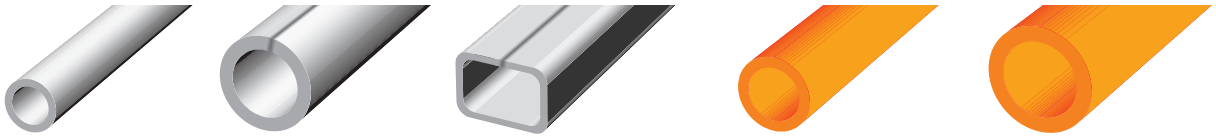
The international magazine for the tube and pipe industries

TUBE & PIPE TECHNOLOGY

TUBE ARABIA

November 2010 | Vol 23 No 6 | US$33

In-Line Diameter and Shape Control



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Pipe End Finishing

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Bar Straighteners

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EDITORIAL INDEX

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The world is getting smaller

Welcome to the November issue of TPT magazine, which is packed full of all the latest news on tube and pipe technology around the world. Please do contact me if there are any other areas of the tube & pipe industry that you would like us explore – there are more ways than ever to keep in touch with us as we now have a Twitter and Facebook account, which are great ways to find out when the next issue is out or when the ever popular online version is available on our website and so on. Talking of which, Tube & Pipe Technology has this month launched a brand new website, which we are very proud of. All of which makes the magazine more accessible to more people than ever before. Please go to: www.read-tpt.com

Next up is our January 2011 issue and we will be featuring articles on handling, packing and tube and pipe transportation as well as straightening and finishing technology, so make sure you send me all your latest products related to these as well as any industry or technology news from your company.

Rory McBride – Editor

Front Cover Story

The roots of EFD Induction go back to the launch in 1950 of a universal induction hardening machine by the German company, Induktionserwärmung Fritz Düsseldorf GmbH (FDF). While FDF was expanding in the 1970s, an induction revolution was taking place in Norway, where engineers had figured out how to transistorize frequency converters for induction heating.

In 1981 three of those engineers founded ELVA Induksjon as. In 1983 they unveiled the Minac range of mobile converters. Workpieces no longer had to be brought at great cost to a stationary induction heater – the heater could now go to the piece. In 1991 the managing directors of FDF and ELVA met by chance. They talked … and speculated. FDF was strong in stationary induction hardening machines. ELVA was the agile innovator with a track record in finding new applications for induction heating. What if the two companies got together? In January 1996 FDF and ELVA merged to create EFD Induction. And the rest is, as they say, history.

Today, EFD Induction is Europe's largest supplier of induction solutions for industry (we're number two worldwide, but we aim to change that!). If you'd like to know more about us, our products, and how we can help boost your productivity, just get in touch.

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Tube Arabia 2011

Tube Arabia is an international trade fair for tubes and pipes that offers an ideal platform for companies to gain inroads in the booming Middle East market. It attracts domestic and international participation and has around 300 exhibitors from 21 companies. The UAE has experienced impressive growth in recent years, which is pushing a growing number of existing companies and new investors to take advantage of the city's business friendly environment.

Cutting and sawing

Before it is made – through bending, end forming, chamfering, drilling, punching, milling – into a product, a tube is known as a blank. And a blank it will remain if it is not cut with caliper precision: clean, straight, to length. If this process is not right, it will matter very little what else is. No amount of subsequent effort will rescue a profile that has been compromised from the first pass of a blade si tube makers know the critical importance of accurate cutting.

Blasting and coating

In an automated blast cycle, a titanium lance travels at consistent speed through the tube, providing even contact and excellent part quality. That evolution in processing also typifies the other two specialities considered here. But unprotected steel surfaces are famously susceptible to corrosion. Hence coating and galvanizing; and, with them, resistance to moisture, oxygen, solvents and a host of other threats to a long and reliable service life for the tubular product or part.

www.read-tpt.com

Pipe mills from a single supplier

MACHINE builders Gräbener, Weldec and Fontijne Grotnes are pooling their skills and strengths. Each of the companies is an expert in its individual branch, and together they say they are able to furnish pipe mills with the entire machinery necessary. As a consequence, the three companies have formed a joint venture in order to create machines for the production of large LSAW pipes.

Gräbener Maschinentechnik has decades of experience in the production of large pipes. The company has detailed and comprehensive technical knowledge derived from the time when the company Theodor Gräbener as Gräbener Großrohr was operating a pipe mill for LSAW pipes.

It also has knowledge gained from a holding in a renowned manufacturer of plate bending machines. In cooperation with well known pipe manufacturers, the company has developed milling machines, bending machines, pipe forming and post-bending presses, continuous root tacking machines, impanding and straightening presses, hydrotesters and end bevelling machines. The company also designs and engineers complete pipe mills. Using state-of-the-art CAD technology, all processing stations of a pipe mill are optimally aligned from the very beginning.

Weldec GmbH, as a member of the EEW Group, has already gained experience in the machine building sector, especially with longitudinal and circumferential submerged-arc-welding systems. These systems have been developed specifically for pipe, vessel and apparatus construction, as well as for the wind energy industries. Weldec submerged-arc-welding systems can be used for both internal and external welding of pipes in case of V and X seam preparations, as well as in narrow-gap-welding (U). In addition, Weldec manufactures submerged-arc plate welding machines as well as fully automatic ultrasonic and digital X-ray testing equipment.

The alliance is completed by Fontijne Grotnes. Over a period of more than 40 years the company has become an internationally renowned manufacturer of pipe end and full length pipe expanders for the pipe mill sector. The full length pipe expander is a crucial processing station in the production of LSAW pipes. Fontijne Grotnes is continuously enhancing its products with respect to new market requirements, such as increased capacity, increased wall thickness, increased material grades up to X120, and stricter tolerances with regard to ovality and straightness.

For the managing director of Weldec, Jörg Heinrich, the joint venture was a logical consequence: "These three companies make a great team. From now on, customers intending to build a pipe mill can purchase everything from one single supplier: from the initial engineering to the after sales service. If requested, it is even possible to conduct a theoretical instruction and practical training for the machine in question in one of our EEW workshops."

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Email: info@weldec.de
Website: www.weldec.de

Fontijne Grotnes BV – The Netherlands
Fax: +31 10 435 26 55
Email: info@fontijnegrotnes.com
Website: www.fontijnegrotnes.com

SAW equipment from Weldec

3,000 ton pipe forming press from Gräbener

A straightener of a full length pipe expander from Fontijne Grotnes

Interpipe director speaks at steel conference

DUNCAN Pell, commercial director of Interpipe, spoke at the Metal Bulletin 13th Central & Eastern European Steel Conference, held in September in Prague, Czech Republic. The conference addressed issues affecting the regional steel industry at present, reinforcing the dialogue between leading steel producers, purchasers and manufacturers.

Mr Pell gave a presentation on 'Evolving mill strategies in a challenging industry landscape', covering the issues of current pipe market conditions, an overview of capacities and key directions for producers in the central and eastern European region.

Mr Pell commented: "The recent crisis and the present business environment should encourage producers in this region to seek to become highly differentiated at low cost. Investment will continue to be needed but in efficiency and quality related improvements with fast payback. The priority for producers in central and eastern Europe should be to raise the level of technical and workforce competence so that theoretical cost advantages are not wasted through inefficiency and poor quality. I am pleased that we are investing and maintaining a strong cost position and implementing quality improvement."

Interpipe – Ukraine
Email: press-office@interpipe.biz
Website: www.interpipe.biz

MAC expands to new plant

AFTER more than 40 years in Mount Vernon, New York, Magnetic Analysis Corporation (MAC), a manufacturer of test systems for metal manufacturers, is relocating to a larger plant in Elmsford, New York. The move was scheduled for early autumn 2010.

"The new facility will provide an 80% increase in space, greatly expanding our ability to manufacture and assemble large inspection systems and demonstrate them for customers," commented company president Joseph Vitulli. "This move is critical to our strategy of offering the highest quality test equipment to meet the growing demands for inspecting tube, bar, wire and other metal components throughout the world."

The company planned to move its employees from the Mount Vernon plant to Elmsford, where it will occupy approximately 47,000ft^2 of space for its headquarters, research, engineering and manufacturing operations, with 26,000ft^2 designated for production and assembly. The new location, 25 miles from midtown Manhattan, has easy access to Interstate 287 and other major highways in the New York/New Jersey/ Connecticut area. It is also strategically located to facilitate shipment of large test systems through airports and seaports to domestic and overseas destinations.

Through its network of representatives MAC inspection systems and technical services are also provided in a number of countries, including Argentina, Brazil, Chile, Mexico, Spain, Russia, Ukraine, Turkey, South Africa, Thailand, Korea and India.

Magnetic Analysis Corporation – USA
Fax: +1 914 699 9837
Email: contactus@mac-ndt.com
Website: www.mac-ndt.com

The new MAC headquarters

Diary of Tube Events

2010

NOVEMBER

2-4	**Fabtech / AWS Welding Show** *Atlanta, USA* **Exhibition**	→	**Email**: information@fmafabtech.com **Website**: www.fabtechexpo.com
30-2 Dec	**Valve World Expo** *Düsseldorf, Germany* **Conference & Exhibition**	→	**Website**: www.valveworld.expo.com

2011

JANUARY

8-11	**Tekno / Tube Arabia 2011** *Dubai, UAE* **Exhibition**	→	**Email**: alfajer@emirates.net.ae **Website**: www.tube.de

MARCH

3-6	**Boru 2011** *Istanbul, Turkey* **Exhibition**	→	**Email**: info@ihlasfuar.com **Website**: www.borufuari.com

MAY

23-26	**Tube Russia 2011** *Moscow, Russia* **Exhibition**	→	**Email**: ryfischd@messe-duesseldorf.de **Website**: www.metallurgy-tube-russia.com

SEPTEMBER

13-15	**Tube Southeast Asia** *Bangkok, Thailand* **Exhibition**	→	**Website**: www.tube-southeastasia.com
19-24	**EMO** *Hanover, Germany* **Exhibition**	→	**Website**: www.emo-hannover.de

OCTOBER

4-6	**Tubotech** *São Paulo, Brazil* **Exhibition**	→	**Email**: cipa@cipanet.com.br **Website**: www.cipanet.com.br

NOVEMBER

13-16	**Fabtech** *Chicago, USA* **Exhibition**	→	**Email**: information@fmafabtech.com **Website**: www.fabtechexpo.com

2012

MARCH

26-30	**Tube / wire Düsseldorf 2012** *Düsseldorf, Germany* **Exhibition**	→	**Email**: infoservice@messe-duesseldorf.de **Website**: www.tube.de www.messe-duesseldorf.de

OCTOBER

29-31	**Tube India** *Mumbai, India* **Exhibition**	→	**Email**: dughl@md-india.com **Website**: www.tube.india.com

Bronx/Taylor-Wilson to install new straightening machine in Russia

WHEN Sinarsky Pipe Plant, one of the biggest producers of heavy wall oil country tubular goods in Russia, required a new straightening machine to obtain the optimal straightness and ovality with CNC and load sensing control, only one company had the capability to meet their requirements: Bronx/Taylor-Wilson.

Sinarsky Pipe Plant produces drill pipes, casing pipes, oil-well tubing, oil-and-gas pipes as well as rustproof, rolled-up soldered tubes, seamless hot-rolled and cold-worked, and non-corrosive pipes.

These products are delivered to all oil and gas production associations, to industrial plants, the energy industry, the construction industry, and public works companies. Production of the Plant is delivered to both Russian and Global customers. One of the key objectives for this type of product was the importance of retaining all straightening process data to be issued with the end product as a "Product Passport". The pipes are produced in compliance with API, EN/DIN, and ASTM standards. The quality management system is certified according to EN ISO 9001 / API Q1 international standards.

The new Bronx/Taylor-Wilson machine is to be supplied as part of a new, fully automated finishing line for Sinarsky's latest tube production facility. The straightening machine forms part of a finishing line that is at the forefront of modern technology and automation, the most modern of its type in any CIS tube making facility. This equipment will process heavy walled, high grade OCTG seamless pipes with an outside diameter ranging from 16mm to 125mm, and wall thicknesses up to 18 mm, in grades of material up to Q125 in API standards. Designed to accommodate a particularly broad range of tubes, Bronx/Taylor-Wilson's 10-roll design can straighten to the most stringent of tolerances at high throughput speeds. The timeframe for completion of the machine with complete function testing, installation and commissioning was scheduled for Q3 of 2010.

The Bronx/Taylor-Wilson 10-roll Machines are extremely robust and built for the harshest mill environments. They have become the industry standard for the demanding OCTG market. These machines have vertical adjustment on all top rolls and numbers 2, 3 and 4 bottom rolls allowing the machine to apply a more gentle deflection to the tube by deflecting or bending the material over three or four roll centre distances. This design results in the straightening operation having a minimum effect on the physical and mechanical properties of the material which is crucial in the production of these products.

Like all Bronx/Taylor-Wilson straightening installations, the Sinarsky line will be controlled by BTW's patented "COMPASS" Computer Aided Setting System which utilises the very latest in industrial electrical and electronic technology to provide the customer with consistently high quality product and throughput capacity. The COMPASS system also provides the added benefit that machine set up times for a size change are reduced to less than three minutes and its data collection and storage are vital to the producer and end user when processing such sensitive and critical components.

For nearly 100 years, Bronx/Taylor-Wilson has been at the forefront of innovation and quality in the finishing industry. The Sinarsky installation is the latest success in BTW's growing portfolio as a global leader by providing leading edge solutions customised to meet the most stringent requirements of its valued customers.

Bronx/Taylor-Wilson – USA
Email: sales@btwcorp.com
Website: www.btwcorp.com

The straightening machine from Bronx/Taylor-Wilson

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Katja Giersch, Head of Corporate Communications,
SIKORA AG

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Severstal TPZ Sheksna produces welded tube line from SMS Meer

SEVERSTAL TPZ Sheksna, Russia, has successfully commissioned the RD-410 welded tube line supplied by SMS Meer, Germany.

The new line has an annual capacity of 300,000 tons and plays an important role in the company strategy to develop high-quality products.

"Now we can use the rolled steel produced there not only for export, but also for the Russian market," said Anatoly Kruchinin, CEO of Severstal Cherepovets, during the commissioning. Together with Alexei Mordashov, Severstal board chairman, and Vitaly Shestakov, general director of Severstal TPZ Sheksna, Kruchinin welcomed high-ranking representatives of politics, business and the media.

Michael Cottin, vice-president for HF welded tube plants at SMS Meer, underlines the importance of the new plant for the Russian market: "This line is a trendsetter. The demand for structurals of this kind is enormous, the potential applications are very diverse and will lead to a lasting change in the Russian construction industry."

The main products are structurals that are used, for example, as supporting elements in the construction of large buildings and stadia.

The line consists of a strip preparation section, spiral strip accumulator, the tube welding machine with straightedge forming section, the travelling cut-off unit and the transport facilities with automatic bundler.

The roll stands are equipped with a quick-change system developed by SMS Meer. The quick size changing is further enhanced by the computer-aided CSS® Quicksetting System. This technology makes changes in the tube sizes not only possible in a minimum of time, but also quickly reproducible. In combination with the high line speed of up to 45m/min, this permits efficient production and high productivity.

Severstal TPZ started construction of the completely new works in Sheksna in 2007; it is now the first operative production facility in the newly established Sheksna Industrial Park located around 50km from the Severstal main works in Cherepovets.

The SMS Meer welded tube line in action

SMS Meer – Germany
Email: thilo.sagermann@sms-group.com
Website: www.sms-meer.com

Four trade fairs to run concurrently in India from 2012

STARTING in 2012, India's leading trade fairs for the metal, wire, cable and tube industries and for welding and cutting will be taking place concurrently. From 29 to 31 October 2012, trade fair visitors will have the opportunity in Mumbai to gain an unparalleled overview of a comprehensive international range of products and services.

To better exploit the synergies between the individual product areas, Metallurgy India – International Exhibition on Metallurgical Technology Products and Services in India, Tube India International – All Indian Exhibition and Conference for the Tube and Pipe Industries, and Schweissen & Schneiden India – International Trade Fair Joining-Cutting-Surfacing, will be switching from the spring to the autumn, and will be organised in the Bombay Exhibition Centre to run parallel to Wire & Cable India, the trade fair for machinery and equipment for the wire and cable industry.

All four of these trade fairs will attract great interest on the Subcontinent, as India is one the most important steel producing regions in the world and ranks among the global top ten for steel processing and steel usage.

The exhibitions are organised by Messe Düsseldorf and its subsidiary Messe Düsseldorf India as well as Messe Essen, and are supported by the major international industry associations, including the International Wire & Machinery Association and the International Tube Association.

Schweissen & Schneiden, which is held every four years in Essen and attracts more than 1,000 exhibitors and over 60,000 trade visitors, is the most important event in the welding specialists' calendar. This world-class trade show has been present in the Indian Subcontinent since 2003, and events are also held in China and Russia.

Messe Düsseldorf organises wire and Tube, the leading global trade fairs for the wire, cable and tube industries. Every two years, these events draw more than 2,000 exhibitors and over 70,000 visitors to Düsseldorf. The range for this sector also includes important regional trade fairs which Messe Düsseldorf stages in the growth markets of Southeast Asia, China and Russia.

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Website: www.messe-duesseldorf.de

Messe Essen GmbH – Germany
Fax: +49 201 7244 248
Email: info@messe-essen.de
Website: www.messe-essen.de

Trade fair websites:

www.metallurgy-india.com
www.tube-india.com
www.schweissen-schneiden-india.com
www.wirecableindia.com

New product managers at laser technology centre

TRUMPF has announced that Tracey Ryba has been appointed product manager – lasers, and Frank Geyer has been appointed product manager – laser systems for the Laser Technology Center in Plymouth, Michigan. They will report to David Havrilla, manager of products and applications for Trumpf Inc's laser division.

Mr Ryba earned his degree in laser and electro-optics technology and joins Trumpf with 21 years of laser experience ranging from applications to product management.

His processing knowledge spans laser marking, cutting and welding, and includes integration experience with CNC motion systems and robotics, serving the electronics, medical and automotive markets.

Mr Geyer began his career in the automotive industry and has an extensive background in engineering, mechanical design, and manufacturing. Mr Geyer's knowledge in advanced material processing includes Nd: YAG and fibre laser experience in integration, programming and setup. Trumpf's Laser Technology Center in Michigan is part of Trumpf Inc, a subsidiary of the Trumpf Group.

Trumpf is a market and technology leader in lasers and laser systems for manufacturing technology.

Trumpf Inc – USA
Fax: +1 860 255 6424
Website: www.us.trumpf.com

Frank Geyer, product manager – laser systems

Tracey Ryba, product manager – lasers

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Simona reports healthy growth in sales volume and revenue for first half of 2010

SIMONA AG is a manufacturer of thermoplastic products, including semi-finished products (sheets, profiles, welding rods), pipes, fittings and finished parts. Benefiting from a resurgent economy, particularly in the area of mechanical engineering, automotive and chemicals, the Simona Group recorded a significant increase in sales volume over the course of the first half of 2010.

After a relatively sluggish start to the year, the group was able to achieve double-digit growth from March 2010 onward. In total, revenue amounted to €129.7mn, compared to €106.3mn in the previous year, which corresponds to year-on-year growth of 22%.

As at 30 June 2010, EBIT (earnings before interest and taxes) stood at €6.1mn, up 73% on the same period a year before. Owing to the spiralling prices for polyethylene and polypropylene, however, margins declined over the same period. The company attributed the growth in earnings to, among other things, a more expansive volume of business and the continuing commitment to cost streamlining, which resulted in a €3.6mn reduction in operating expenses.

Total assets rose by €12.2mn compared to 31 December 2009. The decline in cash and cash equivalents by €22mn was due to a marked increase in receivables on the back of more buoyant business as well as an investment of €10mn made in fixed-interest securities.

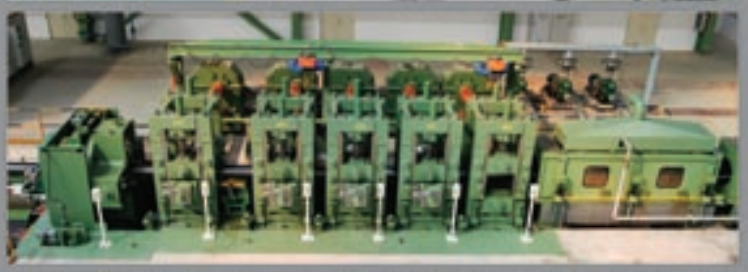
The economic climate improved considerably for Simona, particularly in Asia. At the same time, both the plant engineering sector and the chemical industry in Germany showed encouraging signs of improvement. All sales regions served by the Simona Group achieved double-figure growth, with 'Asia, the Americas and Australia' proving by far the most buoyant. "The official inauguration of our new Chinese plant in April 2010 serves as evidence that we are on the right track," commented Wolfgang Moyses, CEO of Simona AG. "Operating with our own local production facility, we are able to support our customers' regional growth more effectively and with greater speed and flexibility."

Simona AG – Germany
Fax: +49 6752 14 211
Email: mail@simona.de
Website: www.simona.de

Simona AG specialises in thermoplastic products

PIPE MILL
ERW/API 8"-26"Ø

DPI, Anshan, China/2008



- ENTRY SECTION
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YODER

Double celebration for NDT

NDT Systems & Services AG, Germany, has two reasons to celebrate this year: in addition to marking its 10th anniversary, the company has seen the official inauguration of its Stutensee headquarters. The prestigious new 7,500m² building in the industrial park of Blankenloch West I was erected in just one year by Vollack GmbH & Co KG, and has been functional since October 2009.

The company's success story began 10 years ago, when 27 engineers and physicists gathered together in Stutensee to establish themselves in the market with their know-how in the field of automated inspection systems for non-destructive testing. Ten years later, NDT AG has developed into a technology leader in the field of high-resolution ultrasound technology for pipeline inspection, and an expert in the field of automated testing systems for heavy plates.

The first plate testing system was sold only one year after the founding of the business. However, a boom was triggered by the first delivery of such a major installation to China in the year 2004, followed by 15 more orders from the Far Eastern market. Subsequently, new markets such as Indonesia, Brazil, Korea, Russia and India were opened up, accompanied by technological investments in new business fields.

"Our employees represent the most important asset of our company, each and every one of them, which we always keep in mind," commented Alfred Barbian, CEO and one of the founders of NDT AG. The move into the new headquarters, where all offices, workshops and business units are reunited under one roof, was aimed at strengthening the team spirit of the continuously growing number of staff. More efficient cooperation between the departments, which due to the growth of the company had been situated at different locations around the town of Stutensee, is another side effect of the move.

The company is expecting business prospects not only as existing oil and gas pipelines age, but also due to stricter statutory requirements for pipeline operators all over the world, and investments being made in high-resolution multi-technology tools for the increasing network of pipelines growing with the gas market. New developments in stationary rail wheel, thick plate or pipe inspection systems are also contributing to the prospects of growth in Stutensee.

NDT Systems & Services AG – Germany
Fax: +49 7244 7415 97
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Website: www.ndt-global.de

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  (Spiral accumulator and Shear & end welder can be eliminated)

- **Less running cost**
  - Less capacity of HF welder (Double contact-shoe type)
  - Higher Material yield
  - Much more flexible for production of small lot

Automatic entry line

Helical edge miller

HF contact welder

FFX Mill

Milling Cut-off

NAKATA MFG. CO., LTD.

3-7-6 Tagawa, Yodogawa-ku, Osaka 532-0027, Japan

Tel: +81-6-6303-1900/Fax: +81-6-6303-1905/e-mail: sales@nakata-mfg.co.jp

Orders for large API pipe line accumulators

KENT Corporation recently installed two large horizontal accumulators of the roller style design for heavier/wider materials. The two machines range in size from 3 to 16mm thickness (0.118" to 0.629") and from 127 to 813mm strip width (5" to 32").

The customer said it chose Kent because of its long list of satisfied accumulator customers and knowledge of what it takes to make an accumulator work in a wide variety of applications. The accumulators will be used in line with Kent's complete entry system on API pipe mills.

Kent has been providing strip accumulator systems to the tube and pipe mill industry since 1971, and now has over 2,000 machines running in applications varying from 0.3 to 19mm thickness (0.012" to 0.75") and from 23 to over 2,032mm strip width (0.9" to 80"). Videos of Kent equipment, including its high speed horizontal accumulator, can be viewed at the company's YouTube channel, www.youtube.com/kentcorp

Kent Corporation – USA
Fax: +1 440 237 5368
Email: sales@kenttesgo.com
Website: www.kenttesgo.com

Kent manufactures HRS style accumulators up to 19mm x 2,032mm

Officine MTM appoints Kent Corp

MTM, a manufacturer of complete ERW tube mill systems, has signed an agreement with Kent Corporation for equipment representation in the USA. This represents a major step in MTM's determination to strengthen its market presence in the USA.

There is a growing demand in the North American ERW tube market for complete, state-of-the-art tube mills, as well as upgrading of existing plant equipment to the latest MTM technology to improve production and quality, and to lower operation costs. A typical example of this is the replacement of obsolete flying cut-off machines by flying cold saws, where MTM offers a wide range of solutions.

Kent Corporation has a strong background in the North American ERW tube market, with over 40 years of serving the North American tube market, which will help introduce the comprehensive and diverse MTM product line to US customers.

Officine MTM SpA – Italy
Fax: +39 041 999 611
Email: sales@mtmtubemills.com
Website: www.mtmtubemills.com

In-line inspection leads to new orders

FLEXI-CELL UK has commissioned an in-line inspection system from Pixargus to document the product quality of its profiles for the automobile industry. With this system Flexi-Cell has not only improved the dimensional integrity of the products but also achieved increased throughput from the extrusion line.

The non-contacting optical system provides a continuous 360° view quality check of the profile dimensions, monitoring the product within pre-set tolerances.

Generally invisible to the human eye, any non-conforming areas are identified, automatically cut out to avoid inadvertent inclusion in deliveries to customers, and recorded on a continuously running log. Customers receive a batch-related copy of the log to verify the integrity of the extruded profile quality.

The Pixargus inspection system was a critical factor in Flexi-Cell's recent successful bid for the supply of rubber profiles to a major European automotive component manufacturer.

John English, Flexi-Cell's projects manager commented, "To gain this business, we had to work closely with our customer and demonstrate our experience and absolute commitment to consistent product quality. The Pixargus equipment, together with the high quality supply of compound from our Berwin parent, gave us the edge we needed. Production volumes are now exceeding our initial expectations."

The PCD X360 inspection system from Pixargus is an in-line profile measuring system that takes dimensional information from the external surface of the profile at a rate of two to eight times per second. These readings are compared with a reference profile and any deviations are recorded and displayed. The reference profile can be directly loaded into the system as a DXF-CAD file.

Pixargus has developed a new LED-based illumination technology for the system that it claims gives higher measuring accuracy and longer service life, compared with laser-based systems. A robust touch-screen operator interface, capable of withstanding the harsh conditions of the working environment, makes the operation of the system simple and intuitive, while the low maintenance requirements of the Pixargus system contribute to the low total cost of ownership.

Pixargus GmbH – Germany
Fax: +49 2405 47908 11
Email: info@pixargus.de
Website: www.pixargus.de

The Pixargus PCD X360 continuous inspection unit installed at Flexi-Cell UK

HEBEI WENLONG PIPELINE EQUIPMENT CO.,LTD

PRODUCT RANGE:	MATERIALS:	STANDARD:
ELBOWS--LR 45DEGREE,90DEGREE RETURN BENDS--LR SR 180 DEGREE TEES:STRAIGHT AND REDUCING REDUCERS--CON &ECCENTRIC SEAMLESS FITTINGS DIMENSIONS:1/2"--40" SEAM WELDING FITTINGS DIMENSIONS: 26"--96"	A234-WPB,WPC,WP1,WP5,WP9,WP11,WP12,WP22,WP91, A860-WPHY42,WPHY52,WPHY60,WPHY65,WPHY70,WPHY80 A420-WPL3,WPL6,WPL9,WPL8 A403-WP304L,WP304,WP304H,WP316,WP316L,WP316H	ANSI B16.9,ANSI B16.28,MSS-SP-75 DIN2605-1,DIN2616-2,DIN2615-1,DIN2615-2 DIN2616-1,DIN2616-2 EN10253-1,EN10253-2





Hebei Wenlong Pipeline Equipment Co.,Ltd

Address: East of cangyan road,north of yanshan county,cangzhou city,hebei province, ChinaNo.28 Wuliyao industrial area ,yanshan county,cangzhou city,hebei,China

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Mail:wenlong@hbtenghao.com pipefitting@hbtenghao.com

Msn:wenlong@hbtenghao.com

Alibaba account ID: wenlongpe

website:www.tenghaope.cn http://tenghao.en.alibaba.com

First installation of optical measurement system in Finland

UWIRA Oy – based in the West-Finnish harbour town Vaasa – belongs to Leinolat Group, a corporation of six companies. Since 1993, the company has successfully manufactured welding products for the sectors of energy, shipbuilding and machine building. One of Uwira's special fields is the production of oil and fuel pipes as well as cooling water lines.

Uwira's key to competitiveness is the close contact with customers. The company's president Samuli Kuusisto states: "It is very important to react immediately to customer wishes. Currently, the most important subject is quality assurance. As our customers themselves have to meet increasing quality standards with their products, we as their supplier have to meet the strictest quality demands, too.

"By procuring the highly-precise tube measuring system TubeInspect from Aicon, we are now disposing of state-of-the art measuring equipment for inspecting bended tubes. Thus we are well-prepared for future demands. Beyond that, with TubeInspect, we are in the position to document the measuring results in a traceable way. This builds confidence in our company."

Aicon's TubeInspect, which measures the tube with 16 high resolution digital cameras, calculates the tube's geometry within only a few seconds. The measurement results are reported in an easily understandable way, making it very clear if the pipe is within or outside of tolerance. At the push of a button, TubeInspect generates a user-independent and reproducible measurement report that can be forwarded to the customer.

However, Uwira faces more than quality demands. Also with respect to lead times, the company sees potential for improvement by applying TubeInspect. Samuli Kuusisto explains why: "TubeInspect not only measures the pipes, but the machine also transfers the correctional values to our Herber bending machines.

"This is particularly useful when setting up a bending machine for a new tube. Since TubeInspect provides the correctional data within only a few seconds, we can setup the machines in a flash. Due to the fact merely produce in very small batches, the setup time of the bending machine is a decisive aspect in the whole production process. That means that we can start production quickly and therefore deliver faster than before."

Moreover, Samuli Kuusisto appreciates the possibility to measure free-form geometries with TubeInspect. "After having acquired Aicon's measuring system, we are now the first ones in Finland who are able to do this. This gives us a true advantage in competition. Our goal is to be one of the top-suppliers in the world. And if you want to be world class, you need the best measuring equipment."

Aicon 3D Systems GmbH – Germany
Fax: +49 531 58 000 60
Email: jutta.thiel@aicon.de
Website: www.aicon3d.com

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T-Drill's Dick Nelson to retire

ON 31 December Dick Nelson will retire from T-Drill Industries, Inc. Of his thirty-four years in the industry, Mr Nelson has spent thirty of those years at T-Drill.

Mr Nelson, who served as sales manager of commercial products and secretary of the corporation, will be succeeded by his friend of twenty-four years, Jarno Syrenius.

Mr Syrenius has been with T-Drill since 2000 and has spent time in the international and North American divisions in both engineering and sales capacities.

T-Drill Industries Inc – USA
Fax: +1 770 925 3912
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Website: www.t-drill.com

ELT reveals Tube Form Solutions

ON 30 June 2010, Paul Howard, president of Eaton Leonard Tooling (ELT) announced that the company had developed a new company called Tube Form Solutions, LLC (TFS).

This new company will be dedicated to sales and service of tube bending and related auxiliary equipment, and is a joint effort between ELT and Midwest Benders Services (MBS).

Located in Elkhart, Indiana, MBS was founded by Mike Thomas in 2001. Mr Thomas has more than 15 years' experience in the tube bending industry, and the company specialises in servicing, rebuilding and retrofitting various manufacturers' bending and end-forming equipment.

MBS has signed an agreement with Soco Machinery Company to be its preferred sales agent in the United States for its line of tube bending and laser cutting equipment.

This new relationship with Soco will allow MBS to expand into companies that require new equipment to meet their growing demands.

Soco is a leader in providing bending machines to various manufacturing industries, including automotive, aerospace, furniture, job shops and ship building. Soco's manufacturing facilities are located in Taichung, Taiwan, and it has offices in Taiwan, Europe, China, and Southeast Asia.

Eaton Leonard Tooling – USA
Email: phoward@eatonleonardtooling.com
Website: www.eatonleonardtooling.com

Midwest Benders Services – USA
Fax: +1 574 266 5276
Email: sales@midwestbenderservices.com
Website: www.midwestbenderservices.com

The Bend-it is a bender that was specifically designed by ELT to bend automotive exhaust tail pipes

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Plant successfully commissioned

BEI Tai Iron & Steel has successfully commissioned the duplex RH-TOP plant delivered by SMS Mevac, Germany. Bei Tai Iron & Steel is a company of the Benxi Beijing Iron & Steel Group Co Ltd, located in Benxi, China.

The RH-TOP plant is designed to treat heats with a nominal weight of 135t. Each treatment position is equipped with a hydraulic ladle lifting system, a metallurgical TOP lance, a system for quick charging of alloying elements, and a vacuum lock system.

The vacuum is achieved using a steam-ejector vacuum pump with variable pressure reduction for optimised process control, which also ensures low consumptions of steam and condenser cooling water.

The new unit will mainly be used for the production of flat products. The scope includes the complete basic engineering, delivery of key components, the complete hardware and software for the process computer as well as supervision of erection and commissioning.

SMS Siemag – Germany
Fax: +49 211 8817 74449
Email: thilo.sagermann@sms-group.com

New drive developing on the market

FullStage Technologies has announced that customers can now obtain its new catalogue from Japan. For production there are high quality machines listed, which can be used for a broad assortment of applications.

In the area of tubes it can offer electric CNC Tube-Bending machines with several electric axes. Furthermore, in the area of wire, there are CNC Wire-Bending machines with a CAD data absorption and with an axis reach of 11 multi-axis. With the machines you can realise individual solutions regarding hard and software.

Both machines are manufactured by renowned manufacturers in Japan, who have delivered to a clientele particularly in the automotive industry, whereas the high standards and quality of the Japanese automotive industry are globally known. This means attention to detail when it comes to quality and precision, while prices are held economically. This is what quality means to us: "Quality with an efficient price" and we can also offer those machines that are approved by the automotive industry.

FullStage Technologies GmbH – Germany
Fax: +49 80246 083429
Email: info-europe@fullstage-tech.com
Website: www.fst-machine-tool.com

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The new in-line ERW tube inspection system using advanced phased array technology to inspect weld seams and the heat-affected zone (HAZ) of electrical resistance welded (ERW) tubes.
Phased array technology provides broad sector coverage of the HAZ with constant amplitude even when there is significant weld seam movement relative to the probes.

- Flaw detection, weld profiling, and automatic weld tracking using phased array technology.
- Diameter range from 60 mm (2.375 in.) to 245 mm (9.625 in.).
- Wall thickness range from 2 mm (0.079 in.) to 16 mm (0.630 in.).
- Automatic calibration sequence using a calibration bench.
- Automatic calibration check at production line speed.
- Data synchronization with the “flying saw” on the production line.
- Automatic detection of scarfing window and butt weld between coils.
- Full system diagnostics using HMI and QuickView.

√ Flaw Detection
√ Weld Profiling
√ Automatic Weld Tracking

GYS moves to larger premises

SINCE entering the UK market in early 2009, GYS Ltd, the French welding equipment and battery charger manufacturer, has subsequently outgrown its existing premises, and moved to larger premises in October.

Although the UK has been in recession for most of the time that GYS has been trading in the country, the company has seen continuous growth across its range of MMA, MIG, TIG, plasma and resistance spot welding, as well as battery charger, starting and booster equipment.

GYS took the strategic decision to move now, as the UK economy continues to improve, because of the high level in interest shown in its products from the market. The company markets its products through distributors and now has a growing number of outlets throughout the UK.

The new premises, on Tachbrook Industrial Park, Warwick, incorporate offices to house a growing sales and support team including after sales service, and a demonstration area for distributor training and product testing, as well as a warehouse.

Neil Pulsford, UK commercial director, commented: "We entered the UK market with a specific pricing policy for our specialist product range and we have been delighted at the reception GYS products have had from distributors across the country. We are now able to expand our UK business ahead of schedule."

Mr Pulsford added, "As we continue to expand in the UK, these new facilities will enable us to provide strong commercial and technical support for our distributors and customers."

GYS Ltd – UK
Fax: +44 1926 429 764
Email: uk@gys.fr
Website: www.gys.fr

GYS's new UK premises in Warwick

Integrated Solutions

PHAMITECH

Phamitech International, since set up in 2003, is committed and dedicated to provide the most cost effective and reliable products to customers worldwide. Courage, imagination and vision were the prime ingredients that were embedded into the formation of the company. The experience, flexibility, and ability to integrate all solutions available and to tailor our solutions to satisfy the diverse customer requirements have sustained the successful development of phamitech to become the most important supplier of Chinese pipe mills on the global market.

Phamitech is a consolidated supplier backed by the best manufacturers of their sectors in China. Choosing phamitech means obtaining immediate access to highly trained technical personnel and high level facilities, reliable information, and unparalleled services, all of which are available at an extremely competitive quality/price ratio throughout the world.

Phamitech has now emerged as one of a few companies in the world who can offer complete Tube Plants and services including all toolings and turnkey solutions by providing plant engineering for all utilities and auxiliary equipment, and as probably the only one in the world that can offer all the tube making technologies such as ERW Tube Mill, LSAW Pipe Mill, Spiral Welded Pipe Mill, Seamless Tube Mill, Copper Tube Plant, Aluminum Tube Plant, as well as all the finishing equipment.

Phamitech machines are one of the most cost effective tube manufacturing equipment available in the world. Our products are working in more than 40 other countries besides China, such as USA, Mexico, Brazil, Venezuela, Ecuador, Korea, Turkey, India, UAE, Malaysia, Indonesia, Iran, Uzbekistan, Kazakhstan, Vietnam, Cambodia, Thailand, Syria, Jordan, Pakistan, Kuwait, Iraq, Nigeria, Egypt, Sudan, Ethiopia, Kenya, Tunis, South Africa, Ukraine, Russia, Belarus, Italy, Belgium, Macedonia, Greece, and so on.

Phamitech Int'l Company Ltd.
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Email: sales@Phamitech.com Website: www.Phamitech.com

Fabrications specialist orders tube bender

BELL Steel Fabrications Ltd of Swindon, England, has placed an order with BLM Group UK Ltd for a new BLM Elect 80 all-electric, nine axes, CNC tube bending machine.

According to Matthew Bell, operations director, this latest generation machine, which can easily be switched between right-hand and left-hand bending configurations, "is the best and most versatile CNC tube bending machine on the market and an ideal choice to open up new business opportunities."

Established in 1980 as the engineering division of Bell Silencer Services Ltd, Bell Steel Fabrications moved into a new purpose-built factory in 2000 and took on the mantle of supplying classic car stainless steel exhaust systems from Bell Silencer Services. The range of products that Bell Steel Fabrications now has to offer is highly regarded among classic car enthusiasts, while the company has gone from strength to strength, moving into new markets such as commercial, marine and industrial exhaust systems. Bell Steel Fabrications has also expanded further into general engineering applications such as frames for generator and pump sets, structural steelwork and heavy fabrications. Installing the new BLM Elect 80 will give further impetus and scope for future improvements.

The largest of the three models available, the BLM Elect 80 can bend tube up to 80mm OD and 2mm material thickness. Its multi-stack tool mounting facility allows multi radius and variable radius bending of the same tube to take place in a single set-up. Bends with very little straight between them, even compound bends, can also be accommodated, along with tight bends that can have a radius less than the tube diameter.

All critical machine setting parameters are managed by the Siemens 840D SL CNC 'Solution-Line' control system. This interfaces with BLM's VGP3D graphical programming and simulation software to provide fully automatic and truly interpolated simultaneous movement of all nine machine axes, thereby eliminating 'dead time' within the tube bending cycle.

Bell Steel Fabrications' stainless steel exhaust systems use tube formed on a new BLM CNC tube bender

BLM Group UK Ltd – UK
Fax: +44 1525 402 312
Email: sales@blmgroup.uk.com
Website: www.blmgroup.uk.com

Offshore gas production platform | Joseph Osta | Product Manager | The Indonesian archipelago

Can your tubes handle pressures of 12,000 psi?

When a major oil company decided to design an offshore gas production platform off the coast of Indonesia, their engineering team turned to Sandvik. The question was whether to use Sandvik SAF 2507®, a super-duplex grade, or SS904L (also known as UNS S08904), a lower grade, for the platform's instrumentation tubes.

With analysis provided by Sandvik engineers, the team chose Sandvik SAF 2507, a material that allowed operating pressure to reach up to 12,000 psi, 50% higher performance than that of SS904L. Moreover, the lighter and thinner tube walls of Sandvik SAF 2507 reduced installation costs and overall weight. And leak-proof fittings in Sandvik SAF 2507 eliminated welding operations.

Sandvik's pioneering super-duplex tubes also provided more resistance to crevice corrosion, pitting and chloride stress corrosion cracking – a more robust grade for marine environments that generated further savings for the oil company.

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Byard Spiral Mill buys share in Hannibal

HANNIBAL Pipe Solutions SA has announced that Byard Spiral Mill has finalised a 15% share capital investment in Hannibal Pipes SA (previously fully owned by Hannibal Pipe Solutions SA).

Hannibal Pipes' first phase investment is equal to €10mn and Byard Spiral Mill has acquired 15% for €1.5mn.

Hannibal Pipes, located in Hellin (Albacete), within the Autonomous Region of Castilla La Mancha, is the first spirally welded steel pipe mill to operate in the South of Spain.

Byard Spiral Mill will be the technical partner for supply and operation of pipe manufacturing equipment initially having a yearly capacity of 90,000 M/Tons. The Byard production line is capable of manufacturing spiral steel pipes with diameters from Ø 508mm to Ø 2540mm and having a thickness up to 22mm.

Pipe production is expected to start in Q1 2011 and the major targets are the water and oil and gas pipeline projects in the Iberian Peninsula and North Africa.

Hannibal Pipes is located in a strategic area close to 80% of incoming pipeline projects planned in Spain. Directly connected by railway with the Cartagena Port, Hannibal Pipes is in one of the best locations to serve North African destinations.

"Having Byard Spiral Mill on board is for us of paramount importance as we are now in the best position to offer to our clients the most reliable products in the most strategic location," stated a Hannibal Pipes spokesman.

"We decided to invest in Hannibal Pipes after thorough market analysis. Despite the EU economic situation, some projects in the South of Spain are classified a priority especially relating to water pipelines."

"Moreover our equipment is designed and fabricated to serve the oil & gas market which is still strong in North Africa and hopefully will grow in EU starting from 2012-2013" said Mr Ting, chairman and CEO of Byard Spiral Mill.

Hannibal Pipes is active in the manufacture of spirally welded steel pipes for water and oil & gas pipe applications with diameters up to 2,540mm and thickness of 22mm. Located in Albacete, Spain, in an area directly connected through railway with Cartagena Port, Hannibal Pipes also designs and manufactures a large range of steel special pieces, like bends, T-connections, sleeves and couplings in accordance with clients requirements.

Byard Spiral Mill is one of the main suppliers of equipment for spirally welded steel pipe production and during the last 30 years has sold its equipment to the most important worldwide pipe manufacturing companies including Ratnamani, Welspun, Essar, Milan International (Ssangyong Piling), Surja Rosni Group and Rico Australia.

Hannibal Pipe Solutions SA – Spain
Email: info@hannibalpipes.com
Website: www.spiralpipe.com

Interpipe offers support to MAP

STEEL pipe and railway wheel maker Interpipe has supported a team from the Minsk Automobile Plant (MAP) on the 'Silk Way 2010' rally, part of the Dakar rally series. The rally took place in Russia between 11 and 18 September between the cities of St Petersburg in the north of Russia and the Black Sea resort of Sochi in the south of Russia.

In order to participate in the rally, the Minsk Automobile Plant developed the MAZ 5309R sports car, which was officially presented on 3 September in Minsk. The sports car has 800 horse power.

For many years Interpipe has supplied seamless and welded pipes to the Minsk Automobile Plant that are used for the production of passenger and freight cars.

Andrey Bibik, sales director for machinery and power at Interpipe said: "Belarus is one of the key markets for the machinery industry division at Interpipe. Support for MAP's sports team is a natural step in the development of partnerships with our clients."

Interpipe produces and supplies wide range of products for machinery industry. Companies producing machinery use its products as basic elements for the manufacture of submersible motors and cars of different configurations, bearings, steam generators and high-precision parts of aeronautical engineering and cars.

Interpipe – Ukraine
Fax: +38 0562 389482
Website: interpipe.biz

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Email : info@prolifiquerolls.com, tchaudhary@prolifiquerolls.com
Website :www.prolifiquerolls.com

CML launches new website

CML USA, Inc, manufacturer of Ercolina tube, pipe and profile bending and metalworking machinery, has launched a new website, at www.ercolinacnc.com

The newly designed site offers rich content provided by knowledgeable staff, direct access to information on Ercolina mandrel models, more intuitive navigation, video demonstrations and downloadable literature.

With an expanding line of Ercolina CNC and NC models, the introduction of a comprehensive website devoted to these machines was necessary.

The new site is designed to be easy to navigate, to improve the experience of existing customers and new users searching for an alternative to machines they have previously explored or purchased.

The site's homepage welcomes visitors with a clean design and moving images that link directly to product pages.

Each product page features a brief overview of the model, a listing of key features and a link to relevant downloadable information.

A new 'applications' section was created as one of six core navigation items at the top of each page, giving visitors a visual sampling of the diverse uses of Ercolina tube and pipe benders.

CML USA Ercolina – USA
Fax: +1 563 391 7710
Email: info@ercolinacnc.com
Website: www.ercolinacnc.com

Trumpf presents 2010 awards to distributors

TRUMPF, a producer of fabricating machinery and lasers for industrial production technology, has presented its 2010 awards of sales achievement to Icon Machine Tool, Inc and Hegman Machine Tool, Inc, at the company's annual distributor meeting at Trumpf headquarters in Farmington, Connecticut.

Hegman Machine Tool, of Maple Grove, Minnesota, received the Outstanding Distributor Performance Award in recognition of the company's exceptional performance in selling Trumpf products during the past fiscal year.

The Sustained Excellence Award was presented to Icon Machine Tool, of St Louis, Missouri, in recognition of its consistent performance in selling Trumpf products.

The awards were presented to the distributors by Burke Doar, Trumpf's vice president of sales and marketing.

Trumpf Inc – USA
Fax: +1 860 255 6424
Website: www.us.trumpf.com

Burke Doar (right) with representatives from Hegman Machine Tool

Updated PRAB website offers easier access to metal management solutions

PRAB has updated and expanded its website, prab.com, to provide visitors with more information and access to its diverse line of metal and fluid management equipment.

"Today's recommenders and purchasers of processing equipment are using the Internet more and more for research and education," said Tracy Swartzendruber, marketing director for PRAB. "We've listened and are responding to our customers' requests for more detailed information and easier access to our broad range of solutions."

Specifically, visitors can now research by product line, challenge or application. In addition to updated content for its crushing, shredding, briquetting, wringing, conveying and related equipment, information on PRAB's fluid filtration line is now available.

New forms allow visitors to easily request a quote or free test drive of PRAB's solutions.

Useful, relevant information is just one click away with new site search and popular topics links. The site also boasts an expanded video library and easy access to sales literature, all of which are available on-demand.

"Our goal in updating the website is to have the online experience with PRAB match more closely with the ease and confidence customers have noted of their traditional – or offline – experiences with PRAB," said Mr Swartzendruber.

"We're excited to offer visitors 24/7 access to a depth and breadth of content focused on meeting the unique challenges of the metalworking industry," he added.

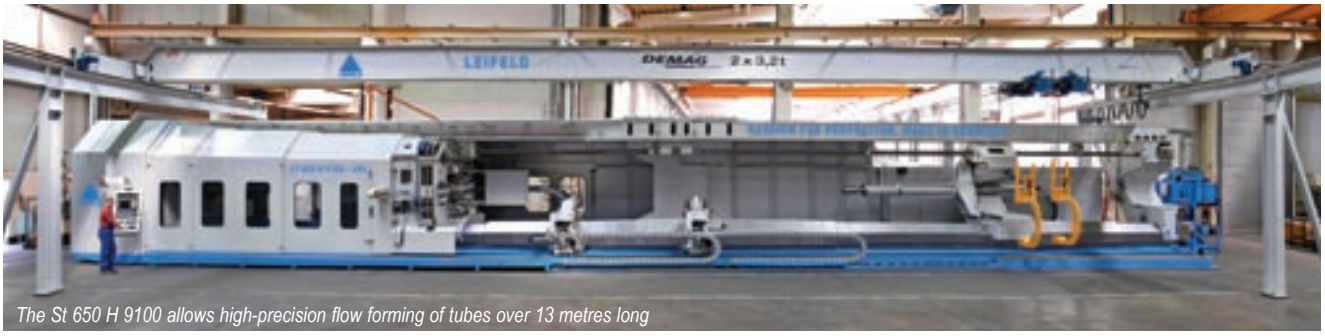
For more information go to: www.prab.com

PRAB is a leading engineer and manufacturer of conveyors and chip and fluid management systems for many industries.

Its customised solutions automate metal handling, reduce labour costs, reclaim and recycle expensive cutting fluids/coolants and maximise return on recycling metals.

With its expertise honed by more than 4,500 installations for the world's leading OEMs and suppliers, PRAB continuously improves material handling, housekeeping and compliance to environmental rules and regulations within the automotive, aerospace, medical, electronics, defense, off road and energy markets.

PRAB – USA
Fax: +1 269 382 8200
Website: www.prab.com



The St 650 H 9100 allows high-precision flow forming of tubes over 13 metres long

World's largest flow-forming machine

LEIFELD Metal Spinning presents the world's largest flow-forming machine, the ST 650 H 9100, allowing high-precision flow forming of tubes over 13 metres long. The ST series made by Leifeld captivates through its high-precision forming of rotation-symmetric hollows with both non-varying as well as varying wall thicknesses. With the latest ST 650 H 9100, for the first time, it is now possible to flow form a semi-finished product of higher quality up to 9 metres using forward flow forming technique.

This length is even excelled with the backward flow forming technique to more than 13 metres tube length. Werner Hütter, CTO Leifeld: "With these dimensions, Leifeld offers a unique and new machine of the ST series. Due to its incomparable size, we are once again one big step ahead of our competitors." For the realisation of this machine, entirely new territory, concepts, and detail solutions were elaborated by Leifeld's experienced engineers. With the technical implementation, the economical production and assembly, as well as the transport possibilities of this high-precision machine, weighing more than 120 tons and measuring more than 30 metres, Leifeld proves yet again its traditional lead as innovative and quality-conscious machine builder; a well-earned reputation dating back to the development of basic flow-forming technology implemented today all over the world.

Within the scope of an international invitation to tender, Leifeld succeeded against fierce competition with its convincing innovative power and excellent price-performance ratio. Holger Hansen, CEO Leifeld, takes pride in their technical achievement. "Anji Precision Pipe Manufacturer Co is a renowned customer, enabling us to implement our unique machine concept ST 650 H 9100. The logical further development of the ST series is yet another important milestone in our company history."

The basis for the successful closing was not least the well-rehearsed collaboration with Leifeld's Chinese sales partner of many years, Ginweila Science & Tech Co Ltd. The close coordination with the headquarters, technological know-how as well as convincing presentations and clever negotiating skills were crucial factors of success.

Wuliangye Anji Precision Pipe Manufacturer Co is a subsidiary of the Wuliangye Group being a modern, Chinese major enterprise. Its focus is the production of plastic products, pharmaceuticals, and tubes. In total, the Wuliangye Group employs more than 30,000 people in several locations in China.

Leifeld Metal Spinning GmbH – Germany
Email: m.harke@leifeldms.de
Website: www.leifeld.co.uk

X-RAY 6000 from Sikora

SIGNIFICANTLY more precision, long-life-cycle and efficiency – this is the result of the development of the new X-RAY 6000 generation.

Sikora has designed the new device series, because optimised X-ray technology has specific advantages over alternative measuring technologies regarding quality and reliability during hose and tube manufacture. Moreover, they have the highest potential to considerably save material costs in a long term.

The new X-RAY 6000-family is based on the predecessor X-RAY 2000 and had been consequently further developed in details. It is equipped with XLL-(eXtra-Long-Life) X-ray tubes for long operation time. Simultaneously the measuring rate can be chosen from 1 to 10 Hz. In addition, the use of a universal power supply, which covers all prevalent supply voltages and frequencies, rounds off the technological highlights.

The X-RAY 6000 measures the wall thickness, eccentricity, the ovality and diameter with precision.

Producers of plastic and composite pipes as well as rubber hoses benefit from the use of the X-RAY 6000 in their lines, as the quality standards for these products are tremendously high.

Sikora AG – Germany
Fax: +49 421 48900 90
Email: sales@sikora.net
Website: www.sikora.net

The new X-RAY 6120 for wall thickness, eccentricity and ovality measurement in hose and tube extrusion lines

New tube welding consumables brochure

IHWT Thermatool has produced a comprehensive 12-page brochure that covers the wide range of induction coils and impeders, designed specifically for use with Thermatool CFI and HCT series solid-state HF induction welders.

Manufactured from high conductivity copper, quality inspected and painted orange for clear identification, there are numerous types and sizes of induction work coils available to satisfy a range of applications. Many of these models are available for immediate delivery from stock. There are also many different types of impeder, available in a wide range of lengths and diameters.

The correct choice of induction coil and impeder will play a significant part in optimising the performance and overall operating efficiency of a welder, provided they are both correctly positioned on the mill.

IHWT Thermatool produces induction coils for specific needs, including production of carbon steel, stainless steel, copper, brass, aluminium or galvanised tubing, suitable for installation on Thermatool welders with power ratings from 50kW to 2MW and operating frequencies ranging from 100 to 800kHz.

Thermatool IHWT – UK
Fax: +44 1256 467 224
Email: info@ihwtech.co.uk
Website: www.inductotherm-hwt.co.uk

Automated equipment for pipe plants

SOMO has built a number of plants intended for the production of high-thickness pipes made with stainless steel, carbon steel and special alloys.

The equipment is based on an automation system designed and carried out by the operator. In spite of the considerable size of the machinery, the quality level attained enables the creation of highly accurate geometric shapes, which makes post-bending procedures easier, and helps to optimise production.

The automatic plants are entirely designed, carried out and installed by Somo staff, and have been built in various parts of the world.

They consist of specific machinery for any step of the production process, such as pre-bending, bending, closing and approaching of pipe edges, and are always based on the principle of production process automation.

Somo Produzione SpA – Italy
Fax: +39 02 9356 1457
Email: info@somoproduzione.com
Website: www.somoproduzione.com

Reika's new cutting line reducing tool

RINGSAW® is Reika's new Generation of machine tools for cutting of tubes, bars and profiles with diameters ranging from 10 to 610mm and wall thickness from 1 to 150mm. The machine is operated completely electro-mechanically without hydraulics and therefore oil-free. The cutting process is either dry, with mini-coolant or flood emulsion.

No additional foundation work is necessary (apart from machine fixations), as the machine bed is totally oil-free and designed as a closed cold water draining and reservoir area. The chip conveyor can be integrated directly into the machine bed. The RingSaw will be delivered with automatic tool changer (option) and totally enclosed machine design with safety protection cover according to state-of-the-art machine tool style for full operator safety and environmental protection.

Andreas Zimball, sales manager of Reika company, is not surprised by the tremendous demand for the new whirling machine for tubes and bars. "If you know this market then it is obvious that the RingSaw is a better solution in nearly every measure."

The RingSaw can almost silently cut bearing blanks from high grade, heavy wall, large diameter feed stock. But customers have also been impressed by the basic motions of the machine with the cutting ring whirling around the stationary workpiece, resulting in tool cost savings of 50% to 80% compared to conventional carbide saws and a performance being 30% to 60% higher.

"We are talking about high six-digit amounts that can be saved year by year," Andreas Zimball explains. "That means investment cost for the RingSaw can be paid off in a short time from tool cost savings alone."

Reika's RingSaw is a completely new designed line for cutting of tubes, profiles and bars but that design is based on decades of experience in intelligent technology and know-how, shown by a considerable number of similar concept lines already well established on the market. "This machine is far from being a prototype – it is a trailblazer".

The new concept is based on a successfully proved project, originating from Reika's German competitor, Procon. Reika, a member of the innovative Graebener Group with more than 300 employees, including 80 mechanical and electronics engineers, acquired the Procon-Lines in 2009. Based on the already existing Procon-Whirling lines and using Graebener Group's engineering capacities, Reika successfully developed the RingSaw.

According to the first case studies and reports covering the RingSaw, a well-known German manufacturer of roll bearing rings achieved great savings in operating cost by approximately 80% on the Reika machine, compared to a conventional carbide saw and with 30 to 60% higher performance, and other manufacturers have also been experiencing similar excellent results.

Reika GmbH & Co KG – Germany
Email: info@reika.de
Website: www.reika.de

In-line gauges for diameter and ovality

THANKS to new developments in high-tech laser optics, Zumbach Electronic has introduced the new ODAC 550 laser scanner with HLF (high-accuracy large field) technology. This technology allows the generation of a highly collimated and accurate measuring field of 550mm (22") without any dead zone. It also means that the tube position in the field has no effect on the readings.

Single axis and multiple axis systems are available, both in static or in oscillating configuration, applicable for hot or cold processes. Applications cover solutions for quality control (NDT) in cold status to hot processes like MPM sizing mills, SRM mills, conveyors, pilger mills, piercing mills, radial forges, extrusion presses and others.

A sophisticated protection/cooling system guarantees reliable operation and minimal maintenance. Other highlights include CSS (calibrated single scan) technology; 1,000 true measurements/s; mach 3 scan speed means no dynamic errors; accuracies within a few 0.01mm; and EPM method/software for polygonal deviations.

Zumbach's Profilemaster® systems are based on the latest technology with laser contouring and CCD camera vision and processing. They capture the full product circumference/section and measure and monitor the relevant profile dimensions, angles and radii.

The range of Profilemaster gauges includes versions for small precision profiles starting from a dimension of 2mm (0.08"), cold formed tubes and profiles as well as medium size products, hot or cold, up to dimensions of approximately 250mm (10").

Depending on process, maximum product temperature and size range, a number of standard models are available. Special systems are conceived and built upon specific request.

Highlights include the latest 'light cut' technology; modular design with one to six laser/camera modules, depending on the type of profiles; high accuracy within some 0.01mm; fully static system; easy 'teach-in' from CAD product files; integrated protection and air cleaning system; and close-to-zero maintenance, with no wear parts.

Zumbach Electronic AG – Switzerland
Fax: +41 32 356 04 30
Email: sales@zumbach.ch
Website: www.zumbach.com

The new ODAC 550 laser scanner with HLF (high-accuracy large field) technology

Two new fusion machines

PIPE fusion specialist McElroy has introduced two new machines. The 1LC fusion machine is designed for butt fusing polyethylene pipe sizes from ½" CTS to 1" IPS (16 to 34mm). Engineered as an alternative to the popular MiniMc™, the 1LC design uses a more conventional design. Its heater locates on guide rods built within the unit, similar to larger diameter machines in the McElroy family. Pipeliners that own a MiniMc, which fuses the same pipe sizes, can use the same inserts within the 1LC.

"The McElroy 1LC puts tried and true technology into our smallest fusion machine," said Chip McElroy, president of McElroy. "Other standard features that make McElroy the toughest fusion machines in the world have also been incorporated into a fusion machine that we believe will be extremely popular."

With a locking cam system, the 1LC maintains necessary force during the cooling cycle of the fusion process and incorporates a 3.8-to-1 mechanical advantage. McElroy's patented Centerline Guidance System, which provides equal distribution of force around the joint, is included in the design, as are serrated jaws and inserts to keep the pipe from slipping during fusion.

Two models of the 1LC are available for sale. One model requires a 100 to 120 volt input voltage requirement, while the other uses 200 to 240 volts. Each 1LC includes the fusion machine, heater, facer, insulated heater sling, ratchet wrench, screw/driver kit and case.

McElroy's other new machine – the PitBull® 26 fusion machine – can fuse a variety of pipe sizes in the popular 2" IPS to 6" DIPS (63 to 180mm) range. Due to the growing popularity of the size range, the PitBull 26 was designed to provide contractors with a machine for their day-to-day fusion operations.

The design of the machine is similar to one of McElroy's best-selling machines, the PitBull 14, and also features McElroy's patented Centerline Guidance System, a semi-automatic locking cam, hard anodised aluminium wear surfaces for corrosion resistance and thrust-bearing-equipped clamp knobs that minimise the torque required to clamp and round the pipe for fusion operations.

Three PitBull 26 machine models are available: a 6" DIPS with a 100 to 120 input voltage requirement; a 6" DIPS with a 220 to 240 input voltage requirement; and a 180mm unit with 220 to 240 input voltage requirement. Each PitBull 26 machine comes with the fusion machine, facer, heater, insulated heater stand, facer stand, 6" IPS insert set and a screw/driver kit.

McElroy – USA
Fax: +1 918 831 9256
Email: fusion@mcelroy.com
Website: www.mcelroy.com

The PitBull 26

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info@saetgroup.com

Measuring 3D bent profiles

PROFILES have become more important for the industry in recent years. Architecture and design offices, engineers and engine manufacturers work on many different variations of innovative profile techniques, and solutions for process optimised bending tests are daily tasks. TeZetCAD from TeZet is able to measure not only freeform bent round tubes but also freeform bent profiles.

Profiles are more versatile than tubes, and provide more opportunities in applications and more operational rigidity, referring to machining and design projects, than the traditional round tube.

Supplementary functions can be integrated into a profile, for example supporting surfaces or screw-on parts, sealing or joining functions, or locating surfaces as formclosures.Three-dimensional transformation acts as an additional challenge. Possibilities and applications are so widely spread that the follow up of their realisation into production is not straightforward. Advanced engineering of the automotive, aviation, aeronautics and nautical industries, amongst others, collaborate with different national and international universities and research and development companies, to be able to assure a smooth bending production.

The three-dimensional transformation of freeform bent profiles is more complex than that of tubes. A tube has a round cross-section, and may get a light ovality because of the deformation, but in the end the centreline stays the same. Non-circular profiles are as different as the applications for which they are designed. They may be symmetric or asymmetric, may have only one chamber (square, rectangle, hexagon) or multiple chambers. The deformation of the profile outlines and the cross-sections of asymmetric chambers may change more than those of a round tube.

In TeZetCAD, freeform bent profiles are measured in a tactile manner, and not with a laser as freeform bent tubes. If the user has long profiles and 'loses its way' with the tactile probe on the material, he can go back or just start a replay measurement of the lost path, without interruption of the whole measurement. The established method of leap-frogging – if the parts are longer than the workspace of the measuring device – is possible without losing the coordinate system and without interruption of the measurement.

TeZet Technik AG – Switzerland
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Email: leistritz@tezet.com
Website: www.tezet.com

Measured 3D profile

Clear and permanent marking of pipes

PÖPPELMANN GmbH has added to its Kapsto range of products the new GPN 1070 identification plates for the identification of hoses and pipes for hydraulic and other fluid handling systems.

The plates are manufactured from a largely chemical resistant and impact-resistant high-density polyethylene and are available in seven colours, allowing the permanent marking and rapid identification of hoses and pipes, even when the latter are installed in parallel configurations. The plates' curved contour permits close-fitting attachment to outer diameters from approximately 17 to 30mm.

The new identification plates have a useful surface area of 40mm length x 20mm width, and can be easily and legibly marked with permanent markers, resulting in weatherproof and heatproof markings.

The material also contains laser sensitive additives, causing a clear change in colour when hit by a laser beam and so delivering markings that are sharply defined, of high contrast, abrasion-resistant and permanent.

One end of the plate is pointed, providing the ability to indicate the direction of flow of the medium. When used on construction or agricultural machinery, for example, the plates can be used to identify the respective functions of the hydraulic lines, eg lifting, lowering, right and left.

The identification plates can be attached easily and rapidly by means of two conventional cable ties that lie flush in the grooves provided for them in the tag. Consequently, even when subjected to heavy duty conditions and extreme vibration, the tags will not slip out of place.

Pöppelmann GmbH & Co KG – Germany
Email: info@poeppelmann.com
Website: www.poeppelmann.com

GPN 1070 identification plates from Pöppelmann are curved for close fitting to hoses and pipes

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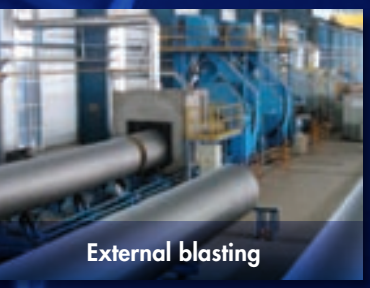
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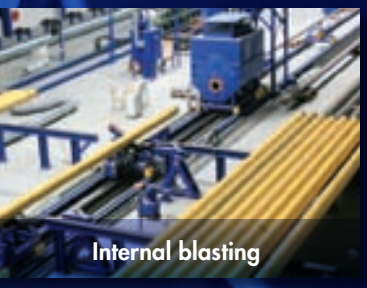
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telephone (+31) 251 211 999 **fax** (+31) 251 220 777 **internet** www.selmers.nl **email** sales@selmers.nl

Phased array flaw detector

SONATEST has launched a new phased array instrument, named veo 16:64.

The veo is a fully capable phased array instrument with multi-technique functionality, including TOFD, fast data recording, a simple to use interface and rugged housing design. Typical applications include pipeline weld inspection, corrosion mapping, aerospace and composite testing.

Key design elements considered in the development of the veo series are user and performance focussed, which include simple controls and a workflow driven menu structure.

The 3D Scanplan feature displays a full 3D view of the user's test set up, including probes, wedges, the weld and geometry, with phased array beams. There are also on-board probe and wedge databases for fast setups.

The 16:64 phased array instrument has TCG and ACG, a superior encoding speed with fast A-scan recording and reporting functionality. There are two separate conventional channels providing simultaneous phased array and TOFD scanning to speed inspection and ensure correct data referencing for improved defect characterisation.

Real time focal law calculations allow the user to change scanning parameters instantly, reducing the time spent on setup and defect investigation.

The veo enclosure has been designed to withstand the tough environments in which NDT inspections are carried out, achieving IP67 standard for water and dust ingress and employing internal shock mounts to withstand impacts. A large, sunlight readable screen enables the technician to see and interpret results with ease and efficiency, especially when complex inspections need multiple probe configurations. The veo batteries give up to six hours' use, and are hot swappable for continuous use.

Sonatest Limited – UK
Fax: +44 1908 321323
Email: sales@sonatest.com
Website: www.sonatest.com

Sonatest's new veo phased array instrument

Weld gas analysers

WELDWIDE Solutions Limited now offers two weld gas analyser models. These instruments will accurately measure the oxygen content in the pipe when purging in preparation for and during welding of stainless steel, titanium and other exotic pipework.

The company states that by using a weld gas analyser, customers will see the benefits of better purge and therefore weld quality, improved control of the weld profile and purge gas and time savings.

The Ar-Gone weld gas analyser is a standard model, with a simple ABS case and all electronics, sensor, wiring and batteries in one compartment. The model reads to two decimal places, is of a robust design and has served the industry for almost 20 years.

The Argo-Naught 2010 is a new development exclusive to Weldwide Solutions and its distributors. This instrument features a new design of case which is divided in two separate, air-tight and sealed compartments. One compartment houses the electronics of the display, potentiometer and switch, while the battery and sensor (which are the components most likely to be renewed periodically) are inside their own isolated compartment inside the instrument.

The instrument also has an easy fit jack plug socket for the sensor, a timed delay to turn off the display and a large and clear one decimal point readout.

Both the Ar-Gone and the Argo-Naught 2010 sensors give accurate readings, and benefit from Weldwide Solutions' customer after-care service.

The company also provides replacement instrument sensors, and offers an inspection and certification service for customers using these and similar instruments.

Weldwide Solutions Limited – UK
Fax: +44 1554 754 276
Email: alec@weldwidesolutions.com
Website: www.weldwidesolutions.com

ATEX-compliant hood positioning devices

FLEXTRACTION Ltd, a supplier and manufacturer of local exhaust ventilation (LEV) products, has introduced a new range of totally self supporting hood positioning devices (HPD), including the Flextractor HPD, Extended HPD, Mini HPD and Flextender HPD. Most of the new range is now available certified as ATEX-compliant.

The HPDs all incorporate new mounting brackets, hoods and hoses for the capture and extraction of industrial dusts and fumes including hazardous and corrosive fumes at the point of source in surface grinding, welding, product tipping and drum filling as well as food processing and all manufacturing applications, where dust and fumes are emitted.

Being ATEX-compliant means that products are coated with an anti-static paint so that they can be used in hazardous area zones, which are based on the frequency and duration of where there can be an occurrence of an explosive atmosphere in which a mixture of air with dangerous substances in the form of gas, vapour, mist or combustible dust is likely to occasionally occur in normal operations.

Features of the HPDs include a rear casing that is fully enclosed, giving an improved aesthetic appearance and protection against dirt ingress, a rear boom extension giving a 270° working radius, and a new 360° rotating swivel hood enabling more accurate hood positioning, while quick release clips are used to attach a range of flexible hoses including ATEX-certified hoses.

Flextractor HPDs are suitable for standard wall or stanchion mounting, as well as upward and downward swivel, joist and ceiling mountings, and are available in five standard lengths between 1.5m and 4m.

The Extended HPD provides the user with the additional option of a longer reach up to a maximum of 8m. The wall or bench mounted mini HPD is available in three standard diameters – 75mm, 100mm and 125mm – with either a 1m or 1.5m reach.

A range of hoods is available in a wide variety of designs including bell mouth, flare, fish tail, flat screen and custom designed.

Flextraction Ltd – UK
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Website: www.flextraction.co.uk

The new Flextender HPD extraction arms are ATEX-compliant

Casting concept offers new steel grades

SALZGITTER Flachstahl GmbH, a subsidiary of the Salzgitter Group, has placed an order with SMS Siemag for the construction of a near-net-shape caster in Peine, Germany.

This fundamentally different and worldwide unique casting concept will be implemented for the first time on an industrial scale and enable the casting of new high-strength steels.

The advantages of the belt casting technology are energy and CO_2 savings compared to conventional steel production. Furthermore, it enables the industrial production of HSD® steels (high strength and ductility).

Ulrich Grethe, CEO of Salzgitter Flachstahl GmbH, commented, "In addition to an unusual formability, HSD steels have a high strength and are thus ideally suited for use in automobiles.

"The use of HSD steel plates here helps to conserve resources: lighter, fuel-efficient vehicles can be built because compared with conventional steels, these light structural steels allow a higher reduction in weight. Their density is approximately 5% lower than that of conventional steels. Furthermore, the new technical concepts in belt casting open up a fully new materials spectrum that goes beyond HSD steels."

The order comprises basic and detail engineering, the supply of the entire mechanical equipment as well as the complete electrical and automation system, all ancillary equipment, erection and cold commissioning in Peine, and the modification of an existing mill stand for the further processing of near-net-shape strip in Salzgitter.

According to Christian Geerkens, executive vice-president of the steelmaking plants/continuous casting technology division of SMS Siemag, "Our customer is thus putting a plant into operation which has an incredibly high energy-saving potential. This plant concept meets all the criteria in terms of profitability and ecological efficiency. We are very proud to implement this jointly with Salzgitter."

The project, which was developed together with the Clausthal Technical University, will be supported in view of the attainable environmental effects by an investment grant of around €19mn, as part of the environmental innovation programme of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety.

SMS Siemag AG – Germany
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Salzgitter AG – Germany
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Website: www.salzgitter-ag.de

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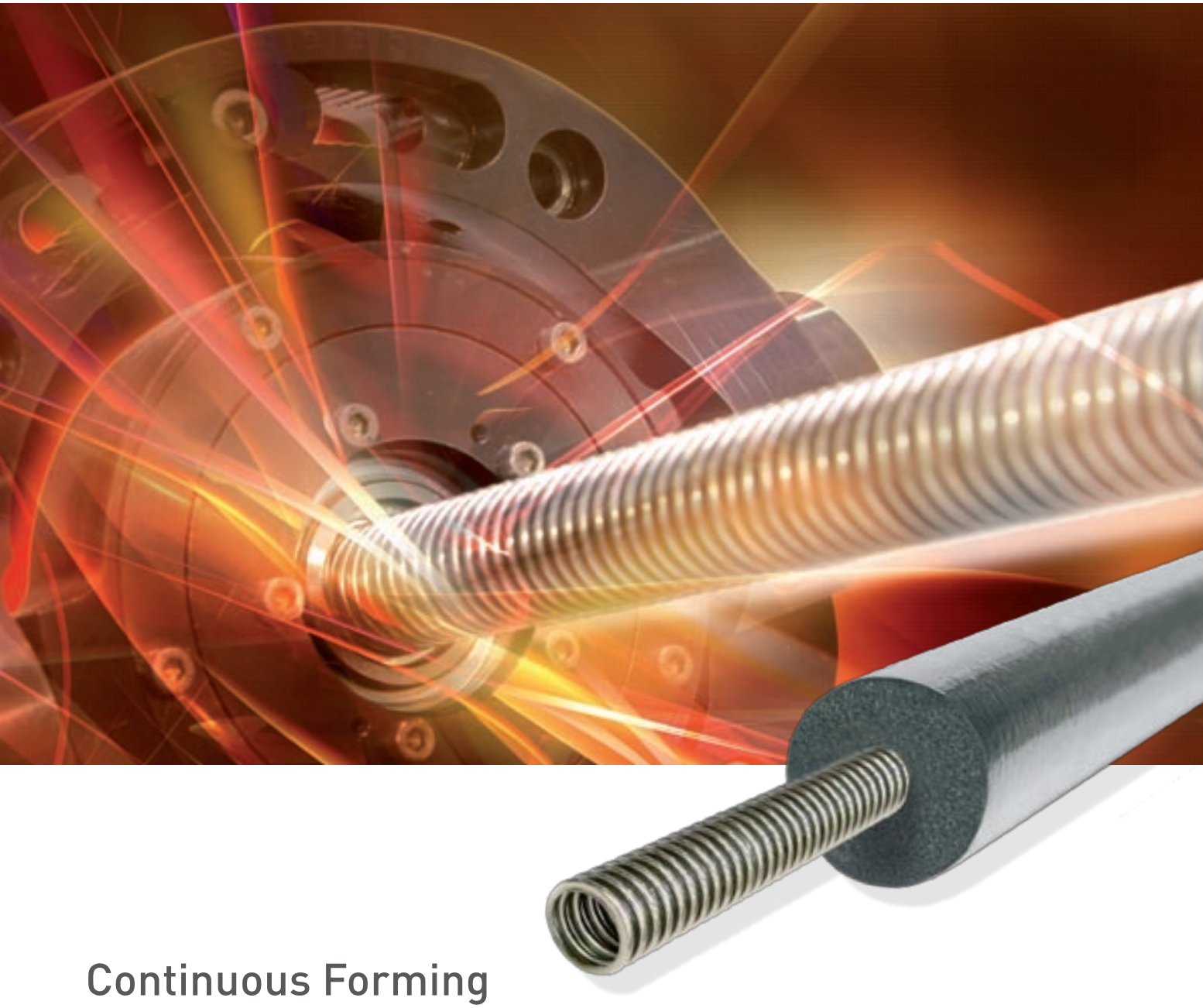

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Tabriz – 900 Euro (Single Room) / 840 Euro (Twin Room - per person)
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Turkish Airlines, 3th March 2011 Tehran – Istanbul, 03:50 – 05:55
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Atlas Jet, 3th March 2011 Arbil – Istanbul, 15:30 – 17:00
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Turkish Airlines, 7th March 2011 Istanbul – Baghdad, 03:30 – 07:15

Jordan
Amman – 790 Euro (Single Room) / 740 Euro (Twin Room - per person)
Turkish Airlines, 3th March 2011 Amman – Istanbul, 06:35 – 09:00
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Libya
Tripoli – 790 Euro (Single Room) / 740 Euro (Twin Room - per person)
Turkish Airlines, 3th March 2011 Tripoli – Istanbul, 14:25 – 17:15
Turkish Airlines, 6th March 2011 Istanbul – Tripoli, 15:05 – 18:10

Russia
Moscow – 740 Euro (Single Room) / 660 Euro (Twin Room - per person)
Turkish Airlines, 3th March 2011 Moscow – Istanbul, 08:25 – 10:40
Turkish Airlines, 6th March 2011 Istanbul – Moscow, 18:50 – 22:50

Moscow – 740 Euro (Single Room) / 660 Euro (Twin Room - per person)
Aeroflot, 3th March 2011 Moscow – Istanbul, 10:45 – 12:45
Aeroflot, 6th March 2011 Istanbul – Moscow, 21:35 – 01:20

Saudi Arabia
Jeddah – 900 Euro (Single Room) / 840 Euro (Twin Room - per person)
Turkish Airlines, 3th March 2011 Jeddah – Istanbul, 05:50 – 08:45
Turkish Airlines, 6th March 2011 Istanbul – Jeddah, 20:50 – 01:35

Syria
Damascus – 740 Euro (Single Room) / 660 Euro (Twin Room - per person)
Turkish Airlines, 3th March 2011 Damascus – Istanbul, 05:30 – 07:40
Turkish Airlines, 6th March 2011 Istanbul – Damascus, 21:50 – 23:50

Turkmenistan
Ashgabat – 740 Euro (Single Room) / 660 Euro (Twin Room - per person)
Turkish Airlines, 3th March 2011 Ashgabat – Istanbul, 07:35 – 08:45
Turkish Airlines, 6th March 2011 Istanbul – Ashgabat, 21:25 – 04:00

UAE
Dubai – 790 Euro (Single Room) / 740 Euro (Twin Room - per person)
Turkish Airlines, 3th March 2011 Dubai – Istanbul, 03:25 – 06:30
Turkish Airlines, 6th March 2011 Istanbul – Dubai, 20:10 – 02:25

Abu Dhabi – 900 Euro (Single Room) / 840 Euro (Twin Room - per person)
Etihad Airways, 3th March 2011 Abu Dhabi – Istanbul, 09:20 – 12:35
Etihad Airways, 6th March 2011 Istanbul – Abu Dhabi, 13:35 – 19:55

Uzbekistan
Tashkent – 940 Euro (Single Room) / 880 Euro (Twin Room - per person)
Turkish Airlines, 3th March 2011 Tashkent – Istanbul, 04:20 – 06:40
Turkish Airlines, 6th March 2011 Istanbul – Tashkent, 18:55 – 02:30

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Pipeline and plant construction equipment

PROLINE Pipe Equipment, with headquarters in Alberta, Canada, has been serving the needs of the domestic and international pipeline industry for over 40 years. The company manufactures and supplies a wide variety of specialised equipment for pipeline and plant construction.

Proline operates from a 2,518m^2 (27,100ft^2) facility that houses a manufacturing shop, consumable products warehouse, equipment and product service department, sales and management offices.

The company states that its products are proven in field tests to ensure customers have high performance equipment for pipe bending, handling and finishing. The first internal pneumatic line up clamps and bending mandrels with the 'No Roll' or self-centring technology left the Proline manufacturing shop and onto contractors' jobs decades ago.

Products manufactured by Proline include hydraulic pipe bending machines, bending mandrels, pneumatic internal line up clamps, rubber tyre and rolli-cradles, welding inspection bands and ditch pumps.

The company can also supply pipeline related items such as tape/primer, welding supplies, plastic pipe supports, manual pipe cutters, and manual/hydraulic external/internal line up clamps.

Proline is a factory authorised sales, service and repair facility for SPY holiday detectors, Metrotech line/fault locators, and H&M bevelling machines.

Proline Pipe Equipment Inc – Canada
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Website: www.proline-global.com

Pneumatic internal clamp from Proline

Bevelling bench

PROTEM's electric BB machine can be used either on-site or in the workshop and the heavy duty beveller will bevel, face and counterbore heavy wall pipes either individually or simultaneously. It will perform repeatable high quality weld preps on most metal pipes including stainless, duplex and super duplex, from 88.9 to 406mm OD (3" to 16"), or from 323.9 to 610mm OD (12" to 24").

Used with the optional profile tracking device, the bench beveller will machine oval pipes, leaving a root face of a consistent width, which is required when using orbital welding heads.

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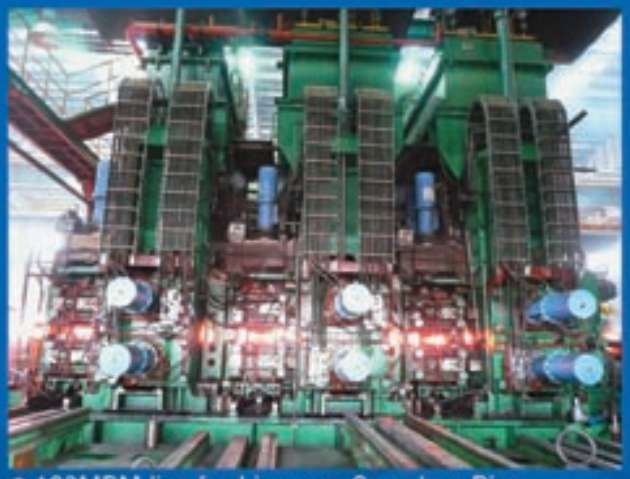
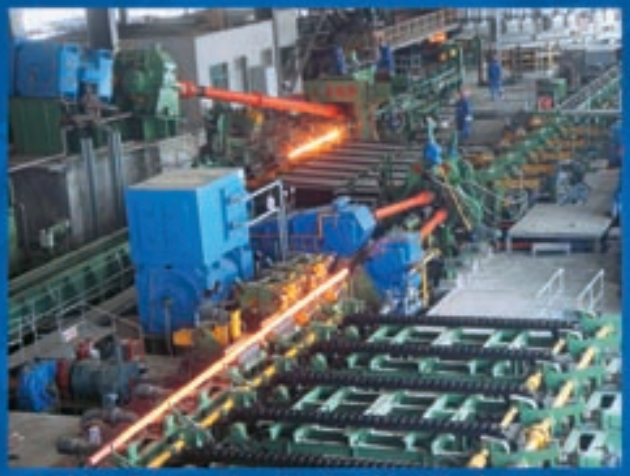


Φ180MPM line for Liaoyang Seamless Pipe



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Roll forming software for complex profiles and tubes

THE automotive industry and also other applications require more and more complex roll formed profiles. In order to form such profiles on a roll forming machine, it often is necessary to have additional side axles with inclined angles that plunge into the open cross-section. This makes it easier to form the inner radii precisely. Technically, it is quite costly in terms of labour and time to adapt the machine and to mount special axle holders for each kind of profile individually, but this effort is unavoidable if high precision profiles are required.

Also the roll form design software that is used for designing the profile, the flower pattern and the roll tools has to meet these requirements. That is why the new release of Ubeco Profil enables the designer to define further side axles with any inclination angle. It is proceeded in the machine window, which works interactively with the drawing area. This very popular method means that the effect of data modifications are shown in the drawing immediately. Vice versa, if the user selects or modifies drawing entities, the content of the data windows is updated. Using interactive software makes it much easier for the designer to optimise the flower pattern and to adapt the roll tools in order to form the desired profile with the required high precision.

Shaped tubes are tubes with any symmetrical or non-symmetrical but closed cross-section, which are formed from an initial tube by using calibrating stands (Turk's heads). It is a good idea to select an initial cross-section that approaches the final cross-section. If the final tube has nearly the same height and width, it should be formed from a round tube. Otherwise, if the shaped tube is either quite large and flat or quite high and narrow, this means it differs extensively from the square form, and an elliptic cross-section should be used. It is also possible to calibrate by keeping the cross-section unchanged. During this process, only the developed length decreases.

The designer proceeds backwards: the customer requires a shaped tube with desired cross-section and desired dimensions. From this specification the flower pattern for all calibrating stands has to be developed until the welding station is reached. In each calibrating stand, the developed length has to be multiplied by the calibrating factor. That is why the developed length decreases (and the tube length increases) during this process. Furthermore the deformation degree of the last stand should be smaller than the one of the previous stand's in order to get higher accuracy. By using a pure CAD system, these steps are quite tedious and time-consuming.

After defining the desired shaped tube (eg by importing a CAD drawing or within the roll forming software by using the tool box), the designer selects the machine with a certain count of calibrating stands. In each stand the calibration factor is defined, which increases the developed length against the sheet running direction. Furthermore the deformation degree is pre-set that allows to partition 100% total deformation to each stand arbitrarily. Afterwards the designer calls the function 'Shaped Tubes Calibration'. The software opens a selection window for the desired welding pass cross-section.

Three methods are available as to how the defined shaped tube should be formed (against the sheet running direction):

The shaped tube should be formed to a round tube: The calibrating passes are created dependent on calibration factor and deformation degree. Finally, a round tube is created at the stand that has the deformation degree zero for the first occurrence (normally the welding station, though a calibrating stand is possible). Because there are many possible cross-section patterns for the calibrating stands, the roll form software has a built-in random generator that calculates ten different solutions for the problem. Nine of them are discarded and the best, with the minimum horizontal deviation of centroid of the area, is kept.

The shaped tube should be formed to an elliptic tube: This method should be used if the shaped tube is either quite large and flat or quite high and narrow – this means it differs extensively from the square form (with same width and height). High deformation would be required to calibrate this kind of shaped tube from a round tube. It is better to calibrate it from an elliptic tube. The input window 'Aspect ratio major/minor axis of the ellipse' requests the entry of the desired ratio. The value must be between 1.1 and 16. The roll form software decides by itself, dependent on the position of the final shaped tube, whether a flat or upright ellipse is created.

The cross-section of the shaped tube should keep unchanged: The deformation degree is ignored and, dependent on the calibrating factor, the straight length of each profile element is increased.

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Welding, forming and cutting lines

NANJING Zhongqing Machine Making Co, Ltd manufactures various ERW straight seam pipe welding lines, high precision cold roll forming lines, and coil sheet slitting and cut-to-length lines.

The company's lines are capable of producing pipe diameters from 8 to 660mm and wall thicknesses from 2.3 to 22mm. The 60mm tube welding line has won several domestic prizes. The company's LWGC450 high precision cold roll forming line won the 'China Innovation Prize for Cold Roll Forming Equipment'.

In recent years the company has developed thick wall pipe welding equipment for the production of pipeline pipes, petroleum casing pipes and oil pipes. The pipe welding lines are capable of handling steel grade X42-X70, J55 and N80-1 using flexible forming technology. These lines use PLC control to realise a high degree of automation, automatic parameter setting and production process automatic monitoring.

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Maillefer at K Düsseldorf 2010

AT October's K show, Maillefer exhibited a series of innovations for its tube and pipe extrusion lines.

Maillefer's drip irrigation lines include an entire series of innovations. More tube constructions and dripper types are available from the PIL extrusion lines. The fully integrated components include high performance dripper feeding and insertion, multi-layer extrusion and fully automatic non-stop coiling from the new KWI coiler. With the increasing demand from agriculture for ecological water irrigation systems, the drip irrigation extrusion lines are a smart response for tube manufacturers worldwide.

In the area of heating and plumbing pipe are the new Maillefer forming and welding components used in manufacturing PEX-AL-PEX composite pipe. Features include easier forming tool setups, elimination of wear and dust from TIG grounding, and improved weld surveillance. Maillefer has undertaken the redesign of all the components on the PCL line, and the result is improved performance, efficiency, ease of operation and processing quality.

Maillefer also presented its extrusion lines for blown fibre tubes and microducts, medical IV tubes, automotive fuel line tubes with six or more functional layers, and gas and water pipes. Highly engineered tube and pipe extrusion, such as large multi-layer flexible pipes for the subsea oil and gas industry, is the company's speciality.

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Thermoplastic solutions

THE motto chosen by Simona AG for its corporate presentation at the K 2010 trade fair was 'Discover Thermoplastic Solutions'. Within this context, a 3D model of 'Simona City' was used to illustrate the range of applications for which Simona semi-finished plastics, pipes, fittings and finished parts are used.

Simona is committed to promoting the use of plastics for a wider range of high-end applications, particularly within the chemical process industry. With manufacturing facilities in China and the Czech Republic, as well as a highly focused product strategy, the company has created a launch pad for expansion within this field.

Among the new products to be unveiled by Simona at K 2010 were foam sheets made of PE and PP. Simona PE Foam and Simona PP Foam have a closed-cell foamed core and coextruded outer skins, which provide a combination of low weight and high rigidity. The claimed results are excellent processing properties, high-quality surface finish and low water absorption.

Simona Eco-Ice sheets made of PE are used for ice rink surfaces, contributing to environmental protection, sustainability and energy reduction within this specific area of application. Ice rink surfaces made of low-friction plastic sheets offer tangible savings with regard to energy and operating costs. This innovative solution removes the need for ice machines and cooling systems, as ice skates can be used directly on the plastic panels, which are securely joined to one another to form an ice rink surface.

The Eco-Ice plastic sheets are suitable for indoor use, but can also be supplied as UV-stabilised panels for year-round outdoor use, with a ten-year warranty. Eco-Ice is available in various polyethylene designs: PE-HD (high heat resistance), PE-HMW (high molecular weight) and PE-UHMW (ultra-high molecular weight). The product received the 2010 Industry Award and is among the top five innovations within the Energy & Environment category.

Simona Simopor-Digital has been developed specifically for digital direct printing. As one of the first digital-print sheets, it has anti-static properties. This, together with the sheet's surface finish, facilitates ink acceptance even during high-speed processing. In addition, Simopor-Digital includes a specially developed white pigment that ensures brilliant picture reproduction.

Simona has also produced a high-end product tailored to the needs of door manufacturers: Simoshield PVC-T sheets have been designed with a visible and tangible wood grain finish.

Within the area of area of deep geothermics (ie mine-water projects), the company showcased its advanced PP-H Alpha-Plus piping system, which is designed to withstand particularly high thermal, mechanical and hydraulic stresses. Owing to the thermal stabilisation of the polymer, the pipes are suitable for permanent use at temperatures exceeding 80°C.

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Improving tube shop efficiency

THE capabilities of machines for tube processing have developed significantly in recent years, especially due to innovations in design concepts and control software. At international trade shows machine manufacturers present solutions to problems that were deemed impossible as little as ten, even five years ago.

But even the most innovative and capable machine is dependent on accurate data in order to attain its full potential. The software applications by 3R software solutions are designed to assist the user at every part of this process, either as stand-alone programs that augment existing IT-structure, or as integrated software framework.

One of the first tasks when designing a pipeline system is to draw up the schematics, to see where it fits into the overall project.

RONIR2D is one of the programs used for this purpose. It automatically classifies all used components, including their material and nominal diameters, and creates a symbol key based on the included elements. It also automatically generates bills of material for purchasing and the construction department, and assigns a logical and unique number to each component of the diagram. The application uses a database to store element information, and thus it is possible to calculate eg the weight of a particular tube, or the centre of gravity of the entire system. The system can also be tested for logical consistency, and automatically blocks the user from accidentally using incompatible materials. Using the integrated export function it is possible to save the P&I diagram in different formats, so it can be used in the next step in the process.

The construction department has the task of turning the two-dimensional P&I diagrams into three-dimensional pipeline systems. This is usually done by splitting the entire system into segments, and creating isometric drawings (isos) for each of them. These drawings can then be subdivided into smaller sections (spools), which can be manufactured in the workshop and assembled on-site.

RONIIsoBuilder is designed to not only create these isos, but also to import them from a variety of third-party platforms. Since RONIIsoBuilder focuses on pipeline elements and fittings it offers a large range of features specifically designed for the tube industry.

One major advantage of RONIIsoBuilder is that all fabrication-relevant data can be extracted from the iso, and do not have to be calculated manually. Besides worksheets and part lists for every drawing itself, it is possible to create individual worksheets and lists for every spool composing the drawing. The actual cutting length can be determined, and CNC-data for the various machines in the workshop, such as the bending machine or the flame-cutting machine can be calculated.

In order to determine if a spool can be fabricated with the existing machines and tools, a bending simulation program like RONIKolli7 is indispensable. By creating virtual models of the machine and all associated tools, it is possible to test a tube for collision with the machine, the tool, or the environment. In case of interference the software can automatically look for alternatives within the capabilities of the machine and following customisable parameters. The more complex the machine, the more options the program has: simple three-axis benders for example may allow a reversal of the rotation direction or the bending order, as well as a correction feed.

Besides a mere simulation of the bending process RONIKolli7 offers features for flange bending and the calculation of flange displacement, cycle time approximation, functions for the creation of tube coils and segment bends, and the consideration of material traits, to account for springback and traction reductions. A newly developed optional feature enables the user to create models of customised tools for very complicated bends. The CNC-data required to fabricate the tube can be printed out on worksheets or in many cases exported directly to the bending machine. Often all that is required of the machine operator is to load the tube into the machine, confirm the data on his screen, and supervise the bending process.

Once the entire system has been divided into sections and spools, these spools have to be manufactured. Here it is important to both minimise the need for manual calculations and to arrange the order of the spools for fabrication to reduce changeover times at the various machines.

The 3R RAMP system consists of a core application and various modules, each of which controls one of the aspects of fabrication. Data generated from isometric drawings in RONIIsoBuilder is bundled and can be arranged into fabrication packets, always considering machine utilisation and available material. Cutting lists are optimised, so the amount of scrap is reduced as much as possible. Bending lists are created in respect to tool changeover, to reduce the time spent on this task. And since each spool is assigned a unique number, the status of every single component can be monitored at any point during the fabrication process. This way it is possible to analyse machine utilisation, work flow and capacities.

While each application developed by 3R software solutions can be used as a standalone product, the combination of RONIIsoBuilder and RAMP can increase a tube shop's efficiency significantly. Controlling the flow of material and the utilisation of the various machines is another important factor, reducing idle time at the machines and increasing output. But in addition to these four core applications that govern the important tasks involved in designing and fabricating tubes, 3R software solutions also offers various other applications designed to facilitate various processes:

Like every other component of a mechanical system, pipes break down over time. Whether due to impact damage or simple corrosion, eventually a part of the pipeline system will have to be replaced. Here it becomes important to fabricate a replacement that can be inserted into the existing system precisely. If the original data used to fabricate the spool is no longer available, it becomes necessary to measure the tube.

There are several methods of measuring tube elements, ranging from optical measurement with multiple cameras to contact or non-contact measuring with movable arms. While RONIKolli7 offers import interfaces to many of these systems, 3R software solutions also offers an affordable measuring system of their own with RONITubeFit. The measured data can be transferred to RONIKolli7 in order to calculate the required CNC-data for fabrication.

Creating drawings of existing pipeline systems is a task that often has to be performed in environments that do not allow the use of big workstations. Sketches drawn by hand, however, are at risk of becoming smudged or damaged and have to be entered into the CAD platform manually.

With RONIDraftboard it is possible to sketch tube systems on a tablet-PC, a lightweight touchscreen computer that can be used on-site, to create digital drawings. Lengths can be entered, elements can be placed, and worksheets can be created. For further processing the drawing can be exported to RONIIsoBuilder or RONIKolli7.

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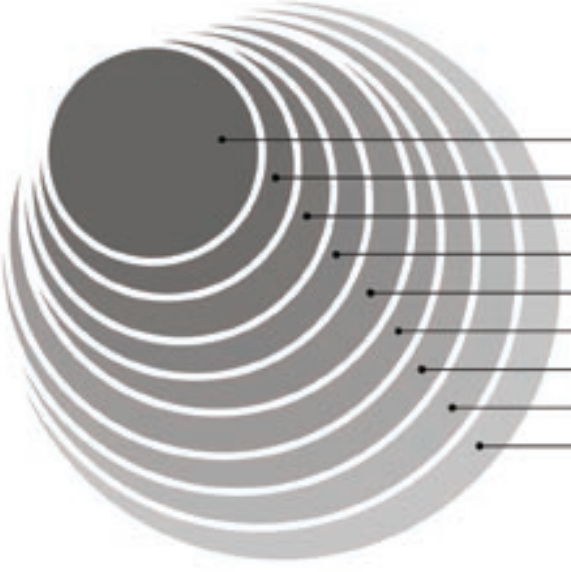

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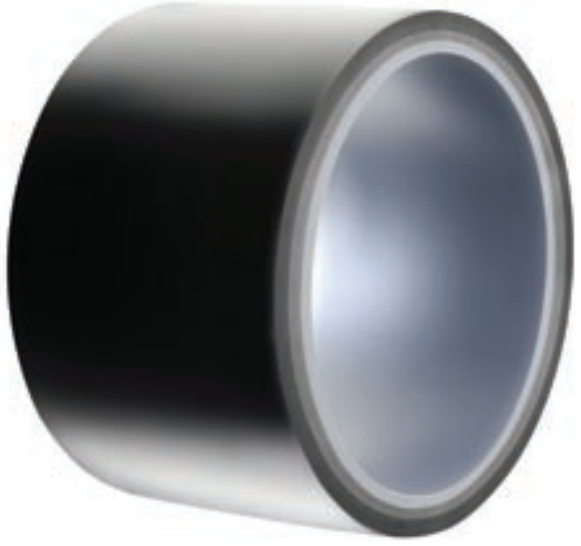
Innovations in pipe extrusion process

KRAUSSMAFFEI is a leader in machines and systems for plastics and rubber processing, with three divisions: injection moulding technology, extrusion technology and reaction process machinery.

The company reports that in the pipe extrusion sector there is a definite trend away from single-layer standard pipe and towards multi-layer pipe with extra functional layers. Pipe producers are turning to innovative concepts to produce PP-R fibre-composite pipe or PP foamcore pipe.

In Turkey, companies such as Pakpen Plastik Boru ve Yapi, which is among the country's largest pipe producers, produce PP-R fibre-composite pipe on KraussMaffei Berstorff lines. The pipe has several applications, among them for hot water supply. Other KraussMaffei Berstorff customers producing PP-R fibre-composite pipe include some of the large Russian pipe producers, such as Politek Ptk or Politron, and Estonian pipe producer Gallaplast. All these extrusion lines are headed by single-screw extruders from the 36D series with multilayer tooling and material-specific calibration and cooling systems.

Three-layer PP-R fibre-composite pipe has some clear advantages over conventional hot water pipe. The hot water passing through them causes only minimal longitudinal expansion. This makes them easier to lay, because the installer need not allow for expansion in the choice of connecting fittings. In addition, the extra stiffness of PP-R fibre-composite pipe means that the fixing clips can be spaced further apart than in the case of unfilled PP-R pipe.



PP-R glassfibre-reinforced pipe for hot and cold water applications

The three-layer foamcore PP pipe used in domestic applications has weight and cost advantages over single-layer compact PP pipe with the same dimensions and ring stiffness. The lower density of the foam layer can result in raw material savings of over 20% compared with compact pipe. Considering that raw material costs can account for as much as 90% of the total manufacturing cost of plastic pipe, savings of this magnitude are highly relevant.

The KraussMaffei group markets its products under the KraussMaffei, KraussMaffei Berstorff and Netstal brands. The KraussMaffei brand covers the whole spectrum of injection and reaction moulding technology, while the KraussMaffei Berstorff brand stands for extrusion solutions. The injection moulding machines of Netstal, a Swiss subsidiary, meet the requirements imposed on process implementation, parts quality and production performance and are mainly used to make sophisticated technical and thin-walled plastic parts.

KraussMaffei Technologies GmbH – Germany
Website: www.kraussmaffei.com

CMT robotic technology

CRC-Evans has integrated CMT (cold metal transfer) technology with its P450 automatic welding machine, creating new parameters of quality and speed for work on small-diameter pipe. This equipment offers advanced capabilities that the company claims can make a significant difference in productivity for offshore projects.

CRC-Evan's CMT robotic technology controls all functions digitally with advanced software that instantly processes welding data. Equipped with continuous digital feedback, CMT boosts response time for the power supply and executes precise control of the AC servo wire feed motor. 5G and 2G root bead passes are completed rapidly and perfectly. No copper backup clamp is required.

"This technology is game-changing for small-diameter offshore and spoolbase pipeline operations," said Paul DeWeese, president of CRC-Evans Automatic Welding.

CRC-Evans Automatic Welding designs and builds automatic welding systems for land and offshore pipeline construction. In addition to renting or selling these systems to contractors on a project basis, the division provides other specialised services such as engineering, on-site technicians and training. The company is a subsidiary of CRC-Evans Pipeline International, a provider of equipment for the construction of pipelines.

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Website: www.crc-evans.com

Improved capacity

A GLOBAL oversupply of goods is forcing many producers of consumer goods to produce an increasing number of new products for any possible target group. As a consequence their suppliers have to deal with an increasing number of product variants and often drastically reduced lead times. Many tube and profile producers are not prepared to manage this challenge. Roll tool change-over techniques require too much time. At the same time, the companies are forced to reduce their inventory cost in order to meet cost targets.

Dreistern has developed a number of technologies that allow for an efficient counter strategy. They target two main areas: Reduction of the required time for a product change to a few minutes, in order to allow the producer to supply small batch sizes without the need for intermediate storing; and enhanced capability to produce completely different products on one production line. This provides the tube manufacturer with the possibility to not only produce round tubes but also complex welded and open sections.

The system ensures that all tool parameters are set and the new product can be produced within the required tolerances and without need for additional adjustment.

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Email: heinrich.weber@dreistern.com
Website: www.dreistern.com

In process laser tube diameter measurement

VALLOUREC Mannesmann is a leading company in the production of seamless steel tubes for the oil and gas, power generation and other industrial applications, with an annual production of 2.5mn tons. The oil and gas industry accounts for almost 50% of Vallourec total sales, predominately casing and tubing used in off-shore exploration and production by the oil majors and smaller independent operators.

Casing is pipe generally up to 20" diameter and is used to line the walls of the drilled well, to protect the well from geological pressures. Tubing is pipe generally up to 7" diameter, situated inside the casing, through which the produced oil or gas flows to the surface or through which fluids are injected into the oil/gas reservoir.

Casing/tubing is exposed to internal and external pressures, compressive and tensile loading, high temperatures and highly corrosive fluids. Consequently these products are produced to the most demanding of standards. One downhole failure can result in several days of lost production to a huge offshore drilling platform and is extremely costly to the operators.

To supply the needs of the UK oil and gas industry in the technically demanding North Sea market Vallourec has a facility near Glasgow, Scotland, which produces approximately 50kt of casing and tubing annually. In this plant pipe supplied from the company's pipe mills is heat treated (quenched and tempered) followed by precision machining of a thread and seal on each end of each pipe. A threaded short connecting piece is then wrenched onto one pipe end. The individual 'joints' are then consecutively screwed together in the vertical position offshore and run into the well.

The quench and temper process causes pipe distortion due to metallurgical transformation stresses. This distortion has to be corrected to allow the pipe to meet strict dimensional tolerances and is achieved by passing the pipe, immediately after tempering while the pipe is hot, through a pipe diameter calibration mill. The mill rounds the pipe outside diameter to the required diameter tolerance.

While every pipe is measured when cooled to ensure the diameter is within the specification requirements, the method of setting the calibration mill was crude, involving manual measurement of the hot pipe immediately after calibration by an employee wearing protective clothing. Measurement was on usually only the first pipe of the production run, which could be a run of up to 500 pipes, and only at one location on the pipe.

The mill setting could not be continually optimised, and relied on operator expertise. Most importantly, any errors or non-optimum setting practice could not be identified until the pipes had cooled, by which time up to 50 pipes may have been processed through the calibration mill. The result of non-optimum mill setting resulted in pipes either too large (in which case a further, expensive, heat treatment was required) or, in the worst case, too small, meaning the pipe had to be scrapped.

Vallourec realised that it needed a method of accurately measuring the diameter and shape of each hot pipe at the calibration mill to optimise the process. After looking at various suppliers, Limab was chosen as the preferred company because of its experience in measurement of tubes, and the company's TubeProfiler suited the needs for accurate and continuous in-process tube measurement.

The system was installed in November 2009 at the exit of the calibration mill. The TubeProfiler uses eight lasers to measure the circumference of the tube, providing four axes of measurement at 0, 45, 90 & 135, 180, 225, 270 and 315 degrees. The system has a diameter range from 114 to 419mm (4½" to 16½") and measures to an accuracy of better than ±0.1mm.

The software displays the shape cross section in a 2D or 3D graphical view in real time. Trend graphs show the dimensions of the tube in the two mill adjustment axes over the length of the tube. This not only tells the operator how much adjustment is needed to get the tube on target size, but also which mill stand needs to be adjusted to achieve good tube ovality.

A pyrometer is used to measure the tube temperature at the point of measurement and this is used in the hot to cold compensation calculation in the TubeProfiler. The displayed dimensions are cold corrected making it easier for the operator to hit the correct final size, avoiding the need for further calculations. The system logs the measurement of each tube against a unique tube identifying number in a database which is available for further analysis at a later date, providing full traceability and quality assurance information.

Limab AB – Sweden
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Website: www.limab.com

Limab's TubeProfiler has been installed at Vallourec Mannesmann

Flexible caps to protect cylindrical parts

ONE of the latest additions to the Kapsto standard range of plastic caps and plugs from Pöppelmann GmbH & Co are the GPN 211 flexible protective caps, which efficiently protect the delicate external contours of cylindrical parts, such as bolts, pipe ends, flexible hose and tubing, against damage.

The bright yellow parts are injection-moulded using a highly flexible thermoplastic polyolefin elastomer and are therefore able – depending on their nominal diameter – to compensate relatively large tolerances between +1mm and +2.5mm. As the caps adapt to the contours of the part they are protecting they are suitable, for example, for use on pipe ends fitted with pressure-sensitive external O-rings. They are rated for permanent exposure to temperatures of up to 120°C and can withstand short-term peak temperatures of up to 150°C.

The new protective caps are available in 17 different sizes for outer diameters ranging from 4 to 26mm. The effective length of the cap is normally 20mm and may be up to 30mm in individual cases of application. The sealing lip around the open end of the cap ensures a firm seating, prevents the ingress of contaminants and raises the inner wall of the cap a slight distance away from the contour to be protected. The ergonomically designed grip tab, measuring approximately 15mm in length, permits rapid and effortless removal of the cap after use.

Continually developed and manufactured by Pöppelmann in its own production facilities, the standard Kapsto range consists of over 3,000 different types and/or sizes of protective plastic caps and plugs, all of which are immediately available ex stock.

Special versions, such as plugs combining sealing and assembling functions, can be designed and developed by Pöppelmann's own team of application engineers, in accordance with customer requirements.

Pöppelmann GmbH & Co KG – Germany
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The flexible caps prevent damage to the external contours of cylindrical parts

Search for efficiency drives order surge for induction welding systems

INDUSTRIAL induction specialist EFD Induction has reported strong global demand for its Weldac induction welding systems.

According to Peter Runeborg the first two quarters of 2010 saw orders come in from around the globe: "We've had sudden upticks in demand before. But what distinguishes this recovery is the high proportion of retrofits. Approximately 50 per cent of the orders are from customers wanting to replace vacuum tube welders with our solid-state Weldacs."

The shift to Weldacs is driven, says Mr Runeborg, by the tube and pipe industry's tough competitive climate. "To thrive in this industry producers must maximise throughput while simultaneously minimising power consumption and scrap. The Weldac's proven reliability – based on rugged IGBT transistors – and a constant power factor of 0.95 at all power levels, mean our customers can boost output while cutting costs."

The Weldac also features electronic matching, which helps ensure maximum welding speed for the entire product range. The system automatically matches to the optimum setting when a new workpiece size is introduced, when there is a change in mill set-up, or when a differently sized coil is fitted.

Weldac's compact footprint and easy integration are other factors behind the increase in retrofitting orders. "Weldacs up to 600kW are housed in a single cabinet," said Mr Runeborg. "This feature makes retrofitting quick and easy. In fact, retrofitting a single-cabinet Weldac system typically takes less than a weekend. The benefits are minimised downtime and installation costs."

EFD Induction has manufacturing plants, workshops and service centres in the Americas, Europe and Asia, and corporate headquarters in Norway.

EFD Induction as – Norway
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EFD has seen increased demand for its Weldac induction welding systems

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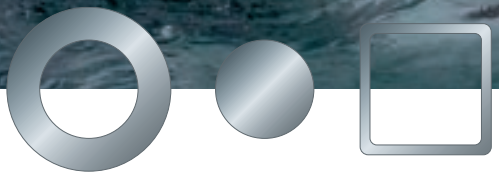

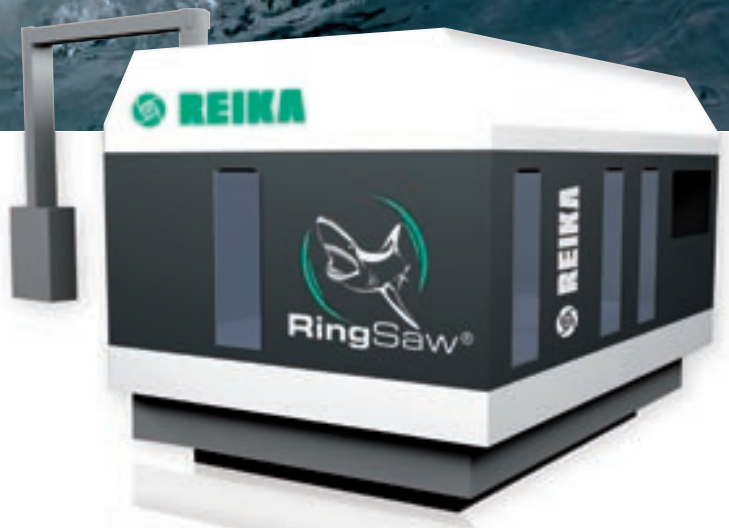

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Clamping unit for laser fixtures

IN a laser welding fixture all welding seams should be clamped with a zero gap. AWL, The Netherlands, often uses a hydraulic pusher to achieve this. Although this solution works well, the fact that it uses a hydraulic principle is a disadvantage in a laser welding fixture, as oil spills and the risk of fire due to sparks emitted during the welding process are always present. Therefore, AWL has developed an alternative solution.

AWL's pneumatic pusher has a maximum pressure of 16 bar, achieving a maximum pressure force of 785N. This is more than sufficient for the pressing of sheet metal parts in laser welding applications within the automotive market.

The cylinder is single-acting and, unlike a hydraulic cylinder, does not use a return spring. The return stroke is achieved through vacuum. There is no loss of power and the stroke can be increased, enabling a greater release stroke. This release provides the ability to auto eject the product from the fixture, making removal of the product easier.

The greatest challenge in developing the cylinder was building the unit as compactly as possible, as a lot of pushers need to be placed close together in a laser fixture. The solution to this problem was found by seaming both the outer and inner cylinder. This way, the outer size is similar to that of the hydro cylinders. Additionally, special mounting blocks for the hydro cylinders are no longer needed as the pneumatic unit can be easily connected with a tube.

Although the pneumatic pusher has the same outer size as the hydraulic one, a larger piston diameter can be applied, which increases the surface and the pressure force. With a load of 16 bar a special system with a compressor or booster is required. The hoses, fittings, valves and air supply are adjusted for the workload. However, for most applications 10-12 bar is more than sufficient.

Use of the AWL-developed cylinder is specifically intended for applications where there is little space, but a need for many pressure points. This solution offers great perspective for welding thin plates in the automotive industry. Besides laser welding, AWL also expects to use the pneumatic cylinders for gluing solutions.

To ensure that parts of a product, within a given tolerance, are well clamped, AWL developed a variant with a magnetic piston. In cases were pressure points need to be even closer than the 30mm that is normal with a pneumatic pusher, an attachment can be placed with a U-shaped fork anti-twist feature, enabling clamping even closer together.

The pneumatic pushers will be the new AWL standard, and will replace the hydraulic pushers from now on. The company states that customers have already shown interest in replacing existing hydraulic fixtures with the AWL pneumatic principle.

AWL-Techniek BV – The Netherlands
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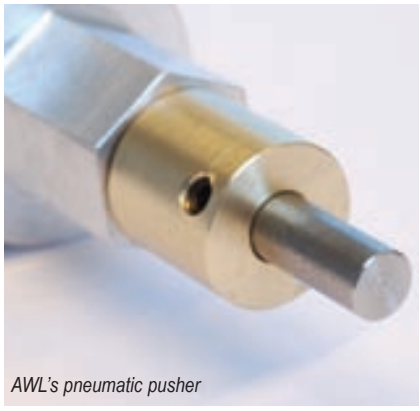
Website: www.awl.nl



AWL's pneumatic pusher

Pipeline brushes

LESSMANN is a leading company in producing technical brushes. Among them are wheel brushes, roller brushes, hand brushes and others. Depending on the application and the customers' requests different wires, abrasive nylon or diamond filament is used.

For the treatment of weld seams in the tube and pipeline industry special knotted wheel brushes were developed. They are ideal for the treatment of U- and V- weld seams.

Due to the narrow construction with a brush width of 5-6mm also low lying weld seams in U- and V- welds can be reached. Cinder, scales and other contaminations are removed fast and efficient. Especially after multi-layered welding processes and to recognise asperities on the seam the cleaning is necessary.

High tensile wires in combination with different construction characteristics used by Lessmann guarantee a long product life. The spreading of the filling material in the brush is 100% steady which helps to create a quiet product run and an unproblematic operation even over a long periiod of time.

Depending on the field of application brushes with high tensile steel wires or high tensile stainless steel wires in different wire sizes are deliverable. The types with stainless steel wire have green side plates.

Different standard bores or threads adapted to the national and international technical requirements are deliverable ex stock. The standard brushes are available in the diameters 100mm, 115mm, 125mm, 150mm and 178mm. Custom-made products are available on demand.

The brushes have a high durability due to the high quality of the wire and they cause an eminent brushing result.

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Lever type cold rolling mill 350-8

Unique cold rolling mill 350-8 is designed for cold rolling of seamless tubes with outer diameter from 140 mm to 325 mm from carbon, alloyed and stainless steel. Tubes rolled in the mill have highly precise sizes, wall thickness, outer and inner diameters, high quality of outer and inner surfaces and favorable metal structure. The mill was supplied to TISCO, China.
In August, 2010 the mill was accepted for operation.
100 per cent readings of productivity and finished tube accuracy were achieved.
Moreover, outer diameter and wall thickness tolerances accuracy was much higher than the one of the contractual obligations.

Mini S&E Tube Plant

New mini tube rolling plant with universal piercing/reeling mill is a compact, high performance, low energy intensive, automated unit intended for production of seamless tubes and billets in a wide range of dimensions and materials and with high accuracy of geometry. Payback time of the plant is very short for metallurgical industry. The plant is a base model allowing to design wide range of different modifications in accordance with customer's requirements. The plant was put into operation at "Vyksa Steel Works" JSC, Russia.

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Welding innovations

EWM AMT series torches

EWM Hightec Welding exhibited at this year's EuroBLECH fair the latest equipment and process innovations from its research and development team: alpha Q, Taurus, Phoenix, rootArc® and pipeSolution®. The company also presented its range of products, from high-tech power sources to torches and an updated range of filler materials.

In addition to the process versions forceArc® and coldArc®, the MIG/MAG inverter welding power source alpha Q can now also handle the new pipeSolution. This brand new process demonstrates its advantages in the construction of pipelines, pipe systems and pressure vessels: quick and dependable MAG root welding with high quality, whether for manual or mechanised welding (eg orbital technology), with or without an air gap, on unalloyed or low alloy steels, with solid wires.

The arc is especially powerful and therefore directionally stable no matter what the thickness of the material, and in all positions of the sheet or the pipe. Once the root has been welded, the alpha Q changes the process on demand and welds the filling layers and the final pass with a pulsed MAG process. This innovation is an economical alternative to TIG welding.

The economic advantage of the welding process is additionally increased if the power source is equipped with a twin case, eliminating the need for a conversion of the filler wire and shielding gas or a second machine. The repertoire of the alpha Q also includes standard MIG/MAG welding TIG (Liftarc) and the MMA welding process.

The possible applications of the Taurus power source have been extended: the Taurus Synergic series can now also handle welding with forceArc and is equipped with the rootArc process. This innovation features a stable, soft short arc – suitable for simple and dependable root welding, easy bridging of the seam gap and out-of-position welding.

The new, compact Phoenix 335 puls with integrated wire feed supplements the Phoenix range of fully digital inverter welding power sources. Thanks to the plastic casing, the unit is now more ergonomic and significantly lighter. Equipped for almost any welding task and especially convenient and easy to use, the Phoenix is suitable for use in construction sites, assembly work, workshops or production halls. In addition to the previous MIG/MAG pulsed and standard processes, forceArc, TIG (Liftarc) and MMA welding, it now also operates with the rootArc process version. The Phoenix 335 is easy to use and control, and can be simply extended with a cooling module and a transport vehicle, without any tools or special knowledge.

The effectiveness of a process chain is determined by all of its components. For this reason EWM carries out its own development and production of MIG/MAG torches. The EWM torch standard, which was first presented at the last EuroBLECH, has now demonstrated its worth in practice. Users report that the optimised geometry of the EWM contact tip (M7 to M9) ensures excellent heat dissipation and perfect current transfer. The tip remains cooler and the extremely low spatter formation of the EWM process is significantly reduced. Reworking is reduced even further and the service life of the wearing parts is also extended, which in turn has a positive effect on both changeover times and production costs.

For mechanised welding, the company supplies new AMT series torches with various angles for currents from 220 to 550 amps. The wearing parts of the torch are identical to those of the hand torch and are therefore of the same quality. Process reliability and a long service life of the contact tip are especially important with mechanised welding. Each interruption of the welding process causes a standstill of the system, which results in great losses of production.

EWM Hightec Welding GmbH – Germany
Fax: +49 2680 181 244
Website: www.ewm-group.com

Integrated tube processing equipment

EUROMAQUINA, Spain, offers integrated tube processing equipment from the coil to the galvanised pipes in bundles. Using the latest technology, together with its partners the company can now provide integrated solutions as turnkey projects, such as mother tube production, stretch reducing mill (hot rolling), galvanising, threading, packaging or shot blasting-galvanising.

Increasingly present in the Middle East, the company now also has offices and agents in ASEAN countries.

The company's key concept is not to consider steel construction, tube making, galvanising and material handling as independent issues, but to look for the best possible product design and process flow in terms of durability of final structure (product), reuse of valid mechanical and thermal components of actual plants (investment budget), and looking at the feasibility of automatic galvanising (efficiency) and avoiding non value-adding steps.

Euromaquina SA – Spain
Email: info@euromaquina.com
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Oil and gas

Managers of $2.5 trillion in assets press energy companies on spill prevention and response plans for deepwater wells

While BP continues to pay, heavily, for the oil spill in the Gulf of Mexico – fines and damages will cost it dear, and the company's stock has lost more than a third of its value since the explosion and fire on the Deepwater Horizon drilling rig on 20 April – a question suggests itself. How much better prepared, if at all, are other big-name oil and gas giants for the hazards of offshore drilling?

As reported in *Mother Jones,* the San Francisco-based nonprofit for investigative journalism, a group of 58 global investors representing some $2.5 trillion in assets intends to have an answer. In an effort spearheaded by Ceres, a business alliance for addressing environmental challenges, the investors have called upon leading energy developers to demonstrate that they are any better able than BP to prevent or deal with sudden calamity in deep water. ("Are Other Oil Giants Better Prepared for a Disaster?", 9 August)

As noted by *Mother Jones*'s Kate Sheppard, shareholder harm from the BP spill has focused investor attention on the need for good governance, compliance and management systems worldwide. She added, "The BP Gulf of Mexico disaster has also highlighted the need for clear, comprehensive, well-tested response plans by oil and gas companies for dealing with future offshore accidents."

With signatories including the New York State Comptroller, the California State Treasurer and the Florida State Board of Administration, the overture is no well-intentioned but readily dismissed grassroots initiative. The letter went to the CEOs of 27 oil and gas companies including Petrobras, ExxonMobil and Royal Dutch Shell, the three biggest deepwater drillers; as well as Chevron, ConocoPhillips, Hess and Statoil.

› The intention of the investors to hold the oil companies' feet to the fire is unmistakable. Their letter requests specific information on: how much the firms have invested in spill prevention and response planning; their contingency plans in the event of a spill; and what lessons they have learned from the BP disaster. It also asks to know the companies' policies on selecting and overseeing contractors, and what internal governance structures they have in place to manage risks.

Observing that the Deepwater Horizon sinking has led to one of the greatest environmentally-related destructions of shareholder value in history, the investor groups make plain that what they are after is full and frank disclosure. They wrote, "It is important for all companies involved in subsea deepwater drilling to be open and transparent with investors and stakeholders at this crucial historic moment."

For emphasis, their letter to the oil giants concludes, "We would also welcome the opportunity to meet to discuss these issues in more detail."

› Even as spending this year in other industrial sectors in the US has been relatively weak, spending in the oil and gas industry has seen fairly robust growth. According to the *Project Spending Index* published in mid-August by Industrial Info Resources, total spending on US oil and gas projects scheduled to launch by the end of 2010 is considerably higher than the figure for these starts in 2009, when the global market intelligence provider tracked more than 550 projects valued at $14.08 billion. By midsummer 2010, Industrial Info was tracking more than 670 such projects, representing a projected outlay of more than $24.58 billion.

Steel

China's restrictions on steel output make for unsettled demand and pricing conditions through the New Year, at least

The limiting of power supplies to mills would probably curtail steel output in China through the end of 2010, the Ministry of Industry and Information Technology said 15 September. The world's largest steel making nation imposed the reductions to help ensure that its energy-efficiency goals would be met.

"The resulting widening in steel maker margins would encourage further production within China once restrictions are lifted and support output in the rest of the world," SSY Consultancy & Research Ltd said in a report. The consultancy is a unit of London-based Simpson Spence & Young Ltd, the world's second-largest shipbroker.

In advance of Beijing's exercise in energy conservation, Wuhan Iron & Steel Co, for one, had enjoyed a quite good first half. The company said its profit rose 90.4% as a revival in demand from auto makers lifted steel prices in China over the period through 30 June. In a 22 August statement to the Shanghai stock exchange, Wuhan said that its net income rose to $142 million from $76 million a year earlier; its sales, to $5.29 billion from $3.46 billion. The Hubei province-based unit of Wuhan Iron & Steel Group, China's third-largest steel maker, said its crude steel output was up by 29.8% to 8.04 million metric tons in the first half from first-half 2009.

Steel prices in China gained an average 15% over the period as stimulus spending by the government boosted shipments to the rail, automobile and construction companies. (Wuhan Iron & Steel won the bid to supply 7,000 tons of steel for the Beijing-Shanghai high-speed rail link.) But the China Iron & Steel Association reported that Beijing's crackdown on property speculation in the two months leading up to the Wuhan filing had already tamped down demand for steel, prompting 40% of mills to trim their output.

Warning of higher iron ore, coal and power prices ahead, Wuhan in August acknowledged it faced price declines deriving from reduced demand from the auto and appliance industries. China's biggest mills, including Angang Steel Co and Wuhan, were also set for lower earnings in the second half after the government's removal of export tax rebates up to 13% on flat steel. The change, which became effective 15 July, includes hot-rolled coil.

Elsewhere in steel . . .

› Australia's largest steel maker, BlueScope Steel Ltd, which already has eight plants in China and has increased its earnings

there threefold since 2003, is considering additional Chinese acquisitions. “Some of our assets are getting close to full capacity utilization,” BlueScope CEO Paul O’Malley said in a 17 August interview with *Bloomberg News*. “So to take the next step in China we probably have to add manufacturing capability.”

According to Rio Tinto Group forecasts, steel consumption in China is expected to double by 2020 from 2008 levels. Mr O’Malley said BlueScope has its eye on the western region of China, where growth is now stronger than in the east. “[Ours] will be smaller-scale investments,” he told *Bloomberg*’s Rebecca Keenan, in Melbourne. “They will be add-ons. We want to make sure we take a very conservative approach to growth, but we do see real opportunity.”

Having benefitted from growth in Australia, its biggest market, and increased sales in Asia, BlueScope swung to profit in the second half. The company said its steel prices averaged 41% higher in the period than in second-half 2009.

As reported by *SteelOrbis* (25 August), the Ukrainian mining and steel producing company Metinvest Group said it plans to complete construction in 2011 of a general-purpose terminal at the port of Mykolaiv, Ukraine, to be operated by Vienna-based Danube Shipping. The new terminal, with an annual capacity of approximately 3.4 million metric tons of iron ore concentrate and pellets, is expected to reduce the company’s port handling fees and improve connections between Metinvest’s mining operations and Mykolaiv.

Energy

New turbine technology holds promise for reaping much more electricity from the winds offshore Japan

Most of the renewable energy generated in Japan derives from the geothermal power of volcanoes and hot springs, from which 18 power plants currently produce 0.2% of the electricity used in the country. Now, an experimental design for wind turbines showcased at the Yokohama Renewable Energy International Exhibition 2010 raises hopes of significantly higher electricity production from Japanese sustainable sources.

As reported by Robert Michael Poole, the Tokyo city editor for CNNGo, the “visually spectacular” Wind Lens focuses the wind to the centre of a hoop, intensifying its power. When deployed in their dozens, the 112-metre diameter structures could contribute importantly to the amount of power harvested annually from wind. (This stands at 159.2 gigawatts, supplying 2% of the world’s electricity needs. Source: World Wind Energy Association.)

At Yokahama, Kyushu University professor Yuji Ohya attributed to the Wind Lens “the merit of two- or threefold increase in power output” as well as a reduction in the noise pollution associated with wind turbines. And, Mr Poole wrote, “With their unique floating hexagonal bases, Wind Lenses might also win over the many

detractors of wind turbines who claim they are an ugly blight on the landscape." ("Wind Lens Floating Farms Could Triple Electricity Production," 26 July)

As noted by Celsias.com, a site for information on climate change, the biggest deterrent to development of wind power in Japan has been that the electricity grid – a network of some ten utility companies – is not fully connected. To ensure steady supply, a spokesman for Tohoku Electric Power Co told Celsias that, as of 2008, Japan's fourth-biggest generator requires owners of new windmills to store energy in batteries before distribution, rather than send the electricity direct to the utility.

Automotive

A strong yen vis-à-vis the euro gives German firms an advantage over their Japanese competitors

Writing from Frankfurt in the *International Herald Tribune*, Jack Ewing noted "a touch of schadenfreude" in the most recent earnings report issued by Kuka, a company based in the Bavarian city of Augsburg whose orange industrial robots are a familiar presence on auto assembly lines worldwide. "Kuka said [in August] that its sales had bounced back to pre-crisis levels – and then some," Mr Ewing wrote. "By contrast, sales at its Japanese rivals were still one-third below where they had stood in early 2008, before the global downturn slammed the machinery industry."

True, Kuka's rebound has been helped by an upswing in orders from European car makers. And China's heavy investment in infrastructure benefited companies like Germany's Siemens. But a significant factor is the plunge in the value of the euro as compared with the Japanese yen, which handed Kuka a new pricing edge over its competitors in Japan. ("Strong Yen Helps to Fuel Germany's Export Boom," 2 September)

"Price is not the sole criterion, but it's an important one," Kuka's chief executive, Till Reuter, told the *Tribune*. "The weaker euro is to our advantage."

The official currency of 16 of the 27 member states of the European Union had fallen 19% against the yen in the year through August, nearly double its decline against the US dollar. And the euro was down more than 36% against the yen since August 2008. This strengthening of the yen has favoured a number of Germany's exporters.

"A stronger yen is good news for German machinery and auto companies whose main competitors often are based in Japan," Mr Ewing wrote. "And it is, of course, bad news in Japan, where the strong currency has become a political issue."

As in so many national rivalries, China – the fastest-growing market for many German companies – is the main battleground. According to the Munich-based Ifo Institute for Economic Research, China was the destination for 5% of German auto exports in 2009, up from 0.6% in 2000; and 9.1% of German machinery exports went to China, up from 2.7% over the near-decade. In fact, according to the German Engineering Federation, an industry group consulted by the *Tribune*, German companies gained ground in China in 2009, increasing their share of that country's imports to 22.9% from 20.6%. Japan's share of Chinese imports slipped to 24.1% from 27% over the year.

Mr Ewing observed an inclination on the part of German company representatives to de-emphasise the importance of exchange rates, preferring instead to discuss the superiority of their strategies and products. A spokesman for Volkswagen said that the car maker had been taking market share from Toyota because of the quality of its offerings, not on account of any shift in the value of the yen. And – to revisit the robot theme with which we began – ABB, a Swiss company whose products include industrial robots made in Germany and elsewhere, told the *International Herald Tribune* that it had not noticed any yen effect.

Trade

Europe steals a march on the US by ratifying a sweeping free-trade agreement with South Korea

The European Union said 16 September that it would sign its first pact with an Asian trade partner: South Korea. The deal was set to be signed at a meeting of the EU and South Korea to be held in October in Brussels, Steven Vanackere told a news conference there. Mr Vanackere is the deputy prime minister and foreign

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minister of Belgium, which holds the Union's rotating presidency. He said that the agreement would take effect 1 July 2011.

Such pacts require the approval of all 27 EU member states. The delay in implementation had been sought by Italy, which thereupon withdrew the last remaining objection to ratification. The Italian hesitancy was attributed to concern for the domestic automobile industry. "This the first generation of bilateral trade agreements which will bind Europe and Asia together in an ever-closer economic bond," said Mr Vanackere. "This is a very big step in opening markets in Asia for our companies."

Nearly all tariffs between the two economies are to be removed, together with many nontariff barriers. The European Commission estimates that the pact will be worth as much as $25 billion in new trade for EU exporters, and will "boost jobs and growth." Trade between the Union and South Korea totalled about $69 billion in 2009.

In Seoul, the Ministry of Foreign Affairs and Trade, citing the comparatively high tariffs imposed by the EU, said the deal would likely deliver greater benefits to South Korea than a prospective free-trade agreement with the United States. Ratification of that pact, which is strongly supported by President Barack Obama, has hung fire for more than three years.

The South Korea-US accord is strongly opposed by the American automotive and related industries, as well as by labour unions, on grounds of alleged unfair restrictions on US car sales in South Korea. According to the *New York Times* (16 September), the Associated Press quoted the South Korean trade minister, Kim Jong-hoon, to the effect that by its failure to act the US stands to lose several hundred thousand jobs when Seoul's agreement with the EU takes effect.

A 15-year stalemate persists as Mexico and the US both stand firm on long-haul trucking across the border

"Behind the talk, insiders see little prospect of progress in ending the dispute that has claimed an estimated 25,600 jobs in the US, cost an estimated $2.6 billion in lost exports, and jacked up import costs to American consumers by an estimated $2.2 billion."

The dispute cited by Stewart M Powell of the Houston (Texas) *Chronicle*'s Washington bureau is the 15-year stalemate between the US and neighbouring Mexico over cross-border trucking; specifically, over a US ban on long-haul Mexican trucks that do not meet American safety standards. Those doing the talking are US lawmakers and members of the Obama administration, who must harmonise their own differences before action can be taken in the matter. ("Trucking Dispute Rumbles Toward a Dead End," 21 August)

An agreement requiring Mexico to raise truck standards would presumably allay congressional concerns about highway safety. This would pave the way for the US to open its southern border to Mexican trucking, as required since 1995 under the terms of the North American Free Trade Agreement. But competing political pressures prolong the standoff that prevents Mexican trucks from delivering Mexican products beyond the 25-mile-wide NAFTA trading zone at the border.

As noted by Mr Powell, American labour unions – notably the 1.4-million-member International Brotherhood of Teamsters, whose Freight Div. represents truck drivers – oppose any deal. Conservatives in Congress, responsive to the highway safety concerns voiced by the unions, have also raised the prospect of terrorists entering the US aboard Mexican trucks. A subtext of the controversy is the national debate on illegal immigration, which has galvanised hard-liners in advance of the midterm congressional elections in November.

For its part, Mexico sees the issue in stark restraint-of-trade terms. In a 16 August statement, the Mexican Embassy in Washington, DC, said, "Mexico has yet to receive a formal proposal for resolution of this dispute and an unequivocal signal that the US government is working to eliminate the barriers that Mexican long-haul carriers face to access the US market."

Mr Powell of the *Chronicle* noted that, without a deal between the White House and Congress, a trade war continues to escalate. He wrote: "Mexican authorities have ordered at least $2.5 billion in punitive duties on 99 categories of US products – up from $2.4 billion in retaliatory duties imposed on 89 categories of products [in 2009]."

A curiosity of the dispute, noted by Mr Powell, is the excellent safety record compiled by Mexican trucks during a recent 18-month pilot programme administered by the US Federal Motor Carrier Safety Administration. The programme, which permitted 100 long-haul Mexican trucking companies to operate inside the United States, found that their vehicles crossed the border 46,000 times without major incident. While the limited number of Mexican trucks in the study undercut the results, the agency noted that long-haul American truck drivers and US trucks were out of action more than Mexican truckers and trucks.

But the Washington-based Teamsters give no indication of easing their pressure on Congress.

"To turn those unsafe trucks loose would be catastrophic," James P Hoffa, the union's president, told Mr Powell. "There's no way this will ever be a two-way street. Can you imagine a teamster driving a load of Cadillacs down to Mexico? How far do you think he's going to get?"

Business

Denmark and Canada are found to hold greater attraction for entrepreneurs than the United States

"The global perception of [the US] as a land of opportunity and as the mecca for individuals wanting to do something new and different seems to be somewhat challenged by the facts."

This is the conclusion drawn by Zoltan Acs of George Mason University School of Public Policy (Fairfax, Virginia) and Laslo Szerb of Hungary's University of Pécs, in *Global Entrepreneurship and the United States*. Released 9 September, the paper undertakes to "capture the contextual feature of entrepreneurship" across 71 nations. The US was found to lack high-growth business and cultural support for entrepreneurship and to be frail in the technology

LASER CUTTING AND WELDING

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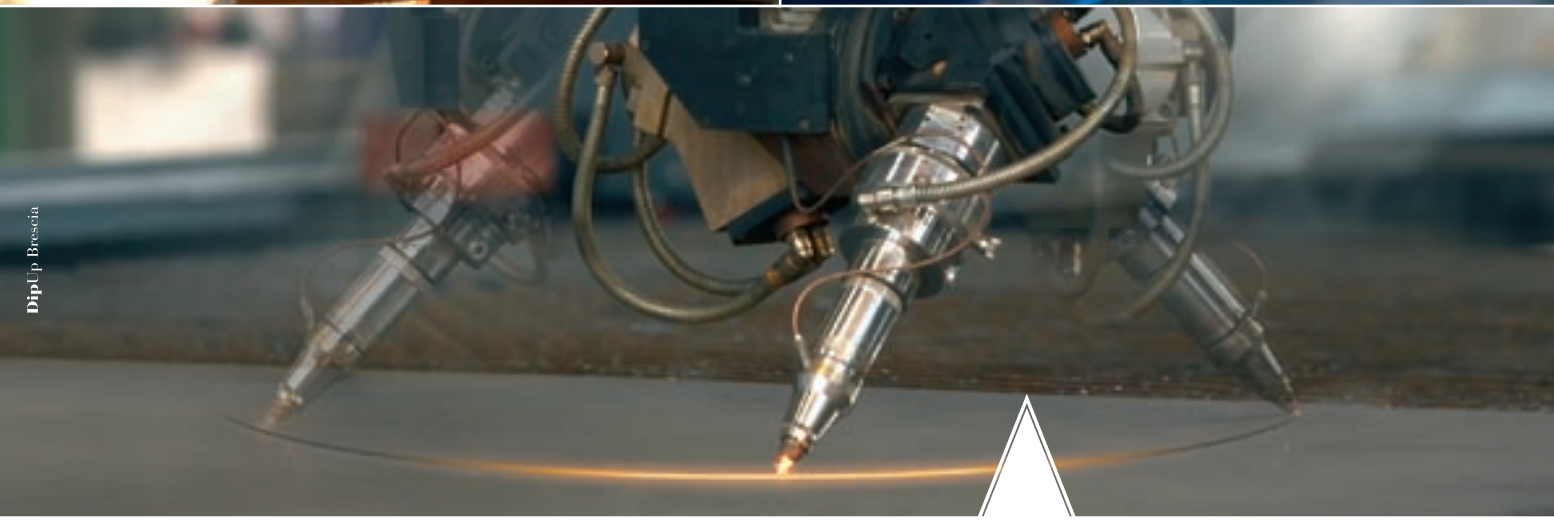

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sector – weaknesses that dropped it to third place, after Denmark and Canada. The report notes that the tighter immigration policies adopted after the 11 September 2001 terrorist attacks on the US have had the hampering effect of controlling the stream of skilled workers into the country and creating disenchantment, particularly among immigrants.

Messrs Acs and Szerb wrote, "In this respect, countries like Canada, New Zealand, and Australia have all been more pragmatic by giving strong incentives to attract educated, skilled workers to their shores . . . and to keep them there with offers of residency and citizenship."

Staff writer Brian Anthony Hernandez of *BusinessNewsDaily* (15 September) pointed out that the US earns high marks for startup skills, competition and new-technology development, and also ranks first in entrepreneurial aspiration: defined as the amount of activity directed toward innovation, high-impact entrepreneurship and globalisation. But it lags in societal attitude toward entrepreneurship, and in entrepreneurial activity: what citizens are doing to improve the quality of human resources and technological efficiency.

However, the authors noted, "It seems that in many respects a slowdown in US entrepreneurial activities may be a reflection of progress by the rest of the world – in learning from the US model and beginning to catch up."

They expressed the hope that the findings of their paper should serve as an eye-opener to the third-place US, rather than as a cause for alarm. They also had some advice for the bronze-medal winner: "The United States does not simply need more new businesses. It needs more highly productive ventures. A potential way of achieving this kind of productivity improvement is to make progress in entrepreneurship."

The US suffered another recent demotion, dropping from No. 2 to No. 9 in the *Forbes* fifth annual ranking of Best Countries for Business. The findings here, which roughly paralleled those reported above, were derived from the business magazine's analysis of 128 economies and included an encomium for Denmark.

Forbes's Kurt Badenhausen wrote (8 September), "Grabbing the top spot for a third straight year is Denmark. Its $309 billion economy struggled in 2009, like the rest of the world, with GDP down 4.7%. But when it comes to advantageous business climates the Danes reign supreme.

"Denmark scored in the top five among all countries in four of the 11 categories we considered as part of the ranking, including property rights, technology, corruption, and personal freedom."

Mr Badenhausen also noted that a "big mover up the rankings" is Hong Kong (trading places with the US to move up to No. 2 from No. 9), which scored in the top three in the categories of taxes, investor protection, and both trade and monetary freedom. He wrote, "The Hong Kong economy has bounced back more quickly than others as it established closer ties to China through tourism, trade, and financial links."

Dorothy Fabian, Features Editor (USA)

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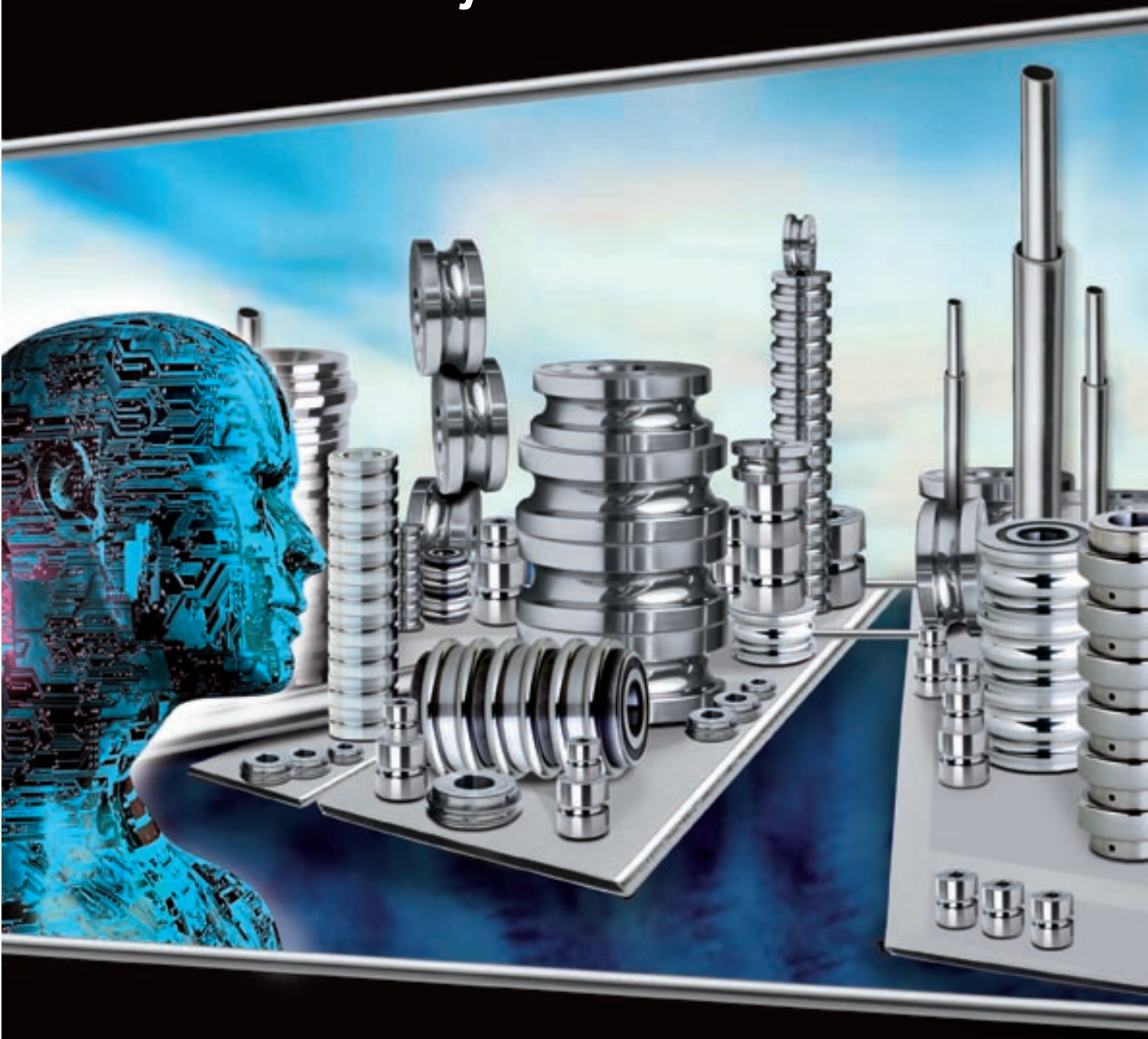

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AND THE FUTURE IS ON.

Dubai is the acknowledged jewel of the United Arab Emirates. But it is a jewel in a remarkably functional setting.

Occupying an area of only 83,600 square kilometres, and with a labour force of just 3.17 million, the UAE conducts a $174 billion annual export trade with the likes of Japan, South Korea, India, Iran, and Thailand. The similarly outsize partners in its $141 billion import trade are even more extensive: China, India, the US, Germany, Japan, Turkey, Italy. Two very important sets of statistics – revenues and expenditures – are in virtual parity at $54bn. And the unemployment rate in the UAE is an enviably low 2.4% (Estimates, the most recent available, are for 2009 or 2008.)

Tube Arabia 2011 Dubai

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10am – 4pm Tuesday

Organiser contact
Messe Düsseldorf GmbH
Daniel Ryfisch (project manager)
Email: ryfischd@messe-duesseldorf.de
www.teknotubearabia.com

Photo credit: Bhavit Nair

Moreover, the per capita Gross Domestic Product of the Emirates is on par with those of leading West European nations; and it is reasonable in its foreign policy and in the allocation of its oil revenues.

Given the scenic marvel that is Dubai, these reflections will not be uppermost in the minds of those fortunate enough to attend Tube Arabia 2011. But not even the competing views of the Persian Gulf and the Gulf of Oman will entirely blunt the sense that this is an exceptionally appropriate choice of venue for a meeting of wholly pragmatic tube industry professionals.

www.teknotubearabia.com

Cutting, Sawing and Profiling Technology

Before it is made – through bending, end forming, chamfering, drilling, punching, milling – into a product, a tube is known as a blank. And a blank it will remain if it is not cut with caliper precision: clean, straight, to length. If this process is not right, it will matter very little what else is.

No amount of subsequent effort will rescue a profile that has been compromised from the first pass of a blade.

Tube makers know the critical importance of accurate cutting. Saw cutting. Lathe cutting. Rotary cutting. Dual-blade shear cutting. Supported shear cutting. Every one of these is virtually a technology in itself. An informed awareness of the distinct benefits and challenges of each technique is second nature to the providers of the products and services reviewed in this section of *Tube & Pipe Technology*.

Photo: Asmag, Austria

Major development in sawing technology

LINSINGER, Austria – itself a major specialist in sawing, milling and tooling – is opening up new areas for cutting large cross sections with its newly developed, sophisticated sawing machine technology.

For cutting continuous cast billets or ingots, conventional vertical or horizontal sawing machines inherently suffer from shorter tool life due to lower frame and clamping rigidity.

Linsinger inclined bed sawing machines are the first in the world that now combine the advantages of vertical and horizontal sawing machines. Linsinger CEO Mr Hans Knoll said: "This unique KSS inclined bed circular saw series is a great success, and further emphasises Linsinger's leadership in the sawing technology field."

The worldwide enthusiasm for the inclined bed concept was recently expressed by the CEO of a major seamless tube mill: "Despite our earlier satisfaction with Linsinger machines over many years we once tried using an apparently cheaper alternative product. Now we have returned to Linsinger because their products have proven to offer the most efficient and economic solutions available in the market today. Especially when combined with Linsinger's tooling package we noticed huge subsequent savings in money, time and effort."

With the experience of over 500 successful carbide tip circular sawing machine installations under their belt, Linsinger engineers understand the potential cost of unplanned saw machine standstills. With Linsinger, the customer can be assured of unsurpassed mill line availability and significantly lower costs well within the mill plant life span. A good reason why many leading railway wheel and seamless tube producers from countries such as USA, Brazil, Italy, Spain, France, China, Japan and Russia choose solutions made by Linsinger.

Linsinger's international sales manager Hans Baumgartner emphasises the advantages of using components tuned for highest compatibility: "A Formula 1 car wheel is like a saw blade for a sawing machine. The smallest of deviations quickly lead to more vibration, lower reliability and thus endanger line efficiency." Linsinger's especially quiet cutting process combined with the trouble-free-package, simplifies maintenance and repair while further reducing line standstills and fewer unplanned stoppages.

Linsinger Maschinenbau – Austria
Website: www.linsinger.com

Linsinger's inclined bed circular sawing machine type KSS

Compact pipe cutting and bevelling machine

THE GFX 3.0 from Orbitalum Tools for cutting and bevelling pipes and elbows in seconds is the optimum preparation for the automatic welding process. This saw is particularly suitable for thin-walled or press fitting applications, thanks to the deformation-free clamping system.

This saw covers a wide range of applications. Pipes and elbows with an outside diameters of 6 to 78mm (0.236-3.071") with wall thicknesses of 0.8 to 7mm (0.032-0.276") can be processed, depending on the saw blade diameter used. Solid cylindrical material with diameters of 6 to 21mm (0.236-0.827") can also be cut effortlessly with the GFX 3.0.

Non alloy, low alloy and high alloy steel, stainless steel, non-ferrous metal, aluminum alloys, titanium alloys, composites and plastic are on the list of workable pipe materials.

The cutting position is conveniently marked on the pipe by a line laser fixed to the bearing flange. The second saw blade cutting position enables the cutting of elbows. The powerful 1,200 W motor

GFX 3.0 for cutting and bevelling pipes and pipe bends

is fitted with overload protection and ergonomic handles, and is available in voltage variants 230 V, 50/60 Hz or 120 V, 50/60 Hz. The cable plug-in connection with quick-disconnect coupling enables easy and convenient changing of the swivel cable.

The GFX 3.0 is a cost-effective machine with a long service life. It is particularly low-maintenance and easy-to-service. Long tool service life makes the saw particularly environmentally-friendly, and increases productivity.

The GFX 3.0 is mainly used in the food, beverage, pharmaceutical and chemical industries.

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Website: www.orbitalum.com

Sawing and cutting machine solutions

ASMAG offers a wide range of machine concepts in the area of saws and cutters. The company's high-performance metal circular saws are used for sawing of pre-material, semi-finished products and finished products. Their robust structure ensures vibration-free machine operation, even when sawing large material. This leads to optimum cutting results and long saw blade service life.

One of the latest innovations in this area is a sawing line for brass billets. The sawing machine is arranged in-line with an extrusion press for brass tubes. Asmag delivered this fully automatic sawing line with handling system for brass billets to a well-known European brass producer. The length of the incoming material is 2.8 to 3.2m and the diameter of the billets is up to 320mm.

At the end of the charging unit, the billets are automatically separated into the saw entry roller table. Before sawing, the billets are measured and the optimum dividing length is calculated by the control system. The sawn billets, with a length of 280 to 900mm, are weighed by the weighing system, and are lifted by means of a manipulator into a storage system with a capacity up to 400 billets.

The inclusion of an integrated material tracking system allows billets to be selected by alloy and weight on demand from the billet stock. Benefits of the machine include fully automatic operation of the entire sawing line; high cutting performance and vibration free-operation; and ergonomic plant design and efficient flow of material.

Asmag's equipment features a robust structure for vibration free-operation

Asmag – Austria
Email: sales@asmag.at
Website: www.asmag.at

Conair increases accuracy on new line of cutters

A POSITION-based servo drive system, which is now standard equipment on the newest Conair flyknife cutters, increases cut-length accuracy by as much as 1,000%. At the same time, the CSC Series cutters carry a price tag that is almost 20% lower than similar cutters, the company said.

Designed for applications involving extruded profiles and tubing, the CSC Series cutters are available in 2-, 3-, 4- and 5-inch-diameter cutting capacities. Units can make up to 350 cuts per minute in on-demand cutting mode, or up to 4,500 cuts per minute in flywheel mode. The new cutter line underwent a full year of testing to ensure performance and reliability before being released to the marketplace.

The standard positional servo drive system provides cut response repeatability within ±0.1 millisecond – a ten-fold improvement over conventional velocity-based servo systems, which are capable only of repeatability within ±1.0 millisecond. Cut response repeatability relates directly to product cut-to-length accuracy, with fast response becoming especially important as extrusion rates increase.

An eye-level control panel, with soft numeric and fixed-function keys, is the operator interface to the CSC Series control system, which, along with the servo drive, is the secret to the cutter's accuracy. The system features a multi-tasking motion coordinator instead of a more conventional preset counter. Built right into the servo system, the motion coordinator measures length directly rather than depending on readings coming from a separate counter. The primary benefit of this control system is the virtual elimination of "latency time" — the amount of time required for the program loop to monitor incoming length information, check it against the programmed length, and signal the cut. The control system delivers other benefits, including:

Real-time repeatability tester: built-in to confirm cutter accuracy. The tester automatically measures repeatability of the blade park position in milliseconds, to three decimal points, and even differentiates between variations arising from the input devices like encoders, electric eyes and timers and feed devices such as belt pullers.

Multiple cut-length actuation modes: including counter/encoder, timer, flywheel or end sensing.

Auto-demand cutting mode: gives users the ability to vary the blade speed and increase the cuts per minute. Besides the accuracy of the control system and the position-based servo drive, other features of the CSC Series servo drive set it apart from other units. These include:

In-line planetary gear reducer: unlike more commonly used belt-and-pulley reducers, planetary gear reducers are designed to be directly mounted to servomotors. They tolerate axial and radial loading better and protect the servomotor.

4:1 reduction ratio: compared to belt-and-pulley systems, which typically achieve a 2.5:1 reduction ratio, the CSC cutters can provide more cutting torque while extending motor life. For high-speed, light-duty applications, which don't require as much torque, the Model CSC-L can be supplied without the planetary reducer.

Available 2.7- and 3.8-hp drives: deliver torque ranging from 620 to 906 inch-pounds.

Intercept algorithm: optimises repeatability by compensating for firmware scan time variations and readjusting velocity and position, taking actual scan time variation into consideration.

Aluminium and stainless-steel cutting heads are available for (respectively) high-speed cutting and applications requiring high-torque.

Conair – USA
Website: www.conairgroup.com

Large diameter fittings saw

ADESCOR Inc, Canada, has developed a plastic fittings saw for diameters from 450 to 1,800mm and upwards. The machine features a vertical reciprocating motion with a 200mm wide blade and a guide that follows the contour of the pipe providing extra stability. The saw blade head arrangement is mounted onto a right and left pivoting head that moves into a clamped pipe.

Adescor has also unveiled a new semi-automatic slab cutter that provides a cost effective means of cutting large diameter misformed pipe into strips for feeding into a grinder. This new machine takes a 2m length of corrugated pipe and cuts the pipe longitudinally into 300mm wide strips.

The operator rolls the 2m section of pipe into the slab cutter, which activates the safety light barrier and the slab cutter cuts a section of pipe, ejects the cut slab, rotates the pipe for the next cut to be made, and continues the process until the pipe is cut up.

Adescor Inc – Canada
Fax: +1 519 520 8614
Email: sales@adescor.com
Website: www.adescor.com

Customised sawing and milling equipment

MASCHINENFABRIK Liezen und Gießerei GmbH (MFL) provides customised sawing and milling equipment for tube manufacturers all over the world. The company's plate and stripe edge milling machines are used for the welding seam preparation of ERW and spiral pipes, containers and rail car construction.

Due to a number of enquiries from large-pipe manufacturers MFL decided to develop the RFA 24/56 welding seam processing machine, which mills the inner and outer welding seam of large-diameter pipes over a length of 400mm. This process offers a number of advantages compared to the manual grinding process. The greatest advantage is that the milling process provides a better quality of welding seam – an important criterion for the delivery of large diameter tubes to Gazprom and other major customers. The complete process is fully automatic.

The company's cold circular sawing machines are used for cutting stainless steel, high and low alloyed steel, structural steel and non-ferrous metals in the form of billets, tubes, profiles and plates. The machines are equipped with carbide tipped saw blades that ensure high performance and a long service life.

The cutting machines are classified into single cut sawing machines and layer sawing machines. The single cut sawing machines are able to cut billets and single tubes with a diameter from 30 to 800mm. The layer sawing machines are used for cutting of tubes, I- and U-beams, sheet pilings and angles. The largest layer sawing machine is equipped with a saw blade diameter of 2,200mm and has a layer width of 1.5m. Smaller layer sawing machines are available, starting with a layer width of 650mm.

One new invention from MFL is a saw blade with exchangeable carbide tips. The clamped carbide tips are the special feature of this novel saw blade. Common saw blades have the carbides brazed at the tooth. The carbides of the MFL saw blades are clamped into the gap between the main body and the tooth. The use of easily exchanged carbide tips removes the need for investment in expensive grinding centres, and less basic equipment is required because of the elimination of long transport times for regrinding of saw blades.

Maschinenfabrik Liezen und Gießerei GmbH – Germany
Fax: +43 7613 8883 30
Email: marketing@mfl.at
Website: www.mfl.at

MFL's HKA 2000 sawing plant

Safe and fast high-performance band saw

THE new HBV500A from Behringer, Germany, is a fully covered machine featuring improved discharge of swarf and easy access for cleaning.

The cutting range for round bars is Ø 510mm and for flat materials up to 500x500mm. The cutting speed can be adjusted infinitely from 20 to 140m/min, according to the material. The HBV500A quickly and securely cuts steels, high tensile solids and other materials.

The machine is designed to provide the best cutting results. A rigid, low-torsion and low-vibration cast iron saw frame and two large, ground and hard-chrome plated guide columns deliver the base for performance. The quadruple guides, pre-tensioned and backlash-free, simplify difficult cutting tasks while an optional 3° inclined saw frame offers special benefits for cutting profile materials.

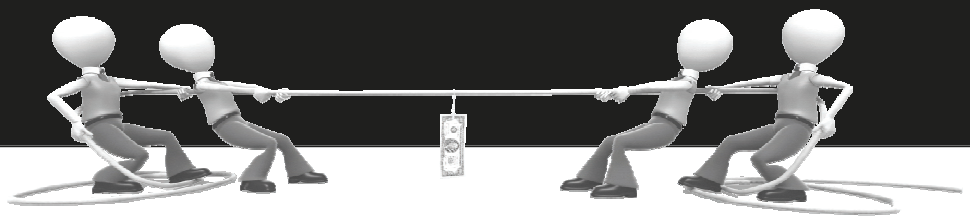
Behringer has also equipped the HBV500A with high-precision cutting force control. This feature offers constant cutting feed rate for solids and constant cutting force for pipes or sectional materials. The optimum service life and the precise cut-offs at high output are setting standards for band saws.

An intelligent stroke control of the saw frame ensures minimum downtime by lifting the saw frame only to a small clearance for material feed and by moving the frame with a rapid lowering speed before cutting.

Behringer GmbH – Germany
Fax: +49 7266 207 500
Email: info@behringer.net
Website: www.behringer.net

The new HBV500A from Behringer

Tired of Fighting for Market Share ?



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High potential consumables

TO meet customer demands for reducing running costs and increasing efficiency of the cutting process, Kjellberg Finsterwalde has developed new YellowXLife™ plasma consumables for HiFocus and FineFocus systems. The company claims that these consumables can achieve up to 3.5 times longer life than previous models, and as much as seven times longer life than copies.

With immediate effect, customers can order the new generation of consumables for plasma torches PerCut 370.2 used on the machine types HiFocus 280i, HiFocus 360i and HiFocus 440i, as well as for PB-S80W used on the FineFocus 800 machine from Kjellberg suppliers. The latest knowledge attained through Kjellberg Finsterwalde's research and development work contributed to the optimisation of the consumable sets consisting of the new oxygen cathode T012Y, the nozzles T2115Y, T2120Y, T2125Y, T2127Y and T2130Y, and the new cooling tube T902Y. A new tool for the cooling tube can also be used for the preceding model. The previous consumables are replaced by the new YellowXLife generation with a longer life time. Mixing previous and new consumables is not possible, as these are incompatible, and the new consumables are optimally adapted to each other.

The company has also launched the new PerCut 450M plasma torch, which is equipped with long-life consumables and enables cutting at very high speed.

The machines of the new CUTi series for manual plasma cutting are characterised by low weight and high capability. The inverter CUTi 35C features an integrated compressor, providing a cutting process that is independent of an external supply of compressed air.

The new CutFire 100i is a technically simple and reliable plasma cutting unit with low investment costs. With 100% duty cycle and low weight it is suitable for simple CNC applications and for cutting thin and medium-sized plates.

Kjellberg Finsterwalde – Germany
Fax: +49 3531 8510
Email: plasma@kjellberg.de
Website: www.kjellberg.de

The inverter CutFire 100i is suitable for the use in connection with a guiding machine

Combi laser cutting machine for profiles, tubes and sheets

STIEFELMAYER has launched a new combination machine that allows profiles and tubes as well as sheets to be processed, without having to convert the machine.

On one side is a flatbed laser cutting machine for large sheets of 3,000 x 1,500mm in dimension, while the other side features equipment for profile and tube processing. A standard flatbed machine can only process tube sections following a large amount of structural conversion work on the machine, and the quantities are often too small to warrant installing a separate tube laser machine.

The working area for sheets is comparable with existing laser cutting machines. The sheet is loaded using the change table and is processed over the complete working area with the flying optics.

The principle of operation for tube and profile processing in the Stiefelmayer combi meets the established principle for conventional lathes with bar feed. Parts are either cut off from the profile, which is advanced automatically, or profile sections are clamped between the master chuck and tailstock chuck and processed along the length.

The working area for tube and profile processing runs parallel to the sheet processing area. The Y-axis projects over the sheet area, and this side of the machine features an extension arm along the whole length.

With a sliding door, which opens the complete work space, as well as a mobile control panel, the side for profile processing is also very easy to operate. With a bar feed with a length of 6m, profiles up to a circumference of 120mm are fed automatically. For larger profiles or special requirements, there is a sliding tailstock with manual collet chuck in the working area. The maximum clamping length is 3m. With the flying optics, it is also possible to process over the whole length in the profile working area.

An extensive off-line programming system is available for programming both processing technologies.

Stiefelmayer-Lasertechnik GmbH & Co KG – Germany
Fax: +49 711 93440 18
Email: info@stiefelmayer.de
Website: www.stiefelmayer.de

Stiefelmayer's combi machine

Cutting with oxygen, plasma, laser or water

ECKERT, Germany, produces cutting machines operating in four main thermal technologies, and complete robotic workstations.

Cutting can be performed by oxygen, plasma, laser or water. This year the latest technology has been successfully implemented – fibre laser in the Diamond Fiber cutting machine. This 'green technology' significantly reduces consumption of electric power and additional gases.

Currently, worldwide there are more than 800 Eckert cutters, and customers include Daimler Chrysler Rail Systems, Rolls-Royce, Becker Warkop, Manesmann – Siegen, Siemens – Chemnitz, and GEA.

The company's Opal Waterjet Combo water and plasma cutting machine is a patented solution that allows the user to automatically cut out the edges of one element with two technologies, resulting in large time savings. Eckert Company made the assumption that not all edges of a detail must be made in the most expensive and slowest water technology. Some of the edges – selected by the technologist – can be cut with plasma, which is many times faster and cheaper than water.

Support 3D, which allows cutting and bevelling of plates, tubes and profiles, has a unique mechanical construction with the RACT system (Real Adjusted Cutting Trace). With the availability of all thermal and water cut technologies, and a large park of demonstration machines, Eckert can fit the best possible technology to the needs of a customer. In addition, machines are built in a way to be suited to the realities of a customer's production hall.

Eckert Cutting Technology GmbH – Germany
Fax: +49 375 27 47 355
Email: info@eckert-cutting.de
Website: www.eckert-cutting.de

Flying shear cutoff installation

THERMATOOL has announced the shipment of another high speed Alpha flying shear cutoff to a major conduit and mechanical tube producer in Brazil.

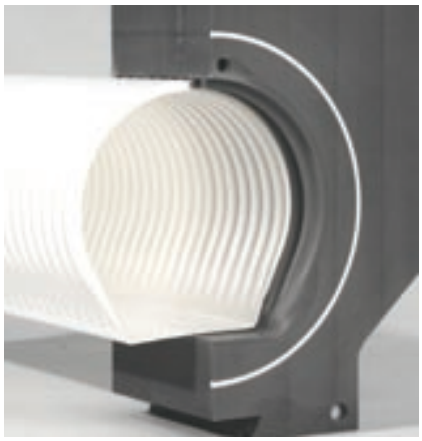
The Alpha shear will double cut, dimple free, steel tubing 25 to 125mm in diameter, in 3m lengths, at 150 MPM. The Alpha high performance flying shear is described by the company as the fastest and most reliable tube cutting system in the world.

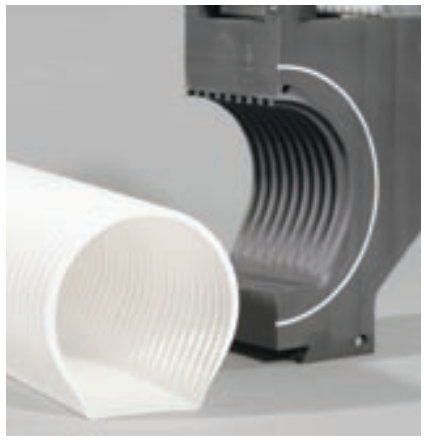
Thermatool Alpha cutoffs will cut tubes and profiles at speeds from 15 to 305 MPM, distortion free, in-line and in diameters from 9 to 168.3mm (3/8" to 65/8"), and wall thicknesses from 0.8 to 6.4mm (0.03" to 0.25").

Thermatool Corp – USA
Fax: +1 203 468 4281
Email: info@ttool.com

Thermatool IHWT – UK
Fax: +44 1256 467 224
Email: info@ihwtech.co.uk
Website: www.inductotherm-hwt.co.uk

Tunnel pipe optimises flow properties of plastic drainage pipes





Insights into a mould block with the typical tunnel profile and a tunnel-shaped drainage pipe

DRAINAGE pipes have to meet ever more severe requirements in the under-drainage of traffic structures and underground engineering. This is due to changing weather conditions with less frequent rainfalls yet considerably more water per rainfall. The collection, drain and seepage of surface water and soakage needs optimised drain systems able to cope with the floods.

Tunnel-shaped drainage pipes have been used for nearly 35 years, to cope with huge amounts of water. These are mostly made from PVC since plastic provides high annular rigidity.

The flat bottom of the pipe in contact with the soil makes for a better drainage than single walled pipes with fully circular corrugation. The German DIN standard, increasingly adopted in European countries, refers to this as Type C1 with profiled inner and outer surface and smooth flat flow bottom.

To meet the increasing demand of the market for tunnel shaped drain pipes of plastic, Unicor GmbH has developed new tools for the UC 250 and UC 315 corrugators. A newly developed perforating process allows these machines to produce tunnel pipes with an OD of DN 100 at a rate of up to 11 metres per minute.

Another benefit of the UC 250 and UC 315 is that at constantly high speeds the sockets can also be produced inline. This dispenses completely with the need for a separate production step.

Unicor GmbH – Germany
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Website: www.unicor.com

Circular sawblades specialist

STARK SpA leads an industrial group specialising in HSS and TCT circular sawblades for a full range of metal cutting applications. STARK headquarters and production facilities are located in Trivignano Udinese, Italy although the group is also present worldwide: STARK GmbH has been present in Germany since 1976 and in 1999, following corporate growth, STARK Do Brasil Ltd was founded in São Paulo and soon after, Frund STARK SA – Argentina.

In 2005 STARK SpA Representative office was established in Guangzhou (China) and in 2006 STARK India Toolings (P) Ltd in Mumbai. With more than 40 years of experience, STARK has achieved a leading position thanks to its organisation and professional approach as well as the quality of its products.

The whole production process is characterised by three specific sectors: woodworking tools, saw blades for metal cutting and circular knives for the paper, corrugated and plastic industry. In the last years STARK's target has been the development of high performance circular sawblades for cutting any kind of material with special focus on the ferrous ones in tube applications.

With its own three PVD coating furnaces STARK is able to grant a constant production quality providing at the same time the most suitable solution according to different customer needs.

On the other side, the mutual cooperation with R&D chemical science and technology department of University of Udine and Laboratory of Metallurgy, surface technology and advanced materials of Friuli Innovazione gives STARK the chance of developing and investigating the PVD process with the most advanced equipment on the market. The Millennium coating is an example of this successful relationship: the result is a high performance coating, able to satisfy the most critical end-user requirements.

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Double mitre saws and special purpose saws

NEU, Germany, has released details of its new double mitre saws and multi-head saws, which have been produced under the EKAL brand.

The saw features universal adjustment possibilities and a rafter trimmer with some models, which the company claims makes the saws particularly suitable for manufacturers that require a high degree of flexibility.

The sawing heads are highly adjustable and can be used for any standard designs as well as more complicated cutting. The main advantage is that one bench with 4,000mm of length is connected with a second bench of 2,500mm in an 'L' shape. This means that bent tubes can be also worked on efficiently with the sawing blade easily adjustable to work on both benches or just one bench.

Neu has also developed cutting lines with a loader-magazine and automatic mitre adjustment and high-speed cutting lines for tubes.

Neu GmbH – Germany
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Compact cutting machine

ROLF Schlicht GmbH, Germany, has developed and delivered a cutting machine constructed to its customer's needs. The flexible plant offers advantages, especially concerning rigid profiles such as scanner strips made of rigid PVC or ABS, where the user is looking to produce quickly and cleanly, without expensive subsequent processing, whether inside or outside the extrusion line.

The new machine features a caterpillar in-feeder type RB-600/100, which is equipped with a stop/start or continuous operation, with a sensor system to detect the product, and the possibility to return remaining pieces from the plant. This allows automatic operation in which the only task of the operator is to place the profiles.

A pre-warming station cares for the necessary warming-up, so that the cut is performed clean and without white breakage. During a stoppage the pre-warming station automatically runs into a parking position in order to eliminate the risk of over-heating of the profiles. The rotation cutter MC-80 provides a clean, exact cut without burr. Discharge systems convey the cut pieces into respective commissioning boxes.

RS Multicut cutting machine

Rolf Schlicht GmbH – Germany
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Circular saw cutting line with tube feed

A NEW cutting line from Maco features a tube feeding system made up of a set of two rollers provided with a device for the trim-cut (dimension adjustable on the panel). With accelerating and decelerating ramps, the head cut off length can be changed and memorised.

A programmable logic control system with a touch screen user interface allows different programs to be entered and stored (including ramps and feeding speeds, number of pieces and bars). Other features include alarm messages and an electronic disk protection device.

The workpiece length is determined by a mechanical bar stop which can be positioned manually. The bar stop back feeding device and workpiece unloading are standard, and the workpiece discharging length is variable at customer's request.

Maco Srl – Italy
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orbital | cutting + beveling + facing + welding.
complete solutions. one source.

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Compact computer controlled orbital welding power sources with automatic voltage control (AVC) and oscillation (OSC).

welding
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Laser cutting with the right beam source

CO_2 or solid-state laser? Many users ask this question when they consider doing cutting work with a laser. "The application decides which beam source is best to use," explained Dr Arnd Szelagowski of Trumpf Laser und Systemtechnik, Ditzingen/ Germany who recently spoke at the congress of the German Welding Society (DVS) in Nuremberg/Germany.

In his presentation – Laser beam cutting today and tomorrow – current developments and trends in laser cutting technology, Dr Szelagowski said, depending on material and sheet thickness, the CO_2 laser is a better choice for one application, while the solid-state laser is a better choice for another.

If users want a flexible way to cut across all sheet thicknesses and obtain good cutting quality, the CO_2 laser is the beam source of choice – despite its lower efficiency compared to the solid-state laser. If the users focus is on thin sheet cutting, the solid-state laser has real advantages.

Dr Szelagowski explained the reason for this by describing the absorption ranges of both laser beam technologies for iron. With a wavelength of 1µm, the solid-state laser produces a very broad, almost constant absorption level across an angle of incidence varying from 0 to 60 degrees. In the range of about 78 degrees, a distinct level with a subsequently steep drop is noticeable. With a wavelength of 10µm, on the other hand, the CO_2 laser shows a significant increase in the absorption level with an increasingly steeper angle of incidence (greater than 80 degrees), and thereby an improved coupling of the laser output into the material. These effects directly impact the laser beam fusion cutting – but not the flame cutting. "In this case, the laser plays only a subordinate role. That is why the cutting quality and speed in flame cutting for mild steel do not vary between CO_2 and solid-state lasers," he added.

The situation is different for thin sheet metal, which is processed at a generally higher feed rate and develops a flat cutting front. This favours the solid-state laser and therefore leads to improved coupling conditions.

"But with increasing sheet thickness, the maximum achievable cutting speed drops, resulting in a steeper cutting front," explained Dr Szelagowski. Conversely, this cutting front feature, in conjunction with the high melting temperature, produces a constant high absorption rate in the CO_2 laser beam in thick sheet metal. The molten material is homogenously low-viscosity across the sheet to the bottom edge and – despite its high volume – it can be driven out of the groove, improving the cutting quality.

This explains the different areas of application for these two laser technologies. "Solid-state lasers show considerable advantages for stainless steel sheet thicknesses up to 4mm. Compared to the CO_2 laser, they cut faster and are therefore more efficient and productive with the same high cutting quality," concluded Mr Szelagowski. With the CO_2 laser, in contrast, a broad material and sheet thickness range can be processed with high quality cutting results.

In order to obtain optimum benefit from the high productivity of the solid-state laser, the machine dynamics have to be in line with the laser's performance capacity. "On top of that, users should be aware that a 700 hp engine does not turn a compact car into a Formula 1 race car," said Dr Szelagowski.

The new TruLaser Cell 7040 fibre provides a system for 3D sheet processing with a TruDisk disk laser. The TruLaser Cell 7040 fibre with a working range of 4 x 1.5m is the largest model in the TruLaser Cell Series 7000.

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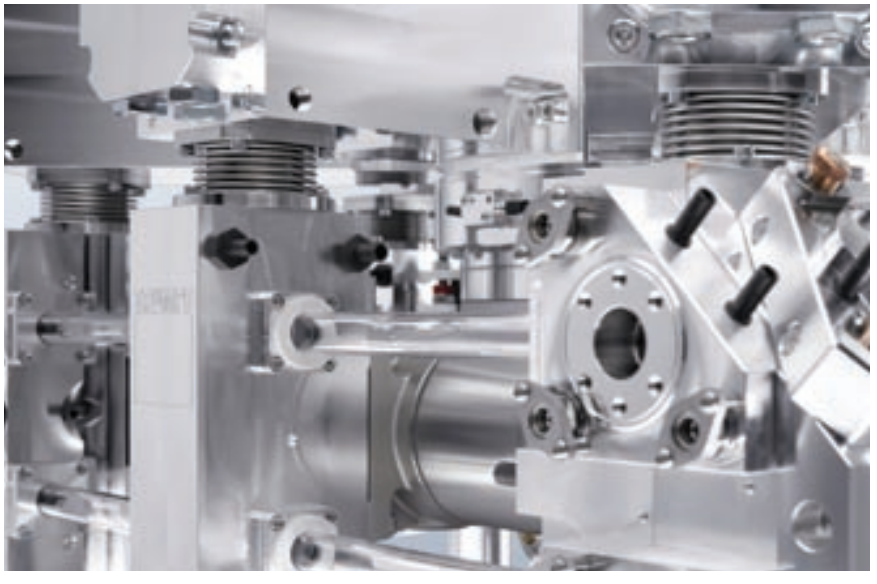

If users want a flexible way to cut across all sheet thicknesses with very good cutting quality, the CO_2 laser is the beam source of choice, says Dr Szelagowski

Profiler solution for cutting and profiling pipe

VERNON Tool, a Lincoln Electric Company subsidiary, has introduced the latest addition to its line of pipe cutting, bevelling and profiling products – the MasterPipe™ Profiler. The new system is an integration of features and functions targeted for small- to medium-sized fabricators.

The MasterPipe Profiler is a two-axis, CNC-controlled pipe cutting machine capable of cutting and profiling pipe ranging from 1" to 12" OD and up to 40ft in length. Standard cuts include mid-section holes, mitres, multi-intersection, centreline offsets, saddles and straight cuts.

The system is built to endure the rigours of pipe fabrication environments, and is powered by Vernon Tool's standard Windows-based operating system, WinMPM. This icon-driven touch screen interface makes training and implementation with operators seamless, and means fabricators can get into production within hours. The MasterPipe Profiler can improve productivity, safety and quality by consolidating set-up, programming and cutting into one operation. When a pipe is loaded onto the MPP, the programming on the WinMPM interface consists of entering the pipe dimensional data and selecting the types of cuts from the Vernon Tool cut library. The menu-driven operating system is easy to use and does not require highly skilled operators. The system is also outfitted with a large pre-loaded cut library, providing maximum pipe configuration flexibility.

Founded in 1930, Vernon Tool Company manufactures computer-controlled pipe cutting equipment used for precision fabrication purposes. The company provides solutions to difficult pipe fabrication and process flow issues in industrial construction, as well as heavy fabrication uses in the infrastructure and energy-related segments.

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Vernon Tool's MasterPipe Profiler

Improving the strip edge for further production processes

WHEN a slit edge has to be a functional edge, the quality of slit strips does not always correspond to the requirements. The burr can damage the rolls and tools of the following production process, and imprecise width tolerances can degrade the quality of the final product.

The Julius strip edge trimming system removes burrs by metal-cutting and achieves the contour required at the strip edge. The structure of the material surface remains intact and width tolerances are maintained. The strip edge is cleaned and prepared for further production processes. Julius presented its technology at Euro-BLECH 2010, including a complete strip edge trimming and oil grooving line. Apart from a de-coiler and a re-coiler, the line consists of a Duo strip edge trimming machine, a Tri-Nu oil grooving machine and a Drap flat levelling machine.

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The Julius Duo strip edge trimming line

European sales for US cutting machines

FULLSTAGE Technologies, Germany, has acquired the exclusive rights to represent US firm Haven Manufacturing, as its sole agency in Europe.

Haven Manufacturing is a well-known producer of cutting machines in the area of tube and bar, and its machines are particularly known in the automotive industry.

Its extensive product range includes dual-blade shear cutting, KleenCut supported shear cutting, flying shear tube cutting, wire brush de-burring, end finishing and automated tube cutting systems.

Haven has decided to offer its machines to the European market, and selected Fullstage Technologies as its partner in order to provide quality customer care in this new market. Fullstage Technologies also offers wire benders from Japan, which are presented under the brand name Taihei.

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Blasting, Coating and Galvanizing Technology

Manual grit-blasting of the inside diameter of a tube is a difficult and time-consuming procedure that yields disappointing results: areas that are either not clean or cleaned too vigorously, leaving weak spots. In an automated blast cycle, a titanium lance travels at consistent speed through the tube, providing even contact and excellent part quality.

That evolution in processing also typifies the other two specialities considered here. The strength, ease of fabrication, versatility, and low cost of carbon steel commend it for tubular products. But unprotected steel surfaces are famously susceptible to corrosion. Hence coating and galvanizing; and, with them, resistance to moisture, oxygen, solvents, temperature extremes, and a host of other threats to a long and reliable service life for the tubular product or part.

Photo: Zircotec

Saudi galvanising line commissioned

SUPERIOR Technologies, Inc has announced the recent commissioning of its Zinc-Tech™ in-line galvanising process at International Tube and Conduit Company (ITCC). This new state-of-the-art facility, which is located in King Abdullah Economic City, Rabegh, Saudi Arabia, approximately 120km north of Jeddah, produces electrical conduits, scaffolding, construction props, hand-railing and fence tubing.

This is the first in-line galvanising installation in the Kingdom, and positions ITCC to serve its market with high quality product. Hatem Mawlawi, general manager of ITCC, announced that the facility has passed the rigorous testing and underwriting procedures of its electrical products, which are now UL certified as in compliance of UL Standard 797 for Electrical Metallic Tubing (EMT).

The installation features Superior's Zinc-Tech in-line galvanising process and incorporates a UV cured clear coat system to further enhance product corrosion performance and lock in the fully galvanised brilliant surface quality associated with in-line galvanised products.

Superior partnered with OTO Mills, SpA, Italy, to provide the tube mill related components for the installation. The process has dimensional capacities of 19mm x 1mm to a maximum of 76mm x 4mm, and is capable of producing at speeds of up to 150m/min or 20 short tons/hour.

The Zinc-Tech in-line galvanising process integrates all of the processes required for the application of zinc to the surface of the tube directly into the tube making line. The result of this technology is a fully fused galvanised surface.

Superior Technologies is also seeking to expand the global representation of the Zinc-Tech process, as well as the company's equipment for in-line interior and exterior coating of tubular products and shapes.

The new state-of-the-art facility

Peter Chifo Jr, president of Superior Technologies, commented, "After an evaluation of our existing marketing network, we have come to the conclusion that both existing as well as prospective customers would be best served through a global network of representatives in close proximity to regional markets."

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Temporary protection solution for steel pipe

PPG Industries, Inc's high-performance Raycron® UV varnishes have been developed to protect steel pipes against red rust during storage and to minimise damage during overseas transportation. Raycron products are UV-cured clear coats made of 100% solids. The products are spray-applied directly onto brushed, untreated pipes, which can be packed immediately after curing.

Designed to meet the specific requirements of steel pipes manufacturers, PPG's Raycron Generation 2 varnishes have been developed to significantly improve rust protection. The picture shows pipes after 7 months of natural exposure in Dunkerque, 2m from the sea. The coated test pipes passed the ASTM BS 117 salt spray test and demonstrated more than 200 hours rusting quotation ReO. Raycron products also offer excellent scratch resistance and adhesion on brushed steel. Raycron coatings can provide advantages that go beyond the coated end product itself: Raycron solvent-free coatings aid compliance with environmental regulations and aid productivity with a faster curing process and higher transfer efficiency.

Raycron advantages include: good appearance and levelling; 100% solids coating; no water or solvent in the formulation; line speed: up to 100 m/min; and green technology.

PPG Industries – USA
Website: www.ppg.com

Salt spray pipes: top pipe shows Generation 1, bottom pipe shows Generation 2

Universal gloss on Michigan Seamless Tube line

MICHIGAN Seamless Tube, for over 80 years the producer of the broadest range carbon and alloy seamless cold drawn pipe and tube in US industry, has added a new UV coating line to its South Lyon facility, offering 100% solid UV coatings with increased corrosion resistance and enhanced product appearance.

Using a unique vacuum system for achieving consistent film thickness all around the tubular product, MSTube is now able to provide its customers in distribution, transportation, energy, heavy equipment and original equipment manufacturers with an added six months or more of corrosion resistance.

The new coating line has been built using a system installed by UK coating equipment manufacturer Universal Finishing Systems. Universal has been manufacturing integrated modular pre-treatment, coating and drying systems for the world tube industry for 15 years, with exports accounting for up to 80% of sales.

Tasked with the demand of applying a black-pigmented high gloss UV coating, Universal combined an Ultra-Vac vacuum coating machine together with an 8-lamp Supa-Cure UV curing system. With coating thickness controlled by consistent vacuum pressure and incoming air speed, the system gives an immediate cured finish all round the tube and 100% transfer efficiency, minimising costs by recycling all the coating.

MSTube is now able to provide 100% solid UV coating to add to services, which includes supplying a full line of mechanical and pressure products to ASTM, ASME and API including heat exchanger, condenser, boiler, IPS pressure pipe, and oil production tubes.

"The new line was up and running on schedule," says MSTube's engineering and maintenance manager David T Wellhofer. "And Universal was very helpful in the start up and training of our personnel."

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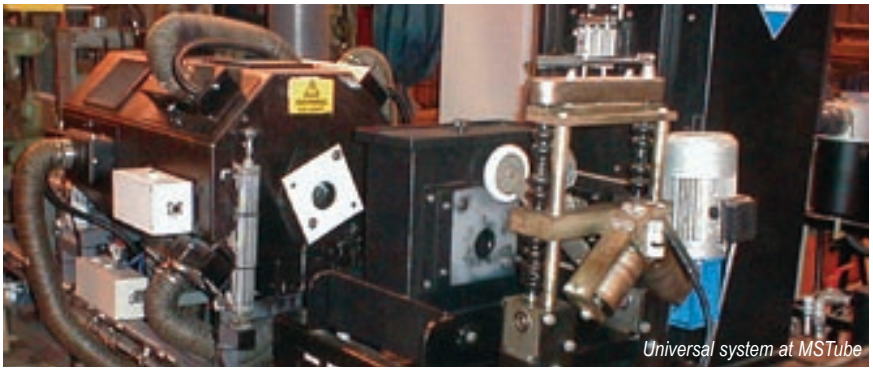

Universal system at MSTube

Pipe and rod blaster

VIKING Blast and Wash Systems has announced the release of the new and improved SR-6 pipe and rod blaster. This machine can remove rust or enamel from a wide variety of materials, from fractional diameter up to 6" diameter pipe, to an SSPC-6 surface finish on a continuous flow basis.

The SR-6 utilises one VK PowerMax direct drive blast wheel, available in horsepower options ranging from 10 to 40 HP. This wheel design maximises efficiency and increases cleaning throughput, ranging from five to 30ft of pipe per minute. The machine features rugged and durable construction with a complete ½" thick cast chrome/moly lining that protects the blast cabinet from abrasive wear, ensuring long life and low maintenance. For additional protection, direct impingement areas are lines with replaceable cast chrome wear plates. These plates are installed with cast chrome nuts and are ship-lapped to ensure overall protection coverage.

The skew roll conveyor system handles the pipe or rod through the blast chamber on precision cast chrome 'V' groove parts rollers. Tightly sealed isolation vestibules buffer the workspace from errant abrasive, and dust evacuation systems keep the blasted material clean and the work environment dust-free.

Entrance and exit conveyors are available, as well as other options to increase production and provide optimum cleaning processes. Custom engineering is also available upon request.

Viking Blast and Wash Systems offers a broad range of batch style cabinet blasters and pass through conveyances, including spinner hangers, roller tables, pass through monorails, vibratory degreasing, tumble blast, rotary tables, chainbelts, pass through washers, and replacement parts and media.

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The Viking Blast and Wash Systems SR-6

Lamborghini selects lightweight Zircotec coating

AUTOMOBILI Lamborghini has selected automotive coating specialist Zircotec to supply a high performance thermal barrier for the lightweight Murciélago LP 670-4 SuperVeloce. The ceramic-based thermal coating is applied to the exhaust system and reduces the need for heat shields while allowing heat sensitive lightweight materials to be used in close proximity to the exhaust pipe. Zircotec's Thermohold technology also protects other heat sensitive components from damage.

"Lamborghini previously used Zircotec for its Reventón where a durable solution to protect the composite bodywork and components around the exhaust was required," says Zircotec's sales and marketing director Peter Whyman. "This time the coating helped contribute to an overall weight saving of 100kg over the normal Murciélago, with 33kg of the reduction coming from the new powertrain and exhaust system."

"Zircotec helped us in achieving the attention to detail in weight reduction on this programme," explains Luca Meschiari, head of exhausts at Lamborghini. "Their coating helps save weight yet is also durable, and meets our requirements in terms of performance and quality more than other solutions we have seen."

Zircotec's Thermohold-based ceramic coatings offer OEMs a robust, easily packaged solution that can dramatically inhibit the transfer of heat from exhausts and catalysts, retaining the heat inside the system to protect surrounding components.

The coating is plasma-sprayed, in effect welding it to the base material, making it more resilient during heat cycling, abrasion and life testing. The whole process eradicates the need for heatshields and wraps that add weight and complexity. Learning from its experience in F1, Zircotec can adapt the coating's thickness to cope with 'hot spots', applying the optimum amount to minimise weight – as low as 0.03g/cm² for some applications.

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Stopping seam corrosion

METALLISATION provides metal spraying and anti-corrosion protection systems around the globe, and boasts a number of successes within the tube and pipe industries.

Metallisation equipment and processes are thought particularly effective in re-coating weld areas of pre-coated tubes produced by a tube-forming mill. Tubes can be produced using pre-coated steel strip, which is available with zinc coating (galvanised), aluminium coating (aluminised) or Zn/Al Alloy coating, available under various trade names. The tube is formed by electrical resistance welding (ERW) of the longitudinal seam. During the welding process the heat generated, coupled with the tooling operation to remove the weld fins, destroys the tube coating around the weld area, which, unless re-protected, will corrode.

The re-protection of weld damage is achieved by applying a metal sprayed deposit that matches the tube coating. Metallisation can metal spray the weld damaged area with pure zinc, pure aluminium or a zinc/aluminium alloy. This is believed to be the only method of in-line repair that offers the flexibility of producing tube with zinc, aluminium or Zn/Al coatings.

The Metallisation Arcspray 528E-ICC is a heavy duty high performance pistol, specially designed to work reliably in severe and extended operating conditions.

To apply the metal spray to the ERW seam, the Metallisation weld repair system is installed on to the tube mill. The spray pistol must be located as close as possible to the fin removal tool and, ideally, within one metre of the welding coil. When spraying a zinc coating the pistol needs to be around 30mm from the arc point. The spray current, which relates to the spray rate of the pistol, can be varied in accordance with the line speed to ensure an even coating on the seam, even when the line speed changes, eg during ramp-up and ramp-down. Typical line speeds of 60 to 110 metres per minute are normal when arc spraying, but speeds outside of this can be catered for. It should be noted that the coating quality may be affected by the mill line speed and size of the tube and slight adjustments may be required.

The main benefit of the Metallisation Arcspray 528E-ICC system is its reliability in automated applications. In the Arcspray process, the raw material – a pair of metal wires – is melted by an electric arc. The molten material is atomised by a cone of compressed air and propelled onto the ERW seam. This spray solidifies when it hits the surface of the tube to form a dense coating, which re-coats the tube weld area to protect against corrosion.

Major advantages of the Arcspray process are that the coatings are available for almost immediate use, with no drying or curing times; there is no risk of damaging/distorting the component and the use of only compressed air and electricity mean more economic coatings.

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PVDF range of anti-corrosion solutions

THE problem of corrosion undoubtedly causes the worst damage to plant and equipment in the chemical and pharmaceutical industries, involving the responsibility of every manufacturer. Arkema's range of anti-corrosion products makes for smoother plant operation.

Arkema's Kynar® polyvinylidene fluoride has emerged as one of the market's toughest thermoplastics in terms of resistance to corrosion and to the harshest of acids. The company is a leading producer of polyvinylidene fluoride resins. These resins are used in the lining of tanks, in injection moulded parts for fittings and valves, and in extruded parts for pipes.

The company's PVDF range has outstanding properties for the chemical and pharmaceutical industries. Kynar® polyvinylidene fluoride (PVDF), the homopolymer of 1,1-di-fluoro-ethene (VF2), is a technical thermoplastic offering excellent mechanical strength and chemical stability, high abrasion resistance, and very good thermal stability.

As a fluoropolymer, Kynar PVDF boasts outstanding resistance to most chemicals and solvents. It is also appreciated for its low flame and smoke characteristics. This unique balance of properties has marked it out over the years in a number of sectors, from prepainted metal structures for architecture to high-purity equipment for the micro-electronic and pharmaceutical industries. Kynar resins are easy to process using standard extrusion, injection moulding or compression moulding methods.

Kynar Flex® resins are a series of PVDF-based fluoropolymers with higher flexibility than conventional PVDF. Their properties are similar to those of Kynar resins in terms of purity and chemical resistance.

However, they feature unique qualities of chemical compatibility with high pH solutions, and superior impact strength at ambient and colder temperatures.

Arkema has also recently developed a new functionalised PVDF range, branded Kynar® ADX. These resins have high reactivity and offer excellent adhesion performance on a variety of substrates (metal, plastic, glass, textile) without the need for an adhesion primer. This makes the product suitable for the manufacture of composite structures that combine the properties of Kynar with those of the various substrate materials.

Kynar ADX thereby offers opportunities for new applications in a number of markets. Kynar ADX can be used in electrostatic or in dip powder coating, when applied on steel or aluminium without a primer.

The resin imparts excellent chemical resistance to metal parts in highly corrosive environments (eg paper, chemical industries). This product can also be used in coextrusion, for multilayer structures obtained by combining Kynar® ADX with most polymers. This process imparts other properties (eg chemical stability, UV resistance, barrier) to the polymers.

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Carbide coating solves slippage problems

AN application of Carbinite Metal Coatings' Carbinite on a jawset provided one customer with a secure grip for tube end-forming operations, without leaving unsightly tooling marks. An application on hydro-testing clamps helped another customer ensure that end caps held tight during intensive water pressure testing. If there's slippage during manufacturing, an application of Carbinite is said to reduce it.

Carbinite is a carbide coating electrofused to a base metal to add texture. The coating creates many small peaks that penetrate the workpiece surface upon clamping. These peaks increase the coefficient of friction between the clamping surface and the workpiece in an action referred to as surface micro-keying. This allows for a strong, solid grip during fabrication.

The electrofusion application method provides a strong bond because the carbide is fused into the base metal, not just applied onto it as in spray welds. Bulk heating is not required, so tool temper and heat treat are not affected. If needed, it can be applied and reapplied without stripping away existing layers.

The coating is available in several grades, leaving various textures ranging from 40 to 320 emery grit. It can be applied to all steels including stainless, as well as to certain aluminium alloys such as 6061 and 7075.

In addition to improving tool performance, Carbinite will increase surface hardness up to 70cc, resulting in an extended tool life. A coating can allow clamping pressure to be reduced thereby decreasing tube crushing or deformity. The extra gripping strength provided is designed to improve end-forming, tube bending and swaging operations.

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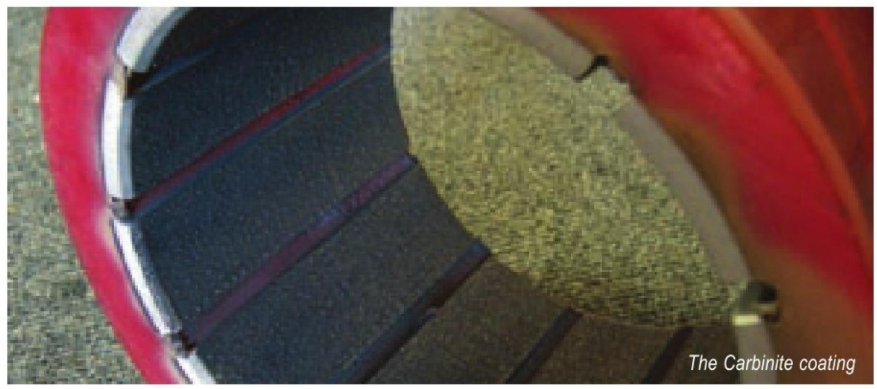
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这一栏目专为我们的中文读者介绍国际管道行业的最新技术和行业新闻的综合信息。

Bihar Tubes Ltd Unit-II落成典礼

BIHAR Tubes Ltd（Sudesh Group的一个单位）过去20年来一直都是印度管材业领导者，而且是少数几个制造所有类型管材(如黑色圆形/空心型材、热镀锌圆形/空心和预镀锌圆形/空心管材)的组织之一。

成立于1986年的Sudesh Group直到最近才有了四家公司（Bihar Tubes Ltd，Apollo Metelax和Apollo Pipes in North India，以及印度北部的Shri Lakshmi Metal Udyog Ltd），每月能制造 13,000 MT尺寸½"到 12"的圆形和空心型材。

Sudesh Group最近开办了第五个单位——位于印度南部Hosur(TN)的Bihar Tubes Ltd Unit II，有一个½" 到12"钢管厂的调试（生产能力为4,000 MT/月），连同精整设备。一个2"到 6½"的钢管厂（生产能力为9,000 MT/月）的安装正在进行中，计划于2010年6月开始生产。

一个4" 到12" 的钢管厂和一个热浸镀锌厂计划于20101年8/9月调试。这将完成该单位的第一阶段，将承担集团超过30,000 MT 每月的生产任务。第二阶段，一个8" 到20"或24"的API钢管厂计划建立，连同精整设备和涂装生产线。

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新的和二手改造机器供应商

EUROMAQUINA 40多年一直从事钢加工业，重点放在板材、型材、管材和棒材加工上。近年来，公司提供了新的和旧的机械，在超过25个多国家处理和整合其自己的工程和服务。

Euromaquina主要的特性是将自己组装和改造机械车间组合起来以及成为领先的机械制造商代表。公司不仅是代理商而且还是机械经销商：它可以从合作伙伴那得到升级和备件备份，并能够从机械和电气上改造一流的欧洲机器。公司还在其服务团队的支持下提供装配、基础图纸设计、布局和模块化开发。

Euromaquina的各种机械设备包括：用于板材的纵切线、CTLs、拉伸弯曲矫直、等离子和激光切割；用于型材和管材的成型线、管轧机和改造的管轧机零部件（开卷机、焊机、切断机和包装机）；精加工线——矫直机、坡口机；以及用于棒材的棒材精加工线（去皮、抛光）。

公司已开发了以下产品和服务：模块化和定制处理设备（输入辊道、辊道、输出架和储存系统）；改造和整合项目；旧机器（矫直和去皮机）更新和自动化；排气系统；无损检测工作台以及Filtra.4 (www.filtra4.com)免维护乳剂过滤系统，发运的产品接入即可运行。

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“Pipe Raiser”使运输成本减半

Dhatec的 Pipe Raiser 系统使一根管道在另一根的上方，从而减少总的装载宽度

欧洲运输准则96/53限制了卡车装载宽度为2.55m。这使得单个管道运输直径为50"以上。感觉到对增加线管物流的安全和效率的责任后，Dhatec BV发现了一个解决方案。通过将一个管子提升到另一个的上面，这样总的装载宽度能够减少。“Pipe Raiser”允许处理一个卡车上的50" 到60"的两根管子，从而使运输减少一半。

这个新的“Pipe Raiser”系统安全吗？根据 TÜV Nord 来看，它是安全的。

全面的试验在Wagenborg 和提供卡车和管子的Europipe公司的帮助下被安排好。在德国Dreierwalde，该系统按照VDI 2700 标准在两天内完成试验。警察见证了这些试验，前、后制动系统，在两个方向内的S曲线和U形转弯。

非线性运动所需的重力在各个方向都达到了（两侧为0.5G、 前面为0.8G， 后面为0.5G）。

U型转弯时，其中如果不是支持轮子，卡车就会翻倒，被描述成壮观。 Pipe Raiser和管道，所有时间都保持在原位。这个可靠的系统连同配套计算证明TÜV Nord和‘Pipe Raiser’对公路交通是安全的。这一提高全球管道运输的创新使Dhatec得到了TÜV 认证证书。

“Pipe Raiser”是Dhatec的管道运输系统‘System88’的一种扩展。对线管工艺的安全和效率的提高做出的贡献使 Dhatec成为一个具有创新精神的合作伙伴。Dhatec的所有产品都是针对确保从制造到涂装、运输、储存、搬运和施工的整个物流过程线管质量的。此外，Dhatec协助项目经理组织管道项目物流。公司的知识和经验给项目经理提供预防损坏和现场安全建议。

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新的ZH401折弯机

EAGLE Bending Machines Inc 推出了新的ZM402 & ZH402为 2"处理能力以及3辊P金字塔型通用辊式折弯机，带手动或液压调整成型辊、双驱动下辊和带LED读数器的移动控制站，来监控成型辊。"Z"系列主机架由脱氧钢构造，经过数控加工的应力消除。Eagle Roll Bender没有铸造的零部件。

轴是由合金钢精密加工而成，经过热处理和精密研磨。辊轴在双辊轴高动态负荷滚柱轴承中运行。成型辊在可调整的稳固的导架或路径上移动，用于延长机器寿命。数字读数器允许精度可重复性。重型双侧材料导架用来在滚压中支撑材料， 或用于盘管或旋转栏杆工作。

一个通用模块弯辊工具组包括18个热处理的耐磨零部件，零部件是标准的，能弯曲最标准的型材。为了通用性和安全，机器在垂直/水平位置操作。新的"Z"弯曲机可配备可选的滚动设备、标杆扭转装置、管轧机，以及很多其他专业工具，来满足各种专用的需要。顶辊式防尘盖防止轧屑进入，移动控制站包括双脚踏板开关，用于CW/CCW或正转/反转。低电压24VAC控制和两个紧急停止手拿开关(一个在机器上，一个在控制台上)，提高了操作者安全。Eagle 具有质量、特性、服务和永恒的价值。

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管层锯切机

LINSINGER的管层锯切机提供快速、清洁的切割管层，具有高输出能力。所有机器都能在高速和恶劣的条件可靠连续地运行。

无缝钢管厂的工作环境对人和机都不是特别友好的工作环境。特别恶劣的环境是在冷却床后靠近轧钢厂的地方。轧管被传送到冷却床进行管端加工，管层被形成，用来切割成几个管长或将清除切掉的端。

Linsinger的锯切割系统用于在3次更换操作内切割管层，设计使用了最新的无振动技术，公司称它能够提供无裂纹，尤其是无毛刺的高质量切割，且无硬化或热影响。无排放的切割工艺产生的切割片可以很容易得被再加工。

材料拉伸强度达到1,400 N/mm²的管子能够很轻松地被切割。无摩擦机械设计不带驱动带，确保达到最小的公差，切割质量结果可以直接买到市场，不需要任何进一步的去除毛刺。

Linsinger顾客能从额外功能中得到好处，比如运输系统，长度测量站， 增加的用于管层成形的夹具等。在锯床和工具间找到的完美匹配是降低生产成本的关键。Linsinger拥有一个室内全自动工具制造设备能提供单一来源完美匹配的锯床和工具。公司还提供交钥匙锯片维修车间和操作者培训。

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来自中国的钢管

HUACHENG Corporation 主要从事符合EN、ASTM、ASME、DIN、BS、JIS和GB 标准的精密冷拔/轧制无缝、冷拔焊接、电阻焊接和特殊形状管材的制造和销售。尺寸范围为外径6到114.3毫米，壁厚0.8到 15毫米以及最大长度24米。

Huacheng有5个工厂，总的生产能力为60,000吨冷拔/轧制无缝钢管，50,000吨电阻焊接钢管，30,000吨冷拔焊接(DOM)钢管和 30,000吨冷拔特殊形状/大直径钢管。

管子可广泛用于电站锅炉、换热器、汽车零部件、机械结构、轴承加工、造船、桥梁施工、石油勘探、运输和其他相关领域。

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保护气体室式炉

LINN High Therm用气密性马弗制造保护气体室式炉用于在保护气体环境达到 1,050°C下的热处理过程，并带一个最大15 l的有用的炉室。产品适用于工件焊接及退火过程，敏感钢质量的无氧化皮处理，脱脂和烧结过程，表面氧化或还原以及其他应用，在受控大气下(包括H2)。

多种选择满足所有应用：铬镍铁马弗用于达1,200°C的最高工作温度；气体进口和烧尽设备以及火焰监控；保护气体控制或MFC；安全包；用换热器进行气体通气和气冷淬火，气体报警安装和燃气加湿；快速冷却以及达到800°C真空度。

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Linn的VMK 250 S炉

新的变频电压等离子切割机

GYS Ltd，法国焊接设备和充电器生产商，推出了单相230V等离子切割机 21和变频电压 85-265V 等离子切割机31FV，两台新型轻便工业用等离子切割机，而且都采用变频控制技术。

两台机器设计用来生产低强度质量切割，即使是在喷漆表面，也不会变形。Plasma Cutter 21能够切割4毫米的铝和铜板以及6毫米的钢、不锈钢和铸铁板材，以及能在20A电流下以15厘米/分的速度切割6毫米的钢板和4毫米的铝板。

Plasma Cutter 31FV能够切割8毫米的铝和铜板以及达10毫米钢、不锈钢和铸铁板材。它能在30A电流下以9厘米每分的速度切割10毫米钢板和8毫米铝板。

GYS的新等离子切割机31FV

这两台机器设计用于工业维护和汽车车身修理工作以及现场工作。两台机器上都有GYS 'Pilot Arc'系统，引弧无需与正在切割的板材接触，使他们易于使用。引弧没有高频能避免电任何磁干扰(手机、电脑和收音机等等)。

Plasma Cutter 31FV 有PFC(功率因数校正)和FV（变频电压）技术，使它能在110V (32A)或 230V (16A)，或 85到265V任意一个电压下使用，以及PFC技术能与发电机以及伸长导线一起使用，而不会减少机器性能。而且它还还有使用发电机的保护以及通过了400V过压测试。

两台机器有 IP23防雨和防尘浸渍保护，并配有一个空冷火炬和配有安全触发器发4米软管，以避免意外发生。选择包括一个用于圆形切割的指南工具包以及最方便操作的轮式推车。

GYS是法国最大的MIG、TIG、MMA和等离子焊接产品和充电器制造商和供应商，包括专家级的电阻电焊、等离子切割和凹痕拉拔机用于车身领域。该公司通过了 ISO9001/2000、TUV和Thatcham认证。

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工厂施工解决方案

Hoesch Schwerter Profile GmbH与各个分部密切合作开发产品，以及客户的特殊配置需求被用于几乎钢材加工业的所有领域。如今，必须承受最重负载的特殊钢解决方案被应用实行，尤其是现代发电站或工业设施。

现代工业工序有如此多不同的要求，尤其是管材，这些通常不是一个单一的材料能完成的。例如，单个或组合的操作要求可能引发对于管道表面腐蚀-氧化-或耐磨以及强度不同的、甚至是相反的要求。这类建设性问题可能通过使用通常由两种不同的材料作为他们的外或内表面的所谓的“复合管材”得以解决。

Schwerter Profile GmbH使用一种特殊的工艺：管道通过挤压压制的坯料或由两种材质组件制成的预组件制造而成，在高温下使他们组合，而且高温是在挤出过程中产生。

这是有可能的，首先由于组件制造新技术的执行实现了极佳的金属熔合。

这种复合物或复合管材的应用领域是用于纤维板行业过滤再生熔炉，核技术操作杆裁剪，焚化炉装置蒸汽锅炉管道，砾石煅烧熔炉冷却管，废热熔炉管道和火电蒸汽熔炉过热管道。

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更多的GPU程序用于冶金研究

METALLURGISTS参与了应用热力学和其他数据密集型冶金学研究，有兴趣实现不同应用内来自GPUs的高性能，使用 Monte Carlo模拟现在能获得一个升级版NAG 数子程序，用于来自Numerical Algorithms Group (NAG)的 GPUs 。

General Purpose GPUs(图形处理单位)最初是用于个人电脑内的3D游戏加速，但是最近处于数字和技术计算的前沿。Monte Carlo 模拟被用于不同领域很多技术计算应用中，如财务、工程模拟、药物开发、科学研究、石油和天然气勘探。

对NVIDIA来说，GPU计算方面的领导者，Andrew Cresci，GM垂直营销评论到：“围绕GPU计算的生态系统正快速增长，以及NAG加入GPU计算的程序不能更及时。NAG的很多数字图书馆以提供最高性能而闻名于世，同时保持最高标准的准确性。目前有60,000个活跃的CUDA开发者，提供进入NAG的可信算法是一项重要的里程碑，可增强NVIDIA的GPU计算结构的成熟性。

NAG用于GPU计算的数字程序可提供给参与协作NAG organisation研究的学术研究人员。商业组织也可进入NAG的GPU 代码并通过与他们区域的NAG办事处联络提供编程服务。

最新发布的用于 GPUs的NAG码包含用于Monte Carlo 模拟的程序——Quasi 和Pseudo 随机数子生成器、Brownian桥以及相关的统计分类。

起源于几所英国大学的Numerical Algorithms Group集团是一家总部在英国的非盈利数字软件开发组织，与世界一流的学术界和工业界研究人员和从业人员合作。

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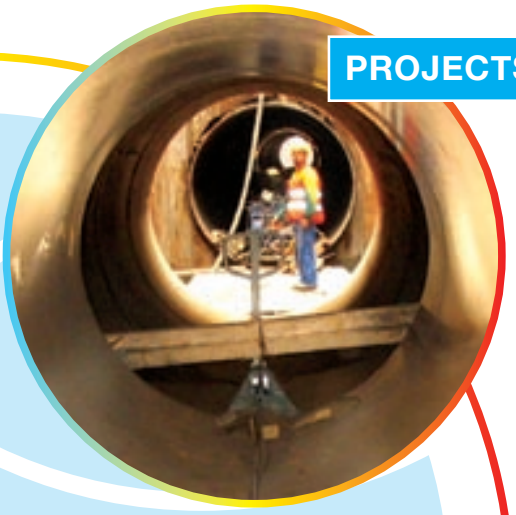
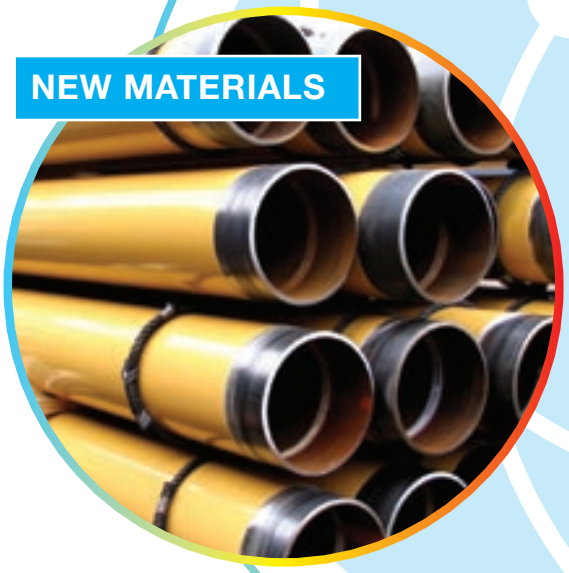
Connecting everyone





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GE超声波管道检测机在中国成功安装

在过去的几年中，GE Sensing & Inspection Technologies向中国主要的钢管厂提供了20多台自动化超声波管道检测机。这些机器被并入到客户的生产线，用于检测各种无缝管。包括从用于电厂的小直径冷加工管道到用于石油管材的大直径、厚壁以及热加工管道。

来自GE Sensing & Inspection Technologies的检测机

提供的管道检测机有各种扫描原理。这些包括带旋转探针的旋转头和直线输送管道；固定的探针箱和螺旋式运输管道；以及带沿管道长度运行的探头架的固定旋转管道。

具有代表性的检查任务是纵向和横向缺陷的检测，以及可选的倾斜裂纹方向和分层式裂纹。厚度和直径测量也可用该机器执行，这些机器大部分都配有传统的探针，有些还有相控阵探头和应的多通道电子设备。除了用于无缝管检测的超声波检测机系列，GE Sensing & Inspection Technologies还提供用于焊管（电阻焊和埋弧焊）的超声波检测机。

GE Sensing & Inspection Technologies是测量、感应和检测解决方案领先的创新者，能为包括石油和和天然气、发电、航空航天、交通和医疗等各行业客户提供精确度、生产率和安全。这是GE Energy Services业务的一部分，并且已在全世界25个国家有40多个基地。

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新的ORT Italia轧制波纹机

ORT Italia推出了新的MPF制波纹机，它被设计用来满足最现代的技术标准：所有结构都坚固；控制面板最大的用户友好型；最低的维护要求以及简单的设计和快速的更换。

在许多不同材质、长度和直径的薄壁管道上制造波纹是可能的。该MPF制波纹机通常用作连续加工线的一部分，从一个在线圈内需要被开卷和矫直的管道开始。该机器还能用作一个单独的定长切割管装置。

在成波纹区，管道被插入机器，由两个气动夹夹紧。成波纹机头通过一个数控无刷电机旋转，成波纹辊由滚珠螺杆驱动，能控制穿透深度。成波纹机头沿一个数控移动机架移动。ORT Italia专门从事齿条、螺纹和波纹冷轧和热压机的设计和制造。公司将其收入的大部分用于研发，其起波纹试验室和检测室，最近被翻新，允许性能试验和新装置的检测。公司70%的产品出口世界各地，它存在于所有的主要市场，进行直接销售和服务辅助。

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快速和准确的配量

BRONKHORST，一家领先的流量计量和控制的欧洲公司，正在提供一个可替代的用于添加剂、芳香剂、增味剂和着色剂配量的重量测定或磅秤的现代化的方法，承诺使加工时间更短，产品结果更好并改善了工作环境。

最新的Cori-Fill® 小型液体加量装置，包含一个精确的Cori-Flow或迷你型Cori-Flow 流量计以及相配的阀门或泵，能够配置精确的液体量，同时，很多仪表能够用于混合物的同时配料。

Cori-Fill 适用于各种配料、混合、定量给料、填料和消毒应用，流量为0.4g/hr到600kg/hr之间。针对食品和饮料、制药、化工、化妆品、隐形眼镜和生命科学行业，它有一个紧凑的面积，不需要额外硬件的复杂程序。

常规的重量分析法可通过使用一个开关阀和一个位于阀门出口接管下方的磅秤来实现给量。磅秤在收到正确的剂量后把信号发送给PLC，然后再移到阀门用于接下来的混合物的添加。这是一个耗时的过程，所有的混合物要一个一个的添加，每个阀门都需要一个归零的程序。

由于先进的Cori-Fill技术，以及纳入的拌合计数器和直接操作开关阀的设备，它能够给出精确的混合物量加到收集容器里，只需要简单的重设命令就可以开始下一批配料。Coriolis指导量的测定方法，消除由材料的温度、粘度以及密度变化引起的体积变化，产生一批又一批更精确、可重复的量。因此，Cori-Flow 方法据说比磅秤更快、更紧凑以及更精确，产品结果更好，因为挥发性液体蒸发较少。

也可以使用多个Cori-Fill仪表同时配制很多液体添加剂，使生产时间减少，且没有中间归零程序。配置的量可以通过一个总线连接的机载拌合计数器轻松预设。工作环境也得到提高，因为没有将添加剂定量进给开放式储存容器，或磅秤需要的类型。

Cori-Fill 组件配有Cori-Flow仪表选择，用于 20g/hr 到600kg/hr的流量，或高度小巧的迷你Cori-Flow系列，处理能力为0.4g/hr到30kg/hr。

仪器型可以与切断阀联合，用于<0.3sec的短批程序，与一个定量阀联合，用于>5秒的较长的配料时间，或与齿轮泵联合，用于无需压力容器的定量给料。流量计的机载PID控制器得到优化，用于控制阀门或泵，可瞬间开始配料任务。质量配量精确度是0.5%或更高，体积配料精确度为1%。

由于面积小，Cori-Flow或迷你Cori-Flow仪表能够靠近阀门或泵安装，减少内部管道体积，使反应时间快，下至<0.3 sec，并减少了管线内气体危险，可能引起延误。这也产生了一个非常紧凑的配量解决方案。

英国Bronkhorst可提供即可安装的和已通过预试验的Cori-Fill液体给量组件。

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高速氧燃气喷涂、等离子喷涂、火焰喷涂、电弧喷涂、喷杆喷涂自动化系统

辊压成形机通过几个连续的站拉拔热或冷轧钢材并将材料加工成管子。用电阻焊封闭对接边留下的焊缝。尽管没有加入会改变化学成分的填充金属，但焊接过程中运用的温度很高足以贡献母材的一些抗腐蚀性能。这个过程也可能蒸发掉先前涂装在轧制钢材上的铝或镀锌涂层。一个波状外形的斜嵌槽工具或滤除芯棒清除来自家管道表面外径的焊接飞溅或余料。许多管道制造商直接沿斜嵌槽工具或滤除芯棒安装一个两线电弧喷涂工艺。

喷雾工艺用于铝、锌或他们的合金材料涂层的喷涂，以恢复管道的耐腐蚀性能。喷涂材料在喷涂时，焊缝应该仍然是热的，确保喷涂材料与基底的金属熔合，提高喷涂材料的附着效率和密度，允许涂料混合，从而帮助隐蔽焊缝。电弧喷涂是最用户友好型的，对于操作成本，热涂或金属喷涂工艺是最便宜的，用于将金属涂料喷涂到母材上。任何线材形式的导电材料可以使用电弧喷涂。

交流电机拉线系统，安装在喷枪内，确保精确的送丝速度。线在喷枪头相遇并熔化在电弧里。熔化量被雾化然后用压缩空气吹到基底上。粒子冷却到环境温度和融合成一个高质量的金属涂层。

从电弧到管子焊缝的距离在钢管厂安装上是一个很重要的测量。标准的电弧喷涂嘴提供锥形喷涂模式。直线延伸提供椭圆模式，12.7到19.05m毫米 (½" to ¾") 宽，电弧到管子的距离为19.05到31.75毫米(¾"to1¼")。小的喷涂宽度能最小化过度喷涂并精确控制材料的利用率。通常，管道通过轧机的速度决定了喷涂安培数，而喷涂安培数直接影响了材料利用率。镀锌喷涂速度接近每100安培电流10.89kg (24lb) 材料每小时。管子越大，速度越慢。大多数钢管厂喷涂系统可在30 到 300 安培内操作，这取决于速度喷涂材料想要的厚度。在762m(2,500ft)管材上以12.7毫米 (½")的喷涂模式喷涂26微米厚的涂层需要2.95kg (6.5lb)锌。

将电弧喷枪安装在一个封闭的盒子里，通风到一个吸尘器，确保环境和人员安全。灰尘、烟尘和过度喷涂应快速从喷涂区清除。过度喷涂可以包含小于2微米的粒子，也可以构成过度喷涂重量的4到15%。如果没有适当的通风，可能引起危险呼吸区或妨碍轧机操作下线。因此一个高效的除尘系统是必要的。

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先进的超声波测厚仪

OLYMPUS NDT推出了手持式38DL Plus超声波测厚仪。该仪器可以与全部Olympus双晶和单晶探头兼容，使它成为很多厚度测量应用的一个一体的解决方案。

应用范围包括从使用双晶探头对已腐蚀管道进行壁厚变薄的测量到使用单晶探头对单层或多层材料进行非常精确的厚度测量。超声厚度测量准确、可靠并可重复，即时读数可以从材料的一个侧面实现，避免对部件不必要的损坏。

Olympus 38DL Plus建造用与广泛的气象条件和困难的检查环境。其密封外壳是为了满足IP67对能忍受非常潮湿或粉尘大的环境的要求，同时，半透反射式彩色液晶显示频以及全套视频图形阵列解决方案，提供在明媚阳光下或完全黑暗中的可读性。简单的键盘可用左手或右手操作，方便进入所有重要的功能。

“这种创新仪器代表超声波测厚仪的新时代，”Olympus NDT的厚度检测仪产品经理Steve Labreck评价到，“ 38DL Plus能与双（2 到10MHz)晶和 从0.5MHz到30MHz的单晶探头一起使用的事实，解决了必须买两个测量仪的问题，一个用于腐蚀应用，一个用于精密厚度测量。”

38DL Plus以强大的标准厚度测量特征和专业的软件选择为荣。对于腐蚀检测应用，该检测仪提供Thru-Coat® 和Echo-to-Echo来测量厚度，且无需清除油漆和涂料，基于时间的B-scan将现场厚度读数转化为横截面图，在申请专利过程中的V路径Builder将创建定制的V路径补偿曲线用于双晶探头。此外，该装置提供可选的锅炉管道氧化/锈蚀特性能测量锅炉管内的氧化/锈蚀处，以及EMAT能力能测量锅炉管壁厚，无需清除外部氧化皮。

当使用单晶探头时，38DL Plus能在很多材料上进行准确的厚度测量，包括金属、塑料、复合材料、玻璃和陶瓷。它还能提供可选的高分辨率特性，允许非常精确的测量，分辨率达到 0.0001" 或 0.001mm。多层测量选择提供一个多层堆放的材料的4个同时的厚度读数。可选的高渗透特性可以对非常厚的或消声的材料进行测量，如铸造金属、橡胶和玻璃纤维。

用单晶和双晶探头，38 DL Plus能提供标准的特性，如声速读数、飞行时间读数、差模、减速模和材料温度补偿。

这个38DL Plus 以各种文件格式提供475,000 个厚度读数或20,000 个波形检验数据内部存储。一个Micro SD 卡允许以文本或CSV格式输出文档，并能实地交换检测数据。GageView接口程序允许标准的USB 接口和RS-232 端口传输数据。

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Olympus 38DL Plus 超声波厚度检测仪

Application of the stereology reconstruction methods in assessment of the spatial grain structure of metals and alloys

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N A Koryaka (ITA Representative in CIS, Ukraine)

Distribution of grain sizes in the volume of a metal product is an important characteristic of dispersivity and homogeneity, and hence of properties and endurance of the product and the entire structure during its operation.

Depending on the application of the product and the conditions of its using, the requirement to a grain size and variation in grain size is a criterion of stability and reliability of this product. For example, requirements to nuclear power plant (NPP) fuel element cladding tubes, tubes for bellows, capillary tubes used as heaters in incandescent lamps, etc.

Due to opacity of metals, a specially treated flat cut (a polished section) offers an initial information about the structure, which allows determination of the averaged grain size in the examined plane using reliable existing standard methods (GOST 5639, ASTM E112, etc).

A large number of methods of structure reconstruction by its flat image have been developed since the 1930s, because the flat cut is just an indirect reflection of the spatial metal structure which is responsible for all physical and mechanical properties of metal products.

Spherical shape of structural components was the basis of all developed methods of reconstruction.

Description of the known methods of reconstruction of the stereological objects by their mapping on a plane has been thoroughly made in a paper [1] which shows that all methods of the structure stereology reconstruction by its mapping can be reduced to solution of an integral equation which characterises the probabilistic relation between mapping parameters and the actual size of circular or spherical elements of the statistical population.

Our secondary analysis of a number of methods based on distribution of the chord lengths in a random section has shown that they were erroneous because of an incorrectly determined measure of the geometric probability elements.

The formulas of Spector, Bocstiegel, Lord and Willis correspond exactly to each other after a number of their transformations, and the calculations made in accordance with these formulas confirm experimentally the authors' mistake because reconstruction results in the structure refining which is physically inexplicable. Nevertheless, the formula of Bocstiegel was used widely in the programs of quantitative evaluation of the metal structure with the use of Epiquant and Quantimet microscopes.

More correct methods are those based on the distribution of random sections of diameters of spherical objects (eg Scheil's method developed in 1931 and improved later by Schwartz and Saltykov [2]). The experimental statistics of distribution of 'diameters' of the flat cut circles (maximum sizes of each grain) is the base of this method.

This method is quite correct from the point of view of choice of the geometric probability measure but it does not provide a strict mathematical procedure of reconstruction and has a number of restrictions like the following:

- predetermination of the discrete testing intervals in the general volume of the statistical population;
- method for derivation of source data and a compulsory account for all elements of distribution of objects in the flat cut;
- poorly representing statistics and an intricate calculation method with successive substitutions and accumulation of errors need a radical improvement which does not allow this method to be widely used in industry.

Attempts made by Schwartz and Saltykov to 'improve' the Scheil's method have not practically changed this method essence and were unsuccessful. The use of Saltykov's function of inverse diameters introduces a significant error to the theory of reconstruction as it changes the geometric measure of probability.

Numerous serious errors have been made in a group of the reconstruction methods based on the change of the areas of random sections (methods by Johnson and Saltykov). It is of very high interest to get the source information on the structure as the area distribution of the statistical objects because it does not require assumption concerning the shape of the flat cut grains. However, it violates the choice of the geometric measure of probability.

Johnson's method has been introduced into ASTM E112 just for assessment of parameters of the structure in the flat section, without a volumetric reconstruction.

Saltykov's formula which allows determination of the number of particles per unit of volume in accordance with the area method is based on the assumption of a normal distribution of logarithms of diameters of spherical particles. This formula allows, regardless of the mutual influence of discrete intervals, 'reconstruction' of structures in any size group. Such method, as compared with other methods, allows quantitative evaluation of the volumetric structures with a minimum error.

Deficiency of the known methods of reconstruction results from the absence of the commonality of the mathematical support of the random processes, limitation of their application field and absence of technical means for processing a great number of the statistical population objects which reduces accuracy of reconstruction.

It should be mentioned that the grain shape affects the results of reconstruction of the spatial metal structure.

Grains of metals and their alloys have a shape of various types of polyhedrons [3] which hinders reconstruction because the view of flat sections (polygons) does not represent fully the spatial form of the grain.

Numerous experiments in modelling of spatial shapes of grains of metallic materials [4-6] and the data of crystallographic analysis show that the shape of grains of single-phase metallic materials is close to the cuboctahedron or truncated dodecahedron. Grains of metals with face-centred lattice have a shape close to octahedron, truncated hexahedron, truncated octahedron or truncated dodecahedron.

Authors of the recent paper [6] simulated the single-phase structure by the compression of spherical pallets with various distribution of their diameters and volumes and confirmed the earlier suggestion that "compressed spherical pallets can take form of cuboctahedron with slightly curved faces".

Based on the available data on the shape of the grains of polycrystalline single-phase metals and alloys, a new method of reconstruction has been developed for the quantitative assessment of volumetric structures in accordance with characteristics of the flat section [7, 8]. It is based on the following assumptions:

1. The close-packed structure of the convex equiaxed polyhedrons can be modelled by a system of nonintersecting spheres randomly arranged in space.
2. The position of the secant element relative to the centre of this object is the probability measure which determines in an only way the geometric characteristics of any statistical community object.

The functional relations of the spatial structure parameters with the characteristics of its mapping in the plane were obtained based on the selection of a common measure of distribution of geometric probabilities, ie **the equiprobability of location of a random section** relative to the centre of a sphere or a circle which are the components of the statistical population of the structural objects.

The problem is solved in two steps.

The first step solves the problem of sectioning of the spherical objects of the equigranular structure which consists of spheres of the same diameter $D_{\hat{e}}$. These spheres are randomly spread in the space, the close packing being impossible and not binding. It is essential that there are no mutually crossing objects of statistical community.

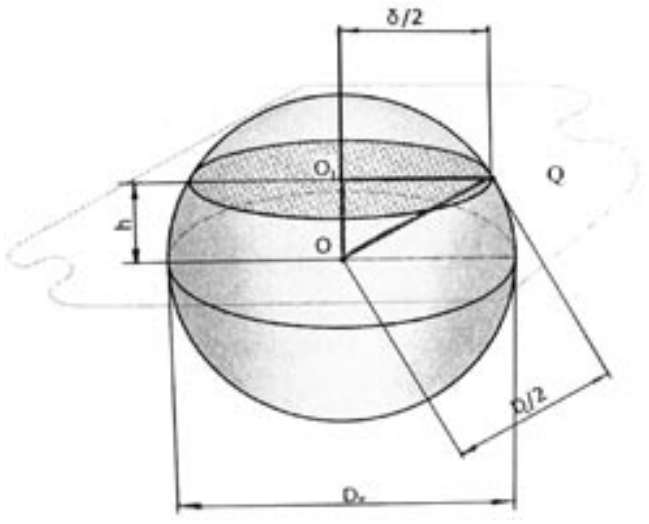


Figure 1: *Schematic section of a sphere having diameter of $D_{\hat{e}}$ by a random plane Q at a distance h from the centre of sphere O*

Cutting of a equigranular structure by a random plane results in appearance of the circles in this plane with a diameter of $0 \le \delta \le D_{\hat{e}}$. They are randomly located in the flat section and form a new statistical population of circular objects with diameter of δ (Figure 1).

In accordance with the principle of equiprobability of position of the secant plane Q relative to the centre of sphere O, the density of distribution of parameter h from 0 to $h_{max} = 0{,}5\ D_{\hat{e}}$ is a constant:

$$\hat{\partial}(h) = const \qquad (1)$$

A functional relationship is between the sphere diameter $D_{\hat{e}}$, the circle δ and the position of the secant plane:

$$h = 0{,}5\sqrt{D_{\hat{e}}^2 - \delta^2}, \qquad (2)$$

which is described by the following correlation in a differential form:

$$\frac{dh}{d\delta} = -\frac{0{,}5\delta}{\sqrt{D_{\hat{e}}^2 - \delta^2}} \qquad (3)$$

In the theory of probability [9], the law of distribution of the monotone continuous function is related with an argument by the following relation:

$$p(\delta) = p(h)\left|\frac{dh}{d\delta}\right| \qquad (4)$$

The value $p(h)$ is determined from the condition of regulation of density of distribution of parameter h :

$$p(h) = \frac{2}{D_{\hat{e}}} \qquad (5)$$

The density of distribution of diameters of circles δ in the plane of section of the equigranular system of spheres with diameter of $D_{\hat{e}}$ is derived from equations (2-5):

$$\partial(\delta) = \frac{\delta}{D_{\hat{e}}\sqrt{D_{\hat{e}}^2 - \delta^2}}. \quad (6)$$

which is a continuous function of hyperbolic type within $0 \le \delta \le D_{\hat{e}}$ approaching asymptotically to $\delta_{max} = D_{\hat{e}}$ *(Figure 2)*.

The law of distribution is normalised within 0 to δ_{max}:

$$\int_0^{\delta_{max}} \partial(\delta)d\delta = \int_0^{D_{\hat{e}}} \partial(\delta)d\delta = \frac{1}{D_{\hat{e}}}\int_0^{D_{\hat{e}}} \frac{\delta d\delta}{\sqrt{D_{\hat{e}}^2 - \delta^2}} = 1. \quad (7)$$

The main numerical characteristics of the statistical population of the flat section of the equigranular system are as follows:

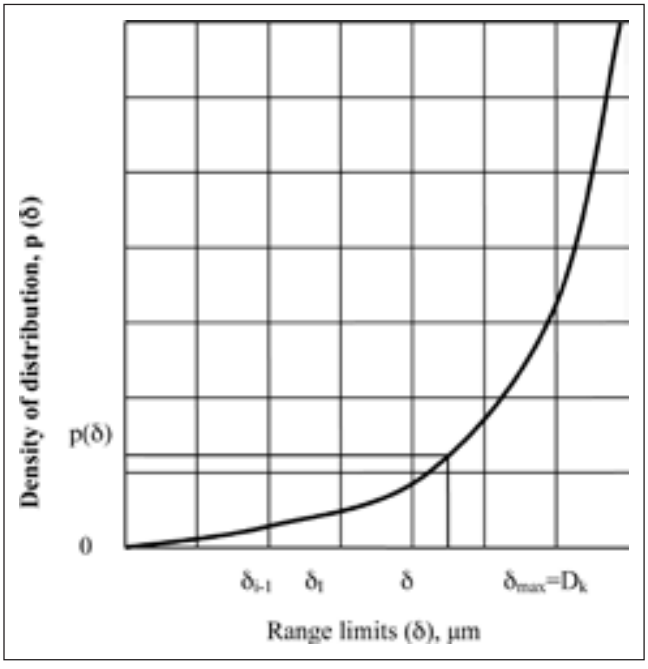
- average diameter of the objects (mathematical expectation)

$$\delta_{\tilde{n}\delta} = \int_0^{D_{\hat{e}}} \delta_\partial(\delta)d\delta = 0{,}25\pi D_{\hat{e}} = 0{,}7854 D_{\hat{e}}; \quad (8)$$

- absolute measure of scatter of the random quantity δ relative to its average value $\delta_{\tilde{n}\delta}$ (mean-square deviation):

$$\sigma_\delta = \sqrt{\int_0^{D_{\hat{e}}} (\delta - \delta_{\tilde{n}\delta})^2 D(\delta)d\delta} = 0{,}2232 D_{\hat{e}}; \quad (9)$$

Figure 2: *Density of distribution of diameters of the flat sections of the equigranular system of the spheres*



- relative index irregularity of the plane section objects (variation coefficient):

$$\hat{E}_\delta = \frac{\sigma_\delta}{\delta_{\tilde{n}\delta}} = 0{,}2842. \quad (10)$$

Cutting of an equigranular system of the spheres of diameter $D_{\hat{e}}$ by a random plane results in a statistical population of flat-cut circles with diameter of $0 \le \delta \le D_{\hat{e}}$ the average size of which is 22% smaller than the size of balls in accordance with equation (8).

In stereometric metallography, dimensional groups of various widths are set for the total volume of the statistical population. They replace continuous distribution by discrete one, ie by passing from the density of distribution to the function. The need of such replacement is caused by the practice of construction of a set of distributions of the random variable with a well-defined (non-zero) event probability.

A universal characteristic of the random variable δ is the so-called integral function of distribution defined as a discrete function:

$$f_i(\delta) = \int_{D_{i-1}}^{D_i} \frac{\delta d\delta}{D_{\hat{e}}\sqrt{D_{\hat{e}}^2 - \delta^2}} = \frac{1}{D_{\hat{e}}}\left(\sqrt{D_{\hat{e}}^2 - \delta_{i-1}^2} - \sqrt{D_{\hat{e}}^2 - \delta_i^2}\right) \quad (11)$$

where:
$D_{\hat{e}}$ is the upper limit of the statistical population set $0 \le \delta \le D_{\hat{e}}$;
i is the number of any i-th interval, with a width varying from $\delta_{i-1} = D_{i-1}$ to $\delta_i = D_i$.

It should be mentioned that the change of the interval width within the limits of the total set of statistical population is not limited and can be selected in accordance with any series: arithmetic one (uniform), geometric (progressively changing), logarithmic, etc.

As any probability, the distribution function $f_i(\delta)$ is a dimensionless and constant quantity within the width of one interval. This function is normalised within the limits of a set of statistical population of the flat-cut circles:

$$\sum_{\delta_{i-0}}^{\delta_i = D_{\hat{e}}} f_i(\delta) = 1. \quad (12)$$

The direct problem was solved using equation (11). This problem determines the probability of appearance of circles of a certain diameter within any accepted interval in a flat section of the statistical population of spheres of a same diameter which are randomly arranged in space.

The inverse problem of determination of sphere diameters within an equigranular statistical population is solved using equation (11) with specified values $f_i(\delta)$ and known values of circle diameters in a flat section at the lower and upper limits of this i-th interval. It is the inverse problem that is of a very high importance for structure reconstruction by the flat section parameters.

Next, when considering a unequigranular system of spherical objects representing a statistical set of spheres of various diameters and defining it as an aggregate of independent equigranular systems, observance of the principles of superposition for the function of distribution of any equigranular system in any discrete interval has been proved.

In accordance with this principle, for any fixed i-th interval with limits $\delta_{i-1} = D_{i-1}$ and $D_i = \delta_i$, the constant value of the function of distribution $f_{\hat{e}i}(\delta)$ is defined by the following correlation:

$$f_{\hat{e}i}(\delta) = \frac{f_{\hat{e}}(D)}{D_{\hat{e}}}\left(\sqrt{D_{\hat{e}}^2 - D_{i-1}^2} - \sqrt{D_{\hat{e}}^2 - D_i^2}\right), \quad (13)$$

It describes the components of a discrete set of distribution of the flat section diameters $f_{\hat{e}i}(\delta)$ with a known relative frequency of distribution of spheres $f_{\hat{e}}(D)$ in a general statistical population.

Reconstruction of such unequigranular statistical population of spherical objects is made by solving a system of n linear equations relative to the functions of distribution of spheres in a volume $f_i(D)$ with known functions of distribution of diameters of circles in a random flat section $f_i(\delta)$.

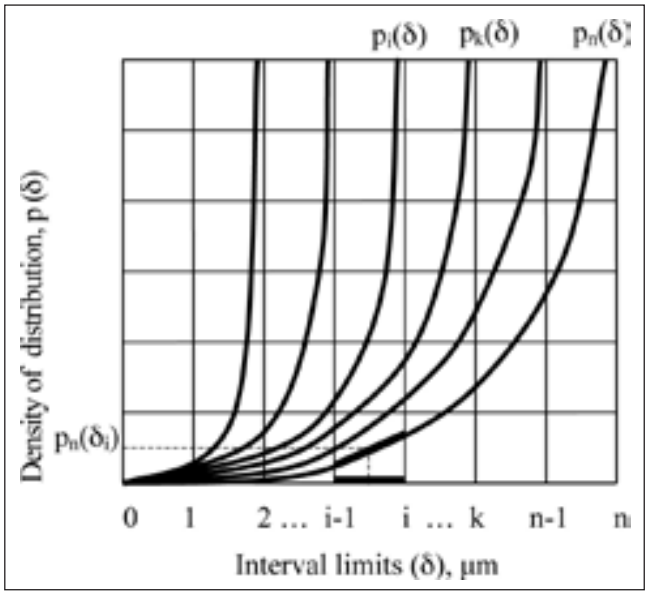
A complete function of distribution in any i-th interval is a sum of constant functions of distribution of independent equigranular systems from i to n taken with their corresponding relative frequencies in these discrete intervals.

$$\begin{aligned} f_i(\delta) = {} & \frac{f_n(D)}{D_n}\left(\sqrt{D_n^2 - D_{i-1}^2} - \sqrt{D_n^2 - D_i^2}\right) + \\ & + \frac{f_{(n-1)}(D)}{D_{n-1}}\left(\sqrt{D_{n-1}^2 - D_{i-1}^2} - \sqrt{D_{n-1}^2 - D_i^2}\right) + \dots \\ & \dots + \frac{f_{(i+1)}(D)}{D_{i+1}}\left(\sqrt{D_{i+1}^2 - D_{i-1}^2} - \sqrt{D_{i+1}^2 - D_i^2}\right) + \frac{f_i(D)}{D_i}\sqrt{D_i^2 - D_{i-1}^2}. \end{aligned} \quad (14)$$

where $f_i(\delta)$ is the function of distribution of circle diameters in a flat section within the i-th interval;
$f_i(D)$ is the function of distribution of sphere diameters within the i-th interval;
$\delta_i = D_i$ is the top limit within the i-th interval;
$\delta_n = D_n$ is the top limit of the statistical population of objects.

Figure 3 shows the density of distribution of the flat section diameters for equigranular spherical systems in a unequigranular statistical population where the component of the $\hat{e}$-th unequigranular system is highlighted in the i-th interval.

Figure 3: *Distribution of equigranular spherical systems in an unequigranular statistical population*



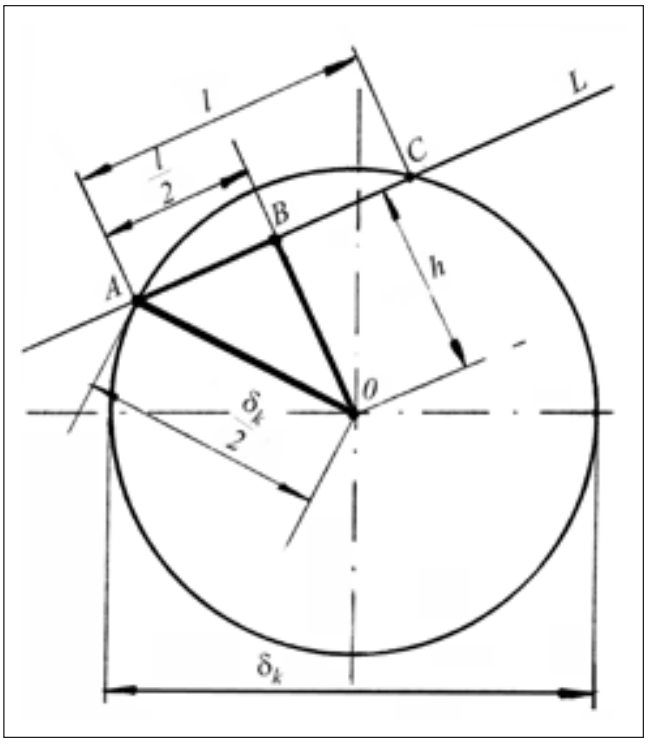


Figure 4: *Schematic representation of section of a circle of diameter δ_k by a random line L at a distance h from the circle center 0*

The second step of reconstruction solves the problem of determining the statistical relationship between the length l of a random chord and the circle diameter δ_k in a plane of section of a spherical model of an equiaxed structure.

Figure 4 is a schematic representation of mutual positions of elements in the section resulting in a statistical population of linear elements $0 \le l \le \delta_{\hat{e}}$ when the objects being analysed are randomly arranged.

To solve this problem, use logic and sequence of the previous derivation. Replace the spheres visible in the secant plane by nonintersecting circles.

Use the condition of equiprobability of position h of the secant line L relative to the centres of circles of equal diameters $\delta_{\hat{e}}$. Obtain density of distribution of lengths of random chords:

$$p(l) = \frac{l}{\delta_{\hat{e}}\sqrt{\delta_{\hat{e}}^2 - l^2}} \quad (15)$$

and the discrete function of distribution:

$$f_i(l) = \frac{1}{\delta_k}\left(\sqrt{\delta_k^2 - l_{i-1}^2} - \sqrt{\delta_k^2 - l_i^2}\right) \quad (16)$$

for the equigranular system of circles.

Use the same principle of superposition and obtain a complete function of distribution of independent equigranular systems with their corresponding relative frequencies in the specified intervals:

$$f_i(l) = \frac{f_n(\delta)}{\delta_n}\left(\sqrt{\delta_n^2 - \delta_{i-1}^2} - \sqrt{\delta_n^2 - \delta_i^2}\right) + \frac{f_{(n-1)}(\delta)}{\delta_{n-1}}\left(\sqrt{\delta_{n-1}^2 - \delta_{i-1}^2} - \sqrt{\delta_{n-1}^2 - \delta_i^2}\right) + \ldots + \frac{f_{(i+1)}(\delta)}{\delta_{i+1}}\left(\sqrt{\delta_{i+1}^2 - \delta_{i-1}^2} - \sqrt{\delta_{i+1}^2 - \delta_i^2}\right) + \frac{f_i(\delta)}{\delta_i}\sqrt{\delta_i^2 - \delta_{i-1}^2} \quad (17)$$

where:
$f_i(l)$ is the function of distribution of chords in a plane within the i-th interval;
$f_i(\delta)$ is the function of the distribution of the diameters in a plane within the i-th interval;
$l_i = \delta_i$ is the upper boundary of the i-th interval;
$l_n = \delta_n$ is the upper limit of the statistical population of objects.

By its structure, equation (17) corresponds exactly to equation (14) and when values $f_i(l)$ are known, it makes it possible to construct a system of n linear equations which when solved, give reconstruction of the function of distribution of circle diameters in the plane.

Thus, when the data of distribution of chord sizes in the section plane (microsection) are available, the spatial structure can be reconstructed.

Reconstruction of volumetric metal structures is made in two steps: The first step proceeds from the distribution of chords to the distribution of circle diameters in a flat cut: $f_i(l) \rightarrow f_i(\delta)$.

The second step proceeds from the distribution of circle diameters in a flat cut to the distribution of sphere diameters in volume: $f_i(\delta) \rightarrow f_i(D)$.

The requirement of the new method of reconstruction is equality of boundaries of intervals of the size groups, ie $l_i = \delta_i = D_i$.

The intervals of the size groups are chosen arbitrarily, in any quantity (the number of linear equations depends on it) and quality (their values can vary according to any law from zero to a maximum value in the dimensional set of the statistical population).

The first step of reconstruction, when a confidential statistical population of the chords is used as input data, allows an advance assessment of asymmetry and the form factor of the flat section elements.

Besides, the first step of the reconstruction can be easily checked experimentally and it will allow assessment of error of the spherical approximation by using model structures in the form of regular polygons.

The advantages of the new method of reconstruction are as follows:
- an unlimited number of the size groups;
- a complete independence in the selection of the number and nature of variation of the size intervals;
- linear intersection with the boundaries of grains in a flat section (the method of chords) is used as the source data of reconstruction;
- optional account of all elements in the examined area provided the representative statistics by the method of chords is obtainable.

The main advantages of the new method are as follows:
- the proof of a complete identity of relations of the distribution functions in systems 'line – plane' and 'plane – volume' by choosing the geometric probability of the cutting element position relative to the centre of the object as a unified measure;
- application of the principle of superposition for equigranular components of distribution in each interval with their corresponding relative frequencies in the general statistical population.

An important advantage of the new method is the possibility of a complete automation of the process of obtaining all parameters of the structure directly from the section using the specially developed program STRUCTURE 2001 [10].

References

[1] KS Chernyavsky. Stereology in Physical Metallurgy – Moscow: Metallurgia Publishers, 1977 – p45-54.
[2] SA Saltykov. Stereological Physical Metallurgy – Moscow: Metallurgia Publishers, 1970 – p375.
[3] B Honigman. Growth and Shape of Crystals – Inostrannaya Literatura Publishers, Moscow, 1961 – p209.
[4] FC Hull and WJ Houk – Journal of Metals, April 1953, p565
[5] D McLin. Grain Borders in Metals – GNTIL On Ferrous and Nonferrous Metallurgy, Moscow. 1960 – p322.
[6] Ye M Grinberg, CI Arkhangelsky, OV Khromov. Modelling Grain Structure of Single-phase Systems and Check Model Conformity. In: Proceedings of the 4th International Conference of Young Scientists "Metallurgy of the 20th Century".
[7] Patent of Ukraine No. 77135. The Method of Determination of Main Parameters of the Metal Structure. Bulletin "Promyshlennaya Sobstvennost". – No. 10. 16.10.2006.
[8] Patent of Russian Federation No. 2317539 The Method of Determination of Main Parameters of the Metal Structure. Bulletin of Inventions No. 5, 20. 02. 2008.
[9] Ye S Ventsel. Probability Theory – Moscow. Nauka Publishers, 1964 – p265.
[10] Computer program STRUCTURE 2001; Bulletin of State Department of Intellectual Property "The Certificate of Author's Right No. 1577, Ukraine. MON" – No. 9. – Kyiv, 2006.

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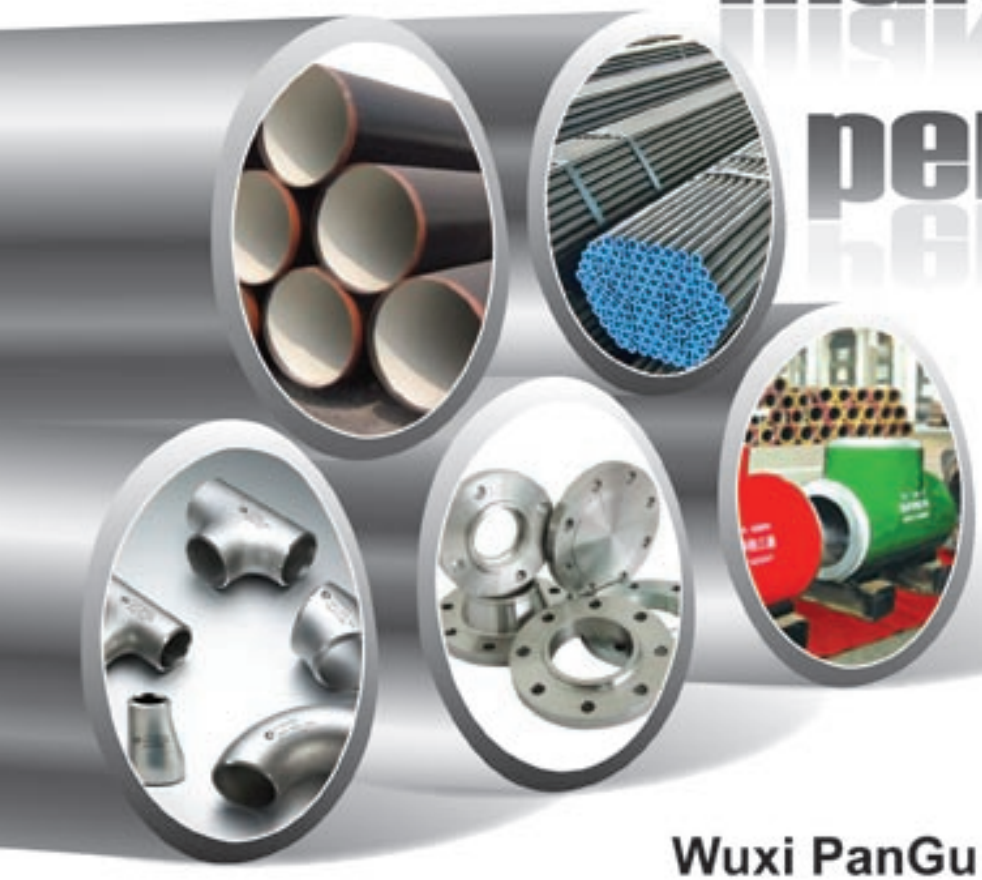

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