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## INTERNATIONAL



The trade magazine for tube and pipe products

July 2016



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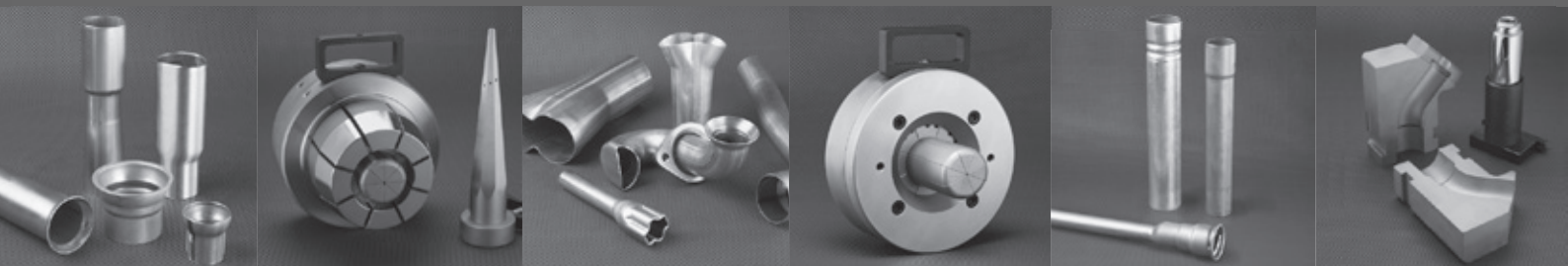
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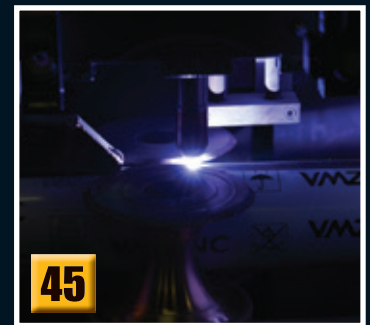
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# Contents

July 2016

- 6** Business & Market News
- 28** Products & Developments
- 42** Pipe welding
- 52** Tube China 2016
- 54** Interview with Peter Westerman  
MD of Westermans International, UK
- 56** New cutting ring system:  
a cut above the rest  
Article supplied by Voss Fluid, Germany
- 59** Editorial Index
- 60** Advertisers Index



# Tube Products INTERNATIONAL

The trade magazine for tube and pipe products



## The July issue

Welcome to the latest Tube Products INTERNATIONAL. This issue we have a feature on pipe welding, an interview with the veteran MD of Westermans International (see page 54) and an in-depth article from Voss Fluid looking at a new cutting ring system (page 56).

I have just returned from the Lamiera Show in Bologna, Italy. It was my first time at this event and I was really impressed by the quality of the show and its organisation as well as by the charming people of this friendly, welcoming city.

Italy's economy has suffered as much as any of the traditional engineering giants in Europe in recent years. The European tube industry needs a strong Italy so I was interested to find out what moves were being made to ensure that it recovers and gets stronger in the coming decades. I attended several seminars and spoke to a number of people from engineering associations and the government who said that this matter was now being treated as a top priority and I hope this is indeed the case.

This pledge was reflected in the show itself, which was incredibly busy with a very positive atmosphere and a lot of innovation. I really hope that the moves to help Italian exports increase by working with some of the big new economies around the world – such as the partnership with Mexico, which was being promoted at Lamiera 2016 – are a success. Significant investment in, among other things, trade shows such as Lamiera has been promised and that is an excellent first step.

The September issue will be distributed at Tube India, Valveworld in Germany and at FABTECH, Las Vegas. We also have features on automotive tubes, tube cutting services and tube stockists & distributors.

I hope that you enjoy the magazine. Contact me at [rory@intras.co.uk](mailto:rory@intras.co.uk)

**Rory McBride**  
Editor



# events calendar

## 2016



**26-29 September**  
**Tube China** (Shanghai, China)  
International Exhibition  
[www.tubechina.net](http://www.tubechina.net)



**5-7 October**  
**Tube India** (Mumbai, India)  
International Exhibition  
[www.tube-india.com](http://www.tube-india.com)



**25-27 October**  
**Indometal** (Jakarta, Indonesia)  
International Exhibition  
[www.indometal.net](http://www.indometal.net)



**25-29 October**  
**EuroBlech** (Hanover, Germany)  
International Exhibition  
[www.euroblech.com](http://www.euroblech.com)



**16-18 November**  
**FABTECH** (Las Vegas, USA)  
International Exhibition  
[www.fabtechexpo.com](http://www.fabtechexpo.com)



**29 November – 1 December**  
**Valve World** (Düsseldorf, Germany)  
International Exhibition  
[www.valveworldexpo.com](http://www.valveworldexpo.com)

## 2017



**Spring (dates to be announced)**  
**Tube Arabia** (Dubai, UAE)  
International Exhibition  
[www.metalmiddleeast.com](http://www.metalmiddleeast.com)



**23-25 March**  
**Boru 2017** (Istanbul, Turkey)  
International Exhibition  
[www.borufair.com](http://www.borufair.com)

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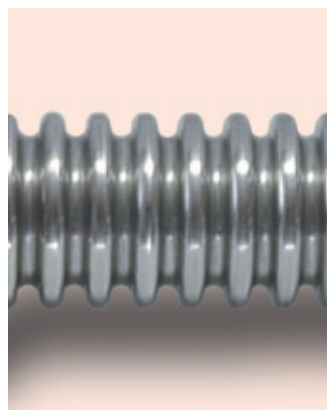
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316L material



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connection and  
material selection



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# business & market news



>B< Press Inox products

## Conex Bänninger announces BIM-ready range

Key product lines in Conex Bänninger's pipe fittings portfolio are now available to download as BIM models.

With the passing of the deadline for the mandatory use of Building Information Modelling (BIM) Level 2 for UK centrally procured projects, pressure is mounting for manufacturers to make sure their products meet the minimum requirements.

Specification is a key growth market for Conex Bänninger, so it was important to ensure that focus product lines were available to download before the April deadline, which now includes its >B< Press fittings range, K65 (used primarily for commercial refrigeration), and specification valves portfolios.

BIM is classified as a collaborative way of working, underpinned by the digital technologies that help to bring about more efficient methods of designing, creating and maintaining buildings.

According to the UK Government's construction strategy, the purpose of BIM is to embed key product and asset data into a three-dimensional computer model that can be used for effective management of information throughout a project lifecycle, from concept through to operation.

This means that the demand for BIM data – for products like >B< Press and K65 – will only grow, as construction teams look to accurately map the lifetime and life costs of a building.

Bill Barlow, UK business unit director for Conex Bänninger, commented, "BIM has been a key business priority of ours for a number of years and we were keen to ensure that we were compliant with regards to designing BIM models for core product lines, like >B< Press, and ensuring they were available for download.

"The demand for BIM modelling is on the rise for all products in the build process, big or small. It's an important step forward for us and more product lines will be ready for download in the coming months."

**Conex Bänninger – UK**  
salesuk@ibpgroup.com  
www.conexbanninger.com



## AHC's new plant in China

Dutch industrial company Aalberts Industries has operated a plant for surface treatment of components near Shanghai, China, for around two years, under the name Hangzhou AHC Surface Treatment Technology Co, Ltd.

Since 1 January 2016, this plant has been officially integrated into the AHC Group, which is itself part of Aalberts Industries NV.

The AHC Group, with its headquarters in Germany, focuses on providing technically functional coatings of surfaces as a service. AHC Hangzhou can draw on over 50 years of coating experience within the AHC Group.

The AHC group finishes around one billion components annually for thousands of customers in all key industries. Overall, more than 40 processes and more than 100 process variations are used, in more than 20 plants for close proximity to customers.

At the Hangzhou plant, the concept of sustainable environmental protection and energy efficiency meets stringent Chinese requirements. Reproducible and robust processes are necessary in order to be able to control the high differentiation of finishing of customer components. For this reason, AHC's process experience was used in the design of the coating systems and the wastewater technology.

AHC supplies surface coatings for mechanical engineering, and for large system suppliers to the automotive industry.

Fuel pump casings, impellers for turbochargers and control pistons for automatic transmissions, all made from aluminium alloys, are protected against wear and corrosion.

The team at AHC Hangzhou provides different processes of anodisation and hard anodisation, as well as electroless nickel plating of aluminium components. In addition, non-ferrous metals and ferrous materials, including stainless steels, are treated with diverse electroless nickel processes.

Components of up to 1,000kg and with dimensions up to 3,000mm length x 600mm width x 1,200mm height are treated in the anodising line.

Processes are hard anodising Hart-Coat®, Hart Coat GLATT (HC-GL), and technical anodising, in each case with the possibility of black colouring and repressing. Components suitable for the electroless nickel plant have



*Durni-Coat process electroless nickel coated ball valves*

a maximum weight of 1,500kg and maximum dimensions of 1,100mm x 600mm x 1,500mm. In addition to the Durni-Coat® process, a variant with incorporated PTFE (PTFE Durni-Disp) is offered. This is a dry lubricant layer having good adhesive wear properties.

**Hangzhou AHC Surface Treatment Technology Co, Ltd** – China  
[info@ahc-china.com](mailto:info@ahc-china.com)  
[www.ahc-china.com](http://www.ahc-china.com)

**AHC Oberflächentechnik GmbH** – Germany  
[www.ahc-surface.com](http://www.ahc-surface.com)

## Celebrating 40 years of manufacturing

Valen Fittings Ltd is a manufacturing company operating in the UK, offering products to the oil, gas, petrochemical, nuclear and related industries.

This is the company's 40<sup>th</sup> year of manufacturing products to suit the individual needs of its customers.

With ongoing investment in new techniques and machinery, and a skilled workforce, the company states that it has built a reputation for producing

high quality products, all made from European materials.

Valen Fittings produces large-diameter welded fittings, bespoke lengths of pipe to suit order-specific requirements and special fabrications. It has a manufacturing capability of 6" NB to 40" NB and a thickness range of 5 to 35mm.

The company uses materials that include stainless steel, super austenitic, duplex, super duplex, nickel alloys and

aluminium, and offers both standard and fast-track delivery options, allowing it to supply against time-restricted contracts.

A range of testing is available, and the company has an independent UKAS-approved testing laboratory and independent radiography unit on site.

**Valen Fittings Ltd** – UK  
[sales@valenfittings.co.uk](mailto:sales@valenfittings.co.uk)  
[www.valenfittings.co.uk](http://www.valenfittings.co.uk)

# Flexitallic manufactures its largest Kammprofile gasket for Middle East chemical plant

Flexitallic, a specialist manufacturer and supplier of sealing products and services, has delivered its largest ever Flexpro Kammprofile gasket, which will be utilised in a plant in Egypt.

The 4.7m diameter gasket, which is faced with graphite, will be installed on an oxy-reactor on a plant manufacturing propylene and polypropylene. It was ordered through Flexitallic distributor European Trading Co (Eurotrade) in Egypt.

Flexitallic's Flexpro Kammprofile, which

is suitable from vacuum to extremely high pressure applications, is claimed to deliver the compressibility of a sheet gasket for low sealing stress together with the bolt tightness of a spiral wound gasket, and the handling ease of a solid metal gasket and its resistance to buckling.

Manufactured at Flexitallic's production facility in Cleckheaton, West Yorkshire, UK, the graphite gasket exhibits effective recovery characteristics, maintaining joint tightness under pressure and temperature fluctuations.

The Flexpro gasket is also effective against temperature differential across the flange face, flange rotation, bolt stress relaxation and creep.

Phil Kelshaw, sales director for the eastern hemisphere for Flexitallic, said, "The design and production methods we have developed have enabled Flexitallic to meet the bespoke requirements of industry. The challenge to deliver effective, safe and efficient operations has to be supported by innovative and skilled suppliers, such as Flexitallic, which can deliver solutions whatever the individual specifications of the project. This Flexpro Kammprofile gasket is another example of Flexitallic's investment in research and product development to ensure that its technology can be applied effectively across multiple industry sectors in a broad range of sizes without reducing any of its capabilities."

The Flexitallic Group, focused on the upstream, downstream and power generation sectors, has operations in France, USA, Canada, Mexico, UK, Germany, UAE, Saudi Arabia, Kazakhstan and China, plus a network of worldwide licensing partners and distributors.

**Flexitallic – France**  
[www.theflexitallicgroup.com](http://www.theflexitallicgroup.com)



Flexitallic stock team leader Brian Cullen stands next to the 4.7m FlexPro Kammprofile gasket

# Yokogawa completes acquisition of KBC Advanced Technologies

Yokogawa Electric Corporation has announced that the acquisition of KBC Advanced Technologies plc was completed in April, and that KBC has now become a member company of the Yokogawa Group.

KBC is a provider of software and consultancy to the global oil and gas industry, focused on achieving operational excellence and improving

profitability for both the upstream and downstream segments. It provides a blend of advanced software for process optimisation and simulation and consulting services based on this technology.

Yokogawa provides control systems, field instruments for measuring temperature, flow and pressure, and various other solutions that support safe and efficient

operations. As a result of this acquisition, Yokogawa says it will strengthen its position in the industrial automation sector by being able to provide a range of services and a robust product portfolio.

**Yokogawa Europe BV – Netherlands**  
[www.yokogawa.com/eu](http://www.yokogawa.com/eu)

**KBC Advanced Technologies – UK**  
[www.kbc.at.com](http://www.kbc.at.com)



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- A market overview from Preston Publishing Company
- An exclusive tour and luncheon at Joe Gibbs Racing
- An optional networking dinner/tour at The Speedway Club
- A tabletop exhibition and networking reception



"As a speaker I appreciated the integrated exhibition and conference arrangement as that provided a good opportunity for attendees to visit my exhibit and discuss my presentation. I look forward to meeting you in Charlotte."

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[pipetubeconf.fmanet.org](http://pipetubeconf.fmanet.org)

# Scan Systems gains ISO 9001:2008 certification

Scan Systems Corp has received ISO 9001:(2008) certification for its quality management system and business practices.

The rigorous certification process, which evaluates a company's focus on continual improvement and customer satisfaction, requires an accredited third party auditing organisation to audit the internal quality management systems and processes to verify that they are capable of consistently providing a service that meets customers' expectations and needs.

"This certification is a tremendous achievement for Scan Systems," said Matt Rutledge, vice president/

general manager of Scan Systems. "Our dedication to quality can now be communicated.

"The OCTG industry does not necessarily require companies to have ISO 9001:(2008) compliant quality systems, but one of our goals at Scan Systems is to consistently send the message to our customers that we are reliable, trustworthy, innovative, and will do what it takes to take care of them. We are committed to the OCTG market and are proud to say we are now part of a small percentage of companies around the world with this prestigious certification."

Scan Systems Corp, based in Houston, Texas, USA, comprises four operating

divisions, each providing services and products to the pipe and metals industries, specifically focused on measuring systems, calibration standards, inspection methods and equipment, and OCTG physical inventory control systems.

The company's catalogue of equipment and services for the OCTG industry includes MFL inspection equipment, calibration standards, automated tally equipment and software, inventory management software, and customer support, service and repairs.

**Scan Systems Corp – USA**  
info@scansystems.com  
www.scansystems.com

# Vallourec presents brand signature: Smart tubular solutions

Vallourec has been producing steel tubes for the oil and gas, electricity and mechanical engineering industries for more than a century.

These products, the result of a cutting-edge research and development process, are critical components in such ambitious projects as deepwater offshore drilling off the coast of Angola; corrosion-resistant tubular connections for high-pressure and high-temperature wells in the Gulf of Mexico; boiler tubes for the world's

most efficient thermal power plant in Germany; and seamless structural tubes for the roof of the biggest soccer stadium in Brazil.

Behind the scenes of these technical accomplishments is the industrial expertise of Vallourec's teams and their ability to come up with solutions.

Hit hard throughout the past few months by the falling price of oil and deferred investments from customers in the oil industry, the group has

launched a large-scale transformation plan to reinforce its competitiveness, increase the differentiation of its offer and develop its market share.

To support this effort and improve its business activities, Vallourec is strengthening its brand with a signature, "Smart tubular solutions", that highlights its ability to meet customer requirements and the ingenuity of its solutions.

**Vallourec – France**  
www.vallourec.com

# Molecor celebrates ten years

It has been ten years since Molecor was founded. The Spanish company specialises in the development of molecular orientation technology applied to the conveyance of water under pressure.

Its process provides efficient and environmentally friendly systems to manufacture orientated PVC pipes.

During its ten years, Molecor expanded its capabilities. For example, in 2007 the company introduced DN200mm PVC-O pipe; by 2015 the range had extended to DN 800mm.

Other landmark events included the opening of a new factory in 2013, with an 11,000 t/year installed capacity; and the establishment of Molecor (SEA)

Sdn Bhd (Malaysia). The company has received several prizes during these ten years. In 2015 it was awarded as best small and medium enterprise of the year in the second edition of the CEPYME Awards.

**Molecor Tecnologia SL – Spain**  
info@molecor.com  
www.molecor.com

# Denys and Selmers win IPLOCA New Technologies Award

Selmers has announced that the company, together with Denys, has won the 2015 IPLOCA New Technologies Award sponsored by BP. The award was presented during the IPLOCA annual convention held in Singapore, by Michael Hiam, engineering manager, BP Integrated Supply and Trading.

The award is given in recognition of a significant achievement in the development of new pipeline technologies. The IPLOCA New Technologies committee, with Jean Claude Van de Wiele as the chairman, decided to present the award to Denys and Selmers, represented Johan van Wassenhove (Denys), Bart Appelman (Selmers) and Luc Hoppenbrouwers (Denys), in recognition of their work on their onshore automatic vacuum field joint blaster.

The adjudication committee selected this entry because the new tool improves HSE conditions for workers in the field; it is a development coming from a contractor and a manufacturer working together; and it is an example of technology transfer from the offshore to the onshore industry.

Denys specialises in the onshore construction of oil and gas pipelines, and has used this field joint blaster in day-to-day work. Together with Denys, Selmers was able to evaluate the field joint blaster when used in the field. With the outcome of the evaluations, the working of the field joint blaster was optimised.



The award-winning onshore automatic vacuum field joint blaster designed by Selmers

Conventional field joint blasting is typically a time-consuming manual operation, and carries some safety, health and environmental risks, since the process produces a lot of dust and thus also potential pollution. The quality assurance also demands effort and discipline.

Being informed about the performance of the Selmers joint vacuum blaster, used in the offshore industry, Denys made contact with Selmers. The companies agreed that the joint vacuum blaster could be adapted for onshore pipeline construction, and would remedy the shortcoming of manual joint blasting.

The Selmers field joint vacuum blaster is developed to improve cycle times and produce identical blasted joints considering roughness and cleanliness.

The design of the Selmers blaster is dust-free, and the abrasive is re-used in the integrated abrasive reclaim system.

Advantages of the operator-friendly closed-loop vacuum blaster include internal grit recovery; high blasting capacity; and a clean, automated and remote-controlled process with minimal abrasive loss.

**Selmers BV** – Netherlands  
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London  
NW10 6ND

Member of the **ITA**

www.qualitube.co.uk

Jean Claude Van de Wiele, Johan Van Wassenhove, Bart Appelman, Luc Hoppenbrouwers and Michael Hiam



# New specification guidance for water industry

The British Plastics Federation (BPF) Pipes Group has launched a new reference guide to aid designers, consultants and contractors in the specification of polyethylene pipes and fittings.

With the many standards and certifications to comply with in the water industry, knowing which ones are relevant and current can often be complicated. The new guidance document introduced by the BPF Pipes Group has been designed to provide a single reference point for specifiers looking to select polyethylene pipe and fittings products.

Installing the correct pipeline material for a specific application is vital in the water

industry, to protect both the public and the environment. The comprehensive new guide outlines the approvals and regulations that apply to PE pipe and fittings being used for water supply, drainage and sewerage applications, with a detailed section on products that come into contact with drinking water.

The guide, which will be regularly updated, ensures the water industry can obtain the necessary knowledge and information to confidently make the most appropriate specifications for polyethylene pipe and fittings applications.

Dominic O'Sullivan, chair of the BPF Pipes Group's pressure pipes and fittings working group, commented, "This new

guidance document is a positive step to ensuring the successful selection and operation of polyethylene pipelines within water applications. The BPF Pipes Group is dedicated to working with the water industry to help improve the understanding of polyethylene pipe and fittings systems, and this latest development aims to provide pipeline designers and specifiers with the necessary knowledge to confidently make correct product selections."

The new guidance document can be downloaded from the BPF Pipes Group website.

**BPF Pipes Group – UK**  
info@plasticpipesgroup.com  
www.plasticpipesgroup.com

# Fusion machine selected for desert water line project

McElroy's MegaMc® 1600 fusion machine has been selected to fuse pipe in support of drought mitigation activities being undertaken by the US Department of the Interior's Bureau of Reclamation. As part of an ongoing initiative to preserve water resources during the West's ongoing and historic drought, Reclamation is updating aged infrastructure to be able to achieve greater efficiency out of its water delivery systems.

Materials for an effort to replace aged and leaking concrete water delivery structures were delivered in March near the Mexico border in San Luis, Arizona. By fusing 48" HDPE pipe to replace a failing 42" concrete pipeline, the government will be able to make beneficial use of pumped drainage water, which is otherwise harmful to the area's agricultural economy.

R&B Company of San Jose, California, a utility supply solutions company, supplied the machine that would best fit the application, along with 40,000ft of pipe. It also provided certified fusion operator training for the maintenance

crew from Reclamation's Yuma office. The MegaMc 1600 wheeled fusion machines have been used on large-diameter pipe jobs in a variety of applications worldwide. They feature four-jaws with more than 80,000lb of fusion force, allowing operators to overcome heavier drag forces and fuse thicker-wall pipes. Components including the jaws, pipe lifts, heater and facer are hydraulically powered for smoothness and ease of use.

When considering a pipe material, a multi-disciplinary team of engineers analysed many types, including steel and reinforced concrete, but selected JM Eagle's PE 4710 SDR 17/IPS 125, recommended by R&B for its strength, durability and flexibility. Properly fused HDPE pipe is leak-free and resistant to corrosion and weather. Studies indicate it can last 100 years.

McElroy's technical and engineering support team was on site the first day of the job to re-instil best practices in the operation of the machine and to spend one-on-one time with each of the

fusion operators, to review each step of the fusion process. Safe operation of the facer and heater were stressed, and McElroy's DataLogger® 5 was used to record the parameters of the fusion process, to ensure and document that the operator produced a quality, leak-free joint.

McElroy also assisted with job-site setup utilising a series of pipe stands, strategically situated on either side of the machine for support, to prevent pipe damage, reduce drag and boost productivity.

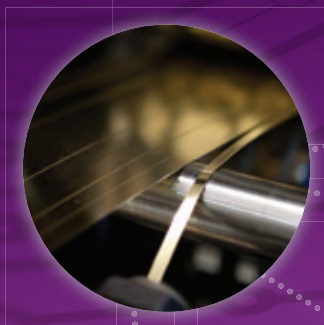
The crew will perform a total of around 600 pipe fusions for the six-mile pipeline, and are planning on being able to perform about 12 fusions per day in two four-man shifts.

The first phase of the project is expected to be completed later this year, with two other larger phases to be completed by 2018.

**McElroy – USA**  
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## Bibby Offshore secures first Norwegian contract

Bibby Offshore's Norway division, Bibby Offshore AS, has secured its first contract in the region with ConocoPhillips Skandinavia.

Managed from Bibby Offshore's Stavanger office, the scope of the contract involves project management, installation engineering, procurement and subsea installation works, related to maintenance activities on the Norpipe Oil pipeline.

The contract is due for completion in Q3 2016 and will utilise the construction support vessel *Olympic Ares* to support operator ConocoPhillips on integrity management of the Norpipe Oil pipeline between the Ekofisk area and the Teesside facility in the UK.

Arne Lier, managing director of Bibby Offshore Norway, said, "We are delighted to have secured our first Norwegian contract with a leading E&P company such as ConocoPhillips."

The company stated that award demonstrates that it has the capability to provide the service and support required in the Norwegian sector.

"Over the years, Bibby Offshore's international divisions have successfully

secured regular and repeated work with a number of operators. Our goal in Norway is to grow and develop the business in a similar way by successfully delivering on projects safely and efficiently, and to develop our reputation as the go-to subsea service provider for the region," concluded Mr Lier.

Bibby Offshore (UK) has also secured a multi-million pound contract with a North Sea operator, to deliver decommissioning operations in the Northern North Sea East Shetland Basin.

The agreement, due to be completed by the end of 2016, will utilise one of Bibby Offshore's construction support vessels with adequate deck space and crane capabilities to execute operations approximately 550km northeast of Aberdeen, UK.

The company has been appointed to carry out remedial rock placement over the existing 16" oil export pipeline, recovery of 12" pipeline bundles, subsea structure removal with pile severance, and debris removal within the platform's 500m zone and along bundle routes. Waste disposal services will also be provided, recovering items that can be decontaminated, disposed or recycled,



Arne Lier, managing director of Bibby Offshore Norway



Bibby Offshore chief operating officer Fraser Moonie

followed by an over-trawl of the cleared field.

Fraser Moonie, chief operating officer of Bibby Offshore, said, "We are looking forward to building on our existing relationship with this particular client and continuing our partnership to provide subsea services for its offshore assets.

"Decommissioning work is of a specialist nature and, with more oil and gas infrastructures reaching the end of their design life, multi-industry experience is key to ensure each project is completed in a safe and responsible manner. With ten years of experience in decommissioning projects globally, often in highly challenging conditions, we have built up a strong track record and are ideally positioned to support companies' operations."

**Bibby Offshore – UK**  
info@bibbyoffshore.com  
www.bibbyoffshore.com



*Olympic Ares construction support vessel*



## Major facility expansion for metal processing in Denver

Samuel has made further investment in a new facility in Denver, Colorado, USA. The fully racked 70,000ft<sup>2</sup> facility is designed for optimal material storage and handling, and allows for an expanded product range in

stainless steel and aluminium. The plant offers value-added processing in bar sawing, plasma burning, plate bevelling and aluminium plate sawing. Samuel Denver's new location includes aluminium plate processing with a

high-precision MetiSaw, as well as an inventory of full plates; three stainless steel and aluminium bar saws; a high-definition plasma machine with bevelling capability for stainless steel; PVC applicator machine for the protection and coating of sheet metal; optimised material storage and handling; and ISO 9001 certification.

"This investment provides our Rocky Mountain area customers with value-added advantages in metal processing and material handling," said Dave Hollar, general manager, Samuel Denver. "We now have the processing capabilities and efficiencies that will increase our service levels to our valued customers."

**Samuel, Son & Co, Ltd** – Canada  
[sales@samuel.com](mailto:sales@samuel.com)  
[www.samuel.com](http://www.samuel.com)



Inside the Samuel Denver facility

## Brazilian trade fairs confirm positions in South America

The international trade fairs TUBOTECH and wire South America were held jointly at the São Paulo Expo Exhibition & Convention Center in Brazil in October. TUBOTECH, a trade fair for tubes, valves, pumps, fittings and components, took place for the eighth time, while the second wire South America confirmed the trade fair concept after a successful premiere in 2013.

Although Brazil's economic growth has slowed down, and despite the negative growth expected for 2016, the products of the wire, cable and tube industries are of the same importance for Brazilian industry. This is especially true for the construction and automotive industries, as well as for household electronics in general. At wire South America 150 exhibitors from 25 countries presented the latest from the wire and cable industry. For the first time there was a German national participation, comprising 22 companies.

TUBOTECH and wire South America will again be held from 3 to 5 October 2017 at the São Paulo Expo Exhibition Center.

**Messe Düsseldorf GmbH** – Germany  
[info@messe-duesseldorf.de](mailto:info@messe-duesseldorf.de)  
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## American Piping Products president appointed

American Piping Products CEO Al Rheinnecker has appointed Matt Danis as the company's new president. Mr Rheinnecker will retain his role as CEO, while Mr Danis will take on additional leadership responsibilities in his new role as president.

Mr Danis has served American Piping Products as managing director and chief financial officer since May 2014.

He previously served as chief financial officer and chief operating officer for the company from September 2009 to April 2014. His focus is on sales, business development, accounting and finance.

Prior to joining American Piping Products, Mr Danis was CEO and CFO of WIT Postal Logistics, LLC. He acquired and strategically managed ten

middle market businesses as a member of two private equity firms, and earned a Bachelor of Arts in Economics from the University of Richmond and a Master of Business Administration from the Wharton School at the University of Pennsylvania.

**American Piping Products – USA**  
sales@amerpipe.com  
www.amerpipe.com

## TMK and Bashneft in joint technology partnership

TMK, a producer of tubular products for the oil and gas industry, and PJSOC Bashneft, a major Russian oil company, have signed a technology partnership programme for 2016-2020.

The programme provides for over 20 joint activities related to the development, introduction and piloting of TMK products at Bashneft's oilfields. The range of products to be supplied by TMK includes low-temperature and

corrosion-resistant pipe, pipe with premium connections, high collapse pipe, vacuum insulated tubing, including super chrome (13Cr) steel tubing, and pipe used for hydraulic fracturing.

A separate section of the programme envisages cooperation between TMK and Bashneft in well completion, as well as sharing of experience and R&D information, and collaboration in

conceptual engineering, pipe string sinking and technical support.

TMK operates more than 30 production sites in the USA, Russia, Canada, Romania, Oman, UAE and Kazakhstan, and two R&D centres in Russia and the USA.

**TMK – Russia**  
tmk@tmk-group.com  
www.tmk-group.com

## Val-Matic announces new president and CEO

Val-Matic Valve & Manufacturing Corp has announced that John V Ballun,



executive vice president and chief operating officer, will succeed Mr Makowan as president and CEO.

Mr Ballun joined Val-Matic in 1995 as vice president of engineering, and previously worked in various engineering management roles at other valve manufacturing companies. Over his career, he has published numerous articles on valve technology and contributed to several standard development organisations, including the American Water Works Association (AWWA) and the Manufacturing Standardization Society (MSS). Mr Ballun earned a Bachelor of Science Degree in Engineering from Illinois Institute of Technology, and a Master Degree in Business Administration from Northern Illinois University.

Patricia Nuter will continue to serve as the chairman of the board, executive chairman, and treasurer of Val-Matic. Board member Mr Makowan said, "I am very proud of the team we have assembled and feel this team under the direction of Pat Nuter and John Ballun will continue our growth and the pursuit for perfection in everything that we do as a company."

Val-Matic manufactures air valves, check valves and quarter turn shut-off valves for water/wastewater, power, industrial, fire protection and HVAC applications.

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# Seal of approval for Trelleborg following accreditation

Trelleborg's fluid handling operation, a supplier of innovative flexible bonded hoses for the crude oil, chemicals and liquefied natural gas (LNG) offshore industries, has been awarded EN1474-2 accreditation following the development of a hose design for use in the transfer of LNG between floating terminals and carriers. It is the first product of its kind to receive this accreditation.

Until recently, the majority of projects have adopted a side-by-side configuration when undertaking LNG transfer, with the end product transferred via a cryogenic marine loading arm between two vessels positioned alongside one another. The close proximity of the two vessels – as little as five metres (16ft) – has been known to lead to a number of

potential operational difficulties, as well as an increased scope for issues around safety, involving collision between the two vessels.

This led to the development of a new approach. Vessels can now be situated in tandem with one behind the other, at a distance of approximately 100-150m (328 to 492ft), enhancing the overall safety and efficiency of the LNG transfer process through a larger operating window, and enabling LNG transfer to occur even in the most challenging weather conditions.

Instrumental to the new configuration is a 0.5m (20") inner diameter and 20 barg working pressure cryogenic floating hose, developed as part of

a long-standing collaboration between Trelleborg and Saipem. Following a rigorous testing process, this innovation has fulfilled the criteria to satisfy the EN1474-2 standard for LNG transfer. It comprises a floating hose based on a hose-in-hose concept with an outer rubber marine protective hose housing an inner LNG cryogenic composite layer – a technology already well established in ship-to-ship LNG transfer operations.

Given the demanding environments in which these hoses are used, exhaustive checks must be in place to determine that they are fit for purpose, since design flaws can have a potentially enormous impact on production, cost and the environment. To meet the requirements of EN1474-2 standard, Trelleborg successfully tested several full-scale hose prototypes in static and dynamic conditions, with most of the tests taking place in cryogenic conditions at -196°C (-321°F). The tests demonstrated the ability of the hose to cope with extremely high loading conditions in severe operating environments.

The innovation will help bring LNG transfer in line with similar operations in the oil sector, where more than 90 per cent of transfer operations now take place via a tandem configuration.

**Trelleborg** – Sweden  
[www.trelleborg.com](http://www.trelleborg.com)

*Tandem configuration LNG transfer*



# Hexagon acquires Aicon 3D Systems

Hexagon AB, a provider of information technologies that drive productivity and quality across geospatial and industrial enterprise applications, has announced the acquisition of Aicon 3D Systems, a provider of optical and portable non-contact 3D measuring systems for industrial manufacturing.

Founded in 1990 and based in Braunschweig, Germany, Aicon has supplied measurement technology to automotive manufacturers and companies in the aerospace, shipbuilding, renewable energy and

mechanical engineering markets for more than 25 years.

Its portfolio includes portable coordinate measuring machines for universal applications and specialised optical 3D measuring systems that enable high-precision monitoring, quality assurance and control in manufacturing production. Aicon has a direct presence in Germany; subsidiaries in China, Korea, Japan and the USA; and a network of resellers worldwide supported by its field support resources.

“Aicon is a recognised brand with strong core technical competence across its development teams, and its scanner portfolio is a strategic fit,” said Hexagon president and CEO Ola Rollén. “We also see opportunities for international expansion of Aicon’s wider portfolio throughout Hexagon’s global footprint.”

**Hexagon AB** – Sweden  
[www.hexagon.com](http://www.hexagon.com)

**Aicon 3D Systems GmbH** – Germany  
[info@aicon.de](mailto:info@aicon.de)  
[www.aicon3d.de](http://www.aicon3d.de)

## voestalpine ends investment in Wuppermann Austria

In March, voestalpine ended – as planned – its business participation in Wuppermann Austria GmbH (WA), after 29 years. voestalpine Stahl GmbH, a company of the steel division of voestalpine group, had held a 30 per cent stake in WA.

The partnership between the two companies in the steel industry had existed since the founding of WA in 1987.

voestalpine Stahl GmbH was not only co-partner, but also a raw material supplier for Wuppermann in Austria. The contracts between WA and voestalpine are now ending as scheduled. This concerns the participation, the supply business, and the WA production site of narrowband galvanising located at voestalpine Linz.



Wuppermann Austria GmbH in Judenburg, Austria

Photo credit: Copyright Wuppermann AG, 2016

“Wuppermann strives for long-term and trust-based business relations,” stated Dr CL Theodor Wuppermann, management board spokesman for Wuppermann AG. “The partnership has been very successful for both parties for 29 years. Besides the business benefits, the collaboration was characterised by reliability. I would

like to take this opportunity to thank all participants for the success over this long period of time.”

Wuppermann group has been operating in steel processing for more than 140 years. Its product portfolio includes surface-coated flat products, tubes, tube components and sheet metal parts from steel, stainless steel and aluminium for electronic products, shop fitting and mechanical engineering, medical technology, furniture, food, packaging, automotive, construction and solar industries, as well as water and wastewater engineering. Wuppermann Austria is one of the largest production sites within Wuppermann group.

**Wuppermann AG** – Germany  
 info@wuppermann.com  
 www.wuppermann.com

## MRC Global expands service to Chevron into Gulf of Mexico

MRC Global (US) Inc has been awarded a new maintenance, repair and operations (MRO) agreement to be a preferred supplier of pipe, valves and fittings (PVF) products and services to Chevron’s operations in the Gulf of Mexico.

The company has also been awarded an extension to its MRO agreement to supply PVF products and services to Chevron’s mid-continent US operations, which includes Colorado, New Mexico, Oklahoma, Texas and Wyoming.

“I am grateful that Chevron continues to trust MRC Global with their ongoing PVF needs,” said Andrew R Lane, MRC Global chairman, president and CEO. “The agreement to support Chevron’s Gulf of Mexico operations represents an expansion of MRC Global’s Gulf of Mexico business and is a result of our commitment to build out our service model in this important offshore market.”

MRC Global is currently a global supplier of PVF for Chevron’s major international and domestic MRO and capital projects.

**MRC Global Inc** – USA  
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## Pipes tested for strength

Centravis, a provider of solutions in the segment of seamless stainless steel pipes, has passed intense burst testing on its pipes by Bureau Veritas. Testing was carried out on three types of pipe currently in production.

The Centravis 9.5 x 0.89mm ( $\frac{3}{8}$ " x 0.035") SS316/316L pipe, designed to work under a pressure of 3,596 psi, was tested at a pressure of 14,384 psi; the 9.5 x 1.65mm ( $\frac{3}{8}$ " x 0.065") SS316/316L pipe, with a working

pressure of 6,685 psi, was tested at 26,740 psi; and the 12.7 x 0.89mm ( $\frac{1}{2}$ " x 0.035") SS316/316L pipe, which works at 2,697 psi, was put to the test at 10,788 psi. ESMA, a company with more than 40 years of experience in the sector of oil and gas to the UAE, took part in the testing.



“Successful product testing, when conducted by independent and influential companies, is an important signal to the market,” said Fedor Smirniy, regional sales manager for the Middle East. “Centravis is able to provide reliable and advanced solutions in a variety of industries which involves work at high pressure.”

Centravis products regularly receive recognition from its clients. Most recently, the company passed certification of key UAE oil companies ADCO, ZADCO and ADMA-OPCO.

**Centravis – Ukraine**  
[www.centravis.com](http://www.centravis.com)

## Steel producers ready for fight against fake products

Producers of steel pipes, fittings and flanges have met in Düsseldorf to discuss the problem of steel product counterfeiting. The goal of the meeting was to develop a joint plan of action to withstand unfair competition, which causes risks for industry and society. The meeting was organised as part of the Fight Fake Products Initiative, established in December 2015.

During the meeting, members shared plans to establish an official entity representing the interests of initiative members. Participants also discussed cases of fake products and the scope of legal actions to defend trademarks.

Friedrich Goldbach GmbH managing director Carlo Farina said, “Today is the very first time that so many key suppliers have raised their voices as one; the first time that evidence about counterfeiting and forgery has been brought so openly and so directly to the public. The main

goal of creating the Fight Fake Products Initiative is to act as a strong, coherent voice for European industry in the fight against the manufacture, distribution and sale of counterfeit products.”

Anaïs Eiden, group senior legal manager, intellectual property and R&D, Vallourec, commented, “The use of counterfeited products creates significant risks for our industry. It is not just about loss of profit and reputation. Use of faked products can cause serious environmental problems. Vallourec strongly supports Fight Fake Products Initiatives as an effective way to manage the risks of the business.”

Interpipe’s vice-president of sales, Andrey Burtsev, said, “Counterfeiting of steel is growing, particularly in the Middle East. The use of fake steel here creates major safety concerns. Pipe products and accessories are widely used in civil engineering in the

region. Counterfeiters copy certificates and production documents, but they can’t copy quality. As a part of this initiative, we should further work with suppliers, authorities and governments to make this market fairer, safer and more competitive.”

Michael Kremmel, sales director for the Middle East and Asia, Erne Fittings, commented, “We are aiming to make customers, legal authorities and governments aware of this malpractice. If they are aware, they can face it and react accordingly. On a day-to-day basis, producers are checking certificates and verifying documents. But this is not enough. As an organised group we will be in the position to address these cases by any means.”

**Fight Fake Products Initiative – Germany**  
[contact@fight-fake.com](mailto:contact@fight-fake.com)  
[www.fight-fake.com](http://www.fight-fake.com)

# Weholite technology in Victorian sewer upgrade project

The demands of an increasingly populated modern-day London are proving too much for the city's antiquated sewerage system, originally engineered 150 years ago. To combat this, and to future-proof one of the world's most populous cities, Thames Water is developing three major multi-billion pound engineering schemes to help prevent sewer overflows and improve water quality in the Thames. Asset International, manufacturer of large-diameter HDPE Weholite pipes, has been involved in several of these infrastructure projects.

The Lee Tunnel is one of two tunnels that will collectively capture an average of 39 million tonnes of sewage a year from the 35 most polluting combined sewer overflows (CSOs). Asset, in conjunction with parent company Uponor, was tasked by main contractor MVB to provide 880m of 3,000mm internal diameter Weholite pipe in order to create the twin culvert pipeline outfall, which as well as servicing the Lee Outfall Tunnel will also be the final discharge point for the £4.2bn 'super sewer' Thames Tideway tunnel.

At four miles long, the Lee Tunnel will help prevent more than 16 million tonnes of sewage, mixed with rainwater, from overflowing into the River Lee each year. The new tunnel will capture the overflow and transfer it to Beckton Sewage Treatment Works, which has undergone extension work to deal with the increased volumes.

In 2013, Asset International supplied more than 5km of Weholite HDPE pipe for the Beckton Sewage Treatment Works upgrades. Weholite pipes were supplied in various sizes, ranging from 400 to 3,000mm in diameter. The pipes were used throughout the project for inter-process pipe work, and all of the associated chamber fabrications.

For the twin culvert pipeline outfall project, the Asset and

Uponor PS partnership created a landmark design: the largest plastic outfall ever installed in the UK, and one of the largest in terms of diameter worldwide. The proposal included 880m of 3,000mm diameter Weholite pipes laid as a twin culvert, along with 12 large-scale Weholite modular HDPE boxes, as well as the provision of installation, supervision, site services and health and safety management.

The project was divided into a land section and a marine section. The land section comprised 105m of twin culvert laid at 10m depths. This section had the added complication of needing to break through the tidal protection wall that stops the Thames from flooding the treatment works at Beckton. This issue was overcome by using a 7m x 11m x 5m Weholite modular box to house a 3,000mm spool section to complete the installation.

The operation to install the remaining 335m of twin culvert section into the River Thames was carried out by marine contractor CMP, alongside the Asset and Uponor PS partnership. This marine project was complicated by the pipes needing to be submerged under

an existing jetty structure, and sections of the project were often isolated by the tide, with no access from land.

All the Weholite pipes and modular boxes were manufactured and prefabricated at Asset's South Wales factory. The pipes were then delivered to the London Docks site, in 18m lengths, where they were welded into strings of up to 90m. The 50-tonne strings were then lifted onto the water using three mobile cranes in tandem, and prepared for towing to the submersion site, located around 3km up river.

Part of this preparation involved utilising Uponor's patented grouting process, which eliminates the need for heavy concrete collars to ballast the strings.

Filling the hollow Weholite profile with an inexpensive and pumpable grout is claimed to be safer, with a quicker preparation time; a smaller trench is needed; the dredging operation is minimised; and the volume of excavation is reduced.

**Asset International Ltd** – UK  
[sales@weholite.co.uk](mailto:sales@weholite.co.uk)  
[www.weholite.co.uk](http://www.weholite.co.uk)



Three mobile cranes in tandem lifted the 50-tonne strings onto the water

# Infrastructure and water solution provider Forterra Building Products acquires US Pipe

Forterra Building Products, a North American provider of site infrastructure and water management products and solutions, has acquired US Pipe, a provider of ductile iron pipe products for water distribution and water management applications in North America.

With 20 manufacturing and fabrication facilities throughout the USA and Mexico, US Pipe adds a new growth platform and expanded capabilities to Forterra.

US Pipe's complementary portfolio of products augments Forterra's existing concrete and steel pressure pipe solutions. Combined, Forterra and US

Pipe will serve a broad customer base across the residential, commercial and infrastructure landscape with diameters of pipe ranging from 3" to 144", and a complete solution set with which to serve customer needs from the first mile to the last mile of water transmission and distribution networks.

"The addition of US Pipe is the next step in Forterra's strategic growth plan and builds on our successful track record of partnering with businesses that have great people and strong market positions," said Jeff Bradley, CEO of Forterra Building Products. "We expect to further invest in US Pipe in order to extend and enhance its strong record of profitable growth, both through

additional value-creating acquisitions and capital investment."

US Pipe will operate as a wholly owned subsidiary of Forterra, and will maintain its name and headquarters in Birmingham, Alabama.

Based in Irving, Texas, USA, Forterra operates more than 125 facilities, with products available throughout the USA, Eastern Canada and the UK.

**Forterra Building Products – USA**  
[www.forterrabp.com](http://www.forterrabp.com)

**US Pipe – USA**  
[info@uspipe.com](mailto:info@uspipe.com)  
[www.uspipe.com](http://www.uspipe.com)

## Best new welding product supplier award

The Association of Welding Distributors (AWD) announced the winners of its Welding World Awards in April, at a gala dinner held at the Hilton Metropole, Birmingham, UK.

In the second award of the night, in the category of Best New Welding Product Supplier, Huntingdon Fusion Techniques (HFT) was announced as the winner.

The company's CEO, Georgia Gascoyne, and Luke Keane, who provides distributor support, went on

stage to receive the award from The Rt Hon Michael Portillo, broadcaster and former Shadow Chancellor of the Exchequer.

As part of the judging process, Ms Gascoyne delivered a presentation about the company and its products to a panel earlier this year.

The dinner was timed to coincide with the Mach Exhibition at the NEC in Birmingham, where many of the guests were displaying products in the Welding Village section.



*HFT's PurgEye weld purge monitor*

**Huntingdon Fusion Techniques – UK**  
[hft@huntingdonfusion.com](mailto:hft@huntingdonfusion.com)  
[www.huntingdonfusion.com](http://www.huntingdonfusion.com)

## Indowater 2016 trade show

Indowater 2016, the 12<sup>th</sup> international water, wastewater and recycling technology expo and forum, will take place from 20 to 22 July. Merebo Messe Marketing is organising the 'Europe, American & Australia Pavilion'.

The event, which is Indonesia's largest international water and wastewater trade show, will be held at Grand City Convex in Surabaya, East Java. The trade show will be held in conjunction with Indorenergy/Indowaste.

The last Indowater, in Jakarta in 2015, attracted 458 exhibitors from 32 countries, and 9,800 trade visitors.

**Merebo Messe Marketing – Germany**  
[www.merebo.com](http://www.merebo.com)



# Interpipe and JFE Sign premium connection licence agreement

Ukrainian steel pipe producer Interpipe has announced the signing of a licence agreement that will see the company producing premium connection technology developed by Japanese steelmaker JFE.

As part of the agreement, JFE has granted Interpipe licence to cut its premium joint technology, JFEBear™, which has been designed and tested to meet needs for critical well loads.

JFEBear is an ISO 13679 2002 and DIS 2009 CAL IV qualified connection with extensive records and field-proven references. The licence allows Interpipe to produce and sell the full range of OCTG products, including full-length casing and tubing pipes, and relevant accessories. JFE has licensed two

Interpipe mills – Interpipe NTRP, based in Dnepropetrovsk, and Interpipe Niko Tube, based in Nikopol – as qualified production units to thread JFEBear. The main focus of the agreement covers Ukraine and CIS countries.

Mauro Longobardo, chief operations officer at Interpipe, commented, “JFE Steel Corporation is a world leader in OCTG and premium connections products, covering all the needs of the oil and gas industry.

“It is famous for the reliability of its developed technologies. With this licence agreement, Interpipe has expanded its product portfolio and is able to address customer requirements in the most challenging environments.



Interpipe has received a licence from JFE Steel Corp

For Interpipe this is a strategic step forward in developing a leading position in the OCTG premium segment.”

**Interpipe** – Ukraine  
[info@ua.interpipe.biz](mailto:info@ua.interpipe.biz)  
[www.interpipe.biz](http://www.interpipe.biz)

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**PRODUCTS :**  
 FITTINGS : 90°/45° ELBOW, TEE, UNION, COUPLING, BUSHING, PLUG, CAP, INSERT, PIPE & SWAGE NIPPLE.  
 FLANGES : BLIND, SLIP ON, LAP JOINT, THREADED, SOCKET WELD, WELD NECK.

**MATERIALS :**  
 STAINLESS STEEL : ASTM A182(F304L, F316/L, F304H/F316H, F317L, F321/H, F44, F51, F53, F60)  
 CARBON/LOW TEMPERATURE CARBON STEEL : ASTM A105, ASTM A350 LF2  
 ALLOY STEEL : ASTM A182(F5, F9, F11, F22, F91)

**PRESSURE RATINGS :**  
 FITTINGS : 2000, 3000, 6000 & 9000 lbs  
 FLANGES : 150, 300, 600, 900, 1500, 2500 lbs

**APPROVAL CERTIFICATES :**  
 TÜVRheinland ISO 9001 Registered Manufacturer, LR, CR, & ABS Register of Shipping, PED(CE)

**BOTH-WELL STEEL FITTINGS CO., LTD.**  
 NO.303 Rensin Road, Renwu District, Kaohsiung City, TAIWAN.(81460)  
 TEL : 886-7-371-1536 • 371-0497    FAX : 886-7-371-3864 • 371-3882  
 E-mail : [box@bothwell.com.tw](mailto:box@bothwell.com.tw) • [sales@bothwell.com.tw](mailto:sales@bothwell.com.tw)  
 Web Site : [www.bothwell.com.tw](http://www.bothwell.com.tw)

## Voss Fluid acquires Italian market competitor

Voss Fluid has made a strategic acquisition, and purchased all shares of the Italian market competitor Larga.

The German manufacturer of tube connections has taken this step to supplement its product range with additional hydraulic components, while increasing its manufacturing capacities for the global market.

The two companies both have decades of experience in hydraulic connection technology, and a similar customer-focused corporate philosophy.

Larga has production plants about 30km north of Milan, and has been active on the market since 1954. Along with tube connections, the manufacturer has specialised in hose fittings that cover

all conventional hydraulic applications. A highlight in the range is hose fittings with tear-off protection.

With the integration of the Larga solutions, Voss Fluid is developing its product portfolio and expanding the range of services for matched hydraulic components for its customers.

Against this background, the company sees hose fittings as a sensible supplement to the components already available in the hydraulic circuit.

Voss Fluid and Larga guarantee long-term use of their components through a high degree of zinc-nickel corrosion protection.

Voss Fluid's product range includes tube couplings for stationary and mobile hydraulics, including cutting ring couplings, tube forming systems, and flange couplings.

The company offers customers, from a single source, everything from project planning and engineering to production, assembly, and logistics services.

**Voss Fluid GmbH** – Germany  
[www.voss-fluid.de](http://www.voss-fluid.de)

Exterior view of the Voss Fluid headquarters in Wipperfürth, Germany



## Tungum appoints North UK sales engineer

Tungum Ltd has appointed Mick Hopkins as sales engineer for Scotland and the north of England. His responsibilities include providing sales and technical assistance to customers using Tungum tube, related to hydraulic and pneumatic systems in a wide variety of applications and industries.

Mr Hopkins, who is based in Aberdeen, has more than 25 years of technical sales experience related to instrumentation tubing, fittings and related equipment. He has worked in industry sectors that

include oil and gas, dive, medical and military.

Sean Hammond, sales and marketing director of Tungum, commented, "We are extremely pleased to have Mick on board. His wealth of experience related to instrumentation in the industry sectors we work in will be an excellent addition to our great team."

**Tungum Ltd** – UK  
[sales@tungum.com](mailto:sales@tungum.com)  
[www.tungum.co.uk](http://www.tungum.co.uk)



Mick Hopkins

## Titanium USA 2016

Titanium USA 2016, the International Titanium Association's 32<sup>nd</sup> annual conference and exhibition, will be held at the JW Marriott Desert Ridge Golf Resort, Phoenix, Arizona, USA, from 25 to 28 September.

The event offers insights into the current state of the industry, as well as networking opportunities for titanium producers, OEMs, distributors,

fabricators, and vendors who offer products and services to the titanium community.

Three days of general session presentations, more than 90 exhibitors and a variety of networking opportunities will take place, along with a variety of optional events that will include a fun run, golf tournament, Women in Titanium conference, the Fundamentals



of Titanium workshop, and committee activities.

**International Titanium Association – USA**  
[www.titanium.org](http://www.titanium.org)

## Fine Tubes secures ONGC approval for instrumentation tubing

Precision tube manufacturer Fine Tubes has been granted approval by India's Oil and Natural Gas Corporation Limited (ONGC) to supply instrumentation tubing for offshore applications.

The approval was secured with the assistance of a dedicated local agent, and as a result Fine Tubes will be able to tender for all relevant ONGC contracts.

While the current approval covers offshore applications only, there are plans to secure similar approvals for onshore projects.

Indian oil and gas is a key strategic market for Fine Tubes and its US-based sister business, Superior Tube. Both tube mills are part of Ametek Specialty Metal Products, a division of Ametek, Inc. The businesses recently appointed Rahul Gujar as national sales manager for India. He is responsible for developing business opportunities across the country.

ONGC, under the administrative control of India's Ministry of Petroleum and Natural Gas, is India's largest oil and gas exploration and production company, producing around 70 per cent of its crude oil and approximately 60 per cent of its natural gas. It is India's only fully integrated petroleum producer, operating along the entire hydrocarbon value chain.

"This ONGC approval opens up opportunities that previously had been unavailable to us," commented Nicholas

Head, global business development manager, oil and gas.

"It represents an important step in our strategy to expand our oil and gas business in the world's major growth regions."

Fine Tubes has over 70 years of experience in producing high-performance tubes. Its tubing engineers

have worked closely with oil and gas suppliers to develop tubular solutions in a range of corrosion-resistant, stainless steel, nickel alloy and titanium grades for extended product life and reduced maintenance costs in hostile environments.

**Fine Tubes – UK**  
[sales.finetubes@ametek.com](mailto:sales.finetubes@ametek.com)  
[www.finetubes.com](http://www.finetubes.com)



*Fine Tubes super duplex oil and gas tubing*

# Superior Tube receives Nadcap accreditation for heat treating

Superior Tube, a US-based specialist in precision tubing for critical applications, has been awarded Nadcap accreditation for heat treating.

Bill Keohane, Superior Tube's director of quality and new product development, commented, "We have had Nadcap accreditation for our non-destructive testing programme for many years and also for our quality system, but this is the first time we have gained the accreditation for our heat treatment processes. This will certainly open up new business opportunities for us and provide our existing customers with even greater assurance about the strength of our commitment to quality in everything we do."

Superior Tube, together with its sister company, UK-based Fine Tubes, is part

of Ametek Specialty Metal Products. The two companies have extensive experience working with a range of materials, from stainless steels to exotic nickel and titanium alloys.

Nadcap, created in 1990 by SAE Inc, is administered by the not-for-profit Performance Review Institute (PRI), a global provider of customer-focused solutions designed to improve process and product quality by adding value, reducing total cost and promoting collaboration among stakeholders in industries in which safety and quality are shared goals.

PRI executive vice president and chief operating officer Joe Pinto said, "Congratulations to Superior Tube on successfully passing what may be the aerospace industry's most stringent

process capability assessment audit. Nadcap audit criteria are widely acknowledged to be hard to meet, and companies, like Superior Tube, who succeed at doing so, rightfully deserve recognition."

Brian Mercer, director, sales and marketing for both Superior Tube and Fine Tubes, commented, "This can only help to strengthen the offer that our US/UK partnership can make to the aerospace industry. With two similarly experienced and accredited manufacturing facilities offering equally advanced processes, we are effectively able to dual-source any customer's requirements."

**Superior Tube – USA**  
info.superiortube@ametek.com  
www.superiortube.com

# Interstate Plastics receives environmental excellence award

The International Association of Plastics Distribution (IAPD) presented Interstate Plastics with a bronze award in Environmental Excellence at the 59<sup>th</sup> Annual IAPD Convention in San Diego, California, USA. The Environmental Excellence Award was established in 2008 to celebrate environmentally conscious IAPD member organisations. Interstate Plastics was one of seven companies to receive the 2015 award, rated on excellence in recycling, conservation, community awareness and employee engagement.

In an announcement regarding the award presentation, IAPD CEO Susan Avery said, "IAPD is proud to honour these seven companies with the Environmental Excellence Award. Life cycle analyses show that plastics are often the most environmentally friendly material to use for applications, and as shown in the examples from these companies, the manufacturing of those plastics can also be done in an environmentally responsible manner."



The recognition of Interstate Plastics followed a company-wide recycling effort, started in 2014, that includes recycling scraps, run-off and remnant material. The company's safety and quality manager, Rich McDevitt, who has spearheaded its green initiatives, emphasised that "it is important that we recycle and reuse all materials, not just plastics. Although sometimes challenging to implement in large settings, recycling is very rewarding."

In addition to the IAPD Environmental Excellence Award, Interstate Plastics

has joined the IAPD GreenScene™ programme, which honours all member companies that engage in environmentally conscious practices.

Interstate Plastics is a full-line distributor of plastic sheet, rod, tube, bar, film and profiles, as well as plastic accessories, tools and care products. With ten US locations and an online support team, the company provides simple and complex CNC manufacturing.

**Interstate Plastics – USA**  
www.interstateplastics.com

# FEED contract for development of Ghana's Natural Gas Interconnected Transmission System

Penspen, a global provider of engineering and management services to the energy industry, has been awarded a contract from Bulk Oil Storage and Transportation Co Ltd (BOST) to conduct a front end engineering design (FEED) study for further development of the Ghana Natural Gas Interconnected Transmission System.

BOST, the holder of Ghana's natural gas transmission utility licence, has a mandate to operate, maintain and further develop the nation's first country-wide gas transmission network, as part of Ghana's national agenda to exploit gas as an efficient and cost-effective means of augmenting power supply. The first phase of this build-out will be

the addition of approximately 750km of pipeline from Aboadze to Tema, and from Prestea to Buipe, via Kumasi.

Penspen will be involved in all aspects of the engineering and project management. The engineering work will take place over a 12-month period, and will be carried out by Penspen's team in London and Accra.

Penspen CEO Peter O'Sullivan said, "We are pleased to have been selected by BOST to provide our engineering expertise for this significant project, which will increase availability and improve accessibility to energy across Ghana. This major investment in the country's energy infrastructure will help

boost its economic growth over the next decade. Our team's extensive experience in conducting many similar projects worldwide, accompanied by our strong commitment to developing Ghanaian local expertise and capabilities as part of this contract, will ensure that Ghana's gas network derives the maximum value from this investment."

**Penspen Ltd – UK**  
info@penspen.com  
www.penspen.com

**Bulk Oil Storage and Transportation Co Ltd – Ghana**  
bost@bost.com.gh  
www.bost.com.gh

# World demand for steel pipe to reach 79.7mn metric tons by 2019

Global demand for steel pipe is projected to advance 3.5 per cent per year until 2019, to 79.7 million metric tons, with growth paced by continued strong increases in developing markets.

The pace of gains will decelerate from that of the 2009-2014 period as construction activity slows in China and other developing countries, and as oil and gas exploration moderates in North America after a period of rapid growth.

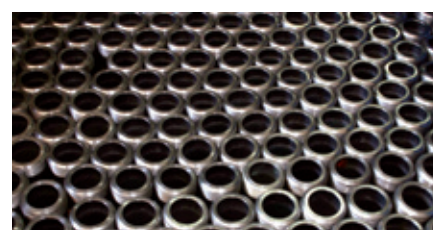
These and other trends are presented in World Steel Pipe, a new study from Freedonia Group, a USA-based industry research firm.

The oil and gas market is the leading application for steel pipe, accounting for over half of demand in 2014. Steel makes up the majority of pipe used in oil and gas transportation and especially production due to its high strength and its pressure and thermal resistance. Steel pipe used in equipment manufacturing is expected

to see above average growth to 2019. Steel pipe also sees significant use in the construction market in a variety of applications, such as conduit, sewer and drainage.

China, the world's largest national market with 28 per cent of the global total in 2014, was a primary driver of growth in steel pipe demand between 2004 and 2014. "Through the forecast period, advances in steel pipe demand in China are projected to decelerate significantly; nevertheless, growth will remain above the global average," noted analyst Mariel Behnke.

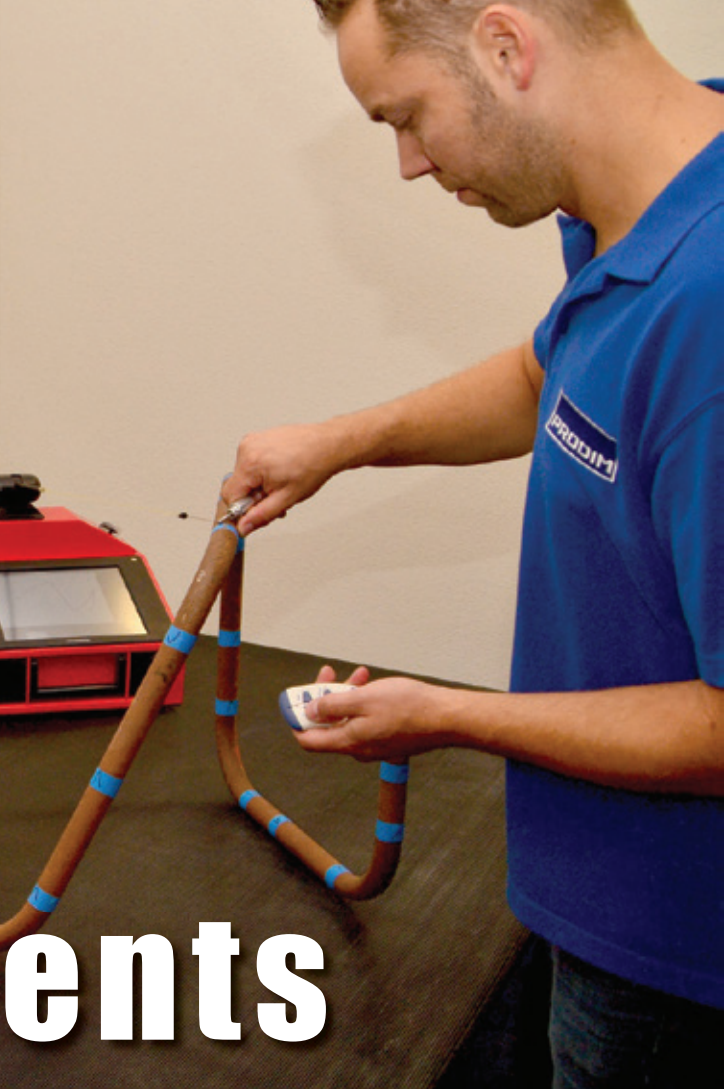
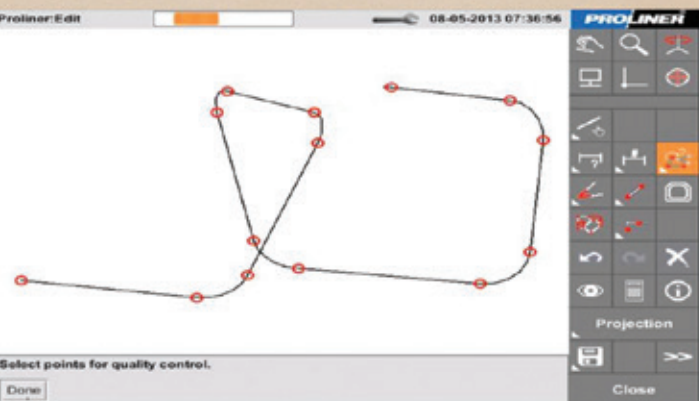
In contrast to slowing growth in the Chinese market, demand for steel pipe in several other countries in Asia is projected to accelerate through to 2019. India will see strong improvement in growth, driven by an acceleration in construction spending and expansion in its manufacturing sector, while growth in demand in Indonesia will be supported by increased output in its manufacturing sector.



The North American market contracted between 2004 and 2009 due to economic recession, but saw robust 2009-2014 growth, driven by a boom in demand for pipe for oil and gas production. Through to 2019, demand in North America is projected to decelerate significantly, due to a slowdown in investment in the energy sector as plans for oil and gas production and exploration were scaled back following the collapse of oil prices that began in the second half of 2014.

The full 368-page World Steel Pipe study is available for purchase from Freedonia Group.

**Freedonia Group – USA**  
www.freedoniagroup.com



# products & developments

*Measuring a tube with a Proliner 10IS and TubeCheck software*

## Portable all-in-one 2D/3D measuring tool

Prodim's portable 2D and 3D digital measuring tool (CMM), the Proliner Tracker, is used for the measurement of a large variety of objects, including tubes and pipes. Within the tube industry, Proliners are mostly used for reverse engineering and quality control on and off site.

Because of the different sizes, radii and angles, it is often difficult and time-consuming to measure piping systems. Using a technique based on measuring with a wire, Proliner is fast and accurate.

The Proliner has a measuring head that can be rotated in any direction, and attached is a durable wire that can be stretched out by 10m. A metal measuring pen is fixed at the end of the wire, which is used by the operator to simply mark the 2D/3D coordinates of relevant points. The Proliner has a 360° working range of 20m in diameter without the need to relocate the device. The range can be extended with the on-board leap function. The Proliner's flexibility allows the operator to measure

straight, curved and very complex shapes such as tubes in an instant.

The measured points are directly translated into a digital DXF CAD file that can be viewed on the Proliner using integrated CAD software. Depending on the model, measurements can have an accuracy of approximately 0.25mm (Proliner 10IS). The end result is a perfectly calculated digital line drawing of the tube model. LRA data XYZ are instantly available, and the measurement data can be exported as a PDF report; as a DXF file for further processing such as reverse engineering; or as a CSV file for production machines, including tube benders.

Since the Proliner is portable and all the software is embedded, operators only have to carry one device to perform and review all measurements on and off site.

Prodim continuously develops specific industry solutions using the measurement data of the Proliner for the improvement of daily work processes.

TubeCheck is an additional software module for the Proliner, used for the quality control of tubes.

With TubeCheck it is possible to compare a measured tube, or part of it, with master data. Tolerances of intersection points, part length, angles and rotations can be defined in the master data and uploaded to the Proliner using TubeCheck. After measuring a tube with the Proliner, it can be compared with the master data directly. It is immediately clear to the operator if the tube passes or fails the required specifications.

The Proliner is often used as a reverse engineering tool to digitise existing parts on and off site. With the TubeCheck software installed, the Proliner is able to calculate the precise centreline and intersections of complex piping systems.

**Prodim International** – Netherlands  
[info@prodim-systems.com](mailto:info@prodim-systems.com)  
[www.prodim-systems.com](http://www.prodim-systems.com)

## Turning design possibilities into reality

Ovako highlighted the design potential of its materials in facilitating the production of stronger, lighter, and more efficient and compact components, by showing its range of clean engineering steels at Subcon 2016 in Birmingham, UK, in June.

With its increased fatigue strength operationally proven BQ-Steel® offers high performance characteristics backed by a history of bearing quality steel.

Originally developed to overcome fatigue strength issues in bearing assemblies, subsequent developments made it available for all types of applications.

Offering up to three times the fatigue performance of conventional steels, IQ-Steel® (isotropic quality) ultra clean steels not only have the capability to handle high, complex and cyclic loading, but can also improve the performance of critical components. This provides customers with distinct design advantages, particularly where safety-critical components are required.

The purity and consistent quality of IQ-Steel is as a result of far fewer and much smaller non-metallic inclusion within the steel's composition. This produces ultra clean steel that performs under greater operational conditions,

with properties that match more expensive remelted steels.

“Whatever the performance requirements, we can supply the ideal engineering steel to match customers’ specific applications and in the preferred size and shape,” explained Richard Bloor of Ovako.

“Our ongoing research and development continues to bring innovative product developments to engineering steels offering customers a distinct competitive edge. Getting this message over to designers and component manufacturers really is important in order for them to realise the full potential of what these materials can offer. This ability to supply quality, clean steels in the right near net shape means less weight to transport, reduced machining, freeing up valuable operating time and increasing capacity. As a result, there is less energy usage, and waste is kept to a minimum per component.”

Ovako develops steel solutions for, and in cooperation with, its customers in the



Ovako exhibited its BQ-Steel and IQ-Steel engineering steels at Subcon 2016

bearing, transport and manufacturing industries.

Its production is based on recycled scrap and includes steel in the form of bar, tube, ring and pre-components.

**Ovako AB** – Sweden  
[info@ovako.com](mailto:info@ovako.com)  
[www.ovako.com](http://www.ovako.com)

## FlexSteel introduces high-temp flexible line pipe

FlexSteel, a provider of spoolable steel-reinforced pipeline products, has announced the commercial introduction of its high-temperature line pipe capable of handling continuous service at 82°C (180°F), with greater temperatures based on application.

Key to the design of FlexSteel High-Temp is a corrosion-resistant, high-temp liner strengthened by a helically wound steel-reinforced layer that provides structural integrity, high flexibility and long-term pressure capability for oil, gas and water applications. FlexSteel High-Temp has been extensively

tested for performance prior to commercialisation.

Available in pressure ratings up to 3,000 psi and diameters up to 8", FlexSteel High-Temp is claimed to provide superior flow capacity, performing to its original design specifications, and will not de-rate over time or by application. It is installed with end-fittings and midline connections utilising the company's swaging process, which ensures pipeline integrity under demanding temperatures.

“Our customers depend on FlexSteel to deliver a spoolable line pipe that

meets their requirements for reliability, performance and ease of installation,” said Don Crawford, senior vice president of operations at FlexSteel. “We are committed to continually meeting those needs through our full range of high-temp products.”

FlexSteel High-Temp provides the same non-corrosive properties and durability as FlexSteel pipe, and provides enhanced reliability.

**FlexSteel Pipeline Technologies, Inc**  
 – USA  
[www.flexsteelpipe.com](http://www.flexsteelpipe.com)

## High-yield, thick-wall stainless steel tubes

Fives has announced that a further contract has been signed between its UK-based entity, Fives Bronx Limited, and Salzgitter Mannesmann Stainless Tubes France, in Montbard.

This second contract is for the supply of a six-roll 6.CR9.S straightening machine, complete with ancillary electrical and hydraulic control systems and, like the

first Bronx machine, ordered in August of last year, it has been purchased to process high-yield, thick-wall stainless steel tubes.

Jon Dunn, managing director at Fives Bronx Limited, said: "The contract has been awarded to Bronx as a consequence of the excellent working relationship that has developed between the client and

ourselves since the initial contract was awarded to us last September. It is a credit to all UK personnel involved with the project to enable the client to have the confidence to purchase a second machine from us, without yet having taken delivery of the first project."

**Fives Bronx Ltd – UK**  
[www.fivesgroup.com](http://www.fivesgroup.com)

## Third Mecal machining centre for Neville Precision

Neville Precision Engineering, a UK specialist in the design, prototyping and manufacture of aluminium extruded products, has taken delivery of a third Mecal CNC machining centre from cutting and sawing technology company Addison Saws.

The first two machining centres, bought in 2015, are four-axis models and are used to manufacture 40,000 aluminium door sill plates a year for a premier automotive brand. The new machine is a five-axis Mecal MC304 Ariel-5 MDT – the first five-axis machining centre of its type to be sold in the UK by Addison Saws.

"For a new contract, which involves the manufacture of some 10,000 aluminium carriage light fittings a year for the next generation of high-speed trains, I initially considered purchasing an additional Mecal four-axis machine," commented Neville Precision Engineering's managing director, Edward Neville. "During a visit to Mecal's HQ with Addison Saws for machining trials, however, I was able to see the latest generation Mecal MC304 Ariel-5 MDT five-axis CNC machining centre. A demonstration confirmed that it was precisely what I was looking for."

With full five-axis capability, the Mecal MC304 Ariel-5 MDT allows the cutting tool to approach the component from all possible angles, in order to complete cutting and machining operations on the top, bottom, sides and ends. This has brought flexibility to the company's carriage light manufacturing cycle, where finished components measuring 2m long x 200mm wide are produced

from 4.5m-long extrusion bars. This latest investment in CNC machining technology has enabled Neville Precision Engineering to reduce machining cycle times significantly, removing any need for components to be manually repositioned during the manufacturing process.

The Ariel-5 machining centre is equipped with an optional, fully independent clamping system, and also offers Neville Precision Engineering opportunities for component development.

The Mecal MC304 Ariel-5 MDT machining centre is able to automatically machine, drill, mill, slot and cut aluminium extrusions of up to 7.5m in length. The additional rotary axes provide flexibility, making the machine suited to new product development,

as well as to complex machining tasks. Other features include mobile 12-position rotary tool magazine; fully motorised self-positioning vices; vice movement during machining cycle (optional); 3D graphical software with external CAD link; powerful 11kw HSD spindle; fibre-optic high-speed data communication; dual loading zones for seamless production; rear safety mesh fence; and central automatic lubrication system.

**Addison Saws Ltd – UK**  
[sales@addisonsaws.co.uk](mailto:sales@addisonsaws.co.uk)  
[www.addisonsaws.co.uk](http://www.addisonsaws.co.uk)

**Neville Precision Engineering Ltd – UK**  
[sales@nevilles.co.uk](mailto:sales@nevilles.co.uk)  
[www.nevilles.co.uk](http://www.nevilles.co.uk)

*The five-axis Mecal MC304 Ariel-5 MDT brings greater flexibility to Neville Precision Engineering*





# Tailor drawn tubes

Against the background of increasing requirements for lower weights in the automotive industry, the 'tailor drawn tube' technique becomes more important. The methods for the production of these special tubes have up to now only been applied experimentally, and are therefore labour-intensive.

According to Bültmann GmbH, the increased demands for narrow tolerances can be fulfilled by current technical possibilities only with difficulty; it is not possible to achieve a 'steady' process reliability based on the existing technology.

The company also states that due to the numerous influencing parameters in the tailor drawn tube drawing technology, the tube drawing process applied today will soon reach its technical limits.

Intensive development work and positive practical experience enable Bültmann to assist customers in combining theory and practice. The company's Tailor Drawn Tube Production System in conjunction with its draw bench technology can now be implemented in the tube production industry.

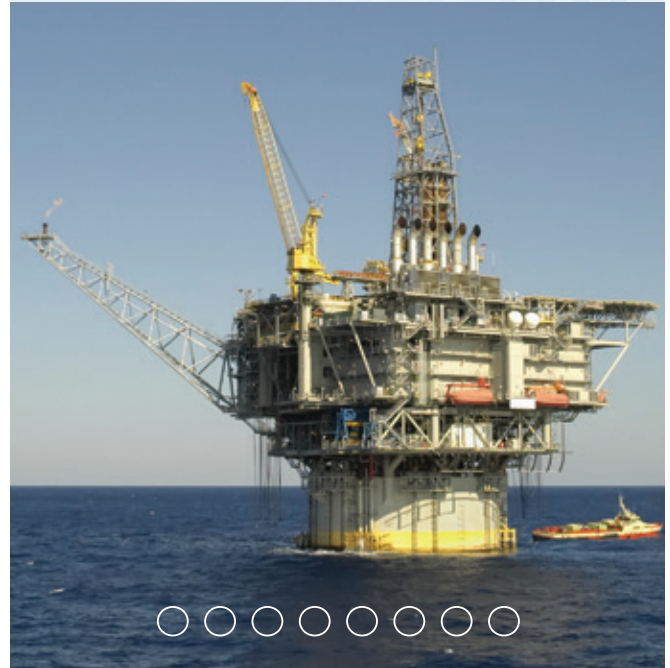
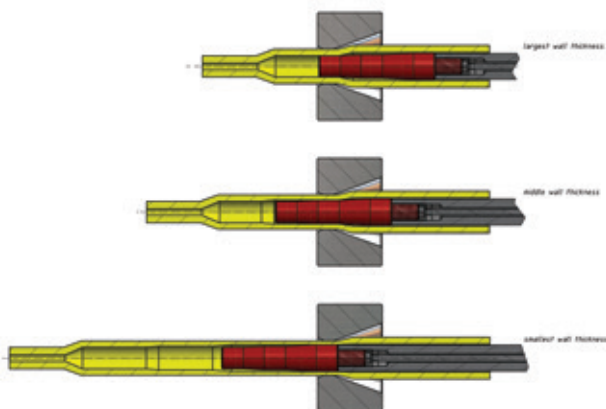
When developing the tailor drawn tube drawing technology, Bültmann attached greatest importance to the possibility of using technological components that have already been used for other applications.

In order to achieve very narrow tolerances, especially in the transition zone of wall thickness, and to ensure the necessary process reliability at the same time, a closed control circuit is indispensable. This process control is assured by combining sensible and dynamically reacting drive systems with specially designed measuring devices and process software.

When harmonising both components, a precise, reliable and user-friendly control of the tailor drawn tube process is possible. In addition to the necessary drawing equipment, Bültmann offers a complete process consulting service for tailor drawn tube applications.

**Bültmann GmbH** – Germany  
info@bueltmann.com  
www.bueltmann.com

Schematic diagram of tailor drawn tubes



## Instrumentation Tubing for Demanding Environments

### ECONOMICAL

Costs less than 6Mo and Super Duplex 2507.

### DURABLE

Excellent lifetime cost compared to other materials.

### COMPATIBLE

Fits with all industry accepted tube fittings.

### FLEXIBLE

Easy to bend which means fast installation.

- + Resists pitting and crevice corrosion.
- + No recorded failures of Tungum tube when correctly used and installed.
- + Quicker installation times – can be as little as  $\frac{2}{3}$  of the time compared to Super Duplex or Austenitic St. Steels.
- + Material of choice for Oxygen and Hyperbaric systems.
- + Over 35 years of experience of real time Oil and Gas applications.

For more information on Tungum please contact us:

**+44 (0)1684 271290** [www.tungum.com](http://www.tungum.com)

## Breakthrough for SSAB cold-formed tubes in Sweden



Exploring the benefits of cold-formed tube structures

Structures made of SSAB's cold-formed steel tubes were recently selected for a steel construction of tube bridges at Södra Cell in Värö, Sweden. The company Hjalmarsson in Sölvesborg used approximately 700 tons of cold-formed tubes and manufactured the pipe bridges that were delivered to Värö.

Thanks to the material choice, environmental impact was reduced, as cold-formed tubes are manufactured with a production process that requires less energy.

"As structures for buildings, the cold-formed tubes have the same characteristics and meet the same demands as hot-rolled tubes," said

Peter Sverin, regional sales manager at distributor and seller Tibnor. "The end result gives both significant cost savings and a better environmental choice."

Technical development manager Jan Österholm and account manager Magnus Johansson have worked with the Swedish construction market to promote the use of cold-formed tubes. The material is more common in Finland thanks to earlier establishment on the market with Ruukki, and there is now a possibility of converting all Nordic countries to using cold-formed tubes.

**SSAB AB – Sweden**  
info@ssab.com  
www.ssab.com

## Weld-free coiled tubing in lengths over 1,000m

Sandvik's first 1,010m coiled tube reel has been delivered to an offshore oil and gas customer.

To meet a growing need for coiled tubing in very long lengths, Sandvik's high-precision tubing unit in Werther, Germany, has developed a method that enables the production of stainless tubing in lengths exceeding 1,000m

*Sandvik can produce stainless tubing over 1,000m in length from a single 125kg hollow, with zero welds*



from a single 125kg hollow, with zero welds. The new production technique – a combination of pilgering, precision drawing and proprietary processes – is expected to be beneficial for the oil and gas and other industries.

"No matter how skilled you are at welding, there is always a risk of cracking or corrosion," said Christofer Hedvall, managing director of the high-precision tubing unit. "With our new production method, we take risk completely out of the equation." Mr Hedvall noted that rig crews, well completion teams and other professionals working in challenging environments are looking for safe, time-saving methods supported by a continuous supply of weld-free material.

While the initial order was from the oil and gas sector, Sandvik anticipates that other industries could also find the extended-length technology to be useful.

"This is the result of an ongoing innovation journey that started some years back," said Mr Hedvall, noting that the company is now introducing

nickel alloy tube Alloy 625 (Sanicro 60) and Alloy C276 (Sanicro 56), and has received ISO 50001 certification (a major part of the Green Factory approach), NORSOK approval and DIN EN 9100 qualification.

"We're striving to provide complete 'precision performance' solutions to the aerospace, oil and gas, medical and other industries. Our customers want more choice and flexibility both in terms of materials and formats."

The Werther operation, which produced its first stainless steel tubes in 1957, specialises in thick-walled tubing (1-70mm OD), extreme pressures (10,153 to 160,000 psi), exacting tolerances, low defects (50µm max) and extreme temperature. Many of these requirements for high-precision tubing are becoming increasingly acute as industry heads into the era of Industry 4.0, with higher needs for interconnected control.

**Sandvik Materials Technology – Sweden**  
www.smt.sandvik.com

## Simplifying petrochemical sampling and analysis

Rotork Schischek compact explosion-proof valve actuators have been selected as the solution for a critical petrochemical analysis process.

Ecopetrol is a petroleum company in Colombia, and is engaged in oil and gas exploration, production and refining. The company uses near infrared spectroscopy (NIR) to perform quantitative sampling separation of hydrocarbons. The process separates the hydrocarbons into four chemical groups – alkanes, aromatics, resins and asphaltenes.

Central to the operation of the process, sets of small two- and three-way fast-acting ball valves are used to gather the samples for analysis and precisely maintain the pressure, flow and

temperature through the spectrometer. Swift valve operation (typically less than three seconds) is essential to maintain the characteristics of the media for accurate sampling.

Additional application constraints involve restricted space around valves, the hazardous area classification, and requirements for failsafe operation, end of travel indication and low power consumption. After considering the other options, Ecopetrol concluded that the electric Schischek actuator could satisfy all these demands with a reduced maintenance requirement in the demanding operating environment.

Almost 100 Schischek RedMax actuators with associated hardware have been installed. The actuators are certified

for Zones 2 and 22 hazardous area operation, environmentally protected to IP66 and equipped with self-adaptable 24240V AC/DC power supplies. RedMax actuators are one of a range of electrical products designed by Schischek for explosion-proof and non-explosion-proof applications in the worldwide industrial, HVAC and marine industries.

Rotork products and services help companies in the oil and gas, water and waste water, power, marine, mining, food, pharmaceutical and chemical industries around the world to improve efficiency, assure safety and protect the environment.

**Rotork plc – UK**  
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## Flexenergy launches PB pipe network control

Flexenergy, a UK provider of district heating scheme (DHS) pipe networks, has developed a pre-insulated valve system for polybutene (PB-1) pipe applications. The company states that V-Flex will transform the ability of operators to control and service PB networks by delivering zonal control via pre-insulated valve technology that can be fusion welded directly to the main network.

The valve innovation includes a key-operated steel ball valve inside a polyethylene casing, insulated by PUR foam, and incorporates PB tails for a fully welded connection to a polybutene pipe network.

“The V-Flex valve system means it is now possible to create an all-plastic fusion weld to the main network, thereby avoiding a secondary joint, with its inherent weakness,” said Sandy Fairley, sales director at Flexenergy.

This is claimed to be the first such pre-insulated valve system to be available

for plastic pipe systems, and the company expects it to be welcomed by DHS designers for providing greater control over heat networks. In effect, it means that the valves can be used to shut down entire networks or to isolate individual streets/properties. This makes network maintenance easier, and can also facilitate network extension.

The valves can be specified for single or twin pipe applications, and are available in a number of chamber sizes

(to accommodate depth variation), in order to provide flexibility in network or zonal control. In practice, V-Flex technology means that in the case of a burst, the affected area of the network can be isolated rather than the entire system being shut down. Each chamber provides easy access to the valve, and includes a lockable lid as an option.

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*Flexenergy's V-Flex pre-insulated valve system*



# Wastewater treatment company's global expansion

Water treatment technology that can clean some of the world's most polluted waste liquids cheaply, quickly and efficiently is being prepared for global deployment.

Micromet has designed a water treatment machine in South Australia that uses electrolysis to remove pollutants from contaminated water such as sewage, grey water and industrial effluents. The company signed a memorandum of understanding with Chinese industrial group Dadongwu, and is setting up a manufacturing plant in South Australia.

According to Andrew Townsend, Micromet engineering sales director, the company's six-module machines could clean 12-litres per second, and could be deployed in a standard 40ft shipping container. Mr Townsend said that most other water treatment technologies usually took 24 to 36 hours to treat wastewater.

"The residence time in our machine from when the dirty water drops in one end to when it starts to flow out the other end is around 50 minutes. We're shipping them in shipping containers because pretty much you just drop the container in, affix pipes to it and attach power, and make sure it's all working.

You can literally commission it in a day or two days, which is very different from having to build a traditional system which can take months and months to construct."

The process uses continuous flow electrolysis methods with special anti-passivation technology that has eluded such systems in the past. The Micromet equipment is also energy efficient, using just 0.25kWh to process 1,000 litres, compared to a reverse osmosis system that can require 20-40kWh to process the same amount.

For two decades, Micromet has been manufacturing mainly irrigation control technology in South Australia – which has an advanced water industry because it is the driest state on the driest continent on Earth. The company was forced to look for new opportunities in wastewater treatment following a devastating drought across southeast Australia from 2007 to 2012.

Until now, the company has been mainly focused on wastewater treatment research and development, producing only a handful of commercial bespoke machines. The new plant will aim to produce 50 six-module machines per month within a year. Commenting on

future plans, Mr Townsend said, "We're up to Generation 3, we're imagining Generation 4 will be our first solar powered model, and Generation 5 we're hoping will literally be able to float on a dam, be powered by solar and treat the dam while floating on it."

Last year, Micromet took a prototype machine to China, where the government has made water and air pollution a priority in its five-year plan. As part of a demonstration, Micromet successfully treated three highly contaminated industrial wastewaters – electroplating water, machining emulsion and garbage permeate.

Non-industrial water treatment applications include sewage, and mining waste such as fracking water. The treated 'A class' water can then be re-used in factories or mines or used for irrigation. The pollutants removed from the wastewater account for about six per cent of the original volume. "My hope is that we can eventually get to the point where we can return the treated water to the environment," said Mr Townsend.

**Micromet** – Australia  
sales@micrometonline.com  
www.micrometonline.com

# Moisture problems can easily be mist

Problems with fuel or water can be very serious in the aeronautical, aerospace and airship industries.

A component made from one material may be perfect for containing liquid water or hydrocarbons, but can allow their vapours to pass through virtually unchecked. This can not only compromise safety, but can also damage the electronics, navigation or power systems in a craft, missile or drone.

Versaperm measures this permeability across a wide range of temperatures and pressures for almost every liquid,

vapour material and component used in the industry.

Conventional tests on materials, tanks, pipes, seals and components have been slow and expensive. Even under room temperature conditions they can take days, weeks or months, and produce results that are often neither accurate nor consistent. To overcome this, Versaperm produces a fully customisable version of its analytical vapour permeability measurement system, which can employ sensors based on numerous different physical principles to suit almost any application.

The system is simple to use, fast and precise, and requires little or no re-calibration. Some results can be produced in as little as 30 minutes.

Accuracy is in the parts per million (PPM) range for most commonly used materials and gases, and PPB in some cases. Versaperm also offers a laboratory testing service and technical consultancy for companies that test too few samples to make the purchase of equipment viable.

**Versaperm Ltd** – UK  
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## Global launch for compact connector

Joint integrity specialist Hydratight has invented a viable alternative to welding, which was officially launched at Australasian Oil and Gas Exhibition and Conference (AOG). The Compact Connector is part of the Morgrip® mechanical connectors range, which has been supplied to the global oil and gas industry since the 1980s.

The new topside product will connect and seal pipes measuring from 1" to 4" in diameter, using proven metal graphite composite sealing. The material tightens around the outside diameter of the pipe to ensure a chemically resistant, high temperature, high pressure seal that does not degrade in extreme environments.

Topside sales support engineer Jarrod Ford said, "We are delighted to bring this innovative piece of equipment to the market as it is a solution our customers need. Its lightweight design means weight savings of up to 80 per cent compared to other mechanical

connectors. Importantly, it can be used on pipes located in confined spaces or areas congested with pipework.

"Engineering teams will find it less cumbersome to work with than some larger models. Fitting the connector also takes less time and less equipment. We use a standard lightweight hydraulic torque wrench with a modified insert alongside the connector to complete each job to specification. It will be used for permanent and temporary repairs."

The Compact Connector has a pressure rating of up to 53 bar, and has 3.1 certification as standard and DNV Type Approval.

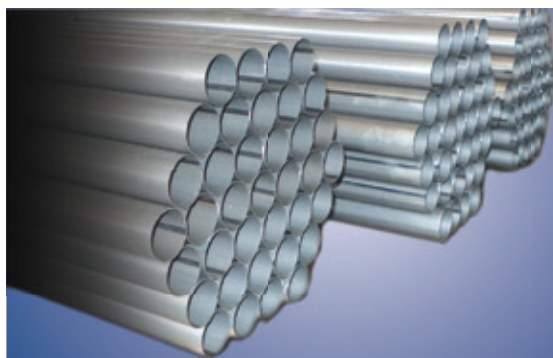
Hydratight provides bolted joint solutions and machining services, as well as mechanical weldless connectors, to power generation, oil and gas,

nuclear, wind and aerospace industries. Over the last 20 years, the company has pioneered systems for complete joint integrity assurance that are now incorporated in industry-wide safe-working guidelines around the world.

**Hydratight Ltd – UK**  
www.hydratight.com



*Morgrip Compact Connector from Hydratight*



**Silva Mash EOOD** is a specialist in the production of precision and high-tensile electro-welded tubes according to standard EN 10305.

The company manufactures CRC from HRC – both low- and high-tensile strength.



## Silva Mash EOOD – BULGARIA

Lovech 5500 · 1, Gurko Street · BULGARIA · Tel.: 00359 68 601581 · Fax: 00359 68 601583 · silva@mbox.digsys.bg

## Largest PO pipe line in Romania

Romanian pipe producer TehnoWorld has installed a complete extrusion line from battenfeld-cincinnati, funded by an EU project. With this line, TehnoWorld enlarged its production capacity to include two-layer HDPE pipes with diameters up to 1.2m at its facility outside the city Falticeni, Jud Suceava. The majority of the extrusion lines for smooth and corrugated pipe at TehnoWorld's facility are entirely from or include major components from battenfeld-cincinnati.

*A 1.2m pipe with colour stripes produced on the battenfeld-cincinnati line*

*Photo credit: © TehnoWorld*



“It has been a great opportunity for TehnoWorld to collaborate again with battenfeld-cincinnati, because we have reached for new horizons in our field of activity, said Ing Iustinian Pavel, director of TehnoWorld. “battenfeld-cincinnati is a reliable and valuable business partner for us, with whom we have worked in the past to develop our production capacity. battenfeld-cincinnati has demonstrated the high quality of its service and products while helping us to develop further and raise our standards of technology and flexibility.”

The 1.2m line produces pipe in the pressure classes SDR 11, SDR 17 and SDR 26. It is equipped with a soLEX 90-40 as its main extruder and a uniEX 45-30 as co-extruder. For the addition of colour stripes, battenfeld-cincinnati delivered a small, space-saving coEX 30-25 co-extruder, installed on a die trolley with a

swivel arm for easy movement. The pipe head is equipped with an adjustable die aperture, which consists of a conically shaped mandrel and an outer sleeve moving in longitudinal direction.

It covers pipe diameters from 900 to 1,200mm and – with an extension – also diameters from 500 to 800mm (SDR 11 to SDR 26).

The helix 1200 VSI-TZ+ pipe head reduces sagging and pipe ovality for thick-walled pipes, even at high line speeds, thanks to its two-step distribution concept. The active intensive melt cooling and inner pipe cooling operate mainly with ambient air, minimising operating costs and maintenance requirements.

TehnoWorld has been manufacturing polyethylene and polypropylene pipes since 2005, and has a production capacity of more than 70 tons per day.

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## Compact and easy-to-install valve control

ThinkTop D30 from Alfa Laval is an easy-to-install integrated control unit for hygienic applications in the food, dairy, beverage, pharmaceutical and home and personal care industries. The reliable control unit offers an alternative to conventional valve monitoring and control solutions, and is designed to meet market challenges for more usability and hassle-free control of automated valves.

Installation and setup is quick and easy, and eliminates fault handling during commissioning and production: simply position the unit directly on top of the valve actuator, connect the air, then connect the cable to the PLC system. No special expertise, adapters or tools are required, and there is no need to adjust the feedback position at regular intervals.

ThinkTop D30 detects loss of air pressure, which is one of the most common types of process failures. It withstands the effects of physical impact, vibration, water hammer, thermal variation and pressure shock, and is both watertight and IP66/IP67-compliant, so it prevents condensation as well as stopping dust, water and

*Alfa Laval's ThinkTop D30 integrated control unit*



other particles from penetrating into the control head. This also means the control head can be hosed down with water or cleaning liquid without affecting its operation, ensuring maximum hygiene and effectively eliminating problems associated with corrosion and external contamination.

The control unit features a digital interface with a 360° visual indicator, which makes it possible to enhance monitoring of air loss or leakage feedback from the energised and de-energised actuator. This contributes to more stable operation of hygienic processes, enhanced product quality and more uptime.

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# 3D scanning technology to reverse-engineer metal and plastic components

UK-based engineering company Blue Diamond Technologies is using the latest 3D scanning technologies to extend its range of reverse-engineering services to cover non-rectilinear components that feature complex curves and shapes.

Reverse engineering is a process used to reproduce a part where the customer is only able to provide an example of a finished component. Manufacturing companies would normally require engineering drawings and material specifications to enable a duplicate product to be manufactured. However, the reverse engineering techniques used by Blue Diamond enable an existing part to be replicated by capturing its physical dimensions and analysing the composition and properties of the materials used.

Capturing the physical dimensions of rectilinear parts is relatively easy, but components with complex surfaces require a different approach. For non-rectilinear items in particular, Blue Diamond performs a 3D scan of the part, which is then translated into an accurate 3D CAD file. In addition, care is taken to understand the fit and function, to ensure correct tolerances are applied to each component.

In-house metallurgical analysis of the original component using spectrometry technology can also be offered, with

further analysis of material hardness and tensile strength, enabling accurate material specifications to be determined. These material specifications, together with the CAD file, are used to create a CNC machined replica of the original sample, which is submitted to the customer for checking and verification.

“Customers are regularly approaching us with a requirement for a component but they don’t have any drawings or material specifications,” said Mike Hobson, engineering manager, Blue Diamond. “This might be because the part is an obsolete catalogue item or the drawings and specifications have simply been lost. Often the customer is looking for an alternative supplier, either because they are being ‘held to ransom’ by their existing supplier, or the existing supplier has decided to cease production, or impose excessive minimum order quantities.”

An important benefit of the reverse engineering process is that it provides an opportunity to modify the design, to improve the fit and function of the part, to overcome quality issues evident on parts supplied previously, and

to remove cost from the part. When the design has been finalised and approved by the customer, the resulting 3D CAD file can be used to produce manufacturing drawings and tooling, as well as providing the basis for checking critical dimensions on the finished part.

Blue Diamond is established as a supplier of a range of engineering components, including cast and turned parts, plastic mouldings, bearings, seals and sub-assemblies, and can also provide a full design and manufacturing service from concept to bulk manufacture.

**Blue Diamond Technologies Ltd – UK**  
 bdsales@rolwey.com  
 www.blue-diamond.co.uk

*Blue Diamond can utilise its latest 3D scanning technology to reverse engineer non-rectilinear parts*



## Steel sourcing solution

Steel Available is a sourcing platform for heavy industry, and has been selected as an innovative project by the Blueprint Accelerator in Hong Kong, owned by Swire Properties.

Heavy industry remains traditional and conservative toward technology, which can lead to inefficiency between buyers and suppliers in this market. Steel Available provides a solution for the existing fragmented heavy industry marketplace, by creating a sourcing platform that quickly matches supply and demand. By involving the industry’s

main companies directly in the Steel Available platform and then integrating the business management system of each client into it, Steel Available provides service for all the parties involved.

Target clients include different companies in the heavy industry supply chain: suppliers, buyers and stockists. First focusing on the oil, gas and power industries, then expanding to mining, shipbuilding and aerospace, Steel Available plans to become a one-stop platform for buyers and sellers in heavy industry.

Steel Available has built up a database of target clients to speed up the procurement process by quickly and effectively matching the demand and supply. It will increase the transparency among clients and provide them easy access to stock availability, stabilising the whole supply chain. Revenue will mainly come from the commission fee charged from each successful deal.

**Steel Available – Hong Kong**  
 info@steelavailable.com  
 www.steelavailable.com

## Easy cleaning of tubes and hoses

Stauff Clean offers a simple option for removing unwanted contamination in tubes and hoses for maintenance purposes. In addition, the system can be an alternative to time-consuming flushing processes during the production and processing of tubes and hoses.

Stauff states that its system offers time and cost benefits compared to traditional cleaning methods. Stauff Clean essentially consists of a lightweight, ergonomically shaped compressed air gun, supplied with sufficient compressed air via a quick release coupling, and a range of specially shaped plastic nozzles that are connected to the handheld tool with

retaining rings. The system requires compressed air at approximately 6 to 8 bar.

The compressed air gun is used to accelerate foam projectiles into the tube or hose to be cleaned. The plastic nozzles compress the inserted projectile, and also ensure that the connection is as airtight as possible, while creating a smooth transition into the tube or hose. This method is safe and environmentally friendly, and the operation is intuitive and quickly learned.

The foam projectiles that carry out the cleaning are 15 per cent larger than the inner diameter of the tube or hose to



*Stauff Clean is supplied as a complete set in a convenient case, on request*

be cleaned. This creates friction that effectively releases contaminations.

In addition to a universal version that covers inner diameters between 6 and 60mm, numerous other projectile versions with different textures and grain sizes are available, eg for removing traces of rust and other coarse contaminations. The system can be used up to a tube/hose length of 100m, and regardless of any installed couplings, fittings and valves.

For more than 50 years, the Stauff Group has developed, manufactured and distributed pipework equipment and hydraulic components for mechanical and plant engineering, as well as for service and industrial maintenance.

**Walter Stauffenberg GmbH & Co KG**  
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*Equipping the compressed air gun with a foam projectile*  
Photo credit: Walter Stauffenberg GmbH & Co KG

## Flush system to provide increased through-bore

The Duoline® Flush System is an extension and natural progression of the Duoline DL System, which has been utilised in onshore and offshore wells worldwide over the last ten years. Using the same component material with an enhanced internal geometry, Duoline is now able to offer an increased through bore while still maintaining the benefits of the original Duoline DL Ring system.

Duoline is a GRE lining system that, when installed into carbon steel casing and tubing, protects the base material

from corrosion from CO<sub>2</sub>, H<sub>2</sub>S, O<sub>2</sub>, chlorides and water, all or some of which may be present in the well fluid/gas. Reservoir clean-up using HCL acid up to concentration of 28 per cent can be accommodated to ensure good flowrates.

Duoline may be installed into threaded oil country tubular goods (OCTG), either new or used, within most connection options. The Duoline Flush System employs the patented FL-Ring™ system, which permits lining of shoulder-to-

shoulder premium connections without affecting the connections' geometry and performance.

The company can install the system into a wide range of diameters and weight bores, and can accommodate interventions with both coil tubing and wireline; procedures are already available for this operation.

**Duoline Technologies** – USA  
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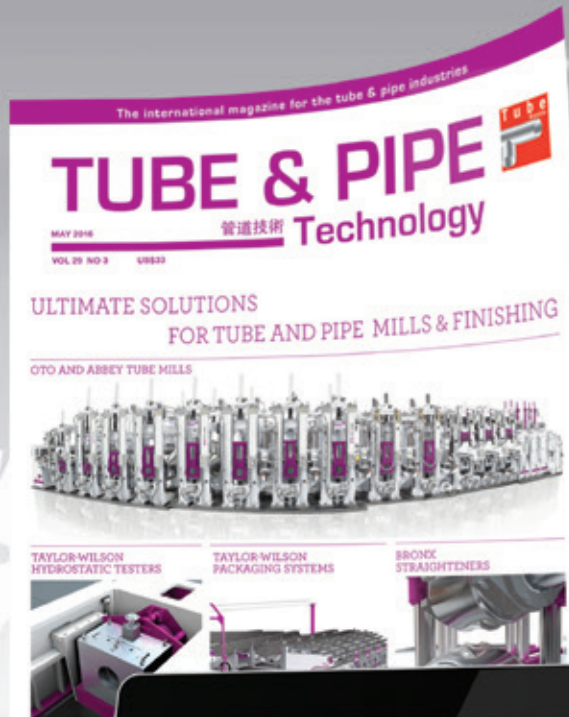
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## Pipe clamps for easier fit-up

Pipe jacks work well on long pipe lengths, but for short lengths welders tend to tack the pipe to the jack vee head. This means the welder later has to grind off the tack and the pipe has to

be dressed. With Sumner's patented Hold-E, 1-6" pipes can be gripped in the vee for lay-out work. The Hold-E offers a push-button quick release, so the arms can be opened and closed rapidly on standard vee heads. The Hold-E is available in both stainless and carbon models.



*Ultra Qwik Fit clamp being used to fit-up two 90° fittings*



*Hold-E clamp for holding pipe in vee head jack stands*

When fitting up two fittings it can be difficult to hold the matching fitting and weld.

Sumner's Ultra Qwik Fit makes easy work of this kind of fit up and offers the capability of fitting 45°, 90°, tee and weld neck to a mating fitting. Using three 4-, 8- and 12-o'clock contact points, the Ultra Qwik Fit is able to mount on a 90° without fighting the bend radius. Contact points are stainless and can be used on either stainless or carbon. A push-button release allows the arms to open and close rapidly on the fitting.

**Sumner Manufacturing Co, Inc – USA**  
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## Extending seal life in high fire risk oil and gas hydraulic applications

Due to the different chemical makeup of HFC and HLP fluids, sealing materials proven and traditionally used with HLP fluids – though effective in HFC applications – do not necessarily provide effective performance or length of life in HFC media. In tests, Trelleborg Sealing Solutions has identified sealing materials that offer extended life in HFC applications.

HFC fluids, or water glycols, are the most commonly used fire-resistant hydraulic fluids, and with their higher ignition temperature they are increasingly being used instead of HLP media or even being made mandatory in hydraulic oil and gas applications with a high fire risk. A research programme by Trelleborg Sealing Solutions has resulted in the identification of alternative sealing materials that give better performance and extended life in HFC fluids.

Eric Bucci, oil and gas segment manager Americas, Trelleborg Sealing Solutions, said, "Oil and gas hydraulic applications often involve demanding dynamic movements, for instance in the case of offshore motion compensation cylinders, and due to long strokes, sealing systems can be subjected to

significant wear. Compared to oil-based HLP media, the water base of HFC fluids typically increases seal wear. As oil and gas applications increasingly use HFC fluids, and length of life needs to be extended to avoid costly downtime, it is imperative that we provide operators with information on the optimum sealing material for HFC fluids."

Trelleborg undertook a series of tests on a number of sealing materials to investigate their effect on sealing systems in HFC fluids with regard to friction, wear resistance and leakage. The materials tested included the traditional choice in hydraulic applications, PTFE-based materials with various fillers, alongside the alternatives of proprietary polyethylene Zurcon® Z80 and thermoplastic polyurethane Zurcon Z13.

The two materials that demonstrated the least weight loss, and therefore wear, were Zurcon Z80 and Zurcon Z13. With these materials there was also no apparent leakage, and visual inspection showed the best results were achieved with Zurcon Z13. While Zurcon Z80 showed slight extrusion after one million load cycles, no abnormality was

seen in Zurcon Z13 with the same seal geometry. The filled PTFE-based materials were significantly worn after 200,000 cycles.

Dr Mandy Wilke, technology specialist fluid power Europe, Trelleborg Sealing Solutions, who was responsible for conducting the tests, said, "During the tests, strong influences were observed in the behaviour of the seals in relation to friction and wear. Due to the significant fluctuation of the mixing ratios (water/glycol) in HFC fluids and in operation, reliable behaviour of sealing systems can only be predicted to a limited extent.

"To ensure seal life and performance in hydraulic applications, it is important to know the type of hydraulic fluids in service and, using test results and experience, match the correct sealing material to the hydraulic fluid. Despite the successful use of PTFE-based materials with HLP fluids, alternative sealing materials such as Zurcon Z80 and in particular Zurcon Z13 could offer better wear resistance and extended life in HFC fluids."

**Trelleborg – Sweden**  
www.trelleborg.com

# Corinth Pipeworks and SMS join forces for enhanced product ranges

In 2013, Corinth Pipeworks from Athens, Greece, designated SMS Group as supplier for an 18m JCOE® large-diameter pipe mill for longitudinally welded pipes. Two years later, the first pipe was welded on the new mill. The plant is designed for a capacity of 400,000 tons of pipes with outside diameters between 16" and 56", in wall thicknesses up to 40mm and lengths up to 18.3m.

The company's first order to take advantage of this new capacity was for the supply of large-diameter pipes, both LSAW and HSAW, for a total length of approximately 495km, for the onshore part of the pipeline across Greece, entrusted to Corinth Pipeworks by Trans Adriatic Pipeline AG (TAP).

The contract for approximately 270,000 tons of 48" diameter line pipe was awarded, in partnership with the Japanese group Marubeni-Itochi Steel, following an international tender and a strict evaluation procedure. Delivery of line pipes project will begin in 2016 and will be completed in 2017.

By investing in the new pipe welding machine Corinth Pipeworks has expanded its product range to satisfy global demand for high-strength pipes for the production and transportation of oil and gas. The new large-diameter pipe line completes its range of products. Pipe sizes with high wall thicknesses and small outside diameters can also be produced in cost-effective quantities.

With the JCOE technology from SMS group, Corinth Pipeworks is able to meet quality requirements for high-strength pipes for offshore and deep-offshore

applications. The pipes produced by Corinth Pipeworks are earmarked for future use by the company's customers for supplying energy in the Mediterranean region, Gulf of Mexico, Latin America, West and East Africa, the Middle East and in the North Sea. Corinth Pipeworks already successfully operates an HFI pipe welding machine and two-step spiral mill.

The new JCOE large-diameter pipe mill is equipped with the Shape automation system, which precisely controls the forming process using special sensors.

Possible negative influences associated with the starting material and operator are minimised. The system comprises three modular sub-

systems – ShapeBase, ShapeView and ShapeControl – and is designed to achieve optimised forming of longitudinally welded large-diameter pipes during the JCO process.

**Corinth Pipeworks SA** – Greece  
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# Pipe welding

Since its introduction in the 1800s, welding has proved itself to every generation of pipe makers by meeting the needs of the new day. In 2016 that means smooth incorporation into the automated mechanised or robotic processes that yield products whose very names invoke demanding, specialised applications: high-temperature steam pipe; high-pressure pipe for deepwater oil well projects; high-purity pipe for the food and beverage industries.

A pipe weld today is as sensitive as ever to the effects of heat and no less vulnerable to distortion; it still calls for skilled workmanship if it is to be smooth, uniform and sound: not too wide, not too high. But current standards of productivity also mean that welding is a station in a multi-activity system whose efficiency depends on perfect coordination with upstream and downstream processes that themselves operate at top speed and with no allowance for glitches.

It is a challenge that is met daily – and handily – in a state-of-the-art pipe mill.

## Making life easier for job-site welders

Lincoln Electric has launched new CrossLinc™ Technology-enabled welding equipment, providing advantages for the construction, shipbuilding, barge, heavy fabrication and other markets.

The Flextec® 350X welder and LN-25X wire feeder use a proprietary communications protocol to transfer operator voltage adjustments at the feeder to the power source hundreds of feet away using a common, copper weld cable.

No additional control cable is required. The result is greater safety, quality and productivity for job-site and fab-shop environments.

The new Flextec 350X multi-process welding power source delivers premium arc performance for all DC wire, stick and TIG processes and gouging up to 4.8mm ( $\frac{3}{16}$ " ). Engineered for outdoor use and harsh environments, the IP23-rated welder features fully protected components.

*CrossLinc Technology provides more welding control with fewer cables*



*Lincoln Electric's Flextec 350X welder*

With an output range of 5 to 425 amps, the Flextec 350X is rated at 300 amps, 32 volts at 100 per cent duty cycle, or 350 amps, 34 volts at 60 per cent duty cycle. The compact new model weighs only 34.9kg (77lb).

The Flextec 350X is offered as a Construction model for connection with across-the-arc or CrossLinc-enabled feeders, or a Standard model compatible with a greater selection of feeders, including across-the-arc, analogue, digital or CrossLinc Technology-enabled wire feeders. Multi-operator four-pack and six-pack rack systems are available for each model.

Built using the same design qualities of the LN-Pro product line, the LN-25X feeder is designed to be simple, reliable and easy to service when necessary.

LN-25 Pro feeders feature a rugged Maxtrac drive system, dual range wire feed speed, encapsulated

and protected electronics, and a tough, flame-resistant case.

The feeder is rated 450 amps at 60 per cent duty cycle, with a wire feed speed range of 50-700" per minute.

Wire diameters range from 0.6 to 1.6mm (0.023 to  $\frac{1}{16}$ " ) for GMAW wires, and 0.8 to 2mm (0.03 to  $\frac{5}{64}$ " ) for cored wires.

The LN-25X can handle 203 or 305mm (8" or 12") spools, and weighs less than 16kg (37lb).

The 'X' in the LN-25X name indicates that the feeder is designed for Lincoln Electric's CrossLinc Technology-enabled operation, as well as across-the-arc operation.

Lincoln Electric designs, develops and manufactures arc welding products, robotic arc welding systems, plasma and oxy-fuel cutting equipment.

Headquartered in Cleveland, Ohio, USA, the company has 47 manufacturing locations, including operations and joint ventures in 19 countries, and a worldwide network of distributors and sales offices covering more than 160 countries.

**Lincoln Electric – USA**  
www.lincolnelectric.com

## High power welding of downpipes

Information supplied by Jana Müller, Kjellberg Vertrieb GmbH

Umicore Bausysteme GmbH in Gatterstaett, Germany, produces downpipes and gutters of different diameters, and also elements for roof drainage systems from copper, aluminium and titanium zinc. Its main products are titanium zinc pipes and gutters, which are available under the trade name Vmzinc, with different surfaces such as Natural-Zinc, Quartz-Zinc, Anthra-Zinc, Pigmento and Azengar.

2,500km of pipes with diameters between 60 and 120mm and lengths between 1 and 4m are produced yearly on three production lines; 80 per cent of the pipes are made from titanium zinc. This also means that 2,500km of seams have to be welded. The source materials are strips with a length of approximately 2.2km, which are unrolled from the coil, formed into endless pipes, welded edge to edge, and finally tailored.

The production facilities operate in multi-shift production. However, demand is growing, and production manager Torsten Hanke discussed with his colleagues how it would be possible to produce even more downpipes in less time. "The bottleneck is the welding of the longitudinal seams," said Mr Hanke. "With conventional TIG welding the

*A 2.2km mill-finish titanium zinc strip is processed into downpipes in a continuous process (Photo credit: Umicore)*



*Production manager Torsten Hanke (left) is responsible for the introduction of the InFocus process, together with the operator Marco Stottmeier*

welding speed is only about 5m/s." The company's specialist welding distributor suggested trying a new process: the high-performance TIG-welding process InFocus, from Kjellberg.

It was not necessary to invest in new power sources, because the existing ones could be used after they had been upgraded with efficient cooling systems. The technology carrier is the InFocus welding torch. With its highly focussed arc it is a tool that achieves weld seams with a quality similar to plasma or laser welding.

InFocus is a high-performance TIG process for welding low-alloyed and high-alloyed steels, non-ferrous metals and galvanised sheets at high speed. Welding of thin sheets is also possible, as well as welding of thick sheets, up to 10mm in one layer. The process runs reliably and spatter-free, and the weld seams are characterised by an even seam surface of high quality, a small heat-affected zone and low distortion.

Umicore has high demands on the quality of the weld seams: in addition to an absolutely smooth seam surface and a well-developed root, the seams

*The expansion of the sleeves on the welded copper pipes can clearly be seen*



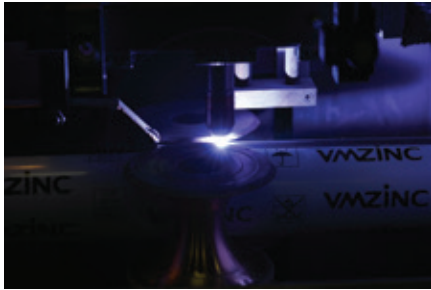
need to have high toughness and bending strength. These properties are not only required on the construction site: the seams have to prove their quality in the factory. After welding, each downpipe is expanded at one end by up to 2mm, creating a sleeve that is used later on the construction site as a connecting element. If the seam quality is insufficient, the seam will tear during expansion.

Other pipes are further processed into pipe elbows. For this purpose, they are bent up to an angle of 85°, and after cutting to length are also equipped with a sleeve. Despite the double load on the seam – bending and stretching – there is a greater danger of tearing during the expansion of the sleeve, according to Mr Hanke. What is done in the factory with even force by a mechanical pipe expander, requires the plumber's skill when processing leftover pieces on the construction site. The lower the temperatures, the more susceptible to cracking the weld seams are.

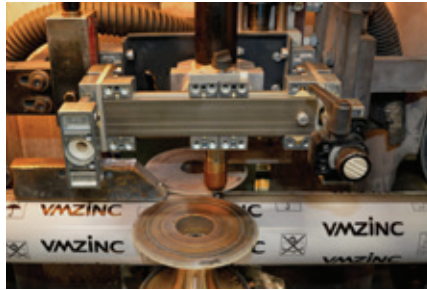
To prevent this from happening, Kjellberg carried out a detailed process analysis, and together with Umicore identified the optimum welding parameters for the InFocus process. The general conditions for the welding process are given by the three existing production lines. Regardless of the welding process, the production lines could produce at a maximum throughput speed of 7.5m of pipe per minute. While welding with InFocus, this speed is no problem, and the potential of the lines can be fully exploited. In comparison to conventional TIG welding this means an increase of the welding speed by 50 per cent without major modifications on the production line.

The cuts shaped as pipes have a small weld gap similar to conventional TIG welding, making the use of filler materials unnecessary. The titanium zinc cuts are welded with alternating current and argon as shielding gas. Forgoing the use of expensive helium reduces the production costs.

When the coil is not too oily, the process runs smoothly and stably over the entire length of the coil. A stable



The InFocus process works with a highly concentrated arc



A four-axis support assists with the adjustment of the ideal torch position



A surface-coated titanium zinc pipe leaves the production line

process has a positive influence on the wear of the electrode. A further supporting factor is the optimised

ignition process. Umicore also uses the InFocus technology for welding copper and aluminium pipes. Another advantage is that the data records for different materials and thicknesses can be retrieved from a database, making the operator's work easier, and ensuring a constant quality of the welding results.

In addition to process-related consultancy, Kjellberg provides support with respect to mechanical engineering, ranging from project planning for complete welding workstations to the construction of simple devices. For Umicore, a Kjellberg standard support

was optimised and adopted to the existing technique. It allows the exact adjustment of the torch above the seam by means of a manual adjustment. The operator can move the torch in four dimensions, adjusting it precisely and with the ideal distance. For this, the operators could rely on their experience, and they quickly found the ideal position on the basis of the appearance of the arc and the seam. Therefore, it is not necessary to re-adjust the torch during the welding process.

Since autumn 2015, the first of the three production lines has run with InFocus, with the other two lines to follow. Further modifications on the production lines will be carried out in order to fully benefit from the potential of InFocus, with a target of welding up to 9m per minute.

**Kjellberg Vertrieb GmbH** – Germany  
[vertrieb@kjellberg.de](mailto:vertrieb@kjellberg.de)  
[www.kjellberg.de](http://www.kjellberg.de)

**Umicore Bausysteme GmbH** – Germany  
[www.vnzinc.de](http://www.vnzinc.de)

## New generation of welding heads from Italy

500kW into 500dm<sup>3</sup> – Termomacchine has developed a new generation of welding heads with small sizes. The company's technical staff have analysed requests arising directly from customers, from operators and maintenance operators of installations, in addition to the information received from collaboration with manufacturers of forming machines.

Counting upon the improvement of the traditional proven reliability in the field, and more than 1,000 installations manufactured in 40 years of activity, the company set a main target to reduce the sizes of both welding head and power supply unit, besides improving the aspects related to maintenance.


For welders with power up to 500kW and frequencies up to 400kHz, several modifications have been made. These include a 50 per cent reduction in the volume of the heating heads; a reduction in the volume of the power supply unit, with access from one side and more

flexibility for positioning and electrical and hydraulic connections; reduction in the connecting cables between the power supply unit and the welding unit; improvement and optimisation of internal cooling systems; modularity and interchangeability of inside cards for upgrade or downgrade of output power; and optimisation of the internal layout to facilitate and speed up maintenance activities. Technological and structural innovations have also been implemented in the high and medium frequency generators designed and manufactured for heat treatment by induction.

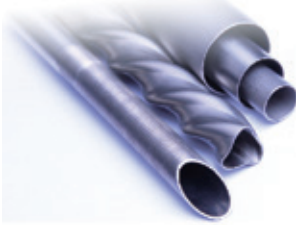
The company also deals with the design of induction heating systems with manual or automatic loading and robotic cells for single element or high production heat treatments.

**Termomacchine Srl** – Italy  
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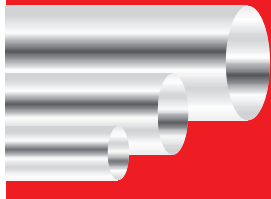
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# Tube

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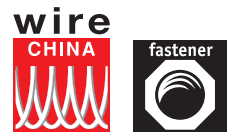
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## Fast purging of heat-treated pipework

Chrome steel pipe joints, such as those used in the power industry for high pressure, high strength pipework, need to be pre-heated for welding, and also require a post-weld heat treatment.

Some high strength stainless steel weld joints need to undergo similar heat-treating cycles.

Weld joints of this nature need to be purged of oxygen and welded in an inert atmosphere, to prevent the oxidation that would otherwise lead to loss of corrosion resistance and imperfections in the joint metallurgy.

Huntingdon Fusion Techniques (HFT) has developed the HotPurge® inflatable pipe purging system for heat-treated chrome and high strength stainless steel pipe joints where the temperatures might be as high as 760°C (1,400°F) for many hours.

Luke Keane, distributor support for HFT, said, "HotPurge allows the purge to be safely continued for up to 24 hours whilst pre-heating, welding and post weld heat-treating with the purge system remaining in place."

HotPurge is manufactured as standard with PurgeGate® to prevent over inflation of, and damage to, the dams. No matter how high the user increases the pressure in order to deliver more gas flow, PurgeGate prevents too much pressure being delivered to the inflatable dams, but allows the increased flow, should it be required, to achieve a lower oxygen level, or for faster cooling of the weld zone.

The purge space remains tightly sealed at all times as the inflatable seals maintain an even seal throughout the weld cycle, irrespective of pressure rises or excessive flow rates of argon gas.



The 450mm (18") version

The large central collar reduces the space to be purged and makes it easier to reach the lower oxygen levels. Each HotPurge system incorporates a central band for easy positioning inside the pipe. This band, named RootGlo®, will illuminate inside the dark pipe for up to 20 hours with only ten minutes previous exposure to daylight.

HotPurge systems are manufactured to suit pipe diameters from 150 to 2,440mm (6" to 96"), and both inflatable dams have pull handles securely sewn with high temperature resistant Kevlar thread that will withstand a pulling force of 1,000lb.

The HotPurge inflatable tube and pipe purging systems can be used repeatedly for weld purging and will keep the oxygen levels below 100 parts per million (ppm) throughout the welding cycle, ensuring oxide and coke free welds, without the metallurgical imperfections caused by exposure to too much oxygen.

**Huntingdon Fusion Techniques – UK**  
[hft@huntingdonfusion.com](mailto:hft@huntingdonfusion.com)  
[www.huntingdonfusion.com](http://www.huntingdonfusion.com)



Two of the available range of HotPurge systems

## New professional welding tables

Strong Hand Tools, a manufacturer of welding clamps and BuildPro welding tables and the North American distributor of German-made Siegmund high precision welding tables, has introduced the new Professional Extreme 750 Siegmund welding tables, claimed to be the hardest, most durable and flat welding tables available.

Constructed from premium through-hardened steel, the Professional Extreme 750 welding tables are finished with a newly optimised plasma nitride treatment, which results in a deep, hard case for a table that will last a lifetime. This hardening process protects against stroke impact, and provides a more wear- and corrosion-resistant surface.

The Professional Extreme 750 tables have a surface hardness of 750 HV (~60 HRC), and are available in two versions, System 28 and System 16, with 28mm and 16mm boreholes, respectively.

**Strong Hand Tools – USA**  
[sales@stronghandtools.com](mailto:sales@stronghandtools.com)  
[www.stronghandtools.com](http://www.stronghandtools.com)

## Peter Westerman honoured at industry awards

A special merit Lifetime Achievement Award has been presented to Peter Westerman, MD of Westermans International, in recognition of his

*Peter Westerman (centre), with Michael Portillo (right), and Adrian Hawkins of the AWD*



lifetime contribution of his business significance within the welding industry.

Organised by The Association of Welding Distribution (AWD) and aimed at finding and recognising the best examples of work across all aspects of the welding industry, the awards were presented in front of an audience of more than 200 business guests and guest speaker The Right Honourable Michael Portillo.

Mr Westerman commented, "I am proud, humble and happy all at the same time to win the Lifetime Achievement Award for my services to the industry. It was remembered well about the time I left the 'new' business supplies and started up as a 'used' dealer. Criticism and doubts were endless back in the 1980s but everyone at the evening congratulated me on my business and successes to date."

The gala ceremony took place in April 2016 at the Hilton Metropole, Birmingham, UK, during MACH 2016.

The new Welding World awards are international, impartial and independent, as they were subject to an online public vote.

Westermans International supplies refurbished welding equipment, CNC plasma cutting systems and positional machinery around the world.

Founded more than 50 years ago by Mr Westerman, the company has a 30,000ft<sup>2</sup> facility in Groby, Leicestershire, UK, complete with a modern warehouse and large workshops.

**Westermans International Ltd** – UK  
welding@westermans.com  
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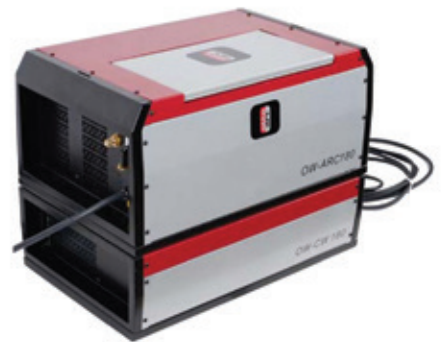
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## High performance welding power supply

The Otto Arc 180 power supply has been designed to ensure high quality welds using both fusion and open wire feeder heads, and over 20 levels of programming for detailed accuracy.



*Otto Arc's 180 power supply*

The 10" colour screen, along with features such as a USB port, remote pendant, printer, fault detection and a water cooling system, are integrated as a complete package.

The PC controller offers easy programming, and provides versatility to tackle demanding applications including food and dairy manufacturing.

**Otto Arc Systems, Inc** – USA  
[www.ottoarc.com](http://www.ottoarc.com)

# Mechanised MIG welding systems from Kemppi

Kemppi's new A3 and A5 MIG systems offer welding mechanisation equipment for straight line or orbital MIG/MAG welding applications.

The A3 MIG system is a durable and simple straight rail solution. Powered from a battery, the A3 torch carriage is a low-cost solution to mechanise longitudinal welding and cutting processes.

A5 MIG systems offer integrated welding carriage solutions for either straight rail or orbital MIG welding, incorporating a weaving unit and remote control, plus either straight rail or guide ring sets for orbital MIG welding.

The A5 MIG systems are digitally integrated with Kemppi's latest FastMig welding equipment, ensuring welding arc control.

The operator can easily select the best welding settings for each application prior to and during the welding cycle, including the use of pre-set memory channels, directly from the remote control unit.

Upgrading from manual to mechanised welding improves welding quality and productivity, through faster welding speed, greater duty cycles and increased deposition rates.

Kemppi mechanisation systems also link to Kemppi's 'Wise' modified arc solutions, including WiseFusion, WisePenetration, WiseThin and WiseRoot, for quality and productivity improvements.

For example, in filling and capping passes on heavy plate, WiseFusion together with WisePenetration ensures

the optimal welding arc performance during the whole welding cycle, offering conditions for reduced joint geometry and narrow gap welding, reduced filler material, fewer welding passes and shorter welding times.

Kemppi's offering includes welding solutions – equipment, management software, and services – for both demanding industrial applications and ready-to-weld needs. The company is based in Finland, and its global partner network covers more than 60 countries.

**Kemppi Oy** – Finland  
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*Kemppi A5 MIG rail system*

## Data at your fingertips with new welding app

Sandvik Welding, a new welding app for smartphones and tablets, has been specifically designed with on-the-job functionality to meet welding professionals' requirements when planning and performing welding projects. The app was launched on the Sandvik stand at Tube 2016, where the company's welding specialists demonstrated its features and answered visitors' questions.

Built with a focus on ease of navigation, the new app brings extensive information to hand for welding engineers, welders, specifiers, project engineers and owner operators. Its useful technical data allows users to plan which grades to choose for which jobs, make ferrite calculations, determine the level of heat input for a specific grade, select filler material and get help. Information is provided on welding parameters, gas shielding,

maximum interpass temperatures and post-weld treatments. All calculations and recommendations are designed to help operators and planners ensure a good weld metallurgy is achieved in the weldment while maintaining optimum material properties.

"We believe the new Welding app to be the most comprehensive available today, providing welding engineers with a vast amount of informative data and practical functions, all created to meet customers' welding needs in a handy form right to their phone or tablet," explained Clemente Tallarico, Sandvik global product manager welding.

The app was designed following years of experience in helping solve complex project applications and continuous consultation with and feedback from customers. "It is this close cooperation with our customers that helps us ensure that the data presented in the app is as close as possible to the information welding engineers find helpful in their everyday operations," added Mr Tallarico.

Complementing the app is the recently launched Sandvik Welding Handbook. Downloadable and available exclusively online, it contains comprehensive product information and data sheets.

As new grades or information are added, both the app and the handbook are automatically updated. The newest



version of the handbook can be downloaded from <http://smt.sandvik.com/welding-handbook>

Already planned for subsequent versions of the app is the possibility to make calculations for consumable consumption and select the most suitable weld overlay cladding solution from Sandvik's welding consumable portfolio.

The Sandvik Welding app is free to download, and is available now for iPhone and iPad from the Apple App store, and Google play for Android devices.

**Sandvik Materials Technology** – Sweden  
[www.smt.sandvik.com](http://www.smt.sandvik.com)

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## New pipe welding machine

DELTA 1000 Trailer is a self-aligning fusion machine suitable for welding thermoplastic pipes for the transport of water, gas and other fluids under pressure, up to Ø1,000mm (36" IPS/DIPS). The machine can fuse pipes according to the ISO 21307 High Pressure standard.

The machine body is mounted on a four-wheeled chassis, with two steering wheels and a safety brake, and is easily removable for working in tight spaces.

Steel hydraulic clamping with fast-locking inserts allows placing and removal of inserts in seconds.

A self-detaching device helps remove the heating plate during welding. An on-board hydraulic electric facer is equipped with a safety microswitch to prevent accidental starts, and a thermal circuit breaker protects the motor.

**Ritmo SpA** – Italy  
[www.ritmo.it](http://www.ritmo.it)

## The next wave of pipe seam submerged arc welding

Lincoln Electric has developed Lincolnweld® Emergence to help welders avoid common processing flaws that can lead to costly repairs and excess scrap.

Lincolnweld Emergence is a non-copper coated submerged arc wire with a proprietary surface treatment to protect material and perform the same as copper coated wires in the same alloy class. It also improves wire conductivity over competitive non-copper coated wire. The elimination of surface copper in Emergence decreases the risk of weld contamination.

The right selection of contact tip and wire is critical to maintaining an optimal production process. Emergence wire doubles the life of contact tips, resulting in consistent arc starts, wire placement and weld deposit, and less downtime and lost production due to frequent change outs.

Emergence is part of a comprehensive product line to support every pipe seam application.

The exact wire composition of Lincoln Electric's copper coated wires makes requalification for welding procedures controlled by classification easy.

Lincoln Electric – USA  
[www.lincolnelectric.com](http://www.lincolnelectric.com)



*Lincolnweld Emergence helps avoid common processing flaws*

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**Opening times**

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# The 7<sup>th</sup> All China International Tube and Pipe Industry trade fair



Tube China is an international trade fair for the tube and pipe industry, which takes place every two years in Shanghai.

It is one of the world's largest trade fairs for tube and pipe technologies and has firmly established itself on the fair market as an offshoot of the Tube show that takes place in Düsseldorf.

Exhibitors show the full range of products – from production to processing of pipes, and present not only raw materials, pipes and fittings, but also machines for pipe manufacturing, process technology tools and various other industry-related tools such as welding machines.

Tube China attracts professionals from very different but related industries such as the iron, steel, metal, automotive supplies, electrical, construction, oil, gas and chemical industries as well as those from the technical trade, craft, associations and the energy and water supply industries.

Since its founding in 2004 Tube China has worked as a forum for innovative technologies, and offers one of the best platforms for trading and networking in Asia. With the industry conference focusing on current issues and challenges in the tube and pipe industry, the trade fair will be a perfect place to network and conduct business.

[www.tubechina.net](http://www.tubechina.net)

# An interview with Peter Westerman

Peter Westerman, MD of Westermans International, who turned 80 years of age this year, was recently presented with a lifetime achievement award by The Association of Welding Distribution (see our Welding section for the full story).



■ *What does your company specialise in and why is it the best at what it does?*

My company specialises in supplying every type of second-hand equipment used in the welding and fabrication metalwork industry. I started this business to provide value for money for those companies that have a restrictive budget but did not want to compromise on high-quality professional machinery.

■ *What are main projects you are working on at the moment?*

With the world's economy slowing down dramatically, I am personally involved in seeking potential business partners around the world whom I could work with. The aim is to locate and buy equipment either from them or via them. Our supplies have moved from Africa to Central America, and buoyant sectors are renewable energy, biomass and LNG.

■ *What are the future plans for your company? Do you see a lot of potential for growth in the regions that you deal with?*

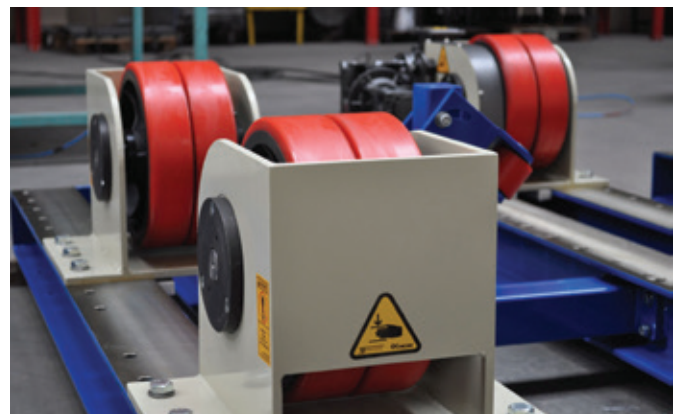
We aim for long-term growth by building up trust and great relationships with businesses around the world. We saw rapid growth in the tube and pipe sectors from 2009 to 2014. This has now slightly settled, but we still have many prospects in Ireland in orbital pipe fitting. Personally, I am looking to work a four-day week when I am 90 years old.

■ *What's the most enjoyable thing about your job/working for the company/working in your current role?*

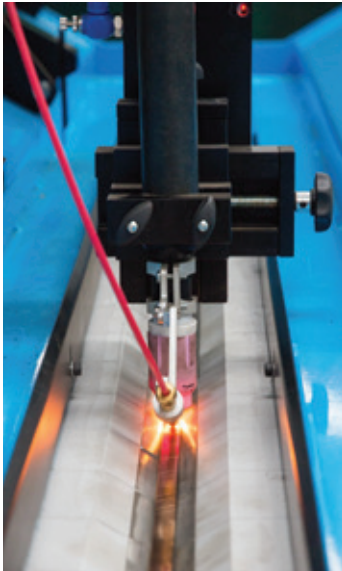
Being able to travel, meeting new people and making lifelong friends on the way. I'd like to stand back and admire the strength of the company now.

■ *What is the toughest aspect of your job? And what is the most difficult thing about being in a position of responsibility at a large company?*

Getting old. I am a young 80 years old.







**Peter Westerman,  
MD of Westermans International**

- Began working life as a stoker on the railways
- Started selling from an early age, following the lead of his mother, who owned a second-hand shop and bought from auctions
- Joined Petbow Cummins, a large welding equipment supplier, in 1963, and quickly became national sales manager
- Set up Leicester Welding Supplies in the mid-1970s, going on to win large contracts (British Steel, Corby and others in the UK's East Midlands region)
- Sold up and retired by 1986, aged 45
- Started his current business a couple of years later, as a used welding equipment dealer in a 1,000ft<sup>2</sup> unit with only three staff



■ *What's the most exciting or challenging project you have overcome during your career so far and why?*

The most exciting project was when I decided to retire at the age of 45. I could not predict how quickly I would get bored. I realised then I wasn't interested in anything other than welding, but not being able to supply new machines due to a clause in the buyout contract, I found a way by selling refurbished used products. I remember the industry, back in the 80s, thought I had gone mad. It was long before recycling was considered to be fashionable like it is now.

■ *What is your proudest moment?*

Recently I was presented with a Lifetime Achievement Award by the Association of Welding Distributors. It is a very humble yet proud feeling to witness over 200 people in your industry and your colleagues – all there to witness your business commitment and passion of the trade.

■ *How do you see the tube and pipe industry (or your specific sector of it) changing over the next five to ten years following the global recession? What do you think the industry can learn for the future from the past few years?*

Nothing stands still and nothing is safe nowadays. I think the industry can learn about adapting to changes quickly, as and when they happen. As a global supplier, we also must move with industry trends. For example, technology is constantly changing, same as industry standards do. Robotic welding for precise work will be vital and more imposing, so training skilled

staff to fill our skill shortages is also vital. I believe health and safety will play an even bigger part. Manufacturing will always be a massive part of the economy, but efficiency and pricing are key to a successful business service or product.

■ *What advice would you give to someone trying to make it in the tube industry? If a student or young person wanted to get involved, what should they do?*

I would say, "Do look ten years ahead." Make time to research the latest legislations, as these are key to the future manufacturing in the tube and pipe sectors. I would also tell them, "Think big and bolder." In 2016, skilled engineers are in high demand, more than ever. There are some amazing technology training centres worldwide that can be tapped into for further knowledge.

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# New cutting ring system: a cut above the rest

Article supplied by Voss Fluid, Germany

The perfect cutting ring tube fitting is reliable when it comes to leaks and processes and offers maximum load and pressure resistance, while preventing system-inherent assembly errors. Voss Fluid has brought out a solution that combines all these advantages in a single cutting ring system, enabling even inexperienced fitters to achieve precision work.

In theory, cutting ring systems guarantee safety, and ensure leak-free tube connections in hydraulic systems. In practice, a process-reliable fitting has almost always depended on the fitter's experience and concentration. To overcome these less than adequate circumstances, Voss Fluid has developed an assembly-reliable system: the VossRingM with VossRing pre-assembly stud. The patented solution for connecting steel and stainless steel tubes is easy to handle and enables even inexperienced or fast-turnover personnel to achieve precise pre- and final assembly.

## The ring of rings

The basis of the intelligent solution is the VossRingM. The optimised twin-cutting technology ensures a perfect indentation and firm fit at the tube, even for thin-walled tubes. The stable cutting ring cross-section along with other geometric details guarantee the highest pressure resistance and dynamic load bearing capacity. That means the ring can withstand pressures of up to 800 bar at a fourfold safety factor without any problem. FEM-optimised rounding of the cutting ring reduces the risk of damage to the stud and effectively prevents the tubes from rotating during assembly.

## Process-reliable pre-assembly with limit stop function

Yet completion of the VossRingM did not mark the end of the project. "What use is the best ring," said Gerd Berghaus, product developer at Voss Fluid, "if the error sources during assembly can be as diverse as the people installing it?"

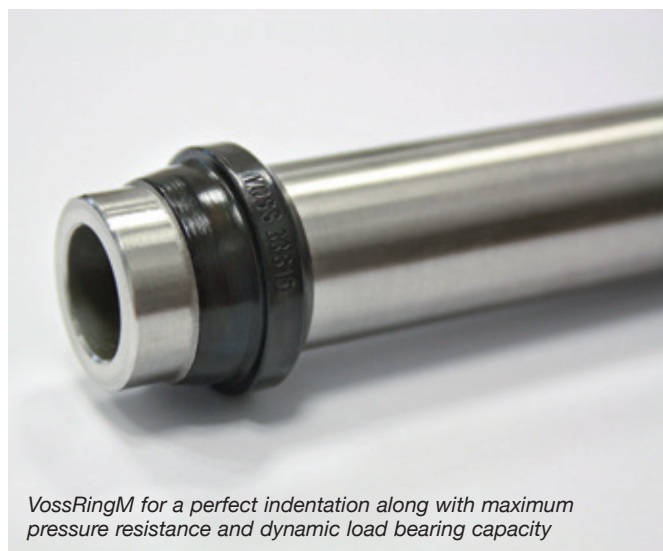
To eliminate this safety gap with an effective design, the company has developed a reliable assembly tool: the VossRing pre-assembly stud. The solution prevents assembly



Leak-free and process-reliable cutting ring system:  
VossRingM with VossRing pre-assembly stud

errors by signalling the exact end point of the pre-assembly to the fitter via an unmistakable increase in force. Once the assembly is completed, the stud comes into contact with a definite locating surface at the end point of the ring. This means the assembly process is finished at the optimum point – an excessive assembly is effectively prevented.

Besides the highest level of safety, the new stud also makes the fitter's work easier: the sophisticated geometry of the tool in the tube limit stop range reduces the final assembly route from 90° to 30°, thereby decreasing the work to be performed by the fitter by around half. This advantage is especially apparent under difficult installation conditions.



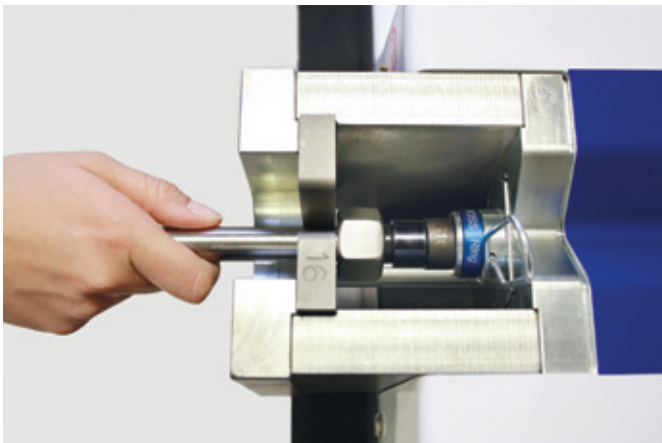
VossRingM for a perfect indentation along with maximum  
pressure resistance and dynamic load bearing capacity

## Maximum precision

The VossRing pre-assembly stud consists of high-performance steel, which does not wear like conventional standard tools; in addition, its tool service life is 20 times longer. These properties make wear inspections totally superfluous. Although normal pre-assembly studs have to be inspected regularly for proper functioning owing to flaring of the cone contour, this negative property is absent from the Voss tool. Upon reaching the application limit, the stud breaks, effectively preventing assembly errors due to tool wear.

## Corrosion protection: Voss coat-Black

The 100 per cent effective design of the new cutting ring system regarding safety, load bearing capacity and durability can also be seen in the unique surface quality of the cutting ring. "The zinc and nickel based coating Voss coat-Black combats even aggressive media and therefore guarantees the high corrosion resistance expected by the customer," explained Mr Berghaus. As a result, this surface not only attains corrosion resistance class K5 according to VDMA standard sheet 24576, but also exceeds the required resistance values against white and red rust both under laboratory conditions and in more demanding practical tests.



*The new cutting ring system allows even inexperienced fitters to perform precision work*



*Hydraulic installation on an MBB-Palfinger lifting platform: interaction of tubes with Voss cutting rings and couplings as well as hoses*  
Image copyright MBB Palfinger GmbH



*Application example: small truck with lifting platform*  
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## Conclusion

The new cutting ring system ensures leak-free and process-reliable tube connection with maximum pressure resistance and load bearing capacity. Assembly errors are reliably prevented by the patented limit stop concept. The shorter final assembly route reduces the required force and makes the fitter's work easier, even in constricted installation spaces. That makes the system reliable and user-friendly.

## About Voss Fluid GmbH

Voss Fluid GmbH is an international supplier of hydraulic connection technology. The company's head office is in Wipperfürth, Germany, and with around 400 employees the company is part of Voss Holding. The product portfolio comprises tube connections for stationary and mobile hydraulics, including cutting ring couplings, tube forming systems and flange fittings.

Voss Fluid as a development and system partner of international mechanical engineering focuses on application-specific system solutions. The company offers customers everything from a single source: from project planning and engineering, production and assembly to economic logistics services. With four sales companies in Europe and Asia as well as further Voss Group representations and a worldwide network of dealers, Voss Fluid ensures at all times the reliable distribution of its system solutions.

**Voss Fluid GmbH** – Germany

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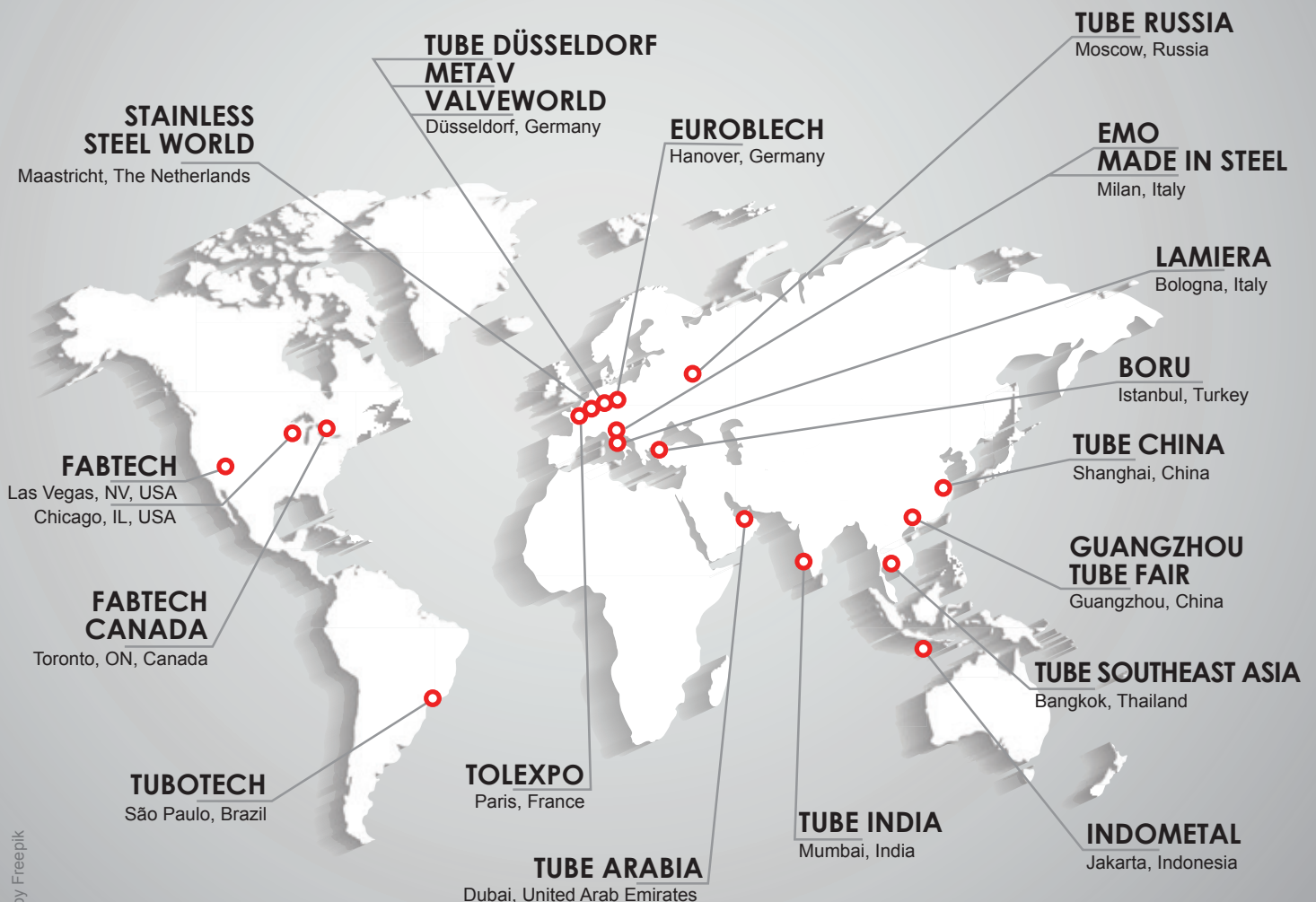
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Map by Freepik

Addison Saws Ltd .....	30	Merebo Messe Marketing .....	22
AHC Oberflächentechnik GmbH .....	7	Messe Düsseldorf GmbH .....	15
Aicon 3D Systems GmbH .....	18	Micromet .....	34
Alfa Laval .....	36	Molecor Tecnologia SL .....	10
American Piping Products .....	16	MRC Global Inc .....	19
Asset International Ltd .....	21	Neville Precision Engineering Ltd .....	30
battenfeld-cincinnati .....	36	Otto Arc Systems, Inc .....	48
Bibby Offshore .....	14	Ovako AB .....	29
Blue Diamond Technologies Ltd .....	37	Penspen Ltd .....	27
BPF Pipes Group .....	12	Prodim International .....	28
Bulk Oil Storage and Transportation Co Ltd .....	27	Ritmo SpA .....	50
Bültmann GmbH .....	31	Rotork plc .....	33
Centravis .....	20	Samuel, Son & Co, Ltd .....	15
Conex Bänninger .....	6	Sandvik Materials Technology .....	32, 50
Corinth Pipeworks SA .....	41	SC TehnoWorld Srl .....	36
Duoline Technologies .....	38	Scan Systems Corp .....	10
Fight Fake Products Initiative .....	20	Selmers BV .....	11
Fine Tubes .....	25	SSAB AB .....	32
Fives Bronx Ltd .....	30	Walter Stauffenberg GmbH & Co KG .....	38
Flexenergy Ltd .....	33	Steel Available .....	37
Flexitallic .....	8	Strong Hand Tools .....	47
FlexSteel Pipeline Technologies, Inc .....	29	Sumner Manufacturing Co, Inc .....	40
Forterra Building Products .....	22	Superior Tube .....	26
Freedonia Group .....	27	Termomacchine Srl .....	45
Hangzhou AHC Surface Treatment Technology Co, Ltd ..	7	TMK .....	16
Hexagon AB .....	18	Trelleborg .....	18, 40
Huntingdon Fusion Techniques .....	22, 47	Tungum Ltd .....	24
Hydratight Ltd .....	35	Umicore Bausysteme GmbH .....	44
International Titanium Association .....	25	US Pipe .....	22
Interpipe .....	23	Val-Matic Valve & Manufacturing Corp .....	16
Interstate Plastics .....	26	Valen Fittings Ltd .....	7
JFE Steel Corp .....	23	Vallourec .....	10
KBC Advanced Technologies .....	8	Versaperm Ltd .....	34
Kemppi Oy .....	49	Voss Fluid GmbH .....	24
Kemppi UK Ltd .....	49	Westermans International Ltd .....	48
Kjellberg Vertrieb GmbH .....	44	Wuppermann AG .....	19
Lincoln Electric .....	43, 51	Yokogawa Europe BV .....	8
McElroy .....	12		

# advertisers index

Addition Manufacturing Technologies..... Inside front cover	Messe Düsseldorf Asia Pte Ltd – Indometal 2016.....51
Bola-Tek Mfg Co Ltd.....50	Messe Düsseldorf (Shanghai) Co Ltd – Tube China 2016....46
Both-Well Steel Fittings Co Ltd.....23	Qualitube Limited ..... 11
H. Butting GmbH & Co KG .....15	Randolph Tool Co Inc.....48
CSM Group ..... Front cover	Silva Mash Ltd.....35
Fine Tubes Ltd..... Back cover	SME – Fabtech 2016..... 17
FMA – Pipe & Tube Charlotte 2016.....9	TAG Pipe Equipment Specialists Ltd ..... Inside back cover
Haci Ayvaz End. Mam. San ve Tic A.S. ....5	Teekay Couplings Ltd..... 19
KRV Kunststoffrohrverband eV .....1	Tungum Ltd .....31
Mack Brooks Exhibitions Ltd – EuroBLECH 2016.....13	Xuyi Titan and Material Co Ltd .....45

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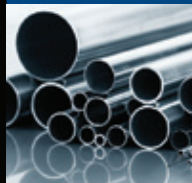
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