium plate and section prices surged 1,300 yuan/ton, HRC jumped 800 yuan/ton plus, and CRC prices climbed 500-600 yuan/ton.

At the beginning of 2007, the steel market was trapped by the Chinese government's export policy. Various rumours and new policies (such as the cancellation of export duty on 83 steel products, export license system, and export rebate reduction of some steel pipe and steel products) have caused regulation in the steel industry.

Steelhome emphasised, at the Steel Market Forum held in Hangzhou in July 2007, that there is no change in the global steel industry's reliance on steel supply from China or booming market demand – the growth of steel output has been restrained, so more attention will be drawn to product mix and raw material cost.

In September, Mr Wu Wenzhang, general manager of Steelhome, gave

his perspective on the steel market in 2008: steel output growth rate will slide down further (possibly below 10%); steel export change will have weaker impact towards China's domestic market; steel supply and demand will keep balance in general and crude steel output growth would be around 40 million tons, and as a result, market demand will be satisfied only by limiting export.

Mr Wu pointed out that the China steel price will run at a high level in 2008. Ordinary HR steel price will range from 4,000 to 5,000 yuan/ton, while rebar and HRC prices might exceed 4,500 yuan/ton and 4,800 yuan/ton respectively in Q1 2008.

Rising iron ore cost also needs to be considered. Iron ore export growth from India to China has only jumped 5.3% during January to October 2007, compared with the same period of 2006. Australia and Brazil also fixed their blueprints to develop the steel industry.

Steelhome has produced a wide range of annual reports on the Chinese steel industry, which can be obtained from the company for the price of \$2,000.

Shanghai Steelhome Information Technology Co – China
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www.steelhome.cn

Tubes & Fittings Ukraine 2008

Tubes & Fittings Ukraine 2008 will take place at the KyivExpoPlaza Exhibition Center, Kyiv, 18-20 June 2008.

The show is organised by TDS-Expo, trade house Welding and Ukrtruboprom, with official support from the Ministry of Industrial Policy of Ukraine, and the Union of employers of small, medium size and private enterprises of Ukraine, and international sales and marketing by Intras Ltd, UK.

Exhibits will include: pipeline valves, tube components and fittings; measuring and control technology; testing; marking; materials handling; raw materials for tube production, tube manufacturing and equipment; tube processing and finishing technology, auxiliary equipment and process technology tools.

TDS-Expo – Ukraine
olga@welding.kiev.ua
www.weldexpo.com.ua

New project to increase tubing production at Interpipe Niko Tube

Interpipe, a global producer of steel pipes, has announced a new project aimed at increasing tubing production at its Niko Tube mill. Investment in the project amounts to US\$6.3mn, and will enable the company to increase facilities for the production of tubing with upset ends by 30,000 tons per year. The new equipment will provide upset ends for pipes from 60.3 to 89mm in diameter, according to the standards API 5CT and GOST 633-80. A new Bronx TW 5-rollers straightening press 6CR11 will allow the straightening of pipes from 60 to 139mm in diameter and with wall thickness from 2 to 15mm.

According to Interpipe's chief executive officer, Alexandr Kirichko, "The investment programme at Interpipe Niko Tube is above all aimed at enhancing the competitiveness of the company's key strategic products – tubing and casing – which is based on the most up-to-date technology used by the world's leading pipe producers. The realisation of the project gives Interpipe the opportunity to strengthen its position as a producer of technologically sophisticated seamless pipes for the extraction of oil and gas."

Interpipe produces pipes for the oil and gas industry, and for industrial and mechanical applications. Its products are in compliance with API 5CT, API 5L, EN (DIN), ASTM, GOST and customer specifications, while quality management is in compliance with ISO 9001, API Spec Q1. The company's mills also have ISO 14001 certification.

Interpipe – Ukraine
officechudnovskydp@interpipe.biz • www.interpipe.biz

German plastic tube market: charting a course for growth

The German plastic tube industry is charting a course for significant growth. As Dr Elmar Löckenhoff, managing director of the Kunststoffrohrverband eV (Plastic Tube Association), states in the preface of the KRV business report 2007 (www.krv.de), the industry is also benefiting from globalisation.

In the previous decades, plastic tube systems have continued to enter new areas of application and have supplemented or even almost replaced traditional materials, declares Dr Löckenhoff. For example, at the end of the year, plastic tube manufacturers were close to succeeding in the area of gas pipes in residential installations, *"The technical and scientific conditions for the use of plastic tube systems in this area of application have been created, therefore another market segment can now be conquered."*

After a slight reduction in production numbers in the years 2001 and 2002, the German plastic tube industry is reporting steady growth rates as of 2003. Particularly high growth rates – in the two-digit range – were achieved in 2005 and 2006. According to the association, 2006 was a 'super year' for German plastic tube manufacturers. In comparison with the previous year, total production increased by 70,000 tons to a total of 665,000 tons, which corresponds to an increase of 11.8%.

During 2006, the economic dynamics in the export market sparked improvements on the domestic market, as well. Group companies as well as owner-operated plastic tube producers in Germany started to expand their capacities through investments into new extrusion systems and injection moulding machines.

At the same time, they also introduced measures for greater cost-efficiency. Plastics and rubber machine producers reported order increases of 15%. According to information supplied by PlasticsEurope Germany, the Association of Plastics Producers, consumption of standard plastics increased between 2005 and 2006 from 7.23 to 7.63 million tons, ie by 5.5%.

In Germany, plastic tubes cover a significant portion of the overall plastics consumption. As stated by the KRV, the construction industry accounts for 25.2% of the plastics consumption, and of this amount, about 27% is used in plastic tube applications. Therefore it was very important for the sector that the construction industry, after a long dry spell, was able to contribute again to the economic upswing in 2006. This is also the reason for the increased plastic tube production for domestic use. In comparison to 2005, it rose by 68,000 tons (an increase of 14.3%). This level was last reported in 2000.

Of the total German production, 24.4% was exported and the import quota amounted to a mere 6%.

The KRV estimates that the civil engineering sector, with a share of 89%, constitutes the largest user category of plastic tube systems. Of this share, 49% is allotted to the wastewater sector (disposal and rain water drainage), followed by the areas of drinking water, cable protection and gas. At a rate of 11% of the overall production, the building construction sector uses significantly lower quantities, although its turnover share is estimated to be disproportionately higher.

In the view of the association, the overall turnover of the German plastic tube industry, valued at end consumer prices, is approximately €2 billion annually, and the building construction sector is believed to contribute to this number with about 35%.

The use of polyethylene (PE) tubes for the construction of plastic tube systems has increased over the past years. For the first time since 2004/2005, the production volume of tube systems of polyvinyl chloride (PVC) was surpassed.

With 306,800 tons, PE tube systems held a share of 46.1% of the total production, followed closely by PVC systems with a share of 42.1%. Compared to 2005, all standard plastics reported increases. PE tubes posted an increase of 12.4% and PVC systems reported a growth of 9.9%.

In the polypropylene (PP) sector, the increase amounted to 16%, which represents a market share of 8.1% of overall German tube production. The latter can be contributed mostly to foreign trade. With an export share of 55.6%, PP plastics are far ahead of PE (24.5%) and PVC tubes (15.3%).

While the amount of residential building permits declined between 1996 and 2006 from 576,000 to 248,000, the annual production volume of plastic tube systems rose from 518,000 tons to 665,000 tons in the same period. This is an increase of 28.4% overall. According to the KRV, the reason for this anti-cyclical development lies in the fact that plastic tube systems increasingly and steadily replace traditional materials and tube systems. For example, plastic tubes are used as substitutes for

Pulsar-SLV technical conference

The first Technical Conference on Industrialized Magnetic Pulse Welding And Forming will be held on 3 July 2008 in SLV Munich, Germany, and will be hosted by Pulsar Ltd and SLV Munich.

The conference will cover subjects including: case studies in implementation of magnetic pulse welding; benefits and environmental aspects of magnetic pulse welding; coil design for magnetic pulse welding; and magnetic pulse forming, and state of the practice.

The conference is aimed at welding and forming process engineers and production managers, metal fabrication production managers, material science students and academic staff.

Pulsar Ltd – Israel
www.pulsar.co.il

concrete waste water pipes. Also with a view to vitrified clay tubes, the situation for plastic tube systems is positive. KRV calculations show that the market share of vitrified clay tubes dropped between 1996 and 2006 in the disposal sector by 18% overall as compared to PVC U-tubes. In the area of residential land drainage, vitrified clay tubes were all but replaced.

This development is also supported by survey results provided by the Deutsche Vereinigung für Wasserwirtschaft, Abwasser und Abfall eV (DWA), the German Association for Water Management, Waste Water and Waste. They show that the share of plastic tube systems in the material distribution in German drainage networks increased in 2004 as compared to 2001 from 2.3% to a total of 6%. Concrete/reinforced concrete, fibrated cement and cast steel remained at steady levels considering all nominal diameters.

At the same time, the share of vitrified clay tubes in the network material distribution was reduced from 44.2% to 40%. The volume increases of plastic tube systems in newly installed and reconstructed pipelines are estimated to have been even higher, since the numbers only consider the existing network.

In residential technology applications, there was a positive development for plastic tubes in 2006. Plastics tubes were able to capture some of the market share of copper piping in residential drinking water installations and improved by approximately 2 million metres, an increase of 2.2%. According to the KRV, significant amounts of installed plastic tubes are used in the area of premises and building technology for area heating and cooling, which in total is estimated to represent about 65% of the German plastic tube production for premises and building technology.

During the first quarter of 2007, plastic tube system production increased by 9.6% or 13,000 tons as compared to the comparable period of the previous year. At the same time, the growth of the materials used in pipe system production continued for polypropylene with a rate of 48.1%, for polyethylene with 24.8% and for PVC with 12.2%. KRV Association members state that the production increases mainly flowed into waste and supply tubes.

Before the backdrop of the US real estate finance crisis, the German plastic tube industry approached the second half of 2007 with guarded optimism.

In conjunction with the rising oil prices and the increased export costs caused by the low dollar vis-à-vis the Euro exchange rate, the KRV fears an accelerated weakening of the German economy.

On the other hand, the market penetration of plastic tube systems

in all areas of application and the development of new market segments continues. One example is the area-wide introduction of gas pipes into residential installations, which could provide the industry in this sector with robust growth rates.

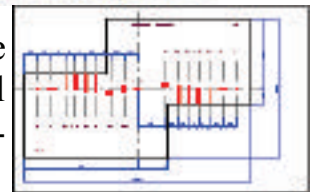
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Contact: David Steely

Success for Tube 2008

A total of 32,900 trade visitors attended the five-day Tube 2008 trade fair in Düsseldorf. 52% of these were international visitors, from 71 different countries.

"Every two years, Düsseldorf becomes the international meeting point for specialists from the wire, cable and tube industry. Here, they can meet face to face and fill their order books," commented Werner M Dornscheidt, chairman of the management board of show organiser Messe Düsseldorf.

1,028 companies exhibited at Tube 2008 and, along with the 1,129 exhibitors at the accompanying wire 2008 show, occupied a display area of more than 95,000m².

With its featured product range including tube materials and accessories, tube production machines, process engineering tools and auxiliary materials, measurement and control technology, testing technology, and pipeline and Oil Country Tubular Goods (OCTG) technology, Tube managed to bridge the gap between traditional tube production

and processing and new processing methods.

"The two trade fairs, wire and Tube, have met all expectations we have of leading international trade fairs," said Dr Ing Joachim Schönbeck, chairman of the management board of SMS Meer GmbH, and member of the management of SMS GmbH. *"For us, they proved to be outstanding platforms with the expected high level of sophistication of the trade visitors. The economic result is positive, while our customers are very concerned about the development of the raw material prices."*

Tube visitors were interested primarily in tubes and accessories, tube production and processing machines, and systems for the processing of tubes. Raw materials were also in high demand. 61% of visitors came from the industry, 21% from retail and 7% from the trade sector.

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www.messe-duesseldorf.com
www.tube.de

Royal Navy commander honours Swagelok

Swagelok Bristol and Swagelok Ltd associates have been presented with an HMS Ramsey ship plaque by Commander Jon Merritt RN, in recognition of their quick and expert response in assisting in an emergency upgrade for the ship's high-pressure air system. The valves used in the technical rescue operation were manufactured at Swagelok Ltd on the Isle of Man, one of Swagelok Company's three manufacturing locations.



▲ Commander Merritt with Bill Peet, distributor and managing director, Swagelok Bristol, and Tony Copley, strategic market manager (Ministry of Defence), Swagelok Bristol

DSM Desotech acquires Polymeric Processes Inc

UV-curable coatings company DSM Desotech has announced the acquisition of assets of US-based Polymeric Processes Inc (PPI), a producer of UV-curable coatings for tube and pipe applications that specialises in 100% solid, light-cure coatings. Both parties have agreed not to disclose financial details.

The acquisition of Polymeric Processes accelerates the efforts of Desotech's UventionT group, which develops custom UV-curable materials for select markets in the US and Europe. *"The tube and pipe industry is a fast-growing market for both clear and colour UV coatings,"* commented Uvention market platform manager Dr Anthony Toussaint. *"Not only do these coatings provide greater productivity gains for manufacturers, but they offer a greener solution for the corrosion protection of tube and pipe products. We feel very confident that the acquisition of PPI will enhance what we're able to offer this market in terms of both technology and service."*

The UventionT group, launched in 2007, is dedicated to applying Desotech's 40+ years of experience in UV-curable materials development to industries where highly specialised UV coatings are needed for challenging substrates and performance requirements.

DSM Desotech – USA
info.desotech@dsm.com • www.dsmdesotech.com • www.vention.com

While on assignment, HMS Ramsey suffered a significant system failure, which could have posed serious risk of injury to personnel onboard. Swagelok Bristol, an authorised Swagelok sales and service centre, was called in to evaluate the requirements for a technical solution under strict time constraints. In just over two weeks, the Swagelok team identified and sourced the products needed to carry out the repairs, facilitated installation and training for the ship's staff and oversaw the final inspection, before handing over the functioning system to the UK's Ministry of Defence.

"The air pressure system failure we encountered was critical," commented Commander Merritt, compressed air and pipework equipment (CAPE) leader for surface ships and submarines. *"We needed to make the system safer for the ship's personnel to operate and maintain, with as little downtime as possible. Swagelok were able to assist us at very short notice and the team coped well in what was a challenging environment. They also ensured the ships company understood the technical aspects involved."*

Swagelok Company, USA, is a developer and provider of fluid system solutions, including products, assemblies, and services for the research, instrumentation, pharmaceutical, oil and gas, power, petrochemical, alternative fuels, and semiconductor industries.

Swagelok Company – USA
www.swagelok.com

Hypertherm adds sales support in Spain and Portugal

Hypertherm, a specialist in metal cutting technology, has announced the addition of Joaquin Martinez to its European sales team.

In his new role, Mr Martinez will manage the company's distribution network in Spain and Portugal. His primary focus will be to work with channel partners to build sales of Hypertherm's Powermax® brand of hand and mechanised plasma cutting systems. He is Hypertherm's first district sales manager for those two countries.

"Hypertherm customers in Spain and Portugal will benefit greatly from Joaquin's addition to the team," said Hidde van Hoeven, Hypertherm's director of European distribution sales. *"His experience and knowledge of setting up distribution networks, and a proven track record of distributor management will ensure strong support for the Iberian region."*

Hypertherm designs and manufactures advanced plasma cutting systems for use in a variety of industries such as shipbuilding, manufacturing, and automotive repair. Its product line includes handheld and mechanised plasma cutters and consumables, as well as CNC motion and height controls. Hypertherm systems are used for fast, precision metal cutting. The company's reputation for plasma innovation dates back to 1968, with Hypertherm's invention of water injection plasma cutting. The company has more than 900 associates along with regional operations and partner representation worldwide.

Hypertherm Europe – Netherlands
hteurope.info@hypertherm.com
www.hypertherm.com

Internet excess-list facility

Metal-Way Int Ltd provides an international ad market for metals on the internet. The company offers a facility to set up an excess-list online, easily and in only 5 minutes. Interested parties can then download the list and make contact through a form.

Metal-Way International Limited – UK
www.metal-way.com



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XIV Pipes Conference

The organisers of the XIV Pipes Conference expect this year's event to be the largest ever.

The conference brings together the global plastic pipe community, and will be held 22-24 September 2008 at the Marriott Hotel in Budapest.

The previous event, in Washington in October 2006, attracted 450 attendees from over 35 countries. According to Dr David Walton, marketing manager, Borouge Pipes, "After more than 70 years, our knowledge of plastic pipe technology is still continuously expanding. Important developments will be announced during the course of this conference. Key subjects of papers will involve market issues, plastic pipeline solutions, application areas and pipe system developments."

Plastic pipe systems are making important inroads in Central Eastern Europe. Frank Jones, director of the BPF Plastic Pipes Group explained, "This year's premier conference takes place at a turning point for the industry and especially for the region. The pace of plastics conversion is now accelerating in every application and on every continent. The reasons are clear: the poor legacy of competitive pipe materials, concern for climate change and attendant water shortage and surfeit coupled with a wider appreciation for the benefits of plastic pipe systems."

The conference will also address environmental issues. "It is perhaps time we should stop talking about climate change and start thinking about how to create a mind change," commented Mr Jones. "If the world were to invest in a sustainable future by using plastic pipes, many water issues would be solved. We would have leak free distribution of water, more economic irrigation techniques and improved drainage and flood control."

The three-day schedule will include the presentation of around ninety papers, a trade exhibition and a social programme. As many as 600 participants are expected.

Technical information will not be the only resource on offer: communication will also be a valuable medium. Zoran Davidovski, vice president marketing of Pipelife and chairman of the organising committee commented, "The conference is always an ideal meeting place for delegates and the latest ideas from utility companies, technical and certification institutes, plastic pipe companies, equipment manufacturers, compound makers and other suppliers."

Plastic Pipes XIV is organised by TEPPFA, PE 100+, PVC4Pipes and the Plastics Pipe Institute.

XIV Pipes Conference – Hungary
zoran.davidovski@pipelife.com
www.ppxiv.com

AM Castle & Co acquires Metals UK Group

AM Castle & Co, a global distributor of speciality metal and plastic products, value-added services and supply chain solutions, has announced that it has acquired the outstanding capital stock of Metals UK Group, a distributor and processor of speciality metals primarily serving the oil and gas, aerospace, petrochemical and power generation markets.

Metals UK Group has four processing facilities; two in Blackburn, England, including its headquarters, one in Hoddesdon North East of London, and one in Bilbao, Spain. Sales outside of the UK comprise approximately 25% of the company's total revenues, and include customers in 36 countries throughout Europe, Asia, Australasia and the Americas.

Current management will remain in place, including Ian Griffiths, founder and president of Metals UK Group and a former member of the AM Castle management team.

"Metals UK Group is complementary to our existing North American operations and provides an opportunity for Castle to expand its global reach," stated Michael Goldberg, president and CEO of AM Castle. "The company's speciality metals product offering, processing capabilities and supply chain expertise not only complement our business, but also service potential high growth industries we seek to expand our presence in."

Within its core metals business, AM Castle & Co specialises in the distribution of alloy and stainless steels, nickel alloys, aluminium and carbon. Through its subsidiary, Total Plastics, Inc, the company also distributes a broad range of value-added industrial plastics. Together, Castle operates over 50 locations throughout North America and Europe.

AM Castle & Co – USA
info@amcastle.com
www.amcastle.com

Metals UK – UK
sales@metalsuk.com
www.metalsuk.com

Plymouth Tube Co appoints new general manager

Plymouth Tube Company, USA, has announced that Gavin Ford has accepted the position of general manager of Winamac Hot Mill, as of 3 March 2008.

Mr Ford, who has a BS in Mechanical Engineering with a minor in Mathematics from Bradley University in Peoria, IL, was previously employed at Prestolite Wire Corporation, where he held the positions of director of manufacturing and sourcing, Asia, and director of manufacturing, Canadian operations.

Mr Ford has also held operations management positions with Pram Filtration and Wheelabrator Corporation. Additionally, he owned and operated a premium private label meat company.

Plymouth Tube Company – USA
gford@plymouth.com • www.plymouth.com

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Maximising customer efficiency

Hypertherm, a leader in plasma metal cutting technology, has announced HySupport, a comprehensive new suite of services to streamline part orders, enhance troubleshooting, and increase efficiency of operations. The service is now available for the company's network of customers across Europe.

HySupport, provided at no cost to the company's customer network of OEMs, distributors and system integrators, offers 0800 multi-language customer and technical phone support. Customers also have access to online services in multiple languages through Hypertherm's XNET intranet service.



▲ Hypertherm's HySupport customer service representatives are highly trained and easily accessible

"Innovation and reliability have long been engineered into our products," commented Jean-Marc Derep, European services manager for Hypertherm. "These attributes are also important in the services we provide to our customers. HySupport creates a partnership between Hypertherm and its customers with real and meaningful tools to create greater efficiency and help grow our business."

Customer service representatives are highly trained and easily accessible, and are committed to ship any order of systems, spare parts and consumables received before 3:00pm on a same-day basis. Factory trained service engineers provide the same level of 0800 multilingual support, as well as on-site coverage if needed. A rapidly expanding network of highly trained outside service providers also backs the technical service team.

Customer support is further enhanced through a newly redesigned multi-language XNET intranet service. This provides immediate access 24/7 to part numbers, order status, pricing, account statements, invoices, and Hypertherm's document library, as well as frequently asked technical questions.

The company recognises that an important element of support is in education and training to streamline operations, and reduce maintenance and consumable waste. Through HySupport, Hypertherm's team of qualified experts provide multilingual in-house technical training covering such topics as troubleshooting for mechanised and manual systems, cut optimisation, and operations procedures for automation and controllers. On-site training is provided as part of the first system installation programme and can also be obtained on request afterwards to ensure continued quality and efficiency.

HySupport backs its products with a warranty that it claims sets a new industry standard. The company provides a three-year power supply coverage on all Powermax systems; two-year power supply coverage on all mechanised systems; and one-year coverage on all torch assemblies. This warranty programme also commits the company to process all RMAs (returned material authorisation) within 24 hours of receiving the claim. The HySupport network is accessible for warranty support and all claims are filled with only genuine Hypertherm parts.

Hypertherm Europe – Netherlands
hteurope.info@hypertherm.com • www.hypertherm.com/eu

Centravis Holding reviews 2007 performance

At the end of February 2008, Centravis Holding, a leader in the seamless stainless tube market, summarised its 2007 performance.

According to Mr Yuriy Atanasov, CEO of Centravis Holding, the company's 2007 turnover made up US\$250m, which was US\$90m better than in 2006. The holding EBITDA annual profit was US\$40m. The holding market shares in 2007 made up 70% in Ukraine, 42% in CIS countries, and 9% in Western Europe.

"The strategic goal of Centravis is to become a global player at the world market of seamless stainless tubes, with the Western culture of business practice and world standards of product quality and service," commented Mr Atanasov. "The past year, 2007, was emblematic to achieving our strategic goal. We held a total reorganisation of our business accompanied by rebranding of the company, changes in the corporate structure, introducing new standards and launching a series of new projects. We expanded our production facilities by installing new equipment. We marshalled our commodity-money flows. We formed a highly professional international team of the top managers who are now a part of the company's managing bodies."

Centravis Production Ukraine LLC is a producer of seamless stainless tubes. The company intends to increase seamless stainless tube production volumes in order to reach the 32,000 ton mark in 2010. In order to increase productivity, the company has been installing new equipment. In 2007 the company launched a new streamline in its cold drawing shop, and is installing a new extrusion press, with a force of 4,400 tons, in the hot-extrusion shop of the mill.

This intensive development would not be possible without major investment. In 2007 US\$42.5m was invested in the production facilities of Centravis International Holding. In 2008 the total volume of investment in production equipment and state-of-the-art technologies will be increased to US\$120m.

The company's product portfolio includes more than 1,000 standard size tubes produced of more than 100 corrosion and heat resistant steel grades in seven segments: general pipes, boiler tubes, heat-exchanger tubing, instrumental tubing, furnace tubes, hollow bars and Ni-alloy tubes.

Centravis Holding – Ukraine
www.centravis.com

Restructured sales team

Saint-Gobain Pipelines, UK, has restructured its sales team in order to provide customers with increased levels of specialisation on a local basis.

The company is a supplier of ductile iron pipes, fittings, valves, access covers and gratings, and a producer of cast iron above and below ground drainage systems. Its markets include water and sewerage, telecommunications,

highways, civil engineering, construction and housing.

The realignment of its external sales teams reinforces the company's commitment to harness its global technical expertise, optimised engineering solutions and innovative product ranges to meet the specialised requirements of local markets within the UK.

Simon Cottingham, regional sales manager, utilities, water and sewer, will head up the new water and sewer team concentrating on ductile iron pipes, fittings, valves, hydrants, couplings and adaptors, while Lee Goodall, regional sales manager, access covers and gratings, will head up a sales team encompassing product ranges targeting this sector.

The company has also retained the ISO 14001 internationally recognised standard for effective environmental management across all four of its UK manufacturing plants. ISO 14001 is a European standard developed to help manufacturers maintain and improve their management of environmental

responsibilities and assist them in ensuring compliance with environmental laws and regulations.

Awarded with the certificate of registration ISO 14001 – 'Environmental Management Systems' in 2005, the company has continued to integrate environmental laws and regulations into its company policy, demonstrating its commitment and contribution to the welfare of the environment. The accreditation also rewards the company's commitment to improved environmental performance by ensuring a reduction of negative environmental impacts.

The company is part of the international pipelines division, Saint-Gobain Canalisation, France. The pipelines division is part of the multinational Saint-Gobain Group, which has three business divisions – glass, high performance materials and housing products.

Saint-Gobain Pipelines – UK
sales.uk.pipelines@saint-gobain.com
www.saint-gobain-pipelines.co.uk

Gateway to the booming Indian tube and pipe market

The Tube and Pipe Expo 2008 exhibition, 13-16 November 2008, will be held at the newly developed world-class exhibition and conference centre, Expo XXI, Greater Noida, India.

The exhibition will offer an opportunity for sellers and buyers to meet, for questions to be answered, solutions explained, prices agreed, and technical issues discussed.

Leading companies will demonstrate their products in the field of tube and pipe technology, equipment and engineering.

Tube and Pipe Expo 2008 is designed to give industry representatives the opportunity to meet existing suppliers, conduct business meetings, network with others in the metallurgy industry and investigate new products.

Expomedia Events Ltd – UK
info@expomediagroup.com
www.tubeandpipe-expo.com



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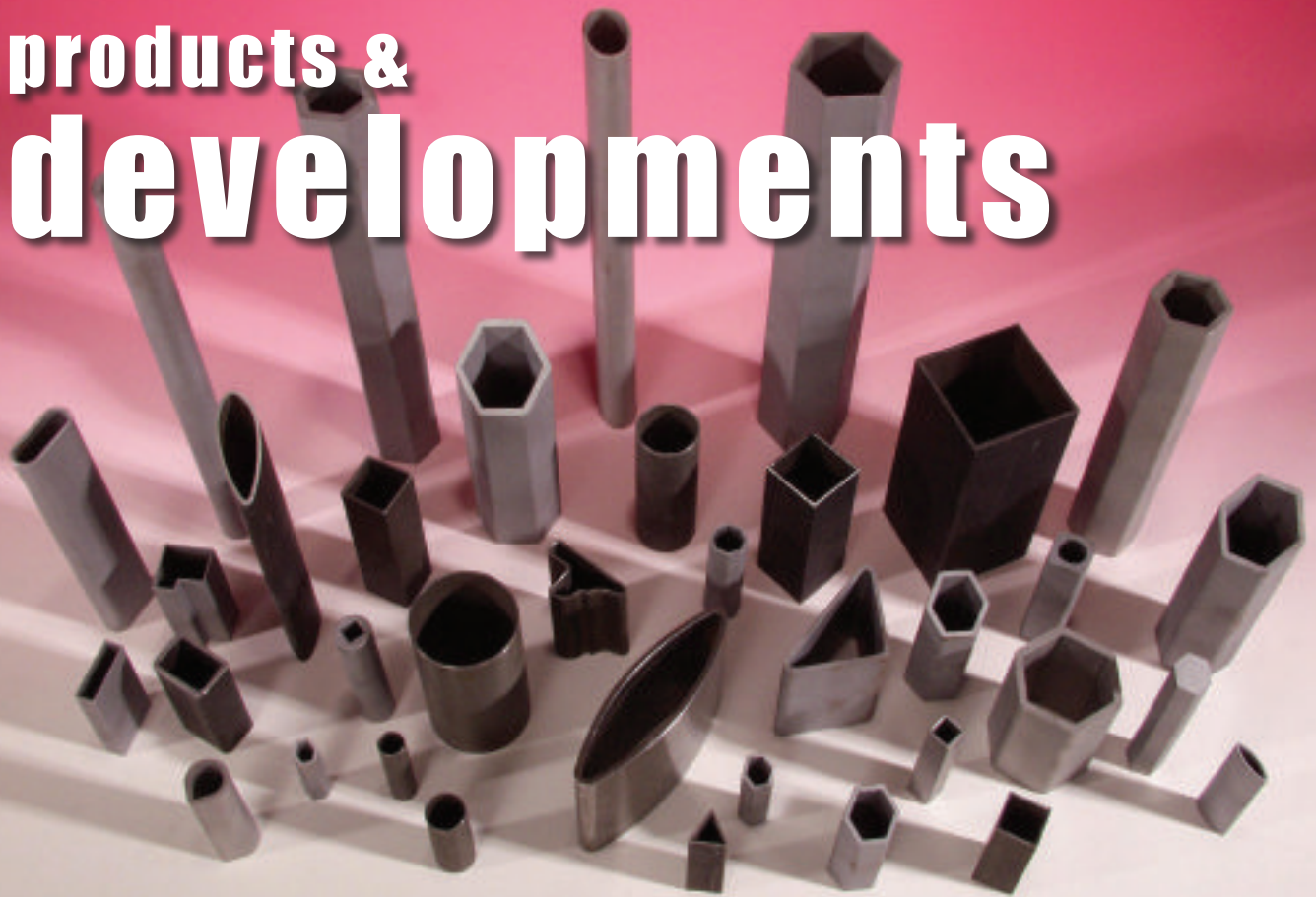


Photo – Osborn Tubes
see page 20

Seamless rolled rings and forgings

Brück is a manufacturer of seamless rolled rings up to 5,400mm outer diameter and forgings up to 4,000mm outer diameter, with maximum weight of 27 tons, to national and international standards in more than 1,000 material grades, including low-high alloy steel, carbon steel, stainless steel, super-duplex, nickel alloys, titanium and aluminium.

The company has a production capacity of approximately 200 tons/day, with four forging-presses and five ring-rollers. The company is EN ISO 9001:2000 and Pressure Equipment Directive PED 97/23/EC annex 1 part 4.3 certified, and also has the Framatome approval for Nuclear Facilities.

From the end of 2008 the company will have a new 8,000 ton forging press, which will increase its production ability to 40/50 ton forgings and rings.

Brück – Netherlands
p.attasio@bruck.nl
www.bruck.nl

Narrow tolerance tube production

G Rau GmbH & Co KG is a specialist in innovative metal solutions, and a preferred supplier to renowned companies active in various fields of electrical engineering, the automotive supplier industry, and measurement and control engineering. The company's subsidiary, Euroflex, which was founded in 1993, is a leader in semi-finished products in the field of medical engineering.

The company specialises in the production of high precision semi-finished products made from precious metals, stainless steels, special alloys and composite materials, as well as in the production of parts and assemblies.

The company offers tubes from stainless steels 1.4301 304, 1.4571 316 Ti, and 1.4441 316 LVM (surgical implants), with a seamless or welded finish, as well as all common austenitic alloys, depending on the quantity purchased. The outer diameter dimensions range from 0.5 to 12mm (in exceptional cases up to 20mm, wall thickness > 0.3mm), with a wall thickness range of 0.04 to 0.30mm, depending on the ratio of outer diameter to wall thickness.

The tolerance requirements for stainless steel tubes are continually increasing.

As most seamless stainless steel precision tubes are manufactured by drawing processes, there are natural limits to the attainable dimension accuracy. This becomes especially apparent when tubes with larger outer diameters relative to the wall thickness are manufactured.

In response to the increased demand for large, thin-walled stainless steel tubes with narrow tolerances, G Rau has developed a new procedure that enables the production of such tubes: for OD ranges from 0.5 to 8mm, ± 0.02 mm tolerance; OD 8 to 12mm, ± 0.03 mm; wall thickness $\pm 5\%$ standard, minimum ± 0.01 mm. Other tolerances are available on request. The company's stainless steel tubes are available in soft, hard or special strength conditions, usually in lengths of 3-4m, or fixed lengths according to customer specification.

G Rau GmbH & Co KG – Germany
info@rau-pforzheim.de
www.rau-pforzheim.de

Thermoplastic compounds replacing brass in pipes, taps and fittings

Industrial and social growth of the Far East and emerging countries has increased the consumption of metals to unexpected levels. The consequences of steel, aluminium, copper and its alloys being used with greater intensity are price increases and decreased availability.

Looking at the price of copper, over four years the cost per ton almost quadrupled, from US\$1,700 in 2003 to US\$6,500 by the end of 2006.

The reduced availability of metals, long delivery times and higher prices have created serious issues, causing production and time to market problems for ongoing projects.

The price evolution of copper has generated difficulties for its alloys, in particular for brass, whose cost, in 2004, had increased by over 20%, causing a downturn in the finished product market and related exports. The latter is a dramatic issue, considering the position of European manufacturing in the field of pipe fittings, taps, hydraulic and pneumatic valves.

The substitution of brass has become an important consideration in order to maintain a leading position in the market and ensure business continuity.

Lati, a European specialist in thermoplastic compounds, is collaborating with several Italian and foreign companies on replacing brass and other metals, in particular in the pipe fitting manufacturing industry.

Working with the correct base resins, reinforced and stabilised, it is possible to engineer products offering a mechanical performance similar to metals but at lower costs and with simpler and faster production processes.

Lati's products are intended for injection moulding, a technique that allows the finished parts to be obtained with a

Plastic pipework

Hytek's Universal Petro Pipe (UPP) offers an alternative for specifiers and buyers who want to move away from traditional galvanised materials in favour of plastic pipework.

Designed especially for the Fuel Oil Generator Systems (FOGS) and heating oil transfer markets, the UPP secondary contained pipework system is suitable for carrying diesel, heating oil, gasoil and petrol. It can also be used for aviation fuels and Adblue, providing special stainless steel end fittings have been used.



▲ Hytek's UPP secondary contained pipework

The pipework is lightweight, flexible, non-metallic polyethylene. Supplied in coils of up to 100m, it is possible to create one continuous strong and flexible pipe system. With UPP, joints can be electrofusion welded, so there is no need for underground inspection chambers as required by regulations for other plastic pipe.

As recommended in the Control of Pollution (Oil Storage) (England) Regulations 2001, Hytek's Secondary Containment system features a coaxial sleeve pipe. Pre-fitted over UPP extra primary pipe, it enables fuel and oil lines to be installed with an uninterrupted interstitial space between each end of the pipe.

UPP extra is the lined primary pipe used in the UPP Secondary Contained system and features a tough nylon liner. Its smooth bore and low friction loss permits fuel at higher velocities than steel pipe.

The company states that over 6 million metres of UPP pipe have been successfully installed worldwide over the past 24 years, with not one reported product failure. A full range of fittings and termination options are available.

Full system design facilities and technical support are available, as well as free system installation training. Hytek is the only UK supplier of UPP, and products are sold only through distributors. End users should contact their pipe buyer or specifier.

Hytek (GB) Ltd – UK
andyseal@hytekgb.com
www.hytekgb.com

➔ single operation, reducing further finishing steps and the impact on price of scrap handling and disposal.

The company's proposals include Latamid and Latigloss: PA66 reinforced up to 60% with glass fibre. The best offer in terms of price/performance, guarantees a mechanical resistance comparable to aluminium.

The load at break is close to 220 MPa, a value close to the one of different metals and alloys, with good chemical resistance, toughness and impact strength.

Latamid formulations are suitable for use in pneumatic valves, in the thermosanitary sector, to produce casings and actuators, controllers and pumps, wherever a high mechanical performance and reasonable costs are needed.

Latigloss grades offer the same mechanical and thermal properties of Latamid, but surface finish can be improved, avoiding typical aesthetic issues due to the presence of glass or carbon fibres. Latigloss is available in brass or aluminium pigmentations, to make plastic parts look like metal.

Laramid is an aromatic polyamide, for the same applications of Latamid but with marked mechanical characteristics, mainly in terms of load at break and thermal performance. Low moisture absorption and high chemical inertness make Laramid suitable for applications at high temperature and in the presence of water vapour and aggressive water additives.

Larton is PPS reinforced up to 40% with glass fibre, suitable for improved dimensional stability applications, and to ensure a constant performance in severe working conditions, in terms of temperature and chemical attack.

Thank to its internal technical and design service, Lati is able to assist customers in the substitution of metal with FE structural analysis, co-design and engineering support, and tailor-made compounding.

Lati Industria Termoplastici SpA
– Italy
info@lati.com
www.lati.com

Precision tube

Osborn Tubes is a specialist manufacturer of precision cold drawn alloy steel tubes for a diverse range of industries. The company is a member of the UK-based Osborn Metals Group, and is situated in Longueville, France.



▲ A selection of products from Osborn Tubes

The company offers precision tube in the 2-60mm OD range, with wall thicknesses ranging from 0.4 to 10mm, in materials including 15CrMoV6, 25CrMo4, T45 and T60. Applications include precision tubing for commercial and light aircraft, helicopters and motor sport, and many other demanding applications.

To expand its product range, the company recently introduced two new grades – GT1000 and GT750 – to provide aerospace performance to the motor sport industry at a more attractive price level.

Whilst the majority of output is in round tubes, the company can offer more complex profiles, and can also offer a wide variety of finishes, heat treatments and testing parameters.

Osborn Tubes – France
tubes@osbornmetals.com • www.osbornmetals.com

Osborn Metals Ltd – UK
info@osbornmetals.com • www.osbornmetals.com

New pipe dimensions from Felker Brothers

Felker Brothers Corporation has introduced 14" to 24" ASTM/ASME A-312 sch40S pipe to its product line.

The new products join a range that includes stainless steel pipe and tube in ASTM A-778 and ASTM A-269/SA-249, and stainless steel fittings such as elbows, concentrics, eccentrics, tees, laterals, wyes, stub ends, face rings and flanges.

Special alloys, diameter sizes, gauge thicknesses and lengths up to 50ft are available upon request.

The company also provides additional testing options, including x-ray, ultrasonic and liquid dye penetrant, and end preparation options such as roll grooving, beveling, tangents, bevelling, flanging and plastic end caps.

Felker Brothers Corporation – USA
felker@felkerbrothers.com
www.felkerbrothers.com

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New techniques for furniture manufacturers

Wheels Over Europe provides products and services that are suitable for responding to current trends in furniture production. Semi-finished products deliver benefits for the furniture manufacturer that include shorter time to market, and rapid prototyping in tubular materials.

Using free-form bending technology, the company produces structures that are innovative, strong, slim and self-supporting, making it possible to produce elegant designs with low thickness ratios. The company uses high-quality machines, automation, special software and laser tube scanning, resulting in reproducible free-form bends.

Tube is forced through the bending head at a constant speed, to keep material stresses in the product low.

The company's core activity is supplying tailor-made free-form bent tubes for less than they would cost customers to produce, working closely with Swiss and German mechanical engineers to develop new methods.

The company offers the following options: mandrel-free bending; bending with smooth transitions on round tubes with an external diameter of < 31mm; wall thickness between 3 and 10% of the external diameter.

Tools can handle diameters of 10, 16, 19, 22, 25 and 30mm, with other diameters available if the customer is willing to pay all or part of the cost of the tools.

The overall maximum length of the product is 4,000mm. Quotes can be provided on the basis of CAD drawings or IGES data.

Tubes are supplied on time, in the quantities required, from small quantities in line with the prototyping department's needs, or in large quantities for the production department.

The company also handles the purchasing of the tubes.

Wheels Over Europe BV – Netherlands
info@wheelsovereurope.com
www.wheelsovereurope.com

State-of-the-art production facility for stainless steel tube

Quality Stainless, India, is a manufacturer of welded stainless steel tube/pipes, using its own cold rolled stainless steel coils. The company's two product divisions, tubes/pipes and coils/strips, are ISO 9001:2000 and AD – 2000 W2 certified under Lloyds Register and TUV. The products are manufactured as per DIN, EN, ASTM, JIS, SS, ISI standards.

The company's product range includes sizes from ½" OD to 4" OD, and ½" NB to 6" NB, thicknesses from 0.5mm to 4mm, and grades including 304/304L, 316/316L/316ti, 321, 439/409, 430, low Ni grades and duplex. Testing facilities include eddy current, hydro testers, UTM, hardness test, inter-granular corrosion, microstructure and other necessary mechanical tests. The company has a large customer base in industries such as heat exchangers, pressure vessels, food processing and beverage equipment, the dairy industry, power turbines, chemical and pharmaceutical, automobile, oil and gas, and other general engineering industries.

Quality Stainless Pvt Ltd – India
tapasvi@qualitygroup.in
www.qualitygroup.in

Pipes and steel sheets from Saudi Arabia

Al Musairiey Metallic Industries Co, Riyadh, Saudi Arabia, founded in 1992, has implemented a quality control system in accordance with ISO 9001:2000.

The company has plans to expand capacity and product range, including structural and casing pipes conforming to international standards such as ASTM, DIN, BS and JIS.

The company's product range includes: round pipe from 19 to 152mm (6"); rectangular tube from 10x20mm to 100x150mm; square tubes from 12x12mm to 125x125mm; HR/CR/GI/HR sheet from 1.2 to 6mm thick; HR checkered sheet from 1.2 to 6mm thick; and PPGL corrugated sheet from 0.32 to 1mm thick.

The company is also expanding its range to include 20" round pipe, wall panels and roof panels.

Al Musairiey Metallic Industries Co – Saudi Arabia
musairie@musairiey.com
www.musairiey.com



▲ Example of Al Musairiey's product range

Tubes from Bulgaria

Bulgarian Metal Tubes Ltd has two lines for cold formed electro-welded round, rectangular and square tubes and hollow sections. The company's monthly production capacity is 2,000-2,300t.

Thicknesses range from 2mm to 3.25mm (4mm thickness is planned), in lengths of 4-8,000mm, -0/+50mm. Production is according DIN 2395/DIN 2394/2458/1615; EN 10219 1-2, EN 10305, quality S235 JR with Si – max 0.03%. The company can also issue mill certificate acc EN 10204 / 2.2 or 3.1B.

Bulgarian Metal Tubes Ltd – Bulgaria
bmtlom@abv.bg
www.bmt-bg.com



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Mobile: 008613998553985

E-mail: rick@chengdasaanlin.com

Skype: ricksanlinsteel

Tel: 0086-411-82651828 82643155

Fax: 0086-411-82657793

Universal hose with corrugated tube liner permits small bending radii

Fluorflex universal hoses, developed by HIS Schlauch- und Armaturentechnik, Germany, in partnership with Fluortubing, Netherlands, and ContiTech Fluid, Germany, are constructed with an inner liner made from DuPont™ Teflon® PTFE 62-N.

The liner is designed in the form of a helically corrugated tube and therefore permits very small bending radii. As Tobias Sautmann, CEO of HSI, explained, "This enables installation space to be significantly reduced, particularly with large hose diameters (minimum bending radius for DN 75 is 200mm). At the same time, this flexibility allows hoses to be fitted in extremely confined spaces, where installation would previously have been impossible."

Teflon PTFE 62-N combines very good flexural fatigue strength and stress crack resistance with high thermal stability and excellent resistance to nearly all media used in food and pharmaceutical production.

This often makes it possible to reduce stock to just one type of hose. A black conductive strip integrated into the corrugated tube dissipates static electricity. The tube can also

be supplied in an all-white design, eg for the pharmaceutical industry, and with an all-black (ie fully conductive) inner liner.

The helical geometry not only ensures high flexibility but also gives the transported medium angular momentum that permits higher conveying speeds and shorter emptying times. Thanks to the inherent non-stick properties of Teflon, the hoses are easy to clean, even when carrying very high-viscosity media. This, together with the possibility of faster emptying for cleaning or material changes, can achieve cost savings in production.

Another advantage for users is the ease with which the Fluorflex hose system can be fabricated on-site using safety clamps without the need for laborious de-corrugation in a salt bath, compressing sleeves or purchasing the costly machinery required for this. Since hose systems can be custom-

fabricated quickly in this way, it is usually unnecessary to stock replacement hose lines.

A multi-ply outer jacket comprising an EPDM intermediate layer, a reinforcing braid made from DuPont Kevlar® brand fibres and a covering layer specially tailored for the application protects the Teflon inner liner from damage.

Besides EPDM black, the covering layer can also be supplied in NBR black for contact with oil and gasoline, NBR black high temperature blend for temperatures above 150°C, NBR blue for food applications and EPDM grey for pharmaceutical production. New products are being developed for transport, chemical engineering and the construction industry.

The whole system is designed for working pressures of 16 bar and continuous service temperatures of 150°C. Designs for even higher temperatures are also possible. Fittings can be supplied in many different materials (VA, PP, PVDF, and different coatings such as PFA und ECTFE) and with all currently used connections.

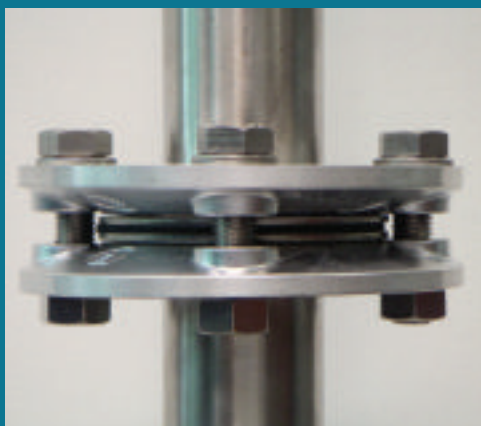
DuPont – USA
www.dupont.com

HSI Schlauch- und Armaturentechnik GmbH – Germany
info@hsi-schlauchtechnik.de
www.hsi-schlauchtechnik.de



▲ DuPont Fluorflex universal hoses have helically corrugated inner liners made from DuPont Teflon PTFE

LITE aluminium flanges



▲ Fonderia Fazzini's LITE flanges

Fonderia Fazzini Srl – Italy
info@fonderiafazzini.it • www.fonderiafazzini.it

LITE flanges from Fonderia Fazzini are 30% lighter than current aluminium flanges, thanks to an exclusive truncated cone shape, and they present high strength, certified by RWTÜV.

The company states that the flanges are also cheaper, saving purchase, transport and installation costs. LITE flanges are compatible with EN PN10/16 standards and they provide an alternative to traditional loose flanges.

Siemens provides equipment for long product rolling mill

Siemens Metals Technologies has received an order from OJSC Alchevsk Iron and Steel Works (AMK), Ukraine, to supply new equipment for the company's long product rolling mill.

The scope of supply includes all the mechanical and electrical equipment as well as the basic and process automation systems. The goal of the project is to expand the range of products and improve production quality and the production process. The project is scheduled for completion by mid-2009.

The equipment supplied by Siemens includes eleven Red Ring stands, two of which are universal stands, ten abrasive disk saws, bar profile monitoring system, bar marking machines and the transfer system. Siemens is also supplying the equipment for stacking, bundling and weighing, systems for accessory fluids, operational changestands and cartridges

as well as spare parts. Alchevsk Iron and Steel Works is a subsidiary of the Industrial Union of Donbass (ISD) group. The company is currently engaged in a comprehensive expansion and modernisation programme, which will increase its annual steel production capacity from 3.4 to 7.6 million tons. Another aim of the modernisation project is to reduce environmental pollution. In the course of the renewal of AMK's production facilities, Siemens Metals Technologies has supplied two new converters including dedusting and desulphurisation systems, and two two-strand slab casters, ladle furnace and vacuum degassing.

Siemens AG – Germany
www.industry.siemens.com

Alchevsk Iron and Steel Works – Ukraine
abrosimov@amk.lg.ua
www.amk.lg.ua

Indonesian steel pipes

PT Steel Pipe Industry of Indonesia (Spindo) is a manufacturer of a wide range of steel pipes, tubes and other related products. Established in 1971, the company employs around 1,000 people and owns four modern plants in Surabaya and Pasuruan, Indonesia.

The company is certified to ISO 9002 and API 5L, and its products also comply with international standards API, JIS, BS, ASA, ASTM and SNI, the national standard of Indonesia.

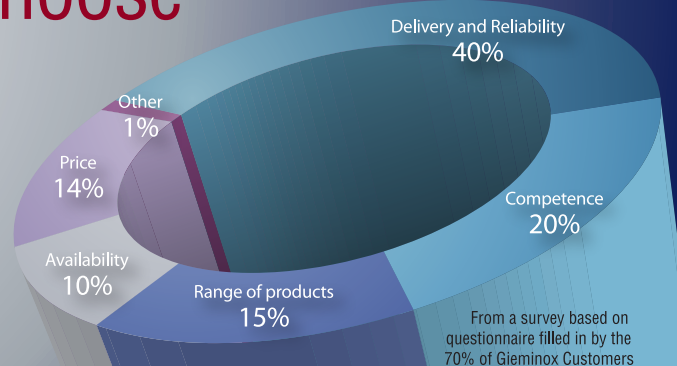
The company's quality standards require each pipe to undergo pressure test, leak test and other tests using high standard testing equipment such as hydrostatic machines, ultrasonic test and evaluation machine, holiday detector and thickness gauge.

PT Spindo – Indonesia
marketing@spindo.com
www.spindo.com

Seven reasons to choose Gieminox

welded pipes and fittings

Any reason to choose someone else?



Since 1980 Gieminox has been established on the market focusing on both needs: of its customers and of the market in which it operates, committing itself to a continuous improvement. It has highly improved advanced technologies concerning manufacturing and welding procedures that represent an indissoluble and strongly acquired patrimony.

Manufacturing program

- **Longitudinal welded pipes**
Outside diameter range: from 3" up to 100" as per ASTM/ASME/DIN standards. Wall thickness range: from 3 mm up to 60 mm.
- **Welded fittings**
Elbows: from 3" up to a 40" as per ASTM/ASME/DIN standards.

Stub ends: outside diameter from 3" to 48" as per MSS and ANSI standards.
Collars: as per DIN/ANSI standards.

Material range

Stainless steels 300 series, heat resisting steels, superaustenitic alloys, nickel, nickel alloys, nickel/copper alloys, duplex/superduplex, titanium, coppernickel.



Manufacturers of welded pipes and fittings

Via Lago di Vico, 22 - 36015 Schio (VI) ITALY - Phone: +39 0445 575959 - Fax: +39 0445 575305 - info@gieminox.com - www.gieminox.com

Steel flanges from Italy

Friulana Flange Srl, Italy, specialises in flanges, connections for piping, component accessories and mechanical details according to standards and customer specifications for petrochemical, naval, mechanical, offshore and many other industrial fields.

Using only the best quality steels, all of the company's products are certified according to EN 10204 3.1 specification.

On request, the company can also provide 3.2 certification, complete

with specific tests, such as MPI, UT, PMI, dye penetrant test, HCI, grain size determination, micrographic examination, non-metallic inclusions, PWHT, hot yield, and steep cooling test at various temperatures.

The company's products include rings for cable cars, ski lifts, chair lifts and funicular transport in general, flanges, orifice flanges, swivel flanges, anchor flanges, spectacle blinds, long welding neck flanges, special and reinforced long welding neck flanges, welding nozzles, reinforced nozzles, studded flanges flow cross, spherical and misaligned hubs,

inlet covers for pressure reducing valve, tube-plates, milled heads, quick-opening closures and many other components for shell and tube heat exchangers, air cooled heat exchangers, superheater/economisers, and headers/manifolds.

All products can be machined according to standard specifications or to customer design.

Thanks to a large back-up stock of forgings and semi-finished and finished pieces, Friulana Flange can fulfil urgent orders.

The company has an annual productive capacity of over 4,400 tonnes, 65% of which is accounted for by standard flanges, including special items of any diameter, class or grade of material made to customer design specifications.

The remaining 35% is divided equally between heads and terminal pieces for the building industry and rings for cable-supported transport systems.

Friulana Flange has developed an exclusive process carried out on specific machines to ensure perfect size controls, added thickness surface protection and accurate packing.

The company has also created a 'Special Products Division', which encompasses a new factory where highly delicate workmanship can be carried out for special orders.

Friulana Flange Srl – Italy
info@friulanaflange.it
www.friulanaflange.it

Centricut brand expands Innerlogic ProLine2200 range

Hypertherm's Centricut brand is building upon the success of its recently introduced line of Innerlogic ProLine2200 consumables by adding a 150 amp consumable set to its family of products. The new 150 amp consumables join four other ProLine2200 consumable sets – 50, 70, 100 and 200 amp versions – introduced 2007.



▲ Hypertherm has expanded its Innerlogic ProLine2200 range

"We are seeing strong demand for the first four sets of ProLine2200 consumables," commented Dean Lizotte, team leader for Hypertherm's Centricut brand. *"ProLine owners tell us the Centricut brand consumables are lasting longer and cutting better than any other consumable they've used and have asked us to develop a 150 amp set."*

In addition to longer life and better cut quality, the Centricut brand consumables can lower the operating cost of the ProLine2200, due to two innovations: patented SilverLine® electrodes and patent pending CoolFlow™ nozzles.

SilverLine electrode technology involves welding a solid silver front end to a copper electrode base and inserting a hafnium pin into the silver. CoolFlow nozzle technology offers improved conduction cooling, o-ring cooling and seal reliability. Additionally, flow stagnation and leaks into the plasma chamber are eliminated.



▲ A selection of ProLine2200 products

Hypertherm Europe – Netherlands
hteurope.info@hypertherm.com • www.hypertherm.com/eu

Stock of hard-to-locate grades

Prudential Stainless & Alloys specialises in hard-to-locate grades and sizes of stainless steel, high nickel alloy and aluminium pipe, tubing and bar.

These items are available from the company's extensive, constantly expanding inventory.

Specialising in exotic alloys and 'odd sizes', stock consists of such grades as: Stainless 309s, 310s, 317L, 321, 347, 410, 440c, 446, 2205, 254SMO, A286, 13-8, 15-5, 304, 304L, 316 and

316L; nickel alloy 20, 200/201, 330, 400, 600, 601, 625, 718, 800/H/HP, 825, 904L, AL6XN, B2, B3, C22, C276, K500 and Alloy X; aluminium 2024-T3/T3511, 3003-H14/H112, 5052-0, 5086-H32, 6061-T4/T6/T6-511/0, 6063-T6 and 7075-T6/T6-511.

The company stocks over 12,000 items ranging from 1/32" to 36" OD and 0.006" to 2" wall.

Selling strictly to wholesalers and service centres worldwide, orders usually ship within 24 hours.

Prudential Stainless & Alloys LP

- USA

info@prupipe.com

www.prupipe.com

Automated processes for seamless stainless steel pipe

Wenzhou Tianyi Stainless Co Ltd, China, is a manufacturer of seamless stainless steel pipe.

The company uses fully automated processes from hot piercing to cold drawing/cold rolling, annealing and physical distribution.

Tianyi uses the best materials, and has expert knowledge regarding material selection, corrosion, heat treatment and surface treatment.

The company's test programme is an important part of its quality assurance.

In its material test laboratory, the company has inspection equipment including optical detector, whirlpool and supersonic flaw detector, universal material testing machine, in-phase microscope, sclerometer and steel separator.

The company strictly controls all links, including raw material, production and inspection.

Wenzhou Tianyi Stainless Co Ltd

- China

angelwzty@hotmail.com

http://wztianyi.en.alibaba.com

New production facility in Turkey

Ilhanlar Rolling Tube Pipe & Textile Co, began construction of its new facility in Turkey's Osmaniye Industrial Organised Region in 2007, and production is expected to begin in July 2008.

Ilhanlar will produce mainly welded precious tubes, industrial tubes (Ø13 to 168mm), square (10x10mm to 125x125mm) and rectangular (10x20mm to 150x100mm) profiles. Pipes will be produced as longitudinally welded with

steel strips. Industrial pipes and profiles will be produced with hot-rolled, pickled and cold-rolled (ST 12, ST 34, ST 37.2 and ST 44.2) quality steel strips. Standard bundles will be packaged with Signode steel strips into square, rectangular and hexagonal shapes.

Ilhanlar Rolling Tube Pipe

& Textile Co - Turkey

aucar@ilhanlargroup.com

www.ilhanlargroup.com

HIGH PRESSURE FITTINGS

Forged-Carbon-Alloy-Stainless Steel, Threaded and Socket Weld

PRODUCTS:

90°/45° elbow, tee, union, coupling, bushing, plug, cap, insert, pipe nipple & swage nipple . . .etc.

MATERIALS:

- Stainless Steel: ASTM A182, F304/304L, F316/316L, F304H/F316H, F317L

- Carbon Steel: ASTM A105, SF440A & A181, A350 LF2

- Alloy Steel: ASTM A182 F11, F22

PRESSURE RATINGS:

2000, 3000, 6000 & 9000 lbs

APPROVAL CERTIFICATES:

ISO-9001 Quality Assurance, L/R, C/R, N/K & ABS register of shipping, PED (CE)



Manufacturer & Exporter

BOTH-WELL STEEL FITTINGS CO., LTD.

No. 303, Jen-Hsin Rd., Jen-Wu Hslang, Kaohsiung Hsien, Taiwan (814)

Tel: +886 7 3711536, 3710497, 3720260 Fax: +886 7 3713864, 3713882

E-mail: box@mail.bothwell.com.tw http://www.bothwell.com.tw

E-mail: export@mail.bothwell.com.tw

Tubes in stainless steel and titanium

Hailong (Zhangjiagang) Industry Company Limited, China, was established in April 2006, and specialises in manufacturing seamless titanium and stainless steel tubes and pipes. The company mainly produces products to ASTM or ASME standards, and has an annual capacity of 3,000 tons. Seamless stainless steel tubes and pipes are

available in diameters from 8 to 426mm, up to 20 metres in length, in materials including 304, 304L, 316, 31803 and 32750. Titanium seamless tube and pipe diameters range from 3 to 114mm, up to 15 metres long, in materials such as Gr 2, Gr 7, Gr 9 and Gr 12. Hailong has set up a trading department offering titanium plates, sheets, bars, fittings,

fasteners, etc. With the advantage of being familiar with the Chinese industry, Hailong provides products that have successfully met inspections by BV, SGS, Lloyd's and MOODY.

Hailong (Zhangjiagang) Industry Company Limited – China
hailonggood@163.com
www.hailongtitan.com

Slotting machines – solutions for water drainage

The use of slotted pipes in water drainage systems is recommended in all situations where excess water in the land causes instability or decreases the land's resistance.



▲ Sica's slotting machines can create a wide range of slot configurations in pipe walls

Sica slotting machines work with this kind of piping and are capable of creating a wide range of slot configurations in pipe walls.

Thanks to an exclusive patented system, the cutting tools can be positioned at any point on the pipe by setting the reciprocal position between the tools and the wall both axially and radially.



▲ The cutting tools consist of a group of circular blades

The cutting tools consist of a group of circular blades set in different distance pattern, according to the application.

The blades are installed on a rotating blade-holder shaft fitted to a mechanical arm capable of cutting a series of slots of settable distance and size in a single cycle.

The Sica product range has two slotting machine versions to choose from, the F400 OL and the F630 OL. The F400 OL slotter is an automatic machine designed for cutting slots in rigid plastic pipes (including socketed pipes) of diameter 60-400mm and maximum thickness 35mm, and can process up to seven pipes of 6m in length per hour. The F630 OL version cuts slots in rigid-walled pipes of diameter 110-630mm and maximum thickness 50mm, at a rate of six pipes of 6m in length per hour.

The machines can be configured to process pipes in different kinds of plastic, such as PVC-U, HDPE and PP, and with different wall geometries, either compact smooth or corrugated. The new Sica slotting machine models are in line with the requirements of the most demanding operators, who are looking for flexible and simple machining processes, efficient dust and chips vacuuming, low noise and safety.

Sica SpA – Italy
info@sica-italy.com • www.sica-italy.com

Investment in welding

Tubería Laguna, a Mexican ERW carbon steel pipe manufacturer, is improving the quality of its products by making important investments to upgrade its equipment and machinery with state of the art technology.

The company recently invested in a variable frequency welder, developed by Thematool. Welding frequency defines the depth of heat penetration in the HF welded pipe strip edges. This new technology has the flexibility to select the optimum weld frequency for a given material by adjusting both the weld power and frequency, and providing the following benefits:

- Consistent welding of high quality pipe in a wide range of tensile strength materials, complex alloys and galvanised products on one mill
- Welding of better quality pipe with higher strengths, and a broader range of difficult diameter/thickness ratios
- Production of optimum ID and OD weld beads
- Extended life of both ID and OD scarfing tools and impellers, reducing production costs and increasing mill uptime
- Improved quality in secondary bending or hydroforming operations
- Repeatability of optimum welding parameters for any product at the touch of a button
- Maximised yields and reduced scrap

Tubería Laguna SA de CV – Mexico
luis.salinas@tuberialaguna.com.mx
www.tuberialaguna.com.mx

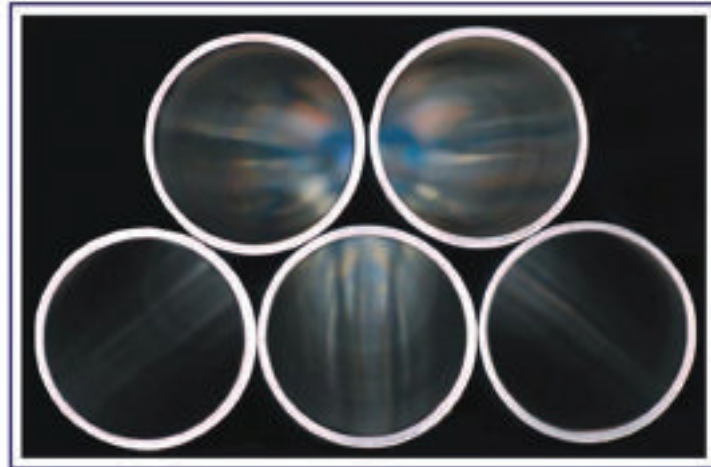


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Efficient production of irrigation pipe

From June 2008, Pancar Yem in Konya/Turkey will be producing irrigation pipe on a QuickSwitch extrusion line from KraussMaffei. Pancar Yem is a subsidiary of the agricultural conglomerate Konya Şeker, one of Turkey's largest sugar producers. The pipe produced by Pancar Yem will be deployed in Konya Şeker's company-owned sprinkler and drip irrigation systems.

Because the irrigation systems need to be adapted to local situations, the pipes are produced in different dimensions and in relatively small batches.

This makes KraussMaffei Berstorff's QuickSwitch extrusion line an effective and cost saving solution. It allows Pancar Yem to meet requirements with very short lead times and low stock levels.

On a QuickSwitch line, pipe dimensions can be changed automatically at the touch of a button within a matter of minutes, without interrupting production.

The QuickSwitch line that KraussMaffei Berstorff is commissioning for Pancar

Yem will produce single-layer pipe made of PE-HD with a diameter between 70 and 160mm.

The line is headed by a KraussMaffei Berstorff KME 75-36 B/R extruder with throughput up to 700kg/h. In addition to the QuickSwitch core components (pipehead, suction bell and calibration basket), the system also has a vacuum tank, spray baths, haul-off and cutting equipment modified for QuickSwitch dimension change. The QuickSwitch line allows Pancar Yem to change dimensions within minutes.

This compares favourably with a conventional pipe extrusion line, where changing pipe dimensions involves the time and cost of changing components, stopping the line, lost production, the start-up process and the waste produced as the line is restarted. QuickSwitch reduces these costs to a minimum.

Drip irrigation systems are increasingly popular because they make effective use of water. As the name implies, water is dripped directly to the roots of each plant at a rate that exactly matches the needs of the plant. This highly

efficient use of water reduces water consumption and labour costs, power consumption and fertiliser use. At the same time, it increases fruit quality and quantity.

KraussMaffei is a manufacturer of machines and systems for plastics and rubber processing, with three divisions – injection moulding technology, extrusion technology and reaction process machinery. The group offers a wide range of solutions that include specialised and fully integrated turnkey systems.

KraussMaffei Technologies GmbH

– Germany

matthias.andreesen@kraussmaffei.com

www.kraussmaffei.com

New 130 amp bevel consumables

Hypertherm has announced the addition of new 130 amp bevel consumables to its HyPerformance® (HPR™) Plasma family of products, which will allow lower power bevel cutting with the HPR130 and the HPR260.

The addition of the new consumables will extend the existing bevel capabilities currently available by enabling high quality, full bevel cutting capabilities up to 45° on thin plate.

The consumables, which will enable the cutting of both mild and stainless steel, are part of the company's ongoing commitment to improve cut quality, consistency, and overall performance while lowering the operating cost of its systems.

Dave LaPrade, business team leader of Hypertherm mechanised systems commented, "We believe the extension of these new 130 amp consumables to our already existing bevel product line will be very well received in a market that is looking for this capability."

Hypertherm designs and manufactures advanced metal cutting systems for use in a variety of industries such as shipbuilding, manufacturing and automotive repair. Its product line

Stainless steel specialist

Jürgen Witte Nederland BV is well known in the market for stainless steel pipes and fittings. Being one of the largest German stockists for special grades, and due to close, long-standing contacts with well-known European manufacturers, the company can fulfil requirements and quickly realise special solutions.

The company's stock includes pipes, elbows 90°, 180°, SR, LR, 2.5xD, tees, reducers, stub ends, collars, flanges to ASME and DIN, and high pressure fittings 3,000 and 6,000 lb to ASME.

Dimensions for seamless products include OD up to 8", partly up to 10", thin wall and heavy wall, sch 10s up to 80s, partly up to XXS. For welded products dimensions are OD up to 20", thin wall, sch10s and 40s.

Seamless grades include 321/1.4541, 321H, 316Ti/1.4571, 904L/1.4539, duplex UNS S31803/1.4462 and 304H/1.4948. For welded products 904L/1.4539 and Duplex UNS S31803/1.4462 are available.

The company mainly stocks products from manufacturers that are PED and AD-2000 approved. Most DIN positions are certified to AD-W2 resp VdTÜV. Jürgen Witte can also quote for other high quality grades, such as nickel alloys.

Jürgen Witte Nederland BV – Germany
www.witte-nederland.de

includes handheld and mechanised plasma cutters and consumables, as well as CNC motion and height controls.

Hypertherm Europe – Netherlands
hteurope.info@hypertherm.com
www.hypertherm.com/eu

Manufacturing to a wide range of standards

Conros Group is a diversified company, with activities including steel manufacturing and trading. The Group has manufacturing plants at Khopoli, Maharashtra State, India, currently manufacturing black and galvanised ERW steel pipes, tubes and hollow sections from ½" to 4".

The Group is expanding its capacities by introducing new state-of-art equipment, being imported from USA and Europe, for manufacturing larger diameter pipes and API line pipes from 2½" to 8" diameter, and square and rectangular hollow structural sections.

Conros manufactures tubular pipes in ½" to 4" diameter, and square and rectangular sections from 15x15mm to 100x100mm, under international and Indian standards including:

- IS: 1239, 3589, 9295, 4923, 1978 (line pipes), 1161, 4270, 3601
- ASTM: A 53 (Sch 10 to Sch 80), A500, A135, A795, A513, in Gr A & B
- DIN: 2439, 2440, 2441 (galvanising to 2444), 2393, 2394
- BS: 1387, 879
- EN: 39, 10210, 11960, 11961
- JIS: G3442, G3444, G3466, G3472
- ISO: ISO/R-65

The company's upcoming developments include API 5L accreditation (for 3" to 8" up to Grade X70) by December 2008, and UL listing (ie UL 6, UL 797 and UL 1242 for conduits) also by December 2008. FM approval (for fire fighting systems) and CE marking approval (for European markets) are both under proposal.

Conros Group – India
info@conros-group.com
www.conros-group.com

Ultimate welding chamber

The Black Diamond welding chamber from Weldlogic Europe features a large work space with stainless steel work surface; large transfer load-lock with automatic timed gas purge; and oxygen meter display in parts per million for assured gas quality welding.

The workstation is ready to operate, only requiring the fitting of the user's weld system and connection to gas and power. It can be installed on bench top for standing or low seated operation.

Other features include attainable gas purity below 5ppm oxygen for bright nickel weld finish, and fully automatic load-lock gas management control system.



▲ Weldlogic Europe's Black Diamond welding chamber

The Black Diamond welding chamber provides a system design that is a cost-effective solution to TIG welding materials reactive to atmospheric contamination, and high end materials that require a controlled and verified welding environment for minimal defect and tarnished work pieces. It is designed with functionality to give welders the tools they need to achieve proficiency through control. The bench top mounted workstation has two 6" x 8" oval polypropylene glove ports mounted below a polycarbonate window 10mm thick. The weld chamber is manufactured in virtually indestructible textured copolymer, and is fully welded and leak tested. The chamber is fitted with a stainless steel floor plate over box length 950mm and depth 550 within a height of 650mm. A rear panel is removable for occasional cleaning or installing large welding aids. Weld cable connectors are ready for hook up to torch, ground and power source, including gas feedthrough fitting for torch shield gas.

The load-lock is constructed in the same copolymer, and is fully welded and leak tested. Inner and outer doors of the same material are reinforced for ensuring effective sealing with captive 'O' ring seal. The doors operate using lever latch clamping. Rectangular design provides a 380mm length load-lock with 280mm depth and 280mm height for easy transfer of most large weld pieces. A stainless steel floor plate is supplied for ease of weld piece transfers.

A push button initiates a gas purge to remove air and replace with Argon gas for transfer of weld pieces into the weld chamber without degrading the main chamber Argon gas purity. Set time and gas flow ensures quality controlled transfer with minimum gas usage, and an audible sounder announces completion of the gas purge process.

The glove box workstation is equipped with a twin fluorescent light, externally top mounted over a polycarbonate window to provide over 700 lux of lighting within the glove box at the working plane.

The weld chamber is supplied with a gas flow regulating valve and flow gauge to adjust amount of Argon passing through. This regulation allows for the chamber to be set at a flow rate to reduce and hold the oxygen levels to below 5 parts per million. Argon gas consumption varies according to use but averages below 10 litres per minute during operation and 1 to 2 litres per minute on standby. Initial gas purge of the weld chamber from air down to weld quality is less than 60 minutes at less than 50 litres per minute gas flow.

Weldlogic Europe Ltd – UK
weld@weldlogic.co.uk • www.weldlogic.co.uk

Pipes to meet the challenge at Dubai's Palm

Uponor has lent its expertise to the spectacular Palm Jumeirah, off Dubai's coast. Products from Uponor UK, Germany and Sweden have been supplied for both the vast infrastructure project and for the hotels, shops and private properties being constructed.

Uponor Infrastructure UK has supplied a substantial amount of potable and non-potable polyethylene (PE 100) pipes for The Palm, including 80km of HPPE pipe in diameters between 160mm and 1,200mm for the Atlantis hotel and aqua-park. Uponor International in Germany is supplying products from its multi-layered composite pipe system (MLCP) for tap water installation.

Black high performance PE 100 pipe was selected for the infrastructure due to the extremes of heat, construction demands and welding requirements, and its characteristics of flowability, abrasion and corrosion resistance, long service life and quality.

The first (and at the time, record-breaking) project on the Palm Jumeirah involved micro-tunnelling 12 shots of 500mm PE 100 SDR 11 19 metres below the sea bed, each 900 metres in length.

Six shots each side of the Palm's Crescent had to have centres with a tolerance of 450mm and a 355mm SDR 11 PE 100 pipe inserted the whole length of each shot. These 355mm lines carry services for potable water, gas, communications ducts and treated sewerage effluent lines.

The world's largest fish tank at Atlantis holds 53 million litres of salt-water. Both freshwater and salt-water piping was required, and Uponor has supplied pipes with diameters from 25mm to 1,200mm, including over 15km of 355mm pipe in SDR 11 and SDR 17 densities, plus specially made electrofusion couplers and joints.

The pipework and mechanical systems structure for the Atlantis formed a significant element of the construction process.

One of the early challenges to the project was directionally drilling 19 metres beneath the seabed through compacted



▲ The Palm Jumeirah, described as one of the new manmade wonders of the world



▲ Some of the larger diameter Uponor pipes during construction of the Atlantis Hotel aquarium

sand and then pulling through 1,000mm diameter Uponor pipe in 400m sections for three seawater intakes.

Tim Perkins of Uponor commented, "We've manufactured pipes to handle daily water volumes for the equivalent of a town the size of York; it's been a huge but highly successful project."

Several of the hotel's en-suite rooms have views onto a massive aquarium rising from reception through several levels, with pipework also supplied by Uponor.

The company is currently working with the consortia planning infrastructure packages for the second and third islands, the Palm Deira and the Palm Jebel Ali, including Dubai's new waterfront, now rising from the sea. Uponor Housing Solutions is supplying cooling systems for The Palm's many properties, including over 150,000 polyphenylsulfone (PPSU) fittings and over 200,000 metres of MLCP pipes.

Uponor – UK head office
 uponor.sales@uponor.co.uk
 www.uponorie.co.uk

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Fittings

Photo – Petek Boru Sanayi AS
see page 36

High-tech stainless steel valves and fittings

F.lli Tassalini, Italy, was founded in 1922 as a workshop for the aeronautical motor industry, and in the early 1960s specialised in the production of components for the food, wine, beverages, chemical and pharmaceutical industries.

Today, the company manufactures high-tech stainless steel valves and fittings for the domestic and world market, and is represented in over 70 countries. All the products are of its own exclusive design and manufacture, made with quality materials and the most advanced technology available.

A 7,000m² manufacturing centre in Peschiera Borromeo was opened in 1989, and in 1996 a facility specialising in tube finishing processes was set up in Pandino. A second production centre in Peschiera Borromeo was acquired in 2003. The company offers complete manufacturing solutions for customised parts and special systems, and its entire range is available ex-stock.

The products, all made exclusively in Aisi 304L and Aisi 316L stainless steel, are manufactured in conformity with the main international standards, DIN, SMS, RJT BS, ISS IDF, Eno, Macon and Clamp. The F.lli Tassalini range includes unions, reducers, tees and bends;



▲ Products in the Clamp range are manufactured from Aisi 316L stainless steel, using hot-rolled or press-forged material, and solution heat-treated

filters and sight glasses; plug cocks; flow control, relief and check valves; butterfly valves, ball valves, mixproof and seat valves, and diaphragm valves, all available with manual, pneumatic or fully automated controls.

F.lli Tassalini Officina Meccanica SpA
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www.tassalini.com

Centrifugally cast tubes and offsets

Research and production corporation Trubostal, Ukraine, produces centrifugally cast tubes and offsets. The company was established in 1989 and now has a plant for centrifugally cast tubes production, named Trubolit, and a plant for offsets and cold-deformed tubes production in its structure.

The tubes are produced from 100 to 1,066mm diameter and wall thickness from 10 to 250mm, and lengths up to 6,250mm, in carbon, construction, high-alloyed, stainless, high-temperature steel grades and alloys as well as bimetal with different layers combination. Centrifugally cast tubes are used in different fields.

The main applications include: casing and armour facing of grinders and crushing mills; rollers for roll breakers; high- and low-temperature rollers of screens at production lines; wear-resistant bimetal sludge lines for hydro-transportation of loose materials in the mining and metallurgical industry as well as in coal, gold and diamond mining; wear-resistant tubes for transportation of cement at cement plants; tubes for natural gas reforming and oil refining plants; driving drums and rollers of heavy conveyer systems; radiant tubes for furnaces with protective atmosphere; muffles, baskets and reactors in chemical heat-treatment furnaces.

Other applications include rolls and bandages of metallurgical rolling mills, mills for glass rolling, papermaking machines and sheet bending rolls; rollers for billets continuous die-casting machines, including bimetal; disk knives for coils cutting; sleeve blanks for internal-combustion engines; press mould blanks for machine building, abrasive, refractory and mechanical-rubber industry; casing and ring blanks for big bearings, electric motors, hydro-cylinders and pumps, valves (including ball valves); tube products operating in sea water, namely periscopes, oil platform columns, piles with anticorrosion oxide-silicon coating; heavy loaded construction columns; low waste billets in machine building for gas turbine stator rings; crane and brake drums; sleeves including wear-resistant bimetal; bandages, flanges, gears; billets for press instruments; tube billets for pilger mills, cone rolling mills, for press deformation.

Centrifugally cast tubes have no alternative among the known tube manufacturing methods when seamless large diameter heavy wall hard-deformed or non-deformed steel tubes are required.

The production of abrupt bend offsets has been started, with a range from 22 to 630mm of carbon and stainless steel grades according to GOST and international standards requirements. The production of offsets made of titanium alloys, chemical- and high-resistance steel grades has also been mastered.

Trubostal – Ukraine
 trubostal@en.net.ua
 www.trubostal.nikopol.net

Fittings to fight corrosion and high temperatures

Officine Orsi, based in Milan, Italy, supplies a complete range of made-to-measure products for all applications in the chemical, petrochemical, pharmaceutical and off-shore industries.

Thanks to the wide range of materials used, including stainless steels, duplex, superduplex, nickel alloys (Alloy C276-C22-B3-59-200-400-600-625-800-825)

Pressfitting system



▲ Eurotubi's Pressfitting system is assembled using electromechanical tools with special pressing jaws

Eurotubi's Pressfitting is a system of tubes and fittings used for hydrothermosanitary installations, recommended for the conveyance of water, gas and compressed air. The fittings use an o-ring seating with a high resistance rubber seal, able to support high pressures and temperatures over 85°C.

Tubes and fittings are assembled through the permanent deformation of the fitting by special pressing jaws mounted on small electromechanical tools. Once pressed, the o-ring ensures a hermetic, indivisible connection.

The Pressfitting system combines the reliability of joints with an easy and quick laying method, as it does not need any gluing, threading or welding. As a consequence, the major costs of fittings are balanced by the low cost of labour.

The system has a wide range of fittings available, in diameters from 15 to 108mm in stainless steel 316L, and 12 to 108mm in carbon steel.

The quality of materials, the constant sealing, duration tests and a rigorous quality control have allowed Eurotubi's Pressfitting system to obtain conformity with the strictest European certifications.

Carbon steel represents for thermal installations a competitive and innovative solution, offering the same quality level provided by traditional copper systems, but at lower costs. The Eurotubi Pressfitting system is compatible with many brands of fittings.

Eurotubi Europa – Italy
 info@eurotubieuropa.it • www.eurotubieuropa.it

and titanium, the company is able to solve the most common problems concerning corrosion and high temperatures. Production is divided into three departments: welded pipes, fittings and pressure vessels.

The wide range of fittings, with diameters from ½" to 40", includes elbows with radius from one to ten times the diameter, concentric and eccentric reductions, 90 and 45° T joints, stub ends, caps, collars, rings, threaded and socket welding fittings, flanges and special pieces to drawing.

Experience and the flexibility of the production system make it possible to produce materials which are not commercially available in non-standard sizes and small quantities, including

production in extremely short times, to face emergencies such as plant breakdown.

The company also possesses an extensive stock of sheet, tubes and fittings.

Officine Orsi operates a quality system qualified according to ISO 9001 by Lloyd's Register, and is certified by TÜV.

All products can be supplied with Rina, LLRR, NV, BV and TÜV inspection, in conformity with the PED 97/23/CE directive.

Officine Orsi SpA – Italy
 info@officineorsi.com
 www.officineorsi.com

Supplying tube fittings to oil producer

Parker Instrumentation has signed a five-year preferred supplier agreement for tube fittings with international oil and gas company Maersk Oil in Denmark.

The agreement, which runs until 2012, marks the start of a new phase in the relationship between the two companies, and is expected to provide a logistical model for the companies' partnership worldwide.

To support the agreement, Parker Instrumentation has opened a new

products centre in Esbjerg, close to Maersk's headquarters and at the heart of the region's offshore industry. This will supply Maersk direct, giving the company the benefits of a short and responsive supply chain.

Maersk Oil is an independent oil and gas producer, and a pioneer of technical solutions to the challenges posed by the North Sea. The new agreement covers the supply of A-Lok compression tube fittings, but the centre is already receiving enquiries for a wide range



▲ The company has opened a new products centre in Esbjerg, at the heart of the region's offshore industry

of components, including the new-generation high-integrity manifolds and valves designed and manufactured at Parker Instrumentation's UK headquarters.

"A shorter, tighter supply chain is increasingly important to our customers," commented Dorthe Pedersen of Parker Instrumentation Denmark. "We already have a global supply chain in place to support key areas in the offshore industry. This new 'proximity' strategy goes one step further, allowing us to provide an extremely responsive service while helping our customers simplify purchasing and streamline inventory."



▲ Parker Instrumentation has signed a five-year preferred supplier agreement for tube fittings with Maersk Oil

The new agreement builds on a relationship between Maersk and Parker Instrumentation established over several years and spanning major projects.

Parker Instrumentation – UK
ipd@parker.com
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ParkerStore Esbjerg – Denmark
www.parker.com/ipd

Fittings and pipes from Turkey



▲ Petek Boru manufactures pipes and fittings in carbon and stainless steel

Petek Boru Sanayi has been involved in the production and coating of carbon and stainless steel pipes and fittings, and the production of polyethylene pipes and fittings, since 1979.

The company's spirally welded steel pipes production line can manufacture pipes between 8" and 48" (219.1-1,219mm) diameter range and 3.2-12.7mm wall

thickness, via continuous on-line UT (ultrasonic test) control. Current production capacity is 15,000 tons per year.

Carbon and stainless steel elbows and reducers between diameters ½" and 8" are produced at the company's fittings unit. All wall thicknesses between Sch 5 and Sch 80 are stress relieved. For fittings items between 10" and 48" in diameter, segmented welding (mitre) method is used. Pipes between ½" and 6" diameters are also threaded and coupled in this unit.

The company has EN 10217-1 and ISO 9001-TUV SUD certifications and can produce according to ASTM A-53 standards. The company has also started building a new 40,000m² facility in Sakarya, Turkey, to increase its production capacity.

Petek Boru's manufacturing programme includes: spirally welded steel pipes (carbon steel and stainless steel); fittings (carbon steel and stainless steel), including elbows, tees and reducers; coatings and linings of pipes (polyethylene coating, fusion bonded epoxy coating and lining, solvent-free epoxy coating and lining, bitumen coating, concrete lining, and thermal insulation); HDPE 100 polyethylene pipes and fittings; chimney pipes; victaulic pipes; sigur-headed pipes; and threading and coupling.

In addition to its manufacturing activity, the company sells seamless pipes and fittings, ductile iron pipes and fittings, sewage pipes, irrigation pipes, natural gas and petroleum pipes, boiler pipes, construction pipes, rectangular and square sections, and cold drawn pipes. The company exports 30% of its annual production and sales turnover.

Petek Boru Sanayi AS – Turkey
info@petekboru.com.tr • www.petekboru.com.tr

Precision in stainless steel

Ro-Fi has almost 30 years' experience in premium stainless steel fittings, flanges, valves and pipes. The company's entire product line complies with the most stringent quality and technical standards.

The company stocks an entire dimensional range up to DN 500 in various grades of stainless steel. Products include screwed fittings, butt-weld fittings and flanges, valves, pipe couplings, cutting ring unions, and seamless and welded pipes. The company can also produce custom-made products to meet specific requirements.

Materials used include 1.4301, 1.4306, 1.4307, 1.4541, 1.4404, 1.4432, 1.4571, 304(L), 316 (L/TI), and 321 (H), plus special materials on request.

Ro-Fi Edelstahlhandel GmbH

– Germany
 kirchheim@rofi.de
 www.rofi.de

Metric bite type fittings line

A line of metric bite type hydraulic fittings is available from Brennan Industries Inc, USA, an international supplier of hydraulic fittings and adapters.

The range consists of more than 260 fittings, and covers all of the most popular styles and sizes.



▲ Brennan's range consist of more than 20,000 products

Built for extreme pressure applications, the fittings are manufactured to the highest standards and are approved by all major certifying agencies. The metric bite type fittings are in stock and available for immediate delivery from the five Brennan distribution centres across North America.

Supplying a wide range of industries throughout the world, Brennan offers more than 20,000 standard and special products in sizes ranging from 1/8" to 2 1/2".

These include pipe and straight-thread fittings, O-ring face-seal fittings, 37° flare tube fittings, bite-type fittings, metric fittings, international fittings, and a double ferrule instrumentation tube fitting line. Most products are available in carbon steel, stainless steel and brass, and meet or exceed JIC, SAE and other specifications.

Brennan Industries Inc – USA

sales@brennaninc.com
 www.brennaninc.com

Stappert ... the nature of steel

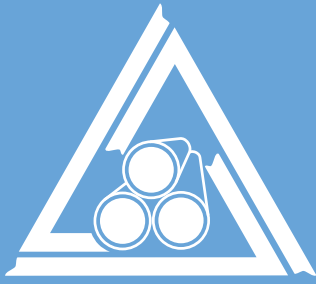


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TUBES & FITTINGS UKRAINE 2008

**Kyiv Technical Trade Show, 18-20 June 2008
KyivExpoPlaza Exhibition Centre Kyiv, Ukraine**

www.tube-ukraine.com



Kyiv Technical Trade Show 2008

“**Tubes & Fittings Ukraine 2008**” exhibition will take place at the Kiev Technical Trade Show, being held between 18-20 June 2008.

Organised by TDS-Expo Ltd & JV Trade House “Welding” Ukraine, the show will be held at the national KyivExpoPlaza Exhibition Centre Ukraine. The International exhibitor list already contains tube and pipe companies from across the EU, the rest of Europe, as well as from the USA, China, Korea, Ukraine and the former CIS countries.

The Kiev Technical Trade Show includes the following specialised exhibitions of machinery and technology:

- **Tubes & Fittings Ukraine 2008** – Specialised exhibition of the achievements in the field of raw materials, tubes and fittings manufacturing, equipment and technology for tube production
- **International & All-Ukrainian Tube conference** will run alongside the exhibition
- **Wires & Fasteners Ukraine 2008** – specialised exhibition of the achievements in the fields of cabling, wiring and accessories
- **International & All-Ukrainian Wire conference** will run alongside the exhibition
- **Sheet Metal Ukraine 2008** – the 3rd specialised exhibition of the achievements in the fields of processing, joining and fastening of sheet metal
- **Surface Engineering 2008** – the 4th specialised exhibition of the achievements in the fields of processing, rebuilding and protection of metal surface

Visiting buyers and technologists will be able to view a wide range of tube and pipe related innovative-technical solutions at the show. Additionally, delegate participation in the international & all-Ukrainian conferences run alongside will enable exhibitors to maximise on this international target audience, establish new business relationships, present advance technologies and utilise this superb networking opportunity.

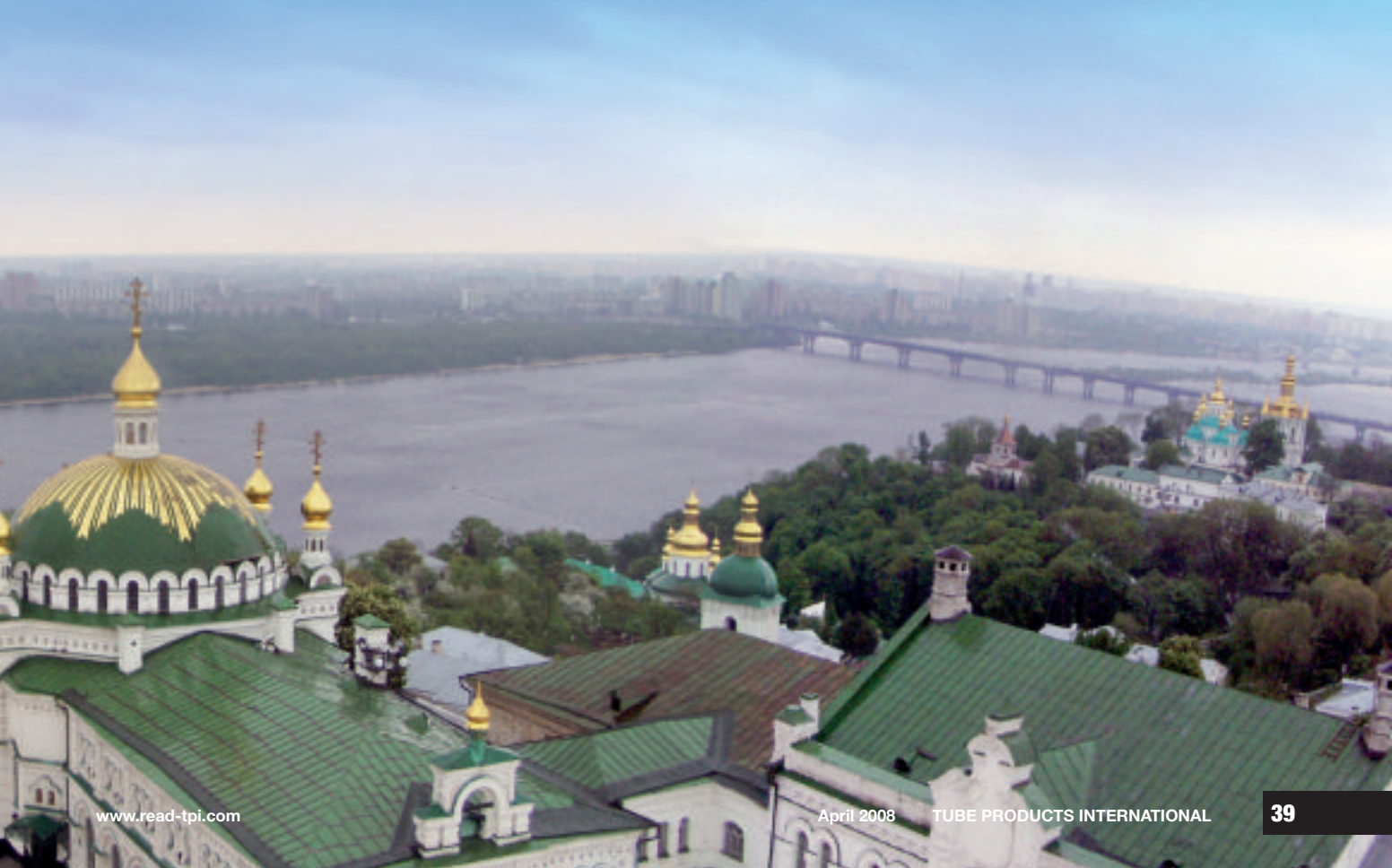
The exhibition is staged with the official support of the Ministry of Industrial Policy of Ukraine, Ukrainian Association ‘Ukrelectrocabel’, Ukrainian Welding Society, Machine Construction Technologists Association of Ukraine, Union of Entrepreneurs of Small, Medium-Sized and Privatised Enterprises, Union of Entrepreneurs and Manufacturers of Ukraine, INTRAS Ltd, UK, Business Proposals from Czech Republic, International Sheet Metal Review, UK, IWIM, Iran, and the Metal Network Korea Company, Korea.

More Information

More information and a preliminary list of exhibitors can be found at www.tube-ukraine.com. To participate as an exhibitor at Tubes & Fittings Ukraine 2008, please contact:

INTRAS Ltd – UK (for International sales)
Tel: +44 1926 334137 • **Email:** intras@intras.co.uk

TDS-Expo – Ukraine (for Ukrainian sales)
Tel / Fax: +380 44 596 9376 • **Email:** olga@welding.kiev.ua
Official Website: www.weldexpo.com.ua



Water, Gas & OCTG

At one time or another, everyone in our industry will have been asked: What is the difference between a tube and a pipe? Whether the questioner received a satisfactory answer is doubtful.

There is no code of practice which points a clear distinction between the two products. Nor does any industry manual define the point at which a tube becomes a pipe — if that is what it does. Those whose long memories stretch back to the formation of their companies probably will not be able to say what governed the choice of *pipe* or *tube* in the proud name of the firm.

The notion of a pipe as a bigger, stronger tube never had much to recommend it — not even in the heyday of concrete pipe in the 1800s; certainly not today, when advances in materials and manufacturing methods have long since erased any practical distinction.

Even so, the idea clings, and there is no harm in honouring a tradition. Water pipes, gas pipes, and oil pipes are designed, manufactured, and sold as Oil Country Tubular Goods. But the huge undertaking that is the transport of water, gas, and oil is the province of pipe makers.

What's in a name? In the case of the tubing and pipe coming off the production line of a modern factory, there is the promise of quality, reliability, and long life in service. For the demanding specialities reviewed in this section, that is what matters.

Plumbing and heating systems

Valsir, Italy, offers technologically advanced products for the plumbing and heating market. The company's well-known Silere system uses a special soundproof material (patented) that ensures maximum silence in waste systems.

The company also produces the innovative Triplus system, a new multi-layer push-fit system that was designed to satisfy new and diversified installation requirements, with particular attention to soundproofing characteristics.

The new system has an elevated impact resistance, both at low and high temperatures.

Triplus combines the advantages of different products in one solution, including:

- resistance to a wide range of chemical compounds, even at elevated temperatures
- connection system with single-lipped pre-fitted seal

- good soundproofing characteristics: with flows of 2l/s the noise levels are 12 dB(A)

The Triplus pipe is composed of three layers: an internal and external layer in co-polymer polypropylene PP, with an intermediate layer in polypropylene PP with inert mineral loads. The pipes are available in various lengths, with single and double sockets, thus reducing waste to a minimum.

The Valsir range also includes installation systems and flush cisterns available in various models (external, close-coupled and in-wall); a HDPE waste system; a polypropylene (PP) grey push-fit, flame-retardant waste system; a water supply system (Pexal); a complete range of fittings in PPSU (Pexal Easy), traps in HDPE and PP; and a radiant floor heating system in compliance with the European Standard EN1264.



▲ Triplus is designed with soundproofing characteristics to reduce noise levels

The company has obtained certification from Det Norske Veritas (DNV), the international certification institute for quality systems, as well as over 130 product approvals in countries across the world.

Valsir – Italy
valsir@valsir.it
www.valsir.it

Socotherm awarded important contract in Australia

APC Socotherm, the fully owned Australian subsidiary of Socotherm, a leading company in the field of pipe coating and insulation for the transport of oil, gas and water, has been awarded the most important contract in the company's history, with a value of approximately A\$40mn.

The contract relates to the supply and internal and external coating of around 15km of 56" pipes. The pipes will be installed offshore in Botany bay (Sydney, Australia) to allow the transportation of potable water from the desalination plant at Kurnell to an onshore landfall site at Kyeemagh, directly connecting to the existing water network of Sydney.

This project, awarded by the Sydney Water Development Authority, is of primary importance from an environmental, social and political point of view.

Steel pipes, manufactured by the Italian company ILVA SpA, will be sent to Australia to be 3-layer polyethylene

externally coated (Plastykote®) at the APC Socotherm plants in Wollongong (Australia). The 3LPE coated pipes will then be transported to Port Kembla, where the mortar internal coating for potable water (Mortarkote®) and the concrete weight coating (Concretkote®) will be applied. Finally, coated and weighted pipes (about 30 tons each) will be transported from Kembla Port to the laying area.

The project is expected to commence in Q2 2008 with completion expected during Q4 2008.

"The Australian water market," commented Zeno Soave, chairman and CEO of Socotherm, "is under a fast growing phase. Therefore our strategy to enter this field was rewarded and our 100% subsidiary APC Socotherm will generate over A\$50mn worth of revenues in 2008."

APC Socotherm owns plants for internal, external and concrete weight coating of pipes in Wollongong, near the largest

Australian pipe mills and one of the most important Australian harbours on the East Coast.

The anticorrosion external coating plant has been designed to coat pipes up to 24m in length. APC Socotherm can also serve the Australian market with a portable concrete weight coating plant.

The Socotherm Group offers any type of pipe coating: external and internal anti-corrosion, concrete weighting and thermal insulation. In particular the Group is specialised in thermal insulation for the deep water sector (oil extraction from great depths), offering state-of-the-art technological solutions with high added value.

Socotherm is also active in the design, production and sale of coatings and insulation plants for piping and district heating, in the sector of special thermal insulation for LPG tanker ships and in the maintenance of road surfaces with ecologically compatible technology.

Socotherm SpA – Italy
socotherm.corp@socotherm.com
www.socotherm.com

Polyethylene pipes replace concrete in power station's cooling water intake

Alstom has used polyethylene piping instead of concrete in a power station's cooling water intake for the first time. The advantages of polyethylene piping are that it is easy to install on the sea floor and has a life expectancy of at least 50 years in salt water, compared to about 25 years for certain concrete pipes.

The gas-powered combined cycle power plant was built in Fos-sur-Mer in southern France by CyCoFos, a power company that is a subsidiary of Gaz de France.

The pipe used was KWH Pipe's Weholite, one of the few polyethylene pipes that can be made in dimensions of more than two metres. In addition, the pipe has a hollow profile wall that can be filled with concrete to weigh it down.

The piping is practically maintenance-free, since all joints are welded and polyethylene does not corrode in salt water. These qualities were factors behind the decision to bring the

cooling water into the power station through polyethylene pipelines instead of using pipes of less advanced materials.

"Normally, external weights are used to weigh down polyethylene pipes, but it isn't practical when we're talking about pipes with diameters of two to three metres that are going to be buried under the sea floor for safety reasons," commented Christian Vestman, project manager at KWH Pipe. "By using non-hardening cement mortar, the pipe retains its built-in flexibility, which means it can withstand different load situations on the sea floor better than rigid pipes."



▲ Weholite, KWH Pipe's patented profile wall piping system, is easy to install on the sea floor even when the diameter exceeds two metres

Stephane Delaplace, who works for Alstom's subcontractor Entreprise Jean Negri & Fils, said that installation of the polyethylene piping was trouble-free: "The job involved four parallel pipe sections of about 70 metres each. The piping was welded together in advance on land and transported as a whole to the installation location. It was then filled with water and sunk into the pre-dredged channels on the sea floor. Finally, the piping was covered with sand and rocks so the sea floor looked natural again."

Constructing piping with short concrete pipe sections that are connected with sleeve couplings on the sea floor requires significantly more diving, which is an expensive operation. "The actual underwater work took less than a day per pipeline," added Delaplace. "There is also no risk of leakage in the piping, which is a risk with sleeve couplings."

Weholite piping is easy to transport to the installation site, where it is sunk to the bottom by filling with water and then covered with sand and rocks.

Oy KWH Pipe Ab – Finland
marketing@kwhpipe.com
www.kwhpipe.com

Italian distributor

Jannone Tubi Srl is a distributor of carbon, alloy, stainless, seamless and welded steel pipes for the petrochemical industry, gas and water distribution according to API, ASTM/ ASME and UNI-EN standards. The company is also an official distributor of Tenaris/Dalmine, and has been appointed as official supplier of important customers such as oil refineries and petrochemical plants.



▲ One of Jannone Tubi's facilities, in Bari

The company's sales departments are located in Milan and Bari. The company also has a large stock of 15,000t of pipes located in its Sannicandro di Bari (BA) warehouse, and 3,000t in its Mazzo di Rho (MI) warehouse, to promptly supply the north markets. The organisation also has two modern coating (ext/int) operating plants, one at Sannicandro di Bari (BA), and one in Cassano Spinola (AL).

Jannone Tubi Srl – Italy
info@jannonetubi.it
www.jannonetubi.it

Extra-thick large-diameter pipes connecting Europe with Asia

For the government project of laying a water pipeline through the Bosphorus, Firat Plastik Kaucuk Sanayi ve Ticaret AS, Turkey, recently produced 4,000m of large-diameter pipe within record time.

300,000 cubic metres of drinking water are to be transported daily from the Ömerli reservoir on the Asian side of Istanbul to the European part of the city.

The pipes have 109.1mm thick walls – the highest wall thickness so far produced – to enable them to withstand the high pressures of the water flowing through and the surrounding water.

For the production of large-diameter pipes, each 13m long and weighing 5 tons, the Turkish pipe manufacturer relied on its long-term supplier, Cincinnati Extrusion GmbH, Austria, who simultaneously remodelled two extrusion lines on-site.

The extrusion dies as well as the downstream aggregates were adapted to handle the special dimensions.

The PHPO 100 and PHPO 63 pipe extrusion dies equipped with spiral mandrel distributors and die-face cooling ensure optimal melt temperatures and an excellent melt distribution, even with the high viscosity of PE 100.

Thanks to a modification using special die and mandrel components, the wall thickness of 109.1mm in the 1,200mm pipes could be produced without any problems.

Both lines, with an output of 1,000kg/h each, operated round the clock for a whole month to have the 4,000m of large-diameter pipe delivered on time.

One line is equipped with a Proton 150-30 G single-screw extruder, and the second line features a Monos 120-37 G

high-speed extruder. With a processing unit that has been extended to 37 D, Monos extruders reach a 30% higher output than their predecessor models from the Proton series, so that the extruder model can be scaled down by one size to produce the same output, as in this case.

Firat was reportedly pleased with both the high productivity of the two extrusion lines and the quality of the pipes, which show narrow thickness tolerances and fully comply with all specifications.

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welcome@cet-austria.com
www.cet-austria.com

Firat Plastik Kaucuk Sanayi ve Ticaret AS – Turkey
www.firat.com

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Fabricated pipe work assembly supplier expands into water filtration

PTF Engineering, part of the Rolwey Group, is a supplier of fabricated pipe work assemblies for refineries, where it also has engineers on-site for installation and maintenance.

The company has acquired Stella-Meta, UK, a specialist manufacturer of water purification units for military use. The acquisition expands the range of services the company can offer to include supply/maintenance of water purification units, training and logistical support, including mechanical maintenance services to the UK Ministry of Defence.

Stella-Meta manufactures a range of mobile water purification units, flexible water storage tanks and distribution accessories to provide safe drinking water from any source. A comprehensive range of systems includes small portable units capable of 5,000 litres/day, up to larger mobile plants capable of up to 70,000 litres/day. The units are designed to remove contaminants, including nuclear, biological and chemical, from fresh or sea water sources. The company also has a contract with the Ministry of Defence for the repair, maintenance and supply of spares, including engineering and development support.

Rolwey Group Ltd – UK
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The benefits of spiral welding

Borusan Mannesmann Boru operates five mills – four in Turkey and one in Italy – with a total production capacity of 925,000 tons, and is one of the five largest steel welded pipe producers in Europe.

At its Izmit plant, which has a current total capacity of 200,000 tons, the company produces SAW (submerged arc welding) spiral line pipes between 14" and 100" in diameter, for oil, gas and water pipelines, and piling applications.

The company has wide experience and a long track record in oil and gas pipeline applications, both in Turkey and international markets, with high grade API standards.

Borusan Mannesmann Boru operates under the 'Six Sigma' methodology, segmenting its activities according to customer needs. The Projects segment specialises in pipeline solutions/contracts, providing SSAW large diameter and ERW pipe solutions, and offers customers specific project contract solutions.

Spirally welded pipes have been used all over the world for high-pressure pipeline projects, due to their high quality and suitability as high strength steel pipes.

In addition to being an alternative to longitudinally welded pipe, spirally welded pipe has other advantages. No

calibration process (cold expanding or roll sizing) is necessary. The diameter tolerance of the pipe end and body of a joint is small, particularly with regard to ovality. The mechanical properties are present in the base material. Since any cold expansion reduces the material's ductility, the spiral-weld pipe has a higher safety margin. When carrying out field cold-bending, it is not necessary to take the weld seam position into account. There is a favourable orientation of the weld seam and of the strip's direction of rolling relative to the direction of principal stress.

The submerged arc welding (SAW) process is widely used for welding thick sections, but can also be applied to plate as thin as 4mm. The principle of spiral pipe production is to bend steel strip spirally into a cylindrical pipe shape, and weld the edges together. The high currents obtained by multiple electrodes generate considerable heat, which leads to deep penetration of the base metal.

Borusan Mannesmann Boru exercises control of the contour of the deposit and the extent of the penetration into the base metal. These two factors have an important effect on the chemical composition and metallurgical properties of the weld metal.

The company's standards for high pressure gas/petroleum line pipes

include: optimum weld geometry within narrow tolerances; hardness in weld and HAZ max 248 HV5; OD tolerance of pipe body equal to OD tolerance of pipe end; no repeated weld repair; no pipe with skelp-end weld; 100% U/T, 100% x-ray and 100% visual inspection; process control by metallographic examination; and retention of quality records for a five year period.

The company offers a wide range of anti-corrosive coatings, including cement mortar, epoxy and polyurethane, polypropylene and polyethylene, and bitumen and coal-tar enamel. For three-layer polyethylene coating, the pipe surface is first cleaned by shot blasting, then preheated to the required temperature using an induction heating system. Following preheating, epoxy primer is applied to the pipe surface, and the extruded adhesive and polyethylene are coated to the pipe by the wrapping method. Finally, the pipe is cooled with water.

Polyethylene coated steel line pipe incorporates the good properties of steel and polyethylene. Borusan Mannesmann Boru's three-layer PE coating has the following advantages: wide service temperature range; superior adhesion strength; high resistance against mechanical damage during shipment, storage and laying; high, long-lasting electrical coating resistance; resistance against thermal and light ageing; and perfect bendability on-site by using adequate tools and in accordance with the relevant standards.

PE 100 and cast iron pipe fittings

Dokerler Dokum Plastic Polyethylene Industry And Trade Inc, Turkey, is a major manufacturer of PE 100 and cast iron pipe fittings for city water and gas systems. The company is researching several solutions in city water and gas applications by transferring its wide experience and high quality in asbestos cement, PVC and GRP, and cast iron fittings to PE 100 fittings.

PE 100 fittings bearing the Dokerler brand name are manufactured according to the requirements of the high technology, and meet the standards such as TSE (TS 418-3 EN 12201-3 and TS EN 1555-3) and ISO 9001:2000. The fittings are produced as Electrofusion (EF) and Spigot for both PN 10 and PN 16 operating pressures.

All Dokerler EF fittings come with an adhesive label with a standard barcode for use with electrofusion welding machines. All the necessary information for the welding process is entered into the welding machine automatically with the help of this barcode, in order to minimise operator errors.

Dokerler Dokum Plastic Polyethylene Industry And Trade Inc – Turkey
dokerler@yahoo.com • www.dokerler.com



▲ A Dokerler coupler, showing the barcode for use with electrofusion welding machines

Large diameter pipes for gas transmission lines are internally coated with epoxy resin, to reduce pipe wall roughness, increasing throughput, and to prevent corrosive product deposits. The lining is usually 60µm. In general, epoxy lining is applied for gas line pipes with OD exceeding 16".

The company's cement mortar lining for water line pipe features permanent corrosion protection for handling potable water. Properties of the cement mortar lining include: high corrosion resistance due to a compact mortar structure and use of sulphate-resisting cement types; low friction losses due to a homogenous and smooth pipe inside surface; good abrasion resistance; good thermal resistance, making weld joints possible for small diameter pipe; 'self-healing' of accidental cracks in the coating; and good bendability and string laying practice on-site.

Borusan Mannesmann Boru San ve Tic AS – Turkey
bmb@borusan.com
www.borusanmannesmann.com

Forgings from India

Fivebros, India, is a manufacturer of flanges (½" to 24"), forgings (0.5 to 1,200kg), fittings, valve parts, stub ends, and collars in stainless steel, duplex, alloy and carbon steels.



The company's major production is exported to Europe, USA and the Gulf, and its quality systems are certified to ISO 9001:200, PED 97/23/EC and AD Merkblatt W0.

▲ A selection of products from Fivebros

The company is also approved with all major inspection agencies, including Lloyds, BVIS, TUV, DNV, and CRNs for all 13 provinces of Canada.

Fivebros Forgings Pvt Ltd – India
info@fivebrosforgings.com
www.fivebrosforgings.com

PE and PP pipes from Russia

Pipelife International GmbH, based in Austria, built a new factory in Zhukov, near Moscow, Russia, last year and has already started continuous production of PE pipes on two lines for the important Russian water distribution sector.

The company has also added a third line, for the production of Pragma pipe, a ribbed and very tough polypropylene sewer pipe (up to 800DN). These flexible pipe systems are suitable for the busy construction and civil engineering market in Russia. They are easy to work with, and even the larger dimensions can be carried by hand.

The first lengths of Pragma pipe were manufactured on a trial basis at the Russian factory early this year. Factory trials have so far involved 300, 400 and 500DN. Full production will start shortly, and the company expects significant demand for the rigid polypropylene pipe in the country's busy construction and civil engineering market. The Pragma manufacturing facility is the eleventh production line of its kind within the Pipelife group.

Ype Vink, general manager of Pipelife Russia, commented, "Local production on what is now our third line is clearly more economical than importing the product. It will allow us to meet the demand for a plastic pipe solution that calls for tough yet flexible performance – even in the coldest of climates."

Pipelife Russia was recently involved in the renovation of the 18th century Constantine Palace in St Petersburg, which is now used for official summits of the Russian president with foreign leaders. Pragma sewer pipes were incorporated within the sewer and drainage system for the palace and a large park area including many new buildings. The company also supplied pipework for in-house hot and cold water, heating and air conditioning.

The company anticipates that demand for the pipe may even extend to its use in preparation for the 2014 Winter Olympic Games in Sochi.

Pipelife International GmbH – Austria
info@pipelife.com
www.pipelife.com



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PVC pipe takes off from Pipelife Jet Stream

A new PVC pipe made by Pipelife Jet Stream in the US has met with such a strong market demand that it has prompted a substantial expansion in production capacity. Compared to conventional PVC pipes, the new product – C900 – is designed to withstand extremely high hydrostatic pressure on testing. The PVC pipe acquired its name from the C900 standard laid down by the ASTM, the US standards institute – a standard to which the new pipe complies completely. The company reports that market response for its use in municipal water distribution, forced mains sewers and fire lines has been strong.

Scot McGuire, sales and marketing manager for the firm, explained: “*Our blue pipe owes its superior performance under pressure testing to increased wall thickness. As such, it can withstand four times its pressure class. Four, six, and eight inch diameter versions are now being supplied and we intend to introduce a 12 inch version next year.*”

Since its launch in April 2007, around 500 miles of C900 pipe have been manufactured at the company’s production facility in Siloam Springs, Arkansas. They are delivered in twenty foot lengths and are easily butt-welded on site to secure jointing. “*PVC pipes have an expected lifetime of over 100 years,*” commented Mr McGuire. “*Furthermore, C900 has particular resistance to internal and external corrosion. Municipal authorities throughout the US are therefore recognising its many advantages.*”

Pipelife Jet Stream Inc – USA
info@pipelife-jetstream.com • www.pipelife-jetstream.com

Pipelife International GmbH – Austria
info@pipelife.com • www.pipelife.com

Spiral welded pipes from the Slovak Republic

US Steel Košice sro is a producer of flat steel products, with an annual production capability of 4.7 million tons. It is a subsidiary of the USS Corporation, a worldwide steel producer with an annual output of 26.8 million tons.

In addition to a variety of sheet metal products, the company also produces spiral welded pipes from structural and micro-alloyed hot rolled steels.

The pipes are produced in accordance with several internationally recognised standards. The entire production process is continuously monitored, and pipe surface and welds are consistently controlled by a series of non-destructive

▼ *The company has a total production capability of 4.7 million tons*



▲ *US Steel Košice products include spiral welded pipes from structural and micro-alloyed hot rolled steels*

tests. The diameters of pipes range from 406mm to 1,420mm, with wall thickness from 5mm to 14.2mm, and lengths from 8m to 18m.

Annual pipe production is approximately 90,000 tons. Since the company started producing spiral welded pipes in 1960, over 23,800km (14,800 miles) of pipes have been produced.

The pipes are used mainly for gas distribution lines, crude oil and water distribution lines, for district heating and cooling systems, and for civil engineering and structural purposes.

US Steel Košice sro – Slovak Republic
schytilova@sk.uss.com
www.usske.sk

Butt-welding fittings from Erne

Erne Fittings is a manufacturer and supplier of butt-welding fittings such as elbows, tees and reducers from ½" (20mm) to 36" (914mm) external diameter and wall-thicknesses up to 50mm, made of alloyed, unalloyed, stainless steels and exotic materials.

Production takes place in the company's plants in Austria, Germany and Saudi Arabia, where special demands for short production times are accommodated.

The company offers customers a high degree of product availability and the ability to deliver on urgent demands.

The processes revolving around the company's modern, fully automated logistics centre are designed and controlled to meet the specific needs of our customers. In addition to products,



▲ Erne products are used worldwide in power stations, oil and gas fields, pipelines, refineries, chemical plants, ships and other areas of industry

information such as stock levels, scheduled production dates and prices can be called up at any time.

Erne Fittings is a flexible and competent partner for both stockists and project specialists, offering services on the basis of individual, customised system solutions. The company thoroughly

understands the applications and technical challenges of its project partners, and offers expertise with regard to standards, certifications and quality.

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office@ernefittings.com
www.ernefittings.com

www.tubefirst.com

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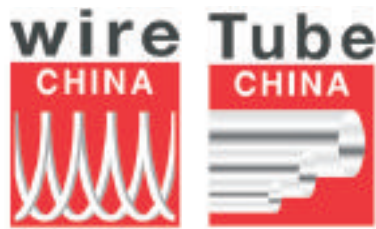
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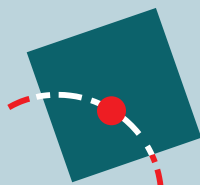
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New size and colour ranges

Wavin Plastics, UK, a supplier of plastic pipe systems and solutions, has expanded its OSMA Soil and Waste portfolio to provide increased compatibility with current waste solutions.

The company's Solvent Weld Overflow range now includes a 21.5mm system, a new addition to the range of system sizes from Wavin for the efficient removal of overflow water from condensing boilers and cisterns. The system enables direct connection to condensing boilers and provides secure, permanent jointing from products manufactured to industry

Seamless tube mill modernisation

The Russian TMK-Group, one of the world's largest oil and gas pipe producers, has placed an order with the Italian Danieli-Group for the modernisation of the seamless tube mill at its subsidiary Seversky Truboprokatny Zavod (STZ).

With Danieli Centro Tube (DCT) being the main contractor, the Pilger mill will be converted into a continuous 14" seamless tube mill with an annual capacity of 600,000 tons, and will simultaneously be radically modernised. A 5-stand retained mandrel mill FQM™, a 3-stand extracting mill, and a new 14-stand sizing mill will replace the previously operated two Pilger mills and the two subsequent sizing mills. Most of the downstream machinery will also be replaced.

According to the cooperation agreement between DCT and Friedrich Kocks GmbH & Co KG, the company will again be responsible for the process, the design, the supply and the commissioning of the 3-stand extractor and the 14-stand sizing mill. Both mills are equipped with the innovative Star Drive, featuring individual drives for every roll. The 3-roll stands are designed for a nominal roll diameter of 650mm. The extractor operates with non-adjustable stands only, whereas the sizing mill has both non-adjustable and adjustable stand types. Important characteristics are the quick stand changing system, the in-line remote controlled pass adjustment for the adjustable stands, and the quick roll changing system in the roll shop.

After the conversion the new mill will produce seamless tubes with diameters ranging from 168 to 365mm OD and wall thickness of 6.28 to 37.3mm, with excellent tolerances and material characteristics in accordance with the international standards to be used in the gas and oil industry. The new mill is scheduled for start-up in 2010.

Friedrich Kocks GmbH & Co KG – Germany
www.kocks.de

TMK-Group – Russia
tmk@tmk-group.com • www.tmk-group.com

standard BS EN 1455. Offered by the new system is a comprehensive range of pipes and fittings – 29 in all, including reducer pipes to provide compatibility with other fittings and waste systems.

The new Solvent Weld Overflow range is currently available in black, white and grey.

Wavin has also added a range of black fittings and pipes to its OSMAWeld Waste system. Already available in grey and white, the range of pipe and fittings is being introduced in black for customers needing to connect black ABS waste pipes to black soil stacks. The OsmaWeld Waste system features secure and permanent jointing available in 32mm, 40mm and 50mm diameters.

Under the OSMA brand, Wavin Plastics offers solutions for all water management issues, with expertise in rain and stormwater, foul water, drinking water, sanitary and heating. Over 17,500 products are designed and produced under the OSMA brand with many patents for a wide range of applications including above and below ground drainage, plumbing, underfloor heating, water management, and drinking water distribution.

Wavin – Netherlands
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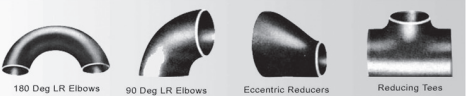
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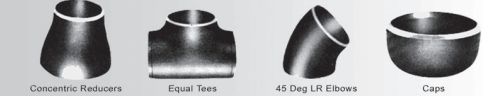
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Pipeline Inspection Equipment

*Photo – Olympus NDT
see page 52*

On installation, a pipeline is a marvel of integrity. It has to be. The conditions under which it will operate allow very little margin for error in the manufacture of the mega-sections or in the design of the connections.

But, although a pipeline is a sealed system, there is nothing static about the transport of oil and gas. The soundness of the line must be ensured over long distances, in rugged terrain, for a life in service that justifies an extraordinary initial outlay in capital and human endeavour.

Without regular and reliable inspection for bond integrity, corrosion, and leakage, the risks — to populations and environments, to say nothing of productivity and profitability — are, simply, insupportable.

No problem on a pipeline is ever a small one. If it is discovered timely and analysed accurately, it will be a manageable one. The equipment and services reviewed in this section have been developed to serve that ideal.

Digital flaw detector with tunable filter

The Dryscan 410D is the latest special applications digital flaw detector released by Sonatest Ltd.

In using the proven method of the shadow technique, through transmission, the Dryscan 410D is designed to be the perfect option for the non-destructive testing of high technology materials such as composites, hybrids and honeycomb structures found throughout the aerospace, aviation and marine industries, among others.

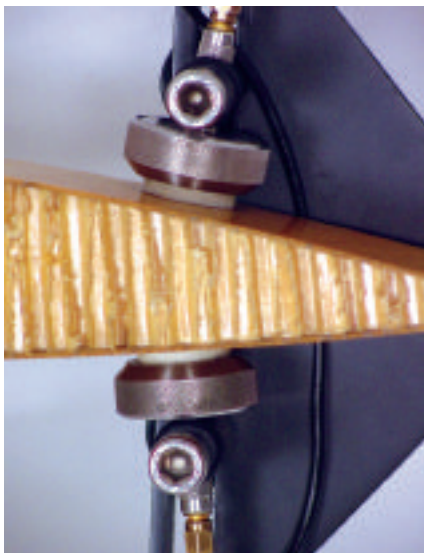
For such advanced materials, often combined with complex geometries, the Dryscan 410D concept is simple to apply and is highly reliable for fault detection, requiring only a minimum of operator training.

Using the unique transducers means that no coupling medium is required to contact the transducers to the test material, no material surface preparation is required and many of the geometric considerations that are applied to conventional ultrasonic detection methods can be ignored.

The Dryscan 410D has a unique, tunable filter that can be adjusted for the best signal response for the material under test, which allows significantly increased sensitivity, whilst maintaining low noise, enabling the testing of very attenuative materials.

Suited to materials that have geometrically complicated patterns,

▼ *Dryscan 500 probe*



other applications for the Dryscan 410D include friction materials, plastic and rubber composites, GRP/CFRP in many forms, EB welding, root pass welds, ceramics, tyres (automotive and aircraft), wood laminate and honeycomb sections in aluminium, stainless steel and paper.

Sonatest Ltd, celebrating its 50th anniversary in 2008, is part of the Sonatest NDE Group, an independent manufacturer of ultrasonic flaw detectors, x-ray equipment, scanning



▲ *Sonatest's Dryscan 410D digital flaw detector*

systems, thickness gauges, transducers and NDT accessories.

Sonatest Ltd – UK
sales@sonatest.com
www.sonatest.com

Highly portable ultrasonic instruments

AGR Field Operations, UK, uses its experience of the NDT, electronics and software industries to produce compact, reliable, advanced multi-functional ultrasonic systems and advanced user-friendly software.

The TD range of leading-edge ultrasonic instruments includes the TD Focus-Scan[®], the miniature TD Pocket-Scan[®] system, and the company's latest product release, the TD Handy-Scan[®].

The TD Handy-Scan was developed in response to the demand for relatively inexpensive, highly portable ultrasonic instruments that combine phased array, ToFD and pulse echo into one convenient package that satisfies the growing use of multifunctional UT systems for routine detection and analysis.



▲ *The TD Handy-Scan from AGR Field Operations*

Field technicians are often expected to perform inspections using several UT modes, and it is common for inspections to include, for example, phased array, ToFD and even conventional manual pulse echo to complement each other. Switching between UT modes is achieved simply by selecting the appropriate mode in the software, and may be applied individually or simultaneously, if required.

The improved Windows XP based software is common to all AGR Field Operations instruments, with the result that existing users will be quite familiar with the Handy-Scan environment, and new users will find its operation easy to master.

The user-friendly software coupled with convenient replaceable battery and ultra-compact, lightweight construction brings a new dimension of portable functionality to field technicians without relinquishing any data quality.

The TD Handy-Scan can be used to perform a wide range of code compliant inspections as well as bespoke procedures for special applications.

AGR Field Operations – UK
utsales@agr.com • www.agr.com

Digital ultrasonic flaw detectors

Olympus NDT, a specialist in non-destructive testing (NDT) instruments and solutions, offers customers a wide range of manual or automated inspection solutions featuring innovative ultrasonic testing (UT), eddy current (ET), and related non-destructive testing technologies.

Non-destructive testing is a means for examining the hidden internal structure or measuring the thickness of parts without cutting or otherwise damaging them. It offers important tools for ensuring both safety and quality control in a wide

variety of industrial, infrastructure, and engineering applications.

Olympus NDT recently introduced the new Epoch LTC digital ultrasonic flaw detector. Weighing only 2.12lb (0.96kg), the handheld instrument is now the smallest in its line of Epoch flaw detectors. The rugged Epoch LTC is built for use in a wide range of weather conditions and difficult inspection environments. Its sealed case meets IP67 requirements to withstand the rigours of very wet or dusty environments, while the multi-

colour transfective LCD with full VGA resolution provides superior readability from bright sunlight to complete darkness. The unit also features a simple keypad that allows full control from the left or right hand for direct access to all important functions.



▲ Olympus NDT's Epoch LTC digital ultrasonic flaw detector

The Epoch LTC provides powerful standard measurement features and specialised software options to find internal defects in a variety of materials. The instrument is EN 12668-1 compliant and features a square wave pulser, selectable digital filtering, gain range from 1 to 110 dB, peak memory, 0.001" (0.01mm) measurement resolution, and one gate with programmable alarm.

Dynamic DAC/TVG software is standard with the Epoch LTC, and application-specific software options include DGS/AVG flaw sizing, manual PRF control, extended range, tunable square wave pulser, curved surface correction, and AWS D1.1/D1.5. The Epoch LTC provides internal storage of inspection data of 50,000 IDs with waveform and measurement parameters, while a Mini



▲ The OmniScan MX is Olympus NDT's most successful modular and portable phased array and eddy current array test unit

Digital pipeline leak detection



▲ The Sentinel Distributed Temperature Sensing system is part of Sensornet's digital pipeline leak detection solution

As leaks along pipelines have severe environmental and safety implications, integrity of supply has never been more important.

Conventional monitoring techniques are unable to offer real-time, continuous, non-intrusive monitoring.

Sensornet's digital pipeline leak detection solution uses fibre optic Distributed Temperature Sensing (DTS) technology to spot and locate the smallest leak in seconds, and to within 1 metre, without operational delay or risk.

The system is an extremely versatile leak detection solution that is based on temperature measurements using distributed fibre optic sensing technology. It can be used to detect both liquid and gaseous leaks in diverse industrial applications such as oil and gas transmission and distribution; LNG, steam and water pipelines. The system can be used along long distance pipelines with repeater stations situated at block valve or pumping stations, providing full coverage of the entire pipeline.

By detecting the temperature change of the surroundings, the DTS can not only detect the presence of a leak, but can also pinpoint the location of the leak down to 1m. The system provides measurements from every 10 seconds, as such rapid detection is essential in the case of potentially explosive gases. Distributed Temperature Sensing is the only leak detection technique that can monitor the pipeline in real time and provide precise leak location to the nearest metre.

Sensornet offers a complete monitoring solution package, including initial application design input, system installation and integration, commissioning and data interpretation. The company works with advanced thermal modelling software and leading industry partners to monitor mission critical infrastructure and obtain meaningful and valuable information.

Sensornet Ltd – UK
enquiries@sensornet.co.uk • www.sensornet.co.uk



▲ The portable OmniScan features a large colour display that can be read under any lighting conditions

SD card slot provides additional storage. Its on-board On-the-GO USB port facilitates fast transfer of data and the VGA output allows viewing of the waveform display on remote computer or projector screens.

"Because its design is based on the highly advanced Epoch XT flaw detector, the Epoch LTC offers several sophisticated standard measurement features and options. What is remarkable though is that all these inspection capabilities are housed in a compact and very rugged case," commented Erich Henjes, product manager for portable flaw detectors at Olympus NDT.

With hundreds of units used throughout the world, the R/D Tech OmniScan MX is Olympus NDT's most successful modular and portable phased array and eddy current array test unit. The OmniScan family includes the innovative phased array and eddy current array test units, as well as the eddy current and conventional ultrasound modules, all designed to meet the most demanding requirements of NDT. The OmniScan MX offers a high acquisition rate and powerful software features in a portable, modular mainframe to efficiently perform manual and automated inspections.

The OmniScan is built to work in the harshest field conditions. Its solid polycarbonate-based casing and rubber bumpers make it a rugged instrument that can withstand drops and shocks. It is so compact and lightweight (only 4.6kg) that it can be carried easily and handled anywhere inside or outside. The OmniScan will run for six hours with its two Li-ion batteries.

The unit's highly legible 8.4" real-time display (60-Hz A-scan refresh rate), with SVGA resolution of 800x600, allows the user to clearly see defects and details under any light conditions. A scroll knob and function keys make it easy to browse through and select functions.

A mouse and a keyboard can also be plugged in for users looking for a more PC-like interface.

The instrument is a modular platform that allows the user to switch among its different test modules on location. The platform detects the new module and the technology supported so that the configuration and test environment are set automatically.

Olympus NDT has also introduced a new manual weld inspection solution that includes conventional ultrasound and phased array ultrasound. This integrated weld inspection solution includes new software for the field-proven OmniScan flaw detector and a new line of phased array probes, the WPS series. The software and new probes have been developed for weld inspectors who would like to integrate phased array technology in their NDT inspections.

The new OmniScan 2.1 software has a simplified phased array interface and includes an intuitive RayTracing feature that provides a clear visual display of the phased array beams in the weld area, and a weld overlay feature to simplify data interpretation. The software also includes conventional UT sizing curves (DAC/TCG, ASME, JIS, DGS) and AWS and API code wizards.

The company has also launched the WPS phased array weld inspection probes, consisting of the A10, A11, and A12 series. Their ergonomically designed probe housings and wedges have a small footprint to allow inspections close to the weld crown. The DGS phased array probe fully meets DGS requirements and performs an inspection sweep from 45° to 70° using one integrated probe/wedge design. The AWS phased array probe creates a nominal 60° shear wave in steel and covers the inspection angles of 45°, 60° and 70° as required by AWS regulations.

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& International Standards

Materials : Austenitic Stainless Steels and Duplex Stainless Steels

Specification : ASTM A-213, A-240, A-302, A-312, A-358, A-354, A-666, A-788, A-792

O.D. : 6 mm OD to 219.08 mm OD.

Thickness : 0.6mm to 10.00mm.

Length : Up to 50 Mtr. Long

Inspection : Like E.L, LFRS, BVQI, DMV, SGS & also Under All Customers' Third Party Inspector

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Progress Through Co-operation

Custom pipeline girth weld calibration blocks

ScanSystemsCorporation, USA, through its operating division EDM Specialties, manufactures custom calibration blocks for automatic ultrasonic inspection (AUT) equipment designed for pipeline girth weld inspections.

Each block is manufactured to customer's specifications, provided with engineering drawings. The blocks are cut from lengths of pipe samples sent

by the customer that are job specific as well as equipment specific. The blocks are fabricated to match the design of the inspection equipment. All reflectors in a block are measured and certified, and qualified third party inspectors are available.

Blocks can be mounted on custom dummy rings made of a lighter material than the pipe for easier handling on

the right-of-way. Blocks can be full body or made from a section of the cut from the pipe, depending on the customer's specifications. Scan Systems Corporation also manufactures and sells through EDM Specialties two models of portable electric discharge machines designed to fabricate flaws in all types of metal products. It also offers a line of electromagnetic (EMI) pipe inspection equipment through its PITCO Division. The portable Tally-Rite measuring equipment is also marketed by Scan Systems Corporation.

Scan Systems Corporation – USA
davids@scansystems.com
www.scansystems.com

Phased array scarf monitoring system



▲ GE's new scarf monitoring system

GESensing & Inspection Technologies, USA, has introduced a weld profile visualisation system using phased array technology. This new scarf monitoring system provides a real time, accurate picture, on-line, of both the ID and the OD profiles of scarfed ERW pipes, as scarfing takes place. As a result, it is possible to effect real time control of the scarfing process, by identifying events such as tool drift and edging as they occur. This can achieve significant reductions in scrap.

The heart of the new system is the ultrasonic phased array transducer, which electronically simulates the scanning action required to provide the weld profile information.

The resultant information is then fed into the UTxx digital flaw detection platform. This incorporates standard or phased array flaw detection channels and all the associated processing electronics, to give a complete scarf monitoring and flaw inspection package. In operation, the transducer test head assembly is mounted such that it is directly above the weld line. The mill coolant acts as the ultrasonic coupling medium. The transducer test head then uses its phased array elements to monitor the inside and outside diameter of the weld as it is being cut, at a scanning rate of up to 300 profiles/sec. Transducers and shoes are available to monitor tubes from 50 to 500mm in diameter and typical coverage is ± 25 mm from the nominal weld centre line.

Inspection data is displayed in true-to-scale cross-sectional profile at one or multiple monitor screens, and high and low limit alarms provide warning of weld profile deviation. Intelligent dynamic software averaging techniques minimise the possibility of false readings.

The weld profile visualisation system features all-electronic set-up for ease of use and repeatability, and it can be installed within feet of the weld station, depending on local temperature conditions. As a result, it operates both as a process control system and a quality control system. It can be combined with a flaw detection system, and allows inspection traceability through a built-in data logger, which records minimum and maximum thickness readings across the weld area and strip thickness.

GE Sensing & Inspection Technologies – USA
www.ge.com

Mag meter measures liquids down to 0.1 μ S/cm

An ultra-compact electromagnetic flowmeter has been launched in the UK by mass flow metering and control technology specialist, Bronkhorst UK.

Also available with an integral PID controller for flow control duties, the Miniature-Mag series is suitable for measuring liquids with a low conductivity down to 5 microSiemens/cm, even as low as 0.1 μ S/cm for some applications, and for handling flow rates between 1 litre/hr and 3,000 l/hr.

Intended mainly for smaller bore installations and capable of being used on pipework bends rather than just straight runs, it is available for internal pipe diameters between 1.5mm and 12mm and features empty meter detection for when there is insufficient flow. The very high speed of response makes it suitable for batching applications, a capability further enhanced by automatic overrun compensation.

Unlike standard magnetic flowmeters that require electrodes to be placed within the fluid path, often clogging up with sticky substances, Miniature-Mag sensors do not restrict the flow path, giving 100% full bore flow. This combination of features makes it suitable for many industrial and hygiene-

critical applications, such as brewing, food processing, the dairy industry, agriculture, cosmetics and chemical dosing in water treatment processes. In addition, current changes in the pharmaceuticals sector from batch to continuous production, with consequent downsizing of plant and pipework, make it increasingly relevant to that industry.

Magnetic or electromagnetic flowmeters, commonly known as mag meters, are a common method of flow measurement, because they are easy to maintain, with no moving parts, and offer a high level of accuracy. Operation is based on Faraday's law of magnetic induction, with the liquid acting as a conductor as it flows through the mag meter; this indicates a voltage proportional to the average flow velocity, which is picked up by sensing electrodes mounted in the pipework.

Thus the fluid must be electrically conductive to induce measurable voltage, and most standard magnetic flowmeters operate with fluids down to around 15-20 microSiemens/cm (measure of conductivity).



▲ Bronkhorst's ultra-compact electro-magnetic flowmeter can measure liquids with conductivity as low as 0.1µS/cm

In contrast, Bronkhorst's compact magnetic flowmeter handles a minimum electrolytic conductivity of 5µS/cm as standard, with certain liquids measurable down to as low as 0.1µS/cm, or virtually non-conductive fluids. It also offers an accuracy of 0.2% of reading (with greater precision available if required), high speed response and a totally unobstructed flow path. Due to its compact size, the Miniature-Mag

does not need to be installed on a run of straight pipework, as with other mag meters or vortex and ultrasonic flowmeters, but can be tucked away on bends or other confined spaces.

With a footprint measuring just 100mm high x 100mm wide x 80mm deep, and weighing just 800g, the Miniature-Mag is housed in an IP67 rated dust- and water-tight housing, with the body available as standard in chemical-resistant PVDF or optional PTFE (Teflon), PVC or POM materials. A separate electronic display unit features a 2 line, 16 character text readout, giving push button control of batch counting, pre-set alarms, menu selection and other functions.

The Miniature-Mag can also be specified as a flow controller, with an integral PID loop for control valve operation or direct pump control. Analogue, pulse, relay, RS232 and serial output connections are optional for interfacing with plant-wide control networks.

Bronkhorst UK – UK
sales@bronkhorst.co.uk
www.bronkhorst.co.uk



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Material: 304/304L, 316/316L, 321, 321H etc.

SS Coiled tubes ASTM A269 TP304/304L 316/316L

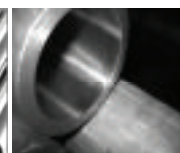
Low carbon Coiled Tubes: 1008, 1010

Coil length: 200-500 meters

Cold draw and Honed cylinder tubes DIN 2391, Tolerance H7-H9

Material: ST45 ST52 Inner roughness: 0.2-0.8um

90/10, 70/30 Cu-Ni pipe fitting & Flange as per DIN/EEMUA



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Gyroscopic pipeline mapping tool

Infotec, with nearly thirty years' experience gained in the field of underground surveying and mapping, has launched the PipeTrack mapping tool.

Originally developed in the Netherlands to map newly constructed HDD bores, and designed with versatility in mind, PipeTrack is a totally self-contained gyroscopic mapping tool that accurately provides 3D positional detail of virtually any pipe, duct or culvert.

There is no requirement for surface tracing, which means it is unaffected by depth, material or external interference.

It can also be used in busy locations, under housing, gardens, factories and roads, often negating the need for traffic management systems. The unit has interchangeable wheel sets, enabling it to be used with any size pipeline from 50mm diameter to the largest of man entry structures.

Since the introduction of the new mapping tool at the 'No Dig Live' event at Stoneleigh 2006, the applications and demand for the system have been steadily increasing.

The accuracy of the vertical and horizontal alignment make it is suitable

for As Laid surveys, as well as providing the ability to identify and pinpoint belly XYZ co-ordinates and areas of negative gradient, whilst surveying existing pipelines. PipeTrack also provides health and safety benefits, especially in the reduction of man entry surveys.

Infotec – UK
enquiries@infotec1.net
www.infotec1.net

Ultrasonic inspection of large diameter pipes with longitudinal weld

Karl Deutsch, Germany, is a specialist in the field of non-destructive testing. The company's products include testing systems for the inspection of longitudinally welded, large-diameter pipes, and ultrasonic testing systems for the inspection of ERW-welded pipes, such as those shipped in 2004 to Baosteel in Shanghai, China.

Non-destructive testing is an integral part of the manufacture of large-diameter pipes, if they are intended for the transport of gas or oil. Karl Deutsch produces a set of three systems for such testing. The first system monitors welding quality at an early stage of production, using 18 probes.

The second testing system, with 30 probes, allows for the final inspection, which is relevant for the user of the pipes. The third system is responsible for the pipe ends, which are later joined by circumferential welds during pipeline construction, as the pipe ends are also safety-relevant. The test results are recorded for each pipe and are archived for later retrieval.

The systems are designed as a testing portal. Such design allows for a high throughput, with weld testing speed of up to 1m/s. As the length of the testing mechanics must be larger than the pipes to be tested, the systems' total length is approximately 35m.

Karl Deutsch – Germany
info@karldeutsch.de
www.karldeutsch.de

Girth weld pipeline inspection system

GE Inspection Technologies, a business unit of GE Enterprise Solutions, has announced the release of Weldstar, a complete, automated ultrasonic girth weld inspection system for oil and gas transmission pipelines. Weldstar provides gains in productivity and probability of detection, without the hazards associated with ionising radiation, when compared with traditional film-based radiographic non-destructive testing.



▲ GE's Weldstar girth weld inspection system

Weldstar incorporates automated tools to set up, conduct and report a weld inspection. With the system's ability to accurately size and locate a weld defect, pipeline contractors can implement engineering methods to assess the strength of a weld, saving potential rework costs that could ultimately affect the weld's integrity. The product uses ultrasonic technology (conventional and phased array), as opposed to radiography, making inspection

possible immediately following the welding process. This provides the operator with near real-time process control.

Features include scanner mounted ultrasonics to provide immunity to electromagnetic noise generated from welding and induction heating equipment; modular design configured as a hybrid system with 16 conventional and 64:128 phased array channels to provide inspection flexibility and built-in redundancy; robust packaging validated through severe shock, vibration and thermal loading with quick-change umbilical and other mission critical components.

An advanced setup wizard allows rapid job planning, including automated calibration block design and specification. Plus Weld data management software seamlessly and automatically provides weld quality tracking and trending reports for review by quality management personnel. Built in GPS automatically tags the inspection data of each weld with its geographic location, providing audit information to ensure every weld is properly inspected.

GE Sensing & Inspection Technologies – USA
www.ge.com/inspectiontechnologies

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High performance PE pressure pipe system

▲ *Trenchless Technologie 'Spiderplow' laying Rauprotect II d110 SDR11*

Since the introduction of the first systems more than 40 years ago, PE raw material producers and pipe producers have continuously joined their efforts to propose better pressure pipe solutions to end-users and installers. The development of modern installation techniques, in particular trenchless technologies, has created a need for improved systems, with enhanced insensitivity to installation conditions.

Rehau and Borealis have gathered their respective expertise and knowledge in PE pipes and raw materials to develop a new pipe system with outstanding crack resistance to meet new market expectations and needs. This article will describe the steps the two companies have taken together, from analysis of market needs to the first actual projects of the newly created Rauprotect II solution.

Among many applications, polyethylene (PE) pipes are used worldwide for water supply and gas distribution, contributing significantly to improve the reliability and the quality of networks. Since the first pipe production almost 50 years ago, PE has developed an impressive, successful track record, and is today the preferred choice for these applications. Ease of installation, low maintenance and corrosion free properties are some of the well-known

reasons for this success story. Another key reason is the constant efforts of both raw materials producers and pipe producers for improved quality and reliability.

After the development of HDPE pipe materials such as PE63 and then PE80, the first PE100 materials arrived on the market at the end of the 1980s. These materials were a real milestone in the development of HDPE pipe materials because they facilitated the use of higher service pressures or pipes having thinner wall at the same service pressures. They also offered the end-user other advantages, such as high resistance to slow crack growth and rapid crack propagation. Pipes made from these modern materials are considered to be well-adapted to classic installation conditions.

The last 10 to 15 years have seen new challenges for pipes, with the development of new installation techniques.

Trenchless installation technologies

Many modern techniques (including pipe bursting, directional drilling and relining) have been developed, combining faster and cheaper installation (up to 60%

	1st Generation HDPE	2nd Generation HDPE	3rd Generation HDPE	3rd Generation HDPE
Pipe installed since	1965	1975	1990	1990
Classification	PE63	PE80	PE80	PE100
Design stress	5.0 MPa	6.3 MPa	6.3 MPa	8.0 MPa
Stage II knee point 80°C	100-300 H	1000-3000	>10 000	>10 000
Notch test, 4,6 Mpa/80°C	10	100-200	>1,000	>1,000
Rapid crack propagation/ Pc110SDR11	<3 bar	<3 bar	>10 bar	>10 bar

▲ **Table 1:** Evolution of pipe properties

less than traditional types of installation), with minimised disturbance to the neighbourhood being particularly important in urban areas. They offer new possibilities for the relining or replacing of old pipelines. PE, due to its properties, is the reference material for these installation methods. However, these techniques can be more aggressive and demanding to pipe materials, which can be in contact with hard or sharp objects.

There is a clear trend, across different European countries, for classic installation in trenches, to move from the traditional sandbed laying to sandless bedding, and to use as-dug material as backfill material to fill the trench after installation of the pipe system. Depending of the type of soil in the specific area of installation, this also creates a new challenge for pipe materials.

These new demanding conditions have pushed for the development of PE materials with improved properties, in particular slow crack growth resistance, and for new pipe systems to use the best of such materials, sometimes in the form of multilayer pipes. These multilayer pipe systems can provide solutions to practical problems, while offering maximum security in installation and jointing at minimum additional cost. Combining the best materials to meet specific loading conditions in the structure, they provide protection and long-term durability.

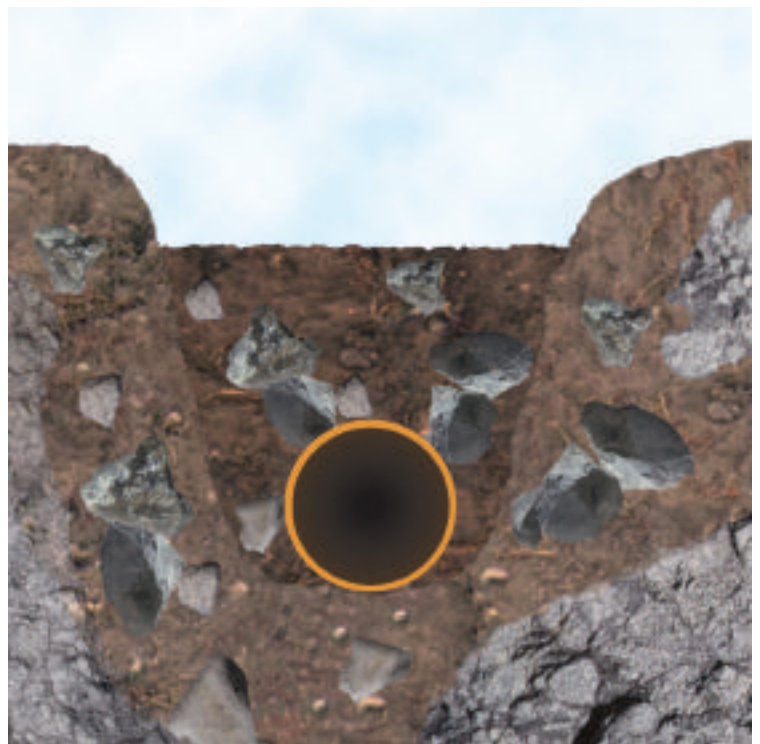
Slow crack growth initiation in pipe installation

There are two main situations that can initiate the slow crack growth phenomenon in a pressure PE pipe. The first cause is scratches or notches created at the outside surface of the pipe before installation by improper handling or storage, or during installation when the pipe can be accidentally

damaged. The common rules of practice mention that pipes showing an external scratch of more than 10% of the wall-thickness should not be installed, for safety reasons; in practice, we cannot rule-out the possibility that some damages on the construction site are not detected during quality control procedures before installation of the pipe.

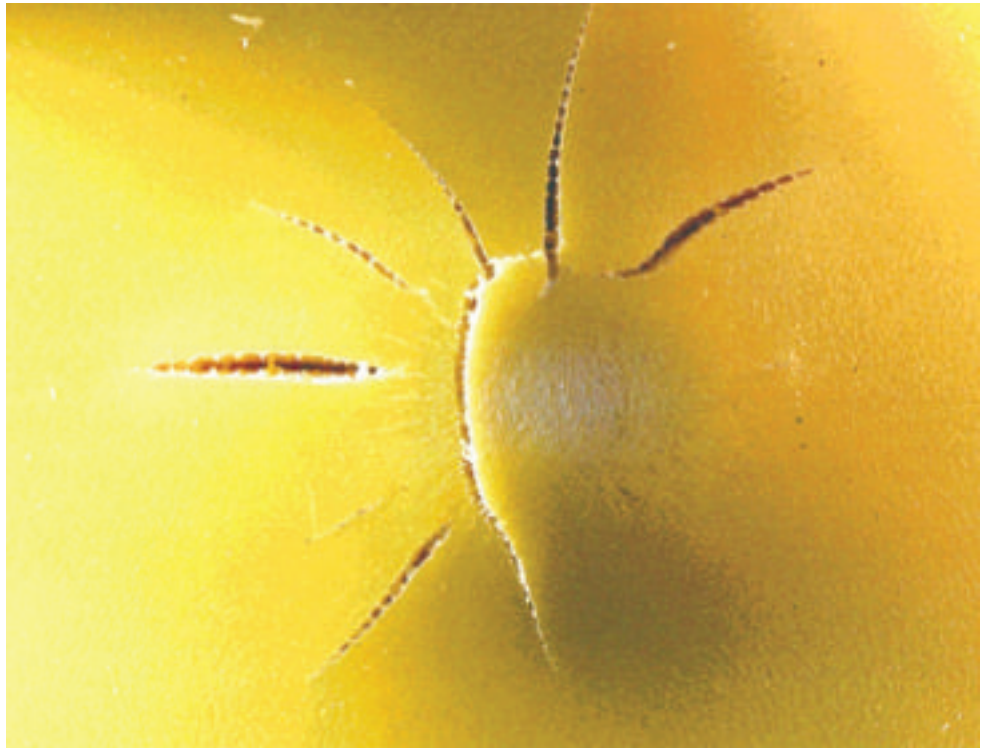
The second main cause is ‘point-load’: an external local stress is created at the surface of the pipe, for example by a rock pressing directly against the pipe wall. Over time, this rock will create a stress concentration at the opposite inner surface of the pipe which, combined with the internal pressure, will eventually propagate through the pipe wall, from the inside to the outside.

▼ *Rauprotect II gas pipe without sand embedding*



Optimising the raw material: the polymerisation process

In the pipe business the flexibility of the bimodal (or multimodal) process for producing polyethylene materials has provided the greatest scope for producing 'tailor-made' materials. The choice of catalyst, co monomer type, content, and selective distribution thereof in the polymer chains, and the selection of process parameters in each reactor all affect the development of the polymer structure and the properties of the end product. Changing these variables enables the properties to be optimised for a manufacturing process or end use application.



▲ Slow crack propagation caused by external point load

The bimodal process consists of two polymerisation reactors in series. The Borstar® low pressure slurry loop and gas phase reactor process is illustrated. The catalyst is fed into the first reactor, where polymer is formed as powder particles through polymerisation of the ethylene monomer and suitable amounts of co monomer, continuing in a series mode into the second reactor.

The process offers great flexibility with regard to the type of co monomer that can be incorporated into the correct regions of the polymer. For example, the use of the co monomer hexene in the bimodal Borstar process results in polymers having extremely high resistance to slow crack growth.

Borsafe™ HE3490-LS-H

With the help of the Borstar process and according to the description in the previous section, it has been possible to create a material which enables the pipe producer to make any dimension from 20mm up to more than 2,000mm and wall thicknesses of >100mm.

Not only does this material provide the possibility to make any pipe dimension, it also possesses an excellent resistance to impact failures eg rapid crack propagation, and excellent resistance to internal pressure manifested by the PE100 designation according to ISO 9080 standard extrapolation method.

▼ Table 2: Summary of test results for Borsafe™ HE3490-LS-H

Test	Standard	Test conditions	Result	Requirement
NPT (a)	ISO 13479	80°C / 9.2 bar	> 18,000 h	165 h ¹ 500h ²
FNCT (b)	ISO DIS 16770-3	80°C / 4 MPa / Arkopa	ca 6,000 h	>3,500 h ³
ACT (c)		90°C / NM-5	ca 4,000 h	330 h ⁴
PENT (d)	ASTM F-1473	80°C / 4.4/ MPa5	>10,000 h	50 h

- (a) NPT = notched pipe test
 (b) FNCT = full notch creep test
 (c) ACT= accelerated creep test
 (d) PENT = Pennsylvania University notch test

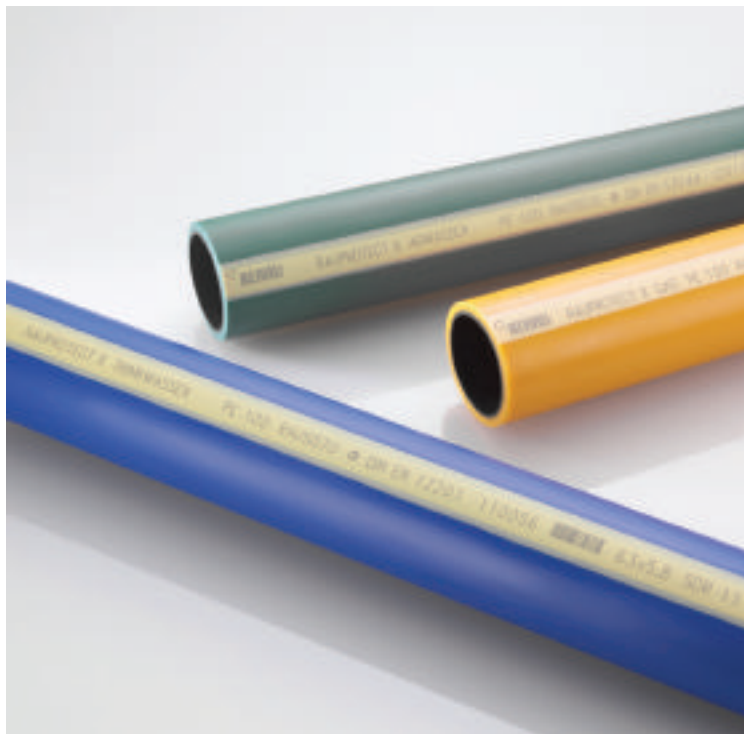
- 1 = EN 1555 and EN 12201 requirement
 2 = PE100+ association requirement
 3 = DVGW requirement for sandless bedding
 4 = Provisional DVGW requirement for sandless bedding

Resistance to slow crack growth (SCG)

We have seen before that SCG is a key parameter when it comes to lifetime of the pipes; it is now possible to demonstrate that this new material has taken yet another step of at least one decade in the resistance to slow crack growth in the notched pipe test, and also an unprecedented resistance to SCG in all of the tests to which the material has been subjected.

Rauprotect II Rausisto

The increasing demand for heavy-duty gas, potable water and sewer pipes suitable for the modern and cost-effective trenchless technologies forced pipe manufacturer Rehau to develop a new system solution based on the latest state-of-the-art raw material, Borsafe™ HE3490-LS-H: the Rauprotect II Rausisto generation was born.



The design of the Rauprotect II Rausisto system solution is based on the known stress concentration at the opposite inner surface of the pipe, while external point loads and internal pressure are combined for the whole lifetime of the pipe system.

To archive an outstanding crack resistance to meet new market expectations and needs, Rehau used the best available PE100 VRC-Quality Borsafe™ HE3490-LS-H for the co-extrusion of a thick inside layer of a smooth wall pressure pipe, with overall measures of the established European standards EN 12201 / EN 1555 / EN 13244.

This material combination of best PE100+ association-grades for the outside layer with Borsafe™ HE3490-LS-H on the inside layer brings a cost-effective, technical superior pipe system quality to the market that fulfils market expectations and can be installed with all standard pipe laying techniques, eg butt-fusion welding or jointing with standard-fittings. No expensive special tooling for the removing of outside protection layers is necessary.

The testing institute Dr Hessel Ingenieurtechnik in Roetgen, Germany, approved that the Rauprotect II Rausisto system solution based on Borsafe™ HE3490-LS-H showed best

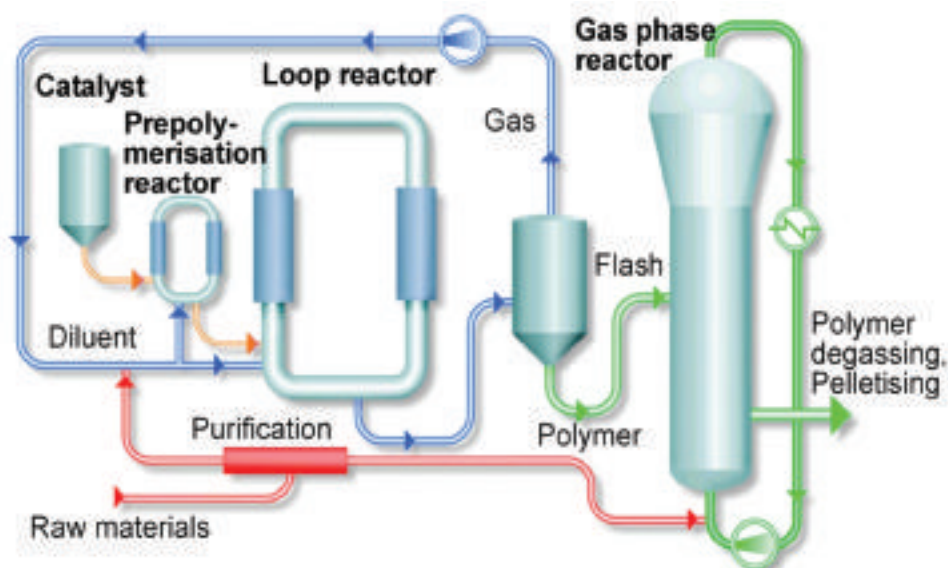
▲ *Rehau Rauprotect II Rausisto pipes for gas, water and sewage*

results against point loads, and can be used without risk for trenchless technologies and in trenches without sand embedding.

To improve the traceability of the heavy-duty pipe system, Rehau marks all Rauprotect II Rausisto pipes with durable, laser-marked traceability barcode, according to ISO 12176-4 (Code 128, type C) and ISO 13950.

Every produced metre of Rauprotect II Rausisto can be easily tracked and welded with modern welding equipment to make pipe laying in the trench easier and safer.

▼ *Bimodal Borealis BorStar polymerisation process*



Field test: Gas pipe installation in Holzthaleben, Germany

The newly developed Rauprotect pipe system was used in the dimension d63 SDR11 for more than 2.4km and 2.252m d110-pipes under hardest construction side conditions in 2006 in Germany. In hard rock conditions, the pipe has been installed by horizontal drilling and by using a plow-in technology to build a new gas distribution system for the E.On company.

One year after installation, a routine TV-inspection on the performance of the installed Rauprotect II pipe system took place.

The gas pipeline showed no signs of wear, tear, deflection or point loads. All internal pressure tests have been successfully fulfilled.

The combination of best Borsafe™ HE3490-LS-H PE100-Quality and modern state-of-the art pipe-design will secure the safe transport and distribution of potable water and gas for generations to come.

Information supplied by Guido Kania (senior manager R&D, civil and underground engineering, Rehau AG + Co) and Christophe Salles (application marketing manager, drinking water and gas, business unit pipe, Borealis)

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www.rehau.com

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▲ Traceability barcode according ISO 12176-4 (Code 128, type C) and ISO 13950

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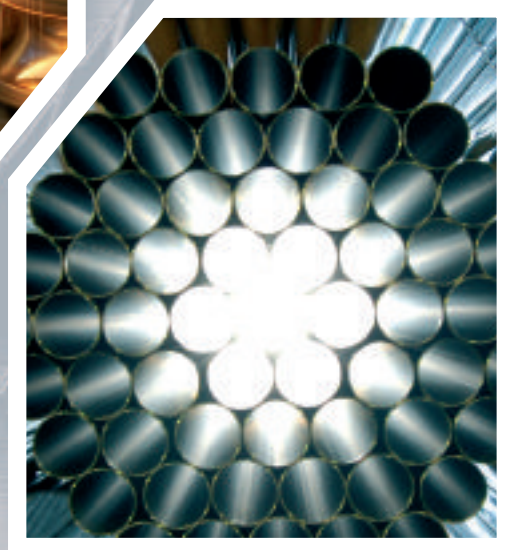
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