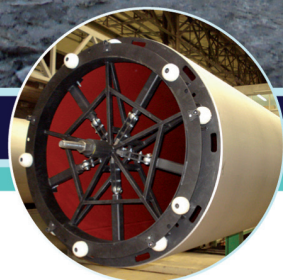


The international magazine for the tube

and pipe industries

TUBE & PIPE TECHNOLOGY

July 2009 | Vol 22 No 4 | US\$33



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Maintaining Line pipe Quality

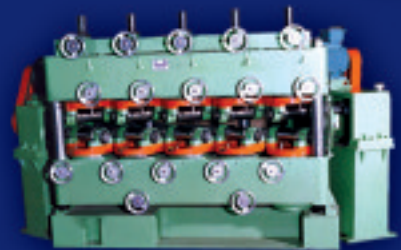
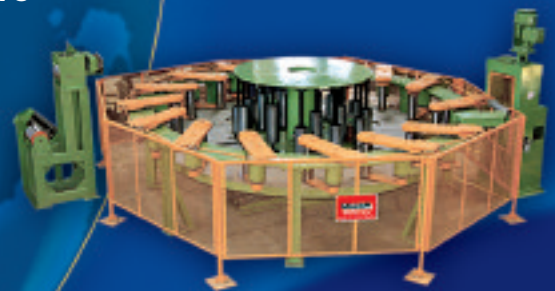
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STRAIGHTENERS, TESTERS & PIPE FINISHING: MEETING THE OCTG GLOBAL API STANDARDS

We provide the service and technical expertise that is required to meet the stringent API standards of today's global OCTG marketplace. That's why you'll see the Bronx nameplate on Straighteners, Hydrostatic Pipe Testers and Pipe Finishing machines installed in nearly every corner of the world – over 1,000 straighteners to date and over 20 testers in the last five years alone. *Straighteners that have become the OCTG standard for both hot and cold applications, featuring our COMPASS software system to give you exacting control of even the smallest in line adjustments.* Our latest Hydrostatic Tester installation met stringent API testing criteria – API standard 5CT/5L product diameter ranging from 177.8 mm to 406.4 mm, and an end load of 8043 KN for 406.4 mm OD casing – pressures that have never been accomplished on high yield equipment. And our Pipe Finishing design provides numerous end-finishes without the requirement of cutting each one, drastically improving production yield, including 5L line pipe, double cuts and square ends with 2" thick wall at speeds up to 500 fpm.

So when it comes to straightening, testing and finishing pipe, our history, experience and intellectual market expertise sets us apart. *Contact us to meet API specifications for your OCTG finishing floor.*

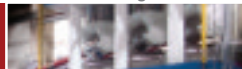


Hydrostatic Testers

Pipe End Finishing

6-10 Roll Straighteners

Bar Straighteners



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Alloy Butt Weld Fittings:

A/SA-234 WP-11: Class 1 & 2, WP-22 Class 1 & 3 * WP-91 * WP-5 * WP-9

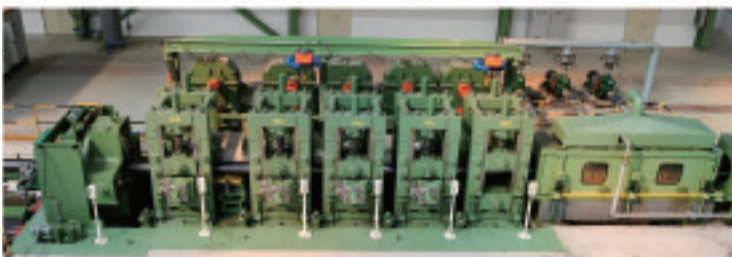
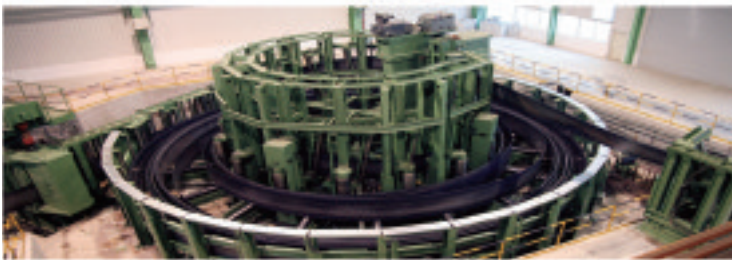
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PIPE MILL

ERW/API 8"-26"Ø

DPI, Anshan, China/2008



ENTRY SECTION

ACCUMULATOR

CAGE FORMING

WELDING SECTION

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END FACING	HYDRO TESTER
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Union gives strength

While preparing this issue of *Tube & Pipe Technology*, I read a news story about a trio of architects who have put forward an ambitious proposal to construct a tunnel connecting Bolivia to the Pacific Ocean. The plan would provide the landlocked country with access to the sea for the first time since the 19th century War of the Pacific, after which it ceded its entire coastline to Chile. The 93-mile tunnel would link Bolivia to an artificial island in the Pacific, built from earth excavated during the construction of the tunnel.

One of the architects, Humberto Eliash, commented, "Poets say that we must build a bridge between Bolivia and the Pacific that jumps over Chile. We wanted to see if it could work in reality."

While the considerable technical and economic problems presented by such a project could be overcome, the political hurdles would be harder to clear. The proposed tunnel would have to cross borderlines disputed by both Peru and Chile, and the artificial island would be located in waters claimed by the same two countries.

However, the Chilean foreign minister has said that Chile "is open to all suggestions that foster Latin American integration." This kind of international cooperation can provide mutually beneficial results. This maxim also applies to our industry, where cooperation between companies can help them survive in these challenging economic times. Another of Bolivia's South American neighbours, Brazil, will soon host a trade event that will provide opportunities for such cooperation.

Tubotech 2009, featured in this issue of *Tube & Pipe Technology*, will take place in São Paulo, 6-8 October. The fifth staging of the tube and pipe industry event will focus on raw materials, tube manufacturing and processing, tubes and connecting pieces, machinery for tube production and measuring and monitoring equipment.

I hope that attendees to the event will make the contacts they need to make the most of Brazil's relatively strong and stable economy. As architect of the Bolivian tunnel, Mr Eliash, said, with refreshing optimism, "...I believe that most fascinating of all is that if we can imagine it, we can do it."

Christian Bradley, *Tube & Pipe Technology*

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FRONT COVER STORY



On the front cover you see static testing of the Pipe Raiser, developed and manufactured by Dhatec in the Netherlands. Engineers measure and monitor the behaviour of the Pipe Raiser as it is subjected to various loads and movements.

The Pipe Raiser is an adjustable support system for transporting large diameter pipes by truck. To keep the dimensions of the load within the allowed proportions, one pipe is lifted above the other. By transporting two pipes per truck instead of one, a lot of transport costs can be saved on a pipeline project.

The Pipe Raiser is designed and calculated to provide a safe static and dynamic situation. Applied forces are prescribed by European regulations and approved by the TÜV in Germany. Dhatec continuously develops new solutions to protect the quality of the line pipe during its entire logistic process.

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FEATURES



78 Optimism, industry and glamour – Brazil has it all at Tubotech 2009

From 6 to 8 October, the tube and pipe industries will converge on Brazil for the fifth International Tube, Fittings and Components Fair, to be held concurrently with Metaltech. The EU and Brazil continue to form ever closer political and economic ties and this exhibition, the first to take place with the official participation of the Federal Republic of Germany, will serve as a showcase for industry and opportunities in the region.



80 Welding: Latest Developments & Machinery

“Welding is, was, and always will be a process requiring the highest degree of expertise at the man-machine interface.” This feature reveals all that’s new in welding techniques and equipment, where the trend towards increased automation for increased productivity continues to be balanced with the manual skills of the craftsman and the irreplaceable tutored eye of the artisan.



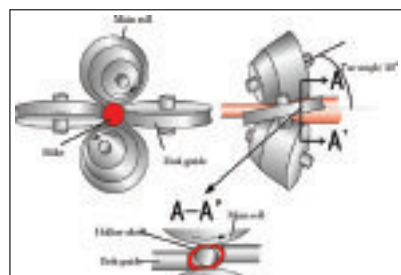
96 Coating, Pickling & Galvanizing Technology

The protection of tube and pipe is an essential and extensive technology. Its success or otherwise has repercussions throughout the production process and into the useful life of the finished product. Further demands are made on the coating or treatment meeting the stringent specifications of the finished product. From a relatively simple hot-dip coating, to a highly sophisticated chemical recipe, coating, pickling and galvanizing are far more than just the finishing touch.

TECHNICAL ARTICLE

104 Manufacturing Technology of Medium Size Seamless Pipe

By Kenichi Sasaki, Akihito Yamane, Yuji Arai, Sumitomo Metal Industries Ltd, Japan



2009 FABTECH International & AWS Welding Show

The FABTECH International and AWS Welding Show, including METALFORM, will be held at McCormick Place, Chicago, 15-18 November.

35,000 visitors are expected to converge in both the North and South Halls of McCormick Place, and this year's combined event brings over 900 exhibits, industry innovators, and hundreds of live equipment demonstrations among pavilions dedicated to forming and fabricating, stamping, welding, tube and pipe, lasers, and thermal spray.

Attendees can also take advantage of a unified educational curriculum during the 2009 event, featuring a variety of technical seminars, conferences and professional programmes.

From metal forming, fabricating, tube and pipe and welding technology to economic, operation and management issues, the

programming at the event has been coordinated to provide the latest and most up-to-date information needed to successfully operate in every aspect of the industry.

Three days of free special event programming will feature keynote presentations and drill down sessions covering topics ranging from workforce development, diversifying operations, financing/credit and tax incentives to opportunities in the wind, solar and oil and gas supply chain.

Additional show information, including a list of exhibitors, education programme schedule, special events and more

can be found at the event's website, where visitors can also save \$50 by registering in advance.

Fabricators & Manufacturers Association, International – USA
Fax: +1 815 484 7701
Email: information@mfafabtech.com
Website: www.fabtechexpo.com

 *Brisk business at the previous Fabtech event*



Seamless tube technology in China

Phamitech International, China, is a supplier of pipe mills to the global market. The company has experience and flexibility, and can tailor solutions to customer requirements.

The company states that after dozens of installations of piercing mills, rotary expanders, accu mills, assel mills, sizing mills/stretch reducing mills, pipe straightening machines, and other

finishing equipment, China has emerged as an important supplier of 2-roll and 3-roll retained mandrel pipe mills (MPM).

Phamitech has delivered two MPMs in China, one of which, a 250MPM, has been in operation for almost three years. The other is a 114MPM, which is a repeating order from WSP Holding Limited, and has been delivered recently. The company has also received orders for another two lines



 *10" stretch reducing mill*

 *258mm piercing mill*



from the same customer: a 366 TRCM (3-roll retained mandrel pipe mill) that is under manufacture, and a 140MPM that is in the design stage.

Phamitech's next order, from Neimeng Mengfeng, is for a 140MPM seamless tube plant, which is also in the design stage.

In February, the company obtained one 180MPM order from India, which is the first MPM order Phamitech has received from the international market, indicating a successful step into global competition. The project is in progress as per contract.

Phamitech Int'l Company Ltd – China
Fax: +86 10 68470948
Email: sales@phamitech.com
Website: www.phamitech.com

3-roll reducing and sizing block for India

Bhushan Power & Steel Ltd, India, is a steel producer with seven manufacturing facilities at four different locations in India and an annual turnover of more than US\$750 million.

A modern combined wire rod and bar mill will be installed adjacent to the company's new integrated steel plant in Jharsuguda in the state of Orissa. The core technology of the new 500,000 tpy rolling mill is a 3-roll reducing and sizing block (RSB) from Friedrich Kocks GmbH & Co KG, Germany.

The order includes the design, supply, erection and commissioning of a 4-stand 3-roll RSB with a nominal roll diameter of 370mm. The reducing and sizing block is prepared for a possible future extension to five stand positions and will be implemented after stand No 18 of the 2-high roughing and intermediate mill.

As a finishing block, the RSB rolls finish straight bar lengths within the range of 16 to 80mm Ø and hexagons within the range of 18.25 to 50mm onto the cooling bed, as well as bar in coils of 16 to 60mm Ø. As a pre-finishing block, the RSB produces all necessary pre-sections for the downstream wire rod finishing block.

An extended 'free-size' range of up to ±1.5mm from the nominal size allows rolling of a variety of sizes with tightest tolerances only by adjusting stands and guides via remote control.

The optimum adjusting values for motor speed, rolls and guides as well as gear steps depending on the final product are calculated by the Bar Mill Configuration System (BAMICON). The adjustment is done automatically within a maximum of one minute. This allows for a trouble-free, economic production of high quality bar.

When the finished dimensions exceed the 'free-size' range, the quick stand changing system allows stands to be changed in less than five minutes. Any size can be rolled without restrictions with regard to availability of the complete mill, by using a minimum number of roll sets and stand changes.

Friedrich Kocks GmbH & Co KG –
Germany
Fax: +49 2103 54 028
Email: v.d.heiden@kocks.de
Website: www.kocks.de

DIARY OF TUBE EVENTS

2009

OCTOBER

5-10 **EMO-Milan 2009**
Milan Italy
Exhibition → **Email:** info@emo-milan.com
Website: www.emo-milan.com

6-8 **Tubotech / Metaltech 2009**
São Paulo, Brazil
Exhibition → **Email:** cipa@cipanel.com.br
Website: www.cipanel.com.br

13-15 **Tube / wire Southeast Asia 2009**
Bangkok, Thailand
Exhibition → **Email:** info@itatube.org
Website: www.itatube.org

NOVEMBER

2-3 **Pipe & Tube Istanbul 09**
Istanbul, Turkey
Technical Conference → **Email:** info@itatube.org
Website: www.itatube.org

13-16 **Tolexpo 2009**
Paris, France
Exhibition → **Email:** mbazin@tolexpo.com
Website: www.tolexpo.com

15-18 **Fabtech / AWS Welding Show**
Chicago, USA
Exhibition → **Email:** information@fmafabtech.com
Website: www.fabtechexpo.com

2010

FEBRUARY

10-12 **Tube India 2010**
Mumbai, India
Exhibition → **Email:** DughLe@md-india.com
Website: www.tube-india.com

MARCH

4-7 **Boru 2010**
Istanbul, Turkey
Exhibition → **Email:** info@ihlasfuar.com
Website: www.borufuari.com

APRIL

12-16 **Tube / wire Düsseldorf 2010**
Düsseldorf, Germany
Exhibition → **Email:** infoservice@messe-duesseldorf.de
Website: www.tube.de
www.messe-duesseldorf.de

MAY

24-27 **Tube Russia 2010**
Moscow, Russia
Exhibition → **Email:** wolfgangm@messe-duesseldorf.de
Website: www.metallurgy-tube-russia.com

SEPTEMBER

21-24 **Tube / wire China 2010**
Shanghai, China
Exhibition → **Email:** tube@mdc.com.cn
Website: www.mdc.com.cn

2011

JANUARY

8-11 **Tekno / Tube Arabia 2011**
Dubai, UAE
Exhibition → **Email:** alfajer@emirates.net.ae
Website: www.tekno7.info

API hot straightener for temperatures over 600°C

Bronx/Taylor-Wilson, a leading supplier of pipe finishing equipment, has received an order from Baoshan Steel, China, for the supply of an API hot straightening machine.

This order, the latest in a series of Bronx installations for Baoshan, will be used for their casing and line heat treatment workshop.

The straightener is a Bronx/Taylor-Wilson series 6.CR.9 machine, used for straightening high yield API pipe at diameters up to 194.46mm with wall thickness at 15mm. The machine will operate inline at temperatures over 600°C. Prior to this latest order, Bronx/Taylor-Wilson had earlier shipped an API hot straightener and hydrostatic pipe tester.

The BTW series 6.CR.11 straightening machine, which will be installed by the middle of 2009, will specialize in straightening high yield API pipe at diameters up to 431.8mm with wall thickness at 31.8mm. This machine will also be used for inline operation, with hot pipe at temperatures above 600°C.

The hydrostatic pipe tester will address the alternative pressures required within the stringent demands of the growing OCTG market.

Ⓣ The Bronx/Taylor-Wilson straightener will be used for high yield API pipe at diameters up to 194.46mm



The machine will test API 5CT product up to Ø339.7mm with pressures up to 140MPa. The order will also include two API heavy-duty pipe straighteners, one of which is a duplicate of the 6.CR.11 machine that was recently shipped.

The second straightener will be a specially designed Bronx/Taylor-Wilson 6.CR.12, one of the largest six roll straighteners built since Bronx installed a 610mm machine in Germany over thirty years ago.

The 6.CR.12 will straighten diameters up to 457mm with a wall thickness of 55mm and yield strengths approaching 1130MPa.

Baoshan Steel is currently in discussions with BTW for other specialized pipe finishing equipment including leak testers for threaded and coupled pipe ends, and patented collapse tester lines.

Bronx/Taylor-Wilson – USA
Fax: +1 330 244 1961
Email: sales@btwcorp.com
Website: www.btwcorp.com

Bronx/Taylor-Wilson – China
Fax: +86 8526 2012
Email: asiasales@btwcorp.com

Aristo Machines announces manufacturing partnership with MTD

Aristo Machines Inc, manufacturer of tube end forming systems, has announced a new partnership with Manchester Tool & Die Inc (MTD). Manchester Tool & Die will now manufacture, install, and offer support for Aristo's lines of tube end forming systems.

Robert Dean, president of Aristo, said, "We are excited to join with Manchester Tool & Die to continue to provide the Aristo brand of tube end forming machines. Their engineering, facilities, and people are an outstanding fit for Aristo, enabling us to develop and deliver new tube end forming solutions for our customers."

Aristo offers a variety of tube end forming systems (machines and tooling) for various markets, including automotive and truck, construction, HVAC and plumbing. It has developed a range of solutions, applying segmented and ram forming technologies in various configurations.

Manchester Tool & Die offers standard and custom-built tube end forming machines with OD capacities ranging from 3/16" to 3" and a research and development laboratory to help meet specific customer applications.

Aristo Machines Inc – USA
Website: www.aristomachines.com

Manchester Tool & Die Inc – USA
Fax: +1 260 982 4575
Website: www.manchestertoolanddie.com

Alan's wider role at Saint-Gobain PAM UK

Saint-Gobain PAM UK, a leading supplier of iron technology, has appointed Alan Gwilliam as its new commercial director.

Alan's new role will encompass market development for all of the company's products including water and sewer pipes, soil and drain, and access covers and gratings.

Alan has been with the company in a variety of commercial roles for more than twenty years, most recently as sales and marketing director for Saint-Gobain's soil and drain range. He also spent four years developing new markets in central Europe for the company's range of access covers and gratings.

Alan commented: "Our focus commercially will be on differentiating Saint-Gobain's offering, promoting the many benefits of iron and above all adding value for our customers."

Saint-Gobain PAM UK – UK
Website: www.saint-gobain-pam.co.uk

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Standard measuring ranges: 60, 100, 150, 300, 500 mm*
(2.4, 4, 6, 12, 20 in.)

No. of measuring axes: 1...6

Measuring frequency: 1000/s for each axis

Typical accuracy: +/- 0.005 ... +/- 0.1 mm
(+/- .0004002 in.)

*Largest product depending on centering

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Measuring solutions for round and non-round products. Captures also asymmetrical shape deviations of round, oval and polygonal products.

PROFILEMASTER® gauges for cold processes

Advanced vision technology (light-section). For any tube and profile of any shape and material. Full profile contour measurement. Profile and critical dimensions, radii and angles can be programmed (teach-in) and monitored.

Any shape



Standard measuring range: 25, 140, 300 mm*
(1, 5.5, 12 in.)

No. of cameras: 1...6 (standard 4)

Measurable parameters: length, width, height, diameter, radii, angles

Typical accuracy: +/- 0.01 ... 0.05 mm
(+/- .0004002 in.)

*Largest product depending on centering

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New Buenos Aires office for RathGibson


RathGibson, USA, a manufacturer of welded, welded and drawn, and seamless stainless steel, nickel, and titanium tubing, has opened an office in Buenos Aires, Argentina. Led by Cristian Rohde, the new office will serve both Central and South America.

As director of business development for Central and South America Mr Rohde will concentrate on providing high quality products and services to RathGibson's customers, and will report directly to Andrew Yeghnazar, vice president of international sales and business development.

"An office in Buenos Aires opens many avenues of communication and opportunities for RathGibson and our customers in that region," said Mr Yeghnazar. *"Based upon his extensive background, Cristian is an ideal addition to the RathGibson family."*

The new office represents RathGibson's first venture into Central and South America. The South American steel industry has undergone a transformation during the last twenty



 RathGibson's new Buenos Aires office is led by Cristian Rohde

years. Businesses are evolving from being segmented and state-controlled into efficient, well-organised companies with significant private and independent ownership. The Buenos Aires office joins RathGibson's other international offices in Australia, Austria,

Bahrain, China, India, Singapore and South Korea in providing local real-time support to its global customers.

RathGibson – USA
Fax: +1 1847 276 2471
Website: www.rathgibson.com

MECSPE 2010

MECSPE, the international exhibition for specialised mechanics, will be taking place from 25-27 March 2010, at the Fiere di Parma. Organised by Senaf, the six themed trade shows – MECSPE, Eurostampi, Subfornitura, PlastixExpo, Control Italy and Motek Italy – will provide an excellent showcase for the Italian manufacturing industry. The previous event, in 2008, attracted over 1,000 exhibiting companies from 15 countries over 42,000m² of exhibition area.

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Tube 2010 selling well

Exhibit space at the two leading international trade fairs of their respective industries, Tube 2010 and wire 2010 (Düsseldorf, 12-16 April 2010) is already selling well according to organisers Messe Düsseldorf.

In January 2009, check-in brochures were sent out worldwide to all previous and potential new exhibitors. The brochures included a link for immediate online exhibit space booking, providing companies with a quick and straightforward registration option. Bookings began arriving just a few days after the brochures were mailed out and the organisers report an excellent level of space sold to date.

The hall allocation for Tube will change for the next event. While wire 2010 will be held at its traditional home – halls 9-12 and 15-17 – Tube 2010 exhibitors will showcase their products and services in halls 1-7.0 and hall 7a for the first time. New additions to the roster of Tube are the areas of plastic tubes and profiles. After a successful debut in 2008, the segment Pipeline Technology (OCTG Technology) is again included in the roster.

Messe Düsseldorf GmbH – Germany
Fax: +49 211 4560 87 447 • **Website:** www.tube.de

Phygen Coatings expands


Phygen Coatings, Inc has announced the expansion of its US operations with a new facility in Springfield, Ohio. An existing building will be rehabilitated and remodelled to house the new plant, and Dave Bell, the company's founder, president and CEO, hopes to be running in six to nine months.

The company specialises in coating tooling for difficult applications such as forming high strength low alloy, stainless steel and thicker materials. Because the coating is applied at a lower temperature (950°F), there is no distortion or size change to tools, making it easier to assemble complex tooling. Professional polishing services and a programme for recoating tools without limitation are also offered.

The Ohio Department of Development awarded Phygen Coatings a job creation tax credit and the city of Springfield offered an employment incentive grant. Within three years an estimated 20 jobs will be created in operations, sales and research, with the possibility of further growth. Mr Bell commented, "Specifically, we are going to be bringing to Springfield a team of engineers, scientists, sales people and production staff that is going to establish a centre that we believe will be the beginning of a great thing here in Springfield."

Phygen Coatings' patented PVD (physical vapour deposition) technology provides UltraEndurance™ coatings for high abrasive wear resistance for dies, moulds and tooling used in metal forming and



 Dave Bell, founder, president and CEO of Phygen Coatings

plastic injection moulding. The company's three high-performance coatings include FortiPhy™, CertiPhy™ and VeriPhy™ coatings. FortiPhy offers wear and corrosion protection to virtually any substrate material. CertiPhy is a surface enhancement targeted on high value tooling and provides a graded architecture of nano-laminated layers of titanium and titanium aluminium nitride (TiAlN). VeriPhy is a titanium nitride (TiN) based coating, and was developed as a cost-effective general purpose coating for die casting applications.

Phygen Coatings, Inc – USA
Fax: +1 612 331 4230
Email: tech@phygen.com
Website: www.phygen.com

Long-term agreement on industrial gases supply in Chongqing, China

Technology group The Linde Group has secured a contract with Sinopec Sichuan Vinylon Works (SVW) to jointly build gas plants and produce industrial gases for the long-term supply to SVW's chemical complex. The collaboration will result in an initial investment of approximately €50 million.

The partnership will establish a 50:50 joint venture between Linde Gas (Hong Kong) Limited and SVW in Chongqing Chemical Industrial Park (CCIP) by June 2009. SVW in Chongqing is mainly engaged in producing natural gas-based chemical and chemical fibre products, and is currently expanding its vinyl acetate monomer (VAM) production capabilities.

In the first phase of development under the Linde-SVW partnership, a new air separation plant with a capacity of 1,500 tonnes per day of oxygen will be constructed to produce and supply gases by 2011 to SVW's new 300,000 tons/year VAM plant. The air separation plant will be built and delivered by Linde's engineering division. In the long-term, the joint venture is intended to expand the capacities of air gases and also construct synthetic gas (HyCO) plants to meet the overall gases demand by SVW and its associated companies.

SVW is 100% owned by China Petrochemical & Chemical Corporation (Sinopec) and has the largest natural gas-based chemical complex in China. SVW's existing products include vinyl acetate monomer (VAM), methanol (MeOH), polyvinyl alcohol (PVA) and ammonium. SVW's total investment for its VAM expansion project in CCIP is estimated to be €580 million. SVW's VAM expansion project will include the construction of an acetylene plant unit, which employs a partial oxidation technology that requires oxygen.

VAM is a chemical building block used in a wide variety of industrial and consumer products. It is a key ingredient in emulsion polymers, resins, and intermediates used in paints, adhesives, textiles, wire and cable polyethylene compounds, laminated safety glass, packaging, automotive plastic fuel tanks and acrylic fibres.

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Greiner Extrusion, Austria, and KraussMaffei Berstorff, Germany, agreed to intensify their long-term cooperation, in negotiations held in Munich, Germany in February.

KraussMaffei Berstorff has supplied Greiner Extrusion with some 400 extruders to date.



Joint projects are now to be implemented in the Ukraine, Iran, Columbia and Russia, among others. The two partner companies are also currently erecting a large-scale plant to produce house construction components in Venezuela. This will serve panel structure prefabricated housing production as the basis of major residential projects.

The two producers of profile extrusion technology will closely align their global sales and service activities. The strengthening of the teamwork includes joint sales and customer training efforts and a global presence at specialist trade fairs and symposiums. The technical aligning of tooling and extruders together with joint developments are a further focus of the strengthened partnership. The partnership has declared Eastern Europe, Russia, South America, Africa, South-East Asia and India as promising markets for its activities.


 *Dr Jens Liebhold, head of the Munich extrusion division of KraussMaffei Berstorff (right), and Greiner Extrusion CEO Mag Robert Grieshofer*

As a system supplier, KraussMaffei Berstorff provides all important extrusion processes for plastic and rubber processing from a single source. KraussMaffei Berstorff capabilities range from compounding, to tube, profile, sheeting and board extrusion, physical foaming, production of technical rubber articles and semi-finished tire products using single extruders through to complete extrusion lines for large-scale chemical, automobile, construction, furnishing and pharmaceuticals industries.

Greiner Extrusion is a leader in plastics profile extrusion tooling and machinery for plastic profile extrusion, through to complete plant for plastic window production. The company has a pilot plant and research operations in Austria, China, the USA and France, a service centre in the UK and representation in Russia.

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Fax: +49 89 8899 3092
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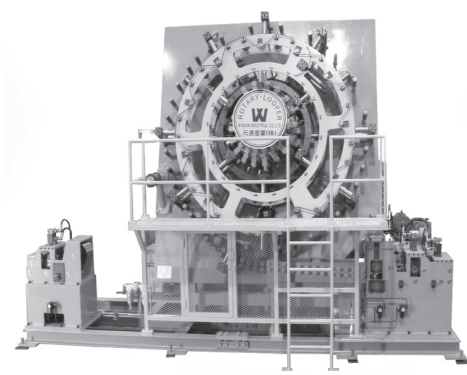
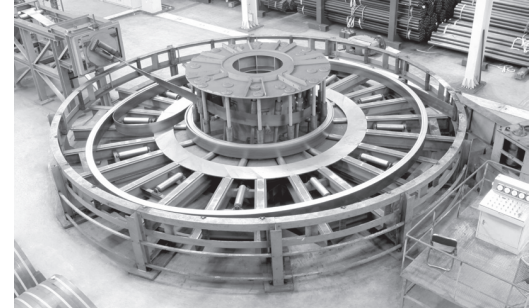
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Contracts in the Gulf of Mexico

Technip has been awarded by Bluewater Industries two lumpsum contracts for the Telemark and Clipper Corridor field developments in the Gulf of Mexico. ATP Oil & Gas Corporation is 100% owner and operator of the Telemark field, and 55% owner and operator of the Clipper Corridor field. Bluewater Industries is managing the two projects.

The first contract is for the Telemark field. This field is located in Atwater Valley Block 63, at a water depth of 1,357m (4,450ft) and is being tied back to the ATP Titan platform. The contract covers: the design and manufacture of one high pressure flexible riser, approximately 2 miles (3km) long; engineering for the installation and welding of one oil and gas production flowline, approximately 13 miles (21km) long; installation of the flowline and associated riser with an option to install an umbilical; fabrication and installation of subsea structures and a jumper; and pre-commissioning.

The second contract is for the Clipper Corridor field. This field is located in Green Canyon Block 299, at a water depth of 1,055m (3,460ft) and is tied back to the Front Runner platform. It covers: design and manufacture of two high pressure flexible risers, each approximately 1.5 miles (2.4km) long; engineering for the installation and welding of one pipe-in-pipe oil production flowline and one gas line, each approximately 15.5 miles (25km) long; installation of the flowlines, risers, and umbilical; fabrication and installation of four subsea structures and associated jumpers, flying leads; and pre-commissioning.

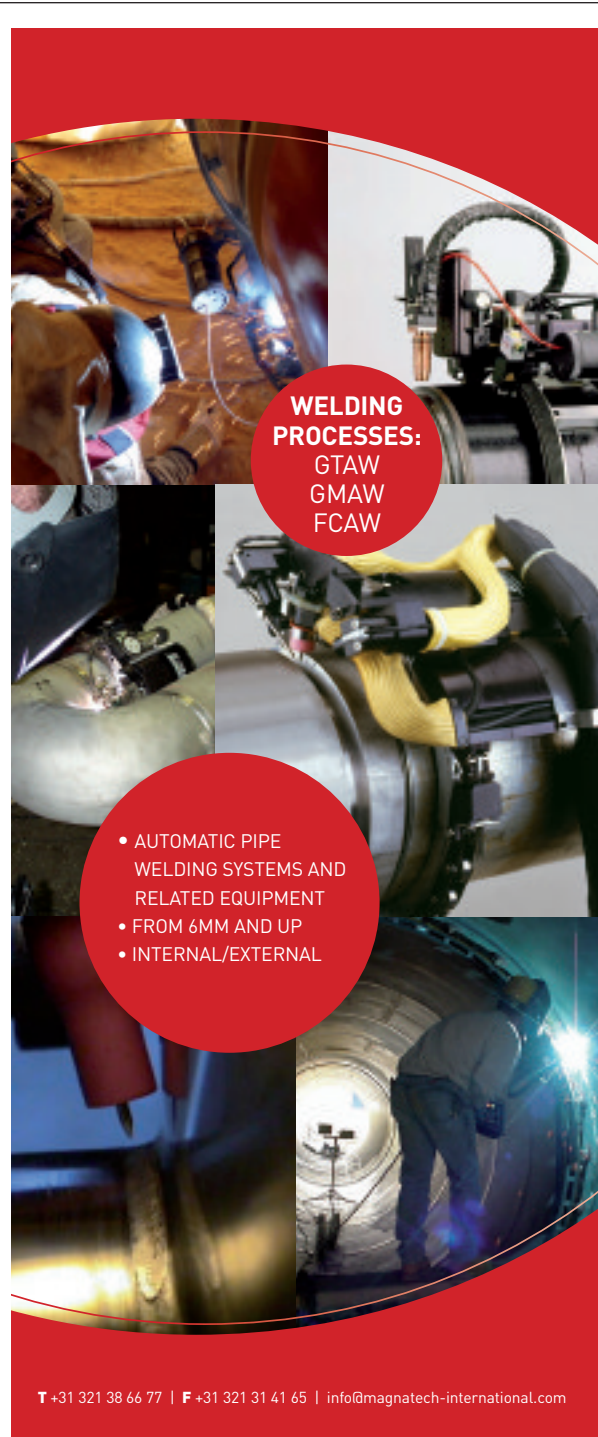
Technip's operating centre in Houston, Texas, will execute these contracts. The risers will be fabricated in Le Trait, France, one of the Group's flexible pipe plants. The flowlines will be welded at the Group's spoolbase located in Mobile, Alabama. Offshore installation is scheduled for late 2009/early 2010 for the Telemark project and for the second quarter of 2010 for the Clipper Corridor project, using the *Deep Blue*, Technip's deepwater pipelay vessel. The *Deep Pioneer*, Technip's deepwater construction vessel, will also participate in the Telemark project.

Technip has also been awarded a contract by W&T Offshore Inc for the Daniel Boone field development, also in the Gulf of Mexico. This field is located in Green Canyon Block 646, at a water depth of

1,349m (4,230ft) and will be tied back to the Front Runner Spar. This contract covers: engineering for the installation, welding and installation of a production rigid flowline (23 miles long) terminating at the spar with a flexible riser; design, fabrication and installation of an in-line structure and PLET; engineering for the installation and installation of an umbilical (23 miles long), jumper and flying leads.

The company's operations and engineering centre in Houston will also execute this contract. The flowline has been welded at the spoolbase located in Mobile, and the riser was fabricated in Le Trait. Offshore installation was scheduled for the second quarter of 2009, again using the *Deep Blue*. First production for Daniel Boone is expected to be in the second half of 2009.

Technip – France
Website: www.technip.com



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Butting sets up South American subsidiary

The Butting Group, Germany, has established Butting Brasil Soluções em Tubos Especiais Ltda, with a head office in the Brazilian province of Santa Catarina, providing the company with a sales base in the most populous country in South America.

Ⓣ More than 50 projects worldwide have been supplied with metallurgically clad pipes from Butting



The desire to be close to both established and potential customers on the ground was a factor in the decision. Because exploration has to be carried out under the most difficult conditions, the Brazilian oil and gas industry is faced with enormous challenges.

High-quality products are increasingly in demand from this industry in the regional marketplace.

There are specific needs, for example, for metallurgically and mechanically clad pipes (BuBi® pipes) and nickel alloy pipes, all produced to the tightest tolerances.

The decision to develop business activities in Brazil was also influenced by the political



Ⓣ (from left) Managers Markus Bartsch, Hermann Butting, Dr Iris Rommerskirchen, Thomas Schüller and Dr Jens-Peter Lux

stability in the country. Brazil is also very rich in raw materials, with industrialisation progressing fast, and so offers good economic conditions.

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Comco's new factory begins operation

Comco Corporation, Japan, has started production at its newly built factory in Toyota, Japan, following an investment of JPY 1 billion (approximately US\$10 million).

The company's separate production sites were integrated in Toyota City for effective production.

The company has three production facilities: Toyota, Japan; Prague, Czech Republic; Shanghai, China; and sales and service locations in Chicago/Detroit, USA and Bangkok, Thailand.

At the new three-story factory, the tube machinery division produces tube forming machines such as KC Series tube cutters

Ⓣ Comco's new three-story factory has an area of 2,900m²



for coiled tubes and straight tubes, KE Series tube end-formers and KB Series tube benders (NC, CNC, open CNC, booster, rotary head and special-purpose benders).

The OKA division produces manufacturing equipment and tooling for heat exchangers such as fin mills, tube mills, core builders, tube cut off machines, wire tying machines and custom engineered machines.

Production capacity in Japan has increased from JPY 3 billion (approximately US\$30 million) to JPY 7 billion (US\$70 million).

Comco Corporation – Japan
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BORU 2009 report

The 5th Tube, Pipe and Fittings Fair, held at the Istanbul Expo Center, opened its doors to visitors on 5 March 2009. The fair's inauguration ceremony was conducted by İhlas Holding deputy executive chairman Yavuz Özgün, ÇEBİD (Steel Pipe Manufacturer Association) executive board chairman Bülent Demircioğlu, ITA (International Tube Association) secretary general Phillip G Knight, İSKİ general manager Mevlüt Vural and TR Industry and Trade Ministry deputy undersecretary associated Prof Dr Yavuz Cabbar.

Following inauguration, the foremost tube and pipe brands of Turkey and the world exhibited their products. A total of 181 exhibitors, including 59 from abroad, participated in the event, and 19,829 visitors toured the fair. The event increased its visitor numbers, despite the global economic crisis. As with last year's fair, due to there not being enough space in the fair area, the foyer area was completely sold out. Conference programmes held by İgdaş – Ugetam were followed by the sector with interest.

The 6th edition of the fair will be held in 2010.

İhlas Fuarçilik AS –Turkey
Fax: +90 212 454 25 06
Website: www.borufuari.com

Understanding tube inspection

Olympus NDT has announced the publication of its new 'Understanding Tube Inspection Technology' poster, published in order to support the growing NDT community.



The new Olympus tube inspection poster

The poster has been designed by field experts to present tube inspection technologies in a concise and clearly illustrated manner. Basic concepts of eddy current testing, remote field testing, magnetic flux leakage, and IRIS are all explained quickly and effectively. These technologies are typically used to inspect heat exchangers, feedwater heaters and boilers in the power generation industry.

The poster will be a valuable resource for those who are responding to the large demand for tube inspection solutions. This poster will be made available through the Olympus NDT website, at www.olympus-ims.com/en/poster, or by emailing info@olympusndt.com

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Wittmann Battenfeld opens sales office in Budapest

The Wittmann Group has continued to extend the scope of its activities in Hungary, opening a new sales office in Pilisszentiván, on the outskirts of Budapest. This represents a major step in the company's determination to strengthen its market presence and to acknowledge the increasing potential of the Hungarian market.

Sales manager István Timcsák, who has responsibility for all sales activities throughout Hungary, expressed his satisfaction: "I am delighted with this additional facility in Hungary. The new sales office will enable us to react even quicker and more proficiently to the requirements of our customers."

Wittmann has been successfully involved in the Hungarian market for a number of years. The company's factory in Mosonmagyaróvár, set up in 1997, manufactures robots, sprue pickers and various components for a wide range of auxiliary equipment for the global market. The company is also planning further expansion of its manufacturing capacity in Hungary.

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Website: www.wittmann-battenfeld.com

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 WP91, WP92, A420, WPHY42, WPHY52, WPHY60,
 WPHY65, WPHY70, WP304, WP304L, WP304H,
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Roll-Kraft receives sustainability award

Roll-Kraft, USA, a provider of tooling and equipment for the tube, pipe and roll forming industry, has been recognised by Smart Business as an emerging company among the 2009 Evolution of Manufacturing honourees. The award was presented to companies for their efforts in creating a sustainability initiative.

Earlier this year, Roll-Kraft carried out an evaluation of facilities and processes to determine what steps to take to become a more environmentally friendly company. An action plan was created and changes were implemented.

Lighting was changed in the factory, to more energy-efficient fixtures. Conservation was encouraged, including reducing waste involved with Styrofoam cups and paper products, along with plans to reduce fuel usage in the company vehicles.

One of the greatest changes was the total implementation of having all sales brochures and flyers on the company website, and discontinuing the frequent publication, storage, and distribution of printed materials.

The company's webmaster will update the website on a regular basis with materials which can be printed from virtually any computer at any time. This will not only be economical for Roll-Kraft, and sustainable for the future, but will be convenient for customers in countries around the world.

Roll-Kraft will also use its database of email addresses to send out new product information and notices of upcoming events. Once this is in place, customers will be able to quickly register for seminars and learn about new issues.

The company has also initiated a feature on its website that allows customers to send in their questions or concerns, simply by clicking on 'Ask the Tech'.

Those enquiries go directly to the headquarters office in Mentor, Ohio, and are handled immediately by engineers or sales personnel, as appropriate.

Roll-Kraft – USA
Fax: +1 440 205 3110
Website: www.roll-kraft.com

MAPS Technology Ltd receives ASME Lubinski Award

MAPS Technology Ltd received the prestigious Arthur Lubinski Award from the American Society of Mechanical Engineers (ASME) Petroleum Division at the 2009 Offshore Technology Conference. This year's award recognises the step forward in flexible riser integrity management offered by the MAPS-FR™ technology and as described in the paper 'Non Invasive Magnetic Inspection of Flexible Risers', authored by two of its leading technologists, John McCarthy and David Buttle.

Flexible risers are generally used to link subsea pipelines to floating offshore installations. They are complex, multi-layered structures comprising layers of flexible metal, polymer layers and spiral wound armour wires. The weight of the riser is supported by the armour wires, and failure of these wires represents a significant risk to the integrity of the riser, which can have financial and environmental consequences.

The integrity of flexible risers therefore is a primary concern for operators of offshore risers. The structural complexity and the

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operational environment mean that conventional inspection technology is not effective. However, trials in the UK and Brazil show that the non-invasive MAPS™ technology can detect broken armour wires and give early warning of possible failure of the riser.

Each year, the Petroleum Division of ASME honours the best petroleum mechanical engineering paper presented at the Offshore Technology Conference (OTC). Arthur Lubinski, for whom the award is named, is the originator of the ASME Study Committee for the Exchange of Offshore Information which helped lead to the formation of OTC.

MAPS Technology was also selected as one of six finalists for the American Society of Mechanical Engineers 26th Annual

Woelfel Best Mechanical Engineering Achievement Award (BMEA). The Woelfel BMEA recognises a product, device or system displayed at the OTC conference that best reflects innovation and/or practical use of mechanical engineering in solving problems, improving design or maximising performance. Relevant criteria include novelty, impact on industry, HSE, state of development and presentation.

"To be nominated for both awards and to win the Lubinski Award is a significant

achievement and reinforces the potential of our unique technology and capabilities in the oil and gas sector and beyond," commented MAPS CEO David Pummell. *"The recognition is even more remarkable since 2009 is the first time MAPS Technology has exhibited and contributed to OTC."*

MAPS Technology Ltd – UK
Fax: +44 1235 213401
Email: info@maps-technology.com
Website: www.maps-technology.com

New website from Manchester Tool & Die

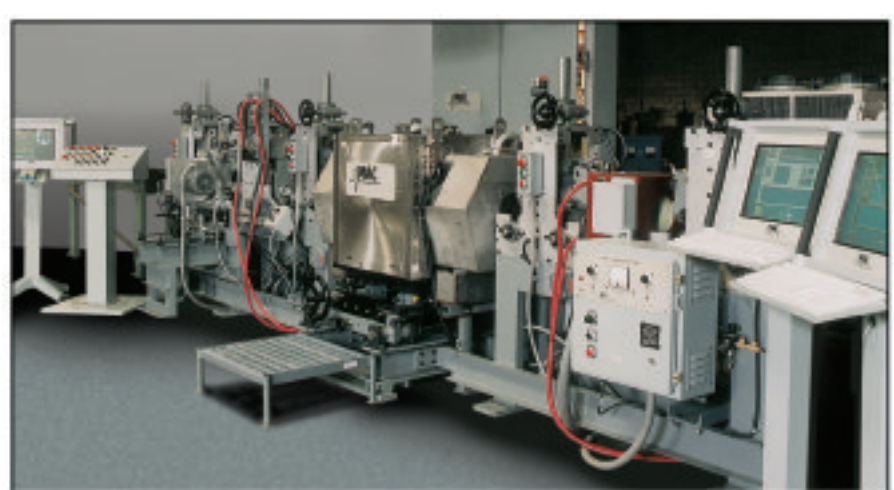
Manchester Tool & Die, Inc has launched a new website, www.manchestertoolanddie.com, featuring an updated, user-friendly design. The new site offers complete product details and specifications for the company's crimping, grooving and end forming machines, including standard specifications, additional options and advanced features. Complete contact information, literature and the latest company news are also available.



The homepage of Manchester Tool & Die's new website

The company supplies tube end forming equipment and tooling to a variety of industries, with machines ranging from 3/16" to 3" OD capacities. Machines and parts can be manufactured for special applications. The company also provides steel fabricating and production machining services.

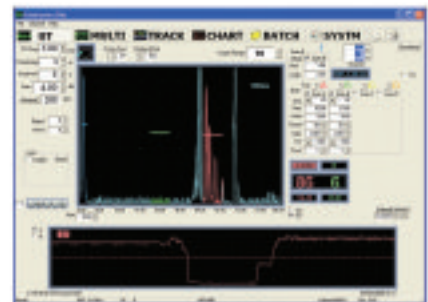
Manchester Tool & Die, Inc – USA
Fax: +1 260 982 4575
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Metals testing facility with refurbished ultrasonic scanner

MISTRAS Software & Systems has announced the delivery of a five-channel plate and billet scanner to Laboratory Testing Inc (LTI). The 24ft refurbished tank is equipped with a MISTRAS/NDT Automation computer-based ultrasonic inspection system, which generates detailed printouts of test data and results. The immersion tank can test bar and tube material up to 18ft long with a weight limit of 5,000lb, as well as plate material.

The scope of work included sandblasting and repainting the tank along with the fabrication of a new high-speed bridge. A two-axis, five-channel data acquisition of ultrasound controlled by UTwin real time C-Scan system was installed to perform the testing of material.

"This new system greatly expands the scope of LTI's immersion capabilities, provides faster turnaround for large volume, repetitive orders and adds a control factor for higher accuracy that is not available with the contact method of inspection," said Phil Trach, NDT technology coordinator for LTI. *"Our long-term experience with immersion ultrasound and with inspection of large-diameter and very heavy pieces makes this a natural extension of ultrasonic capabilities for Laboratory Testing Inc."*

LTI specialises in the inspection and certification of materials found in fasteners, tubular products, bar stock, plates and castings. The company's mechanical, chemical, metallurgical and non-destructive

testing services provide the answers for material properties, characteristics, composition, defects or discontinuities.

MISTRAS Group, Inc provides non-destructive testing products and services under industry-recognised brand names including CONAM Inspection and Engineering Services Inc, Physical Acoustics Corporation and Vibra-Metrics, as well as regional or product specific brand names. The group

offers asset inspection and mechanical integrity solutions to the oil and gas, power generation, aerospace, infrastructure and manufacturing sectors, as well as strategic on-line instrumentation that facilitates plant asset management. MISTRAS also provides enterprise solution software that aids in the safe and profitable operation of industrial facilities worldwide.

MISTRAS Group, Inc – USA
Fax: +1 609 716 4145
Website: www.mistrasgroup.com

SMS Demag changes name

As of end of March 2009, SMS Siemag is the new name of the company that has up to now been known as SMS Demag – a supplier of metallurgical plant and rolling mill technology for the steel and aluminium industry. It is the largest company in the SMS group in terms of order intake and sales.

The range of products and services will remain the same, while the name will recall the roots of the company founded more than 130 years ago by the Weiss family of entrepreneurs.

SMS Siemag – Germany
Fax: +49 211 881 4902
Website: www.sms-siemag.com

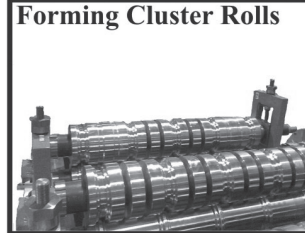
PROLIFIQUE ROLLS



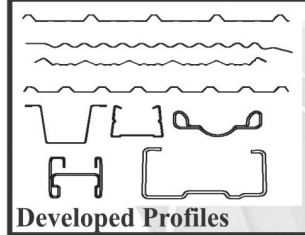
Tube Mill Rolls



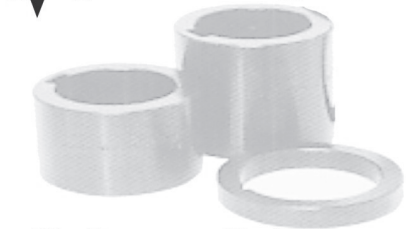
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 tchaudhary@prolifiquerolls.com
 Website : www.prolifiquerolls.com**



Upgrade at major ScottishPower plant

Pipe Center, part of Wolseley UK, has supplied speciality pipework and components worth around £100,000 for upgrading work on ScottishPower's Cockenzie power station.

The 1,200MW coal-fired plant, located eight miles from Edinburgh on the Forth Estuary, has been generating electricity since 1968.

ScottishPower is investing in work to extend the plant's operational life, and improve efficiency and environmental performance.

The work involved upgrading pipework used for conveying pulverised fuel used to power the station. Pipe Center supplied couplings for use with 26" diameter pipework used to carry the material within the plant.

Pipe Center is a preferred supplier for ScottishPower north of the border, supplying pipes, valves and related components for the company's two major Scottish plants. The order was managed by Eddie Houston, account executive at Pipe Center's Glasgow branch. Mr Houston commented, "We have a strong working relationship with ScottishPower, and provide back-up, components and materials for ongoing maintenance and upgrades. Power companies understandably attach great importance to ensuring that plant

operates efficiently – as it is an essential pre-requisite of the industry."

The Cockenzie project involved supply of 16" and 26" pipework, Viking Johnson 16" flange adapters drilled to 15" table D, and 16" plate flanges, machined by Flanges Ltd. Velan piping King assemblies for use in the plant's turbine steam trap were also supplied.

Cockenzie is one of Scotland's largest power stations and plays a vital role in guaranteeing the security of electricity supplies across the country. The station, which celebrated its 40th anniversary in 2008, has a coal store capacity of around 900,000 tonnes, and the full site covers some 93 hectares.

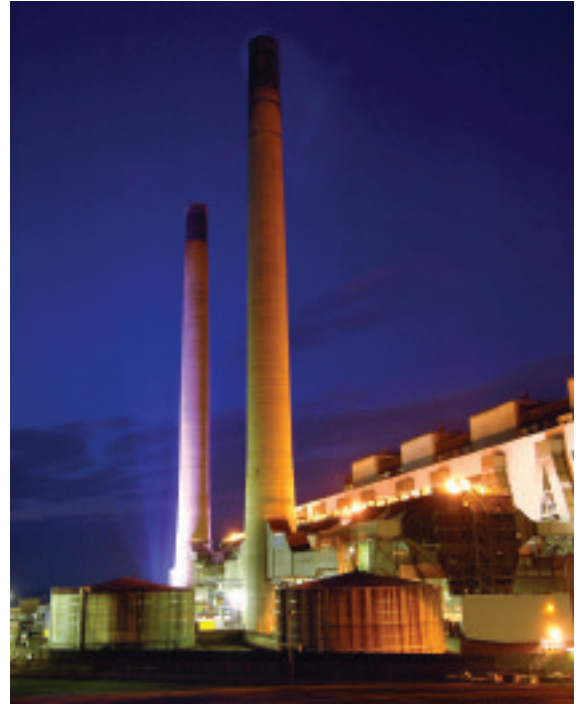
Wolseley – UK


Email: customerservices@wolseley.co.uk

Website: www.wolseley.co.uk

Pipe Center – UK

Website: www.pipecenter.co.uk



 The Cockenzie power station, located on the Forth Estuary, has been generating electricity for over 40 years


RSA announces the loss of Rainer Schmidt

RSA has announced the sudden and unexpected death, on 5 May 2009, of its managing director and shareholder, Mr Rainer Schmidt, described as the "genius who founded and managed RSA with ideas, commitment, willpower and foresight."

The foresight of Rainer Schmidt is well in evidence; he had already organised the future of the company. Last year, Rainer Schmidt sold the majority of his company shares to a financially strong German investor and, two years ago, he strengthened the company management team.

It is expected that management, employees and new associates will form a team to continue to lead the company into the future – for the common success of its business partners and RSA – in the spirit of the company's founder.



 Rainer Schmidt will be sadly missed by his colleagues

RSA Entgrat- u Trenn-Systeme GmbH & Co KG – Germany
Fax: +49 2351 995 300 • **Email:** rsa.d@rsa.de • **Website:** www.rsa.de

New appointment at Can-Eng

Mr Alan Van Geyn, P Eng, president of Can-Eng Furnaces International Ltd, is pleased to announce the appointment of Mr Tim Donofrio to the role of product manager, standard equipment. He will also continue to oversee the management of the aluminium equipment product group as product manager. Mr Donofrio has been with Can-Eng Furnaces for over ten years and brings extensive leadership skills and experience to his new role.

Can-Eng Furnaces is a North American designer and manufacturer of industrial heat-treating equipment. Can-Eng product lines include: continuous mesh belt furnace systems, batch integral quench furnace systems, continuous steel bar heat treatment systems, nonferrous T4, T5, T6, T7 heat treatment systems, basket heat treatment furnace systems (BHTS TM), a SCADA system, process enhancement technology (PET TM) and a wide array of custom furnaces solutions.

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Interpipe supplies casing pipes to the Syrian Petroleum Company

Steel pipe and railway wheel producer Interpipe, Ukraine, has completed the delivery of casing pipes to the Syrian Petroleum Company (SPC).

Interpipe delivered casing pipes amounting to 12,700 tonnes, including 5,600 tonnes of pipes with the UPJ (Ukrainian Premium Joint) connection. Casing pipes are used for the casing of oil and gas wells.

Interpipe developed the highly hermetic Ukrainian Premium Joint for use in the construction of horizontal and directional oil and gas wells, and for the development of oil and gas fields in difficult geological conditions.

Rostyslav Chudnovsky, sales director of oil and gas pipes at Interpipe commented, *“Interpipe is delighted to complete delivery of casing pipes to the Syrian Petroleum Company – the largest national company in Syria. Since 2006 Interpipe has worked successfully with SPC and intends to develop a long-term strategic partnership.”*

The specification and service performances of Interpipe’s UPJ meet international standards used in global oil and gas production. Joint packing ‘metal-metal’ coupled with trapezoidal buttress thread provides highly hermetic joints as well as durability and firmness for ultimate joint strength.

Interpipe – Ukraine
Fax: +38 562 389 482
Email: press-office@interpipe.biz
Website: www.interpipe.biz

Economic cooperation between Italy and Saudi Arabia

Invitalia, a national agency for investment and the enterprise development, and SIDCO, the Saudi-Italian society for the development, know-how and service exchange to attract foreign investments, have signed a memorandum of understanding for new economic cooperation between the two countries.

In 2008, economic relations between Italy and Saudi Arabia increased by 17%. The Saudi government announced a plan of public investment of €95 billion, with 1.3 million new jobs and the construction of six new cities. In a period of economic changes and international crises, the Riyadh agreement offers new perspectives and opportunities for the Italian market and economy, and will also support an exchange of information between companies interested in investing in Italy to boost a positive exchange and a growing working cooperation.

Massimo d’Aiuto from SIMEST, the Italian development finance institution promoting the activities of Italian business abroad, talked about one of the largest Italian investments, thanks to a partnership with the Duferco group, for a steel mill company with plants of more than €400 million, designed and built by Danieli Group for the production of steel tubes for the oil and gas industry, both for ARAMCO (the Saudi governing body for energy) and for other market areas.

Invitalia – Italy
Website: www.invitalia.it

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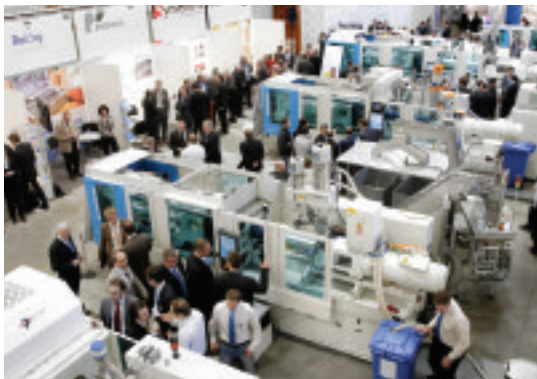
KraussMaffei turns the Spotlight on key issues

All-electric injection moulding machines, direct extrusion and processing PUR composites were the three topics in the spotlight at parallel customer events held by KraussMaffei's three technology divisions. Over 1,000 customers gathered at the company's main plant in Munich to watch the machine demonstrations, listen to the presentations and gain firsthand information on the latest innovations from the expert in plastics and rubber machinery.

KraussMaffei regularly organises 'Spotlight' events, which concentrate on providing detailed information on topics of special interest to customers in the plastics and rubber processing industries.

On 7 May, the company's three technology divisions all invited customers to parallel Spotlight events in the company's main plant in Munich-Allach. With innovative engineering, comprehensive process

 KraussMaffei's all-electric machine ranges in operation



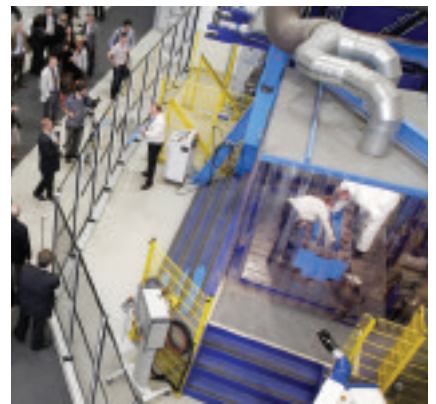
expertise and extensive consulting know-how, the company demonstrated solutions capable of delivering productivity bonuses.


Dr Dietmar Straub, CEO of KraussMaffei AG, emphasised that, "The Spotlight events have shown that our strategy – Technology to the Power of Three – is attracting a great deal of interest. Over 50% of our guests today registered for not one but two, or even three, of the Spotlights. We take this as a convincing proof that more and more customers see potential benefits for their businesses accruing from the bundled know-how available at KraussMaffei."

While the injection moulding machinery division demonstrated its range of energy-saving, all-electric machines in its AX and EX series, the extrusion technology division showcased a direct extrusion line for producing three-layer PP pipe with a highly-filled core layer, showing that integrating compounding and extrusion in one process can save raw material costs. The reaction process machinery division demonstrated a fibre spray process and KraussMaffei's LFI technology – long fibre injection moulding – as two examples of how composite processes can produce



 Compounding and extrusion of multi-layer pipes in one process at the 'Direct Extrusion' Spotlight event



 Fibre composite spraying and long fibre injection moulding in operation at the 'Composites' Spotlight

large-format, lightweight, high-strength plastic parts.

KraussMaffei Berstorff – Germany
Fax: +49 89 8899 3092
Website: www.kraussmaffei.com

Tube and fittings supply alliance

Motion and control technologies specialist Parker Hannifin has introduced a new supply service aimed at users of fluid instrumentation. Complete packages of tube fittings and tubing can now be purchased via a single order, thanks to an alliance with Sandvik Materials Technology.

In addition to simplifying purchasing, the volume of Parker's business means that it has been able to secure Sandvik tubing at competitive rates without compromising quality. A further advantage of the new service relates to product quality control, ensuring fluid instrumentation tubing components have genuine integrity, and perform to specification – vital for plants processing harsh media or in corrosive environments. This quality control begins with an audit trail for the raw materials.

Sandvik melts its own steel to ensure quality control from the point of steel melting, right through to the finished product. This level of attention to detail extends throughout the design and manufacturing chain up to and including verification of performance by independent third-party test houses.

Parker Hannifin's alliance with Sandvik covers seamless instrumentation tubing in 316/316L stainless steel, plus a range of the most commonly used exotic alloys, including 304/304L, 6Mo, 321, SAF 2507, 625, 825 and Hastelloy C276.

Sandvik is also known as a pioneer of engineered materials for dealing with the exceptionally harsh pressure and corrosion-prone conditions faced by users in the offshore oil and gas industry.

Parker Hannifin's range of threadless tube fittings includes not only twin-ferrule compression types – which feature the corrosion-resistant Suparcase ferrule technology – but three further fitting innovations to allow users to make tubing connections faster, smarter, cleaner and safer. The company's latest innovation, Phastite, delivers compression-style assembly to high pressure connections up to 20,000 PSI, providing an alternative to welded and cone-and-thread connections.

Parker Instrumentation Products Division – USA
Email: ipdsales@parker.com
Website: www.parker.com

Parker Instrumentation Products Division, Europe – UK
Email: ipd@parker.com
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Cincinnati Extrusion invests in the future

Cincinnati Extrusion GmbH, Austria, is investing close to €3 million in the modernisation and extension of its production machinery, to prepare for the demands of the future.

The company is currently anticipating an over 40% decline in the market for extruders and extrusion lines. This estimate is confirmed by recent VDMA (German Engineering Association) figures. According to Walter Häder, managing director and CEO of Cincinnati Extrusion, a sustained recovery is not generally expected to set in before 2010.

The Viennese machine manufacturer states that the reason it has not been hit as hard as some by the financial crisis is primarily due to the fact that the sharp market decline was already anticipated in the middle of last year, and the company was able to take internal measures to prepare for the crisis at an early stage. This led to corporate restructuring, which also involved some retrenchment of personnel.

Cincinnati planned to shift to reduced working hours for at least three months from the beginning of April, to cope with the economic downturn. However, this will avoid the risk of having to lay off more staff, "who will definitely be urgently needed in the future," said Mr Häder.

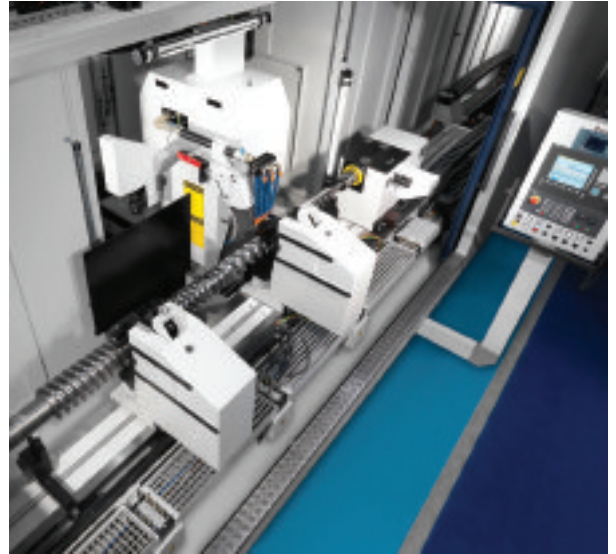
The investment in the modernisation and extension of its screw manufacturing facility

located in Vienna involves ultra-modern production machinery, such as a 6m CNC cylindrical surface grinder from Danobat and a RotoMill milling machine from Weingärtner.

The company also introduced 'Lean Six Sigma' last year, as part of its 'Cincinnati Continuous Improvement' initiative, with the objective of continuous improvement in quality standards and process optimisation. One of the first moves under this initiative was process optimisation in screw manufacturing, which resulted in a drastic reduction of lead-times, enabling 80% of all screws to be manufactured within a six-week time frame.

Cincinnati's innovative KryoSys pipe extrusion system has met with interest worldwide. A first production line of this type has already been installed at a customer's facility for long-term testing, and is currently running under full production conditions.

Cincinnati Extrusion GmbH – Austria
Fax: +43 1 61006 266
Email: welcome@cet-austria.com
Website: www.cet-austria.com



The 6m CNC cylindrical surface grinder acquired by Cincinnati Extrusion from Danobat

Agreement to distribute scarfing inserts

Harditalia srl, Italy, has announced the appointment of Superior Technologies Europe Ltd (ST-Europe) as distributor of Diamil trademark OD scarfing inserts for the pipe and tube manufacturing industry.

Diamil products entered the tube and pipe market in 2006, and the company has been looking for a partner to work with in growing its business across the European, Middle East, Africa and Russian markets.

With an established customer base and reputation for supplying HF welding consumables, ST-Europe fitted the profile that Harditalia was looking for.

Superior will introduce the full range of SNMX and SNMG scarfing inserts, as well as tool holders and accessories, via its website and directly to customers.

Harditalia has been manufacturing carbide products for almost 40 years, and is part of the OMCD group, a specialist metal processing organisation.

Superior Technologies Europe Ltd – UK
Fax: +44 1344 426 626
Email: sales@st-europe.co.uk
Website: www.st-europe.co.uk

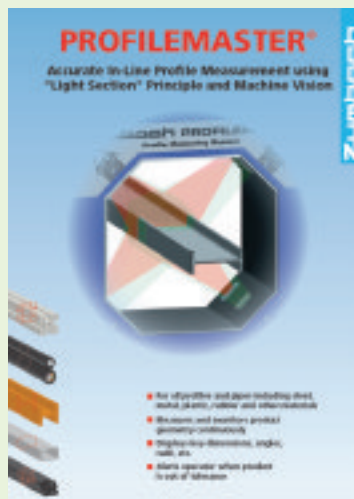
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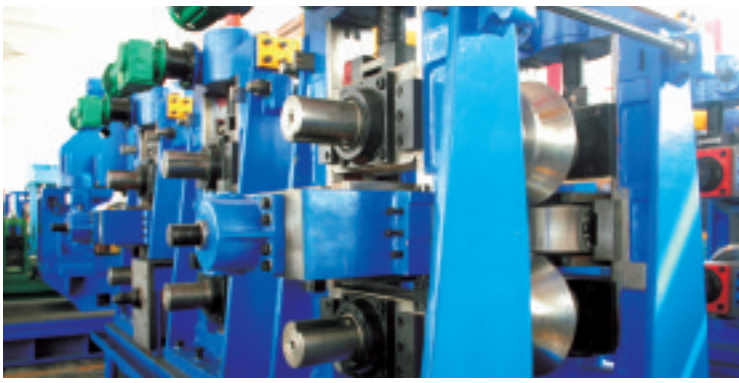
Zumbach Electronic has issued a brand new Profilemaster® catalogue – compact, informative and detailed. The brochure informs in several languages about Zumbach's on-line profile measuring and monitoring systems for any continuously produced profiles of any shape and any material.

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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, JCOE Pipe Mill, UOE Pipe Mill, Spiral Welded Pipe Mill, Seamless Tube Mill, Copper Tube Plant, as well as all the finishing equipment.

PHAMITECH machines are 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.

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Recession pain felt across all UK construction

The UK construction industry is facing its sharpest decline on record. With no prospect of an improvement in the near term, output and employment are set to fall even further in 2009 and 2010. This is the stark picture according to the new Construction Trade Survey compiled by the by the Construction Products Association, UK, which covers building contractors, civil engineering contractors, specialist contractors and construction products manufacturers.

The survey, which covers the first quarter of 2009, provides no respite from the current recession, suggesting that the situation is likely to deteriorate across the whole industry. The decline endured in 2008 is set to worsen in 2009 with decreasing demand in the economy leading to unprecedented falls in output and employment within the construction industry.

Noble Francis, economics director at the Construction Products Association, commented, "The worst fears of those in the construction industry look set to be realised.

With deep recession in the economy weighing heavily upon construction, the latest quarter of output within the industry, covering 2008 Q4, already highlighted the steepest decline since 1980. However, the latest Construction Trade Survey suggests that the situation has deteriorated further."

The Association anticipates that the construction sector as a whole will fall 12.1% during 2009, the sharpest decline on record and the private sector is expected to endure the worst falls, falling 20% in 2009 alone. While 2008 saw private housing and industrial sectors suffering, 2009 is expected to see sharp falls in offices and retail new build, with private housing repair and maintenance also set to be hit hard.

"The survey highlights the stark contrast between 18 months ago, when the chief concerns regarded whether there was adequate capacity to meet demand and rapidly rising input prices. The survey also illustrates the deterioration in construction product manufacturing during the first quarter of 2009. All heavy

side manufacturers and 91% of light side manufacturers reported that sales had fallen, unprecedented results since the survey began. Just 12 months previous to this, 82% of light side manufacturers stated that sales had risen."

The key findings of the survey are:

- 62% of building contractors report that output fell in Q1 compared to Q4 2008 and 60% report that output will fall further in the next quarter
- 100% of heavy side manufacturers reported that sales were lower than in the previous quarter
- 56% of specialist contractors reported that order books fell in the first quarter of 2009, indicating that output was likely to fall further near term

Construction Products Association – UK
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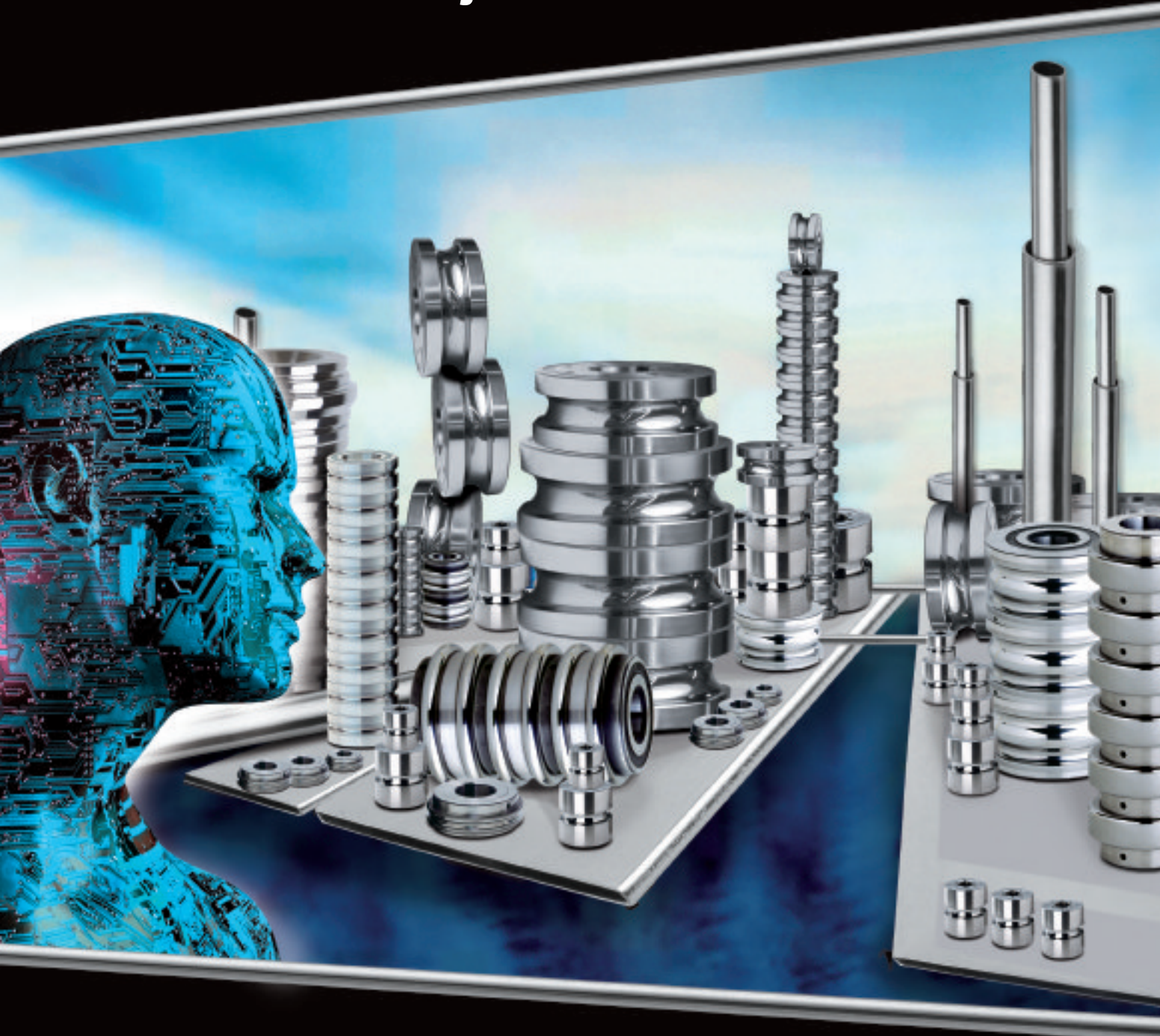


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IS ON.

Gallium awarded for export excellence

Gallium Industries Limited, India, established in 1985, is among leading manufacturers of tube mills and tube finishing equipment in India.

Gallium's product range includes HR/CR slitting lines and equipment for cold drawn tubes like push pointing machines, draw benches, straightening machines and hydro-testing machines.

The company recently received an EEPC (Engineering Export Promotion Council) award for its outstanding contribution to engineering exports during the year 2006-07.

Mr Bharat Bhushan, assistant general manager marketing, received the award from Mr R S Gujral, director general of foreign trade and the Ministry of Commerce and Industry.

Recent sales by Gallium include a 500KN high-speed draw bench to Switzerland, and an automatic hydrotesting machine, push pointing machine and four automatic draw benches to one of India's largest stainless steel tube producers, M/s Ratnamani Metals & Tubes Limited of Gujarat.

Gallium Industries Limited – India
Fax: +91 129 2309619
Email: mktg@galliumindia.com
Website: www.galliumindia.com

Mr Bharat Bhushan receiving the award from Mr R S Gujral



Two events for the Iranian market

Two new events have been organised, that will assist companies interested in expanding into the Iranian market.

Pipex 2009 Tube, Pump, Valve and Isolation Fair took place in June, in a 5,350m² hall in Iran's capital city, Tehran.

Confair 2009 Construction and Building Materials Fair is scheduled for 28-31 July 2009, in a 40,000m² venue with 21 halls, also in Tehran. Event organisers expect 650 exhibitors to participate.

Iran is a large market, and in recent years has become the largest country in the region in terms of the construction market. 171 dams are planned for construction within the next 10 years throughout the country.

Pipex&Confair2009 Tehran – Iran
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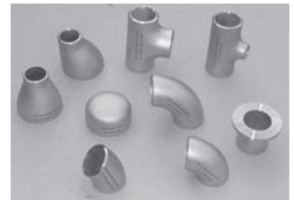
- Elbows – LR SR 45 90
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- Tees – Straight & Reducing
- Reducers – Con & Eccentric
- Stub Ends – MSS TYPE-A& B
- Stub Ends – ASME Long
- End Caps
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Specifications

- ASME B16.9
- ASTM A403 304/L 316/L 321 347
- ASTM A234 WPB P11 P22 P5 P9
- ASTM A420 WPL6
- ASTM A815 S32205 S32750
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Hydrostatic pipe tester shipped to the Ukraine

Bronx/Taylor-Wilson, USA, has shipped a 4 1/2" to 13 3/8" hydrostatic pipe tester to a producer in the Ukraine – the seventh such machine of this size range since 2005.

The machine will be used to test API 5L and 5CT grade products at test pressures up to 125 MPA (18,130 psi). This hydrostatic pipe tester was designed to accommodate the addition of a coupling back-up unit, to allow the end-user to test pipes with couplings in the future.

Bronx/Taylor-Wilson recently conducted pre-shipment inspection with the customer

 Bronx/Taylor-Wilson has supplied a hydrostatic pipe tester to a customer in the Ukraine



at the Bronx/Taylor-Wilson facilities in Ohio. The customer sent five representatives for a five-day session which included machine inspection, installation training, and maintenance training. The trip was a success both for the end-user and Bronx/Taylor-Wilson.

The machine was approved by the customer and subsequently disassembled, packed, and shipped.

This will be the first Bronx/Taylor-Wilson hydrostatic pipe tester installed in the Ukraine. The six other machines of this size range were installed in Kazakhstan, China, United States, Russia, and Saudi Arabia. The company has already agreed to contracts for future equipment to be supplied to the customer in the Ukraine.

Bronx/Taylor Wilson – USA
Fax: +1 330 244 1961
Email: sales@btwcorp.com
Website: www.btwcorp.com

Asiawater 2010 trade show

Asiawater 2010, the 6th Asiawater Expo & Forum will be held in Kuala Lumpur, Malaysia, 6-8 April 2010. The Asian trade show for the water and wastewater industry is organised by AMB Exhibitions Sdn Bhd in cooperation with Merebo Messe Marketing. Merebo will organise the 'Europe & North America Pavilion', dedicated to companies, associations, chambers and trade press of both continents. The show will take place in a space of 10,000m² in the Kuala Lumpur Convention Centre. 550 exhibitors from 32 countries and more than 9,200 trade visitors attended the last Asiawater, in 2008.

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Coils / Foils	<ul style="list-style-type: none"> ➤ Thickness: 0.08 to 4.00 mm ➤ Width: 5 to 525 mm ➤ Finish: CR, 2D, 2B, BA
Grades / Standards	<ul style="list-style-type: none"> ➤ Grades: 201, 202, 301, 304, 304L, 310, 316, 316L, 316Ti, 317L, 321, 409L, 410S, 430, 904L ➤ Standards: ASTM, AISI, DIN and Any other International Standards
Pipe Fittings	<ul style="list-style-type: none"> ➤ Size: 1/2 to 8" ➤ Material: Carbon Steel & Stainless Steel

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Prospects are good for EMO 2009

The organisers of this year's EMO MILANO are reporting 1,250 confirmed exhibitors for the October show, with enquiries still arriving from those companies who, due to the economic situation, have delayed making a decision on exhibiting.

If the figures are slightly below expectations, the calibre of exhibitors is not and the range of exhibitors will be as wide and comprehensive as usual, with all sectors represented. Commissioner general of EMO MILANO, Mr Strepariva, said to expect "a decidedly international EMO, with over 70% of participating companies representing 31 countries."



A view of the EMO exhibition floor

EMO MILANO 2009, running from 5-10 October, will take place within the new fieramilano exhibition area. Located just

outside the city, the exhibition complex has its own underground station and is easily and directly accessed from main motorways.

Efim-Ente Fiere Italiane Macchine – Italy

Fax: +39 0226 255 882

Email: info@emo-milan.com

Website: www.emo-milan.com

Steel pipe from China

Wuxi Tianlong Steel Pipe Co, Ltd is a Chinese and foreign jointly-funded company located in Development Zone, Xishan District, Wuxi City. The company manufactures precise steel pipe, and has three production lines.

Outside diameters range from 32 to 165mm, in thicknesses from 1 to 6mm, and lengths from 5.8 to 11.8m. The products are used in applications such as steam exhaust pipes, vibration absorber pipes, conveyor idlers and air conditioning compressor tanks.

Wuxi Tianlong Steel Pipe Co, Ltd – China

Fax: +86 510 85105126

Email: hkzl@public1.wx.js.cn

Website: www.wxtlg.com

New appointment at Sikora

Sikora AG, Germany, has appointed Mr Viacheslav Zabaluev as new general director of Sikora Russia. Ms Fira Fateeva, the newly appointed deputy general director, will support Mr Zabaluev in this position. Mr Ivan Zhukovskyy, who managed Sikora Russia over the last three years, left the company on 30 April 2009.

Sikora AG – Germany

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Thickness: 0.6mm - 6.0mm & Length: upto 22 Meters

Welded: As per ASTM A249/A269/A270/A312 in Austenitic(300)&(400) Series
OD: 6.35 mm - 76.20mm & NB: 1/8" - 2.1/2"
Thickness: 0.8mm - 4.0mm & Length: upto 18 Meters

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• **Material Specs - As per ASTM, DIN, ASME, JIS, TEMA & Various Intl Standards**
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The Leading Manufacturer of High-Technology Tube Production Equipment


Innovative GB90/GB100 mandrel tube and pipe bender

Ercolina, USA, has launched the GB90/GB100 semi-automatic Giga Bender mandrel machine for large radii tooling up to 16" CLR. The bender is ideal for bending tube, pipe, square and rectangular profiles to centreline radius as tight as 1.5D.

The interactive PLC touchscreen offers easy access to auto and manual operating modes, system diagnostics and multiple language capability. The heavy steel structure of the GB90/GB100 provides a rigid platform and minimizes vibration. The machine is complete with a high capacity hydraulic reservoir with automatic cooling system.

The GB90/GB100 offers programmable bend angles with an independent material springback setting for each bend. Programmable auto mandrel positioning allows the operator to optimize extraction for improved bend quality. Clamping, pressure die and boost movements are programmable with a manual override. Convenient USB connectivity is available for unlimited program memory storage and communication.



 The Ercolina GB90/GB100 semi-automatic Giga Bender mandrel machine

The machines are available with full CNC (6) axis control, with precision encoders on each axis ensuring highly accurate bending. This accuracy is highlighted by the interactive touchscreen that displays absolute (ABS) or incremental (INC) positioning with inch or metric readout. In addition, a programmable tail stock interference zone monitors position and eliminates workhead collision. The bender accepts YBC and XYZ input values.

Standard hydraulic ports accept Ercolina's patented (KST) clam shell or (FST) finger clamp systems. The hand-held remote bending control is certified class 3 safety and all electrical components are UL, CSA and CE approved.

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

New machine for the production of bimetallic tubes and pipes

Be Ca Engineering Soc Coop, Italy, a provider of machines for manufacturing and testing tubes and pipes, has launched a

new, patented technology for the production of bimetallic tubes and pipes. Bimetallic tubes and pipes are an effective, economic

and reliable solution for manufacturing heat exchangers, for power plants (nuclear and thermoelectric plants), and for systems that work with corrosive fluids.

Application fields include chemical and petrochemical industries, ammonia and urea systems, fertilising and refinery plants.

The new technology creates a unique bimetallic tube from two distinct tubes of different materials. The main advantage of this kind of tube is the possibility to join together two materials with different mechanical properties and with opposite aims. For example, the first material (inner or outer) could be a high corrosion resistant alloy (eg copper, aluminium-brass, zirconium) and the second one a high stress resistant alloy (such as steel, stainless steel, iron, duplex, titanium).

The new manufacturing technology is designed to be cheap and fast, and the production method is easy to carry out.



 Be Ca Engineering has created new technology for producing bimetallic tubes

Be Ca Engineering Soc Coop – Italy
Email: salesoffice@beca-engineering.com
Website: www.beca-engineering.com

New precision slot quench system

Thermatool Corporation has announced the successful commissioning of a new precision slot quench system along with multiple induction pre-heaters for austenitising and tempering operations.

These high performance modular slot quench and induction-heating systems operate on an induction/gas quench and temper line at Timken Steel.

The quench system is designed such that it can process two size bands for pipe and bar from 4" up to 9". The quench module is rafted and motorized, thereby

enabling the producer to change quench ring diameters automatically. Complete with variable flow pumps and a symmetrical high impingement quench spray, the precision quench equipment offers the customer opportunities for enhanced metallurgy and straightness.

Thermatool produces a wide range of quench systems and will size each application based on validated modelling techniques.

Timken's induction preheating sections utilise Thermatool's rugged VIP power

supplies along with multiple full body coils and automated centring stands for quick and efficient changeovers. The power supplies are configured through a software-modelling package that helps improve heating efficiency through varied power output.

Thermatool's heating and quenching systems are helping to advance the heat treat industry toward improved material composition and a more lean process.

Thermatool Corporation – USA

Fax: +1 203 468 4281

Email: thermatool@ttool.com

Website: www.thermatool.com

Flying cold saw cut off

ITL Industries Limited is a metal cutting solution provider offering a wide range of band saw machines, power hacksaw machines and CNC circular saws with HSS and TCT cutters. The company has designed, developed and manufactured a flying cold saw cut off (patent applied) for high-speed mill operation up to 150m/min, with 25 cuts per minute. The machine uses HSS as well as carbide tipped saw blades, to cover a full range of general and special purpose steels used for tube manufacturing.

Features include low maintenance, low vibration and noise, low power consumption, and saw blade protection in case of power failure. The machine is suitable for retrofitting in existing mills.

The shuttle runs on pair of linear motion bearings with the help of a servomotor coupled to a backlash free reduction gearbox, which runs pinions on a stationary rack. The servomotor is able to travel the 3m return distance in 1 second. The shuttle is manufactured from high alloy aluminium plates, which are light but very strong, to reduce the dead weight of the shuttle.

The cutting head gearbox and motor are also manufactured from alloy aluminium casting, and move on a set of four pairs of linear motion bearings. The cutting head has been designed to accommodate HSS and TCT saws for cutting ordinary steel to high tensile steel material.

The work table has been designed in such a way that on the return stroke jaws do not scratch the tube, because both the jaws are moving away from the tube axis.

The holding mechanism can be adjusted very quickly in Y-axis or Z-axis to align with the tube axis.

All the linear bearings, ball screw and rack and pinion are continuously lubricated through a prefixed program as recorded in the PLC. For effective use of the saw blade and to improve tool life, a special program has been introduced which allows slow entry and slow exit while cutting the tube to match the desired number of cuts per minute on-line.

When designing the machine, ITL took into consideration the problem of unexpected power failure, which can cause saw blade breakage during mill operation due to

sudden mill stoppage. With this in mind, the company included an electronic circuit to move the cutter out of the tube area as soon as the power is cut off. The vice clamp also releases, to allow for movement of the tube due to mill running inertia.

Changing the clamping jaws to allow for a different size of tube can be completed within two minutes. Maximum material tensile strength is 600 Newton per mm², with a yield point between 200 and 500 Newton per mm². The machine can accommodate thicknesses from 1 to 5.5mm and cut lengths from 5 to 12m.

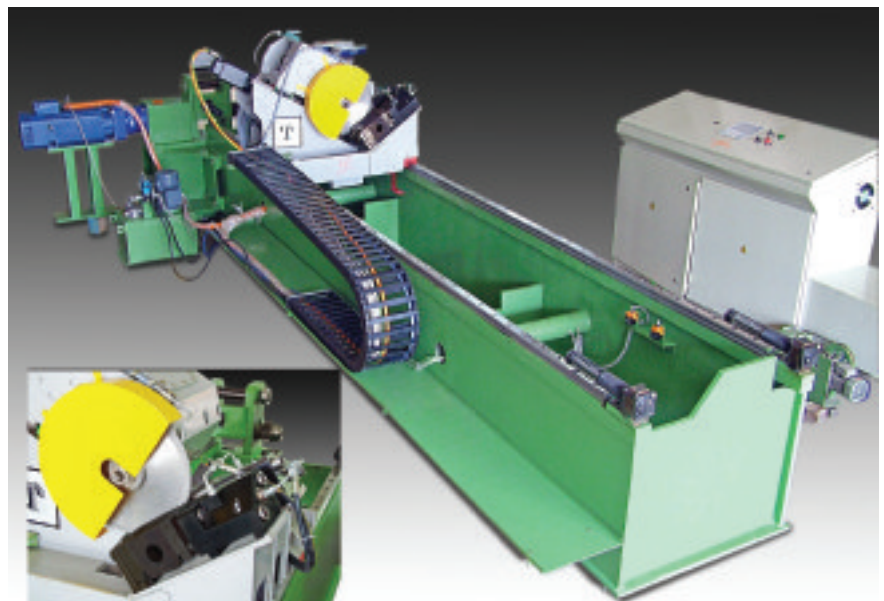
ITL Industries Limited – India

Fax: +91 731 2721110

Email: itlindia@sancharnet.in

Website: www.itl.co.in

 High speed cut off car



10-roller straightening

Sema Systemtechnik is a manufacturer of machines and plants for the tube and bar industry, including 10-roller straightening machines.

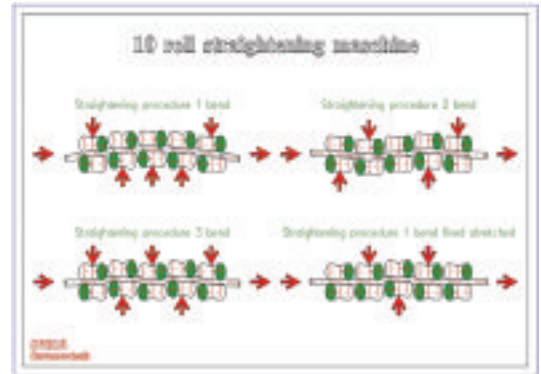
The 10-roller straightening machine has become an important component during the production of precision tubes, due to the continuously increasing quality demands placed on every modern tube producing company.

Sema's straightening machine produces very good straightening results. Using a variety of straightening procedures

(see sketch) a straightness of up to 0.1mm/m is achieved. Furthermore, roundness and exterior and interior surfaces are improved.

The Sema straightening machines are manufactured in different sizes, to handle diameters from 3mm to 200mm. The machines can be delivered as dry or wet straightening machines.

Each of the ten straightening rolls has an individual drive, to minimise the relative movement between the straightening roll and the tube. Motors are used to make height and angle adjustment of the straightening rolls.



ⓘ Straightening procedures of the 10-roll straightener

When setting-up, the operator has only to input the diameter, wall thickness and yield point at the operating panel; the adjustments occur automatically.

Corrections of the single straightening rolls can be carried out, to optimise the straightening results, using an electronic hand wheel.

These values are transferred and saved by the program; future set-up times are significantly reduced.

Sema Systemtechnik GmbH – Germany
Fax: +49 5744 931891
Email: info@sema-systemtechnik.de
Website: www.sema-systemtechnik.de



Ⓢ Sema Systemtechnik straightener

Latest UC 58 model for one-step pipe-in-pipe production

Unicor, Germany, has introduced its latest corrugator series UC 58 for pipe-in-pipe production. The machine was launched at a symposium in front of an international audience of pipe experts at Unicor's technical lab in Hassfurt.

The UC 58/90V machine has 90 pairs of mould blocks, while the model UC 58/120V has 120 pairs of mould blocks. The machines can achieve a very high production speed combined with increased quality due to new developments concerning the vacuum units of the corrugators.

Unicor developed the new model after research into pipe-in-pipe production lines. The company found that most Pex-pipe and Alu-Pex pipe was produced in up to three different work steps. The first step was production of the pipe to be protected, the second step was completion of the corrugated conduit pipe, and the third step involved manual or mechanical insertion of the smooth inner pipe.

The company recognized that this three-stage production was inefficient and costly. The new technology provides one-step inline production. The UC 58 machines enable complete production of a pipe-in-pipe product with one production line, together with offline pipe-in-pipe production off the coil.

Using this machine can considerably minimize personnel costs compared to the production process in various production steps. Further advantages of the inline production are the decreasing costs for storage and transport compared to separately produced Pex and Alu-Pex pipe combined with considerably higher quality of the pipes.

The offline model offers the same advantages of high pipe quality and high production speed. A prefabricated product (Pex-pipe, Alu-Pex pipe or cable) is taken from a coil and inserted into the simultaneously produced corrugated conduit pipe.

By means of a newly developed straightening device, the uncoiled pipe is directed into a production stable alignment. At the following insertion of the pipe into the cross die head of the Unicor die set, a perfect straight movement of the pipe is made possible.

With the newly developed die set the gap between the inserted smooth pipe and the conduit pipe is minimized to a space-saving minimum.

Those corrugators equipped with an SPS S7-200 control unit, used for the optimal synchronization of all production line components, can achieve a production speed of up to 35m/min. This depends on the pipe diameter and the polymer chosen.

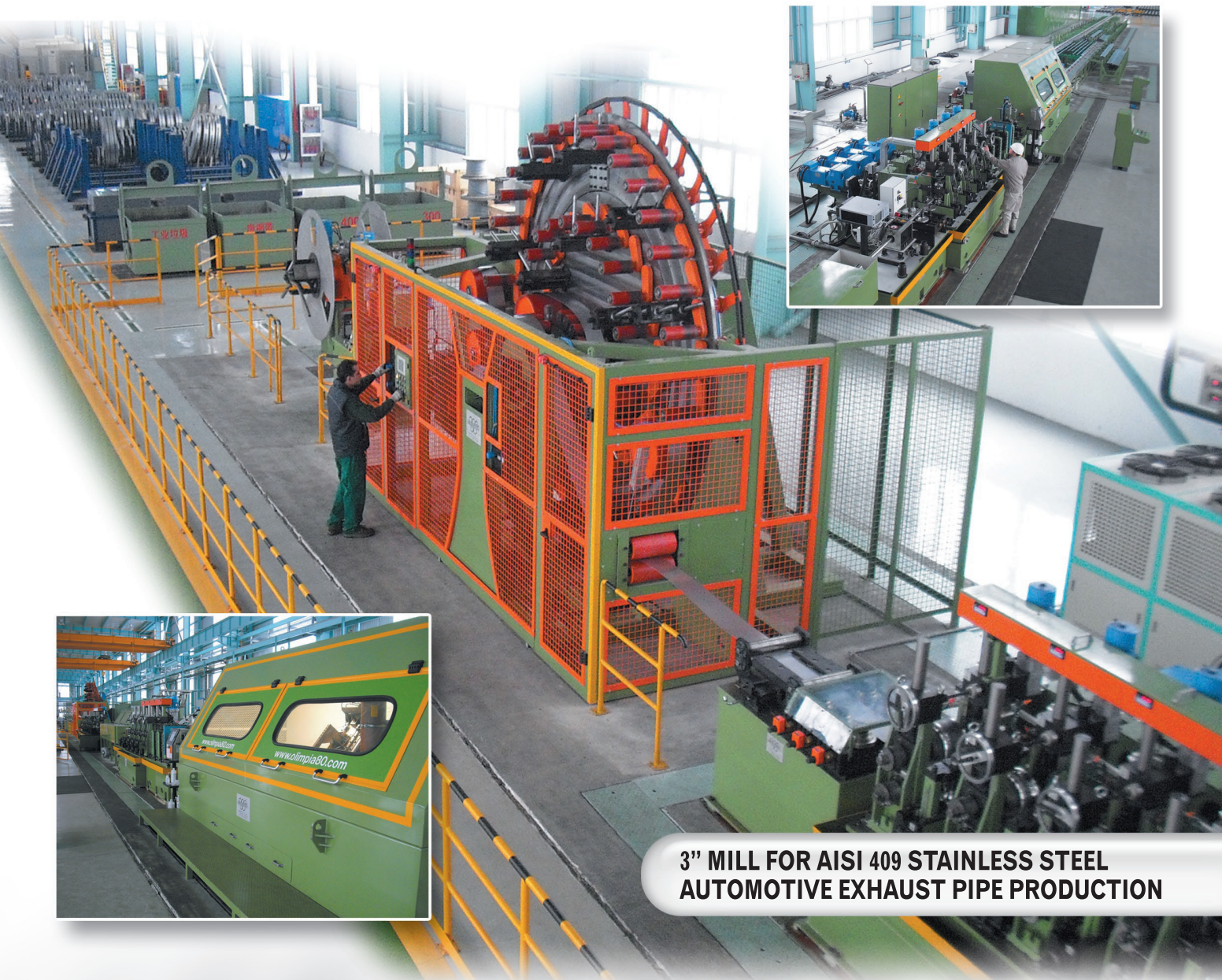
At these high speeds it is very important for the pipe producer to use a suitable semi or fully automatic coiler that coils the converted pipe at the end of the production line.

Unicor GmbH – Germany
Fax: +49 9521 956 9121
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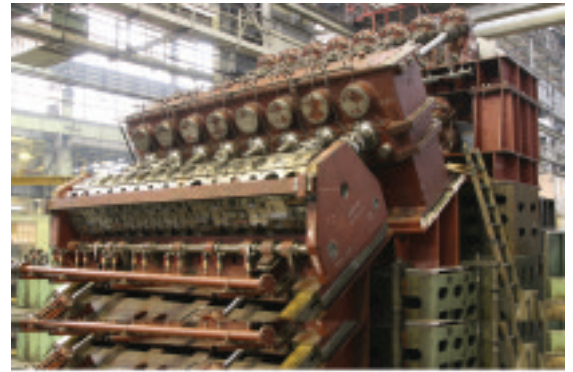
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Modernisation of seamless tube rolling mills

EZTM JSC, Russia, designs piercing mills with horizontal rolls. According to engineering processes rolling mills can be equipped with cone and barrel type (cup-

shaped) rolls. When using a billet with diameter smaller than the shell it is advisable to operate cone-roll mills. If billet and shell diameters are equal it is wise to use barrel-type rolls. And if the shell diameter is decreased, cup-shaped roll mills are recommended. The exit side of piercing mills (of all types) must allow accurate and rigid centring of a mandrel bar and holding of the rotated shell when piercing.



Reducing mill

Piercing mill



A piercing mill manufactured by EZTM for Seversky Tube Works JSC was commissioned in the

first half of 2007. Shells with graduated wall thickness are required in some cases. In particular it is necessary to thin shell bottom end wall thickness to prevent tube ends from triangles. It is advisable to thin shell bottom ends prior to pilger rolling in order to reduce pilger head weight.

Wall thinning is accomplished by displacement of the piercing mandrel in the process of rolling. Thus, distance between the mandrel and roll generatrix on its exit taper is varied.

Volzhsky Tube Works JSC intends to expand its tube mix rolled in TPA-200 by increasing length up to 12m and decreasing wall thickness. To achieve this, EZTM modified the exit sides of one piercing mill and several reeling mills, in the second half of 2007.

In order to extend tube range rolled in TPA-80 operating at Dnepropetrovsk Tube Works, EZTM manufactured equipment for a reducing mill. An existing 15-stand mill was equipped with an independently driven 15-stand mill.

As a consequence of such modernisation, a new 30-stand mill was commissioned. The mill is intended for the production of hot rolled tubes of 21 to 89mm in diameter.

To improve the quality of rolled tubes, new reducing technology and reducing mill design were introduced. Special technology developed by Ukraine engineers made it possible to decrease the variation of tube wall thickness.

This technology allows the substitution of hot-rolled tubes for cold-rolled mix, leading to cost reduction. The mill went into operation in spring 2008.

PVDF extruded foam technology now used for tube and pipe

Arkema, France, has made important advances in its Kynar® and Kynar Flex® foam technology. The company's R&D team has developed new, patented technology that allows Kynar closed-cell foams to be extruded into tube, pipe and stock shapes such as rod.

Prior to this development, commercial applications for Kynar foam had been limited to foam jacketing for plenum-rated wire and cable. This new application is important as parts made from Kynar® PVDF foam retain many of the properties of the PVDF resin and are up to 30% lighter than those made from conventional Kynar resin.

"Arkema's research group worked for over a year to improve the processability of Kynar foams before testing outside the lab," said Mr Guenter Sappelt, Kynar CPI account manager for Europe. *"To everyone's delight, for some customers it took only a few hours to extrude Kynar® foams with the expected lighter densities and enhanced properties."*

Initially developed to lower the cost of Kynar PVDF parts, the new technology has yielded improved Kynar properties like flexibility and easy cutting. It has also maintained many of the properties expected from Kynar resins, like barrier properties, chemical and temperature resistance. Additional patents have been filed.

In addition to inherent low smoke and flame properties, Kynar foams are a good choice for harsh industrial applications. With thermal insulating properties, they offer resistance to most solvents and chemicals, gamma and UV radiation. The mechanically tough foams are cut easily and impermeable to fuels, and offer service temperatures from -50°C to +155°C.

Arkema produces Kynar PVDF resins at facilities in Calvert City (Kentucky, USA) and Pierre-Bénite (France). A global chemical company and France's leading chemicals producer, Arkema consists of three businesses: vinyl products, industrial chemicals, and performance products.

Arkema – France
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Email: guenter.sappelt@arkema.com • **Website:** www.arkema.com

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REGIOMONTANA DE PERFILES Y TUBOS, is an innovative and leading tubes manufacturing company, located in Monterrey, Mexico. They produce carbon steel tubes from ½" to 6" O.D., hot and cold rolled, pickled and galvanized for construction and industrial applications, at a speed up to 180 meters per minute.

To realize high quality products in order to meet international quality standard with a very high reliability, REGIOMONTANA DE PERFILES Y TUBOS selected and installed three EMMEDI Classic Vacuum Tube HF Welders 250-350-450 KW output power. The Classic Emmedi welders demonstrated an outstanding reliability, easy to use and weld quality.

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PRODUCER: EMMEDI
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www.saetgroup.com

VARIETY: high frequency tube welder

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simple, refined

AGING: suitable for very long aging



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Breaking the 1,000kg/h production barrier in profile extrusion

A record-breaking output of 1,000kg/h in profile extrusion has been achieved by two partner companies, Gruber & Co Extrusionstechnik GmbH and Cincinnati Extrusion GmbH. The two Austrian machine manufacturers, who formed a strategic alliance last year, achieved this feat using the Argos 135 from Cincinnati with the twin-strand die from Gruber to extrude 5-chambered profiles.

A substantial factor in breaking the 1,000kg profile production barrier was the perfect combination of efficient apc barrel insulation and Intracool internal screw tempering with Cincinnati's twin-screw extruders. The machine manufacturer has succeeded in optimizing its extremely versatile Polytherm

screws for the two extruders, Argos and Konos. This has enabled an even wider processing window and also led to a 10% increase in output.

The Konos 63 achieves an output of 210kg/h, which constitutes a 5% increase, and the performance of the Argos 72 has been boosted by 10% to 250kg/h. The basic geometry of Polytherm screws currently covers 80% of all window profile applications. In specialized tasks, there is further scope for optimization of the screws following detailed analysis of specific user requirements.

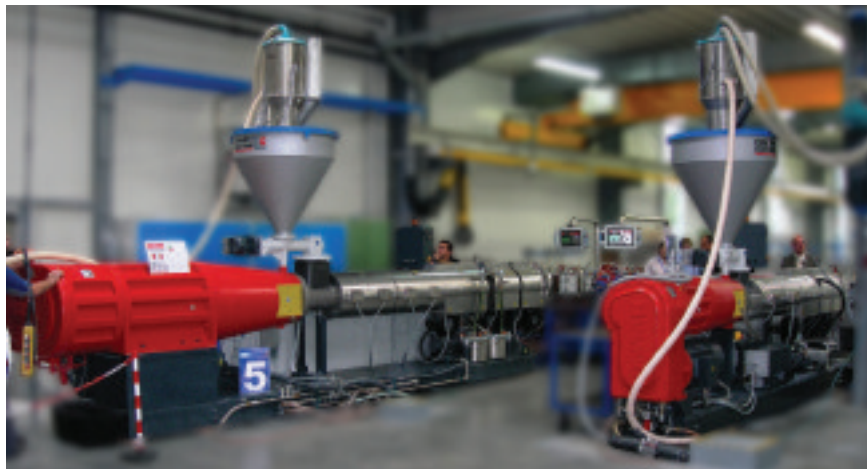
Due to its experience from more than 7,000 conical machines sold to date, Cincinnati

can adapt its extruders to current market requirements. The Konos conical twin-screw extruder series – comprising the models 38, 50, 63 and 72 – is a compact and flexible machine series in its performance class. In profile production, Konos extruders cover an output range from 20 to 280kg/h.

With the parallel twin-screw extruder series Argos 72, 93, 114 and 135, Cincinnati also caters to the performance range of 100 to over 1,000kg/h in profile extrusion. Specially designed to meet the requirements of the industry, these extruders feature a high moment of torque delivered by the durable, powerful four-shaft transmission system.

Argos and Konos extruders are equipped with maintenance-free AC motors. These meet the demand for energy-efficient operation due to their high degree of efficiency especially under partial load. An efficient air power cooling (apc) barrel-tempering system works in partnership with Intracool, a closed-loop, maintenance-free and self-regulating screw tempering system. This has led to a reduced energy consumption of both extruder series by about 15% compared to conventional machines.

 An output of more than 1,000kg/h has been reached for the first time in the production of 5-chambered window profiles



Cincinnati Extrusion GmbH – Austria
Fax: +43 1 61006 266
Email: steger.c@cet-austria.com
Website: www.cet-austria.com

Gruber & Co Extrusionstechnik GmbH – Austria
Fax: +43 570 580 94
Email: office@gruberextrusion.com
Website: www.grubergroup.com

Band saws from Italy

FMB, Italy, has been producing band saw machines for metal cutting since 1982. The company's present range consists of 29 models, covering cutting capacities from Ø100mm to 630mm, together with a complete set of solutions for material handling.

The company states that the basic concepts of its machines have always been the same: quality, solidity and reliability. The latest models, introduced at the end of last year, have the same characteristics, and the changes they present are the consequence of technological progress.

FMB srl – Italy
Fax: +39 035 370668
Email: sales@fmb.it
Website: www.fmb.it

Custom tooling and service

Nap Gladu, USA, provides custom tooling and service for the metal, wood and plastic industries, and has over 30 patents in new tool designs.

The company has 12 service centres in the US and Canada to provide service for all tooling needs. The NG sales team offers weekly pick-up and delivery of tooling, technical support and training on tool handling and care, and is constantly working with the engineering department to ensure users have the correct tooling to maximise production and help reduce operating costs.

Nap Gladu manufactures custom saw blades for many cutting applications, such as tubing, plate, bars, rails, extrusions and structural members.

Each saw blade is designed for the user's application and capabilities, to maximise cutting performance.

Nap Gladu – USA
Fax: +1 800 457 7458 • **Website:** www.napgladu.com

Missing link software solution for tubular profiles

Tekla and HGG have co-operated to define and develop an integrated solution for modelling and manufacturing tubular steel structures. This includes:

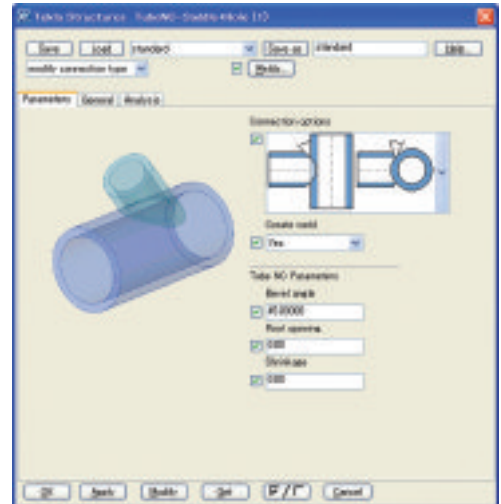
- Full range of components in Tekla Structures software to cover the needs for modelling tubular structures; the new component types are offshore saddle (AWS) and offshore chamfer, saddle and hole, mitre and hole, chamfer and slotted hole
- Integrated export of complete manufacturing information from the model directly to 3D tube profiling production
- XML format-based industry standard for transferring data that is open for any tube profiling machine company or design software supplier
- Visualisation module for 3D representations of cutting shapes on tubular structures

This new software solution is unique on the market, covering all 3D tubular profiles from design and detailing to automatic

fabrication. Up until today this functionality was not an integral part of any main design program but required separate manual data input and editing before actual fabrication could take place.

Tekla's Building Information Modeling (BIM) concept provides a range of benefits to all parties involved in tubular steel construction projects. All information can be managed and kept up-to-date in the BIM model so all data can be extracted from one source. No manual input or editing of manufacturing data is needed. The concept now also includes automatic handling of all 3D tubular connections.

HGG's Management Information System (MIS) ProCAM adds into the concept industry-specific tools (eg can rotation for the offshore industry), integral production management (eg return signals confirming processing), project planning (eg estimated production times) and much more. The new



Screenshot of the Tekla Structures modelling software

solution for tubular profiles is available with Tekla Structures 15.0, which was released to the market in Spring 2009.

Tekla Corporation OY – Finland
Website: www.tekla.com

HGG Profiling Equipment BV – The Netherlands
Website: www.hgg.nl

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Introducing ProfileVu

LaserLinc has launched a new product, the ProfileVu micrometer fixture that pivots up to 180 degrees to allow continuous inspection. This fixture is designed for use in finding width and thickness of non-circular products, such as flat wire, and for locating thick and thin sections of extruded material and other die-formed products. Users can mount one or two compatible LaserLinc laser micrometers to the ProfileVu; the TLAser122, TLAser222, TLAser230, Triton312, and Triton330 are suitable.

Using three-axis micrometers (providing six-axes of inspection), the angle of rotation

and the cycle-time required to identify the dimensions of interest are significantly reduced.

The fixture's angle of rotation is adjustable from four up to 180 degrees, and it completes a rotation of 180 degrees in up to four seconds (speed and rotation are dependent on the material to be inspected). The angle of rotation is managed by an easily configured PLC.

Combined with a Quadrature encoder, the ProfileVu system can correlate diameter (or other laser scanner measurement) with the angle of measurement, giving an accurate picture of the product. Power requirements are 110-240V AC, 50-60Hz; the unit has a one-year warranty. The Zero Latency encoder input is part of Total Vu software.

Two LaserLinc 3-axis Triton micrometers mounted to the ProfileVu



LaserLinc Inc – USA
Fax: +1 937 318 2445
Email: info@laserlinc.com
Website: www.laserlinc.com

Multi-channel eddy current system for improved inspection speed

GE Sensing & Inspection Technologies designs and manufactures sensing instruments that measure temperature, pressure, moisture, gas and flow rate for demanding applications.

It also designs, manufactures and services inspection equipment, including radiographic, ultrasonic, remote visual and eddy current, that monitors and tests materials without disassembly, deforming or damaging them.

The company has launched the Apollo system for tube inspection, for use in utility, refinery, and other industrial facilities requiring eddy current inspection of heat exchangers and condensers.

Apollo is designed specifically for in-service eddy current tube inspection, increasing inspection speed, and providing operational efficiency in the harsh environments found in power plants and oil and gas facilities.

Slitting lines for "Service Center" and "Profiles Industries"



Division: Coil processing equipment

- Slitting lines
- Packing lines
- Entry and exit units for continuous lines
- Cut to length lines
- Stacking system
- Leveller, 4-H and 6-H
- Ravamping of single units or lines

Division: Coil handling and feed equipment

Decoilers - Straighteners - Straighteners feeders - Flot feeders
 Pneumatic feeders - Roller strip lubrications Scrap conveyor belt - Coils turning device "C" hooks for coils



**Slitter 1600 x 6 mm,
200 mt/min**

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CAMU srl
 Bressanvido 36050 - (Vicenza) Italy
 Tel. 0039 0444 660407 - Fax 0039 0444 660728
 e-mail: info@camu.it

The flexible Apollo system can be used in both multiplexed and simultaneous injection modes. The supporting software is industry proven for increased productivity, and is easy to use for small inspection scopes, while still having the power required for supporting large-scale inspections.

The system's lightweight design and digital capabilities are suited to simple, single person operations as well as applications where multiple testers and large data rooms are required.

Its durability and portability make it suitable for applications such as ferrous and non-ferrous in-service tube testing and surface component testing.

Additional features include full signal capture, configurability up to 1,024 channels and 256 frequencies, a wide frequency range of 1Hz to 10MHz, and automatic gain control.

GE Sensing & Inspection Technologies – UK

Fax: +44 1727 795400

Email: david.jervis@ge.com

Website:

www.geinspectiontechnologies.com

Extruding solutions for PVC-m

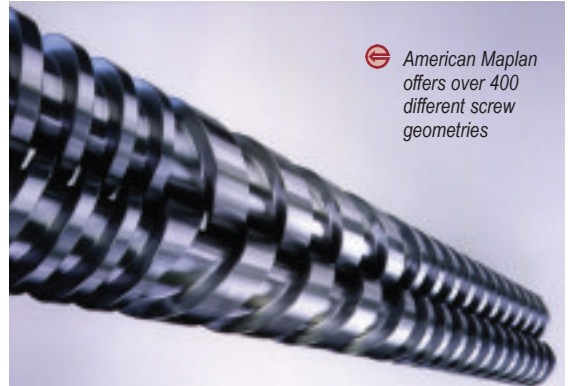
Modified Poly Vinyl Chloride (MPVC) is a thermoplastic pipe and fittings material for use in applications such as water distribution, air distribution and mining. MPVC pipes are a popular choice in Latin America and Oceania where large mining companies and exploration sites are located.

Extruding PVC-m compound presents processing issues due to the requirements of additional energy input for proper plastification which is directly correlated to physical properties, such as toughness, impact and creep rupture regression, of the finished pipe.

American Maplan has developed a specific screw design incorporating a special flight geometry that provides optimum plastification without sacrificing output rate or melt temperature increase due to shear.

American Maplan manufactures single, twin-parallel, twin-conical and parallel extruders and offers screw designs for

competitors' machines, providing over 400 different screw geometries for 65 different models from the top extruder manufacturers in the world.



American Maplan offers over 400 different screw geometries

Combining the understanding of material formulation, screw designs, tooling and final products, American Maplan provides extrusion solutions for the plastics industry.

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INDUSTRY NEWS

New LAP facility doubles production space for 'large measuring systems'

LAP Gera Laser Applications, Germany, has recently opened a new 1200sq-m production facility at its Lindeberg industrial park in the town of Lindeberg. The company's production space will allow for big increases in machinery orders. Installing a total investment of about 44 million, the development provides the plant with the equipment needed for the production of large measuring systems for the metal industry.

During the last three years the plant's production capacity has increased by 150 per cent to 420 units. The expansion was urgently needed due to rising order volumes and increasing fulfilment orders.

The production of large measuring systems — which sometimes span over eight metres — could not be realized in the existing facilities. The expansion of the production capacity was unprecedented. Mr Guido Jung, managing director of LAP, explains: "Our

system must be completely assembled and tested here in our workshop under specific conditions before they can be transported to our customers. We are now able to perform preventative maintenance in our workshops, checking every single detail before the system is shipped. This gives our customers confidence."

The new show will take place in Spring 2010 with an emphasis on the new developments. This year it is also currently set on whether 'Metal' will take over 50 per cent of the show. The visitors, 50 per cent will be international.

Tube 2008: the industry favourite romps home again

As the most visited in Tube 2008 many new shows had already been opened, with full order books, newly forged partnerships and excellent prospects for growth in the months ahead.

The event was held in Düsseldorf from 27 March to 4 April. It attracted more than 120 exhibiting companies, 75,000 visitors and more than 40,000 enquiries. The event was a great success, with many new leads and contacts made.

There was a need for the continuing of Tube, with a number of exhibitors saying that the show had become a highlight, with new leads and contacts made. The event was a great success, with many new leads and contacts made.

The show was held in Düsseldorf from 27 March to 4 April. It attracted more than 120 exhibiting companies, 75,000 visitors and more than 40,000 enquiries. The event was a great success, with many new leads and contacts made.

Tube & Pipe Welding: Trends & Progress

Like other specialties at the nexus of basic and applied science, tube welding is in a constant state of being made to yield more: greater integrity of the joint, fuller automation of the process, higher and yet higher productivity.

The composition, structure and properties of welds are under study and development at all times, as are the methods — but welding spot welding, arc welding, MIG, TIG, stick, orbital — which meet the serviceability of the product and the reputation of the manufacturer.

But running parallel to these developments is the advance of welding itself, the state-of-the-art manufacturing process. As customer-specific fabricating becomes more prevalent, we can expect just-in-time production strategies to power a trend toward mass customization.

The evolution toward real-time distribution of parts will influence the selection of joining processes for many applications. The precise, reliable, cost-effective technique of welding is always in progress. Assembling that industry must be alert to demographics and other social conditions — and be able to respond quickly to the needs of the population — the American Welding Society even discerns a humanitarian component to it.

In its 'Vision for the welding industry,' which examines the issues and opportunities that the welding industry will face in 2020, AWS cites this example: "It marked an emergence to serve the needs of ageing baby boomers. Industry will develop products to support this generation's medical requirements, creating new joining opportunities in technologies such as biocompatible implants."

How many other industrial processes can claim such synchrony with the concerns of the great world beyond the factory doors?



SHOW FACTS

DATES & SHOW HOURS
15-16 February 2008 - 10am-6pm

VENUE
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World Chamber of Commerce
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Email: info@wccw.com
www.wccw.com

INTERNET RESOURCES
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www.read-tpt.com
www.tubeandpipe.com

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Long range videoscope

The new Lenox Videoscope LongRange system is an easy-to-use, high-resolution, remote imaging system for long-length inspections. The Videoscope LongRange system is suitable for inspection of drill pipe, turbines, airframes, power generation equipment, process tanks and vessels, tubing and pipes, heat exchangers and hydraulic cylinders and other difficult to reach borescope inspections.

For efficient viewing inside complex assemblies, the Lenox Videoscope LongRange system features a flexible, non-articulating probe with a large 80° direct field of view objective lens resulting in clear and crisp images. The working portion of the scope is protected with polyurethane sheathing or impregnated tungsten braiding, depending on model, and is available in diameters of 5.3mm (0.209"), 6mm (0.236"), 8.4mm (0.330") or 12mm (0.472"), with working lengths as long as 30m (98.4 ft).

The Videoscope LongRange hand-piece features rugged, all-metal construction and a 2m (6.6 ft) length umbilical cable which

connects to the systems rugged, all metal, 8" colour LCD monitor with anti-glare coating and active matrix technology for wide viewing angle.

The Videoscope LongRange employs CCD video chip technology and high luminosity lighting bundles ensuring a bright, high definition image.

Videoscope LongRange accessories include a mini digital recorder with 7" LCD monitor and memory card image capture for easy transfer to a computer, interchangeable right-angle mirror heads, and connectors for compatibility with other brands of light sources.

Each Lenox Videoscope LongRange System scope is furnished complete with a 12 volt DC power supply and a rugged case, and a variety of light sources are available. Additionally, the Videoscope



 Lenox LongRange system in action

LongRange scope is backed by Lenox's two-year warranty.

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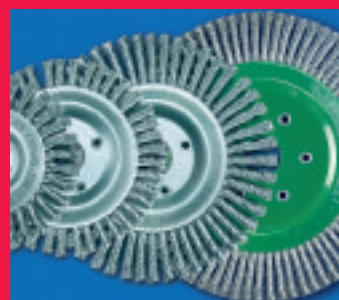


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Tube finishing and processing lines

Mair Research SpA is a leading manufacturer of tube finishing and processing lines for the international market. The company's range includes a variety of equipment from hydrotesting to tube packaging.

The company provides hydrotesting technology for ERW and seamless tubes with diameter 1/2" up to 16". The hydrotesters can handle tube with a single, double and triple head for API linepipe, casing and tubing.

Mair also provides equipment for the working of tube ends, such as cutting, end-finishing and threading. The multi-head cutting machines meet high productivity requirements when short cut-to length is required. They are suitable for cutting round, square and rectangular shapes.

The company's tube end-facing machines are designed for inline operation on tube mills and/or finishing lines. High quality end-

facing is obtained by quick changing of tools at any time. Automatic end-facing and in/out chamfering is carried out concurrently, meaning that no adjustment is required when changing the tube length.

Tube threading machines, available inline or offline, provide fully automatic threading operations on both tube ends. Offline machines are equipped with fully automatic entry and exit handling equipment.

Mair also offers tube-packaging machines that automatically stack tubes in square, rectangular or hexagonal bundles at the exit of the tube mill or the offline machine. The machines offer integrated operations on each bundle, including wrapping, strapping, weighing and labelling.

All Mair's continuous multi-process lines minimize handling and optimize stock management due to a flexible and custom-made HMI control. Mair Research SpA will be exhibiting at October's Tubotech.

Mair Research SpA – Italy
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Solvent pipe cleaning

Global Tec srl has been involved in the surface treatment industry for thirty years, producing a range of solvent and aqueous systems. Global Tec pays particular attention to the configuration of equipment and to production capacity, exploiting the available technologies to produce consistent cleaning levels.

Internal solvent cleaning systems for pipes, whatever the alloy (stainless steel, copper or brass) are complex, dealing with micro or macro diameters, lengths that vary from 6m to 8m, variable weights up to 1,000kg and dry-to-dry cycle times of approximately 25 minutes. Automatic in-line loading and unloading systems are also possible.

Global Tec's philosophy focuses on research and experience, aiming to offer an excellent high-tech product, designed and targeted to satisfy specific customer requirements.

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Bronx/Taylor-Wilson completes upgrade for US customer

Bronx/Taylor-Wilson (BTW) has shipped and installed a tubing straightener designed to process 2³/₈" to 5" API product. The machine will primarily process 2³/₈" to 3¹/₂" external upset end (EUE) API product.

The customer originally installed a Bronx/Taylor-Wilson 6CR7 straightening machine, engineered and manufactured in 1983. Due to budget restrictions and production requirements, the customer was in the market to refurbish the existing machine in the shortest time possible, having ruled out the possibility of installing a complete new line. BTW developed a solution that would implement the design improvements of the last 26 years and allow for a quick turnaround with limited production downtime.

The solution was to design a machine that would fit onto the foundation of the existing machine. BTW developed a machine with the same footprint and power requirements, but with numerous design improvements. One of these improvements was to move all of the articulating upset roll movements

to the top of the machine, and eliminate the need for hydraulic cylinders and components underneath the machine. Another improvement was to add a hydraulic relief circuit to protect the machine from overloading or jamming an upset into rolls that were set for the body of the pipe. These design improvements were developed from discussions with the customer concerning the process, as well as experience from the numerous installations completed by BTW over this time period.

In order to make the entire system work, the customer was responsible for repairing the inlet and outlet troughs for the machine, the hydraulic power unit, the electrical control panel, and the existing motors, gearboxes, and drive shafts. These components were salvaged from the original equipment.

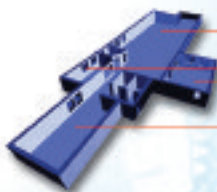
The existing machine was removed and the new machine installed, all connections completed, and processing pipe in 10 days.



 Bronx/Taylor-Wilson provided a lower-cost upgrade solution

By working together with the customer, BTW was able to supply a new machine that was installed with existing equipment, and the customer was able to meet the budget requirement as well as the shutdown timeline. In the future, the handling equipment and other ancillary components will be replaced, resulting in a completely new line.

Bronx/Taylor Wilson – USA
Fax: +1 330 244 1961
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Steel tube bending services

The Angle Ring Company Ltd has built a worldwide reputation for its ability to produce complex shapes in large size sections (up to 30 metre continuous lengths), using cold rolling or hot bending techniques.

The company has now expanded its operations to cover general manipulation services for a wide range of metal tube diameters from 16mm to 139.7mm diameter. Rotary draw or mandrel bending production techniques are employed, which can be offered for both standard and non-standard tube sizes.

This has opened up opportunities for the production of shop fittings, heat exchangers, signage supports, street furniture, public thoroughfare and barrier systems together with an almost limitless selection of general engineering products.

Solid bars up to 90mm diameter can also be manipulated, typically for the production of davit arm fixtures.

Typical 2D bends (bend radius being twice the tube O/D size) can be offered as standard on many tube sizes, with different

diameter to bend ratios also possible. In-house machine shop facilities enable the production of new disk/mandrel tooling within three days to accommodate any combinations of tube diameter to wall thickness, as well as special bending radii requirements.

With machine clamping employed at each bend operation, low deformation, accurate,

multi-directional, multi-plane manipulations can be undertaken.

The company also specialises in lower volume bending, being equally competitive on low volumes (1 to 50 bends), as well as larger contracts involving 400+ bend operations. The rotary draw or mandrel bending production techniques can be combined with cold rolling or induction bending processes where smooth, large radius bends need to incorporate tube manipulated sections to achieve aesthetic effects or typically where barriers are required to negotiate obstacles such as trees, or wrap around the corners of buildings.

Traditionally Angle Ring has offered section bending and plate rolling/forming in metals up to 200mm thick, and the largest beams, channels and columns available. This has included tubes up to 508mm diameter (cold rolling), or 915mm diameter (induction bending) for use in architectural structures, construction projects, offshore, civil engineering, power generation and general heavy engineering applications.



Typical commercial bends produced by The Angle Ring Company under its extended service for the manipulation of smaller diameter tubing in the range 16mm to 139.7mm diameter materials

The Angle Ring Co Ltd – UK
Fax: +44 121 522 4555
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Website: www.anglering.com

Cleaning concentrate for sump and central system cleaning

Hangsterfer's Laboratories has launched its latest innovation in machine and shop maintenance products. The company's Machine Cleaner is a highly water dilutable cleaner concentrate that is designed for applications that involve individual sump and/or central system cleaning.

Machine Cleaner was designed as a single-source cleaning product to address many applications. The product combines select ingredients that rapidly emulsify the heaviest of build-ups caused by normal day-to-day running of water-soluble metal working fluids. Its formula allows these oils and other contaminants to emulsify, and keeps them in this state of suspension as the system is recirculating. Feed pumps and coolant lines will be freed from build-ups and have an increase in flow.

Additional ingredients effectively remove organic life forms associated with rancidity, fungus, mould and yeast. Machine Cleaner is available globally through the company's network of authorised distributors, and is available in 5s, 55s and 275 or 330 IBC totes.



Area cleaned with Hangsterfer's Machine Cleaner

Hangsterfer's Laboratories – USA
Fax: +1 856 468 0200 • **Website:** www.hangsterfers.com

Portable outside clamping pipe-facing machine

Protem, France, has launched a portable outside clamping pipe-facing machine for onshore and offshore applications. Branded the OHSB-C 6-14, the machine is designed to improve productivity rates. The OHSB-C 6-14 can carry out bevels or compound bevels by copying. A carriage with hydraulic radial movement, mounted on the tool holder plate, performs bevelling work while using a copying cam. The tool holder is equipped with carbide plates.

The machine can handle maximum tube wall thickness of 60mm on a height of bevel lower than 30mm and a maximum angle of 37°. Other technical features include a tube clamping range of 6-14", maximum tool holder plate speed of 170rpm, weight and dimensions of 1,980kg, and hydraulic actuating cylinder feed. The axial stroke is 150mm and radial stroke is 80mm, while motorization is hydraulic.

Protem Sas – France
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Ms. Zheng Yifei

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E-mail: stexpo@mc-ccpit.com

Scarfig systems for tubes

For over 25 years Alpha Metall GmbH & Co KG has developed and manufactured scarfig systems for removing the inside bead from longitudinal welded steel tubes. The scarfig systems are installed in more than 120 tube mills worldwide. Mr E Jakobs, the managing director, comments, "Our very successful current ID scarfig systems for ID 10mm up to 610mm are the result of continuous...development and high precision production."

Alpha Metall now introduces the fifth generation of ID scarfig mandrels, engineered by Markus Jakobs. Alpha Metall premium carbide cutting rings can be supplied with special geometry for meeting the specific requirements of tube manufacturers and processors in hard steel.

The Alpha Metall multi-station strip edge shaving machine is recommended to avoid welding faults in galvanised or aluminised steel tubes, cleaning approximately 2mm from the top and bottom strip edges. The Alpha Metall oscillating tube weld bead outside scarfig machine can be adapted to different tube diameters to create a perfect outside surface, as required by the furniture industry and for formed and coated rectangle profiles. Alpha Metall is present, or has a representative, in all countries.

Alpha Metall GmbH & Co KG – Germany
 Fax: +49 6831 506958
 Email: info@alpha-metall.com • Website: www.alpha-metall.com

Cutting x 4

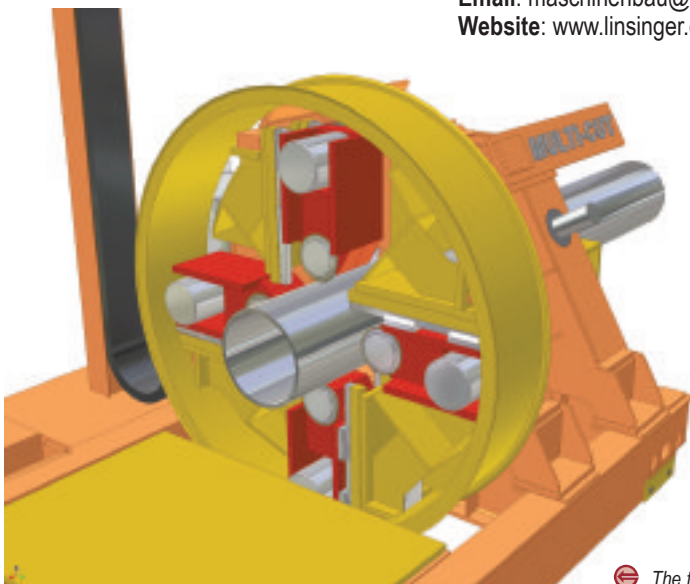
Linsinger has introduced a multi-cut machine for tube cutting, promising less cutting time, lower operating and tool costs with fewer line stoppages and downtime.

The Linsinger multi-cut MC4 uses four cutters working simultaneously around the pipe for a fast, burr-free cut. An independent cutter head control also enables the cutting of rectangular pipe profiles. The MC4 uses smaller, long lasting and economical saw blades. In-line operation is possible in ERW lines; in the case of saw blade failure, the operation can continue with just two

cutting heads so minimising stoppage time. The Linsinger MC4-610 CNC tube cut-off machine can be used for flying cutting in an ERW line.

For example, pipe of 219mm diameter and 6.3mm wall thickness can be cut in 5 seconds at a pipe speed of 32m/minute; pipe of 508mm diameter, with a wall thickness of 19mm can be cut in 15 seconds at a pipe speed of 15m/minute.

Linsinger Maschinenbau GmbH – Austria
 Fax: +43 7613 8840 951
 Email: maschinenbau@linsinger.com
 Website: www.linsinger.com



The four cutter multi-cut MC4

Deburring machine for round billets

The framag deburring system is a new development, designed to automatically remove burrs from billets. The burr is produced when metal strands from a continuous casting process are cut to length by autogenous torch cutting.

The burr causes disturbances in the further processing of the billets and therefore has to be removed, either manually with paving breakers or by flame scarfig.

The framag deburring system achieves deburring by annular support of at least two sets of planing tools, radially adjustable to the material. The sets are arranged behind one another, longitudinally, and are staggered against each other set by set. The provision of two sets offers the possibility of fully deburring cut metal strands of different diameters.

When the automatic deburring cycle is started, the billet positioned on the roller table is transported to the damped stop unit. The ductor blades are adjusted radially on the surface of the billet and the cylinder is activated. The burr is removed, and after this process the billet is transported on the roller table to its home position.



Cutting burr removed from the billet

framag deburring system offers two modes of application, either offline deburring of the billet on one side, turning 180° and removing burr on the reverse side, or online deburring of both sides in the final engineering stage.

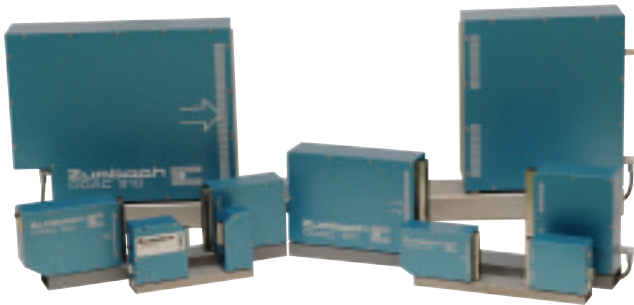
The deburring machine is designed for billets with a diameter from 200mm to 450mm and a length between 4,000 and 12,000mm. One deburring cycle is approximately 15 seconds.

Framag Industrieanlagenbau GmbH – Austria
 Fax: +43 7683 5040 86
 Email: office@framag.com
 Website: www.framag.com

Dimensional measurement for manufacturing

Zumbach offers a complete line of modular, single axis ODAC® laser gauges, available either mounted on a rail or as components with separate sender and receiver units for flexible installation in any position. Using high precision, telecentric optics, it is possible to mount sender and receiver units at a distance to each other (depending on the model, up to 3m/10ft). This enables multiple sender/receiver pairs arranged in the same measuring level, thus offering a multi-axis measurement.

With almost unlimited installation and configuration possibilities, these gauges can be used in most manufacturing processes including NDT lines for any product, the extrusion of hoses and profiles, or in the steel and metal industries for drawing, grinding, cold and hot rolling of rods and tubes.



ODAC® dimensional gauges on rails or as components

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- Parallel beam for profiles and similar
- Models with integrated processor (RS, Ethernet, Profibus DP)

Zumbach Electronic AG – Switzerland

Fax: +41 32 356 0430

Email: sales@zumbach.ch

Website: www.zumbach.com

Industrial washing machines

Caber Impianti, Italy, designs and constructs industrial washing machines for metal surface treatment, drying ovens and special process lines.

Key products in the company's range include a machine for the washing and drying of pipes from Ø 20 to 150mm. The machine, built from AISI 304 stainless steel, is able to clean pipes from 600 to 2,500mm long. The loading system ensures precise rhythm of production.

Caber Impianti Srl – Italy

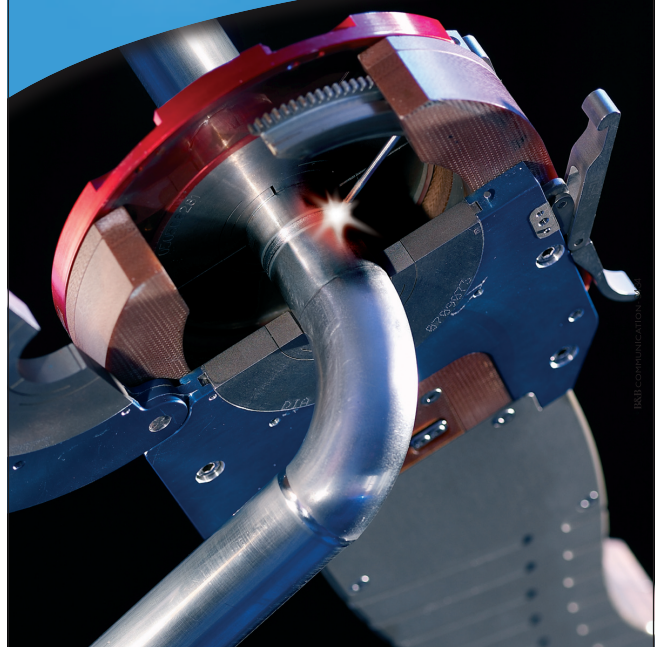
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Automated component manufacturing

Peasa is a Mexican-based manufacturer of a comprehensive range of tube and automotive components, with delivery to Europe, North America and South America. The company's cutting edge technology consists of an automated system of drawn benches, cutting and inline packing (Bultmann, Cartacci and Mair).

The system begins its operations with the pointing process of the mother shell through a set of vices, creating a clamping point (tip) in order to allow tube drawing. The feeding and drawing process incorporates draw benches manufactured by Bultmann, Germany.

The mother shell tubing is between 0.63" to 2.755" OD and 0.039" to 0.236" wall thickness, with lengths that vary from 4 to 11m. Bultmann's drawing benches can achieve 35m per minute (3 million metres per month). The pointed tube is driven out automatically through a band transportation system that delivers the tubing to the drawing process. This process starts when the tube is located in front of a set of metal bars that have two required tungsten carbide tools.

After the metal bars are set up correctly with the tooling, they are fixed to lower parallel bars, which form the second set of carbide

tooling. A pushing system simultaneously presses the bars against an anvil, and the drawing is carried out.


The resulting high precision tube can be manufactured in a range from 0.551" to 2.48" OD and from 0.031" to 0.196" wall thickness. Product lengths can be supplied from 6 to 13.5m.

After tube drawing is finished, the tube passes through a high-speed spinning saw disc system in order to get rid of the tip created for the clamping point. The tube then falls into a channel that leads the material through a set of straightening rollers. The straightening equipment, supplied by Cartacci, operates at approximately 100 metres per minute.

When the straightening process is finished, the tube moves on to the cutting system (Mair). Deburring on both sides of the tube is undertaken, leading to the exact length according to the customer's requirements. The operator then visually inspects the products and discards any faulty tubes. Otherwise the tube continues to the eddy current system, where the seam is evaluated. If a break is identified the tube is painted with pink ink, separated and sent to a faulty product area.

SHA 1419 fully automatic band saw

Scotchman® Industries has launched the SHA 1419 band saw. The SHA 1419 Band Saw is a simple-to-use automatic band saw that combines mitering capability with an automatic bar feed system. The bar feed utilises an automatic shuttle vice feed system that handles up to 40 inches in a single stroke. This band saw's capacity is 14" x 19" at 90° and 14" x 14" at 45°.

 Scotchman's SHA band saw



The standard programmable length control (PLC) allows the operator to program the job, including both piece length and piece count. The PLC takes into consideration the multiple indexes and blade kerf, making it extremely easy to set lengths. The full stroke vising and optional bundling attachment bundles up to the full capacity.

Scotchman 1419 horizontal band saws are available in both manual and fully automatic versions. These machines have a swing head for mitering without material movement, provide accurate cuts, and are ideal for bundle cutting. With their massive heads, large blades, and array of standard features, these machines are designed to handle the toughest applications for years of production.

Scotchman Industries Inc – USA
Fax: +1 800 843 5545
Email: info@scotchman.com
Website: www.scotchman.com

The product is moved automatically through the packing table that has been pre-programmed with form instructions. The packaging table can provide square and hexagonal shaped bundles. Bundles are protected with wooden, plastic and iron straps to avoid damage during delivery. In addition, tagging is carried out to identify the specifications provided.

Peasa will be on the Mexican stand at October's Tubotech exhibition.

Peasa – Mexico
Fax: +52 444 824 1323
Email: vrluquin@peasa.com.mx
Website: www.peasa.com.mx

Eddy current defect detection

Contrôle Mesure Systèmes (CMS), France, has launched the new Zet@ Premium eddy current instrument. Equipped with different kinds of probes the Zet@ Premium is able to detect defects located on metallic products, to meet quality standards such as API, ASTM, DIN and GOST.

The small instrument uses a simple Windows-based interface supporting English, French, Chinese, Russian, Turkish, Portuguese and Italian languages. Its wide colour screen, panel keyboard and mouse allow use in rough environments, while a remote control feature makes it easy to interface with a factory supervision system, and ensures the user is supported directly by CMS technical engineers, wherever the system is located.

The accuracy of the electronics used, with relevant probes chosen from the CMS catalogue, makes the Zet@ Premium suitable for most testing tasks, including applications such as fine wire testing, identifying 10 micron cracks, and hot rolling mill production with speeds up to 110m/s.

CMS instruments are sold and supported worldwide by a network of qualified partners. The company offers a complete range of accessories and customised testing systems according to users' specifications.

Contrôle Mesure Systèmes – France
Fax: +33 3 8594 1415
Email: contactcms@cmseddyscan.com
Website: www.cmseddyscan.com

Pedrazzoli at Tubotech

Pedrazzoli IBP SpA will occupy a large exhibition stand at Tubotech 2009, to display its range of machines for cutting, bending and end-working of metal tube and profiles. The company will present a number of new and innovative products to the Brazilian market.

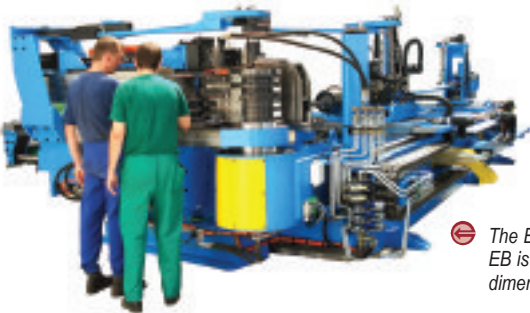
In the field of bending, Pedrazzoli will present its new Bend Master 45 MRV IMS, together with the new Bend Master 76 EB and the Bend Master 120 and 168 EB. These machines represent the latest generation of Pedrazzoli tube benders including all the best features such as high working speed and fully electric operation.




 Pedrazzoli's new Bend Master 45 MRV IMS

The Bend Master 45 MRV IMS offers fixed bend die, multiradius bending, variable radius bending, clockwise and counter-clockwise bending. In addition, the machine does not require any manual adjustment of tooling. It stands out due to its innovative design with compact bending head (ensuring greater flexibility), high cycle speed and large bending capacity (up to a maximum of Ø 45 x 3).

The Bend Master 76 EB is an integrated machine combining the technology of the Pedrazzoli bending range and Eurobend tube benders. This combined technology is the result of a recent buyout of Eurobend by the Pedrazzoli Group. The machine has a maximum capacity of 3", high working speed (4-5 sec/bend), and fully electric operation. It has been specifically designed for applications where high speed, precision and repeatability are essential.



 The Bend Master 168 EB is suitable for large dimension tube bending

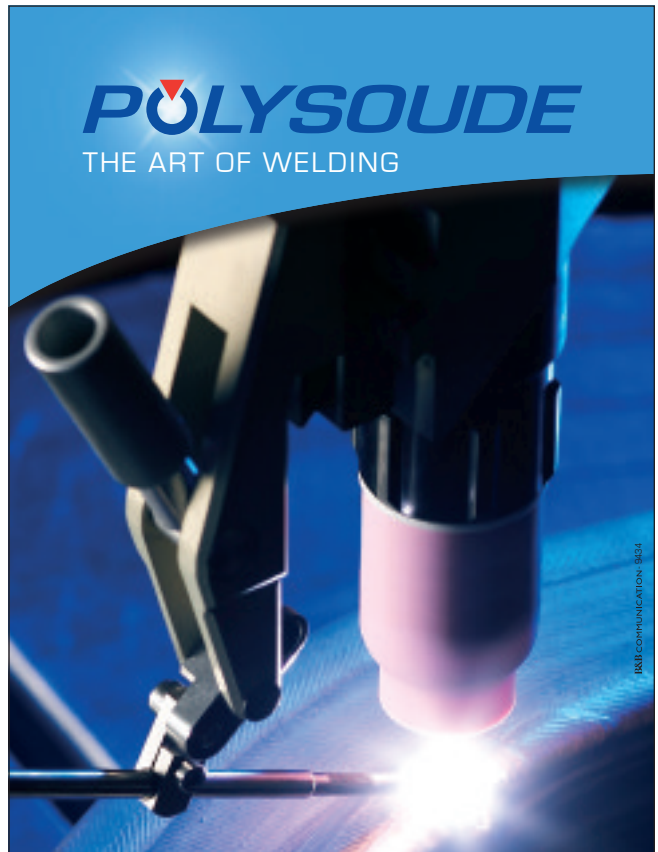
Both the Bend Master 120 EB and Bend Master 168 EB are suitable for large dimension tube bending and ideal for the automotive field. The machines have a sophisticated twisting head assembly that allows use of three, interpolating rolling axes. This enables combined bending on a different plane with outstanding results, particularly in areas where complex shapes and reduced radii are required. All axes are in true interpolation mode – even mandrel positioning – which is an important factor in repeatable production.

Pedrazzoli IBP SpA can be visited at stand number 300.

Pedrazzoli IBP SpA – Italy

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The latest technology for PVC-O pipes

Molecular orientation is a physical process that modifies the molecular structure of plastic.

Amorphous PVC-U structure is reorganised into a layered structure that provides plastic pipes with outstanding properties such as high impact resistance (almost unbreakable), high stiffness and fatigue resistance, an excellent behaviour with external loads, and maximum flexibility.

PVC-O pipes also offer a greater hydraulic capacity, minimum loss of pressure and a reduction in wall thickness and therefore weight, providing transportation and installation savings.

These improvements are made with lower raw material consumption for the same requirement of pipe, resulting in cost reduction.

PVC-O pipes are an environmentally friendly solution for water transportation according to 'Estimation of energy consumption and

CO₂ emissions due to production, usage, and final usage of PVC, HDPE, PP, cast iron and concrete pipes', Department of Engineering Projects, Universitat Politècnica de Catalunya (Barcelona, December 2005).

This report shows the CO₂ emissions and energy consumption due to raw material production, pipe manufacturing, usage and usage life of pipes for water transportation comparing PVC-O, PVC-U, PE and cast iron pipes.

Molecor, Spain, has developed its own technology to manufacture PVC-O pipes. The completely new system uses the best features of in-batch and in-line systems.

Molecor System is an in-batch system that has been improved in such a way that is able to absorb the production of an extruder working in line with it.

Molecor System is said to have all the advantages of an in-batch system – stability, high orientation degree, wide range of products (diameter and pressure), and ease of use – and also the advantages of an in-line system – layout compatibility and efficiency.

Molecor's completely automatic installations use a full dry system. There is no water involved in the whole process, and this provides safety (no boiling water), efficiency (no inertial tanks involved), no wet floors, no wet pipes and no jams at saws, and low energy consumption.



Amorphous PVC-U structure (green in colour), subjected to molecular orientation adopts a layered structure. The higher the orientation class, the more defined layers there will be (blue section class 500, and white section class 400)



The properties provided by molecular orientation

Molecor has developed its own technology to manufacture PVC-O pipes



PVC-O pipes are in ideal choice for water transportation

Changing from one diameter to another takes less than one hour. Sockets can be produced at the same time the pipe is oriented, maintaining unaffected orientation degree.

The Molecor installation is designed to work either in-line or off-line. Its quick start-up allows the user to manufacture small batches of certain diameters off-line.

The system has a low learning curve, and features a recipe system. Upon entering the recipe of the pipe to be manufactured, all parameters (pressure, temperature, speed, etc) are automatically set, avoiding the possibility of human error.

Molecor Tecnología SL – Spain
Fax: +34 902 106 273
Email: info@molecor.com
Website: www.molecor.com

Entry-level laser marking

The new compact TruMark 3010 marking laser from Trumpf is designed for companies who need to mark small batches or individual workpieces.

Due to a convection cooled laser head, the TruMark 3010 is silent in operation, without creating unwanted airflow close to the workpiece.

The TruMark 3010 diode-pumped solid-state laser with a wavelength of 1,064 nm is the newest member of the TruMark Series 3000.

Using the new Navigator software, even users without special laser expertise can carry out high-quality laser marking on metals and plastics.

Using the intuitive menu navigation, users select their materials and the desired marking process. The laser subsequently creates a test matrix from different marking fields from which the user selects the one with the best result. From it, Navigator determines the optimal laser settings for marking, such as pulse frequency, pulse power or scanner speed.



Once this is done, the machine can begin marking the workpiece. It is claimed that, with the Navigator software, users can achieve excellent marking results quickly and easy.


As with all lasers in the TruMark series, the convection air-cooled TruMark 3010 benefits from a modular and compact design.

 The TruMark 3010 from Trumpf

Scanner, laser head and power supply are connected via a hybrid cable so that the marking laser can be easily integrated into existing production systems.

For users needing to conserve space or needing a mobile marking system, the TruMark 3010 can be combined with the TruMark Station 1000 and TruMark Station 5000 workstation.

Trumpf – USA
Website: www.us.trumpf.com



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Induction heating equipment

In the field of pre-heating, heat treatments and welding processes, Seit Elettronica offers HF and MF induction heating equipment.

Induction heating is highly repetitive once initial adjustments are made to the power supply. Following this phase, part after part can be heated with identical results, so long as the parts are introduced to the coil similarly each cycle. This can also lead to better material utilisation and product yield.

The ability of induction heating to heat all parts identically lends itself to automation of the process. Induction heating can also heat the part in a highly localised fashion, which can be beneficial when it is desirable or necessary to limit the heat to only a certain region of the part.

The location of the desired heat zone can be defined to a specific area on a workpiece in order to achieve accurate and consistent results. Induction heating equipment is instantly on, which means it requires no warm-up time, unlike conventional heating

sources. Induction heating systems are also energy efficient.

With the development of an induction coil combined with the specification of the proper power and frequency, the user can isolate or pinpoint a heat-zone, small or large, without affecting surrounding areas.

The result is minimal distortion in the part being heated, yielding higher quality production. Additional infrared temperature control devices can be added for further control of the process.



Seit Elettronica manufactures induction heating equipment

Seit Elettronica Srl – Italy
Fax: +39 0423 975785
Email: info@seitelettronica.it
Website: www.seitelettronica.it

Launch of first 3-axis-lump detector for transparent products

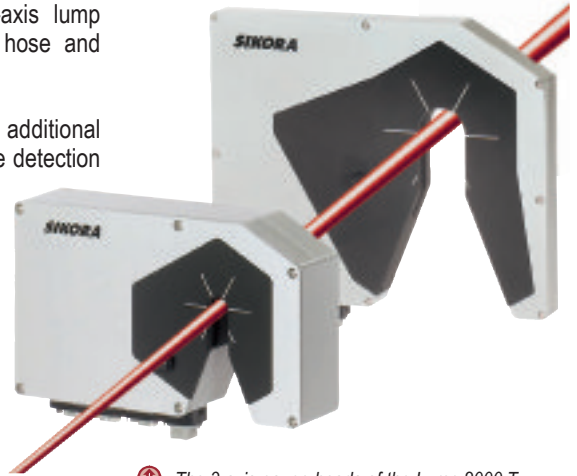
Sikora AG, Germany, has revealed its latest measuring innovation with the launch of the 3-axis lump detector for transparent products, branded Lump 2000 T. This follows on from the successful measuring performance of the 2- and 3-axis lump detectors used already during hose and tube production.

The Lump 2000 T offers an additional future-oriented technology for the detection of lumps and neckdowns in transparent materials, in particular for the production of medical tubes. The gauge heads are available for product diameters from 0.25mm to 10mm together with 0.5mm to 35mm.

The heart of the new lump and neckdown detector is the technically advanced double sensor technology. By means of light sources in combination with light sensors the Lump 2000 T detects (in 3 planes) the quantity, type, height, depth and length of the fault. The system defines punctual non-conformities in the product surface – even at production line speeds of up to 3,000m/min.

The result of this technology is that even the smallest lumps and neckdowns of 0.01mm are detected and analysed by the Lump 2000 T with constantly high probability. Under difficult conditions such as extreme vibration the lump detector ensures reliable

readings at the fault detection. As there are no moving parts included in this technology there is also no need for calibration or maintenance.



The 3-axis-gauge heads of the Lump 2000 T series reliably detect lumps and neckdowns

The Lump 2000 T offers diverse interfaces such as RS485, RS232 for PC diagnosis. Other options are available including a Profibus-DP, EtherNet/IP or DeviceNet-interface for the direct connection to a PC.

Also available are the display and control devices Remote 2000 and Ecocontrol 600.

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- Friction saw blades
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- Circular knives
- Services

Advanced feed system

The Advanced Feed System from Scotchman Industries, USA, is designed to increase productivity, decrease set-up time, reduce operator error and eliminate waste.

Scotchman president, Jerry Kroetch, explained, "The Advanced Feed System, coupled with a Scotchman circular cold saw, turns your semi-automatic machine into a fully automated production machine. It is really easy for any operator to enter

cut lists into the controller. Next, secure the material in the indexing clamp and hit start. That's all there is to it. The Advanced Feed System automatically moves and clamps the material into position then cycles the machine."

Operators can either manually enter dimensions into the controller or pull a cut list directly from the controller. Powered by TigerStop, this programmable controller

stores up to 99 programs. Another option is downloading cut list information directly from PC, which speeds production and reduces the chance of operator error.

One-off cuts are achieved by keying in the desired cut length in inches, fractions, or metric, and pressing start. The automatic stop moves to position. Mr Kroetch claimed, "The Advanced Feed System will cut production time in half, virtually eliminating set-up time. Now, operators no longer need to use a tape measure or set and adjust manual stops."

The system can be used as a programmable stop system or a fully automatic programmable push feed system with the optional material clamp. Scrap can be eliminated by using the optional optimising software.

The user can pull out any piece of material, even scrap material, and enter the clear stock length into the controller, and the system will calculate how to best optimise the material for the highest yield.

Scotchman Industries, Inc – USA
Fax: +1 800 843 5545
Email: info@scotchman.com
Website: www.scotchman.com

Scotchman's CPO 350 PKPD cold saw with Advanced Feed System



3D tube measuring technology

The production of tubes is shaped by narrowing tolerances and, as a consequence, very precise inspection equipment with high measuring repeatability is required to control the production in a reliable way.

AICON has reacted to this demand and launched the new camera-based 3D tube measuring system Tubelnspect HS.

Basic elements of AICON's Tubelnspect system have been redesigned. For measuring the tubes, Tubelnspect HS uses ten digital cameras with higher resolutions. Moreover a spatial reference point field made from glass, being especially stable with respect to shape and temperature, is located in the measuring cell. Thus the measuring system can resort to reference points in different spatial planes, which leads to a more precise measurement of the tube geometries. Also in terms of the software, basic changes have been implemented. Tubelnspect HS makes use of AICON's new software version 4.5 with an improved algorithm for higher measuring accuracy.

Dr -Ing Werner Boesemann, AICON's president, explains the added value of the new Tubelnspect system: "Let's take a closer look at an injection pipe. This pipe must fit exactly into the available installation space

– and this space becomes more and more confined. Furthermore, the connectors of the tubes have to be very accurate because it is not possible to compensate any deviation from the target geometry during assembly in case of such an inflexible and short pipe. This is the reason why the tolerances for injection pipes are getting smaller. With Tubelnspect HS it is possible to inspect the geometric features of these pipes with the required precision and in a reliable way. This is impossible with traditional measuring methods such as coordinate measuring machines."

Tubelnspect HS achieves precision (of up to 50µm) and repeatability. The measuring results can be documented clearly, using graphical reports.

Tubelnspect allows for the measurement of any tube geometry independent from surface colour or texture, while Tubelnspect HS measures tubes with diameters ranging from 2mm to 100mm. The measuring range of the system is 1,080mm x 980mm x 500mm.

AICON 3D Systems GmbH – Germany
Fax: +49 531 58000 60
Email: info@aicon.de
Website: www.aicon3d.com

New generation belt sander for pipes

Suhner, a leader in metal surface finishes and treatment, has launched the UTG 9-R belt sander for pipes.


The sander is compact and strong, with a drive power of 1,000 Watt, and is easy to handle, ergonomic and simple to use.

The UTG 9-R can be wrapped around pipes thanks to an adjustable tilting contact roller, with a maximum 220° contact without the

risk of overheating or loss of heat in the case of thin-walled pipes. The belt sander can be used on pipes ranging in diameter from 20 to 70mm.

The new product is designed and built to ensure safety. Access to the open abrasive belt is only possible inside the work zone.

The rest of the belt is covered, to protect against accidental direct contact.

 Suhner's UTG 9-R belt sander in action



Belts have the unfortunate characteristic that they draw dust with them as they return after sanding, and then release this dust into the surrounding area via the transmission rollers. This problem has been eliminated by the virtually complete protection of the abrasive belt.

Suhner Italia Srl – Italy
Fax: +39 035 225 965
Email: info.it@suhner.com
Website: www.suhner.com

Pipe cutting and facing machine with outside clamping

Protem Sas, France, has launched the CTA series of pipe cutting and facing machine with outside clamping. The CTA model is designed for production or prefab workshops. It allows cutting and bevelling tube sections at the right length.

Cutting is square and the bevel angles are very precise. The machining capabilities are straight cut, 30° bevelling with land, and double bevelling at 37.50°.

The cold machining process gives a clean surface finish and does not affect the material features of the pipe.

A unique machine, it allows cutting and bevelling of various tubes. The standard machine ranges are 2-12" OD (60-323mm) with a wall thickness of 4-18mm (carbon steel) and 4-15mm (stainless steel); 6-16" OD (168.3mm to 406.4mm) with wall thickness of 4mm to 25.4mm (carbon steel and stainless steel); 12-24" OD (323.9mm to 610mm) with a wall thickness of 4mm to 25.4mm (carbon steel and stainless steel); and 16-30" OD (406.4mm to 762mm) with a wall thickness of 4 to 25.4mm (carbon steel and stainless steel). The dimensions of the wall thickness for the biggest three ranges are dependent upon the bevel form and angle.

The machine operates with an effective cutting principle, which involves a stationary tube. The tube is immobilised in the outside clamping systems. The tool bits mounted on the rotating plate are put into rotation around the tube in order to perform the cut.

The feed and back up of the tool bits are achieved entirely mechanically during the rotation of the tool holder plate.

While cutting, the machine performs bevelling on both ends. This radial cutting principle does not allow any counterboring or deburring.

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Multi-roll straighteners for tubes

ASMAG, Austria, a supplier to the steel and non-ferrous metals industry, has developed a unique, new generation multi-roll-straightening machine for steel tubes for Wiederholt GmbH, Germany.

The 10-roll-straightener – branded type RRM-pro 125/420/10 – is working up to a maximum tube outside diameter of 125mm and line speed of 180m/min.

To achieve the best accuracy in straightness, a new drive system was developed to reduce the roller centre distances to an absolute minimum. Moreover the individual high efficiency AC servomotors enable roll wear compensation and high dynamic process control.

A further feature of the machine is the identical design of the vertical and angular adjustment of all ten rollers. In association with additional adjustments on the inlet and outlet troughs the 1st and the 5th pair of rollers can be fully integrated in the tube bending/ovalisation process. The centreline of the machine can be changed. The vertical adjustment of each roller is

performed by hydraulic cylinders controlled by servo valves; each roller is limited in load by limiting the pressure in the hydraulic cylinder. Together with direct measuring by absolute encoders, clearances in the system are eliminated.

With the new straightening mode 'Realtime Setting', adjustments are not restricted to the time period before and after a cycle. This mode has already been proven on the ASMAG 2-roll-bar straightening machines and allows adjustments during the straightening process in real time.

This mode also enables different settings for tube rear end, front end and the remaining tube if necessary. For this purpose the drives of the high dynamic controlled vertical and angular adjustments of the rollers are designed and calculated to suit the most challenging straightening loads.

ASMAG's aim was to establish the pioneering technology of tube straightening machines, which meets with ASMAG's general philosophy in developing its machines.



Multi-roll straightening from ASMAG

Mr Johann Vielhaber, managing director of ASMAG, commented, "As a leading supplier it is our challenge to set new standards in tube processing."

The straightening machine is part of a fully automatic drawing line for welded tubes, incorporating pointing, drawing, tube rear and front-end cutting, straightening, ultrasonic/eddy-current testing and multiple cutting equipment.

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Better gas flow with laser cutting system

Precitec, Germany, has developed new technology that significantly increases the gas flow rate through the cutting nozzle while keeping constant cutting gas pressure.

In several cutting trials, the company has successfully combined ceramics and nozzles in its cutting system to achieve longer operating life and lower cost.

The new KT B Con ceramic part and nozzles have no 'hard edges' and have a conical geometry. Thus the cutting gas pressure can be significantly reduced whilst giving the same cutting edge quality. In addition, there is a reduction of the input pressure directly on the processing head.

Trials have shown that more accurate cuts can be produced efficiently with the laser. Productivity is better because an optimum process depends on gas flow. Minimum turbulence ensures little flow resistance, improves cut quality and reduces wear.

Field tests with the new, considerably cheaper design have also shown an increased working range for the focal position. Dirt on the focusing lens and the associated focus shift can be detected with the larger process window and increase the operating life of the optics.

In particular, CO₂ cutting heads without a protective window can lead to considerable cost advantages.

Nick GmbH is one of the companies to have tested the new ceramic and nozzle combination on its laser cutting systems.

The company processes aluminium, steel and stainless steel pipe, sheet metal, special profiles and standard parts for the office furniture industry, shop fitting and medical technology.

Mr Philipp of Nick GmbH states, "We have noticed that the operating life has been longer in spite of signs of wear. This has led to better error tolerance when cutting and to a larger process window. We had to replace the parts earlier before. The new ones can be used longer and still give the same cutting quality."

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Innovative hardness testing in micro and macro ranges

Hardness testing is highly complex, with a number of different testing methods used for a wide range of materials. Zwick, Germany, offers two innovative hardness-testing instruments that combine universal application and easy operation.

The ZHV1 fully automatic micro Vickers hardness testing instrument is used for automatic series and hardness profile tests. The instrument's fully automatic operation saves time and minimizes operator error.

The image analysis integrated into the testXpert® testing software automatically measures the hardness indentations. Control, evaluation and transfer for further processing by quality assurance systems are also handled by testXpert.

One outstanding feature of this advanced hardness tester is enhanced indentation and sharpness identification, with different surfaces at any magnification. Automatic indentation measurement has also been further improved, even with difficult surfaces, while hardness profile tests with multiple sequences are now also possible.

The ZHV1 micro Vickers hardness tester covers a wide range of applications. These include determination of case-hardened depth CHD to DIN EN ISO 2639, determination of the conventional depth of hardening after surface heating to DIN EN 10328, and determination of the effective depth of hardening after nitriding to DIN 50190-3.

The instrument's advanced features make it a highly effective testing instrument, particularly in the metals industry (steel producers, steel suppliers, hardening shops).

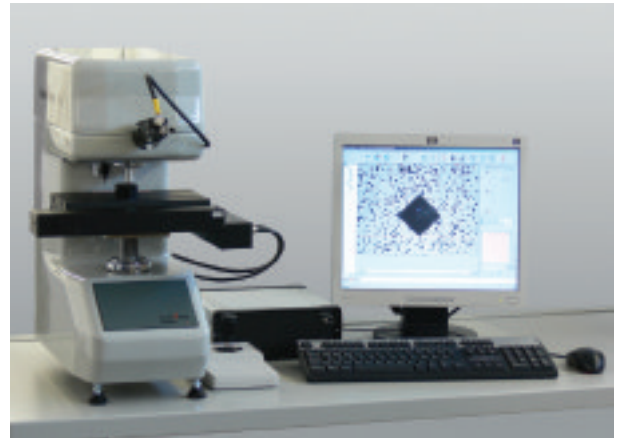
It is also ideal for tests in the automotive and aerospace sectors and in research by universities, institutes and government organisations.


The latest developments in Zwick's ZHU/zwicki-Line provide a unique, innovative system for classical and instrumented hardness testing. This fully automatic universal hardness testing system covers the Vickers, Knoop, Brinell, Rockwell, ball indentation and instrumented indentation methods.

The ZHU/zwicki-Line for instrumented indentation testing in the macro range covers a range of applications. It features hardware and electronics tailored to the requirements of hardness testing, guaranteeing high reproducibility. In addition to instrumented indentation tests to determine hardness and other material parameters, the ZHU/zwickiLine can perform all the classical hardness testing methods used for metals.

The testing system records the load-indentation depth curve to provide additional material assessment. The instrumented indentation test includes elastic and plastic deformations in order to obtain the elastic and plastic material characteristic values.

The core of the testing system is a hardness measuring head, which contains the measuring systems for test load and indentation depth plus an indenter with hold-down device. This unit is motorized in accordance with the trend for increasing



 ZHV1 micro Vickers hardness tester is used for automatic series and hardness profile

automation and reduction of operator influence. Indentation setting, microscope positioning and optical measurement of the indentation are all performed completely automatically.

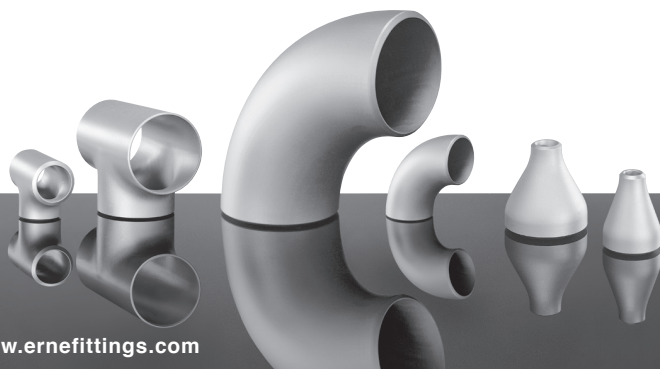
The range of compound (XY) tables has also seen further improvements in support surface area, test load and travel. The new motorized tables are designed for test loads up to 250kg and have travel ranges up to 150mm x 50mm.

As a result of these innovations the range of applications covered by the ZHU/zwicki-Line has been expanded to include fully automatic Jominy testing to ISO 642 and ASTM 255.

In the end-quenching test (Jominy test) the hardness of steel is determined by performing a hardness profile test with the Rockwell (HRC) or Vickers (HV30) method on a prepared specimen.

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Graphite and carbon powders

Timcal Graphite & Carbon manufactures high-grade graphite and carbon powders, and places an emphasis on the development and end-user application of lubricants and scale treatment agents of hot metal forming processes. These activities fall into three categories: products, application equipment and technical services, collectively forming Timcal Rollit Technologies.

To withstand the high pressures, temperatures and friction during the rolling process, as well as for ecological reasons, the company's mandrel bar lubricants are based on high-grade Timcal graphite, selected organic and inorganic additives and water. They can be supplied in either powder or liquid form.

The Timcal Rollit EZ range features products for treating scale in shell interiors and/or for lubricating shells. The products are supplied in powder form, based on mixtures of Timcal graphite and special organic and inorganic salts.

The company's forging lubricants are designed to improve metal flow, increase

tool life and quality, and lower rejects or improve yield in the forging industry, and are produced with Timcal graphite and ecologically safe inorganic and/or organic additives and water.

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Italian rolls

Comesa Srl is an Italian company with experience and expertise in steel processing and heat-treatment techniques, specialising in the manufacture of steel rolls and wear-parts, and providing a complete in-house production service.

The company produces rolls according to customers' drawings in forged steel,

heat treated to specified depths, chromium plated if requested, and finished ground, ready to be placed on the machine.


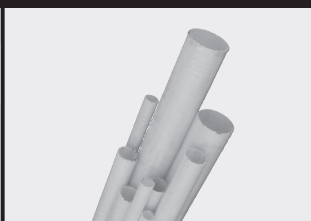
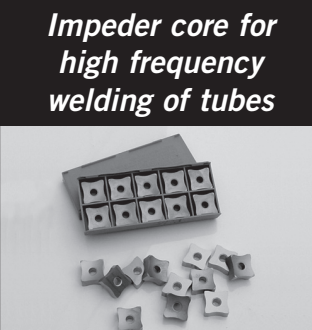
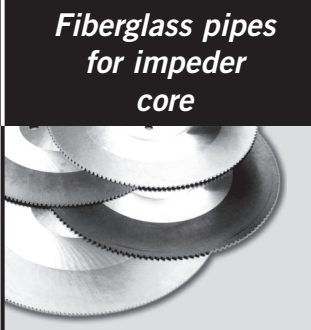
The main products in the field of pickling, galvanising and painting lines are: rolls for levelling and tension-levelling machines; rolls for straightening and flattening machines; rolls for descaling machines; processor/deflector rolls; pinch rolls; and bridle rolls. All of these are produced from quenched and tempered alloy steels, hardened and ground, and finished completely in accordance with customers' applications, technical specifications and drawings.

The company also manufactures work and back-up rolls for hot and cold plate leveller machines, manufactured from alternative steel grades, depending on the application and on the working temperature of the machine. Comesa's range also includes form rolls for straightening rounds, flats, rolled sections, pipes and tubes from tool, high-speed or powder metallurgic steel.

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Progress Through Co-operation

Mini tube rolling plant

EZTM JSM, a leading manufacturer of equipment for metallurgical, blast furnace, mining and cement industry, has developed a high performance, lower energy-intensive, automated plant. The technological process is based on piercing a billet and rolling-off a shell in a 2-high mill with guards followed by a sizing-straightening process in a 3-high screw rolling mill.



The new mini tube rolling plant

The plant is defined by high automation of all mechanisms, which, in combination with transfer devices, form a complete processing line. Piercing process hourly rate is 38.3 tons per hour. Rolling-off process hourly rate is 30.7 tons per hour. Piercing maximum time is 18 seconds. Auxiliary operations time is 10 seconds. The section is handled by a team of eight people per shift.

It is possible to perform both processes in the same mill after single heating by returning the pierced shell to the entering side and simultaneously substituting a piercing mandrel with a rolling one.

Sizing of the billet by diameter is in the 3-high screw rolling mill under 12° feed angle and diameter reduction up to 5%. It allows combining sizing and straightening operations.

The mini tube rolling plant has been installed at Vyksa Steel Works, JSC.

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Brazil's CESVI awards highest automotive rating to Powermax30

The Powermax30, a plasma arc metal cutting machine from Hypertherm, has received a five-star rating from CESVI Brazil, a member of the Research Council for Automotive Repairs (RCAR). RCAR is a worldwide organisation whose primary activity is concerned with the engineering aspects of accident repair, safety, and training requirements associated with motor vehicles.

The Powermax30 underwent a battery of tests designed to gauge the unit's reliability, efficiency, and functionality before receiving the 5-star rating. The unit is claimed to be the first and only plasma arc metal cutting system to achieve 5-star CESVI certification.

The Powermax30 has a recommended 6mm cut capacity, although the unit is capable of severing metal twice this thickness. During testing, judges noted several design and performance features that make it particularly well suited to automotive applications.

Leading features include easy controls, safety interlock, tapered torch for working

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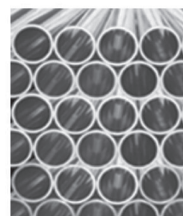
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in small spaces, and voltage converter for both 110 and 220-volt power. The machine has a compact design and weight of only 9kg for easy movement around crowded automotive facilities. In addition, there is excellent performance and consistent high quality cuts, and long lasting consumables that are quickly and easily replaced.

Judges found the Powermax30 to be a good value for the money, and the system passed all life tests and presented no problems with durability. The organisation even commended Hypertherm for its user's manual, which it found was written clearly and contained appropriate information.


Hypertherm designs and manufactures advanced plasma cutting systems for use in a variety of industries such as shipbuilding, manufacturing, and automotive repair. Its product line includes handheld and mechanised plasma systems and consumables, as well as CNC motion and height controls.

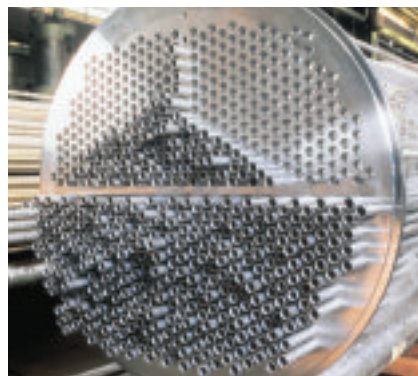
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New stainless steel material grades

Sandvik has introduced two new stainless steel grades, Sandvik SAF 2707 HD® and Sandvik Sanicro® 25.

Sandvik SAF 2707 HD is a hyper-duplex stainless steel, specially developed for service in highly corrosive conditions, such as seawater-cooled heat exchangers. It is particularly suited to aggressive, chloride-containing environments and displays excellent resistance to pitting and crevice corrosion, stress corrosion cracking and

 Sandvik Sanicro® 25, is designed for use in high efficiency pulverised coal fired steam boilers



general corrosion. At the same time, it has high mechanical strength and good weldability. Particularly aimed at the chemical, petrochemical and refinery industries, Sandvik SAF 2707 HD has been developed to meet higher industry demands on performance whilst maintaining the reliability and safety of equipment.

Sandvik Sanicro 25 has been developed for use in advanced ultra-supercritical coal fired steam boilers, destined for the next generation of power stations. Specially designed for reheater and superheater tubes, Sandvik Sanicro 25 is a creep resistant austenitic material that allows for material temperatures up to 700°C, helping to boost efficiency. The increased steam temperature contributes to higher efficiency, lower carbon dioxide emissions and reduced fuel consumption, helping to meet the environmental demands of the future.

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SHANGHAI YUEYUECHAO STEEL TUBE

Established in 1994, Shanghai Yueyuechao Steel Pipe Group mainly deal with seamless steel pipe, seamless square/rectangle steel pipe, large OD LSAW manufacture. The specification for LSAW of Shanghai Yueyuechao Manufacture Tube Co., Ltd is $\Phi 355-1422 \times 8-60\text{mm}$. The specification of cold drawn seamless steel tube for Jiangyin Yueyuechao Manufacture Tube Co., Ltd, ranges from $\Phi 6-426 \times 1-20\text{mm}$, hot expanded tube specification ranges from $\Phi 168-630 \times 4-60\text{mm}$. Quality standards are API/ASTM/GB/ISO/DNV/JIS.



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Tube and hose measurement of 6-point wall thickness and ovality

Sikora AG, Germany, has launched its new X-Ray 6000 Triax for 6-point wall thickness and ovality measurement including fault detection in hose and tube extrusion. The system offers 3-axis x-ray measurement and enriches the world of diameter, ovality and eccentricity measuring devices for the hose and tube sector.

The company's newly developed 3-axis x-ray technology is a complete innovation in the area of measuring performance. The X-Ray 6000 Triax continuously measures wall thickness and ovality at 6 points and detects non-conformities at the product surface and in the inner tube at the same time.



The X-Ray 6000 Triax detects defects between the vapour barrier and the inner tube

The hose or tube is transilluminated by x-rays. The measurement in three planes offers a 6-point wall thickness measurement. In combination with an extremely high measuring rate, defects such as bubbles between the vapour barrier (aluminium pipe) and the inner tube are detected during the production process.

In particular, composite pipes are often produced with 30m per minute. At a line speed of 30m per minute (ie 0.5m per second), the X-Ray 6000 Triax measures the tube at 100Hz every 5mm. This means that even the smallest blisters can be detected with reliability. In addition to wall thickness, the X-Ray 6000 Triax also measures product ovality with the highest precision because five points define an oval.

Within fractions of a second the operator continuously receives measuring values. Fast and reliable determination of the measuring values allows speedy centring of the crossheads and provides a permanent control of the line in consideration of the minimum value.



The X-Ray 6070 Triax with 6-point-wall thickness and ovality measurement as well as fault detection

Sikora offers the X-Ray 6000 Triax for product diameters from 6-65mm. The measuring values of the X-Ray 6000 Triax (ie wall thickness, ovality, eccentricity and inner/outer diameter) are numerically and graphically displayed on the processor system Ecocontrol 2000 on a bright 15" or 19" TFT colour monitor. Operation is menu-driven via a touchscreen, with the detected faults visualised on the display.



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Grades : ASTM-304, 304L, 316, 316L, 316TI, 321, 347, 202 and its equivalents in Din. & BS Standards

Carbon Steel & Alloy Steel Specification :
ASTM - A-53, A-106, A-179, A-192, A-213, A-210, A-33, A-334, A-335, P9, P11, P12, P22 etc. and its equivalents in Din. & BS Standards
O. D. : 6mm to 273.05mm
Thickness : 0.6mm to 12mm
Length : Upto 30 Mtr. Long Third Party Inspection



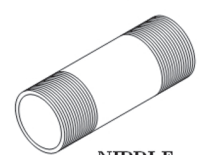
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Mobile : +91-9907988237 Email : info@slstubes.com

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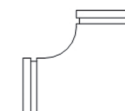
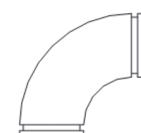

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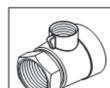

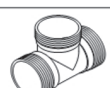







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Website: www.sikora.net

Automotive radiator leak test kits

During the manufacture and later repair of automotive radiator and cooler systems, together with their associated pipe/tube connections, it is necessary to test for leaks. Leak testing has been carried out in the past by random methods and the use of brass plugs that jam and become difficult to use after some time, because of the nature of the testing medium.

The Pipestoppers division of Huntingdon Fusion Techniques Limited manufactures test kits for the leak testing of all sizes of tubes, pipes and orifices associated with the manufacture and subsequent repair of radiators, coolers and intercoolers for cars and larger vehicles.

The kits have machine cut foam insert positions for the plugs so that they can be replaced after use to allow easy location for future requirements. Each kit contains a number of same-size plugs, covering the range from 0.5 to 2" (12-75mm). For commercial vehicles, the size range is 2.5 to 6" (75-150mm).

The plugs are manufactured from Nylon 6, a high quality engineering plastic that is resistant to the acidic and alkaline liquid environments sometimes encountered in such high volume testing applications. A natural rubber ring is contained between top and bottom plates located over a central threaded, hollow shaft. A wing nut screwed onto the shaft pushes the two plates together, expanding the rubber ring to fit the orifice to be sealed. A Delrin friction-free washer under the wing nut makes tightening and loosening very easy.

Huntingdon Fusion Techniques Limited – UK
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Email: hft@huntingdonfusion.com
Website: www.huntingdonfusion.com

Stainless steel and nickel alloy tubes

Tecnofar SpA, Italy, is a specialist in the manufacture of stainless and nickel alloy tubes. With advanced technology, the company has two production units, located in Delebio and Gordona, covering a total surface area of 7,000m².

The company produces redrawn precision tubes, both in bar and coil form, using the TIG welding process. The company offers a modern, well-equipped department for tube cutting and is able to produce cut pieces measuring just a few millimetres in length, completely burr-free.

Tecnofar can adhere to a range of dimensional tolerances, with a stainless

steel tube range of 0.3 to 76mm and wall thickness from 0.1 to 3.5mm.

These tubes are produced using stainless steels provided and guaranteed by leading steel mills.

ISO 9001:2000 accredited by Italcert, the company has been certified by RINA for its welding system and heat treatment for the production range of OD 6-19mm and wall thickness of 0.4 to 1.1mm.

Tecnofar SpA – Italy
Fax: +39 0342 684500
Email: info@tecnofar.it
Website: www.tecnofar.it


Circular saw blades

Tangshan Metallurgical Saw Blade Co Ltd, China, manufactures five types of circular saw blades, with more than 2,000 specifications, including metal hot-cutting circular saw blades (800-2,500mm), metal cold-cutting circular saw blades (300-1,600mm), TCT circular saw blades (300-2,200mm), HSS segmental circular saw blades (630-1,430mm), and diamond circular saw blanks (300-3,500mm).

Friction saws and TCT milling saws are widely applied for cutting seamless pipes and ERW pipes. Tangsaw products are also used for cutting steel sections (H-beam, I-beam, angle steel, channel steel, etc) and steel round bars.

The company states that Tangsaw is the first saw blade manufacturer in China to pass the ISO 9001 quality management system, and is applying for ISO14000 environment management system. In addition, Tangsaw has imported advanced manufacturing machinery and technology for producing the saw blades. This advanced equipment, such as a CNC TCT grinding machine, an automatic brazing machine and a laser cutting machine from Germany, as well as an automatic heat treatment line from Japan, are the support for consistent quality with high standardisation.



 Tangshan Metallurgical Saw Blade Co produces five types of circular saw blades

Tangsaw cooperates with universities and institutes such as University of Science and Technology Beijing, and Shandong University, for technology research and product innovation. The company has researched and developed several series of products, such as CNC profiling circular saw blades, energy-saving metal cold-cutting circular saw blades, aluminium cutting TCT circular saw blades, TCT circular saw blades for oil steel pipe, and large-diameter ultra-thin circular saw blanks.

Tangshan Metallurgical Saw Blade Co Ltd – China
Fax: +86 315 2053342 • **Email:** i-sales@tangsaw.com.cn
Website: www.tangsaw.com.cn

ZX88 hoist for safe lifting

At 25 tonnes safe working load, the ZX88 is the largest model in Street Crane's ZX6-8 range. This unit follows the same design principles as other hoists in this series with unitary construction, open plan design and standardisation of components. This ensures easy customisation to meet different end user lifting needs.



With a lifting capacity of 25 tonnes safe working load, the ZX88 hoist is the largest model in the Street Crane ZX6-8 range

Applications for the new hoist will arise in basic metal production, metal and glass stockholding, general engineering, fabrication, machine building, automotive and aerospace industries. Advanced vibration analysis during development and intensive accelerated life testing have enabled Street Crane to produce a range of hoists that promise improved performance reliability and endurance.

Further development of the Street Crane hoist range continues. Based on the same design and engineering principles of the ZX6-8, the ZX10 is well advanced with a

launch planned in 2009. This will take the capacity of these new generation modular hoists to 50 tonnes SWL.

Street Crane also produces the custom built VX Hoist. This is a heavy duty lifting model for use in arduous and extreme conditions, available in capacities up to 200 tonnes SWL.

Street Crane Company – UK
Fax: +44 1298 814 945
Email: admin@streetcrane.co.uk
Website: www.streetcrane.co.uk

Ukrainian pipeline components

Research and Production Corporation Trubostal Ltd, Ukraine, manufactures components for pipelines of low-, middle- and high pressure, applied in the transportation of water, pulp, oil and gas, steam and hot water, and chemically aggressive substances.

Seamless fittings are available in ODs from 20 to 630mm; welded fittings in dimensions up to 1,420mm. Wall thicknesses range from 2 to 100mm.

The company's products include elbows (seamless, welded, stamped and welded, 30°, 45°, 60°, 90°, 135°, 150° or 180°); bends; reducers (concentric/eccentric, extruded, stamped and welded, welded, turned); tees (extruded, stamped and welded, welded, turned); angle joints (turned); and flanges (stamped and turned). Enamelled and galvanised elbows can also be supplied.

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High chromium alloy straightening rolls are widely used in cold and hot straightening towards seamless pipes, welded pipes, H-steel and other section steels. Applications in large-scale metallurgical enterprises in China, as Tianjin Pipe (Group) Corporation, Shanghai Baosteel Group, Laigang Group and Shougang Group, have proved that the technical level and service life of high chromium alloy roll has reached advanced world level. Being used in cold roll forming steel and welded pipe machines like 24" ERW butt welded pipes and 500mm rectangular pipes, high chromium alloy roll have been proved with its technical level and service life reaches that of products such as D2 and H13 of America, X155CrVMo121 of Germany, SKD11 and SKD61 of Japan. High chromium rolls have been supplied to more and more international customers and got good feedback.

Address: University Science & Technology Park of Jinan High-Technology Industrial Development Zone No. 750 of Shun Hua Road, Jinan, China.
 Postal Code: 250101
 Tel: +86-531-88876609 / 88876629 / 89701611 Fax: +86-531-88876693
 WebSite: www.cnsdsf.com Email: sdsf@vip.163.com

Laser cutting and bending technology

Caparo Tube Components Ltd (CTC), UK, manufactures a range of tubular components and assemblies, predominantly for the European automotive sector. The company secured two major orders during 2007 after BLM Group UK Ltd undertook to supply the necessary production equipment within acute delivery targets. The total investment amounted to £1.4 million, with 90% of the equipment and tooling being ordered from BLM.

To achieve its stringent quality and traceability objectives, CTC has put in place a manufacturing sequence that extends from the supply of steel strip and steel tube production in the adjacent Caparo Precision Tubes, to tube bending, forming, laser profiling, welding, press work, machining, finishing and assembly within CTC. In this way full traceability can be assured, and accreditation to the TS 16949 automotive industry standard means that components can be delivered straight to line.

The majority of CTC's output is delivered through manufacturing cells dedicated to specific customer projects. One example is fuel filler pipe assemblies. The main pipe cell comprises of a BLM E-Turn 40 all-electric left- and right-hand CNC tube bending machine and two BLM AST100NC CNC tube end forming machines. The 35mm diameter main fuel filler pipe is given a double bead form (hose connection) on the first AST100 and then bent to shape on the E-Turn 40 tube bender. The other end of the tube, which will become the main filler neck, is expanded on the second AST100 using three punches and rotary trimmed, using a unique 'swarfless' capability and/or rotary facing tool to remove the required 10 to 15mm trim length, before the tube end is curled over to form the cap lip.

A second manufacturing cell, consisting of a BLM AST25N multi-station tube end forming machine and a BLM Dynamo MR100E five-axis tube bending machine, produces the 15mm diameter breather pipe, with the first operation again producing a double bead form on one end of the tube prior to bending. End forming tools for other diameters and forms of breather pipe can

be pre-mounted if required, eliminating non-productive changeover time, while the mounting of different diameter tooling on the Dynamo tube bender also eliminates downtime when changing from one size of tube to another.

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

Coil joining machines

IDEAL-Werk's butt welding machines are used in the industry for joining the coil tail with the coil head being introduced. The material could be steel or non-ferrous metal band strips ranging in thickness from 0.35mm up to 2.01mm, and in width from 0.5mm to 60mm.

The range of products includes flash butt welding, MIG/MAG, TIG and plasma welding machines, as well as Microplasma machines for various band strip dimensions and materials in 0.2mm to 20mm thicknesses.



IDEAL coil joining equipment

The IDEAL coil joining laser welding machine features the latest technology for highly sophisticated applications,

as in the case of steel works, where the strip dimensions could range from 0.15mm to 6.5mm in thickness and have a width of up to 2,200mm.

Wherever a continuous and efficient workflow is required IDEAL-Werk can provide an economical solution. The company will be exhibiting at Tubotech in October.

IDEAL-Werk – Germany
Fax: +49 2941 206 169
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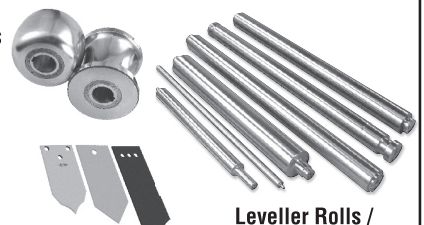
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Automotive

Connoisseurship not consolidation: BMW bucks an industry trend

The German luxury auto maker BMW is taking a contrarian approach to the challenges of the market. While Fiat and Chrysler join forces, BMW is going it alone, confident that premium cars from an independent producer hold perennial appeal for individualists with deep pockets.

"Do people want to differentiate themselves from each other?" The question was posed by Friedrich Eichiner, BMW's chief financial officer, during an interview with the *International Herald Tribune* at the Munich headquarters of the company. Mr Eichiner answered himself: *"I think so. That wish is there and it is enduring."*

The *Tribune's* Carter Dougherty pointed out that Mr Eichiner's "instinct" is up against some bracing realities in a period of austerity and greater personal savings — especially in the United States. ("BMW Puts a Premium on Independence," 7 May)

The *Tribune* noted that Fiat's chief executive Sergio Marchionne believes the successful car maker of the future will need to sell at least 5.5 million vehicles a year — far more than the 1.4 million BMW sold in 2008. In the view of the auto industry's "man of the moment," only that volume of sales will support development of the technology required to meet increasingly rigorous standards for fuel efficiency and emissions control.

Accordingly, the Fiat chief pursued a merger with bankrupt Chrysler, and may also pick up the European operations of General Motors. Mr Dougherty noted that, to many industry executives, "It is time for the premium manufacturers to consider similar moves, combining high-margin cars with economies of scale."

- But, to Mr Eichiner and other BMW executives, that business model ignores a major problem of large-scale operations: the punishing fixed costs of factories and workers that become a burden at less than full-bore production. The company chooses instead to rest its hopes in a smaller operation geared to discerning and affluent car buyers in Europe and the United States. Said Mr Eichiner, *"Size does not protect you from anything."*

Pipelines

The European Union moves closer to a start date for Nabucco, but Russia intends to fight its corner

An energy agreement signed 8 May by the European Union and Turkey aims to speed up the start date on construction of the 2,000-mile Nabucco pipeline, which would bring natural gas from the Caspian Sea to Europe while bypassing Russian territory. A prime consideration is the reduction of dependency on Russia, currently the supplier of some 20% of Europe's fuel needs. The EU hopes to be pumping first gas through Nabucco by 2014.

The agreement, signed by the leaders of Azerbaijan, Georgia, Egypt, and Turkey at a summit meeting in Prague, had hinged on

Turkey, whose cooperation is essential for the pipeline but which was brought only slowly to acquiesce in the transit rules hammered out by the participants. Turkey now allows that it is prepared to go ahead on the project. But President Abdullah Gul has made it clear that he expects to see some parallel progress on Turkey's stalled bid for membership of the European Union.

Kazakhstan, Turkmenistan, and Uzbekistan declined to sign the agreement, presumably out of deference to Russia, which views Nabucco as a potential geopolitical challenge. The recent decline in energy prices has weakened the Russian position somewhat, creating an opportunity that the Western partnership was poised to seize. If it materialises, the Nabucco pipeline could move some 31 billion cubic metres of natural gas annually, or up to 5% of consumption in the countries of the European Union. The cost of infrastructure has been estimated at \$12.2 billion, but that is not the sole challenge. Other steady and reliable sources of natural gas must be secured, beyond Azerbaijan; and the likeliest of these — Iran and Iraq — are problematic, to say the least.

- As reported by the Moscow-based daily *Kommersant* on 27 May, work is to begin this September on an Iran-Pakistan pipeline, with completion also projected for 2014. According to the newspaper, the Russian gas monopoly Gazprom is promoting the project on grounds that the diversion of Iranian gas to markets in South Asia would eliminate a source of competition with Russia as a supplier of gas to Europe.

Steel

Profile in preparedness: BlueScope Steel Ltd (Australian)

Steel demand will stabilise in the latter part of 2009, leading to a mild recovery in 2010, the World Steel Association predicted in April. As befits the world's biggest steel consumer, China has committed \$586 million to spurring domestic demand. Worldwide, individual producers are employing various interim strategies of their own. Both sets of initiatives — national and corporate — presume a recovering market. The companies recognize something else: the imperative to be in the best possible state of health when that market opens up.

Rebecca Keenan, writing from Melbourne on *bloomberg.net* (5 May), noted that steel makers from Europe's ArcelorMittal to Australia's OneSteel Ltd have taken advantage of a global stocks rally to sell shares this year, strengthening finances as they cut output and conserve cash. One such is Melbourne-based BlueScope Steel Ltd (formerly BHP Steel), an integrated producer with operations in Australia, New Zealand, Asia-Pacific, and North America.

Although global market conditions remain "challenging," BlueScope said in May that the decline in domestic sales volumes that was seen toward the end of 2008 had levelled out. The producer planned to raise as much as A\$1.4 billion (US\$1 billion) from its second share sale in three months. Its offer to existing stockholders was at a 40% discount to the last traded price. *"There is plenty of money around and they are taking advantage of that,"* the head of Australian equities at a brokerage house in Sydney told *Bloomberg*.

BlueScope also said it might delay restarting the Number 5 blast furnace at Port Kembla after a major relining was completed in June.

Its other furnace, Number 6, was operating at about 75% capacity, BlueScope CEO Paul O'Malley said. "We want to ensure there is sufficient demand to require us to run two blast furnaces, even if at minimum levels," Mr O'Malley told reporters in Melbourne. "What we don't want to do is turn on No 5 blast furnace and turn it back off again."

In the previous week the company said it saw signs that steel de-stocking cycles in China and the US, which have cut demand for raw material, are ending. Sales in Australia were steady through March and April though at a lower level than a year earlier, Mr O'Malley said. "The hardest question to answer is what is the right inventory level relevant to demand," he told Ms Keenan. "And at the moment we can't see out much more than a month. We think our de-stocking is well underway but still [has] some way to go."

Elsewhere in steel . . .

➤ Citing higher costs of materials and energy, AK Steel (West Chester, Ohio) has begun imposing a \$10 per ton surcharge on shipments of its electrical steel products. The company, the only full-line US producer of energy-efficient electrical steels, said it expected second-quarter shipments of its carbon, stainless, and electrical steels to be approximately 800,000 tons, slightly higher than in the first quarter.

➤ Seven American steel makers and the United Steelworkers union have filed a complaint with the US government accusing China of flooding the American market with subsidised welded and stainless steel pipe products. Companies filing the complaint, which centres on oil country tubular goods (OCTG), include Evraz Rocky Mountain Steel Mills (Pueblo, Colorado), United States Steel Corp (Pittsburgh), and Maverick Tube Corp (Chesterfield, Missouri). Spurred by Beijing's \$586 billion stimulus plan, Chinese steel makers are producing at an even faster rate than last year.

'Open Skies'

Labour issues complicate US-European moves toward cooperation on transatlantic air travel

The proposed combination of two separate joint ventures that would put Delta Airlines, of the US; Air France; and KLM in command of approximately 25% of total transatlantic capacity is not the only instance of US and European air carriers joining forces for cost- and revenue-sharing advantage. But such efforts have a chequered history. A pending bid by American Airlines and British Airways, now under study by antitrust examiners, demonstrates that such ventures are not launched quickly or easily.

American and its partners argue for antitrust immunity for their alliance (oneworld) on grounds that two competing alliances already have it: Star (composed of Lufthansa, United, and, beginning later this year, Continental) and SkyTeam (Delta, Air France-KLM). American also cites the "Open Skies" treaty, signed since a previous, failed, attempt at a BA-American alliance. The 2008 trade agreement that allows European and US carriers to offer international flights between their regions has lifted many restrictions and meant more vigorous competition at BA's busy Heathrow hub.

But Open Skies, created to foster US-European harmony, has brought its own complications to the transatlantic air lanes. The projected pairing-up of a US and an Irish carrier to outsource pilots on overseas flights — written up in the *Chicago Tribune* this spring — provides a case in point.

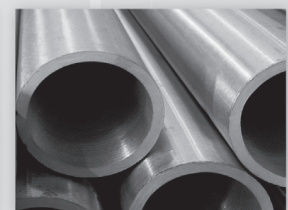
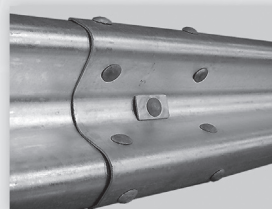
'Incendiary' labour issues

Tribune reporter Julie Johnsson observed that other US carriers and their unions were closely watching a venture conceived by Chicago-based United Airlines and Dublin-based Aer Lingus that would use non-union crews on new international flights. The move to outsource some flying between Washington-Dulles International Airport and Madrid was, she predicted, "likely to spark an uproar" when United next entered contract talks with its pilots. ("Clipping Union's Wings," 16 March)

As outlined by Ms Johnsson, the Europe-based partnership sees United as contributing marketing muscle and passengers from Dulles, its second-largest hub. Aer Lingus would contribute three new Airbus A330 jets and recruit pilots who are employees of neither airline. Service on the Chicago-Madrid route would commence in March of next year, with two other cities to be added in 2011.

Analysts consulted by the *Tribune* noted that the venture, if successful, could encourage United to seek partnerships with larger European players, including Germany's Lufthansa. With its implicit promise of lower labour costs, it would also serve as a model for other airlines. Most notably, the outsourcing of transatlantic flying threatens to diminish the powerful influence of unionised pilots in airline operations. This last aspect caused one aviation observer to describe the labour issues raised by the plan as "incendiary"

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to American airline workers. Nor would US limitations on foreign ownership apply, since the partnership is to be based overseas.

Ms Johnsson also posed the question whether such “potentially contentious and structurally awkward arrangements” are financially feasible. Aviation consultant Robert Mann commented, “It’s hard to imagine how this makes money.”

➤ The venture might also raise safety concerns, since it is unclear who would oversee the new airline. Brian Havel, associate dean and director of the International Aviation Law Institute at DePaul University College of Law, in Chicago, said that the regulatory framework “isn’t as airtight as it should be” in these issues. He said that the uncertainties here constitute “an entirely unintended and brilliant consequence of Open Skies.”

For its part, United Airlines considers the venture with its Irish partner viable; and, since Madrid is a market that United would not be able to serve on its own, that it would expand the American company’s global reach. The No 3 carrier in the US moreover dismissed any suggestion that underqualified pilots would be at the controls of the flights. A spokeswoman told the *Tribune*, “We and all of our partners meet or exceed all [US Federal Aviation Agency] requirements for flying commercial aircraft.”

➤ Ms Johnsson of the *Tribune* pointed out that the United-Aer Lingus venture is not an innovation. Major airlines worldwide outsource flying to smaller cities to regional carriers, which customarily hire pilots at the beginning of their careers to fly turboprops or jets with fewer than 100 seats. And, she wrote, “British Airways last year spun off OpenSkies, a subsidiary that uses new hires rather than unionised employees to man its all-business-class flights between New York, Paris, and Amsterdam.”

Energy

The growing emphasis on energy conservation at home and workplace benefits companies specialising in the reduction of heat load and electricity consumption. Here, from the US, is a pair of innovations of more than usual interest: skylights that leverage sunlight; and a method for the resale of vehicle battery power.

Tubular skylights

As described by James Duley of the *Detroit Free Press*, these “simple devices that rely on super reflectivity” transfer sunlight to an interior without the heat gain of ordinary skylights. Less expensive than standard rectangular models, the circular units are no more of a challenge to install. A tube with a reflective interior, typically 9 to 14 inches in diameter, is placed in an opening cut from the roof into the ceiling of the room below. So that no indoor air is lost, and to ensure against leakage, the tube is sealed tight. (“Tubular Skylight Saves Electricity,” 3 May)

The effectiveness of the tubular skylight can be gauged from Mr Duley’s warning that the daylight admitted can be *too* strong. Adjustable dimmer flappers may be needed for regulation. For tall roofs, extra lengths of reflective tubing can be installed to extend reflective power, although at a penalty to brightness. At 10 cents per kilowatt-hour of electricity, annual savings of about \$36 can be expected for a typical room in a residence. By way of comparison, the use of compact fluorescent bulbs saves about \$10 a year.

Companies offering tubular skylight kits include Solatube (Vista, California); Sun Pipe (Palatine, Illinois); and Sun-Dome (Riviera Beach, Florida).

Vehicle-to-grid (V2G)

Newark, Delaware, is the first US city to license a V2G recharging station, thus advancing a plan for enabling owners of electric cars to re-sell battery power to the national energy grid. Potentially, an all-electric-drive car needn’t merely charge up: it can also send billable power the other way.

In describing V2G, the *Christian Science Monitor* referenced the giant Eastern-states power grid PJM (Valley Forge, Pennsylvania), the world’s largest competitive wholesale electricity market:

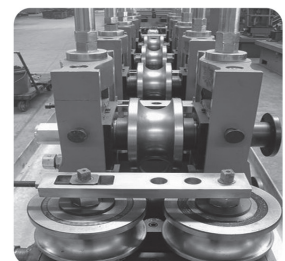
A computer inside the [V2G] car communicates with the grid. Through the connection, PJM can ask for extra juice from the car’s battery to balance fluctuating demand on the grid. The car’s dashboard computer checks the vehicle’s battery level and — if there is enough charge to drive home — can sell the excess energy back to the power company at a profit. (“My Ride? It’s a Power Plant,” 24 April)

For more than a decade, Willett Kempton, a University of Delaware professor, has promoted his vision of an electric-car owner plugging a cable into a socket just above the front bumper and earning \$1,000 to \$2,500 a year for power pumped back into the system. Now, Dr Kempton’s research and his test car have caught the attention of persons in high places, notably President Barack Obama who mentioned vehicle-to-grid cars during a TV appearance in April.




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Another fan is Jon Wellinghoff, the new chairman of the US Federal Energy Regulatory Commission, who in fact coined the expression “cash-back cars” and has said outright that the nation’s pending shift to renewable power will require a growing V2G fleet.

As noted in the *Monitor*, without a battery backup, fluctuation of wind and solar power throughout the day could destabilise the energy grid. Mr Wellinghoff, making a connection even more sweeping than vehicle-to-grid, declared, “[V2G] vehicles are a vital part of US energy security and our ability ultimately to provide for the economic stability of the country.”

Spotlight on: India

Trends in the information technology industry are transforming Indian-US corporate relations

Over the past year Atlanta-based Delta Air Lines, the world’s largest carrier, has been shifting customer service calls back from centres in India to its offices in the United States, and by the end of the first quarter had totally dispensed with its Indian contractors. Betsy E Talton, a Delta spokeswoman, told *Bloomberg News* (18 April) that the company has about 4,500 employees who take customer service and reservation calls. The outsourcing to India engaged about 6.4% of this work force.

Delta is the second big US carrier to have repatriated its customer service work from India this year. United Airlines did so in February. These changes, while specific to ticketing and related customer services, are reflective of a more general adjustment whereby American companies are resuming work that they had placed with firms in India.

A recent edition of *Forbes Asia* featured an interview with Pramod Bhasin, president and chief executive of the Indian outsourcing firm Genpact. He is also the new chairman of the National Association of Software and Services Companies (Nasscom), the influential advocate for India’s information technology industry. A few excerpts, lightly edited, from Mr Bhasin’s remarks to *Forbes’s* Naazneen Karmali provide an Indian perspective. (“India Outsources — to the US,” 10 April)

Q *Layoffs around the world have led to a backlash against outsourcing. How are you dealing with this?*

A *This is a big issue that we’re facing. When unemployment doubles in the countries that we serve it creates its own set of social pressures. People are sore about losing their jobs and that’s perfectly understandable. But our industry isn’t responsible for these layoffs, which have been caused by other factors. We’re working with governments around the world to make ourselves heard. We bring real value to global companies, and it would only hurt them if they dispensed with our services.*

Q *What is your strategy to address the protectionist wave in the US, your biggest market?*

A *There’s a lot of protectionist noise today, and our job at Nasscom is to [filter out] the noise. We should respond to the reality, not the rhetoric. American companies are not going to turn away from global intellectual capital. The US is always going to be our biggest market.*

Q *The restrictions on H-1B visas are very real aren’t they? [The reference is to quotas mandated by the Employ American Workers Act, a component of President Barack Obama’s economic stimulus programme. The limitations imposed on “specialty occupation workers” from overseas have drawn strong criticism in the US, notably from Microsoft chairman Bill Gates.]*

A *This absolutely is a concern, but we don’t want to over-react until we see what the actual legislation is. We can’t worry in a vacuum. We’ve met in Washington with the people concerned, and expressed our views. Any abuse of the visa system must be stopped, and Nasscom will help to do that. That said, I believe that we should be hiring in the US and thereby participate in its economic recovery. Several of our companies are already looking to create employment in the US. It’s the ideal time to get the best talent.*

Despite his concerns, Mr Bhasin retains his optimism. When asked what lessons might be drawn from the current economic downturn, he said, “*This is a good time for [Indian] IT firms to rethink their business model in light of the new economic realities. We must take a hard look at our cost base and the type of contracts we undertake. We should think about how we can diversify our portfolio so as to be less concentrated in the US market. Our companies are young and flexible so can change quickly.*”

In India, a proactive approach to bridging the gap between ‘educated’ and ‘skilled’

India is a country that values education, as demonstrated by the 3.2 million Indians who receive college degrees each year. The Confederation of Indian Industry (CFI) says that, of these, 25% of technical graduates and 15% of others readily find employment. But the recent boom in telecommunications, information technology, and related fields — huge as it is — will have absorbed all it can of that year’s crop of talent by graduation day. What about the others: those with college degrees but little or no job prospects?

According to the CFI, some 69% of unemployed Indians are educated but lack skills. Only 6% of the workforce holds professional certification other than an undergraduate degree. Addressing a recent New Delhi conference on linking education to employability, TKA Nair, principal secretary to the prime minister, interpreted the percentages. “*The stark reality is that our education system churns out people, but industry does not find them useful,*” said Mr Nair. “*The necessary development of skills is missing in our education.*”

Reporting from New Delhi, Rama Lakshmi of the *Washington Post* wrote that the Indian government acknowledges the skills gap and has an ambitious plan to boost the number of those holding professional certification to 12% of the workforce within five years. The goal is to be met by improving vocational training and encouraging cooperation between educational institutions and industry. (“India’s Business Schools Out of Date,” 3 May)

Indian industry has anticipated the government initiative. Over the past three years, the information technology and outsourcing giant Wipro (Bangalore) created several funds to finance grants, research scholarships, and sabbaticals for teachers in engineering schools. “*This is not philanthropy,*” Pratik Kumar, Wipro’s executive vice president for human resources, told the *Post*. “*If we don’t do this now, it will hinder the future growth of our industry.*”

Indeed, a recent report from the CFI and the research group Technopak (based in Gurgaon) suggests a more immediate threat, as “most [Indian] industries struggle to achieve their growth targets because of a shortage of skilled labour.” It was noted that some companies have even begun hiring skilled blue-collar workers from abroad. The report recommends the creation of “skill councils” for different industries that would track data, set standards, and design training curricula.

- Ms Lakshmi pointed out that India’s expected “demographic dividend” of a greatly expanded working-age population, while the envy of China and Japan, only intensifies the country’s skills-gap problem. In a report last year, the Finance Ministry warned that the growing workforce must develop marketable skills — and fast. Otherwise India could face a surplus of educated people and a shortage of qualified workers as labour requirements continue to shift from agriculture to industry.

Even as immigration from Mexico drops 25%, the US steps up its effort to thwart illegal border crossings

While an overqualified populace was becoming a worry-point in India, the US has grappled with a personnel problem of a very different sort: illegal entry into the country across the porous border with Mexico, for which smugglers reportedly command a fee of \$3,000 to \$5,000 per person. Ranging from harsh to ludicrous, efforts to stem the traffic have been strikingly ineffective. Now, to judge from census data from the Mexican government, it appears that a solution to the problem may have been quietly developing — for reasons that give scant satisfaction.

The recently released data show that the number of Mexicans emigrating to other countries in the year through August 2008 declined 25% from the previous 12-month period. Almost all of this emigration, both legal and illegal, is to the United States. From Mexicali, capital of the Mexican state of Baja California and located some 40 miles from the border with the US, Julia Preston of the *New York Times* reported on the “extraordinary decline.”

The Mexican-born population in the United States grew steeply year after year since the early 1990s — dipping briefly only after the World Trade Center attacks of 11 September 2001. According to Mexican and American researchers consulted by Ms Preston, the reversal of the trend is attributable largely to the current scarcity of jobs north of the border. She wrote, “The trend emerged clearly with the onset of the recession and, demographers say, provides new evidence that illegal immigrants from Mexico, by far the biggest source of unauthorised migration to the United States, are drawn by jobs and respond to a sinking labour market by staying away.”

One of the *Times*’ respondents is Jeffrey S Passel, senior demographer at the Pew Hispanic Center, a nonpartisan research group in Washington. Mr Passel was even more emphatic. “If jobs are available, people come,” he said, “If jobs are not available, people don’t come.” (“Mexican Data Say Migration to US Has Plummeted,” 15 May)

This is not a startling proposition but a piece of logic to which anyone would assent. The novelty is a tight job market as an instrument of immigration control, as demonstrated by a sharp decrease in illegal movement across the border.

“The signs of the drop-off are subtle but ubiquitous,” Ms Preston wrote from Mexicali. “Only two beds are filled in a shelter here that houses migrants hoping to sneak into the United States. On the American side, near Calexico, California, border patrol vans return empty to their base after agents comb the desert for illegal crossers.”

- Mexicans account for 32% of immigrants in the US, and more than half of them lack legal status, the Pew Center has reported. What does the pending alteration in these demographics mean for the “virtual fence” along the border? Planning for this element of the Secure Border Initiative, launched in 2003 during the George W Bush administration, included the deployment of thousands of new border agents and the construction of hundreds of miles of physical walls.

After years of delays and false starts, construction of the \$6.7 billion virtual fence began in May. The first phase — a network of towers rigged with cameras, sensors, and communications equipment — will cover about 23 miles south of Tucson, Arizona. Within five years, American officials said, the fence is expected to extend along the entire 2,000-mile border with Mexico except for some 200 miles in the area of Big Bend National Park in Texas, a stretch that is to be considered later.

The Customs and Border Protection official heading the project said a section of the fence could be in operation by year’s end.

Dorothy Fabian, Features Editor (USA)

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TUB TECH

2009

5th International Tube, Fittings
and Components Fair

6-8 October 2009

In the first week of October, tube and pipe professionals will be streaming back to São Paulo, Brazil, from all points of the compass for the 2009 edition of Tubotech — the Fifth International Tube, Fittings, and Components Fair and the leading such event anywhere.

With all due respect to the glamour of Brazil, it represents a practical choice of venue, never more so than in this year of bracing economic conditions worldwide. For business people eager to look, listen, and learn, Brazil is the place to be. Indeed, a recent *Time* Magazine article made a good case for Brazil as the *only* place to be. (“The One Country That Might Avoid Recession Is...,” 5 March)

Writing from São Paulo, reporters Tim Padgett and Andrew Downie cited a recent study by the Paris-based Organization for Economic Cooperation & Development (OECD) indicating that, of 34 major economies, only Brazil may come to the end of 2009 without having suffered an extended decline in real gross national product. They noted that the country’s banks are well regulated and remain comparatively sound; the business-friendly Brazilian government is spending \$263 billion on tax breaks and infrastructure; and, while oil companies around the globe slash investment, Brazil’s state-run Petrobras is going ahead with a four-year, \$174 billion expansion plan.

“Brazil,” President Luiz Inácio Lula da Silva boasted to *Time*, “is riding the current crisis better than many developed countries.”

To be sure, the boom years of 5% growth and soaring exports are over. Industrial production is down. Particularly galling to proud Brazilians, the aircraft maker Embraer recently disclosed that the troubles of the air travel industry had reached it. This shining emblem of national prestige will be cutting almost one-fifth of its workforce.

Even so, Brazilians are optimistic — and with good cause. Exports have been diversified so as to reduce reliance on commodities. The government has launched a popular and successful effort to encourage entrepreneurs steeped in the country’s *bandeirante* (pioneer) character. Work is set to begin this year on the hemisphere’s first bullet train, which will link São Paulo and Rio de Janeiro. The largest and most populous country in South America commands vast natural resources and a large labour pool. As the region’s greatest economic power, Brazil is a leader to be conjured with.

A high note of Tubotech 2009 is the official participation, for the first time, of the Federal Republic of Germany. Brazil is Germany’s most important Latin American trading partner. There are 1,200 German-Brazilian companies providing jobs for some quarter of a million people, enabling Germany to make a significant contribution to Brazil’s economy. São Paulo has the largest concentration of German-owned overseas businesses anywhere.

This association reflects the overarching historical, cultural, economic, and political

ties between Brazil and the European Union, dating to 1960 or earlier. A European Commission communication to the European Parliament (“Towards an EU-Brazil Strategic Partnership,” 30 May 2007) emphasised the relationship by placing Brazil and the other Southern Common Market (Mercosur) countries of Argentina, Paraguay, and Uruguay high on the political map of the European Union. The first EU-Brazil Summit was held in July 2007, in Lisbon.

Messe Düsseldorf is justly renowned for site selection. Its decision to join and co-organise Tubotech in Brazil was so perceptive as to seem inevitable.

SHOW FACTS

DATE

6-8 October 2009

VENUE

Rodovia dos Imigrantes Expo Centre,
São Paulo, Brazil

SHOW HOURS

2pm-9pm

ORGANISER CONTACTS

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International Tube Association

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Email: info@itatube.org

Website: www.itatube.org



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Açokorte Indústria Metalúrgica e Com Ltda.....	Brazil	Khan Consultoria e Planejamento Ltda.....	Brazil
Aços Caporal Indústria e Comercio Ltda.....	Brazil	Krominox Aços e Metais Ltda.....	Brazil
Açotubo Indústria e Comercio Ltda.....	Brazil	Linsinger Maschinenbau GmbH.....	Austria
Alclare Pinturas Industriais e Anticorrosivas Ltda.....	Brazil	Losinox Ltda.....	Brazil
Aleusa Brasil Comércio de Máquinas Ltda.....	Brazil	Manchester Tubos e Perfilados S/A.....	Brazil
Alvenius Equipamentos Tubulares Ltda.....	Brazil	Manfred Reiner Röhren- und Stahlhandel GmbH.....	Germany
Apolo Tubos e Equipamentos S/A.....	Brazil	Marcegaglia do Brasil Ltda.....	Brazil
Asia Business Center do Brasil Ltda.....	Brazil	Marcoflan Indústria e Comercio Ltda.....	Brazil
Asthi Ind. e Com. de Mangueiras Ltda.....	Brazil	Meincol Distribuidora de Aços Ltda.....	Brazil
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BMG Aço Inoxidável Ltda.....	Brazil	Metalurgica Golin S/A.....	Brazil
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Farex Comercio de Maquinas Ltda.....	Brazil	Superfine Steel Aços Inoxidáveis Ltda.....	Brazil
Felifer Embalagens Indústria e Comércio Ltda.....	Brazil	Taglio Tecnologia Ltda – OMP.....	Brazil
Flacon Conexões de Aço Ltda.....	Brazil	TCA – Tubos e Conexões de Aço Inox Ltda.....	Brazil
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Genebre do Brasil Intermediações de Negócios Ltda.....	Brazil	Tecnotextil Indústria e Comercio de Cintas Ltda.....	Brazil
Gravia Indústria de Perfilados de Aço Ltda.....	Brazil	Ti do Brasil Importação e Exportação Ltda.....	Brazil
Grips Marketing e Negocios Ltda.....	Brazil	Triches Ferro e Aço Ltda.....	Brazil
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Helsten Indústria e Comércio de Facas e Ferramentas Ltda.....	Brazil	Tubos Ipiranga Importação e Exportação Ltda.....	Brazil
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Please note: exhibitor list correct at time of going to press – for updates please contact Messe Düsseldorf

Welding: Latest Developments and Machinery

“Three robots, equipped with arm peripherals and CMT (cold metal transfer) welding capability, carried out live demonstrations.”

The bulletin from the World of Industries industrial fair (WIN), held this year in February, in Turkey, arrested attention but disappointed expectations. The three robots, while talented otherwise, had not come to life in a hall of the Istanbul Exhibition Centre.



 Automated pipe welding with Pipe Kat (see page 82)

Their display of automated TIG (tungsten inert gas) welding of pipes on a dedicated orbital stand was impressive, and visitors to the booth received handy robot-welded pen holders as mementos of the encounter. But those who may also have taken away with them a vision of R2D2 creating perfect welds — continuously, untiringly, without instruction, urging, or supervision — may profit from a reality check.

The website of a prominent designer of robotic welding systems warns that “planning for the following contingencies needs to be completed.” To wit,

 Rafter's RT-9000 Weld squeeze box (see page 95)



- Installation of backup robots in the production line;
- Rapid substitution for inoperable robots;
- Redistribution of the welding [workload] of broken robots to functioning robots close by.

The message is clear — and very well understood by the providers of the equipment and products reviewed here. Welding is, was, and will always be a process requiring the highest degree of expertise at the man-machine interface.

Heat Affected Zone welding control

Thermatool Corporation has announced the release of HAZ (Heat Affected Zone) Control technology for high frequency tube and pipe welding.

Thermatool has developed a tool that helps operators understand the effects of frequency on the heat-affected zone of a weld.

Frequency is an important factor in weld quality. Controlling the frequency allows manufacturers to control the depth of penetration of the heat during welding. For example, decreasing the frequency increases the heat penetration for induction and contact welders. HAZ Control provides software where operators enter values such as intended speeds, ODs and wall thicknesses.

HAZ Control then uses a graphical interface to help the user understand how the different factors relate and provides a guide for selecting the best frequency to optimise their process.

If any changes occur – for example, an increase in mill speed – the HAZ Control suggests to the operator what changes should be made, changes to power or frequency, to maintain weld quality.

HAZ Control's software allows operators to store the settings once an optimum configuration has been established. Stored settings can be reloaded easily for future production runs.

The HAZ Control comes complete with a durable control cabinet, touch screen monitor, and all the necessary content for

linking HAZ Control with the Thermatool welder.

Thermatool Corporation – USA
Email: info@ttool.com
Website: www.thermatool.com


Inductotherm Heating & Welding Technologies Ltd – UK
Email: info@ihwtech.co.uk

 Weld control with Thermatool



New MicroTack™ welding function

A feature of Kemppi's 3-phase MasterTig MLS™ 3000 and 3003 AC/DC welding systems is the MicroTack™ function, available on the optional ACX control panel. This function has been specifically developed to tack weld carbon, stainless steel and titanium thin sheet components up to around 4mm thickness.

 MicroTack™ welding resembles spot welding in that it uses a high current pulse



MicroTack™ welding resembles spot welding in that it uses a high current pulse to create a low heat input to weld thin sheet materials and thin sheet to thicker sheet materials. This method of TIG welding is made possible by the advanced control technology used in the Kemppi power source, which creates a tailored current pulse that is both highly efficient and fast, a matter of a few dozen milliseconds giving the low heat input. The result is a clean, small tack weld, which is similar to a laser weld in appearance and characteristics, resulting in lower risks in burn through which would be found in traditional TIG welding of thin materials.

Although MicroTack™ welding is very fast and easy to use, it does not use any filler material and the heat input is low, so there is little tolerance for gaps, so precise joint

preparation and fit up is necessary. For example, for butt tacking a material thickness of 2mm, the gap must be less than 0.2mm.

This function can be especially useful for thin material welding applications in the chemical, process, oil, and gas industries as well as the pharmaceutical industry and food processing equipment manufacturing. Other features of this function are minimum material deformation due to the low heat input, consistent small tacks, which cannot be detected after the seam has been welded and the ability to be used with mechanised TIG welding.

MicroTack™ welding can also speed up the tack welding of thin gauge beams, which could be up to 13m long and tacks every 30mm with the number of welds being as high as 2000. Any increases in welding speeds can have a significant impact on reducing production costs.

Kemppi (UK) Ltd – UK
Fax: +44 8456 444 202
Email: sales.uk@kemppi.com
Website: www.kemppi.co.uk

Electronic vacuum tube technology

Emmedi is part of the international induction heating solution provider, SAET Group. The company has recently replaced solid-state HF welders from a competitor with its own HF Classic welder (electronic vacuum tube).

Electronic vacuum tube technology is used in many aerospace, medical and scientific applications, among others, and continues to be in high demand.

 Equipment from Emmedi, part of SAET Group



In recent years, Emmedi has reported several tube-making clients, in central and South America, switching back to the Emmedi HF Classic welder for its reliability (reduced downtime), and ease of maintenance (the machines can run with simple home-made inductors). Emmedi HF welders have a power range up to 1,200KW with a frequency from 150kHz to 850kHz.


The HF Classic welder is a class C oscillator grounded grid solution, short circuit proof, with patented ripper filter, variable frequency with a ratio 1:2 and with an MTBF of the electronic oscillator vacuum tube up to 60,000 working hours. The welding head is extremely compact, solving the space problems often experienced at the tube-mill line.

Emmedi – Italy
Fax: +39 011 9974328
Email: info@saetgroup.com
Website: www.saetgroup.com / www.emmedi.it

Pipe Kat® – orbital welding system

Gullco Pipe Kat automated pipe welding system with integrated wire feeder unit incorporates a 40IPM welding carriage design with quick action mounting for ease of installation.

The Pipe Kat is equipped with a linear oscillator with adjustable weave width and weld joint centreline adjustment; all electronic motorised functions incorporate jog settings.

 Automated pipe welding with Pipe Kat



The system has a main control box with 12 feet of umbilical and 27 feet of water hose electrode cable, a wire feed spool capacity of 10 lb, with a maximum wire speed of 791ipm and a wire size range of 0.8mm to 1.4mm.

Gullco International Ltd – Canada
Fax: +1 905 953 4138
Email: sales@gullco.com
Website: www.gullco.com

A single head to cut and join

TS 4.20 2D is a new plant designed to cut and join, by welding, sheets of different sizes.

The plant is equipped with a single special head to cut and weld. The sheet metal minimum size is 1,000x2,000mm, while the maximum size is 4,100x2,050mm; metal thickness can be from 1mm to 8mm. It has an automatic loading system, for a high degree of automation.

The production run consists of the following steps:

- Sheet metal automatic loading
- Sheet metal alignment and spot-drilling through a centring station
- Sheet metal translation by NC control multi-process
- Sheet metal blocking through a sheet pressing system
- Trimming by 2d laser cutting head
- Sheet edge approaching for perfect alignment
- Laser welding through the same laser head, controlled by Precitec LWN system
- Opening sheet pressing systems
- Welded sheet metal translation

Specifications of the TS 4.20 2D

Sheet metal final size maximum width	4,000mm
Sheet metal final size maximum length ...	20,000mm
Plant width	10,500mm
Plant length.....	32,000mm
CNC controlled axes.....	15

Specifications of the loading cell

Sheet metal minimum size	2,000mm x 1,000mm
Sheet metal maximum size	4,100mm x 2,050mm
Minimum thickness	1mm
Maximum thickness	8mm
Vertical stroke	500mm max
Horizontal stroke.....	5,000mm
Fixed table maximum load.....	15,000kg

At the end of the welding operation, the sheet metal with the new final sizes is ready to be moved to the next working stage.

As with other Tube Tech Machinery plants, TS 4.20 has been designed with FEM (Finite Elements Method) structural calculation programmes, which enable the dimensional characterisation of the structures and optimisation of strain and deformation related to the applied stress.

Tube Tech Machinery Srl – Italy
Fax: +39 030 7256 333
Email: info@tubetechmachinery.com
Website: www.tubetechmachinery.com

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www.somoproduzione.com

Ensuring girth welds are right first time

A new internal weld inspection system has been launched that inspects the internal size and shape of girth welds on pipes destined for use in deep sea subsea oil and gas applications.

The internal weld scanning tool, developed by UK-based company, Optical Metrology Services Limited (OMS), internally scans welds inside pipes – both visually and

dimensionally – enabling engineers to quickly and confidently assess the quality of the root weld.

In oil and gas pipes, the quality of the root pass of a weld is critical to the structural integrity of the girth weld. Oil and gas companies therefore have stringent inspection requirements for checking welds but few tools currently exist on the market that can perform this kind of work. Welding of clad pipe is especially challenging, and

requires accurate measurement of the weld area in order to ensure zero defects and to avoid the delay and cost of a weld cut out later in the welding process.

The technology can be deployed onshore and offshore at different stages of the pipe welding process. The tool can be used on corrosion-resistant alloy-lined pipe to identify sour (aggressive) ingress points, in both clad butt-weld and clad weld inlay applications. The tool can also be used to improve weld procedure development efficiency and to check the root weld and geometry before next passes are deposited. The technology provides similar uses in fatigue-sensitive applications (SCRs) where the pipe is subject to higher dynamic stresses.

The system can be mounted to a purge dam, with an integrated camera for positioning and inspection. Pipe can be inspected whilst it is being spooled onto a pipe laying vessel or during stalk fabrication/tie-in. Here, the tool is retrieved using a winch and wire system, with weld positioning controlled by a camera and precision motorised system.

Richard Gooch, director of technology at OMS comments: "We demonstrated the



Pipechecker internal weld scanning tool from OMS

Pipe End Closing Machine

Eliminates the need to weld separate caps!

Completely seals one or both ends of pipe!

Closes and seals pipes made from:

- Steel
- Stainless steel
- Aluminum
- Copper
- Brass

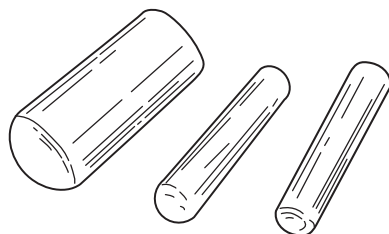
Pipe Specifications:

- Outer diameters from 10mm to 50mm
- Wall thicknesses from 1.0mm to 2.3mm
- Minimum pipe length of 100mm

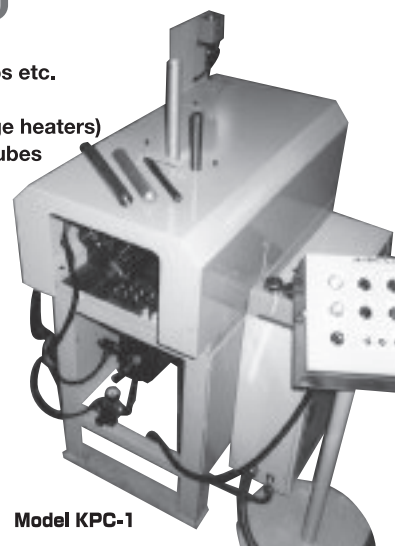
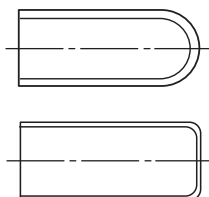
Applications include:

- Pipe display hangars
- Door handles, levers, grips etc.
- Tables, chairs
- Heater materials (cartridge heaters)
- Thermoelectric breaker tubes
- Gas appliance pipe

completely sealed pipe ends



curved or flat pipe ends

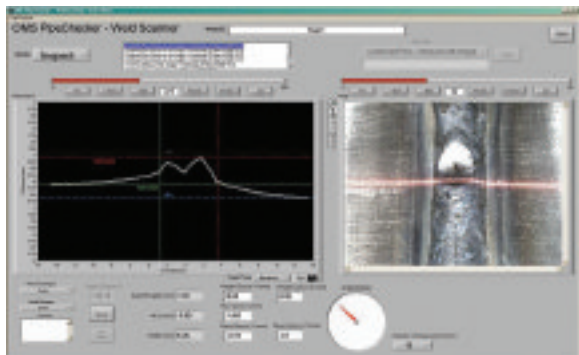


Model KPC-1

Contact **Kyoudo Engineering** for your wire, pipe, mesh, and spring machine needs. • Visit our website at: <http://www.kyoudo-engineering.com/>

Kyoudo Engineering, Co., Ltd.

1-13-7, Daido, Tennoji-ku, Osaka 543-0052, Japan
Tel: +81-(0)6-6772-7578 Fax: +81-(0)6-6772-2950



ⓘ Screenshot of OMS-provided software for weld scanning

internal weld scanning tool at the Offshore Technology conference 2009 and the response from visitors was very positive. What engineers really like about the tool is that it gives them complete confidence that the best possible review of the root weld has been carried out quickly and efficiently.

"It's all about giving the experienced weld inspector better tools with which to carry out the job. Our tool helps the inspector to better understand the correlation between the various welding process parameters and the resulting physical weld."

The OMS internal weld scanning tool comprises two main systems: a high quality digital colour camera with sophisticated optics and lighting, as well as a high resolution laser scanner.

The tool can be used to detect a wide range of weld features, including root penetration, root concavity, cracks, lack of penetration, discolouration, oxidation, surface porosity and burn-through. To ensure that all these features are detected, the scanning system measures a 25mm wide cross-section, with

complete profiles at millimetre intervals around the inside diameter of the pipe. The camera takes overlapping pictures around the pipe for review and archival.

Software provided by OMS enables the user to document and interpret these features, as well as measure the cross-sectional data. Scanning a typical 10-, 12- or 14-inch diameter pipe takes around 45 seconds in total. Once the automated scanning of the root weld is complete, the OMS software enables the user to identify the features of the weld and measure them.

Cross-sections around the weld, for example, can be chosen and the main features of the weld then measured.

The software also acts as a traceability tool. Inspectors can choose cross-sections around the pipe at regular angles and log any defects as they are found. The software automatically records all measurements, as well as typed comments from the inspector.

This information, including sample images and cross-sectional profile data, can then be archived. Logged data can be directly imported to Microsoft Excel as part of a weld inspection record.

Optical Metrology Services – UK
Fax: +44 8700 940014
Email: info@optical-metrology-services.com
Website: www.optical-metrology-services.com

School for fusion operators

Ritmo has created the Ritmo Fusion Operator school, to contribute to the training of highly skilled operators. The course has a focus on emerging markets where there are few, or no, institutional bodies, and where the plastic welding technology is still unknown or underdeveloped.

Courses are a combination of theoretical lessons and practical exercises, intended for novices and experienced operators who will have the opportunity to amplify and update their onsite knowledge.

Topics covered include butt-welding, electrofusion, extrusion, use of tools, data interpretation, set up and welding methods. Lessons take place at the Ritmo facility, and the school will also host courses at distributors' premises. A participation certificate is issued.

Ritmo SpA – Italy
Email: info@ritmo.it • **Website:** www.ritmo.it



Next Generation Orbital Welding Equipment



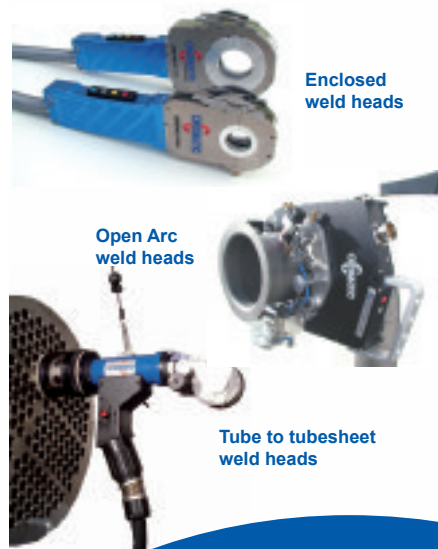
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www.orbimatic.com

Brazing solution

Total Brazing Mix™, from FSH Group of France, is a brazing filler designed for manual and automatic brazing without the use of flux.

This brazing filler metal is used in the automotive industry for aluminium units of heat exchangers in air conditioners, refrigerators, radiators and other heat exchangers.

The resulting advantage is a constant and regular filler metal deposit for a given ring diameter, without breaking the wire. This is an important factor for the user and assured by a constant wire to flux ratio during the fabrication of the brazing rings and other possible pre-forms.

The metal / flux ratio can be adapted according to the filler metal consumption requirements.

TBM 12 NC	Al	Si	Metal / Flux
Composition (%)	88	12	87 / 13

Traditional applications require first an application of flux paste then the wire or

rod. By combining flux and filler metal in a mix, the dispensing process is shortened, resulting in both time and monetary savings and assuring a higher quality of brazed joints.

A similar approach has also been adopted for other applications and alloys. Tubular brazing wires (TBW) and rods are made from seamless tubes of filler metal which permit no loss of flux and no moisture pick up.

Exhaust pipes in 304L have been brazed with TBW 5040 rings of 42mm diameter, a ternary silver brazing filler metal without cadmium. The rings are perforated with micro-pores in order to assure an immediate and homogeneous flux effect.

TBW 5040	Ag	Cu	Zn	Sn	Metal / Flux
Composition (%)	40	30	28	2	93 / 7

These new tubular brazing products, TBW, with a constant metal to flux ratio, have reduced waste of both materials in the production process and ensured a better quality of joints for automotive users.



① Pipes brazed to radiator fittings using Total Brazing Mix™

As a result of the non-corrosive fluxes contained in the brazing wires, there is no post-braze cleaning required, and therefore no waste water contamination, so decreasing the water treatment costs.

The new brazing filler has also been used in heating element and cutting tool applications.

FSH Welding Group – France
Fax: +33 381 605 790
Email: p.orbana@fsh-welding.com
Website: www.fsh-welding.com

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 Tel: 86-21-64079955 64079966 64079977 Fax: 86-21-64479922
 E-mail: yuanan@mail.online.sh.cn

Qineo® for manual and automated applications

The manual Qineo® Step welding machines from 180A to 600A are specially designed for use in industry and commerce. In synergic operation mode the welder can use the factory-programmed parameter settings (synergic characteristic curves) where, depending on the step-switch position, all the adjustments relevant to the welding process are stored. The fine adjustment of the arc can be achieved by simply turning the adjusting knob.

The new step-switch series is available in compact design or in the capacity range from 350 Amp and above with a separate wire drive unit for an even larger work radius. If more flexibility is required, operation can be carried out on the remote control. The Qineo Step is available in the versions Eco or Master (thyristor-regulated throttle) and can be gas or water-cooled according to the requirement. All systems guarantee optimum ignition characteristics with low spatter and a quiet and stable arc, and provide excellent weld seam quality when welding with short or spray arc.

The new, infinitely adjustable pulsed arc welding machines in the Qineo Pulse series

from 350 to 600A are also suitable for automated welding solutions. The machines are available as compact units or with a separate wire drive. Numerous process functions guarantee many benefits for a wide range of applications.

The parameters for all standard gas/base metal combinations and wire diameters are stored as synergic characteristic curves in a database in the power source. Optimisation of these settings is made possible by two fine adjustments, for arc length and the arc dynamics.

For user-specific processes a 999-job memory is available. An operating panel, which can be located in the power source, in the manual wire drive unit, or in an external housing, can be flexibly adapted to the corresponding welding task.

The design of the automated Qineo Pulse machines provides interfaces for ProfiBUS, ProfiNET, DeviceNET, Interbus and other bus systems for external control of the welding system. A universal Open Machine Interface completes the machine interface options offered. The internal CAN-BUS



ⓘ Qineo Pulse pulsed arc power source with portable remote control for flexible use with Romat® industrial robots

interface ensures that other new interfaces can be adapted in the future.

Carl Cloos Schweisstechnik GmbH –
Germany
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Pipe handling and clamping

Kistler pipe rotators are used for clamping, rotating, and tilting of pipes in manual and automatic welding, mainly in the field of pipe construction, whether prefabrication or assembly on site.

Many machines have been supplied for tube-to-tube butt-welding processes.

There are three machines in the 'U' range, the U150 (20mm to 200mm diameter pipe), U500 (20mm to 400mm diameter pipe) and U1000 (25mm to 800mm diameter pipe).

Kistler's pipe rotators, with a patented clamping roller system, have advantages over traditional devices:

- They can be used for pipes with elbows, tee-pieces, or other offset loads
- A wide range of pipes can be clamped. The infinitely variable rotary speed is not affected by the size of a pipe because of its separate drive unit
- Quick precise centring and clamping without a chuck or clamping shoe



 Kistler's U150 model pipe rotators

- Flexible pipe handling – pipe can be clamped at its centre of gravity
- Tilting moments and supports are irrelevant in most cases
- Possible to centre two pipes with the same diameter
- Various combinations are possible, including clamping and driving of a main spindle.

Standard pipe rotators are designed to rotate work pieces 360° (forward/stop/reverse) with variable speed control and forward and backward tilt from horizontal. Rotation and tilting may be performed independently or simultaneously.

The tilting section consists of the drive and roller box, holding column, clamping arm, and pressure roller.

Manual vertical height adjustment of the clamping roller system is included as standard on all units.

All the machines have optional extras from directional foot pedals to Diablo pipe supports. Kistler 'U' range pipe manipulators are sold exclusively in the UK by YPH Ltd of Preston.

YPH Ltd – UK
Website: www.yphltd.co.uk

Contender AF and CutSkill 250 now on the market

Thermadyne Industries' Victor® has expanded its line of alternative fuel outfits with the release of the Contender AF and CutSkill 250 AF.

The Contender AF includes 350 Series regulators and 1/4" T-grade hose. The CutSkill 250 outfit includes 250 Series regulators and 3/16" T-grade hose.

Both units are designed to offer quality, dependability and performance.

The Contender AF features:

- CSR350 Series regulators w/ gauge guards
- 315FC welding handle
- CA2460 cutting attachment
- Soft-sided shade 5 goggles
- 1-1-GPN cutting tip
- #8 Type 55 heating nozzle
- T-grade hose 25' x 1/4"
- Striker
- Stainless panel toolbox

The CutSkill 250 features:

- RC250 Series regulators
- WH270FC-V welding handle
- CA270-V cutting attachment
- Soft-sided shade 5 goggles
- 1-3-GPN cutting tip
- 6-MFN-1 heating nozzle
- T-grade hose 20' x 3/16"
- Striker
- Durable plastic toolbox

Victor produces oxy-fuel welding and cutting apparatus, torch handles, cutting attachments, straight cutting torches, regulators, cutting tips, welding nozzles, and cutting and welding outfits and other accessories and components.

These products cover the full range of needs from general industrial to heavy-duty mill and foundry requirements.

Victor's gas equipment line is believed to be the most complete selection offered from any manufacturer and the only one offering users the (patented) safety benefit of built-in flashback arrestors and reverse flow check valves.

Thermadyne Industries Inc – USA
Website: www.thermadyne.com

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FastMig™ Synergic welding systems with FastROOT™

Kemppi's industrial 3-phase FastMig™ Synergic MIG/MAG welding systems with either the SF 52 or SF 53 function control panel and optional FastROOT™ process software are designed for accurate weld root pass welding with mild and stainless steels used in industrial pipe and tube installations as well as heavy to medium fabrication work, including shipyards, offshore work and structural steel applications.

FastMig™ Synergic provides the welder with a choice of energy saving KMS 300, 400 and 500 power sources with excellent power to weight ratios, and MSF53, 55 and 57 wire feed units for 200mm or 300mm wire spools, plus the option of either the SF52 or 53 control panel for root pass welding, which have all the basic functions plus crater filling, hot and creep start and memory for storing welding parameters.

FastMig™ KMS 300 is rated 300A/29V at 100% duty cycle with a 10-37V welding range, FastMig™ KMS400 is rated 380A/33V at 100% duty cycle with a 10-39V welding voltage range, whilst the FastMig™ KMS 500 is rated 430A/35.5V at 60% duty cycle with a 10-42V welding voltage range.



FastMig Synergic welding of pipe using Kemppi's FastROOT software

All the wire feed units have 4 x 32mm diameter feed rolls, a 0-25m/min wire feed speed for solid and cored wires as well as aluminium with diameters ranging from 0.6-

2.4mm. Kemppi's FastCool 10 water-cooling unit is also available as an option.

FastROOT™ is a modified short-arc welding process, where the power source's current and voltage parameters are digitally controlled for accurate and fast MIG/MAG root pass and thin sheet welding on mild steel and stainless steels, enabling plate and pipe welders to weld in all positions using the same equipment for root pass welding with good root surfaces and root side shape with minimal requirements for post weld finishing as well as for capping the weld.

The software can be retrofitted into existing FastMig™ Synergic machines having either the SF52 or SF53 control panels. It is installed using a special activation code through either control panel.

It also comes supplied with a DVD providing installation instructions and information about root pass welding techniques including a video demonstration of the process in action.

Kemppi (UK) Ltd – UK
Fax: +44 8456 444 202
Email: sales.uk@kemppi.com
Website: www.kemppi.co.uk

TUBE FINNING MACHINE

This machine works on the principle of Roto Advancing mechanism of tube & fins are crimped and wound around the periphery of the tube under high tension.

CAPACITY: Two models are available:

PTF-40: Suitable for Tube OD 9.5mm to 40mm.

Fin Height 5mm to 20mm.

Fin Thickness upto 0.5mm

PTF-100: Suitable for Tube OD 25mm to 100mm.

Fin Height 5mm to 25mm.

Fin Thickness upto 0.5mm

POWER: PTF 40: 2 HP Geared Motor with V.F.D.

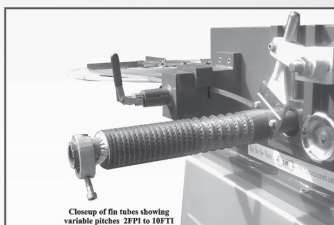
PTF 100: 5 HP Geared Motor with V.F.D.

CONSTRUCTION:

BASE: M.S. Fabricated with foundation provision and leveling arrangement.

BODY: Capsule type Roto advancing arrangement of Tube for continuous tube finning and mandrel arrangement for manufacturing of Fin Coil. Adjusting for pitch 2.5mm to 6.00mm.

DRIVE: Geared Motor with variable frequency drive for changing speed various sizes of Tubes.



Closeup of fin tubes showing variable pitches 2PTF1 to 10PT1

AWARDS:

Mr. L.C. Tolani has received the NATIONAL AWARD for the outstanding SSI entrepreneur on 30th Aug. 2000 at Vigyan Bhavan, New Delhi from the Honourable Prime Minister Shri Atal Bihari Vajpai.

Earlier in 1997 he received the BHARAT VIKAS AWARD from Dr. V. Venugopalachari, the Minister of State for Agriculture (Govt. of India).

Our Team, headed by Mr. L.C. Tolani, Consists of other Senior Directors, G.M. & Works Manager having an experience of 15 to 35 years in the fields of oil seed processing.



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 Email: apex@apextube.com www.apextube.com



New peak power for Q-switched solid-state lasers

Rofin-Sinar Laser GmbH, Germany, has introduced a new laser to its DQ series with 1kW output power. The launch of this DQ 010 model broadens the already successful high power DQ series of Q-switched solid-state lasers. The high performance lasers of the DQ series are excellent tools for surface applications like ablation, cleaning, insulation and others.

Cycle times and operating expenses can be reduced with the 1kW output power, while it is possible to achieve increased pulse peak performances 1,000 times higher than CW powers. Rofin DQ lasers are established in a wide industrial application area.

The DQ 010, with its 1,000 watt average power, can be integrated with beam switches or power splitter modules allowing the use of one beam source in several production lines. This means that investment costs are reduced, while the increased efficiency of the beam source lowers the running costs.

The high average power makes it an efficient tool for selective material removal. It is ideal

for solar panel ablation, mould cleaning, coating removal, and surface treatment.

"We are happy to offer our customers the new top model, the most efficient Q-switched laser in its pulse range. With our power classes of 500 to 800 watt we were already able to qualify applications with great success, as for example the ablation of aluminium-silicon coatings of high-tensile tailored blanks," says Mr Markus Rütering, product manager for beam sources at Rofin-Sinar Laser GmbH in Hamburg.

"Our experiences show that the lasers of the DQ series make many applications economically or technically feasible for the first time. With short pulses and, at the same time, high energy we gain low thermal load of the material. This leads to excellent

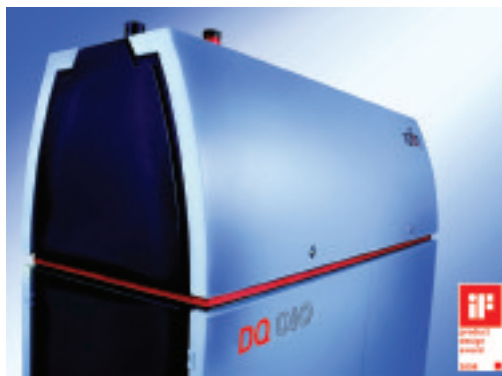


Surface ablation of coated steels

results, for example at the edge insulation of solar cells."

The lasers of the DQ series can be coupled with fibre optics of 600 or 800µm. Compared to round fibres, square fibres provide efficiency by machining a bigger area per pulse. Combined with an integrated scanner control, ablation rates of up to 100cm²/s are possible in diverse applications.

Rofin DQ 010 with 1,000 watt average output power



Each DQ laser is equipped with an optical attenuator for constant pulse energy and long-term stability control. This key feature optimises application processes by making the pulse energy constant. It provides best application results for sensitive applications such as the selective ablation of multi-coated surfaces.

Rofin-Sinar Laser GmbH –
Germany
Fax: +49 40 73363 4138
Email: s.mueller@rofin-ham.de
Website: www.rofin.com



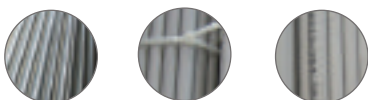
Specifications: Stainless steel seamless tubes for Instrumentation & Hydraulic, Heat Exchanger

Standard: EN10216-5, ASTM A269/A213, DIN17458

Sizes: O.D. 1mm -O.D.89mm*
W.T.0.2mm-W.T.10mm

Length: Standard 6 meters or 20 feet, or customerized, extra long tubes up to 26 meters are specially for Heat Exchanger applications.

Surface finish: Mill's finish/
Polished Surface from 180G to 600G/Bright Annealed



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Laser vision system dedicated to wind turbine tower manufacturing

Servo-Robot has developed compact and intelligent technology specifically for non-contact seam tracking and adaptive submerged arc welding of wind turbine tower tubes.

The Autotrak/WT is an intelligent and cost-effective non-contact seam tracker, easily integrated or retrofitted and said to surpass traditional contact probe technology. The Autotrak/WT system benefits from Servo-Robot's on-going research and development programmes in intelligent 3-D image processing for welding automation. The miniaturisation of all electronics has reduced the equipment footprint while increasing the power and digital convergence of the system.

The vision system has no moving parts, yet the digital technology used is not affected by the reflective surface conditions that interfere with other artificial vision techniques. No adjustments are required from the operator to teach the digital laser vision system, which contains its own on-board brain specially adapted to the SAW process applied in wind turbine tower tube welding. Human adjustments for weld joint measurement by the camera are no longer required.

Servo-Robot Inc – Canada
Fax: +1 450 653 7869 • **Email:** sales@servorobot.com • **Website:** www.servorobot.com

Auto programming for pipe welding systems

Magnatech's Pipemaster is used extensively for multi-pass orbital pipe and boiler tube welding. The Pipemaster has an autoranging input of 220 to 480 VAC and a 200 Amp output, and will operate weld head models incorporating controls for torch rotation, wire feed, torch oscillation, and arc voltage control functions. Orbital multi-pass pipe welding systems can provide great productivity improvements but many potential users are concerned with the need to program the equipment for each pipe size and material, and with the learning curve necessary for their welders to program a CNC tool.

The new Auto programming mode allows operation without programming training. An inexperienced user enters pipe OD, wall thickness, and material and the weld program will be generated automatically. After running, the weld program can be modified in two ways. Using Edit mode, any parameter can be changed at any point during the weld or, using Scaling mode, certain parameters (such as rotation

spread, or amperage) can be changed by a percentage for the entire program. The power source stores up to 100 weld programs.


Magnatech LLC – USA
Fax: +1 860 653 0486
Email: info@magnatechllc.com
Website: www.magnatechllc.com

Weld Number 001		
Head Model	D	
OD	02.375"	
Wall Thickness	0.200"	
Material	SS	
Bevel Type	J-20°	
Passes	3	
Program Mode	Position	
Guide Ring Factor	09.5	
Back	Help	Next

 Magnatech's auto-programming screen



 Magnatech's D-model weld head







Good Luck Steel Tubes Ltd.

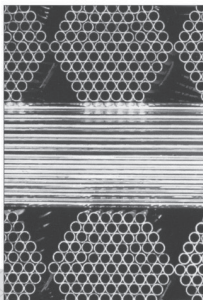
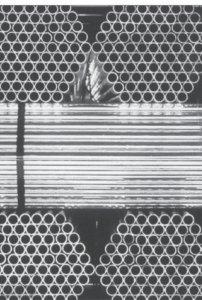
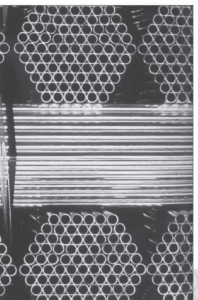
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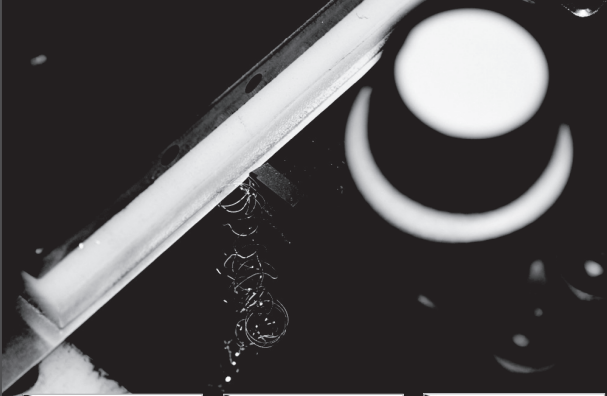




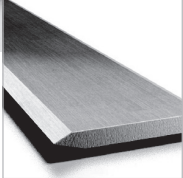






ISO : 9001



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Advanced welding capabilities for automotive parts manufacturer

Umformtechnik Erfurt, Germany, a subsidiary of the Schuler Group, has reported success after incorporating new automated welding technology from Oerlikon GmbH into its production facilities. Umformtechnik Erfurt, a manufacturer of complex structural and small automotive parts, is a member of the Schuler Group, a pioneer in forming technology with a range of metalworking machines, equipment and tools.

The welding factory at Erfurt required an installation for welding in SA and MAG techniques alternately, in each case using the 2-wire technique with up to 400mm material thicknesses. Four companies competed for the contract, with the expertise of Oerlikon finally winning the order.

Oerlikon, one of two welding and cutting brands of the Air Liquide Welding Group, possesses complete industrial knowledge and offers comprehensive support in submerged-arc welding. "Oerlikon is and was the right decision. We have a very good installation and appreciate the service," says Mr Holger Lunkwitz, head of the Umformtechnik Erfurt welding technique competence centre.

Fulfilment of the project, from design to production, took just over one year. The total weight of the completed welding equipment is about 35t. In order to adapt to the needs of the project, Oerlikon evaluated the basic alternatives of automation and robot welding. The different techniques were tested and compared in practical use.

For testing the SA double-wire technique a welding tractor was purchased. At the same time intensive welding tests were carried out using the robot technique. The tests clearly showed that the column boom was preferred for this application.

The SA equipment has now been in operation for runs at 3,800 hours a year. The longest component to have been produced with this method to date was 14,600mm. Seventy-five per cent of the weld seam volume is still welded manually, with twenty-five per cent covered by automatic machines.

The deposition rate is up to 26kg/h with a wire feed speed of 8.7m/min when both centre sleeves are used at the same time. This corresponds to roughly ten times the performance of a manual welder.

The Air Liquide Welding Group provides a range of innovative solutions in welding and cutting techniques comprising welding consumables, welding and cutting machines and automation solutions.

Schuler AG – Germany
Fax: +49 71 61 66 233
Website: www.schulergroup.com

Oerlikon Schweißtechnik GmbH – Germany
Fax: +49 63 51 4 76 335
Email: info@oerlikon.de
Website: www.oerlikon.de

Adding to safety

Thermadyne Industries' Victor® has announced the release of CutSkill® flashback arrestors, increasing the line of safety products.



Victor's new flashback arrestors are designed for superior performance

This new line of regulator and torch-mounted flashback arrestors is designed to provide superior performance at a competitive price, while offering unsurpassed safety and reliability.

The standard features of the CutSkill flashback arrestors include:

- Built-in reverse flow check valves
- Specific design to prevent mismatching of oxygen and fuel
- Factory tested to ensure maximum reliability

Thermadyne Industries – USA
Website: www.thermadyne.com

Tube welding power supply

Arc Machines, Inc has launched its new Model 205 orbital (GTAW) power supply, said to incorporate the best features of the company's popular Models 207A and 307 while being rugged, versatile, lightweight and easy-to-use.

Model 205 is suitable for joining 1/4" stainless steel tube for a semiconductor plant, 3/4" titanium aircraft fuel lines, 1.5" electro-polished tube for a biopharm application, 2" schedule 40 carbon steel pipe steam line, or simply tack-welding two components.

The key features of the Model 205 include:

- Full size colour touch screen
- Multi-use USB port
- Automatic weld schedule development
- Programming by time or degrees
- Multiple-language capability
- Lightweight (50 lb)
- Compatible with all AMI fusion weld heads



The new Model 205 tube welding power supply from Arc Machines

Arc Machines, Inc – USA
Fax: +1 818 890 3724 • Website: www.arcmachines.com



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New Model Orbital Welding System

Magnatech has released the Tubemaster 514B model for production, replacing the successful 514A model introduced in 2005.

 The Tubemaster 514B from Magnatech



The new model can operate analogue heads (using tachometer motors), as well as Magnatech's current digital encoder motors.

This allows the operation of many weld heads from other manufacturers, with drop-down model selection and auto-programming. On-screen calibration of competitor heads eliminates trim potentiometer adjustments.

The 514B operates ten different Magnatech head models, a manual tack welding torch, and many competitors' heads.

Software upgrades can be sent as email attachments, and transferred using a standard USB key drive.

A USB keyboard can be connected to enter text, in addition to the standard method. Teach mode has been added for programming open-arc heads with wire feed.

With the earlier model, tack welding immediately led into the start of a weld programme.

Now a user can simply tack weld tubes (4 or 8 tacks), without weld out, if desired.

Some contractors prefer to remove all unused programmes from memory on a new job site to eliminate mistakes.

A new delete option allows the deletion of all old programmes from memory in one step; in addition, a group of programmes can be copied from the USB key to speed downloading programmes to multiple systems.

Magnatech LLC – USA
Fax: +1 860 653 0486
Email: info@magnatechllc.com
Website: www.magnatechllc.com

Fusion equipment

Ritmo America LLC, the North American branch of Ritmo SpA, is an experienced manufacturer of plastic pipe fusion equipment. Ritmo America distributes and services its fusion machines across the US and Canada.

The RAM all terrain line of butt fusion machines can handle grades up to 30% and offer ease of manoeuvrability on a job site.

The automated Easy Life fusion system allows the operator to make a fusion in only three simple steps, and when completed the machine automatically stores the parameters for fusion certification and documentation.

Ritmo America also offers the Delta line of manual butt fusion equipment for use in the trench and in very tight spaces.



 Ritmo's RAM all terrain fusion machines

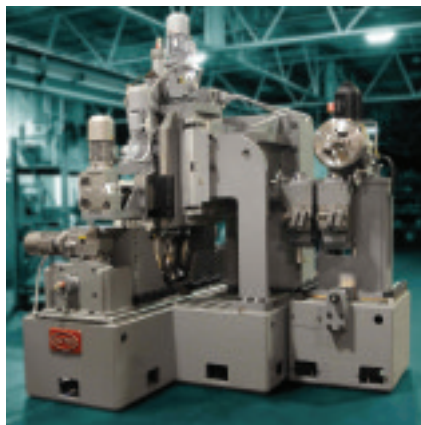
The Elektra electrofusion line, new to the US and Canadian markets, can fuse up to 32" IPS (800mm) electrofusion couplers. It features a new USB port for fusion data storage.

The Ritmo range includes the Stargun line of extrusion welders, with self contained hot air blower, R-SB 20, R-SB 40 and R-SB 50 and the new R-SB 60 hydraulic extrusion welder, which can work at up to 13.5 lb per hour (6kg/h).

Ritmo SpA – Italy
Email: info@ritmo.it • **Website:** www.ritmo.it

Rafter Equipment ships 16" weld box

Rafter Equipment Corporation has shipped an RT-9000 five-roll weld squeeze box.



 Rafter's RT-9000 Weld squeeze box

It will be installed as part of an ERW pipe mill upgrade at a prominent North American facility producing API line pipe up to 16" (400mm) OD.

The weld box features powered adjustments with actuators that push on the centreline of the weld squeeze roll tools. This feature eliminates any cantilevered loads and the long-term maintenance consequences of such cantilevered designs. The unit also includes position feedback using linear transducers and a graphical operator interface for more repeatable setups.

Additional quick-change features were added to minimise the amount of time and effort necessary to change the roll tooling. The new open design allows for operator

access to the downstream side of the unit for easier inspection, setup, and replacement of the ID weld bead-cutting tools.

An integral tandem OD weld bead trimmer and bead winder with powered bundle push-off were also included.

Rafter Equipment Corporation, formed in 1917, manufactures welded-seam tube and pipe mills, roll forming machines, cut-off machines, auxiliary and other related tube and pipe mill machinery.

Additional services include rebuilding and upgrading mill equipment.

Rafter Equipment Corp – USA
Fax: +1 440 572 3703
Email: mprasek@rafterequipment.com
Website: www.rafterequipment.com

Orbital welding range

The company PRAI was founded in 1987 in Rome, by technicians with over ten years' experience in design and manufacturing of orbital welding equipment. All PRAI welding equipment is based on the company's own designs, applying the experience of different application sectors.

Modular design, easy handling and maintenance and reliability are the reasons why clients worldwide choose PRAI orbital welding equipment. PRAI orbital welding equipment covers all requirements in tube to tube sheet applications (eg tube recessed, flush or protruding, with or without filler wire,

air cooler-Hudson type with filler wire, urea reactors, titanium heat exchanger, multi-pass welding with AVC) as well as for orbital tube to tube welding with open arc welding heads for tube diameters up to 4", with or without filler wire, with or without AVC and torch oscillation.

The product range is completed by closed chamber orbital welding heads, used in the food, beverage and pharmaceutical industry.

Orbital welding programmers, based on microprocessors, can be adapted to different power supplies thus guaranteeing

the greatest flexibility for the customer when selecting the composition of the welding equipment. Particular attention has been paid to new tube to tube sheet MIG/MAG welding equipment, which includes all the advantages of this welding process while guaranteeing high quality and speed of welding.

PRAI's latest development is a tube welding head for welding radiator bends, even if pre-assembled with very low clearances.

PRAI Srl – Italy
Fax: +39 067 232 175
Email: silvia@praisrl.it
Website: www.praisrl.it

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Coating, Pickling & Galvanizing Technology

Galvanizing – the hot-dip coating of steel or iron with zinc – is, above all, protective: against rust, corrosion, abrasion, contamination, wear, chemical agents, and much else besides. It also serves to enhance performance.


A tube designed to withstand stress and strain will deliver on that promise over a longer service life, trouble-free, if its coating has been wisely selected, properly formulated, and skillfully applied.



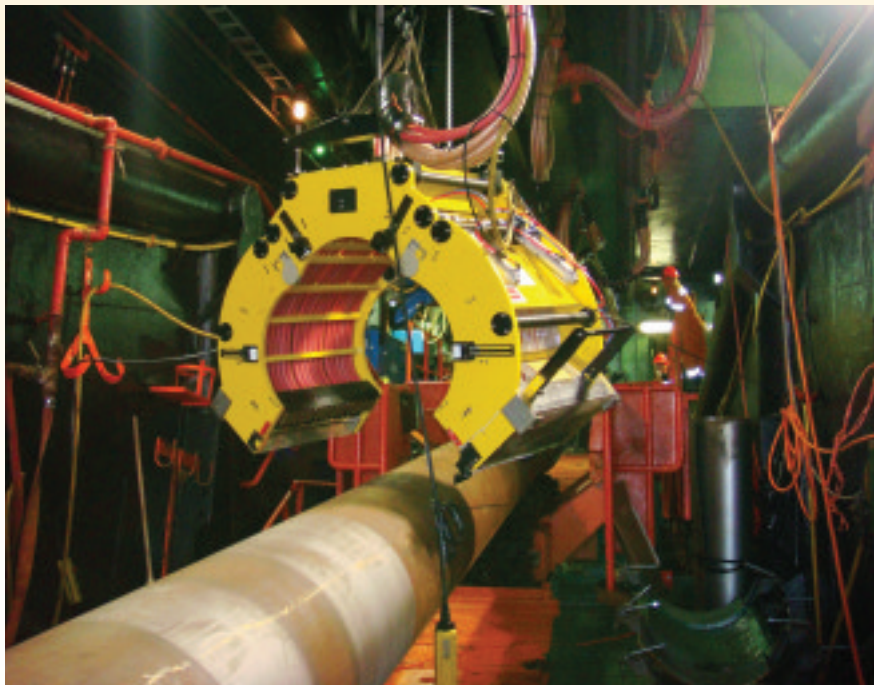
For these requirements, there is no substitute for experience, commencing at the preliminary

 Lamborghini is benefiting from a technology that was originally developed for the nuclear industry (see page 100)

chemical cleaning stage. Acid pickling calls for a corrosive liquid bath in which the liquid flows rapidly relative to the metal and is held at a temperature of 180°F or higher. Processes of this kind are the business of professionals whose knowledge of materials,

 IHWT Radyne containerised induction equipment (see page 102)

methods, and reagents is broad and deep.



This section of *Tube & Pipe Technology* reviews equipment and products from coating specialists who know how to get maximum security from a paper-thin layer of protection.

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 is 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.

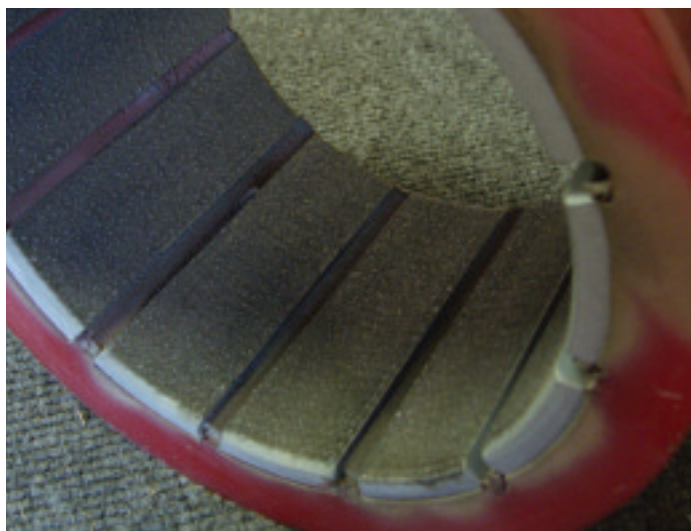
The electrofusion application method provides a strong bond because the carbide is fused into the base metal, not just applied onto it as in spray welds. Bulk heating is not required, so tool temper and heat treat are

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



 Hydro testing clamp with Carbinite coating

crushing or deformity. The extra gripping strength provided by a Carbinite coating is designed to improve end-forming, tube bending, flaring and swaging operations.

Carbinite Metal Coatings – USA

Fax: +1 724 586 1144

Email: andy@carbinite.com

Website: www.carbinite.com

Universal gloss on new 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

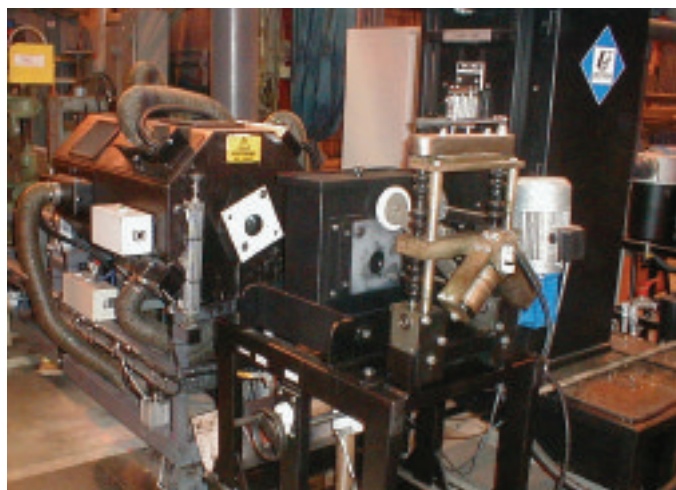
around the tubular product, MSTube is now able to provide its customers in distribution, transportation, energy, heavy equipment and original equipment manufacturers with an added six months or more of corrosion resistance.

The new coating line has been built using a system installed by UK coating equipment manufacturer Universal Finishing Systems.

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.

 Universal system at MSTube



Universal has manufactured 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

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," said MSTube's engineering & maintenance manager David T Wellhofer. "And Universal was very helpful in the start up and training of our personnel."

Universal Finishing Systems – UK

Fax: +44 1244 288102

Email: info@universalfinishing.co.uk

Website: www.universalfinishing.com

Protecting ERW seams from 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 (galvanized), 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.



 The Metallisation Arcspray 528E-ICC system

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 means more economic coatings.

Quaker announces new tube & pipe zero-VOC coating line

Quaker Chemical Corporation is launching its new eco-friendly coatings, Quakercoat® 102 and Quakercoat® 105, for the tube and pipe industry. Both coatings are zero-VOC, clear acrylic, water borne coatings for application using conventional spray and vacuum systems.

Both coatings offer excellent process responsiveness for quick-dry and cure and are non-hazardous, posing no severe risk for handling to employees. They are also friendly to the environment, helping customers reduce their environmental footprint.

“Quakercoat 102 is designed for the day-to-day transfer of pipes and tubes, and for temporary protection against moisture and other elements that are precursors in the process of corroding unprotected metals,” commented Martin Tellez, tube and pipe coatings product manager at Quaker Chemical. *“It offers good outdoor performance, early water resistance, and excellent slip and marring protection, with an overall balanced set of properties.”* Quakercoat 102 is currently sold in clear and black, or can be matched to any colour on request.

Quakercoat 105 is a superior quality coating designed to protect pipes for longer periods of time during storage and transport. It is also a temporary coating that offers excellent outdoor performance at low DFTs (0.8-1.2 mils) with corrosion protection well over 400+ hours of salt spray performance at one-mil (1.0 mil) of application (ASTM-117).

Quakercoat 105 offers customers a well-balanced set of properties with an excellent flexibility (OT NTO) designed to meet the toughest jobs. Quakercoat 105 is only offered as a clear version at this time.

Quaker is aware of current environmental challenges that are affecting the entire tube and pipe industry, and sees its new technology as being part of the solution in the ongoing effort to reduce VOC-emissions in the US and around the world.

Quaker Chemical Corporation – USA
Email: info@quakerchem.com
Website: www.quakerchem.com

Metallisation – UK
Fax: +44 1384 237196
Email: sales@metallisation.com
Website: www.metallisation.com

Pickling systems from India

Arvind Anticor's range of leading technology of pickling tanks, plants, equipment and fume exhaust system is 100% harmless to the environment. Anticor pickling tanks and plants are used for iron, stainless steel, non-ferrous pipes, wires and strips.

Arvind Anticor provides planning and construction of complete pickling plants with the necessary fume exhaust system.

A robust design of tank made from polypropylene (homo polymer) and fibreglass is available for hydrochloric sulphuric and nitric/hydrofluoric acid media

 An example of Arvind Anticor pickling technology



within a pickling plant that meets the most stringent environmental conditions. An environment-friendly fume extraction design avoids corrosion of steel construction cranes and roof structures.

For easy transportation, pickling tanks are available in flat pack modules or as reduced volume modules for assembly and welding on site. Tanks are made for strip and wire pickling and other pre- and post-treatment of iron, stainless steel and non-ferrous metals.

Arvind Anticor Limited – India
Fax: +91 79 25830287
Email: info@picklingplant.com
Website: www.picklingplant.com

Coating in the Ukraine

Interpipe has announced the commissioning of a pipe coating line with a capacity of 250,000 tons a year, at Interpipe NTRP mill in Dnepropetrovsk, Ukraine.

Venjakob of Germany supplied the equipment for the pipe coating line.

Representatives from Venjakob have already participated in line guarantee tests, which were carried out successfully at the end of March 2009.

The new coating will protect pipes from corrosion over a long time period and will be applied to different types of pipes with diameters ranging from 73 to 178mm.

The protective ultra-violet coating, which is entirely safe for workers, has a quick drying capability of 0.5-2 seconds after placing on the pipes. The paint setting also has an air purification system that keeps the workshop atmosphere unpolluted.

Duncan Pell, the commercial director of Interpipe said: *“The new protective coating will help to preserve the quality of pipes during both their long term storage and transportation. This protection during transportation is particularly crucial for the supply of goods to long-distance markets such NAFTA and the Middle East.”*

Interpipe – Ukraine
Fax: +38 0562 389 482
Email: info@ua.interpipe.biz
Website: www.interpipe.biz

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Selmers, established in 1966, authority in supply of custom made plants and equipment for onshore and offshore pipe cleaning, coating, handling and jointing.

Lamborghini selects lightweight Zircotec coating for Murciélago LP 670-4 SuperVeloce

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,"

said 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," explained 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.



ⓘ Lamborghini is benefiting from a technology that was originally developed for the nuclear industry

Zircotec – UK
Fax: +44 1235 434329
Email: enquiries@zircotec.com
Website: www.zircotec.com

Cost-effective anti-corrosion coating

Galfan® from Markin is a galvanizing alloy, 95% zinc and 5% aluminium with rare-earth elements. Applied to low-carbon steel tubing in a hot-dip process, similar to galvanizing, Galfan provides superior corrosion resistance.

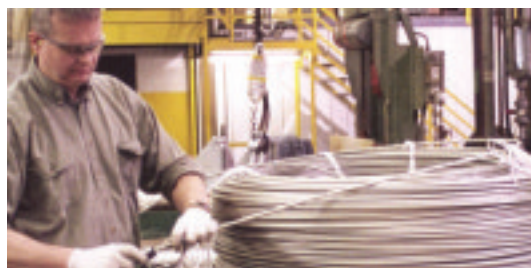
humidity or sea air exposure. Galfan tubing is said to perform consistently to 3,000+ hours of protection in salt spray testing. Galfan-coated tubing is available in grey or black 100% Chromium-free topcoats.

The Galfan coating is followed by an epoxy topcoat to provide a cost-effective alternative to expensive corrosion-resistant materials and coatings, such as copper, stainless steel, PVF, PVDF and nylon.

Markin Tubing LP – USA
Fax: +1 585 495 6482
Email: solutions@markin.com
Website: www.markin.com

ⓘ Manufactured on one of Markin's three Galfan mills, every coil is leak-tested prior to shipment

Widely used in automotive applications, Galfan-coating tubing is suitable for any situation where corrosion is an issue, including applications where tubing is buried in soil or concrete, exposed to alternating wet or dry conditions, or where there is high



A

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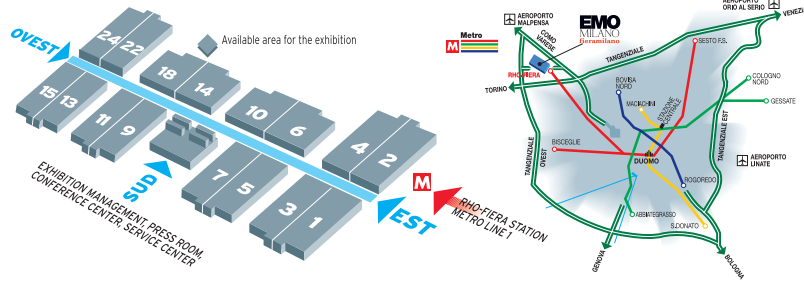
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The world of metalworking

Metal forming and metal cutting machine tools, welding machines, thermal and surface treatment machines, robots, automation hardware and software, assembling, tools, parts, components, accessories, metrology, quality control, safety and environmental protection... all the ways by which the "know-how" of the sector universe can come together for designing and implementing innovation for the manufacturing industry will find full expression at EMO MILANO 2009, hosted 5-10 October at **fieramilano**. EMO MILANO 2009, in short, will present all the "machines (and much more) for manufacturing" new products with advanced technological content and even higher competitiveness through the offerings of 2,000 manufacturers (estimated) representing 35 countries over an exhibition area of 180,000 sq.m.

EMO MILANO 2009 will occupy the entire exhibition centre recently built in the Rho/Però area: sixteen single-storied halls, practically without pillars or structural encumbrances, to ensure extraordinary accessibility and visibility to all stands. **fieramilano** is linked to the urban transport network by the M1 underground line, connecting it to the town centre, the railway stations, and to Linate and Malpensa airports, which are connected to the main international airports by daily non-stop flights. Easy to reach through the Milan motorway ring-roads, the exhibition centre has a parking capacity of 10,000 car places.



Dates of event: Monday 5 October to Saturday 10 October 2009

Opening hours: 9.30 a.m. to 6.00 p.m.

Entrance: the on-line advance sales service for daily tickets at € 15.00 and tickets valid for three days (one entrance/day) at € 40.00 will be operative 1 June - 10 October; if purchased at the reception desks of the event, these tickets respectively cost € 25.00 (daily) and € 50.00 (valid for three days; one entrance/day)

Catalogue: € 30.00, available at the exhibition

Organiser: EFIM-ENTE FIERE ITALIANE MACCHINE SPA

For information: EMO MILANO 2009 c/o CEU-CENTRO ESPOSIZIONI UCIMU SPA
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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 pipes were tested by seven 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.

Advantages include:

- Good appearance and levelling
- 100% solids coating; no water or solvent in the formulation
- Line speed: up to 100m/min
- Green technology
- Short process
- Immediate packaging after curing
- Technology approved by Venjakob (www.venjakob.de) for finishing equipment

Raycron solvent-free coatings aid compliance with environmental regulations and can assist productivity with a faster curing process and higher transfer efficiency.

PPG Industries – USA
Website: www.ppg.com

Acid pickling and zinc coating

Loeco-Industrieanlagen, Germany, is involved in the engineering, manufacture and worldwide supply of industrial plants for the tube and pipe industry, with emphasis on environmental precautions and efficient automation for high-speed production and protective zinc-coating of top-quality tube and pipe.

The company's latest pipe pickling and galvanizing plant has started production at Tuper SA in Sao Bento do Sul, Brazil. This plant has been designed for round pipes from ½" to 6" diameter. To protect the environment and ensure workers' health and safety, acid and zinc fume suction and cleaning are integrated into the plant, along with a flux preparation unit. The acid recovery plant constantly recycles the spent acid, for continuous high-quality pickling with no loss in production.

Loeco has also modernised older pipe-galvanizing plants, by installing new handling systems on existing furnaces. The fully automatic pipe handling system has pipe dipping screws, pipe positioning and lifting devices, and a pipe extracting machine. The equipment can be designed to fit most existing galvanizing furnaces.

Loeco-Industrieanlagen GmbH & Co KG
– Germany
Fax: +49 208 58 981 24
Email: loeco@t-online.de
Website: www.loeco.de

Steel pipe coating

EuroCoating Pipe is a supplier of steel pipe coating, galvanizing and other anti-oxidant finishing. The company's core business is in gas and water pipeline, boiler pipes and structural pipe coated in PE, PP, FBE or hot dipped galvanized. All are available in seamless and welded options, conforming to all main standards such as API, DIN, ASTM or EN.


Pipe is available with plain, beveled, treaded and coupled or grooved ends in the ¾" (17mm) to 8" (219mm) range. Products with EuroCoating Pipe finishing treatments are available from a main European producer and certified by the EuroCoating ISO 9001 certificate.

EuroCoating Pipe srl – Italy
Fax: +39 0425 934792
Email: info@sdl-landini.com
Website: www.sdl-landini.com

IHWT Radyne selected for Medgaz Project

The international natural gas consortium Medgaz has completed the 210km under-sea gas pipeline due for start up during the second half of 2009. The pipeline will bring gas from Beni Saf on the Algerian Coast to Almeria in Spain.



 The pipe aboard the lay vessel showing the Radyne Merlin

The 24" diameter pipeline was laid in the shallower waters of the Almerian and Algerian coastline by the Saipem Castoro Sei, with Saipem 7000 laying the deeper sections at depths of up to 2.16km.

IHWT Radyne supplied the induction heating equipment for both these successfully completed sections.

Saipem ENI purchased two Radyne containerised 450kW induction power

modules and installed these on the Castoro Sei for the S-lay sections to preheat the 15,000 field joints prior to the application of shrink sleeves.

IHWT Radyne containerised induction equipment was also used over the deep water J-lay section, heating and coating some 2,465 field joints on the Saipem 7000 using the proven Merlin 24 system.

IHWT Radyne – UK
Fax: +44 1256 467224
Email: info@ihwtech.co.uk • **Website:** www.inductotherm-hwt.co.uk

Heat for coatings

Since 1968, Elind has designed and manufactured complete solutions for applications where induction heating is required.

Elind is known in the market for rolling mills, hot forging and heat treatments such as hardening and tempering of bars and pipe and annealing and heating of tube and pipe.

Induction heating for pipe coating is the only method to produce the required results in terms of scattering and uniformity of the heat into the pipe wall prior to the application of the polyethylene film.

Elind is able to supply reliable tailored solutions for these applications.

The equipment mainly consists of a medium frequency static converter complete with MF capacitor battery and cooling group, connecting bus bar, inductor-supporting frame, and heating inductors (number and size to suit to the produced pipe range).



Elind designs and manufactures induction heating solutions

Elind – Italy
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High performance coatings

Vicote® coatings made from Victrex® Peek™ polymer are designed to provide excellent scratch and wear resistance, strength and durability for demanding applications in aggressive environments that require exposure to extreme conditions such as high temperature, chemicals and abrasion.

Using Vicote coatings is said to extend application life and improve product performance and functionality in areas including chemical processing and transport components, vessels, pipes, valves, and ball seats, industrial mixers and agitators, textile manufacturing, equipment components, ultra-pure water systems, process tanks and appliances.

Victrex Peek polymer is a high performing thermoplastic, typically used for replacing metals. Key properties of Victrex Peek polymer are its high temperature performance, friction and wear resistance, chemical resistance, low flammability,

smoke and toxic gas emission, hydrolysis resistance, electrical performance, high strength to weight ratio and dimensional stability.

A Vicote coating can provide corrosion resistance at thinner dry film thicknesses (DFTs) than many fluoropolymers.

The thinner coating in conjunction with the lower density makes the coating a cost-effective alternative to more traditional corrosion coatings.

Typically a Vicote coating has around 60% of the density of a fluoropolymer coating making it a competitive coating on a volumetric cost basis but in addition, the higher mechanical properties and good permeation resistance mean that performance can be achieved with thinner coatings and at a reduced overall systems cost as Vicote coatings can be applied to the substrate without a primer.

Vicote powder coatings offer enhanced corrosion protection and wear and cut through resistance; coated parts range in diversity from components in oil and gas, ultra pure water systems, industrial, pharmaceutical and food processing applications. Vicote 700 Series powders have good radiation resistance and can withstand high doses of Gamma radiation without embrittlement.

Victrex is developing new powder and dispersion coating grades based on Vicote coating, which will offer an even higher level of adhesion to metal substrates than the standard powders and will be suitable for coating of internal surfaces such as pipes and other parts with IDs.

Initial tests have shown that there is no delamination of the coating from the substrate when subjected to thermal shock testing from 250°C (482°F) into cold water, or in a 24 hour boiling water test.

Victrex plc – UK
Website: www.victrex.com

SHANDONG FLYING CASTING & FORGING CO., LTD. (Qingdao, China)
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Manufacturing technology of medium size seamless pipe

By Kenichi Sasaki, Akihito Yamane, Yuji Arai, Sumitomo Metal Industries Ltd, Japan

Introduction

Sumitomo Metal Industries (SMI) constructed a 16 $\frac{3}{4}$ " seamless mill at Wakayama Steel Works in 1997 with an annual capacity of 640,000 tons. Features of the plant are the short production lead-time and the quality of produced tubes and pipes. Direct connection of the billet casting, the pipe rolling process and heat treatment process enable SMI to shorten the production lead-time to one third. High-toe-angle, high-expansion piercing technology and a new method of measuring and controlling hot wall thickness with the mandrel mill produce high quality tubes and pipes.

Due to the brisk activity in exploring for oil and gas in critical environments, the demand for high-strength pipes and stainless steel pipes is increased and dimension accuracy is increasingly important. In order to produce high-strength pipes and stainless pipes without defects, the company developed the high-toe-angle and high-expansion piercing technology. With the high toe-angle and high-expansion piercer, it is possible to decrease circumferential shear strain and reduce a piercing elongation.

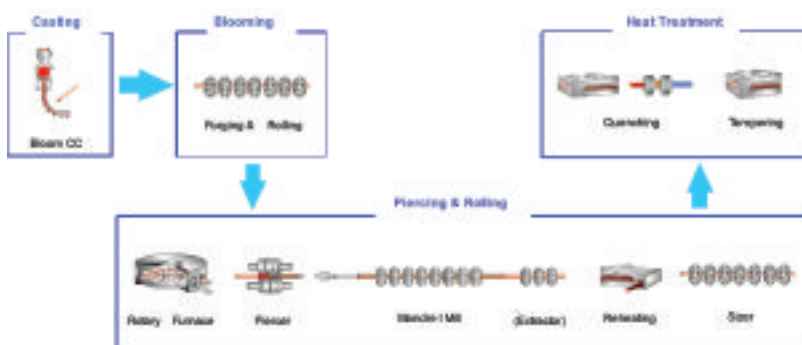
In order to make the pipes accurate, a new method of measuring and controlling hot wall thickness with the mandrel mill was developed. When the plant was constructed a hot wall thickness measuring system was installed to monitor hot wall thickness. A system was developed to control the wall thickness by adjusting the position of the mandrel mill's rolls. At every rolling, the rolls' positions are adjusted and the wall thickness measured again. Through repeated adjusting and measuring, pipe dimensions are extremely accurate.

Manufacturing process

1. Seamless mill line

A schematic diagram of a conventional production line for seamless pipe is shown, as reference, in figure 1-a. Molten steel was cast into the bloom by caster and the bloom heated and forged into a round billet. The billet was again heated, pierced and rolled into the seamless pipe, cooled to room temperature, heated again,

Figure 1-a: Schematic illustration of conventional production line for seamless pipe



quenched and tempered. The outline of the simple and compact medium-size mill is described below. This is a state-of-the-art facility, which began operation in 1997.

The entire process of manufacturing seamless pipe is directly connected and the rolling line arranged in a compact design, as shown in figure 1-b; consequently, reduction of production cost and shortening of delivery time are achieved. In order to mass-produce heat-treated seamless pipe with high efficiency, the facility of in-line heat treatment was installed. As a result, almost all heat-treated pipe, such as high grade OCTG or project line pipe that used to be heat-treated in an off-line process, is now treated in an in-line process.

2. Billet making

Pig iron is processed in a blast furnace and refined in a converter. The molten steel is then treated in an RH (Rheinstahl Huttenwerke & Heraus) degassing process to reduce impurities and improve cleanliness, and then poured into the continuous caster with a round-shaped mould. The round billet casting facility and the rolling plant are connected through the intermediate storage yards; the billet is supplied smoothly to the mill.

3. Billet heating furnace

A walking beam furnace is installed for the billet-heating furnace. The aim is to minimise the circumferential temperature distribution of the billet, which causes eccentricity of the wall thickness during the piercing operation. With the walking beam furnace, circumferential temperature distribution is controlled within $\pm 5^{\circ}\text{C}$ by applying the billet rotation in the furnace. Hollow shells of high dimensional tolerances can be obtained, suppressing eccentricity during piercing.

4. Piercer

For piercing, a high-toe-angle piercer with disc guide, originally developed by SMI, was installed. Using the high-toe-angle piercer inside bore defects are drastically reduced, and it is easier to pierce hard workability materials, stainless steels for example, compared with using a conventional piercer.

Moreover, with the high-toe-angle piercer, high expansion piercing becomes possible. High expansion piercing is suitable to pierce hard workability materials, such as stainless steels, more than the parallel piercing. Utilising expansion piercing, it is possible to obtain a thin wall hollow shell of stainless steels.

5. Mandrel mill

The 5-stand mandrel mill consists of two high mills, alternately arranged at 45 degrees to the vertical



Figure 1-b: Schematic illustration of the simple and compact medium size mill and inline heat treatment facilities

line. The mandrel bar is drawn back to the entry side of the mill after rolling (the full retract method). Using a toe-angle and high expansion piercer, which produces a thin hollow shell, the succeeding compact mandrel mill requires only 5-stands.

Precise roll gap set up is carried out by a hydraulic screw-down mechanism, considering the roll separating force and mill rigidity. By using the hydraulic screw-down mechanism, roll gaps are changed to control the length of each tube and to obtain uniform longitudinal wall thickness distribution of the tube.

6. Sizer

After the mandrel mill, a 12-stand extracting sizer is located. This works as an extracting mill, which extracts the tube from the mandrel bar, and as a sizer, which rolls the outside diameter of the tube to the finishing size. The rolling line is compact and simple, omitting the reheating furnace that is usually installed between the mandrel mill and the sizer. In the conventional 3-roll sizer roll gaps are fixed, but in this sizer roll gaps can be changed by a screw-down mechanism. It is believed to be the first time this mechanism was adopted for the 3-roll sizer.

7. In-line heat treatment

The in-line heat treatment facility is installed just after the pipe-making line to guarantee the quenching temperature above Ar3 transformation temperature, and to improve the uniformity of mechanical properties by homogeneous heating. In-line heat treatment equipment is introduced for shortening the delivery time, cutting the energy cost and producing high performance tubes. Tubes are quenched from the outside and inside simultaneously. After quenching, tubes are tempered by the tempering furnace.

In summary, the significant features of this production line are:

- Connective line from round billet casting facility to pipe mill line
- Walking beam furnace
- Development of the high toe-angle and high-expansion piercing technology
- 5-stand compact mandrel mill
- Extracting sizer, with a screw-down mechanism for changing the roll gap
- In-line heat treatment apparatus

High-toe-angle and high-expansion piercing technology

Figure 2-a shows a schematic illustration of a conventional piercer; the newly developed piercer is illustrated in figure 2-b. With a conventional piercer, where the diameter of the billet and the diameter of hollow shell are equal, it is difficult to pierce to the thin hollow shell. With the newly developed piercer, the diameter of the

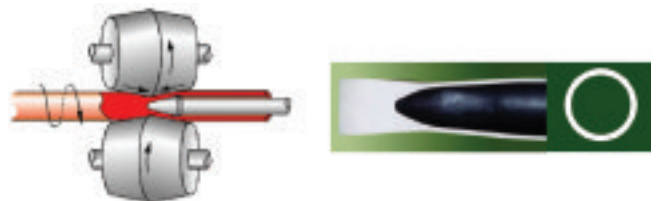


Figure 2-a: Schematic illustration of conventional piercer and a photograph of the billet and hollow shell

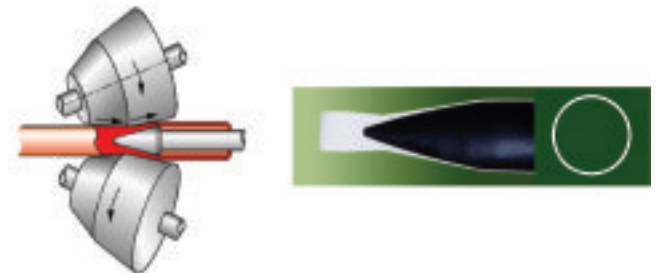


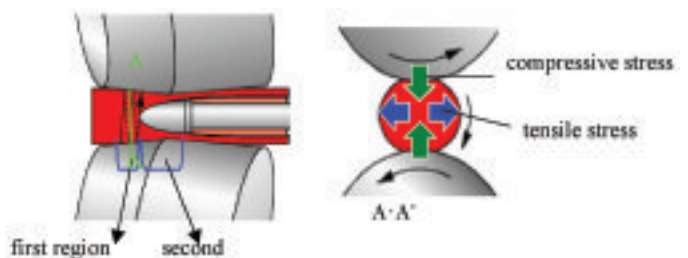
Figure 2-b: Schematic illustration of high-toe-angle and high-expansion piercer and a photograph of the billet and hollow shell

billet is smaller than the diameter of the hollow shell, so that the area reduction is decreased and the thinner hollow shell can be pierced; because the area reduction is small the motor power of the piercer can be reduced.

The high-toe-angle and high-expansion piercer has a special feature that prevents making inside defects on the hollow shell in comparison with conventional piercer.

Figure 3 shows two regions of the piercing process. In the first region, the billet bites between the main rolls and touches the edge of the plug. In the second region the billet is rolled between the main rolls and plug. In the first region the billet is subjected to compressive stress and tensile stress. The stresses make it easy for the billet to be pierced, however increased stress makes more inside defects on the hollow shell. With the newly developed piercer the billet is pierced using less stress than a conventional piercer, so the hollow shell has fewer inside defects.

Figure 3: Schematic illustration of the piercing process



In the second region the billet is pierced and elongated. The high-toe-angle and high-expansion piercer decreases circumferential shear strain and reduces piercing elongation, so that with the newly developed piercer the hollow shell has fewer inside defects than with a conventional piercer.

To pierce a thin walled stainless hollow shell another technique, the skewing mechanism of the disc guide, is provided. The skewing mechanism of the disc guide is illustrated in figure 3. When piercing the thinner wall, the hollow shell is elongated along the pass line, expanded to the circumference, and tends to be extruded from the clearance between the main roll and disc guide (peeling). To prevent this peeling, the skewing mechanism of the disc guide is provided to minimise the clearance between the disc and the roll at the outlet side of the piercer.

As mentioned above, with the high-toe-angle and high-expansion piercer and the skewing mechanism of the disc guide, ultra-thin stainless hollow shells are pierced without inside defects.

Sumitomo Metals has many patents concerning this piercing technology, for example, patent DE3844802 "Method of piercing and manufacturing seamless tubes" was published 11 May 1995.

Measuring and controlling hot wall thickness of tubes

The method of measuring and controlling hot wall thickness of tubes is illustrated in figure 5. The production line comprises a 5-stand mandrel mill and 12-stand sizer and hot wall thickness meter. No 4 and 5 stand of the mandrel mill are final reduction rolls. Figure 6-a is an illustration of No 4 stand and figure 6-b shows No 5 stand. Figure 6-c shows the channel directions of a hot wall thickness meter.

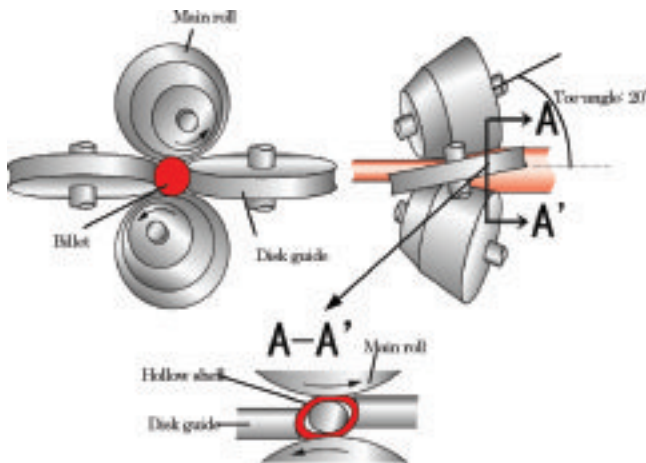


Figure 4: View of piercer

Figure 5: Schematic illustration of the method of measuring and controlling hot wall thickness of tubes

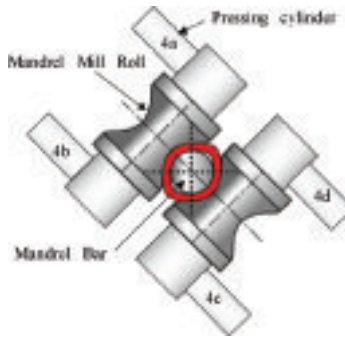
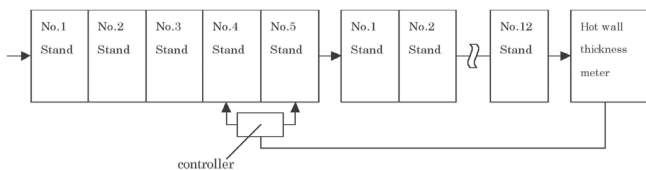


Figure 6-a: Schematic illustration of mandrel mill No 4 stand

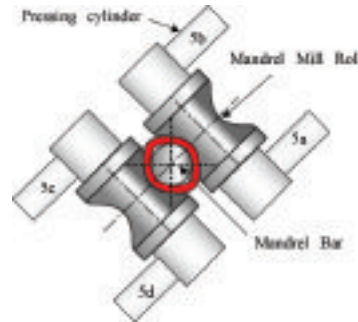


Figure 6-b: Schematic illustration of mandrel mill No 5 stand

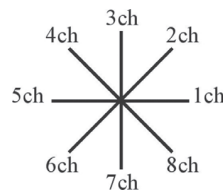


Figure 6-c: Directions of the channels of hot wall thickness meter

Figure 7-a is a representation of such results of an example in which the new method isn't carried out and figure 7-b is a representation of the results of an example in which the new method is carried out.

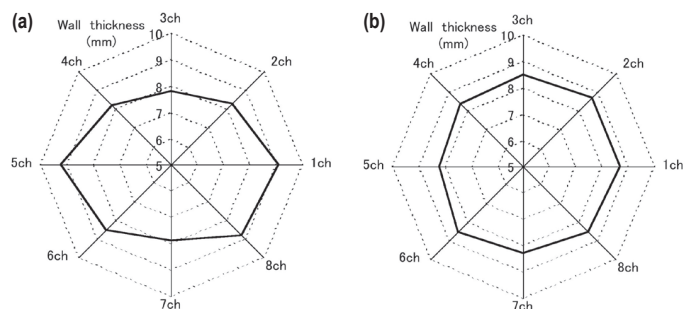
Figure 8 is a graphic representation of the changes in deviation in thickness by starting the control of wall thickness.

Figure 9 is a graphic representation of the distribution of the deviation in thickness before and after controlling wall thickness.

In figure 6-a cylinders 4a and 4b are positioned on both sides of an upper roll of No 4 stand. The extent of groove closure caused by cylinder 4a and 4b is controlled by feeding back the results of the thickness measurements in the directions of channels 3, 4 and 5, among channels 1 through 8 as shown in Figure 6-c. Cylinders 4c and 4d are placed on both sides of a lower roll of No 4 stand.

Figure 7: Results of hot wall thickness measurement

- (a) Representation of results in an example in which the new method is not carried out
- (b) Representation of results in an example in which the new method is carried out



Feeding back the results of the thickness measurements in the directions of channels 1, 8 and 7 controls the extent of groove closure caused by cylinder 4c and 4d. In figure 6-b the same concept is illustrated at No 5 stand.

The extent of groove closure caused by cylinder 5a and 5b is controlled by feeding back the results of the thickness measurements in the directions of channels 1,2 and 3.

The extent of groove closure caused by cylinder 5c and 5d is controlled by feeding back the results of the thickness measurements in the directions of channels 5, 6 and 7.

The mean value w_{t_ave} of thickness measurement data for channels 1 to 8 can be represented as follows:

$$w_{t_ave} = (wt_1 + wt_2 + wt_3 + wt_4 + \dots + wt_8) / 8$$

$w_t(i)$ = thickness measurement of channel(i)

The difference of channel (i) between thickness measurement and mean value (w_{t_ave}) is represented as follows:

$$dwt(i) = w_t(i) - w_{t_ave}$$

When the controlled variables for cylinders 4a and 4b are represented by d_{4a} and d_{4b} , and the direction of opening of the cylinders is represented by + and -, the following equations can be formulated:

$$d_{4a} + d_{4b} = -2 \times dwt_4$$

$$d_{4a} - d_{4b} = k \cdot (dwt_5 - dwt_3)$$

According to geometric calculations, k is equal to $2 \cdot 0.5 L/R$, where L is cylinder distance and R is the roll radius. But k may be determined empirically by mill conditions or reduction sizes.

In the same way, the following equations can be formulated:

$$d_{4c} + d_{4d} = -2 \times dwt_8$$

$$d_{4c} - d_{4d} = k \cdot (dwt_1 - dwt_7)$$

$$d_{5a} + d_{5b} = -2 \times dwt_2$$

$$d_{5a} - d_{5b} = k \cdot (dwt_3 - dwt_1)$$

$$d_{5c} + d_{5d} = -2 \times dwt_6$$

$$d_{5c} - d_{5d} = k \cdot (dwt_7 - dwt_5)$$

Therefore, the controlled variable for every cylinder is obtained. After the tube is rolled and measured by a hot wall thickness meter, the position of every cylinder is adjusted.

At every rolling, the roll's positions are adjusted and the wall thickness is measured again. By repeating, adjusting and measuring, the deviation of wall thickness is minimised.

Conclusion

Premium seamless steel tubes are produced at Wakayama Steel Works. Two of the most important new-generation technologies for the production are:

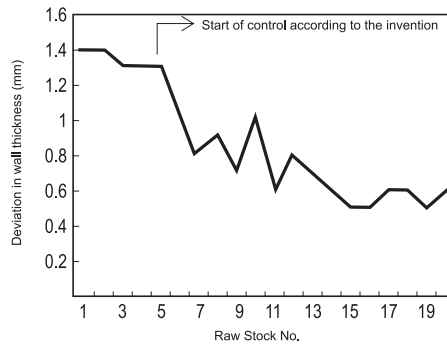


Figure 8: Graphic representation of the changes in deviation in thickness using cylinder control

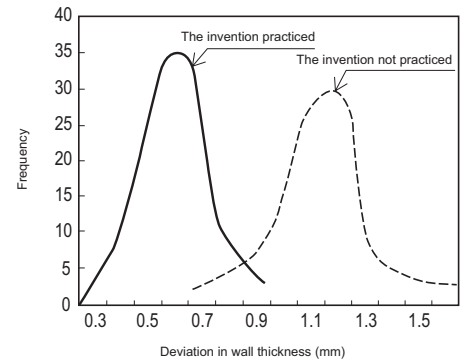


Figure 9: Graphic representation of the distribution of the deviations in thickness before and after cylinder control

1. The high-toe-angle and high-expansion piercing technology, enabling SMI to produce high-strength pipes and stainless pipes without defects.
2. The new method of measuring and controlling hot wall thickness, enabling SMI to produce pipes of very accurate dimensions.

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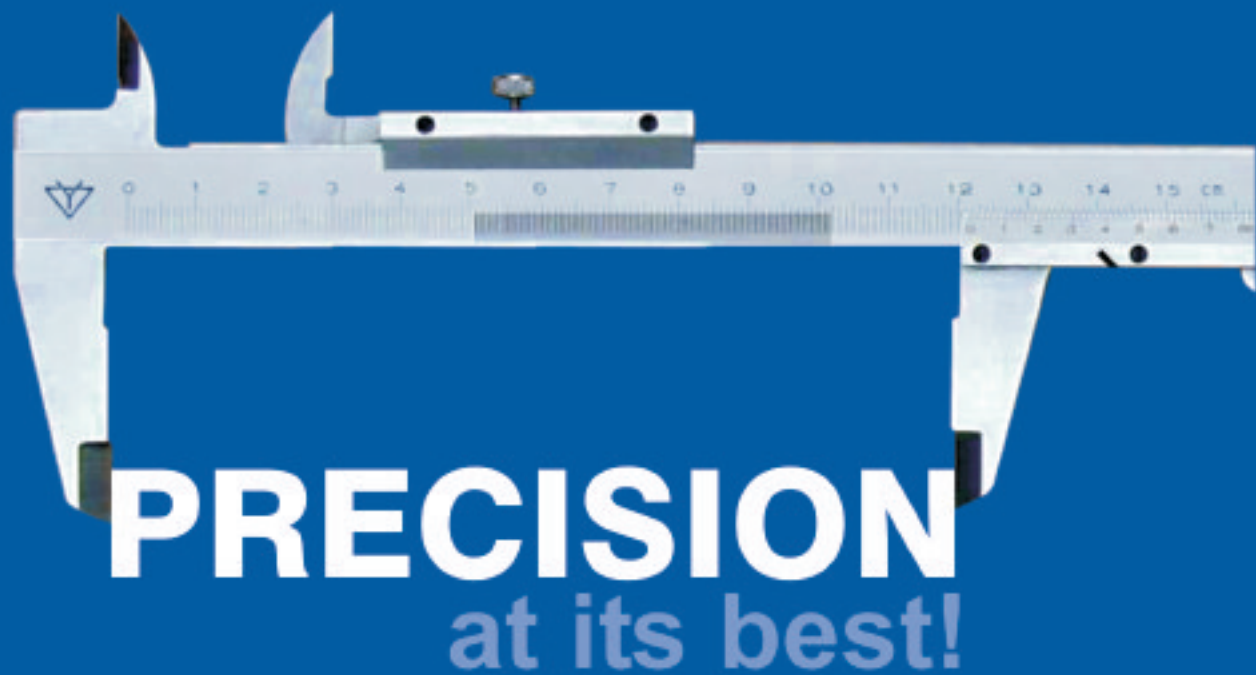
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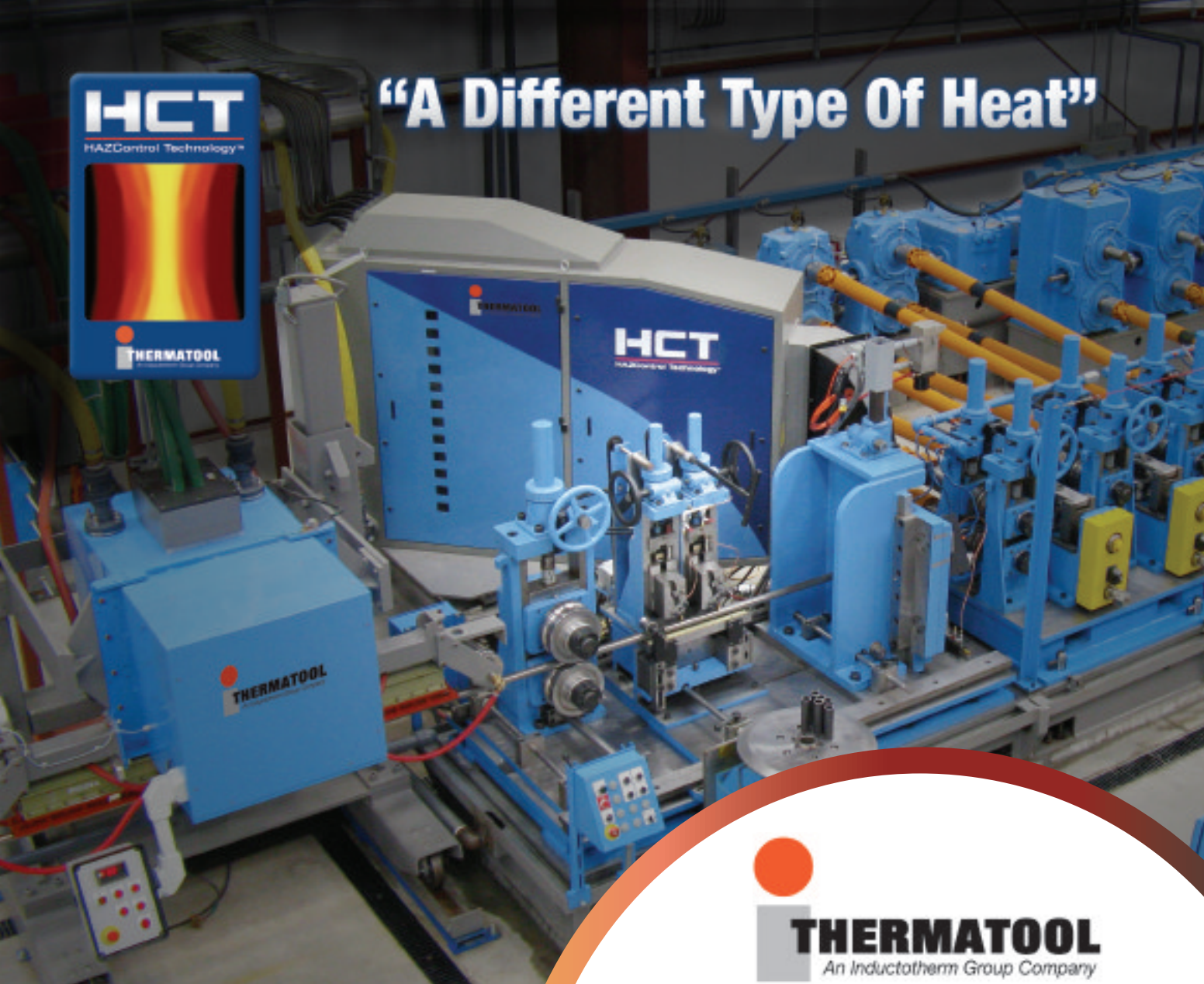
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