

Tube Products

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INTERNATIONAL

The trade magazine for tube and pipe products

March 2017



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Seamless steel tubes

acc. to DIN, EN, ASTM and API standards
from 10,2 to 660 mm

- materials S355J2H, S235JRH, S235J2H
- Inspection certificate
EN 10204 / 3.1. b

Welded steel tubes

acc. to DIN, EN, ASTM and API standards
from 17,2 to 1620 mm

- Longitudinal seal-welded or spiral-welded,
Material: S355J2H, S235JRH
- Inspection certificate 10204 / 3.1. b

Structural hollow sections

Hot-produced acc. to EN 10210
and cold-produced acc. to EN 10219
40 x 40 - 400 x 400 mm
50 x 30 - 500 x 300 mm

- materials S355J2H, S235JRH, S235J2H
- Inspection certificate EN 10204 / 3.1. b

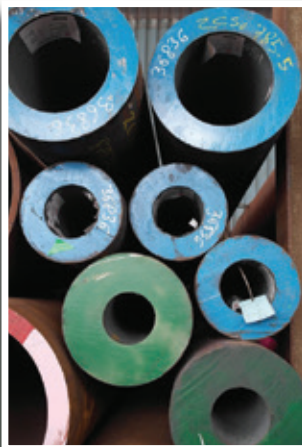
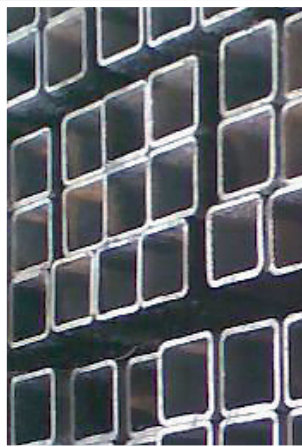
Precision steel tubes

acc. to DIN, EN, ASTM and API standards
from 5,0 to 200 mm

Processed tubes available on request

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- with PE coating
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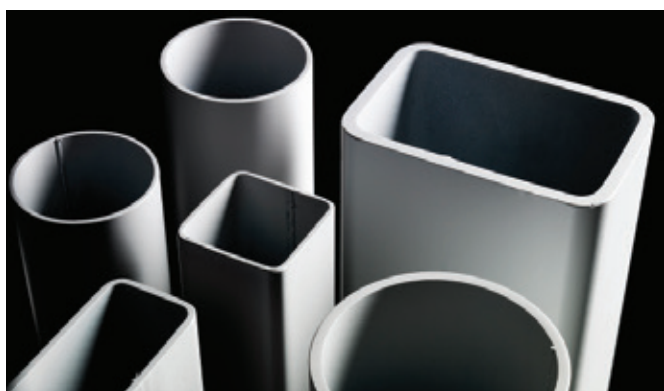
To help you design structures for even the most demanding and challenging applications, our innovative Celsius® range of structural hollow sections combines proven performance with complete reliability. The range of shapes and the tight corner radii of our Celsius® tube products bring outstanding aesthetics to any structure.

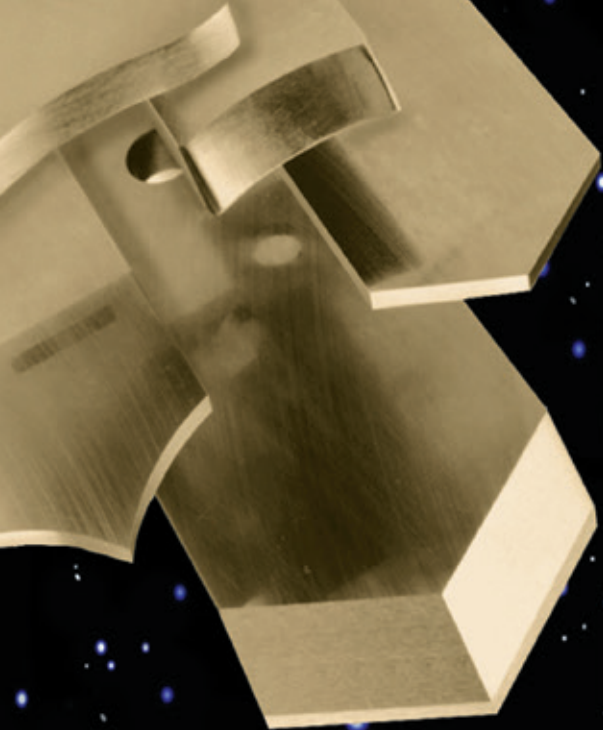
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- Optimised for weldability and galvanisability with a low CEV and tightly controlled silicon content
- Manufactured from raw materials by Tata Steel for full traceability
- Certified to BES 6001 responsible sourcing standard
- BIM models available through BIMObjects

Celsius® is available in a comprehensive range of circular, rectangular, square and elliptical hollow sections according to EN 10210 in S355NH and S420NH.

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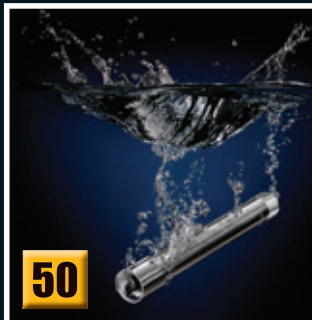
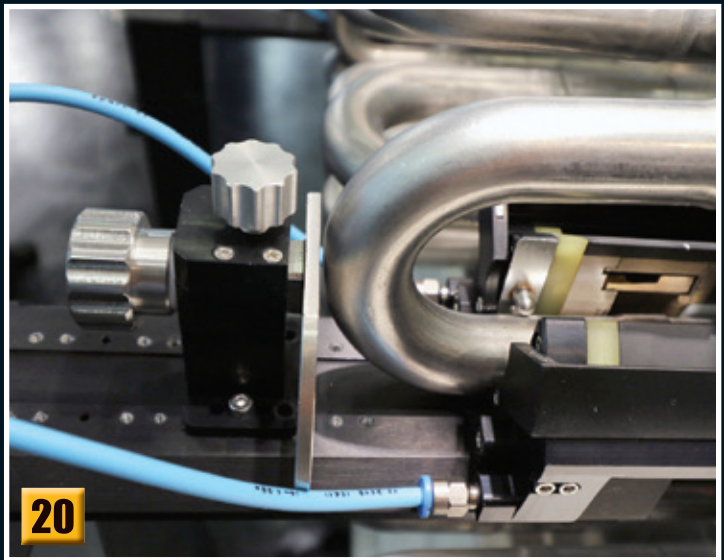
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Tube Products

INTERNATIONAL

The trade magazine for tube and pipe products



The March issue

Welcome to the latest Tube Products INTERNATIONAL magazine. This issue we have a feature on oil and gas as well as an extended article on environmentally friendly corrosion treatments for pipe and tube (see page 56).

The magazine will be distributed at Tube Russia. Our team will be there in Moscow so please do come and say hello.

On the subject of tube shows, there are some exciting new opportunities to make contacts in international markets in 2017, with Messe Düsseldorf announcing that it is supporting a new tube and pipe producers and suppliers pavilion at FABTECH 2017. This is excellent news and will hopefully see the tube side of this fantastic show in Chicago grow even bigger.

There have been several stories in the press about large pipelines in the US such as Keystone XL Pipeline and the Dakota Access Pipeline finally being signed off so the timing could not be better.

In addition, Messe Düsseldorf has announced a brand new show called Iran Tube 2017, which will take place in Tehran from 5 to 8 December.

The sanctions against the country have made it difficult to fully develop its offshore oil and gas fields and particularly what is thought to be the largest offshore gas field in the world – South Pats, shared between Iran and Qatar. Some believe some of the deals for, as an example, chrome resistance alloy OCTG could be the biggest ever signed, so the potential in the market is absolutely huge, especially for companies in Europe and Japan that traditionally tend to specialise in these areas.

Next issue we will have features on plastic and composite tubes and pipes; fittings, valves, flanges and connectors; and Guangzhou 2017 and Valveworld 2017 trade shows. The advertising deadline is 24 March.

Rory McBride
Editor



events calendar

2017



23-25 March
BORU 2017 (Istanbul, Turkey)
International Exhibition
www.borufair.com



17-19 May
Made In Steel (Milan, Italy)
International Exhibition
www.madeinsteel.it



5-8 June
Tube Russia (Moscow, Russia)
International Exhibition
www.metallurgy-tube-russia.com



28-30 June
Guangzhou Tube Fair (Guangzhou, China)
International Exhibition
www.chinaexhibition.com



18-23 September
EMO (Hanover, Germany)
International Exhibition
www.emo-hannover.de



19-21 September
Tube Southeast Asia (Bangkok, Thailand)
International Exhibition
www.tube-southeastasia.com



3-5 October
TuboTech (São Paulo, Brazil)
International Exhibition
www.tubotech-online.com



6-9 November
FABTECH (Chicago, USA)
International Exhibition
www.fabtechexpo.com



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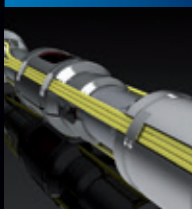
Instrumentation



High pressure



Control lines



Straight lengths



Fine Tubes and Superior Tube each offer over 70 years expertise in supplying high quality tubes. We work closely with our customers on developing high specification tubing solutions for 'fit & forget' oil & gas applications in a wide range of stainless steel, nickel and titanium alloys.

Increasingly hostile environments coupled with demanding offshore and onshore operations require ever greater material specialisation and extended product service life.

That's where our expertise in processing exotic and high performance alloys such as 6Mo, 904L, 825, 625 and Super Duplex come into use - for less maintenance, less downtime and big cost savings.

Contact Us



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oilandgas.finetubes@ametek.com



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oilandgas.superiortube@ametek.com



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Statoil TR2385 Compliance • NADCAP Ultrasonic Testing
NADCAP Heat Treatment • NADCAP Fusion Welding





business & market news

Tenaris SA has built a Kazakhstan production facility

Tenaris presents new premium threading facility in Kazakhstan

Tenaris has established a new premium threading facility in Aktau, Kazakhstan. The plant will support the company's long-term agreement with Karachaganak Petroleum Operating (KPO), plus key operator Tengizchevroil (TCO), and will enhance the service offer to other customers operating in major Kazakhstan fields with commercial, technical, field service and supply chain logistics expertise.

"Tenaris has been a key supplier of OCTG in Kazakhstan, and our Aktau plant is critical to our ability to provide customised solutions with sophisticated products in a region that presents some of the most complex drilling environments," said Tenaris

chairman and CEO Paolo Rocca. "An investment like this today reinforces our commitment to serving the region's oil and gas sector, to our people, our customers, and the community."

The facility already employs 40 people and is scheduled to hire up to 90 direct employees once at full capacity, with 95 per cent local jobs. The US\$40mn facility has the capacity to produce 45,000 tons of OCTG, and was designed according to the highest safety standards. The facility will operate under Tenaris's global quality, health, safety and environment (QHSE) policy, ISO 9001.

From this facility, Tenaris will thread seamless pipes and gas-tight premium

connections, and it is equipped to apply its proprietary Dopeless® technology, a dry, multifunctional coating that offers operational and HSE benefits.

Tenaris's products are able to withstand Kazakhstan's challenging operating conditions, both onshore and offshore, and field service specialists are ready to assist operators throughout their entire projects.

Tenaris has been operating in Kazakhstan since 2004 with offices in Aktau, Almaty, Aksai and Atyrau, and a service centre in Aksai.

Tenaris SA – Luxembourg
www.tenaris.com

4,000-tonne carbon emissions reduction wins CEMARS Gold Award

Saint-Gobain PAM UK, a manufacturer of ductile iron water and sewer pipelines, access covers and gratings, has been presented with the top award from the Carbon & Energy Management and Reduction Scheme (CEMARS) by Sir Lockwood Smith at a presentation ceremony in London. The company cut its carbon emissions by 13.31 per cent in absolute emissions over five years, which equates to 4,107 tonnes.

The Gold Certificate recognises the company's achievement for year-on-year reductions over a five-year period by following a systematic carbon reduction programme. In particular, the company has reviewed and taken targeted action at its foundries, where it believes it can make maximum impact.

Several million pounds of investment at its Holwell site has led to waste heat being fed back into the process, and provided an upgraded exhaust system and a new auto pour system to improve yield.

Both the Holwell and Telford foundries have also had variable speed drives fitted to compressors and pumps. Other actions being taken by Saint-

Gobain PAM UK include a replacement programme of all of its internal and external lighting to more efficient LED fittings. The results were reported and independently verified by Achilles, which holds the licence to run CEMARS in the UK.

Commenting on the award, Saint-Gobain PAM UK managing director Paul Minchin said, "We are hugely proud to be one of the few UK businesses to achieve the gold certification for CEMARS. The award is testament to the amount of work and commitment invested by various teams across our business over the last six years. If as a country we are to achieve our carbon reduction targets, then it is about time that measures like CEMARS are made mandatory for all organisations.

"As a socially responsible business, Saint-Gobain PAM UK looks beyond our immediate commercial needs and constantly questions how we can contribute to a sustainable future for our wider community. This award is also only the start of our carbon reduction plans; we are aiming for an overall reduction of our emissions by 50 per cent by 2025."

Saint-Gobain PAM environment manager Mark Hardy (centre) receives the CEMARS gold certificate from Achilles chief executive Jay Katzen (left) and Sir Lockwood Smith (right)



CEMARS requires participants to measure and reduce their organisational carbon footprint in accordance with international best practice. It was the first scheme to be accredited under ISO 14065, the international standard for bodies offering certification of corporate carbon footprints.

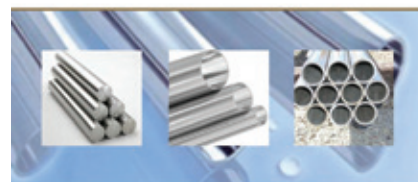
The scheme is also licensed by the Environment Agency under the Climate Change Act 2008, accredited by the CDP (Carbon Disclosure Project) and gains additional CDP points for CEMARS certified companies disclosing to the CDP.

Saint-Gobain PAM UK

sales.uk.pam@saint-gobain.com
www.saint-gobain-pam.co.uk

Achilles – UK

www.achilles.com



Krupalu Inc. is one of the largest Importers and Exporters of Ferrous and Non-Ferrous Alloys (Tubes, Pipes, Bars, Plates and Coil) having over **25+ years of extensive global tube industry experience.**

We work as a **trusted partner** to provide the most **competitive price, high quality and efficient delivery.**

We have registered offices in USA, Canada, India and Europe.

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630-929-7244
Email: sales@krupalu.com

www.krupalu.com

Stainless steel and Nickel alloys tubes and pipe supplier

New business development manager for Asahi/America

Thermoplastic fluid flow technology company Asahi/America, Inc has announced the addition of Ken Moody to its business development team.

Mr Moody joined the company as business development manager for commercial piping in the western region.

As well as promoting Asahi/America's new PP-RCT piping line, Asahitec™, and the Coolsafe™ and Air-Pro™ piping systems, Mr Moody will work closely with the company's western sales team

on pre-construction sales efforts and engineering specifications.

Asahi/America specialises in providing solutions for fluid handling systems, individualised to meet customer requirements.

It manufactures corrosion-resistant thermoplastic fluid handling products, including valves, actuators, pipe and fittings.

The company maintains an extensive custom fabrication department, and



Ken Moody

provides on-site consultation, supervision and training where required.

Asahi/America, Inc – USA
asahi@asahi-america.com
www.asahi-america.com

FES accredited with API leading quality management standard

FES International, a producer of fluid transfer solutions, has been accredited with the American Petroleum Institute (API) Spec Q1 certification.

The scope of the certification was for the design, manufacture and installation of bend stiffener connectors for load transfer devices, and custom-built equipment for the oil and gas industry and renewable energy sector. FES had to follow a challenging API requirement route that included desktop surveys and various stages of extensive audits over a six-month period.

The managing director of FES International, Rob Anderson, said, "We are always looking for new ways to improve ourselves as a company, whether that is through developing our technology or by reviewing our management processes."

Garry Hartridge, QHSE manager at FES, who was a vital part of obtaining the certification, commented, "Being accredited with API's industry-leading quality management standard means our current and prospective customers are assured that we operate

at the highest of standards and that we will always be able to meet their requirements and needs."

To achieve API Q1, organisations must be committed to a focused and systematic approach to their management processes, including being able to demonstrate a focus on customer requirements and management commitment.

FES International – UK
fes@fesltd.co.uk
www.fesinternational.com

Hargreaves appoints business development manager

HVAC and containment ductwork specialist Hargreaves Ductwork Ltd has appointed George Latimer as business development manager for its Trade Counter network. With over 30 years' experience in both the UK and Europe, the former managing director for Lindab and Hotchkiss joins Hargreaves with a successful sales track record, extensive market knowledge and ambitious plans to grow business in Hargreaves' Trade Counter branches.

Mr Latimer's previous sales experience provides him with an understanding of the HVAC sector and contacts to build the company's network.

Dave Archer, Hargreaves' trade division director, commented, "During the past year we have ensured continual growth of the business through a series of strategic changes. George brings valuable sector knowledge to our team and his appointment is instrumental to

achieving our expansion plans for the UK."

A key part of Mr Latimer's role will involve growing sales of Hargreaves' trade product range, which includes CE-marked fire rated ductwork, and flat oval, powder-coated and stainless steel.

Hargreaves Ductwork Ltd – UK
info@mw-hargreaves.net
www.mw-hargreaves.net

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11th Automobile & Machine Parts Korea



2nd Laser & Welding Korea



13th Die Casting & Foundry Korea



2nd Fundamental Manufacturing Industry Korea



17th Press & Forging Korea



1st Pump Technology Industry Korea



5th Metal Surface Treatment & Painting Korea



5th SAMPE & Korea Composite Show



4th 3D Technology Korea



Enquiry to Korea Trade Fairs Ltd. Tel. 82-2-783-8261 / Email. fair@ktfairs.com

Sandvik distribution centre opens in Singapore

Sandvik has opened a new distribution centre in Singapore to meet increasing demand for its advanced stainless steel and special alloy products, particularly in Southeast Asia and the wider Asia-Pacific (APAC) region. The new distribution centre, which is strategically located adjacent to Changi Airport, East Singapore, is key to the company's customer service commitment as well as its expansion plans in the region.

"To improve our customer service in the Asia region, we are establishing a distribution centre in Singapore offering significantly shorter lead-times to the market," explained Pär Burefjord, logistics manager for Sandvik in APAC. "Opening the new facility means we are able to bring our products closer to our customers, cutting response times significantly and enabling quicker deliveries. Our aim is to be able to offer 24-hour delivery to all APAC markets including India, China and Australia by air, and three to ten days by vessel."

Sandvik already operated two distribution centres in Singapore for its mining and machining products, but the third will provide tube, strip, wire, welding products and heating systems.

"With an expanded and consolidated stock profile and automated stock replenishment, we can provide customers with an even greater service," said Mr Burefjord. "By taking full advantage of our local material stocks and more efficient logistics, customers could actually reduce their own stock profiles, freeing up valuable manufacturing space."

The new distribution centre will accommodate tube products such as seamless high temperature tubes and furnace tubes, as well as stainless steel hollow bar for component manufacturers. The centre will also stock an extensive



John Lim, managing director for Sandvik Southeast Asia, cut the ribbon and delivered a speech at the opening of Sandvik's new distribution centre in Singapore

programme of welding consumables, precision wire and Kanthal® resistance wire and furnace products.

Magnus Brodin, regional sales director for Sandvik in APAC, tube core and standard products, added, "Inauguration of our new distribution centre in Singapore demonstrates our commitment to our customers in South East Asia and the wider APAC market. It expands our presence in the market, increasing competitiveness and facilitating Sandvik's growth in the region."

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

Curved steel raises the roof

As part of the £70 million redevelopment of Longbridge town centre, in the UK, the developer has constructed a new superstore for Marks & Spencer that is to be one of the largest in the country. The adjoining car park has been constructed from steel, with the roof and floor sections being curved by Barnshaws to ensure sufficient strength and controlled water run-off. The work was carried out for specialist steelwork contractor James Killelea Ltd.

Redeveloping industrial sites such as that at Longbridge forms an important part of council strategy to create business and employment opportunities, and optimise investment.

In this case the new store alone is expected to generate up to 350 new jobs, while the additional retail, restaurant and cafe areas will further enhance the

development and its potential to attract shoppers.

In addition to the retail areas, an underground car park has been constructed from steel. The 'roof' of the car park is at ground level and the designers needed it to be strong enough to carry the weight of the roof sections as well as providing a sufficient camber to ensure any rainwater is directed to the surface drains.

Greg North, commercial director at Barnshaws, commented, "The crucial aspect of this contract was the speed of supply. We have a long-standing relationship with the steelwork contractor and they appreciate our ability to deliver large tonnages of curved steel on time. In this case it was very nearly 500 tonnes of universal beams that required a camber of between 50 and 100mm."

The camber in each beam was carefully calculated to allow some deflection due to the weight of the roof section while still retaining enough of a curve to prevent any standing water on the car park surface. Each batch of beams was ordered in a specific sequence to suit the construction programme.

A large number of different specifications in terms of section size, length and camber were used to create the 15m square lattice formation that forms the roof.

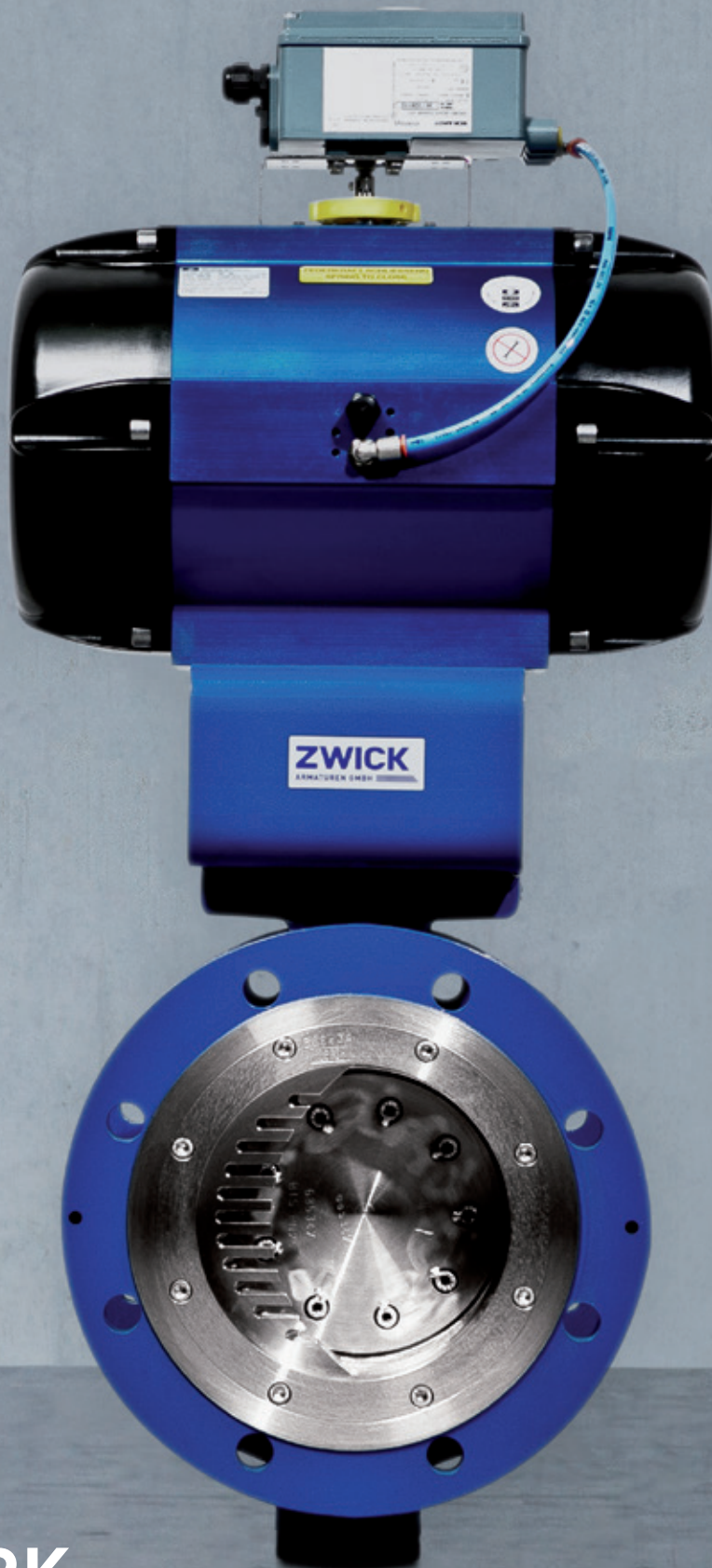
Barnshaw's production schedule was coordinated with the build programme to ensure that each component arrived on time, ready for installation.

Barnshaw Section Benders Ltd – UK
info@barnshaws.com
www.barnshaws.com

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Ceremony marks construction of new Missouri manufacturing facility

Water management solutions manufacturer Advanced Drainage Systems, Inc (ADS) has hosted community leaders, elected officials and prospective employees at the site of its in-construction manufacturing facility in Harrisonville, Missouri, USA. This will be the company's 62nd manufacturing plant, and its first in Missouri.

The event featured remarks from ADS CEO Joe Chlapaty, US Rep Vicky Hartzler, State Senator Ed Emery, and Brian Hasek, mayor of Harrisonville.

The new 72,650ft² manufacturing facility is expected to open in the first half of 2017, bringing new employment opportunities to the region. The plant represents a significant capital investment for ADS, whose growth is a result of favourable policies enacted by the Missouri Department of Transportation (MoDOT).

In 2011, and again in 2014, MoDOT updated its standards specification to allow plastic pipe to be used in state-wide infrastructure projects for storm water management. The alternative pipe policies enable engineer choice among technically equivalent options.

"MoDOT's policy improvements contributed significantly to ADS's decision to invest in Missouri," said



At the ground breaking for the new ADS plant (from left): Greg Bohn, Bill Shaffer, Joe Chlapaty, Kevin Kish, Rep Vicky Hartzler, Brian Hasek, Gary Ashley, Tom Fussner and Sen Ed Emery

Mr Chlapaty. "We are delighted to join the community of committed Harrisonville advocates, and welcomed the participation in today's event by Representative Hartzler, Senator Emery, Mayor Hasek and many community advocates and leaders. This facility

will help meet growing demand for our water management solutions, and we are excited about our increasing contributions to the state of Missouri and this wonderful community."

The company intends to employ approximately 50 people at the facility when fully staffed, and will hire locally for employment opportunities in management, machine operation and transportation, among others.

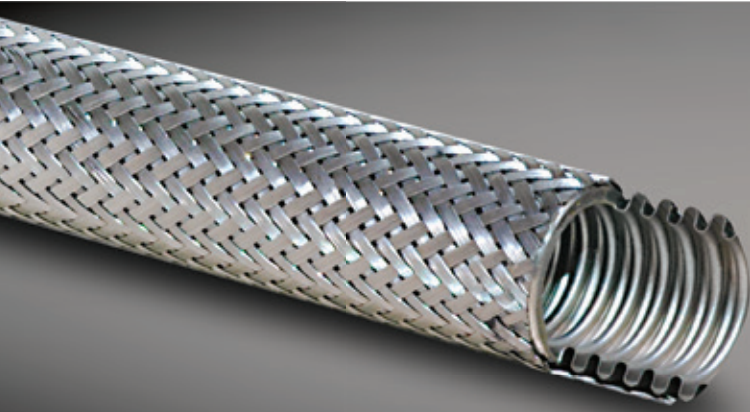
ADS provides a comprehensive suite of water management products and drainage solutions for use in the construction and infrastructure marketplace. Its products are used across a broad range of end markets and applications, including non-residential, residential, agriculture and infrastructure applications. Founded in 1966, the company operates a global network of 61 manufacturing plants and 31 distribution centres.

Advanced Drainage Systems, Inc – USA
www.ads-pipe.com

ADS CEO Joe Chlapaty addressed the audience at the new ADS manufacturing plant



We provide the flexibility you need

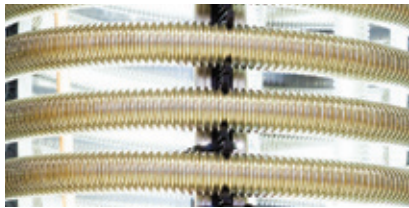


Flexibility is our expertise. We've been developing our product range and the types of hoses for all industrial requirements since 1980's.

We are your "globally local" partner.



CORRUGATED STRUCTURE



Corrugated structure of the flexible metal hoses provides almost double surface area in comparison with rigid pipes. Higher surface area means better heat transfer capacity especially for heating units.



SINGLE PIECE UP TO 1000m



Flexible metal hoses could be produced as single piece in 1000m length. This allows the users to complete the assemblies without using any additional fittings or welding, helps to reduce labor costs.



SECURITY FOR MOVABLE PARTS



Flexible metal hoses provide required flexibility for the movable parts like feeding units of machinery where connections should enable these movements without causing trouble.



FLEXIBLE IS THE KEY



The use of flexible hose against rigid piping is the key for reducing the time and the effort spent on completing assemblies in the tightest places like sprinkler connections. It's fast, easy and secure.



HEAD OFFICE - FACTORY

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Key sales appointments at Superior Tube and Fine Tubes

USA-based Superior Tube and UK-based Fine Tubes have announced three key additions to their sales management team.

Mark A Boyle has been appointed global aerospace market manager and will be based at Superior Tube's head office in Collegeville, Pennsylvania, USA, as will Andrew Millett, who has been named sales manager for the Americas. Matthew Jablonsky joins as regional sales manager, based in Houston, Texas, USA.

Mark Boyle will be responsible for directing strategy and driving the growth of the companies' global aerospace business.

He joins with 20 years of aerospace experience gained in a variety of positions, including with Rolls-Royce where he was vice president, business development, for all MRO facilities in the Americas and later managed its global helicopter engine market's customer support function.

A chartered management accountant (CMA), Mr Boyle also holds a Business Management degree from Glasgow Caledonian University.

Andrew Millett is responsible for developing and managing the execution of a sales strategy that expands the footprint of Superior Tube and Fine Tubes in the USA, Canada and South America.

An accomplished sales manager who has worked in North America and Europe, Mr Millett was previously medical accounts manager for Johnson Matthey, a UK-based multinational. Prior to that, he was commercial market manager at Plymouth Tube Co.

He has a Bachelor of Science degree in Mechanical Engineering and holds a Master of Business Administration degree from Drexel University.

As regional sales manager, Matthew Jablonsky will develop relationships with existing and prospective customers from across the Houston region and promote



Mark Boyle, global aerospace market manager



Andrew Millett, sales manager, the Americas

the added value that Superior Tube and Fine Tubes offer to their clients.

A senior sales professional with over ten years of experience and a specialisation in technical products for the energy sector, he was most recently responsible for outside sales at PAC Stainless, a distributor of stainless steel tubes, pipes and fittings. He has a Bachelor of Business Administration degree from Texas A&M University.

Brian Mercer, director of global sales and marketing, commented, "We're delighted that Mark, Andrew and Matthew have joined the Superior Tube and Fine Tubes sales team. Each has a depth of experience that we feel certain will prove to be of great value to us as we continue to expand our business, both in the Americas and globally, across all of our key markets."

Superior Tube and Fine Tubes are part of Ametek Specialty Metal Products, a division of Ametek, Inc, a global manufacturer of electronic instruments and electromechanical devices.

Both companies have a history of developing and manufacturing high-performance tubing for some of the



Matthew Jablonski, regional sales manager

most demanding applications across a range of industries, including aerospace and defence, nuclear power, oil and gas, chemical processing, and medical.

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www.superiortube.com

Fine Tubes – UK
sales.finetubes@ametek.com
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Non-destructive testing leads plastic pipes conference

The newest session to be added to the Plastic Pipes Conference Association (PPCA) meeting was devoted to non-destructive testing (NDT) and was attended by a record number of industry professionals from around the world.

Held in a different country each time, the Plastic Pipes Conference and Exhibition is described as the largest event of its kind. The 2016 conference, PPXVIII, held in Berlin, Germany, had 450 attendees from 43 countries. The conference is organised in collaboration with the Plastics Pipe Institute, Inc (PPI), The European Plastic Pipes and Fittings Association (TEPPFA), PE 100+ Association and PVC4Pipes.

"The action was non-stop in Berlin," stated conference organising co-chair Sarah Patterson of the Plastics Pipe Institute, Inc.

"Because of the great number of people, plenty of networking opportunities were created and the sessions were full. The new workshop on non-destructive testing was nearly standing room only. More than 100 participated and there

were seven papers from firms located in six countries plus a one-hour panel discussion.

"The reason the NDT session was so exciting is because for nearly 25 years NDT was done by individual firms who set their own criteria. Now, the technology has made its way into the standards organisation for the inspection of plastic pipe. This session provided a forum for the two industries, NDT and plastic pipe, to discuss the technologies as well as methodology being proposed for acceptance criteria."

Presentations examined NDT technologies, inspection methods, detection of any indications in butt fusion and electrofusion joints and ways to determine if an indication is actually a defect. The discussions from the NDT session were also of interest to the organising associations.

Other key subjects covered at PPXVIII included the introduction of new technologies, technical and marketing issues relating to materials and ingredients, and the design,



At Plastic Pipes XVIII, the new workshop on non-destructive testing featured presentations about technology and methods, and a one-hour panel discussion

development, testing, installation and operation of plastic pipe systems.

Best practices were reviewed, as were case studies focused on water and industrial applications. Technical and engineering pipe solutions were also reviewed, along with market trends for future growth in the use of plastic pipes for infrastructure.

Plastic Pipes Conference and Exhibition XIX will take place in Las Vegas, Nevada, USA, from 24 to 26 September 2018.

Plastic Pipes Conference

Association – Hungary

www.plasticpipesconference.com

Nucor to acquire Southland Tube

Nucor Corporation has agreed to acquire Southland Tube, an independent manufacturer of hollow structural section (HSS) steel tubing, for \$130mn, or approximately 8x average EBITDA over the 2011-2016 period.

"The acquisition of Southland Tube is an excellent fit for our Nucor family and our strategy for profitable growth," said John Ferriola, chairman, CEO and president of Nucor. "It complements our recent acquisition of Independence Tube in the HSS steel tubing market. We see this market as a great opportunity to leverage Nucor's capabilities and strengths while also adding to our portfolio of products and services for our customers."

HSS is used in a broad array of structural and mechanical applications

including non-residential construction, infrastructure, and heavy equipment end-use markets. Southland Tube has one facility located in Birmingham, Alabama, USA, which is well situated to serve the HSS market. With annual shipments of around 240,000 tons, Southland Tube has the third largest market share in HSS steel tubing.

Through the acquisitions of Independence Tube and Southland Tube, Nucor is building its position in the HSS steel tubing market and providing an additional channel to market for its sheet steel mills.

In 2006, eight per cent of Nucor's total steel mill shipments were to its downstream businesses. The company expects that number to grow to about 20 per cent with these acquisitions.

Nucor and its affiliates are manufacturers of steel products, with operating facilities primarily in the USA and Canada.

Products produced include carbon and alloy steel in bars, beams, sheet and plate; hollow structural section tubing; steel piling; steel joists and joist girders; steel deck; fabricated concrete reinforcing steel; cold finished steel; steel fasteners; metal building systems; steel grating; and wire and wire mesh.

Nucor, through The David J Joseph Company, also brokers ferrous and non-ferrous metals, pig iron and HBI/DRI; supplies ferro-alloys; and processes ferrous and non-ferrous scrap.

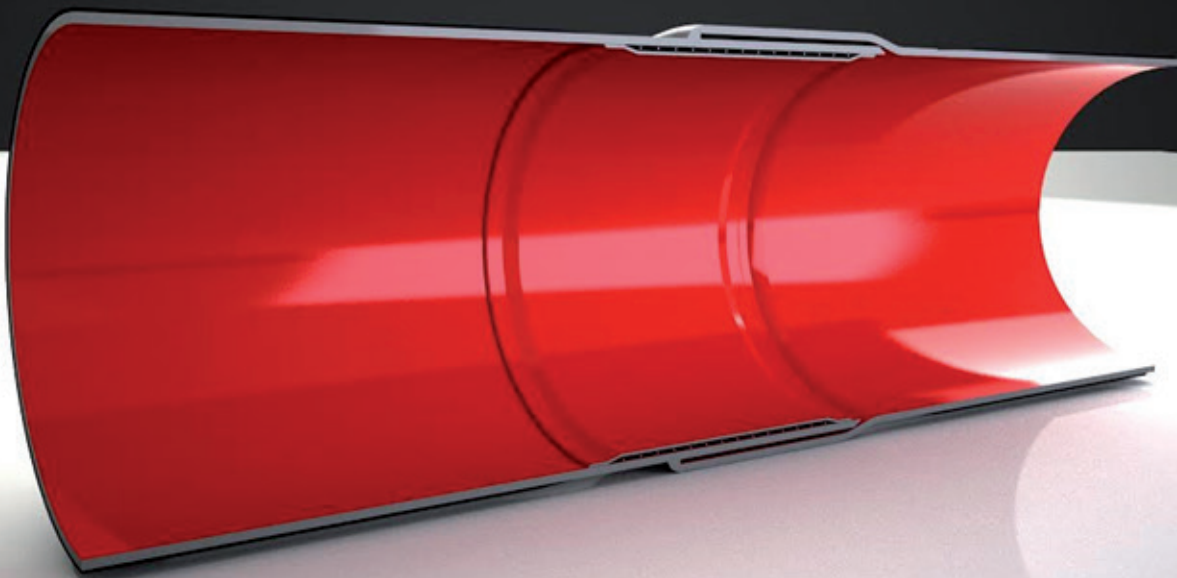
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Welding stainless steel pipe elbows at the push of a button

Orbitalum Tools GmbH has further developed its HX 16 orbital weld head and has extended it into a series.

At the push of a button the HX 16P and HX 22P clamp themselves on the pipe by means of a patented pneumatic clamping mechanism.

Through this innovation, both handling and comfort have been improved, and efficiency and quality of the weld result have been increased.

This makes it possible for the HVAC industry to more easily change over from traditional heat exchangers made of copper to stainless steel, which fulfils the regulations (to F-gases directive) up to climate-friendly refrigerants.

Stainless steel can only be joined particularly economically, reliably and with high quality using tungsten inert gas (TIG) welding in conjunction with mechanised orbital welding.

Commonly available closed orbital weld heads or open weld tongs are not suitable, as their construction makes placement between the individual pipes impossible.

A pipe spacing of 30mm is sufficient for positioning and clamping of the orbital weld head at the push of a button

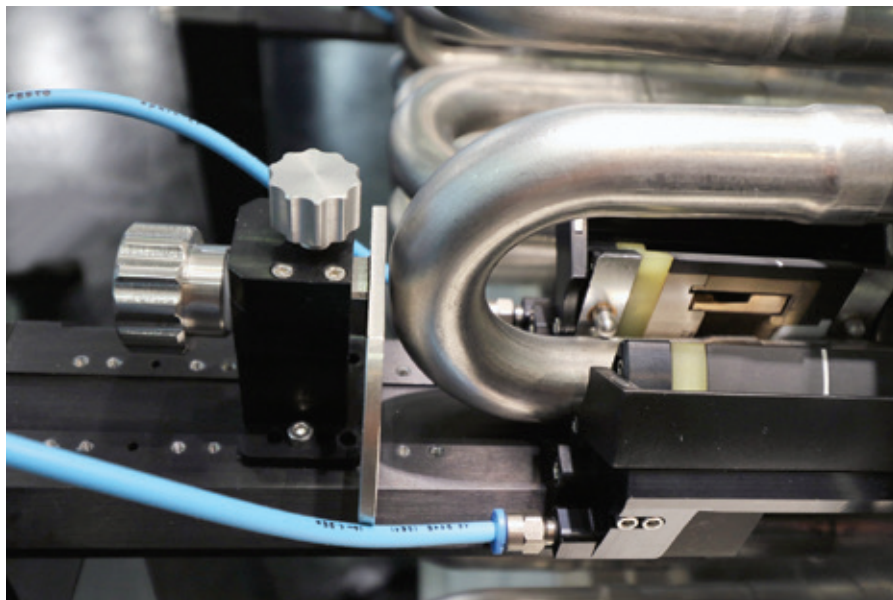


Photo credit: Orbitalum Tools GmbH

With its outer diameter of only 60mm, a pipe spacing of only 30mm is sufficient for the HX 16 for positioning and clamping at the push of a button.

Orbitalum states that some new users report a six-fold increase in productivity. This makes it possible to accelerate the procedure of aligning the weld head and clamping the head by 10 to 15 seconds per welding cycle; around 1.5 minutes pass per working cycle at a pipe with 16mm outer dimension and 0.5mm wall thickness: clamping, establishment of the inert gas atmosphere, welding, and cooling down in the argon atmosphere, which prevents annealing colouring of the weld seam.

With pneumatic clamping, the head holds its position at the pipe elbow by itself, rather than the operator having to support/hold the weld head by hand during the welding process.

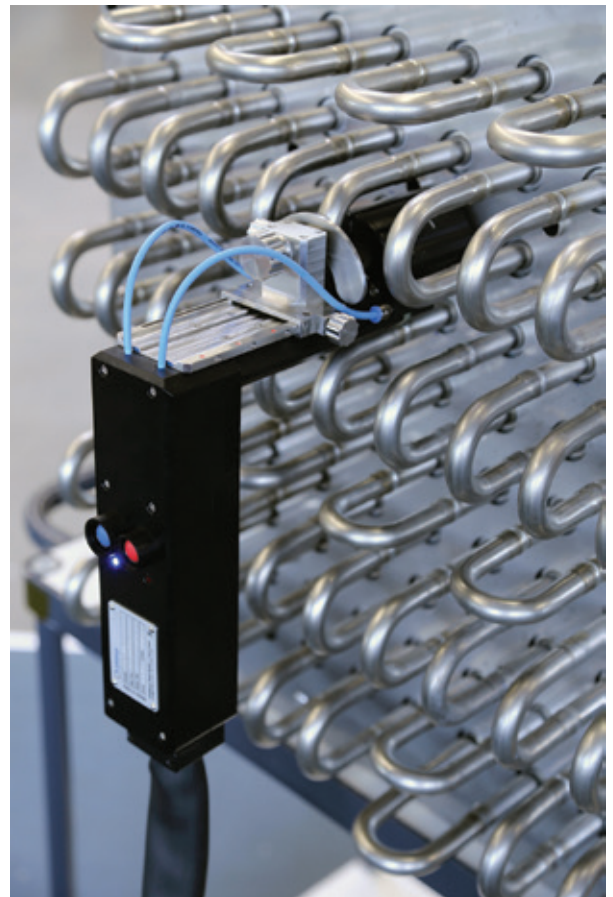


Photo credit: Orbitalum Tools GmbH

The HX 16P features pneumatic clamping of the head

This makes it possible for a less experienced operator to produce welds with up to three weld heads (systems) at the same time per cycle.

A further benefit of the HX 16P and HX 22P orbital weld heads is the closed welding chamber, which means that almost no annealing colours can form in the heat-affected zone of the weld seam.

All welding power sources from Orbitalum automatically recognise the heads and their properties, so the operator only has to call up the specified welding program and start the process before beginning to weld.

The HX 16P is designed for pipe outer diameters from 15 to 16.8mm, and the HX 22P is for 19 to 22mm.

An additional model – HX 12P, for 9.52 to 12.7mm diameters – will be launched later this year.

Orbitalum Tools GmbH –
Germany
tools@orbitalum.com
www.orbitalum.com

Decline in orders of infrastructure pipes

The overall market for infrastructure pipes in Europe recorded another drop of 4.4 per cent in 2015. Overall, the market value of 2015 reached a volume of €4.6bn, which is only 0.4 per cent above the previous year's figure.

A market report by Interconnection Consulting forecasts a consistent sales volume in 2016 compared to the previous year. The replacement of old metal and concrete pipes paved the way for alternative materials such as glass fibre and plastics.

In recent years, the EU infrastructure pipeline manufacturing sector has experienced the loss of some jobs and domestic market shares. These are heavily dependent on government spending and funding, which have been cut in some countries. Germany, the largest market for infrastructure pipelines, showed a 5.4 per cent decrease in installed pipes. The British market also fell by 1.7 per cent in 2014. Due to the positive exchange rate, however, the British achieved a value increase of 7.9 per cent.

A total of 1.5mn tons of plastic pipes (27.4 per cent market share) were sold in the top seven European countries (France, Germany, Great Britain, Italy, Spain, Poland and Benelux). The turnover of sold plastic pipes is expected to increase by 8.1 per cent. The reasons for this increase can be found in the properties of plastic pipes, such as resistance to corrosion, flexibility, weldability, chemical resistance and fast and simple joint and installation techniques.

The growth of the plastic segment is at the expense of the metal and concrete pipe shares, which lost 6.6 per cent. This trend will continue as light materials and plastic alternatives are in demand. The glass fibre tube segment is comparatively small (€209.8mn) and is governed by three large players.


Sewage pipes dominate the European market, accounting for 2.8mn tons and about half of the total sales in 2015. They experience the highest growth opportunities. Drainage pipes, with a share of 41.9 per cent, are the most used pipe type in England. The non-pressure market prevails over the pressure market,

taking 64.7 per cent and 35.3 per cent respectively. The former can boast a sales volume of €2.6bn. The pressure sector has less potential, as many water networks have already been restored. Water supply accounts for a majority (82.7 per cent) in the pressure segment. Gas pipes are experiencing negative dynamics and hold only a 6 per cent

share of the total market volume. The top ten among all companies, and therefore the largest players on the market, collectively accounted for a share of 27.8 per cent of the total value.

Interconnection Consulting – Austria
 insight@interconnectionconsulting.com
 www.interconnectionconsulting.com


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Case study: weld purging of titanium alloy pipes in India

A new facility for the production of 1.25mn tonnes of terephthalic acid (PTA) has been built at the port of Mangalore in the Indian state of Karnataka. The project involved factory fabrication of specialised equipment followed by integration on site. A range of stainless steels were used in manufacture, along with titanium and tantalum alloys. The bulk of the fabrication involved welding of tubes and pipes.

A significant part of the project was awarded to a Chennai-based customer of



Close up of a typical titanium root weld, free of discolouration from oxidation

Weldwell Speciality Pvt Ltd in Mumbai, a major supplier to the Indian welding industry for more than two decades. The customer has a long tradition of specialist fabrication of titanium, tantalum, zirconium and nickel alloys and stainless steels.

To avoid internal contamination of the pipes during welding and to prevent oxidation of the weld root, purging systems from Huntingdon Fusion Techniques (HFT) in the UK were employed. The HFT QuickPurge® concept was chosen, and purge systems to accommodate pipe sizes between 800 and 1,500mm were ordered.

HFT also supplied its Purge Gate ancillaries to control and maintain the inflated state of the large diameter inflatable devices even when the purge gas flow was interrupted or stopped. This was particularly important when welding was not required but the effective gas sealing was maintained, for example during a shift change or when work was discontinued overnight.

Using the Purge Gate feature, the dams inflate and effect good sealing when the inert gas pressure is set at 0.45 bar. After inflation, the gas flow from the supply stops and no further consumption takes place; this can be



A selection of QuickPurge inflatable purging systems, with two doughnut-style dams connected by a volume-reducing sleeve

maintained for lengthy periods without any gas loss. Only when gas pressure is increased to 0.5 bar will purging begin. This results in a significant saving in expensive inert gas.

All welds in stainless steel were made successfully using the standard QuickPurge I systems, but some surface discolouration was observed when welding titanium alloys. Contact was made with HFT and it was agreed that additional gas purging was required.

This was accomplished by using QuickPurge II, since this incorporates additional gas purging and gas outlet ports. The change resulted in the production of clean and oxide-free welds, even in such sensitive materials as titanium alloys.

Huntingdon Fusion Techniques – UK
hft@huntingdonfusion.com
www.huntingdonfusion.com

Weldwell Speciality Pvt Ltd – India
sales@weldwell.com
www.weldwell.com

Artel appoints UK sales manager

UK-based Artel Rubber Holdings Ltd, manufacturer of tubing, hose and fittings, has announced that Ray Barratt has joined its team as UK sales manager. Mr Barratt brings with him professional experience from a selection of national and regional management roles gained in OEM and first replacement disciplines.

Mr Barratt commented, “I am delighted to have joined Artel Rubber as their

UK sales manager and look forward to utilising my extensive automotive experience in support of their ongoing commitment to delivering the best hose solutions for today’s and tomorrow’s applications.”

Artel Rubber Company manufactures and fabricates silicone and rubber tubing and hose. The company offers a broad product line of tubing, hose and

fittings, and with the introduction of its automotive performance tubing, hose and fitting products, is suited to meet the demands of various applications. ISO 9001:2008 accreditation guarantees quality for rail, automotive, food, pharmaceutical and defence industries.

Artel Rubber Company – UK
sales@artelrubber.co.uk
www.artelrubber.co.uk

New BPF Pipes Group president predicts 'lively' year ahead

Derek Muckle of Radius Systems has been appointed BPF Pipes Group president, taking over from retiring president Chris King of Wavin.

The appointment has a two-year tenure, and Mr Muckle, who is also director of innovation and technology at Radius Systems, is keen to get started in his new role, commenting, "The BPF Pipes Group has a tremendous record in developing and raising standards in the utilities and construction industries, and I want to see more recognition for the work done highlighting and sharing best practice knowledge on plastic pipes in all of these areas, from large and small diameter utility applications to above and below ground heating, plumbing and stormwater alleviation. Sharing knowledge with a broad range of end users and those at the cutting edge will help speed up the adoption of new innovations."

Mr Muckle was closely involved with the new guidance document from the BPF Pipes Group on fusion jointing, following on from the revised WIS 4-32-08 standard for fusion jointing PE80 and PE100 pressure pipeline systems. He has over 25 years' experience in the sector, developing plastic pipes and fittings for successful operation in the water, wastewater and gas industries.

Richard Hill from Aco Technologies has been appointed vice-president of the BPF Pipes Group, also with a two-year tenure.

Part of the British Plastics Federation, the BPF Pipes Group is a trade association representing manufacturers and material suppliers of plastic piping systems across the UK.

Committed to sustainable construction, its aims are to provide a forum for



Derek Muckle, new president of the BPF Pipes Group

the exchange of technical expertise between member companies and to promote the importance of plastic as a pipework material. It works closely with the BPF and TEPPFA, the European Plastic Pipes and Fittings Association.

BPF Pipes Group – UK
www.bfppipesgroup.com

MRC Global launches enhanced online catalogue

MRC Global is a distributor of pipe, valves, fittings and related products and services to the energy industry, and supplies these products and services across each of the upstream, midstream and downstream sectors. The company's US subsidiary, MRC Global (US) Inc, has implemented an enhanced online customer catalogue, MRCGO™, for its US business.

MRC Global has offered an electronic catalogue to its multi-year MRO customers for over a decade. The new MRCGO platform is built with the most current technology that has been enhanced with MRC Global specific, customer-requested functionality.

"MRCGO delivers a more robust and intuitive ordering experience," said Andrew R Lane, president and CEO.

"We have, and will continue to make, investments in our online catalogue technology. These enhancements will

continue to make the catalogue much easier to search and significantly improve our customers' user experience, which we expect will deliver additional growth in the next few years."

Improved features of MRCGO include enhanced search capabilities; product and category classifications; expanded use of product pictures to ease customer selection; business to consumer (B2C) look and feel with business to business (B2B) functionality; Excel spreadsheet upload capability; dedicated online support and online chat functions; and real-time inventory, pricing and order status integration.

MRCGO will initially be rolled out to existing MRC Global online catalogue customers. Future phases will include offering MRCGO to MRC Global customers worldwide.

MRC Global Inc – USA
www.mrcglobal.com



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Plastics pipe industry resource launches new website

The Hydrostatic Stress Board (HSB), an independent, technical-based group of voluntary industry experts, operating under the auspices of the Plastics Pipe Institute, Inc (PPI), has reconstructed and expanded its website section to speed up the listing request process, and to highlight the long-standing history of its board.

Added content includes downloadable forms and templates to submit requests for compounds and composite plastic pipes (PPI TR-4) as well as ingredients and PVC resins used for vinyl pipe (PPI TR-2) for inclusion in the HSB listing programme.

Other new documents include step-by-step instructions about the submission process, reports of relevance about policies in PPI's Technical Report (TR) PPI TR-2 and PPI TR-3, which are two key documents detailing listing requirements, an online HSB enquiry form, and an announcements page to keep listing owners up to date on the board's activities and developments.

"The HSB continues to add more services to the industry," stated Tony Radoszewski, president of PPI.

HSB policies define procedures for determining the long-term hydrostatic strength of plastic piping materials such as PEX pipe used for hot and cold potable water systems



For a new water main in Miami, USA, 1,600 feet of 30" diameter PE 4710 HDPE pipe was installed 100 feet deep using horizontal directional drilling (HDD)

"For nearly six decades, the HSB has contributed to the confidence level of plastic pipe and materials used in numerous applications including gas, municipal water, wastewater, sewer and industrial water systems. The provision

of extensive tools in this enhanced web section facilitates understanding about the programme's listing process and how to participate – a programme providing a prominent level of qualification and affirmation about the uses of plastics in pipe systems."

The HSB comprises engineers, chemists, scientists and others with expertise in thermoplastics, ingredients, processing and long-term strength testing.

The board is chaired by PPI's technical director, Sarah Patterson, who commented, "HSB policies define procedures for determining the long-term strength of plastic pipe compounds, and for converting this strength into an allowable design stress which, in turn, is used to determine the pressure rating of the plastic or composite pipe."

Listing in the HSB programme does not require PPI membership, as it is a service to the entire plastics industry, hosted and managed by PPI.

Hydrostatic Stress Board – USA
<http://plasticpipe.org/hsb>



Innovation award joint win

Cooper Standard and DSM were honoured with a Society of Plastics Engineers (SPE) Automotive Innovation Award during the annual awards gala. The team won SPE's Most Innovative Use of Plastics award in the materials category for Cooper Standard's high performance vacuum brake tubes designed for automotive industry applications.

Developed to replace traditional clamped rubber hoses, Cooper Standard's vacuum brake tube simplifies engine and undercarriage routing. The design uses a smaller diameter with a thinner wall, which allows a 35 per cent space saving and more than 50 per cent weight reduction over current rubber hoses and clamps. The product also allows for rapid assembly and ease of maintenance through the use of quick connectors, and eliminates the need for heat shields and brackets.

"The DSM Arnitel® CM622 thermoplastic material provided us the perfect opportunity to deliver customers an innovative solution to meet critical mass reduction goals, while exceeding their expectations for high performance vacuum brake applications," said Chris Couch, vice president, innovation and product groups, Cooper Standard. "We're thrilled to be honoured by SPE for this team achievement."

Arnitel CM622 thermoplastic enables the vacuum brake tubes to perform over a broad temperature range (-40°C to +150°C), with chemical resistance, burst strengths exceeding 60 bar and flexural force of greater than 50N. The Arnitel CM622 material was designed to maintain property retention after extended exposure to elevated temperatures. The plastic lines and connectors are resistant to the corrosive effects of road salts.

Commenting on the award on behalf of DSM, Bill Senge, R&T director Americas, stressed the importance of the partners' collaboration from concept to market in this project: "What is most challenging in our business is to stay ahead of the innovation curve. We at DSM believe strong collaborations ensure that our developments cater for current and future market trends. This SPE award for Cooper Standard's high performance vacuum brake tubes is also proof of what can be achieved when material specialists and application engineers join forces to drive automotive trends and speed the implementation of next-generation lightweighting designs."

Cooper Standard – USA
www.cooperstandard.com

Royal DSM – Netherlands
www.dsm.com

TMK GIPI delivers casing pipes to BP Oman

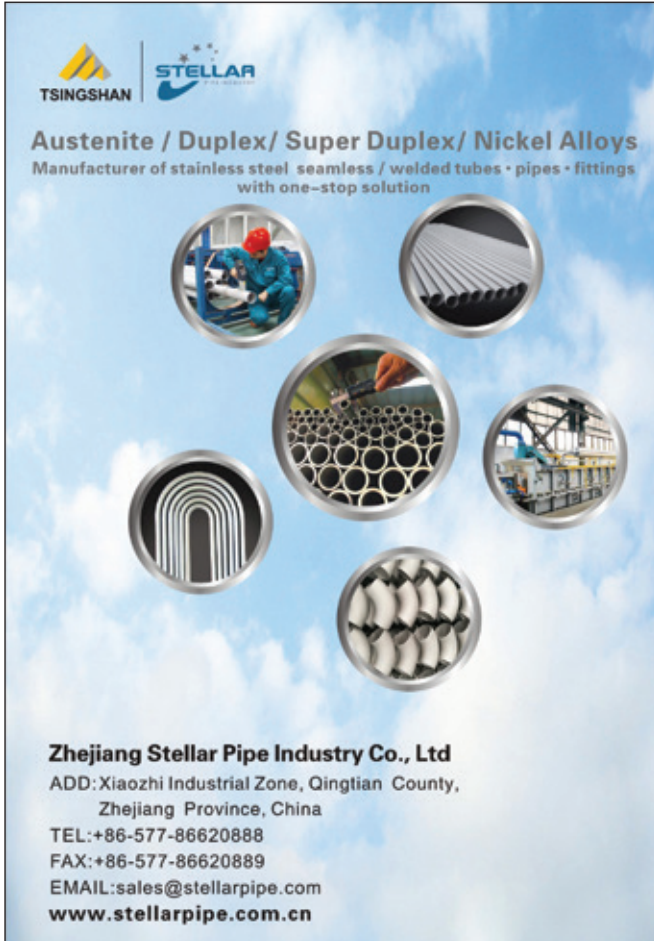
Pipe manufacturer TMK Gulf International Pipe Industry (TMK GIPI) LLC, part of global pipe manufacturer TMK, has completed delivery of J55 casing pipes to BP Oman.

BP Exploration (Epsilon) Ltd ordered 18^{5/8}" 87.5ppf J55 BTC R3 casings from TMK GIPI (totalling 6,100m) for an urgent requirement. The plain end pipes were produced by TMK GIPI's Oman facility and delivered to the USA, where casing pipes were threaded by TMK IPSCO and delivered to BP Oman on time.

Andrey Parkhomchuk, international business VP at TMK, commented, "TMK is a global leader in producing steel pipe, and supplies oil and gas majors with best-in-class tubular products all over the world. BP is our respectful client and our TMK GIPI subsidiary was keen to successfully execute an important urgent order for BP in tight schedule conditions."

TMK GIPI was established as a limited liability company in the Sultanate of Oman in January 2007. It claims to be the first manufacturer of high pressure steel line pipes and casing pipes in Oman and the first mill in the MENA region and the subcontinent of India to manufacture high pressure 24" ERW steel pipes.

TMK – Russia
tmk@tmk-group.com
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www.krv.de

Subsea UK continues drive to reduce operational costs

UK companies pitched their subsea technologies to a panel of operators and Tier 1 contractors including Apache, Bibby Offshore, Chevron, Nexen and Technip in November, at Subsea UK's second Springboard event.

In partnership with the National Subsea Research Initiative (NSRI), the initiative encourages companies to present processes and systems that can reduce operational costs and boost efficiencies.

The focus of the pitches is to highlight the technologies, processes and software that have the potential to address the immediate and future needs of the oil and gas industry by significantly improving efficiency.

The event featured speakers from AISUS Offshore, Caley Ocean Systems,

SECC Oil & Gas, J2 Subsea, Systems Engineering & Assessment, Aquatec Group, Tracero and SETS.

A representative from each company delivered a short presentation, showcasing the technologies that could help lower operational costs, improve integrity management, extend field life, reduce risks and maximise data collection.

Neil Gordon, chief executive of Subsea UK said, "The event aims to help connect subsea companies with potential clients, highlighting the products and services currently available to them.

"By bringing the supply chain together with operators and Tier 1 companies, we hope to further encourage the uptake of current, cost-effective technologies

which can improve efficiencies and speed up project delivery times."

Richard Knox, managing director of EC-OG, participated in the first Springboard event, which took place in September.

He commented, "As a speaker, I was allocated seven minutes to present our Subsea Power Hub that we are currently developing. It was a unique opportunity to come face-to-face with key decision makers in the industry who understand the value of the technologies that were presented to them. It was also a great platform to network with other innovative people who were producing useful technologies and explore potential collaboration opportunities."

Subsea UK
www.subseauk.com



Jingning Junwen Steel Co., Ltd



Stainless Steel Seamless Pipe / Tube

Type: Austenitic stainless steel seamless pipe
 Process Method: Cold Drawn / Cold Rolled
 Surface Finish: Bright Annealed / Pickling / 180# 240# 320# 400# 600#
 Manual Polished / Mechanical Polished
 Grade: TP304, TP304L, TP316 / 316L Dual Grade.
 Standard: ASTM (ASME) SA / A312 / A213 / A269 and DIN, GB, JIS
 Size: OD 3/16"-1 1/2" (6mm-38mm), WT 0.028"-0.118" (0.7mm-3mm)
 Tolerance: Outer Diameter: ±0.08mm (0.00315"), Wall Thickness: ±10%
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Stainless Steel Cold Drawn Seamless Tubing in Coils & Pipe Coils

(Made of Cold-Drawn Pipe Billet Instead of Plank-Welding)
 Type: Austenitic stainless steel seamless pipe
 Process Method: Cold Drawn / Cold Rolled
 Surface Finish: Bright Annealed
 Grade: TP304, TP304L, TP316 / 316L Dual Grade
 Standard: ASTM (ASME) SA / A312 / A213 / A269 and DIN, GB, JIS
 Size: OD 3/16"-1" (4.76mm-25.4mm), WT 0.028"-0.083" (0.7mm-2.11mm)
 Tolerance: Outer Diameter: ±0.08mm (0.00315"), Wall Thickness: ±10%
 Length: 100ft-2,000ft, or according to customers' requests
 Certification: ISO9001:2000, GB/T19001-2000

Our products are widely used in petrol, chemical, pharmacy, foodstuff, machinery, aerospace, military, hardware, boiler gas, hot-water heating parts, shipping, power and other industries, heat-exchangers and cold treatments for chemical industry, and gas transmission pipelines. We can offer stainless steel pipes according to our customers' requirements.

No. 88 Shiniu Mountain, Jingning, She Autonomous County, Zhejiang, China
 Salesman: Sam | Mobile: +86 13305889498 | Tel: +86 578 5973358 | Email: jw.sam@qq.com

www.pipe-coil.com

Wasser Berlin International 2017

Wasser Berlin International will provide an insight into the innovations and product developments that can be viewed at the Berlin Exhibition Grounds from 28 to 31 March.

More than 500 exhibitors from Germany and abroad will be making use of the event to present their products to a global audience. The range of exhibits reflects the economic cycle of the water industry and includes water extraction, wastewater treatment, IT services, and measuring, control and analysis systems.

Among the products that trade visitors can examine will be the RPS® tubular diffusive sampler from GCI GmbH, which allows the use of collector materials for

monitoring substances in water taken from a controlled sample flow.

Taking the city of Cologne as an example, the Federal Office of Civil Protection and Disaster Assistance will be explaining the concept of emergency water supplies.

Chengdu Meifute Membrane Technology, a company from China, will be displaying its Super Module industrial water filter featuring nano-filtration and a reverse-osmosis membrane.

The first Geonex drilling equipment to be set up in Central Europe is scheduled for 2017. Geonex Oy, Finland, will be providing visitors to the trade show with detailed information.

AVNS tunnelling equipment from Herrenknecht features a new power supply and incorporates a jet pump as a discharge pump.

Instytut Ekologii Terenów Uprzemysłowych from Poland is offering a new service for checking that innovative water technologies satisfy specified environmental requirements.

Invent Umwelt- und Verfahrenstechnik AG will be presenting its Alphameter system, a device for energy-efficient control of oxygen injection into an aeration tank.

Wasser Berlin International – Germany
www.wasser-berlin.com

ABS accreditation broadens market reach

A type approval from the American Bureau of Shipping (ABS) has enabled access to wider US markets for a manufacturer of specialist corrosion resistant tubing.

UK-based Tungum Ltd secured ABS accreditation for its tubing, which opens up potential opportunities in the US marine and related products market place. Holding this type approval allows shipbuilders and marine product manufacturers to specify Tungum when planning new projects.

“This new approval enables Tungum to provide products and support to the US marine sector,” said John Zbihlyj, operations director at Tungum Ltd. “We work in very specialised sectors that each have their own stringent quality standard and it’s vital that Tungum is proven to meet them. Gaining ABS type approval was a rigorous process requiring a product design assessment (PDA), which involves a full technician evaluation, followed by a manufacturing assessment (MA) witnessed by ABS representatives.

“This demonstrates that the product can be consistently manufactured according to the PDA.”

The company states that corrosion-resistant Tungum tubing has been proven to deliver long-lasting solutions in demanding environments around the world, including oil and gas, dive, marine and shipbuilding.

Tungum – UK
sales@tungum.com
www.tungum.com

Tubotech returns to São Paulo

The international trade fairs Tubotech and wire South America will take place against the background of expectations for an economic recovery in the coming year. They will be held jointly at the São Paulo Expo Exhibition & Convention Center in Brazil from 3 to 5 October 2017.

Economic experts believe the Brazilian economy is set to step out of its current recession in 2017, though it is uncertain how dynamic this recovery will be. Following the pattern of the previous

event, the trade fair duo is again likely to attract around 500 exhibitors from 24 countries on an exhibition space of over 32,000m², and more than 11,000 trade visitors.

Tubotech, the international trade fair for pipes, valves, pumps, fittings and components, will be held for the ninth time. Since its premiere in 2001, it has developed into a leading trade fair on the South American continent. The products on offer are pipes and accessories, plants and machinery for the manufacturing,

processing and finishing of pipes, raw materials, used machinery, the pipe trade, process engineering tools and accessories, as well as measurement, control and test equipment.

The two trade fairs together will primarily attract visitors from the oil and gas industries, automotive engineering, construction, metal design and the mining industry.

Messe Düsseldorf GmbH – Germany
www.tubotech-online.com

Poppe + Potthoff buys Plaschka

High precision metal processing is a core competence of Poppe + Potthoff (P+P). The supplier to the automotive and engineering industry has now acquired Plaschka, with 120 employees at two locations.

The production capacities for precision components are thereby expanded, and competences are added that open up additional markets, for example in aviation, measurement and medical technology.

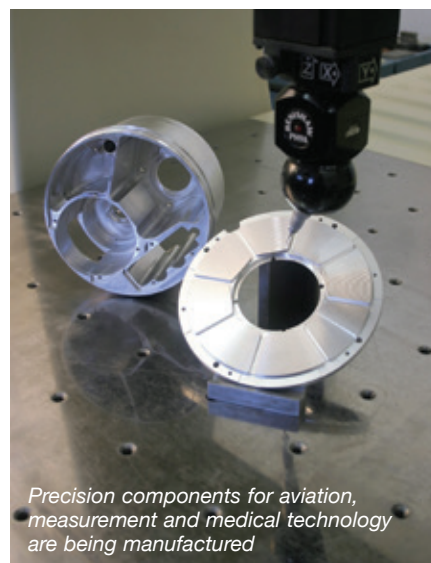
Founded in 1977, Plaschka manufactures precision machine components for fine mechanical and mechatronic systems. The production spectrum includes CNC milling and CNC turning, grinding and surface treatment with in-house electroplating, quality assurance and assembly. The locations in Traunreut, Germany, and Hořice na Šumavě, Czech Republic, are certified according to EN DIN ISO 9001: 2008.

“Plaschka has achieved an excellent reputation in the production of robust precision components,” commented Axel Weiser, director of precision parts at P+P, who is taking over the management of Plaschka together with Dr Christian Potthoff-Sewing.

“Long-term partnerships with customers, modern machines and an experienced team of employees distinguish the company.”

“Plaschka’s production focus is on aviation and medical technology, measurement and film instrumentation and mechatronics. This is a perfect addition to our strengths in the field of automotive and mechanical engineering,” said Rüdiger Faustmann, CEO of the Poppe + Potthoff Group.

Poppe + Potthoff develops and manufactures customer-specific steel tubes, common rail subsystems, high pressure tubes, precision components, line shafts



and couplings, as well as specialised test stands and other machines.

Poppe + Potthoff GmbH – Germany
info@poppe-potthoff.com
www.poppe-potthoff.com

Technip awarded umbilical supply contract in USA

Technip’s wholly owned subsidiary Technip Umbilicals Inc has been awarded a contract by a major operator to supply a subsea control umbilical in the Gulf of Mexico.

The contract includes the project management and manufacture of several kilometres of static and dynamic unarmoured steel tube umbilical.

Technip Umbilicals’ facility in Houston, USA, will manufacture this project for the high-pressure field, which is scheduled to be completed in 2017.

The company’s managing director, Sarah Cridland, said, “This award confirms Technip’s position as a world leader in the supply of umbilical systems to the Gulf of Mexico region.”

Present in 45 countries, Technip has industrial assets on all continents and operates a fleet of specialised vessels for pipeline installation and subsea construction.

Technip – France
www.technip.com

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products & developments

Calm Buoy Swivel can rotate while maintaining a leak-free joint

Buoy with swivel technology reduces maintenance downtime

Flexible Engineered Solutions International (FES), a supplier of fluid transfer systems to the oil and gas offshore industry, has developed new technology for a major manufacturer of marine equipment based in China.

The Calm Buoy Swivel, which is fully certified by DNV GL, includes new swivel technology that allows the buoy to rotate while maintaining a leak-free joint between the subsea pipelines and vessel during the transfer of fluid.

Because it enables the replacement of seals on board without the requirement

to bring the main buoy into a repair yard, the new swivel will help to reduce maintenance downtime for the Calm Buoy, avoiding it being offline for long periods of time.

The Flexible Engineered Solutions Calm Buoy Swivel also has a leak detection system complete with instrumentation to allow the user to monitor the seal performance; an integrated pressure transmitter to monitor the pressure during loading; and an integrated electrical slip ring to allow electrical cable connections from subsea to topside.

Ian Latimer, technical director at Flexible Engineered Solutions International, commented, "This new technology is the result of heavy investment in research and development by Flexible Engineered Solutions. It is really pleasing to be on the eve of its first installation where we believe it will make a significant contribution to keeping costs down by reducing maintenance downtime. We look forward to many more installations to come."

FES International – UK
fes@fesltd.co.uk
www.fesinternational.com

Inline valves deliver flexibility for industrial applications

For Parker, a specialist in motion and control technologies, the key requirement for a new product introduction is flexibility. The new PVL-B2 series of in-line valves have been designed to meet all machine configurations, delivering inbuilt flexibility.

The new range can be specified as a stand-alone valve that can take care of a single isolated cylinder, or the range can be stacked to handle a group of actuators in the same area. This means that with one valve family, a number of different applications can be operated, reducing the associated costs of storing extra inventory. Stackable variants provide further flexibility, allowing the assembly of several valves in one stack and delivering the benefit of common pressure supply and exhausts. Installation can be simplified, as only one tube is needed for pressure supply and exhaust.

The PVL-B2 offers solutions for both AC and DC voltages, making it suitable for a wide range of different industrial

projects. Many applications demand compact solutions due to decreased installation space. The design of the PVL-B2 series has been optimised to minimise the footprint, allowing customers to reduce the size of cabinets that the valve is being installed into. For embedded mobile applications, the valve has been engineered from lightweight materials.

The new valve series features two electrical pilot options depending on the installed environment. For non-aggressive environments the valves can be specified with a 10mm 24VDC IP40 clip connection, and for more aggressive installations a 15mm DIN C IP65 connection with multiple voltage options can be selected.

The PVL-B2 series can be stacked and mixed into a stacking valve island, and supply is connected at either a single or dual head/tail set, while two common exhaust galleries are provided. For optimised valve flow, three porting



PVL series stacking valves

options are available to suit cylinders up to 50mm bore: either 6 or 8mm instant tube fittings, or G1/8" threaded pipe. Cylinder speeds in excess of 1m/s can be achieved using the valves, depending on factors such as cylinder bore and port size, and tubing size.

Electrical connection is made to each solenoid using either a 15mm, three-pin, 8mm spacing DIN Form C connector plug or, where weight and size savings are required, by IP40 clip connector.

Each stack assembly can handle any combination of single or double solenoid pneumatic valves. The PVL-B2 series offers full compatibility with Parker's original PVL-B and PVL-C series valves.

Parker Hannifin – UK
www.parker.com

Liquid-tight conduit fittings

Emerson is targeting the food, beverage and pharmaceutical industries with the new 4QSS liquid-tight fittings, featuring 316 stainless steel for dependable performance in wet, corrosive locations.

Engineered for applications where sanitation is a critical concern, the UL-listed fittings securely connect flexible metallic electrical conduit while completely sealing off liquids, vapours and solids. A nickel-plated ferrule provides maximum surface contact with longer, more pronounced threads to ensure pull-out protection and prevention of tight bend conduit 'pop-out'.

Commenting on the advantages of the 4QSS range, Emerson product manager Rick Jones said, "We've used super-bright 316 stainless steel instead of the less rugged 304 stainless steel found in

our competition's fittings, and we offer better value by including a sealing ring and locknut with the package, eliminating the need for separate purchases. We are offering the fittings in the most popular sizes and configurations to meet market needs."

4QSS fittings are available in a range of trade sizes of 3/8" to 2", with body designs of straight, 45° and 90°. The compact, slim profile allows a tighter turning radius for installation in standard knock-out spacing. In addition to sanitary environments, 4QSS fittings are suited to machine tool building, HVAC, robotics assembly and areas rated hazardous by the NEC such as petrochemical processing.

Emerson – USA
www.emerson.com



Fittings from the 4QSS range

Portable crimper

Techmaflex, a French manufacturer of assembly machines, has developed a hose crimping solution for the forestry industry. Forestry machines such as forwarders, skidders, harvesters and cranes consume a lot of hydraulic hoses. With numerous constraints due to the challenging environment, the hydraulic hoses need to be changed regularly. Most forest sites have restricted accessibility, but on-site maintenance can be carried out using a mobile workshop.

Techmaflex's H Crimp 110 can crimp hoses up to 1" 4SP. It is lightweight (21kg) and robust thanks to protective wings surrounding the head. The narrow head (220 x 222 x 240mm) delivers a 110-ton crimping force, combining flexibility with high power. A removable plate improves the operator's comfort and makes carrying more convenient.

H Crimp 110 is available via a distributor network, both in France and internationally.



H Crimp 110 portable hose crimper for the forestry market

Techmaflex – France
info@techmaflex.com
www.techmaflex.com

Training system improves welding techniques with hands-on, guided skills practice

Realweld® Advanced Trainer gives students and prospective employees a live-arc, multi-sensory learning experience that merges actual welding with advanced motion tracking technology.

The system helps students master MIG, stick and flux-cored processes with immediate in-booth feedback and analysis. Realweld improves training results by enhancing student

comprehension, reducing training time and increasing certification rates in both school and industry settings. It is suitable for use as a bridge to traditional welding training or as a screening tool to determine welding proficiency.

Users can practise multi-pass capability in a number of positions, including 1F, 2F, 3F, 4F, 1G, 2G and 3G, and lap, tee, groove and flat-plate joints. Standard 6" and optional 18" fixtures allow users to perform a number of multi-pass industry-standard welds. A motorised carriage makes it easy to move the table and arm for welding in flat, vertical or overhead positions.

The system features an 'arc off' mode that allows students to practise, troubleshoot and master welding techniques without burning an arc. This approach not only boosts learning and muscle memory but also helps reduce material costs, including welding plate, flux, electrode or wire and shielding gas.

As a user welds, with or without an arc, the system analyses and scores every attempted weld trial on five technique parameters, providing embedded, immediate and objective

information on a 17" touchscreen display that students can access in the booth. The system also enables students to review instructional videos, technical documents and instructor handouts such as safety data sheets, all on-screen in the booth. The display responds to gloved hands, so users do not have to stop and remove gloves to get instant information.

Realweld's audio coaching feature provides users with guidance on weld speed, angles, aim, contact tip-to-work distance, arc length and weld position. These cues can be turned off at any time to allow students or prospective employees to demonstrate learned behaviour without a guide.

Instructors can review scoring and analysis to track progress and determine if students are developing bad habits. They also are able to adjust tolerances to lenient, moderate or stringent settings. The system's 'sweet spot' parameters associated with proper welding techniques using welding procedure specifications (WPS) can be set for each weld. Instructors can access the system on the Realweld unit itself or via their own computers using the Desktop Instructor feature.

Lincoln Electric – USA
www.lincolnelectric.com



Lincoln Electric's Realweld training system

Energy-efficient pumping and gentle handling of sensitive process fluids

Alfa Laval SRU rotary lobe pumps are engineered to provide reliable performance, trouble-free operation and energy efficiency for demanding applications in the dairy, food, beverage, personal care and pharmaceutical industries.

Particularly suited to duties that require contamination-free pumps to meet high standards of hygiene, low-shear and low-pulsation operation, the pumps handle both cleaning-in-place and sterilisation-in-place, and can be supplied with thorough documentation to support rigorous validation requirements.

The SRU rotary lobe pumps are designed with features that maximise performance and minimise the risk of contamination.



Alfa Laval's SRU rotary lobe pump

These include a defined compression front cover sealing, rotor nut retention design, drainable pump head and ultra-clean surface finishes.

Understanding of flow patterns ensures high efficiency fluid transfer with low pulsation, low shear and low noise characteristics. Alfa Laval employs computational fluid dynamics (CFD) to establish exact geometry for the rotors and rotor case. The SRU features a robust gearbox construction with heavy-duty shafts, torque locking assemblies and taper roller bearings throughout.

The SRU rotary lobe pumps comply with EHEDG, 3-A, 3.1 and FDA hygienic standards and have ATEX approval for use in explosive environments.

Alfa Laval – Sweden
info@alfalaval.com
www.alfalaval.com

Premium threaded and coupled connection for thermal wells

TMK has launched a premium threaded and coupled connection targeted at thermal wells. The new connection, TMK UP Ultra™ GX, successfully completed the testing and evaluation requirements of TWCCEP / ISO PAS 12835 for 290°C application. The pipes used for qualification testing were supplied by Volzhsky Pipe Plant (VPP).

Thermal well casing connection evaluation protocol (TWCCEP) requires extensive material testing, rigorous finite element analysis, galling resistance test and thermal cycle test, followed by limit strain and bending tests. The FEA, galling resistance test and thermal cycle tests were completed in-house at TMK's R&D centre in Houston, Texas, USA. The limit strain and bending tests were completed at C-FER Technologies, Edmonton, Canada.

The new connection is already being promoted and offered to customers in Canada for thermal applications.

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

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Online assistant for trenchless pressure pipe installation

An online guide to help civil engineers identify suitable trenchless methods for installing PE100 HDPE pressure pipe has been launched by the PE100+ Association. The association, whose aim is to promote consistency and quality in production and use of polyethylene for PE100 pipes, is made up of HDPE producers from around the world. The pipe designation PE100 is based on the long-term strength of the material, known as minimum required strength (MRS) of at least 10 MPa in accordance with ISO 9080.

The new 'No-Dig Technical Guide' covers new installation and rehabilitation



Trenchless refurbishment of old pipeline with welded PE100 pipes

of existing water and gas pipelines using trenchless methods. It was developed by the PE100+ Association in collaboration with co-sponsors TEPPFA (the European Plastic Pipes and Fittings Association); independent Swedish pipe pressure testing institute Exova; UK-based Radius Systems, which offers solutions spanning the entire pipe lifecycle; and Downley Consultants, a provider of global business and engineering consulting services in trenchless technology and geosynthetics.

The online tool guides users through a decision-making process based on the hydraulic capacity and pressure requirements of the pipeline and the physical and geotechnical conditions of the project. It then calculates the diameter and SDR of PE100 pipe necessary. It also identifies feasible methods for installation of the pipe.

Users of the guide can access in-depth information to help them better understand the capabilities of the various installation methods, as well as practical aspects such as cleaning and inspection, excavation and space requirements, end fittings and safety. For each method, links are provided to enable the user to contact suppliers of materials and equipment and to find



Trenchless refurbishment of old metal pipeline by 'sliplining' with PE100

more information about the technologies and their applications.

"PE100 pipe is at the heart of water and gas distribution systems all around the world, so it is critical that designers and engineers make the right decisions when they develop projects for new trenchless pipe installations or rehabilitation of old pipelines," said Hans Pierik, president of the PE100+ Association and global marketing manager at SABIC. "Our partners and PE100+ have spent a lot of time and effort ensuring that the No-Dig Technical Guide will enable them to make those decisions. This guide will help users decide whether or not trenchless techniques can be used to install PE100 on a specific project, which techniques are the most effective, and what key points need to be considered in using them."

The guide is available via the PE100+ Association website.

PE100+ Association – Netherlands
contact@pe100plus.com
www.pe100plus.com

Seamless tube development for aerospace applications

Sandvik exhibited at Airtec 2016, where it revealed its seamless 21-6-9 tube material developed specifically for demanding aerospace applications.

Designed to increase security and reduce risk, the new precision Sandvik 21-6-9 aerospace seamless tubing is an austenitic stainless steel grade with high mechanical strength and good impact toughness in temperatures down to -230°C (-382°F). With traceability from the melt to final product, Sandvik maintains complete control over its value-added processes.

"Material reliability in aircraft applications is always a first consideration," explained Christofer Hedvall, technology and innovation manager of Sandvik.

"By eliminating the use of welded seams in the tubing, considered to be a weak link and hence a risk, you eliminate any concerns there may be over potential failure in operation."

The seamless stainless steel Sandvik 21-6-9 tubes are supplied in bright annealed condition or cold worked in a



New precision Sandvik 21-6-9 seamless tubing for aerospace applications

range of sizes from 2 to 65mm (0.079" to 2.5") and wall thicknesses of 0.3 to 25mm (0.012" to 1"). All are produced to the standard AMS 5561.

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

Unified welding management software

The unified WeldEye software decreases the time spent on documentation and gives those involved in welding processes an insight into the work being done.

WeldEye is developed by Weldindustry and Kemppi, and integrates two welding management software systems: Kemppi's ARC System 3 (KAS3) and Weldindustry's Weldeye. The software has wide coverage of different welding-related processes, and has useful applications across industries such as shipbuilding, oil and gas, automotive, construction, and machine manufacturing.

"Several industries are now facing severe cost challenges and are looking at how to simplify documentation," said Jarle Mortensen, chief operating officer at Weldindustry. "WeldEye is built for this exact purpose – to help everyone in the welding value chain document the work being carried out and to simplify end project documentation."

WeldEye provides real-time insight into the performance of welders and the progress of projects, as well as 100 per cent traceable compliance with welding procedures, regardless of which welding equipment is being used. This makes it easier to reduce costs, improve performance and conduct quality controls. It manages welding procedures and test results, and the reduction in manual work gives a claimed 70 per cent faster documentation process. At the end of a project, the time spent on creating documentation can be cut by weeks or months.

WeldEye is available as an online cloud service, accessible from computers or smartphones without the need for software installation, making it easy to enter information during the execution of a project. The welding operator can also get constant feedback from his or her activities. In addition to giving full traceability, the software works as a quality controller and keeps track of compliance with international welding

standards. The added transparency also means that defects can possibly be spotted earlier and can be fixed immediately.

"If a batch of filler is faulty, WeldEye knows exactly which welds are done with that filler batch," explained Tuomas Kivisaari, software product manager at Kemppi. "This boosts efficiency by reducing the need for repair work. More information allows project managers to make quicker and better decisions."

WeldEye is automatically updated with new standards, ensuring that work is always compliant with current demands and standards, including EN ISO 3834, EN ISO 9606, ASME IX, AWS, NORSOK and others.

Kemppi Oy – Finland
info@kemppi.com
www.kemppi.com

Weldindustry AS – Norway
www.weldindustry.com

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Multi-test system for automotive shock absorber tubing and OCTG

Magnetic Analysis Corp (MAC) has supplied a combined ultrasonic/eddy current test system to inspect cold drawn welded tube to be used in manufacturing shock absorbers at a new plant in Monterrey, Mexico, built by Prosankin, formerly known as A-4C-Sankin.

A-4C-Sankin was formed in 2015 as a joint venture of Grupo Prolamsa, a steel pipe manufacturer in Mexico; the Sankin Corporation, a manufacturer of cold drawn steel tube; and JFE Shoji Trade Corporation, the trading arm of Japan's second largest steel company.

The new plant's focus is production and sales of cold drawn tubes primarily for automotive use, although the test system is also designed to provide the future capability of meeting API 5CT testing requirement for oil country tubular goods.

Shock absorbers are a critical component of automotive chassis. While they are commonly called 'shock' absorbers, their function is actually not to absorb shock but to reduce and decelerate the vibrations of vehicle springs that are contained within the shock absorber tube – in effect, acting as a vibration dampener. Working together, the springs and the shock absorbers provide the



The multi-test system for automotive shock absorber tubing and OCTG features 100mm ultrasonic Echomac rotary test and a MultiMac eddy current tester

link between wheel suspension and car body, compensating for uneven road surfaces. Most cars currently in mass production feature gas-filled shock absorbers. Accurate and thorough testing of the tube during its production is essential in order to prevent leaking gas.

The test system supplied by Magnetic Analysis Corp to the tube producer utilises two technologies for inspecting the cold drawn welded tubes during production – ultrasonic and eddy current. The 100mm Echomac® rotary ultrasonic system uses four test channels to detect transverse defects, four channels for longitudinal defects, and four for measuring wall thickness. In addition, a MultiMac® eddy current encircling coil test fulfils

the API requirement for detecting a through wall drilled hole, representing a transverse defect, required for some grades.

The system is designed to run in an automatic mode, performing both the ultrasonic and eddy current tests, marking any defects and creating a record (chart, defect list, test parameters, etc) of each tube and batch, while keeping pace with the production line. Data from the tests is stored locally and can be transferred to the customer's network.

The tubes range from 12 to 100mm diameter with wall thickness of 1.5 to 7mm. A new Water Package, designed by MAC, features a counter weight that allows the water box cover, including the attached heavy copper heat exchanger coil, to be easily raised and remain in the open position for access during maintenance.

The system includes automated drive mechanisms on a V-roll bench and a demagnetiser for any residual magnetism created by the eddy current test saturation coil.

Magnetic Analysis Corp – USA
info@mac-ndt.com
www.mac-ndt.com

Cutting units for individual demands

Commercially available standard cutting machines may not be able to entirely cope with increased demands and special requirements within finishing applications.

Bültmann cutting equipment for finishing applications is individually tailored to customer requirements. By using standard cutting modules and handling equipment, the lines and machines are customised and individual solutions are created.

For the sawing technology Bültmann will, depending on the application, use its own products or proven com-

ponents from notable suppliers, and combine them with Bültmann handling equipment.

Sawing machines available from Bültmann include hot saws (stationary and flying); layer saws (stationary and flying); multi-head saws for fixed lengths; combined circular cold saws/abrasive cutting units for difficult-to-machine materials; twin-head saws for increased throughput rates; flexible fixed-length saws featuring a feed system for defined material handling without mechanical stoppers; special saws for non-ferrous materials, ensuring high cutting speeds; and integrated fixed-length saws,

including end machining and cleaning stations, in compact and space-saving designs.

For chipless cutting technology, Bültmann chipless cutting units are used, and are interlinked with Bültmann handling equipment. Bültmann machines are not only available as stand-alone production units, but also as turnkey solutions as part of complete production lines. Retrofitting into existing production lines is also possible.

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

Online tool offers overview of chemical resistance of systems

Plastic pipes are used not only for drinking water, water for general use and wastewater, but also for transporting chemically aggressive liquids and gases. Questions regarding the chemical resistance of piping materials to media are as important as the mechanical parameters for the installation of the piping system. Pipe designs such as lined metal, ceramic or glass fibre reinforced pipes can in many cases be replaced by plastic systems.

The ChemRes Plus online tool from GF Piping Systems gathers data about materials and 276 media and visualises them. Users can select between all materials and cements from the GF Piping Systems product range and compare to get a comprehensive overview.

GF Piping Systems attempts to present resistance statements in order to identify the best suitable material for the application. The recommendations given in the ChemRes Plus database are not only based on the extensive application experience of GF, but also originate from tests in the company's own laboratories. The data is subject to frequent updating and addition.

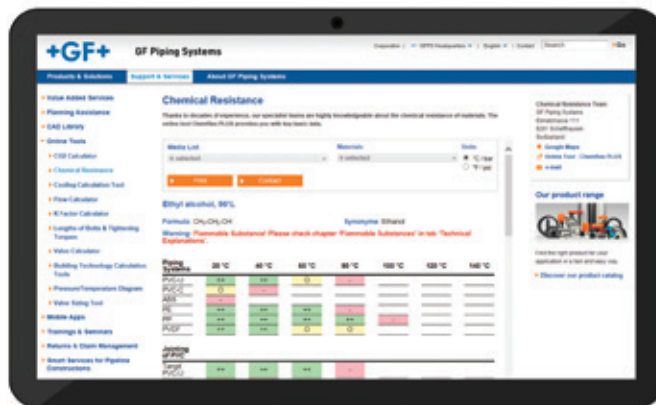
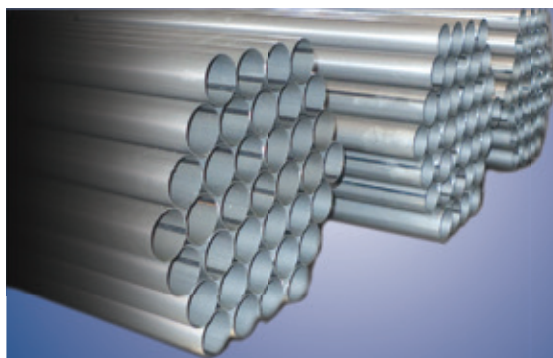


Photo credit: GF Piping Systems

ChemRes Plus from GF Piping Systems

GF Piping Systems Ltd – Switzerland
 info.ps@georgfischer.com
 www.gfps.com



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

All-terrain welding machine for HDPE pipe

Ritmo's Delta 355 All Terrain welds HDPE, PP pipes and fittings for the transportation of gas, water and other fluids under pressure from 125 to 355mm or from 4" IPS to 14" IPS.

It is designed to work according to welding standard ISO 21307 High Pressure, and can be equipped with diesel low vibration and petrol engines. The engine, like an electrical generator, independently gives the necessary power supply to the machine during all its working and movement phases.

The machine has a removable control panel with data logging, memory for up to 4,000 welding reports and GPS traceability; a USB port allows welding report/data download and firmware upgrades.

The hardware and software have been developed to interact with each other, sharing data during the entire workflow. Once the welding parameters are set up, the system ensures the repetition of the welding cycle, avoiding errors. The operator only has to confirm the

work phases by pushing a button. The chassis is equipped with front steering wheels and rear traction, parking brake, and a machine frame design for forklift lifting. The removable machine body can work in tight spaces with a shavings collection tray. The dragging bar is designed to weld between the third and fourth clamp, and the machine also features the Ritmo-patented insert quick release Smartlock System.

Additional features include an on-board electrical milling cutter with integrated locking handle system, safety switch-off device, motor thermic protection and gas spring to easily lift/lower the facer; an on-board heating plate with protection frame and insulated protection bag; gas-spring for easy lifting/lowering of the heating plate; heating plate and facer locking system for safe transportation; two hydraulic rollers for pipe loading and unloading; and a kit for network power supply connection (upon request), excluding the machine engine and weld in closed environments. The 25l capacity tank allows an operating time of more than 12 working hours.



Ritmo Delta 355 All Terrain

Ritmo SpA – Italy
info@ritmo.it
www.ritmo.it

Highlighting the environmental benefits of high-strength steel

SSAB EcoUpgraded, a global sustainability initiative from SSAB, is helping customers gain the environmental benefits of using high-strength steel, which include reduced weight, improved fuel economy and extended product lifetime.

The company states that during its use phase, an SSAB EcoUpgraded product will generate CO₂ savings that exceed the CO₂ emitted during production of the upgraded part.

“By upgrading to steel from SSAB, during the use of the product manufacturers will quickly be able to compensate for the CO₂ emissions

from the steel production process,” said Thomas Hörnfeldt, SSAB’s vice president sustainability and public affairs. “And once the break-even point has been reached, the application will continue to deliver CO₂ savings far in excess of the original CO₂ debt.”

Manufacturing a product using SSAB high-strength steel ensures characteristics such as reduced weight, improved fuel economy and/or extended lifetime – key contributors to reducing the carbon footprint of the product. The SSAB EcoUpgraded initiative will provide proof points relating to reduced CO₂ emissions that will enable OEMs

and their customers to benefit from improved environmental performance.

“We want to help our customers not only in staying ahead of new legislation and environmental demands, but also to convert this into a business opportunity.

“By upgrading their products with more advanced steels that provide tangible benefits, they can also promote their own marketing efforts and long-term profitability,” concluded Mr Hörnfeldt.

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

Next-generation triple offset valve presented at Valve World Expo

Crane ChemPharma & Energy participated in the Valve World Conference & Expo in Düsseldorf, Germany, exhibiting its new Crane® FKX 9000 triple offset butterfly valve.

Engineered to address the inherent dangers of demanding applications, Crane FKX 9000 adheres to the industry's most stringent standards, delivering flow control, optimised Cv and low Delta P, as well as zero-leak shut off in high-temperature applications, hydrocarbon service and emergency shut down (ESD) service.

"The design of the Crane FKX 9000 has been an effort several years in the making and we are so excited to bring it to the Valve World Expo," said Ralf Becker, business line manager for Crane ChemPharma & Energy. "This product represents a new generation of valve technology with a world-leading fugitive emissions package and best-in-class inline seal design, which can greatly extend seal life when compared to previous designs."

Crane ChemPharma & Energy designs and manufactures a variety of products,

including highly engineered check valves, sleeved plug valves, lined valves, process ball valves, high performance butterfly valves, bellows sealed globe valves, aseptic and industrial diaphragm valves, multi-/quarter-turn valves, actuation, sight glasses, lined pipe, fittings and hoses, and air-

operated diaphragm and peristaltic pumps. Among the industries served are chemical processing, biotechnology, pharmaceutical, oil and gas, refining, and power generation.

Crane ChemPharma & Energy – USA
www.cranecpe.com



Crane's FKX 9000 triple offset butterfly valve



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KHANNA INDUSTRIAL PIPES PVT. LTD., established in the year 1986, has a firm foot-hold in tube manufacturing since inception. The company manufactures Steel Tubes & Pipes having an installed capacity of 50,000 Metric Tonnes. per annum. The company holds ISO-9001:2008 Certification accredited by TUV India. We manufacture pipes and tubes as per International Standard: BS En 10219, 10255, 10217 and ASTM A-53 Gr A and B, A-500.

Size Range	Size	Thickness	Length
Carbon Steel Pipes / Tubes			
	12.7mm OD to 219.10 OD	0.8mm to 8.0mm	Upto 12 Mtrs.
	12.7mmx12.7mm to 150mmx150mm	0.8mm to 8.0mm	Upto 12 Mtrs.
	20mmx10mm to 200mmx100mm	0.8mm to 8.0mm	Upto 12 Mtrs.
Pre-Galvanised Pipes / Tubes			
	19.05mm OD to 76.2mm OD	1.0mm to 2.5mm	Upto 12 Mtrs.
	15mmx15mm to 60mmx60mm	1.0mm to 2.5mm	Upto 12 Mtrs.
	20mmx10mm to 80mmx40mm	1.0mm to 2.5mm	Upto 12 Mtrs.

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 • THERMAL WIRE FILLED

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 20mm to 50mm THK - 1.4mm to 2.2mm LENGTH - upto 5.0mtrs.
 • BLACK PAINTED
 • PRE-GALVANISED
 • HOT DIPPED GALVANISED.








Teflon PTFE hose and fittings withstand high temperatures and abrasive chemicals



Everflex 8500 hose

Power management company Eaton has introduced its Everflex Teflon PTFE hoses and fittings in EMEA markets for applications where high and low temperature, chemical resistance, low coefficient of friction, flexibility and non-ageing characteristics are required.

Everflex hose products are made from Teflon resin for use in mobile applications for truck and bus, agriculture and construction machinery in engine technology, compressor discharge, grease lubrication, hydraulic systems and refrigerants. Stationary applications can be chemical and pharmaceutical production machinery, hot melt, paper and pulp manufacturing, hot presses, steam, packaging, paint production and machinery.

"Eaton's Teflon hoses out-perform rubber and thermoplastic hoses in the most demanding applications," said Johannes Kammerlohr, product manager, fluid conveyance, hydraulics – EMEA. "This higher performance level provides assemblies that need to be replaced less often (decreasing machine downtime), can be used in a wider variety of applications, and protect operators, equipment and the environment."

S-TW Series Smooth bore and 8000/8500 Series Convoluted hose



A range of Everflex fittings

types are new hoses within the Everflex range, available now for the EMEA market. The smooth bore hose S-TW (non-conductive) and SC-TW (conductive) are qualified for extremely high temperature range and high working pressure available with crimp and reusable fittings.

Eaton uses only 100 per cent virgin Teflon PTFE T-62 resin to make the tubes for the hose products. Reinforcement is available in 304 and 316 SS.

The 8000 (non-conductive) and 8500 (conductive) convoluted hose types offer an even smaller bend radius for tight application, designed with a new Conv-O-Crimp fitting and a specially designed nipple profile with Teflon

sleeve, providing heat and pressure resistance.

The temperature range of the smooth bore hose is -73°C to $+260^{\circ}\text{C}$ (-100°F to $+500^{\circ}\text{F}$), and for convoluted hose is -54°C to $+204^{\circ}\text{C}$ (-65°F to $+400^{\circ}\text{F}$). The hoses can withstand continuous flexing, vibration or impulsing and are less subject to cyclic fatigue than rubber or metal hoses.

The hose is inert to most commercial chemicals, acids, alcohols, coolants, elastomers, petroleum compounds, solvents, vinyls, synthetic lubricants and hydraulic fluids.

Eaton – Switzerland
www.eaton.com

Large diameter perforated tubes

UKF Stainless Ltd, a supplier of stainless steel tubing since 1992, has announced that its new range of large diameter perforated tubes are now in stock.

Due to demand, UKF has expanded its range of perforated tubes, and is

taking orders for the exclusive series of large diameter perforated tubes. The company claims to be the only UK company able to offer these larger products. The new sizes of welded stainless steel grade 304 perforated tube are available in various 6m lengths:

88.9mm OD x 1.2mm thick; 101.6mm OD x 1.2mm thick; and 70mm OD x 1.2mm thick.

UKF Stainless Ltd – UK
info@ukfstainless.co.uk
www.ukfstainless.co.uk

Fully automated ASMAG line for precision steel tubes

ASMAG GmbH is currently finalising a complete line for the manufacturing of precision steel tubes up to 75mm for a customer located in Turkey.

The new line allows an increase of output and a significant improvement in product quality.

The fully automated line consists of draw bench, ten-roll straightener, multiple sawing unit and existing testing unit, visual testing table and stacking-and-bundling unit.

At the line entering side incoming bundles with tubes up to OD 80mm are separated automatically by an innovative finger separator.

After passing the hydraulic in-line pointing press the tubes are drawn with high speed on a 450kN triple draw bench up to a length of 14.5m.

With the benchmarking ASMA ten-roll straightening machine RRM-pro-70/10 the customer's straightness demands and even more challenging expectations can be exceeded.

The integrated multiple saw allows automated positioning of each saw depending on specific requirements, highest cutting performance and best cutting quality together with best saw blade life-time. The Turkish customer decided to choose ASMA for a number of reasons, including reputation for quality, high precision tube manufacturing equipment and the fact that ASMA provides a complete solution.

ASMA is a manufacturer of integrated lines for production of cold drawn ferrous and non-ferrous metals.



The draw bench area

Its markets are mainly Europe, USA, Russia and Turkey. Founded in 1984 by the engineer Johann Vielhaber, it has grown since then in the factory headquarters of Scharnstein and with the acquisition of SEUTHE, Germany, in 2010 and OCN, Italy, in 2015. The ASMA group now totals more than 200 employees.

ASMA GmbH – Austria
sales@asmag.at
www.asmag.at

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 ALLOY STEEL : ASTM A182(F5, F9, F11, F22, F91)

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Welding of vacuum tubing and piping

Welds in tubing and pipework for vacuum systems can have many important characteristics: being manufactured from stainless steel, leak tight, the joints should have full penetration with excellent sidewall fusion, there should be no porosity and the finish should be free from oxidation and discolouration.

When welding these stainless steel tubes and pipes, it is important to purge the welding zone with an inert gas, usually argon, to prevent loss of corrosion resistance, oxidation, discolouration, metallurgical defects and to ensure a good internal weld profile.

Huntingdon Fusion Techniques (HFT) has introduced PurgElite®, a range of tube and pipe purging systems to achieve a clean, oxide-free, zero-colour weld in such tubes and pipes. As well as vacuum tube and piping, PurgElite can be used in any industry where stainless steel or titanium is used.

Georgia Gascoyne, CEO for HFT, said, "We recently had a customer who was wasting a lot of money in time and inert gas costs by filling entire pipework systems with argon in order to weld the stainless steel pipes in an inert environment. There were several 90° bends in the pipework, so the customer



An inflated PurgElite purging system



The system's spinal tube is highly flexible

thought filling the whole pipework system with expensive argon gas was the only option."

To save welders the expense of completely filling tubes and pipes with an inert gas, PurgElite Systems with double inflatable dams are available to suit pipe diameters from 25 to 600mm (1" to 24"). PurgElite is manufactured

with a special spinal tube, joining the two dams, that is resistant to hot metal up to 300°C (572°F) and is flexible enough to allow movement around 90° bends. The pipe weld purge systems are made of low outgassing rate materials.

An IntaCal® purge gas feed device means there is no complicated valve to set. To ensure the PurgElite system can be positioned accurately inside the tube or pipe, a RootGlo® centrepiece glow positioning indicator comes as standard on all sizes.

HFT's PurgeGate® valve is available as an accessory. The one-way valve, which is suitable for all types of inflatable pipe weld purging systems, regulates the gas flow and pressure during welding to ensure the inflatable dams do not burst and result in a failed weld. Heat resistant covers are also available, to protect the inflatable dams in the event that the weld process is unusually hot. The covers suit any inflatable purging or blocking system and are held onto each dam by a number of ties. Such covers allow use up to a temperature of 300°C.

Huntingdon Fusion Techniques – UK
hft@huntingdonfusion.com
www.huntingdonfusion.com

Robor assists rhino relocations

Robor has donated 12 tons of steel, and has assisted in the re-drawing of steel 'boma' animal enclosure designs to ensure the coordinators of the Rhinos Without Borders project could continue with their efforts to preserve this endangered species. The project coordinators have so far facilitated in the relocation of 31 rhinos, with further plans to move a total of 100.

Robor's donation of steel will be used for the construction of mobile steel section bomas that can be moved from one release site to another across reserves. The ability to do this greatly reduces the conflict associated with releasing

many rhinos from the same boma, and therefore improves the success of the rhino project. Following completion of the full 51 steel sections, an official handover of the 'Robor Rhino Bomas' to the Bostwana Wildlife Department will take place.

Robor, situated on the East Rand of Johannesburg, South Africa, is a manufacturer and supplier of a wide range of steel products and associated value added steel services across the automotive, mining, water, building and construction, rail and road transport, renewable energy and telecommunications sectors.



The first steel section for a Robor mobile boma

Robor (Pty) Ltd – South Africa
info@robor.co.za
www.robor.co.za

New piping systems for commercial plumbing

Asahi/America, Inc has introduced Asahitec™ PP-RCT piping systems for plumbing and HVAC applications. Asahitec PP-RCT is the latest advancement in polypropylene polymers, and claimed benefits include greater pressure capabilities at higher temperatures than conventional PP materials.

Asahitec comprises two systems: Climatec™ for hydronic heating applications, and Watertec™ for potable water. Pipe in both systems is manufactured with patented Fibercore™ technology, which minimises expansion and contraction by



up to 75 per cent, reducing installation costs by minimising expansion loops and supports.

Fibercore PP-RCT pipe consists of three co-extruded layers that make one homogeneous pipe. The middle layer is a mix of short fibreglass strands and PP-RCT, which is isolated by an inner and outer layer of solid PP-RCT.

Asahitec includes both moulded socket fusion fittings (20 to 125mm) and moulded butt fusion fittings (160 to 315mm), and moulded large diameter fittings up to 630mm. Asahitec is NSF 14-pw certified for potable water applications, and features lead-free brass adapter fittings.

The range is complemented by Asahi/America's welding equipment fleet and valve product line. Applications include potable water, HVAC, food and beverage grade water, and water distribution.

Asahi/America, Inc – USA
 asahi@asahi-america.com
 www.asahi-america.com

Marine grade stainless steel pipe flashing

Lifetime Tool & Building Products has launched its new 316L stainless steel Ultimate Pipe Flashing®, to prevent roof leaks in harsh coastal and ultraviolet (UV) environments. The new product directly combats the effects of salt water, chloride, extreme sunlight exposure and pipe thermal movement, which are the major causes of plumbing pipe flashing failures resulting in roof leaks.

Existing pipe flashings (including lead) can fail at the time of installation or shortly after. While lead has been banned in most construction applications for content in the parts per million, it is still used as solid lead in roofing because there has not been an effective alternative. As well as being hazardous, lead flashings do not handle mechanical stress from thermal movement; do not adequately accommodate pitch; and are often difficult to re-shape and install. These failures can result in hidden water and mould damage that may go undetected for years.

Designed to replace lead flashings, the patented Ultimate Pipe Flashing is made from 316L stainless steel (a true marine grade stainless steel) for long-term performance in coastal and extreme UV environments.

The Ultimate Pipe Flashing provides a precision seal to the pipe with a flexible bushing made from an ultra-pure silicone elastomer that accommodates daily movement from thermal changes on the roof. This lifetime pipe seal is then reinforced with a solid PVC collar engineered to provide lifelong compression of the seal to the pipe.

The combination of 316L stainless steel, ultra-pure silicone rubber and solid moulded PVC provide robust resistance to sunlight, extreme UV, coastal and non-coastal chlorides, and thermal movement.

Lifetime Tool & Building Products – USA
 www.lifetime-tool.com



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Borealis expands pipe portfolio

Borealis, a provider of solutions in the fields of polyolefins, base chemicals and fertilisers, has launched a new grade in its portfolio of polypropylene random crystalline temperature (PP-RCT) pipes.

Now commercially available in Europe, the new grade RA7050-LG is an expansion of the Borealis PP-RCT portfolio. The improved performance and properties of the grade fulfil market demand for applications in industrial heating and cooling, including building risers, and heating, ventilation and air conditioning (HVAC) systems.

Distributing sufficient quantities of water in buildings in a safe and reliable way has become increasingly challenging due to population growth and urbanisation as well as ageing pipe infrastructure.

Over the past 30 years, the development of polypropylene random copolymers (PP-R) has led to a growing acceptance of plastic pipes for plumbing, heating and industrial applications.

In 2004, Borealis introduced a next-generation material class – PP-RCT – with improved hydrostatic pressure resistance. The material class is standardised in accordance with ISO 15874, which governs PP piping systems for hot and cold water installations in buildings.

“The launch of RA7050-LG is a meaningful PP-RCT portfolio expansion that responds to existing and very specific market demands, but also anticipates future evolutions in pipe infrastructure,” said Anton Wolfsberger, head of marketing, Borealis consumer products.

“We will continue to innovate in pipe so that we can deliver solutions to key global challenges such as a safe and reliable water supply, enabling life’s essentials.”

The overall improved performance and hydrostatic pressure resistance of PP-RCT pipes, especially at elevated temperatures, results in a range of advantages. Longer durability makes operations safe and reliable in the long term.

The increased pressure resistance – given the same dimensionality or even higher hydraulic capacity of pipes and fittings – brings benefits for both pipe producers and building designers.

The new light-grey RA7050-LG grade is a fully PP-RCT classified material, produced using special multi-reactor technology and containing a high level of beta-nucleation crystals, for crack growth retardation properties. Key benefits include reduced installation times, extended lifetime, no condensation, and reduced energy loss for hot or chilled water applications.

Borealis AG – Austria
www.borealisgroup.com

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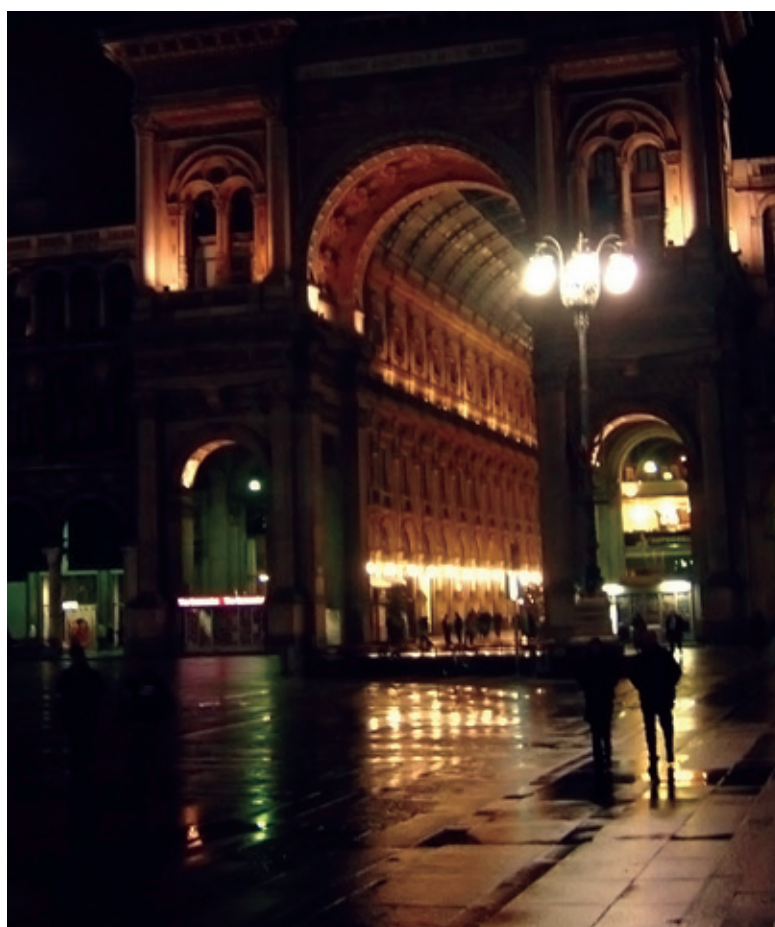
Made in Steel is southern Europe's premier trade show for the steel industry. It is both conference and exhibition: the perfect balance between business and debate, hands-on operations and reflection.

An industry showcase, Made in Steel also hosts a raft of meetings, forums and round tables promoting the sort of in-depth sector knowledge that is key to company competitiveness.

Held every two years, Made in Steel brings together under one roof key steel industry players – from producers to users – to take stock of where the sector is going.

Many of the Italian steel industry's historic figures have attended the last six editions of Made in Steel, participating actively in the ongoing debate. They include, to mention just a few, Luigi Lucchini, Nicola Amenduni, Emilio Riva, Giovanni Arvedi, Gianpietro Benedetti, Steno Marcegaglia, Emma and Antonio Marcegaglia, Giuseppe Pasini, Antonio Gozzi, Alessandro Trivillin and Giuseppe Manni.

Made in Steel has also welcomed many international guests from the steel industry, public institutions and the academic and research world.



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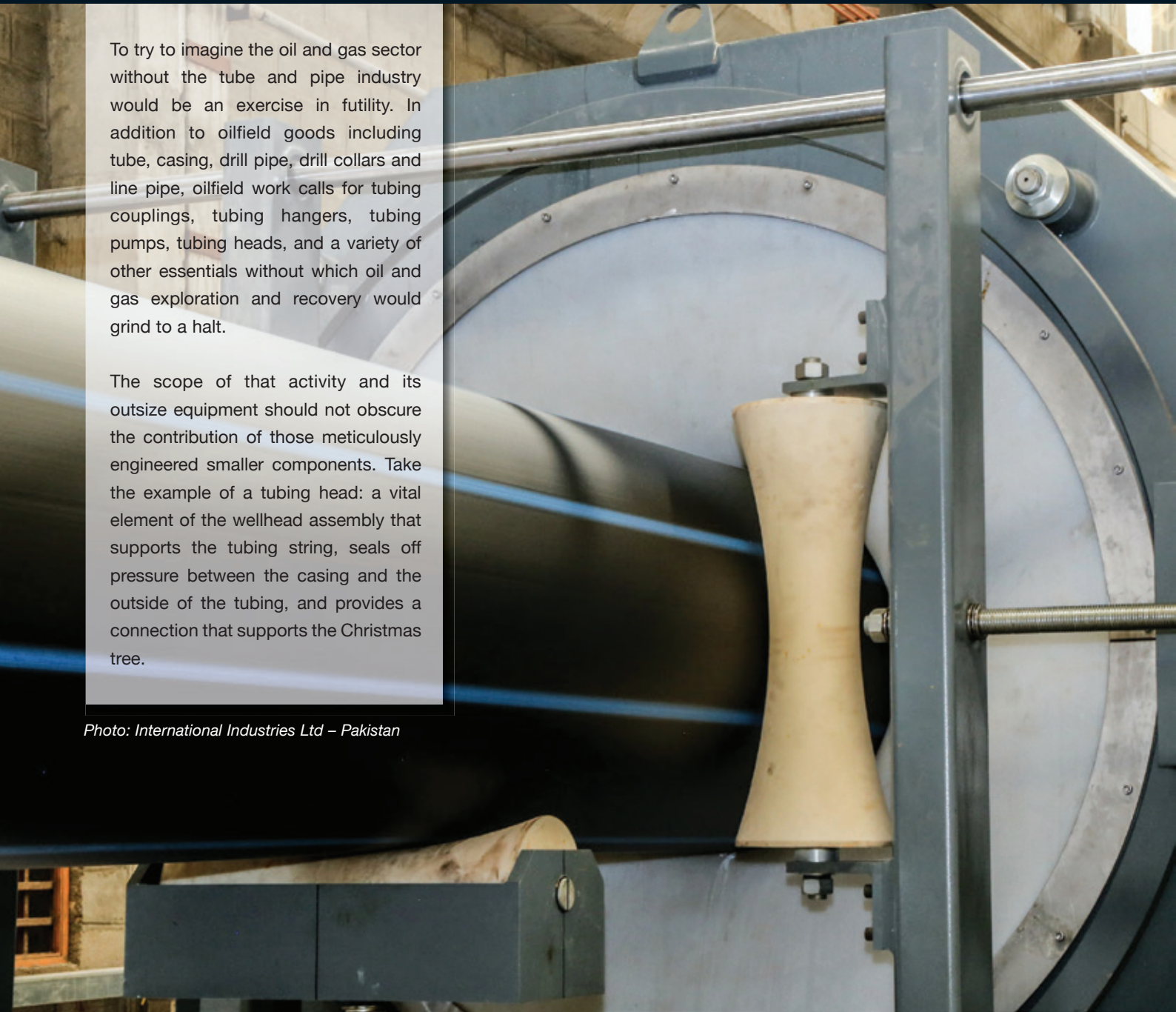
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OCTG, gas & pipeline products

To try to imagine the oil and gas sector without the tube and pipe industry would be an exercise in futility. In addition to oilfield goods including tube, casing, drill pipe, drill collars and line pipe, oilfield work calls for tubing couplings, tubing hangers, tubing pumps, tubing heads, and a variety of other essentials without which oil and gas exploration and recovery would grind to a halt.

The scope of that activity and its outsize equipment should not obscure the contribution of those meticulously engineered smaller components. Take the example of a tubing head: a vital element of the wellhead assembly that supports the tubing string, seals off pressure between the casing and the outside of the tubing, and provides a connection that supports the Christmas tree.

Photo: International Industries Ltd – Pakistan



Seamless tube manufacture at Fine Tubes and Superior Tube

Seamless tubes deliver the best performance when the requirements call for high pressure endurance and strength-to-weight ratio. UK-based Fine Tubes and US-based Superior Tube, both units of AMETEK Specialty Metal Products, have a long history of manufacturing seamless tubes for a wide range of applications in which performance is critical – from aerospace to nuclear power, and from medical equipment to deep water oil and gas extraction.

Both Superior Tube and Fine Tubes have the facilities to manufacture precision tubing in seamless as well as welded and redrawn forms. As experts in manufacturing high-performance tubes, the businesses offer a range tubes made of high-end alloys that include super alloys, such as NORSOK-approved 6 Moly, 904L and Super Duplex; nickel alloys, such as 825 and 625; titanium; and zirconium. The last two are expected to be the most significant growth areas in 2017.

Both companies continually develop new techniques to create ever stronger, yet lighter, tubing products. These next-generation materials are more difficult to work with than traditional alloys.

However, both companies believe the benefits outweigh the difficulties. One example is Titanium TiX, a titanium grade with a much-improved strength-to-weight ratio and enhanced formability.

The growing demand for seamless tubes from Fine Tubes and Superior Tube comes from across their range of markets. Seamless tubes accounted for some 74 per cent of the two companies' combined turnover in 2016. Aerospace and energy each represent approximately one third of that seamless business, followed by oil and gas (18 per cent) and medical (11 per cent). Geographically, the greatest demand for tubing for both companies comes from the USA, followed by Europe.

With Superior Tube's entry into the oil and gas market, one recent customer project is a contract win from TEMA India Ltd to supply heat exchanger tubing for a new floating production storage and offloading (FPSO) vessel. The vessel is among several commissioned by Brazilian energy giant Petrobras as part of its project to develop the oil reserves in the pre-salt fields in the Santos basin off the Brazilian coast. Superior Tube provided 37km of seamless alloy 625 tubing for the vessel's heat exchangers.

Oil and gas customers continually look for cost and performance improvements, particularly during the current economic climate. A big agenda item for both tubing specialists is the incremental changes needed to support a commitment to continuous improvement. As an example, Fine Tubes last year invested to increase the production of heavier weight seamless coils that provide customers with longer single coil lengths and offer the added benefit of greater integrity resulting from the lower number of orbital joints in the production of downhole control lines.

Along with Fine Tubes and Superior Tube, AMETEK Specialty Metal Products includes four other businesses: Hamilton Precision Metals, AMETEK Wallingford, AMETEK Eighty Four, and Reading Alloys. Collectively, they represent a leading force not just in precision tubing but also in precision strip, wire and foil, speciality metal powders and clad metal sheets.

Fine Tubes – UK
sales.finetubes@ametek.com
www.finetubes.com

Superior Tube Co – USA
www.superiortube.com



Oil and gas corrosion reduction

Reducing corrosion in the oil and gas industry can be accomplished through knowledge and proper product specification.

Most personnel working in the oil and gas industries are aware of some of the recent catastrophes in the field, such as the explosion at a Chevron refinery plant. NACE International estimates that annual corrosion costs, specific to the oil and gas industry in the USA, can be as high as \$27bn.

A study by the Executive Branch and Government Accountability Office underscores the fact that although corrosion cannot be eliminated, it can be prevented, and doing so could eliminate more than 40 per cent of current corrosion damage costs.

These costs can be reduced through two simple acts: learning the causes of corrosion, and properly specifying the correct product to prevent corrosion from occurring in the first place. Many field operators, engineers and designers have not been trained to understand the causes of corrosion in an oil and gas environment or proper prevention methods. The presence of water is a major cause of corrosion

in the oil and gas environment. The added presence of carbon dioxide and hydrogen sulphide often makes corrosion a greater problem. Many of the products used in the oil and gas industry are made of steel, and structures such as pipelines, tanks, water pipes and electrical conduit are buried in a variety of soils. Soil and moisture surrounding these metal structures can cause underground electrochemical corrosion.

Typically, electrochemical corrosion can be prevented with cathodic protection, which helps control the corrosion of a metal surface by making it the cathode of an electrochemical cell. Connecting the metal requiring protection to a more easily corroded 'sacrificial' metal acts as the anode.

Another prevention method is using different types of coatings. Coatings used in oil and gas environments include paint, plastic coating, plastic lining and others. These coatings reduce the area of bare metal in direct contact with the ground. Coating materials should be able to withstand exposure to corrosive elements. Protective coatings need to prevent the chemical action of corrosion by

blocking electrolytes from the anode, cathode and metallic path, which are often on the same piece of material. Metallic coatings are applied to change the surface properties of another metal, creating a new composite material that exhibits properties not achieved by either material alone.

Steel is often galvanised – coating carbon steel with zinc during a hot-dip process – providing a degree of corrosion resistance. In severely corrosive environments, galvanised steel is often coated with an additional paint or polymer coating, such as PVC, for even stronger corrosion protection. Many electrical specifiers in the oil and gas industry have found that PVC-coated conduit can be used to reduce the impact of corrosion on projects, especially when placed underground.

Corrosion College is an accredited two-day educational programme providing knowledge on beating corrosion in many industries. It emphasises the proper surface preparation for ensuring reliable coating protection.

Corrosion College – USA
customerservice@corrosioncollege.com
<https://corrosioncollege.com>

Fully automated OCTG ultrasonic testing

Sandvik has inaugurated a new, fully automated ultrasonic testing facility for pipes for the oil and gas industry.



Sandvik has a new ultrasonic testing facility

"Seeing this major investment come on-line is a substantial achievement for all involved, and a key milestone in Sandvik's enhanced strategic focus on demanding applications within the oil and gas industry, such as OCTG," said Per Olsson Artberger, Sandvik global product manager for OCTG. "Despite the current downturn in the oil and gas market, we see continued good business opportunities for Sandvik material grades, especially in the Middle East and Caspian Sea regions. What the new, automated facility provides us with is a much speedier throughput and greatly enhanced testing capabilities which meet the toughest requirements from customers in this segment."

Sandvik took the decision to invest in the new facility as the energy sector, including oil and gas, is a key focus

in the company's strategic direction. Ultrasonic testing was the limiting factor in achieving maximum output with the existing facility. To solve this, Sandvik has invested not only in capacity but also in technology to meet the industry's requirements for defect detection.

"The new facility allows us to meet and exceed all customer requirements and puts Sandvik in a world-leading position as a manufacturer of OCTG," said Mr Olsson Artberger. "It also builds on the strategic alliance between Sandvik and Tenaris on the exclusive joint supply of corrosion-resistant alloy OCTG materials and technology to the oil and gas industry."

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

Pipe deposition scanning technology secures investment

Rocsole Ltd has successfully completed an additional funding round that was led by Shell Technology Ventures (STV).

The Finnish company, with offices in Kuopio, Finland, and Houston, Texas, USA, provides electrical and ultrasound tomographic industrial process monitoring systems.

The company's current products include a pipe sensor for both topside and subsea pipes, providing real-time information on the flow and, in particular, deposition build-up in a pipe through probe sensor technology that can be used in separators when extracting oil and water.

The additional funding injection from STV allows Rocsole to expand its product portfolio with a smart deposition pig sensor that enables efficient deposition monitoring of a customer's entire pipe network from the inside.

Once the deposition has been located, a measuring device for monitoring and identifying deposits from the current product family may be permanently installed in the areas discovered during the inspection. With detailed information on pipe deposits, operators can prevent pipe clogging that can lead to lost production. Efficient deposition monitoring can also reduce the number of pigging runs.

"Roscole's smart pig sensor could change the way we inspect subsea pipelines by allowing us to quickly obtain flow and deposition insights using their non-invasive and accurate analytics," said STV managing director Geert van de Wouw.

"Their tomographic imaging techniques mean that measurements can be conducted from inside the actual pipe without damaging or disturbing it. Technology that can reduce down time and optimise production is critical for Shell operations, both for on- and off-shore."

Rocsole chairman Anssi Lehikoinen commented, "We are excited to work with a strategic investor who understands the business value and competitive advantage of a tomographic approach in industrial imaging.

"STV recognises the need of preventive maintenance enabled by accurate pipe deposition monitoring and identification that Rocsole offers through its solutions based on a patented electrical tomography platform."

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Extending API line pipe manufacturing 12" diameter

International Industries Limited (IIL), a steel and plastic pipe manufacturer and exporter, manufactures certified ERW steel pipe for petroleum distribution systems.

The company has extended its ERW API product range from 6" OD to 12" OD, and has simultaneously extended its HDPE product range from 630mm to 1,600mm OD.

Certified ERW pipes



IIL's API certified 12" OD tube mill is the latest addition to the company's manufacturing facilities. The tube mill can produce API sizes from 6" to 12" OD in thickness ranging from 4 to 12.7mm, in accordance with ANSI/API Specification 5L, complementing the already available API sizes from 3/4" to 6" OD.

The mill is equipped with a solid

state/high frequency welder for high integrity forge welding, and an on-line inner bead trimmer. In order to ensure quality and compliance with the API 5L specification, the weld seam and the entire heat affected zone is heat treated. In addition, IIL pipes are processed and heat treated through on-line seam annealing so that no un-tempered martensite develops on the weld seam or heat affected zone. The company offers a full range of end finishes, including facing, bevelling, threading and roll grooving.

In addition to API line pipe, IIL manufactures medium density polyethylene (MDPE) gas pipe for the distribution of natural gas, liquefied petroleum gas and other gaseous fuels. These pipes are manufactured on German and Austrian equipment to meet the performance requirement of British Gas Technical Specifications (BGC/PS/PL2) and the American Petroleum Institute Specification for gaseous fuel (API 15LE). IIL's MDPE gas pipes are available in sizes ranging from 20 to 250mm, and thicknesses from 1.8 to 22.7mm.

International Industries Ltd – Pakistan
inquiries@iil.com.pk
www.iil.com.pk

Entering new depths with Aasta Hansteen

Measurement and inspection technology specialist Optical Metrology Services (OMS) has completed the remote measurement and inspection of a number of 230m-long pull tubes for Statoil's deep-water Aasta Hansteen SPAR project.

The project is at 1,300m below sea level in the Norwegian Sea. Manufactured by Hyundai Heavy Industries, the SPAR platform is the largest structure of its kind to date, measuring 195m in height and capable of producing 23mn cubic metres of oil and gas per day.

Due to the adverse and remote location of the platform, there were a number of considerations regarding the steel

catenary risers connecting the subsea pipelines to the topside platform.

This required OMS to perform a detailed and accurate inspection of the pull tubes, which provide the mechanism to connect production risers, product export lines and pump caissons.

Any defects or obstructions within the pull tubes could create major issues once the platform was positioned at sea, where they could not be rectified.

Through OMS's ranged inspection, Aasta Hansteen was able to go ahead with the next development phase without the likelihood of failure and considerable additional project costs.

OMS operator Tim Green commented, "The SPAR project proved a major task for OMS, being one of the largest we have undertaken. Through our agile, robust and versatile service, Aasta Hansteen were able to go ahead with the next stage of the development with confidence in completing the project both on time and in budget.

"This is further evidence of the innovative measurement and bespoke inspection solutions OMS can offer in addressing challenges faced by businesses on a global scale."

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Collaboration to enhance standards for pipeline integrity

Penspen, a provider of engineering, asset management and integrity services to the energy industry, has launched its Pipeline Defect Assessment Manual (PDAM), second edition. The 456-page best-practice guide is a collaborative industry venture involving a number of oil and gas companies, and collates advice and guidance for pipeline engineers.

The PDAM project commenced in 1999 and was originally developed to address the industry need to have a single document that contained definitive advice to assist pipeline engineers in maintaining pipeline integrity. Since its creation, the manual has become recognised as a leading reference material in the pipeline industry and as a result the content has been embedded into the standard procedures of many of its sponsors.

The manual contains the detailed methods needed to assess a variety of

defects commonly found in pipelines. The best available methods are presented in a simple and easy-to-reference manner. The pipeline defect assessment literature reviews are written and peer reviewed by internationally recognised experts within the pipeline integrity industry to provide a sound technical basis for the recommended methods contained within PDAM.

The updates in the second edition include a new chapter on fatigue assessment guidance; a new literature review of mechanical damage, fatigue, weld defects, cracking, fracture propagation and subsea integrity issues and associated assessment methods; and a general update of the manual to improve guidance clarity and additional worked examples.

Nigel Curson, EVP technical excellence, Penspen, said, "We have put a lot of work into ensuring that this guide

contains the go-to reference material for assessing pipeline defects. Many of our sponsors have saved a considerable amount of time, effort and money by referencing PDAM, which has in many instances enabled them to avoid unnecessary and costly damage repairs. It's a collaboration which works and which benefits everyone involved."

PDAM membership currently stands at 33 international sponsors, including operators, regulatory bodies, consultancies and inspection companies.

The project continues to be updated and developed as more sponsors join. Sponsors are able to dictate the direction of the manual in order to address their current pipeline integrity topics and concerns.

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Offshore Energy Exhibition & Conference

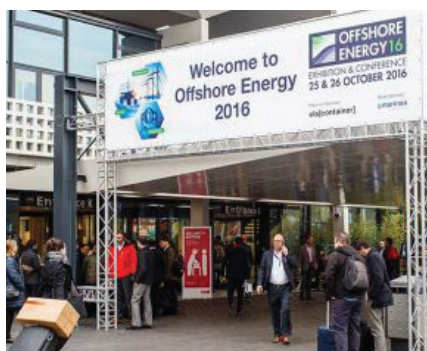
With 667 exhibitors in 25,000m² floor space, visitors representing 99 nationalities attended Offshore Energy Exhibition & Conference 2016 (OEEC).

11,989 people went to Amsterdam RAI, in the Netherlands, to network and meet companies, or to attend one of the technical sessions, keynotes, special events, side events and master classes from the conference programme. The theme of the conference was 'Entering a new era'.

OEEC 2016 started with the first Offshore Energy Opening Gala Dinner and Awards Show.

Guests were treated to dinner and drinks, and musical interludes by the Sinfonia Rotterdam Orchestra.

The award winners were Alexia Aubault from Principle Power (winner of the Offshore Energy Young Engineer Award); the Maritime Museum with the Offshore Experience (winner of the Offshore



Energy Public Outreach Award); and INTECSEA and Innospection with FlexIQ (winner of the Best Innovation in Offshore Energy Award).

New additions to the exhibition included Community Square, where three on-air talk shows took place, which were live-streamed on offshoreenergytoday.com

In the Offshore Wind Expertise Hub, companies were interviewed on film. These videos will be published on offshorewind.biz

The conference programme at OEEC contained technical sessions such as Subsea Processing and Infrastructure, Optimising Value in the E&P Chain, and Decommissioning, with speakers from Shell, Heerema and Weatherford.

The keynotes included an industry panel and human capital panel. During the industry panel, industry leaders discussed the future of the fuel mix, and the human capital panel focused on trends during a downturn.

Within renewables, Offshore Wind Conference (OWC) took place with speakers from Dong, Siemens, The Carbon Trust and Vattenfall. OWC was held over two days.

The next Offshore Energy Exhibition & Conference takes place from 9 to 11 October 2017.

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Environmentally friendly corrosion treatments offer versatile solutions to pipe and tubing corrosion

By Julie Holmquist, content writer at Cortec Corporation

Cortec Corporation offers a variety of innovative products, for corrosion prevention and removal, that rely heavily on environmentally friendly technology and are relatively easy to use and dispose of. By implementing a few preventive steps, both manufacturers and end users can avoid many of the headaches that come from corroded piping of all kinds.

Pipes come in all sizes and varieties: millimetres to metres wide, straight or coiled, smooth or corrugated, welded and seamless, in multiple types of metal. A large portion of these metal pipes are at risk of corrosion before they are ever used. Storage and shipment are some of the most critical stages, when pipes are often exposed to corrosive conditions. The potential impacts are high claims for returned goods and lost time for installation. To avoid these problems, corrosion prevention strategies can be implemented, when possible, and restoration can be performed, when needed.

VpCI technology

Many of these solutions include the use of innovative vapour phase corrosion inhibitor (VpCI) technology, which can be embedded in a variety of materials. VpCI molecules vaporise from a source material to fill an enclosed space until they reach equilibrium.

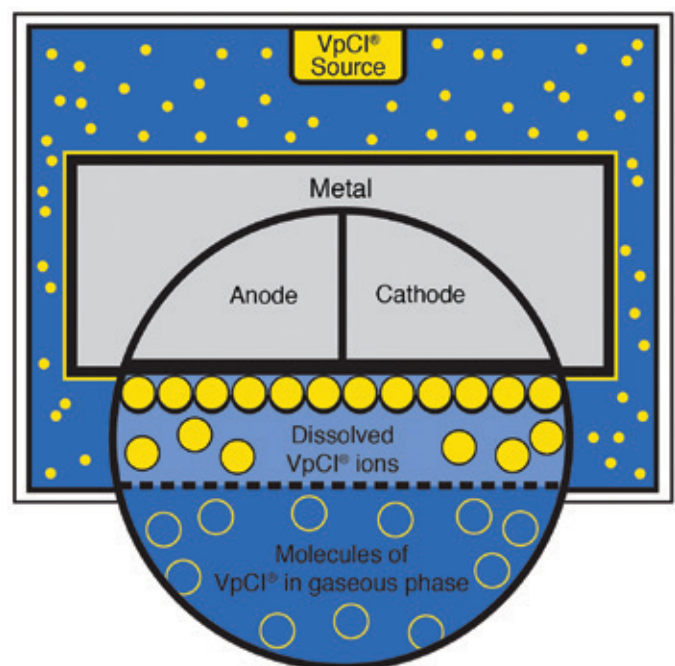
The molecules adsorb on metal surfaces within the space to form a protective monomolecular barrier against corrosive elements such as moisture. If a breach is made in the surface of this protective barrier, other VpCI molecules in the space will flow in to fill the void.

When the enclosed space is opened, the VpCI molecules will evaporate off the metal surfaces, leaving them clean, corrosion free and ready to use.

VpCIs have the advantage of working in multiple phases. This allows them to be used in a combination of dry or wet conditions, making them suitable for pipe internals with fluctuating environments.

For example, VpCIs dissolved in a partially filled bottle of water with a piece of steel wool inserted will protect the portion of the metal in the water, above the water, and at the air-water interface (a traditionally challenging area to protect).

VpCIs can be combined with many different properties for water treatment, packaging and coatings, all of which can be used for different phases of a pipe's life cycle.



VpCI molecules evaporate from a source material to fill an enclosed space, condensing on metal surfaces to form a protective barrier from corrosion

Image credit: Cortec Corporation



Water in the left bottle was treated with VpCI, which protected the steel wool in liquid and vapour phase, as well as at the air-water interface. The right bottle was untreated

Image credit: Cortec Corporation

Hydrostatic testing

Often, pipes must be hydro tested to check for leakage before installation or commissioning (eg pipe skids, boiler tubes or pipelines). Once the water is run through the tubing, it is difficult or impossible to completely remove the moisture trapped inside.

This residual moisture often results in build-up of corrosive by-products. To protect against this, it is important and much simpler to implement corrosion inhibitors directly into the hydro testing water. It is also important to choose a corrosion inhibitor that is safe to dispose of with the water.

VpCI-649 (or a similar water treatment product) is a choice for adding to hydro testing waters in both ferrous and non-ferrous metal tubes and piping. Based on organic components, the liquid is non-toxic and free of nitrites or phosphates, making it safe to use and environmentally friendly to dispose of.

Because it includes a combination of contact and vapour phase corrosion inhibitors, it offers thorough protection both of pipe surfaces covered with water and void spaces where the water does not reach.

Once the hydro testing is completed, the empty pipes can be further protected with a variety of other VpCI technologies to preserve them from corrosion while they are awaiting use.

Protecting pipes during storage or shipping

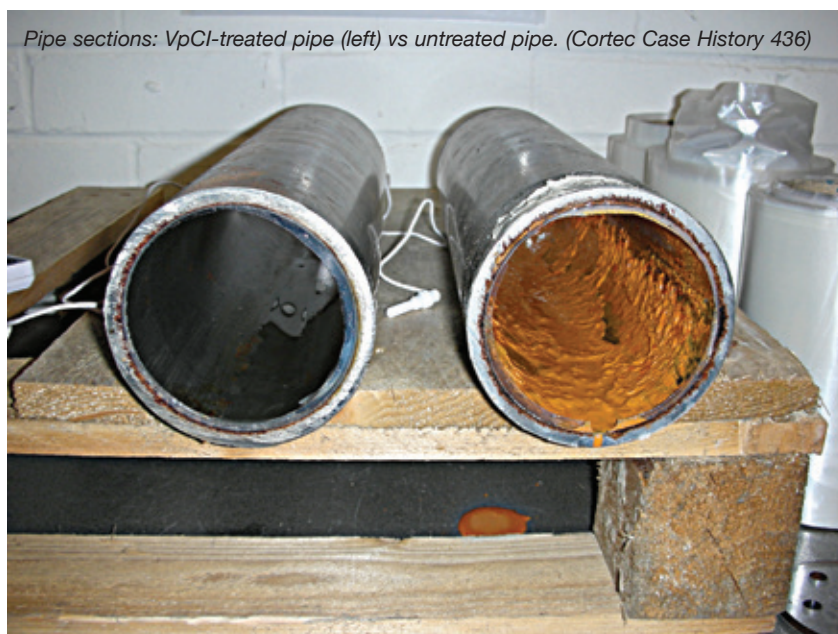
Whether or not hydro testing is conducted, it is important to preserve empty pipes during shipping and storage. This is highly critical to protecting the manufacturing company from losses as a result of rust-damaged goods, as well as protecting end users from unpleasant surprises, lost resources, and lost time when they go to install pipes that they find to be corroded.

A variety of methods and materials are available in such cases, and they can be tailored to specific pipe sizes, constructions, and other specific needs. One of the simplest methods for bundles of narrow tubes, such as copper piping, heat exchanger tubes or HRSG pipes, is the use of VpCI paper or film.

For example, coated VpCI papers can be wrapped around coils of dry tubing for protection during shipping. The paper's coating is faced toward the metal inside the package to allow release of the VpCI molecules into the enclosed space. (This is also useful for the protection of raw materials such as bar stock.)

Options include CorShield VpCI-146 Reinforced Paper, for stronger protection of sharp materials or those likely to cause puncture, and recyclable moisture barrier and grease-resistant VpCI papers such as VpCI-144 Super Barrier and VpCI-148, respectively.

Coated papers are compatible with a variety of ferrous and non-ferrous metals, eliminating the need to stock different papers for different metal substrates.



Another option often used for shipping or storage of metal parts is VpCI-126, a recyclable film that can be combined with UV-resistant or fire-retardant properties, if desired.

The film can be shrink-wrapped around a bundle of smaller pipes or used to end-cap large diameter pipes internally fogged with VpCI.

It can also be made into a variety of bag formats for shipping or storage of metal parts.

Depending on the amount of protection desired, an additional source of VpCI, such as foam padding, can be placed inside the package for extra corrosion protection of void spaces.

Large pipes or piping systems typically benefit from fogging with a powder or waterborne corrosion inhibitor.

The waterborne vapour corrosion inhibitor is often used for protection of large diameter oil and gas pipe internals such as those awaiting installation in pipe yards.

The inhibitor leaves a thin, environmentally friendly, self-healing film on the internal surface of the pipes and provides an alternative to dangerous and sometimes unreliable nitrogen blanketing. After fogging, the pipes can be end-capped with VpCI film to trap the protective VpCI fog inside.

For large pipe exteriors, VpCI removable coatings can be used with low impact on the environment. This is an especially helpful option for pipe couplings that need welding out in the field.

Welding requires a clean surface, and the use of water-based VpCI coatings allows the welder to simply rinse the coated pipe couplings to expose a clean pipe surface for welding, with no need for abrasion.

When restoration is needed

Sometimes preventive steps are too late because corrosion has already started to deteriorate pipe internals or externals. In these cases, all is not lost, as restoration has been repeatedly effective with the use of organic rust removers, such as VpCI-422.

This is a non-flammable, bio-based and biodegradable rust remover that typically does not require special disposal. It can be sprayed on corroded pipes, allowed to sit, and then washed off and the surface neutralised with a water-based alkaline cleaner-degreaser (eg VpCI-416).

Once the piping is restored, it should then be preserved according to normal VpCI storage and shipping strategies to ensure continued protection.



LNG pipes were end-capped with VpCI-126 film after internal fogging with VpCI. (Cortec Case History 311)

Conclusion

Corrosion protection of pipes and tubing can be challenging due to their design and function. The use of versatile VpCIs for corrosion inhibition is an excellent solution, thanks to VpCI adaptability, effectiveness and environmentally friendly options.

Acknowledgements

Special thanks to John Wiermaa, Jim Holden, PE, and Eric Uutala for their insights.

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