

Tube Products

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INTERNATIONAL

The trade magazine for tube and pipe products

September 2017



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Some like it hot ...



Heat-Resistant Stainless Steel Tubes

inter alia for industrial furnace construction, petrochemical industry, power stations, oil and gas industry, recycling/refuse incinerators, measuring and control technology

	1.4713	TP 314	1.4841	TP 316 LN	1.4910	Alloy C-22	2.4602
TP 409	1.4720	TP 310s	1.4845	TP 347 H	1.4912	Alloy 59	2.4605
TP 405	1.4724	353 MA	1.4854	TP 316 H	1.4919	Alloy C-4	2.4610
TP 430	1.4742	TP 330	1.4864	TP 321 H	1.4941	Alloy 602 CA	2.4633
TP 446	1.4749	Alloy 800	1.4876	TP 304 H	1.4948	Alloy 617	2.4663
TP 446	1.4762	TP 32/27	1.4877	TP 304 N	1.4949	Alloy 600	2.4816
TP 327	1.4821	TP 321 H	1.4878	TP 310 HCBN	1.4952	Alloy C-276	2.4819
TP 309	1.4828	TP 304 HCu	1.4907		1.4961	Alloy 601	2.4851
253 MA	1.4835	TP 347 HFG	1.4908		1.4981	Alloy 625	2.4856
				Esshete 1250	1.4982	Alloy 825	2.4858

Tubes Bars
Bends Sheets
Fittings Profiles

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Plastic Tube: The Right Choice!



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Our delivery program ■■■■

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- Inspection certificate
EN 10204 / 3.1. b

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

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Material: S355J2H, S235JRH
- Inspection certificate 10204 / 3.1. b

Structural hollow sections

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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

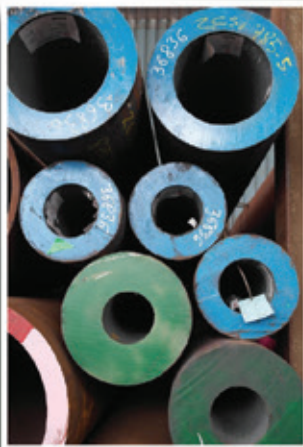
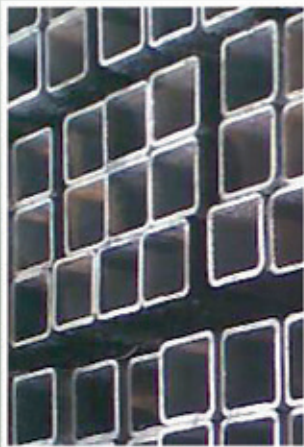
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acc. to DIN, EN, ASTM and API standards
from 5,0 to 200 mm

Processed tubes available on request

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- with PE coating
- blasted and primed

A list of all deliverable dimensions/weights is available on request.



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Tube Products INTERNATIONAL is published by Intras Ltd, UK

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US copies only: Tube Products International (ISSN No: 1755-7216, USPS No: 024-676) is published bi-monthly by Intras Ltd and distributed in the USA by Asendia USA, 17B S Middlesex Ave, Monroe NJ 08831. Periodicals postage paid at New Brunswick, NJ and additional mailing offices. POSTMASTER: send address changes to Tube Products INTERNATIONAL, 17B S Middlesex Ave, Monroe, NJ 08831.

ppa The Professional Publishers Association Member



 INTRAS LIMITED
INTRAS

© 2017 Intras Ltd, UK
ISSN 1755-7216

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Tube Products

INTERNATIONAL

The trade magazine for tube and pipe products



The September issue

Welcome to the latest Tube Products INTERNATIONAL magazine.

In this issue we have a feature on tube inspection technology and an extended article from leading expert Barry Rust of Tata Steel looking at the current oil and gas market (see page 56).

This issue of the magazine will be distributed at FABTECH in the USA and EMO in Germany. The team will be at both making sure that an international audience is aware of all the products featured in these pages. Do come and say hello.

Reading through the stories in this issue, one thing that struck me was the sheer amount of investment that is taking place in the industry by companies looking to modernise and improve. Be that something seemingly simple – but usually highly complicated and time confusing – such as completely upgrading their website as in the case of Saint-Gobain PAM UK on page 10, or massive investment (\$440mn) in safety and reliability as seen in the story about Consumers Energy on page 13.

During a testing few years for the industry I have noticed this same trend across different continents from Europe to the US and beyond as companies look internally for areas where they can improve – the one thing they do have control over – taking the time to invest and prioritising efficiency. This should see the tube industry in a stronger place in the coming years, despite a lean period for many.

Next issue we have features on stainless steel tubes, and fittings, valves, flanges & connectors, and we take a look at an important trade show – Stainless Steel World Expo 2017.

If you would like to submit editorial for the November issue please send it to rory@intras.co.uk by the deadline of 25 August.

The deadline for advertising in the issue is 11 September.

Enjoy the magazine.

Rory McBride
Editor



Events calendar

2017



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



28-30 November

Stainless Steel World
(Maastricht, Netherlands)
Conference & exhibition
www.stainless-steel-world.net

2018



27-30 March

TOLexpo
(Paris, France)
International exhibition
www.tolexpo.com



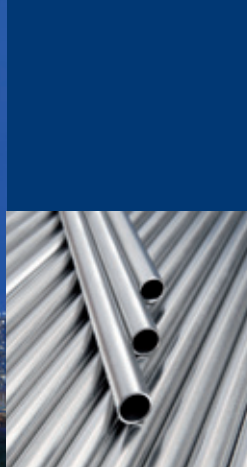
16-20 April

Tube Düsseldorf
(Düsseldorf, Germany)
International exhibition
www.tube.de



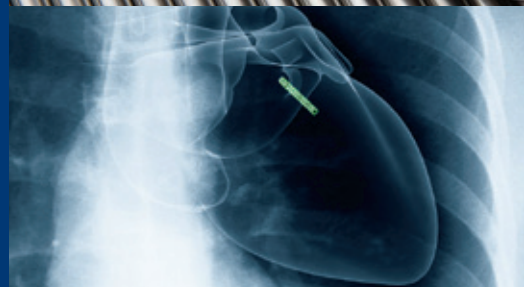
12-14 June

FABTECH Canada
(Toronto, Canada)
International exhibition
www.fabtechcanada.com



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Axel Schmidt / Nord Stream 2 AG

Surveyor Interceptor ROV on Stril Explorer for pipeline inspections for Nord Stream

Nord Stream awards contract for external inspection of pipeline to MMT

MMT Sweden has been awarded a three-year contract by Nord Stream AG to inspect both lines of the Nord Stream Pipeline running through the Baltic Sea from Russia to Germany. The external inspection of the pipeline will be executed by the joint venture between MMT Sweden and Reach Subsea.

The scope of work, involving approximately 150 days for 2017, includes visual and instrumental inspection of the pipelines with remotely operated vehicles (ROVs) over the entire length of the route. The trenched sections and cable crossings of the pipeline will also be inspected. The survey will mainly be conducted from the vessel *Stril Explorer*.

The purpose of the surveys is to acquire data on the condition of both pipeline strings and associated installations. This information is used in the continued assessment of the pipelines' integrity, and will complement the data generated in earlier inspection campaigns. MMT Sweden's founder, Ola Oskarsson,

commented, "We are very proud to be chosen to conduct the important inspections of this great infrastructure project and bring our new technology to the Baltic Sea."

Alexey Zagorovskiy, managing director of Nord Stream AG, commented, "Reliability, safety and professional management are important for us as a company, and also in terms of choosing a supplier."

Nord Stream's natural gas pipelines through the Baltic Sea have the capacity to transport 55bn cubic metres of Russian gas per year to the EU, for at least 50 years. The lines run in parallel for 1,224km from Portovaya Bay, near Vyborg on the Russian Baltic Sea coast, to Lubmin, Germany.

Each pipeline comprises around 100,000 24-tonne concrete-weight-coated steel pipes laid on the seabed along the precise route approved by the authorities of the five countries through whose waters they pass.

MMT specialises in high-resolution subsea surveys, collecting, processing and visualising the conditions of the seabed. The company offers surveys in bathymetric, geophysical and geotechnical services, specialising in the oil and gas, hydrography and renewable energy and marine cable sectors.

Reach Subsea provides subsea services mainly related to work class remotely operated vehicle (WROV) operations performed by qualified personnel, within IMR (inspection, maintenance and repair), survey, construction support and decommissioning.

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Sandvik invites collaborative invention with launch of Open Innovation portal

With the launch of its new Open Innovation portal, Sandvik is seeking to collaborate with like-minded innovators to deliver the next generation of products and solutions.

“We’ve lived and breathed materials technology for 150 years – seen a lot of game changers and gathered the highest knowledge in our field,” said Pasi Kangas, vice president and head of R&D at Sandvik Materials Technology. “And perhaps the most important thing we’ve learned is that we can’t do it alone.

“When we collaborate with other fields, other experts, the possibilities grow exponentially. Imagine what more we can solve by coupling new materials technology with advances in digitalisation and big data, for example. Together, we can make a much bigger difference.”

Sandvik’s Open Innovation portal invites individual inventors, small businesses and listed companies to propose innovative solutions to a number of specific challenges. The company also encourages its own employees to use the portal for releasing creativity and utilising their collective knowledge on customers’ applications and products. The portal features innovation challenges, for which individuals or groups can submit ideas and have the opportunity to discuss, develop and implement them

together with Sandvik’s scientists and product developers.

The company believes that current challenges include three key areas: Smart & Digital – sensor technology, big data capture and integrated system solutions; Unique Product Identifier – turning stainless steel or alloy products into data collectors, information carriers and knowledge providers that can be integrated into information systems; and Cryogenic Drawing – finding applications that need the extra strength available from a revolutionary, patented drawing process for wire products made from titanium or austenitic stainless steels such as ASTM 316.

Mr Kangas added, “We are optimistic that Open Innovation will lead to new products and technologies that aren’t otherwise possible. Great ideas really can come from anyone, anywhere. We want to find them and give them every opportunity to make it real – to make a bigger difference – for all our sakes as we look to shape a more sustainable future.”

The Open Innovation portal can be accessed via <http://smt.sandvik.com/open-innovation>

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



MRC Global renews global PVF contract with Chevron

MRC Global Inc has extended its worldwide master contract with Chevron Corporation for seven more years.

The contract allows the company to provide pipe, valve and fitting (PVF) products and services to Chevron Corporation’s global operations and project work.

“Our relationship with Chevron has grown significantly over time, and we

are grateful that they continue to allow us to be part of their long-term, supply chain planning for PVF,” commented president and CEO Andrew R Lane.

“In 1955 we first began supporting Chevron at their Richmond, California, facility. Now, after more than 60 years of working together, MRC Global is proud to provide strategic supply chain solutions to Chevron’s global operations in its upstream, midstream, refining and

chemical sectors. Chevron has been our largest customer since 2010 and we are extremely proud to expand our business with them in scope, geography and product lines. We are committed to growing with our customers and helping them meet their goals by becoming an extension of their supply chain around the world.”

MRC Global Inc – USA
www.mrcglobal.com

FrontRow acquires ClearWell Oilfield Solutions

FrontRow Energy Technology Group has announced the acquisition of ClearWell Oilfield Solutions, an oil and gas technology company focused on flow assurance and production optimisation.

FrontRow has acquired 50 per cent of ClearWell from the previous owner, MSL Oilfield Services, which retains the remaining 50 per cent.

ClearWell provides a non-intrusive, chemical-free scale control system, using a surface-mounted device to induce pulsed, high frequency signals into the piping system. These signals cause micro-crystals of scale to form and remain suspended in the produced fluid flowing through the pipework, rather than adhering to the internal pipe wall and restricting the flow of oil and gas.

FrontRow chief executive Stuart Ferguson said, "Increasing water production from maturing oilfield basins tends to bring with it many problems, including corrosion damage and scale build-up, which can substantially reduce the economic life of fields. The oilfield scale challenge alone currently costs the industry billions of dollars each year, because of scale prevention, scale remediation and deferred production.

"The installation of ClearWell's units can reduce or, in many cases, remove the need for alternative treatment methods, which results in major cost and time savings for operators. With the global market for oilfield scale inhibitor set to reach \$700mn by 2020, we see tremendous potential for ClearWell and are excited to support its ambitious growth plans."



Stuart Ferguson, FrontRow's chief executive

ClearWell, which will relocate its head office in Southampton, UK, to FrontRow's technology centre in Aberdeen, plans to grow its existing number of units in the field by around 400 per cent over the next five years.

Martin Clark, CEO at MSL Oilfield Services, said, "This acquisition marks a very positive step forward for ClearWell, and we are excited to embark upon this relationship with FrontRow. We currently have units in operation across the world, many in the USA and Canada, and have been delivering solutions to a string of major oil and gas players for some time. With the support of FrontRow, we plan to maximise ClearWell's full international potential."

The acquisition comes after FrontRow secured a £10mn investment from BGF in January 2017. ClearWell adds to the firm's existing group companies, which include Well-Centric and Well-Sense.

FrontRow Energy Technology Group Ltd – UK

www.frontrow-energy.co.uk



A ClearWell G-Unit being installed

Saint-Gobain PAM UK revamps website

Ductile iron and cast iron products supplier Saint-Gobain PAM UK has revamped its website. The site is now fully mobile-responsive, more user friendly, and enables access to more downloadable information.

Visitors to the site are now able to download e-catalogues, product

drawings and datasheets. The revamp also aligns the site more closely with the Saint-Gobain group's corporate identity.

Commenting on the new website, Mark Esling, Saint-Gobain PAM UK's business development director, said, "In addition to offering improved

functionality, the new site also pulls together our company news, case studies, performance and sustainability credentials, and reveals why this company is a great place to work."

Saint-Gobain PAM UK

sales.uk.pam@saint-gobain.com

www.saint-gobain-pam.co.uk

New name for PPI division reflects expanding use of HDPE conduit

The Conduit Division of the Plastics Pipe Institute, Inc (PPI) has been renamed the Power & Communications Division.

The change was prompted by growth within the division, the uses of conduit in rapidly developing applications, and to reflect the types of solutions that high-density polyethylene (HDPE) conduit can provide.

Comprising conduit manufacturers, equipment suppliers, accessory producers and other companies, the Power & Communications Division (PCD) focuses on educating specifiers, end users and installers by providing expertise, technical reports, guides and manuals.

PCD is also the industry liaison to government agencies, and cooperates closely with standards development organisations such as AASHTO, ASTM, NEMA and UL, to share information, help develop product standards and manuals, and broaden understanding about the product and its capabilities for various uses.

The PPI division's name change was prompted by the growth of wind and solar power installations, such as this solar farm in Missouri, USA, which used more than 19,000ft of cable in conduit



Tony Radoszewski, CAE, president, Plastics Pipe Institute

"This name transition was brought forward by our members because they felt it was a natural fit that is more indicative of the role of the division and the markets it serves," stated Tony Radoszewski, CAE, PPI president.



Lance MacNevin, P Eng, director of engineering, PCD, Plastics Pipe Institute

"PCD's mission is to expand knowledge about uses and benefits of HDPE conduit in all its forms of use. The division has been extremely prolific in the past couple of years in the development of new products and collateral that provides the industry a single-source hub for information about products, standards, regulations and best management practices."

Lance MacNevin, P Eng, director of engineering for the PCD, explained, "Our division continues growing, adding new members and undertaking more initiatives, such as research projects and new publications to support the industry. Sales of HDPE underground conduit pipe increased in 2016. Fibre optic networks continue to grow, and more power cables are being placed underground as utilities safeguard their power lines. Plus there is rapid expansion of HDPE conduit being used in solar and wind farms. It is imperative that the power and communications industries have access to solid, vetted and impartial facts and information, which is the primary goal of PPI's PCD. The new division name exemplifies our focus on the solutions that HDPE conduit provides, and not just the product itself."

Plastics Pipe Institute, Inc – USA
www.plasticpipe.org



Consumers Energy investing to enhance safety and reliability of natural gas system

Focusing on safety and reliability, Consumers Energy, USA, is spending nearly \$440mn this year to modernise its natural gas system.

“At Consumers Energy, the safe, reliable delivery of natural gas is a top priority,” said Charles Crews, the company’s vice president of gas operations.

“We are committed to continually strengthening our natural gas system to benefit the 1.8mn homes and businesses we are proud to serve throughout Lower Michigan.”

Upgrade projects for 2017 are in infrastructure replacement, growth and pipeline integrity.

A total of \$75mn will be spent to complete 40 improvement projects and replace 67 miles of pipe with plastic and steel, using approximately 500 employees dedicated to the programme. These projects are scheduled across Michigan, USA.

In addition, the company is working with state, county and municipal projects to relocate or replace natural gas infrastructure, including replacing around 8,500 service lines leading to homes and businesses. The energy provider is investing about \$60mn into these roadway and civic improvement projects this year.

With the economy expanding, Consumers Energy is investing \$120mn in its natural gas system in 2017 to keep up with growth in Michigan, which includes \$35mn in expansions and improvements to serve a projected nearly 8,000 new business customers; \$33mn to construct 190 miles of distribution main to serve customers in areas currently without natural gas service; and \$27mn for the first two project phases to augment the delivery systems and increase natural gas supply to meet growth in the Caledonia and Lowell areas.

\$183mn is being invested in pipeline integrity, to help ensure the continued safe delivery of natural gas. These initiatives include \$63mn to inspect

and remediate about 600 miles of transmission and distribution system with inline inspection and direct assessment; and \$120mn on the first phase of construction of the Saginaw Trail Pipeline – a five-year, \$610mn project that will replace 78 miles of

vintage transmission line to improve safety and increase natural gas transmission capacity into Saginaw, Genesee and Oakland counties.

Consumers Energy – USA
www.consumersenergy.com

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Bibby Offshore awarded contract with TAQA

Subsea services provider Bibby Offshore has been awarded a significant contract with TAQA for subsea construction works in the Eider field, located 184km northeast of Shetland.

With offshore operations to be completed this summer, the six-month contract will see Bibby Offshore adopt a multi-vessel approach, utilising its subsea support and construction vessel *Olympic Ares*, and its diving

support vessel *Bibby Polaris*. The project comprises the connection of the existing Otter Production pipeline to the existing Eider Oil Export pipeline, and connection of the existing Tern-Eider water injection pipeline to the existing Otter water injection pipeline using subsea bypass spools.

Bibby Offshore will provide spool piece metrology, barrier testing, removal of existing production and water injection

spools and pre-commissioning support. The team will also manage procurement, fabrication and installation of new bypass spools.

Barry Macleod, UKCS managing director at Bibby Offshore, said, "Our multi-vessel approach enabled the project team to tailor our capabilities to TAQA's requirements, which plays a key role in demonstrating our ability to successfully deliver a variety of work scopes. We have supported TAQA's operations previously and are delighted to have been selected to continue and strengthen this relationship throughout 2017."

Bibby Offshore provides subsea installation and IRM services to the offshore oil and gas industry.

The company offers an integrated service portfolio, including project management, engineering, procurement and subsea intervention services to construct, maintain and extend the life of subsea oil fields.

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



Barry Macleod, UKCS managing director at Bibby Offshore

Plymouth receives Nadcap accreditation for materials testing

Plymouth Tube's Hopkinsville Mill has received Nadcap accreditation for materials testing. By manufacturing in accordance with Nadcap-approved processes, Plymouth assures its customers around the globe they are purchasing materials produced and tested to the highest standards set by the industry.

Nadcap accreditation is a widely accepted standard in the aerospace industry. The audits at Plymouth Tube Hopkinsville were performed by PRI (Performance Review Institute). To meet the standards, process controls and testing procedures are utilised to ensure conformance of specific services. The process controls provide tubing that demonstrates uniform, repeatable

mechanical properties, resulting in improved downstream fabricating processes.

Plymouth Tube has also announced that its Streator Mill received the 2017 Rusty Demeules Award for Safety Excellence. Fabricators and Manufacturers Association (FMA) and CNA Insurance Safety present this award annually to recognise companies with an exceptional safety culture. This is the second year in a row that Plymouth Tube has received the award.

"FMA is pleased to present the Rusty Demeules Safety Award to Plymouth Tube," said Edward Youdell, president and CEO, FMA. "Plymouth Tube's continued commitment to a safe work

environment is inspiring and should be emulated by our entire industry. I congratulate them on winning this year's award."

Plymouth Tube Co is headquartered in Warrenville, Chicago, USA, and has eight sites across the United States. The company is a global tubing supplier of speciality carbon, alloy, nickel alloy and stainless steel tubing for aerospace, mechanical, pressure, boiler and hydraulic applications. Steel, nickel and titanium extruded and cold drawn shapes are produced by Plymouth Engineered Shapes.

Plymouth Tube Co – USA
sales@plymouth.com
www.plymouth.com

MSA wins Queen's Award for Innovation

MSA Engineering Systems Ltd has won its second Queen's Award for Enterprise Innovation. The award was announced in April, on the birthday of Her Majesty The Queen.

The electrofusion technique is used when water and gas pipes require joining to other pipes and to other accessories. An electrofusion fitting has an embedded heating coil of wire, which is placed over two thermoplastic pipes (as a sleeve) and is energised to melt the plastic of the pipes and corresponding fitting, fusing them together.

The traditional electrofusion fitting manufacturing process is complex and can have quality issues, according to MSA Engineering Systems. The company has created a wire-laying system for installing heating wires into curved surfaces for the production of electrofusion saddle fittings, overcoming the limitations of traditional manufacturing methods. The same electrofusion wire-laying principle can be applied in cylindrical parts to manufacture electrofusion fittings for large diameter pipelines, or smaller specialist electrofusion fittings.

The company states that the benefits to fitting producers include higher quality products, lower manufacturing costs and the ability to make special parts that previously were not possible. Downstream pipeline installers can benefit from reduced installation time,



MSA's SWL saddle wire laying machine

leading to improved continuity of gas and water supply for end users. For the company itself, turnover has increased by 92 per cent over the past two years – an increase that is almost entirely attributable to sales of the innovation.

MSA won its first Queen's Award for Innovation in 2006, and has continued to develop its product range since, pioneering wire-laying methods for the production of electrofusion fittings. For the latest award, two company representatives attended a winners' reception held by Her Majesty The Queen at Buckingham Palace in July.

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Comparative analysis and environmental review of underground piping

Sustainable Solutions Corporation (SSC) has released Life Cycle Assessment of PVC Water and Sewer Pipe and Comparative Sustainability Analysis of Pipe Materials, a comprehensive environmental review of underground piping systems in North America.

Based on a 100-year life cycle assessment methodology, the review includes a study of polyvinyl chloride (PVC) pipe conducted according to life cycle assessment (LCA) standards ISO 14040 series. The life cycle analysis used in the report was peer reviewed by an international panel of experts for ISO 14040 series compliance. The review also makes reference to the 2015 Environmental Product Declaration (EPD) for PVC Pipe, which complies with ISO 14025 standards and was independently certified by global health organisation NSF International.

To ensure industry transparency, Uni-Bell PVC Pipe Association commissioned SSC as an independent expert to perform an LCA for commonly used PVC pipes for drinking water, sanitary sewer and storm sewer piping covering the 4" to 60" rigid PVC pipe market. The pipe encompassed by this study is representative of PVC pipe manufactured in the USA and Canada,

which uses a tin-based stabiliser and does not contain phthalates, lead or cadmium.

The comprehensive study also contains a comparative review of the corresponding alternative pipe products based on publicly available information on durability, smoothness factors and statistical data, as well as environmental data when available.

At a time when ageing piping infrastructure, underground corroded pipe materials and water quality issues are at the forefront, the intention of the report is to help address significant issues with the national water and wastewater infrastructure. Based on the results of the study, PVC pipe provides both environmental and economic advantages to solving the water infrastructure needs for utilities and municipal projects. PVC pipe is shown to have fewer environmental impacts from a life cycle and carbon footprint perspective when compared to alternative materials, including lower embodied energy, lower use-phase energy, and longer life attributes.

Among its many findings, the study shows that the energy required to pump water through PVC pipe over a 100-year

design life remains constant because PVC pipe walls are smooth and do not roughen over time. This generates overall life cycle cost savings and a lower carbon footprint compared to alternative materials that require more pumping energy over time due to corrosion, leaks and internal degradation. SSC encourages municipal officials and other stakeholders to consider this report when evaluating the life cycle costing of water infrastructure and making sustainable piping decisions.

The comparative sustainability analysis references more than 200 sources and studies to provide an up-to-date and comprehensive industry review of the health, safety, performance characteristics and sustainability attributes of available pipe materials.

The PVC Pipe LCA and EPD support the goals and vision of the 2010 USEPA Clean Water and Safe Drinking Water Infrastructure Sustainability Policy and the 2015 USEPA National Water Program on Climate Change for ensuring the long-term sustainability of water infrastructure.

Sustainable Solutions Corp – USA
info@sustainable-solutions.com
www.sustainable-solutions.com

TechnipFMC and DOF Subsea commence contract with Petrobras

TechnipFMC and DOF Subsea have announced that the *Skandi Búzios*, a pipelay support vessel (PLSV) owned by the joint venture formed between the two companies, commenced its eight-year charter contract with *Petróleo Brasileiro SA (Petrobras)*, as scheduled in April. *Skandi Búzios* is the sister ship of the *Skandi Açú*, which started its charter contract in August 2016.

The two vessels have 650-ton flexible pipelay tension capacity, enabling the installation of large diameter flexible

pipes in the ultra-deepwater Brazilian pre-salt area. Under the joint venture agreement, TechnipFMC is responsible for the engineering and management of the flexible pipelay, while Norskan SA, a DOF ASA subsidiary, is responsible for the marine operations.

Hallvard Hasselknippe, TechnipFMC's president of subsea projects, stated, "We are confident that these new state-of-the-art PLSVs, together with the expertise of our people, will be key for Petrobras to successfully achieve its projects offshore Brazil."

Mons S Aase, DOF Subsea's chief executive officer, added, "This milestone project is the result of our long-term focus on the Brazilian market. We are proud of this significant addition to our Brazilian fleet."

TechnipFMC is a specialist in subsea, onshore/offshore and surface projects, with proprietary technologies and production systems, integrated expertise and comprehensive solutions.

TechnipFMC plc – UK
www.technipfmc.com

Pipe coatings market worth \$14.42bn by 2021

MarketsandMarkets™ has published a new report, titled 'Pipe Coatings Market by Form (Powder and Liquid), Type (Thermoplastic Polymer, Fusion Bonded Epoxy, Concrete Coatings), End-Use Industry (Oil & Gas, Water & Wastewater Treatment, Chemical Processing), and Region-Global Forecast to 2021'.

According to the report, the global market is projected to reach US\$14.42bn by 2021, at a CAGR of 4.7 per cent from 2016 to 2021.

This growth is fuelled by the high demand for pipelines in various end-use industries such as oil and gas, water and wastewater treatment, and chemical processing, as well as increasing demand for pipe coatings in Asia-Pacific, North America, South America, the Middle East and Africa. Thermoplastic polymer is the largest

type of pipe coating used in different end-use industries. The market for thermoplastic polymer coatings is large because the polymers offer advantages such as resistance to chemicals and physical stress, high flexibility, and easy applicability.

Polyethylene (PE) coatings are the largest type of thermoplastic polymer coatings. Other types include polypropylene (PP) and polyurethane (PU) coatings.

Oil and gas is the largest end-use industry of pipe coatings, due to the high demand for oil and gas around the world.

Pipe coatings are used for protecting pipelines from corrosion, and so are used on a large scale in the oil and gas industry. The oil and gas market is currently wit-

nessing growth in upstream, midstream and downstream activities, which is driving the market for pipe coatings. North America was the leading region in the pipe coatings market, in terms of value and volume, in 2015. Countries in this region are seeing significant increase in the use of pipe coatings by different end-use industries.

The increased demand for pipelines in end-use industries such as oil and gas, water and wastewater treatment, chemical processing and others is driving the pipe coatings market. The USA is projected to be the fastest-growing market in this region until 2021, mainly due to increased demand for pipelines and rehabilitation activities in the country.

MarketsandMarkets – India
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Uponor invests \$17.4mn to expand PEX pipe manufacturing

Uponor North America is expanding its manufacturing facility in Apple Valley, Minnesota, with completion expected by January 2018. The \$17.4mn investment will be used toward the expansion of an additional 58,000 ft² to increase manufacturing capacity to meet customer demand.

This is the tenth expansion since Uponor began operations in Apple Valley in 1990. The most recent expansion took place in 2016, when the company invested \$18mn and added 88,000 ft² to its manufacturing facility.

The new facility will add an additional 58,000 ft² of production and packaging space to support Uponor's PEX piping business



Uponor has also leased an 8,500-ft² office and lab space in a building next to its manufacturing annex, which the company's technology group will occupy.

The building expansion is required to meet forecast growth for its crosslinked polyethylene (PEX) tubing in plumbing, fire sprinkler, radiant heating and cooling and hydronic piping systems used in residential and commercial buildings.

The decision to expand again in Apple Valley was partly due to the successful

cooperation of both the State of Minnesota and the City of Apple Valley, and their willingness to provide an attractive business climate for Uponor's continued growth.

Uponor announced last year that it was also consolidating the Canadian head office with its eastern distribution centre, which moved to Mississauga, Ontario, in June 2016. The Canadian headquarters moved into the same building earlier this year. To further unify the Canadian team and take advantage of centralised efficiencies, the company is expanding its estimation and commercial piping design services, also located in Mississauga. This alignment resulted in the closing of the office in Regina, Saskatchewan.

New features in Mississauga include a training facility that will hold up to 50 attendees, as well as a hands-on application lab. To complement the new venue and its traditional plumbing and radiant heating/cooling training classes, the new Canadian facility has begun offering engineering continuing education units (CEUs).

Uponor, Inc – USA
www.uponorpro.com

Major integrated contract for Coral South FLNG project

TechnipFMC, together with JGC Corporation and Samsung Heavy Industries, all partners in the TJS Consortium, has been awarded a major contract by Coral FLNG SA.

The contract covers the engineering, procurement, construction, installation, commissioning and start-up (EPCIC) of the Coral South FLNG facility and its associated risers and subsea flowlines

system, as well as the installation of the umbilicals and subsea equipment. The floating liquefied natural gas (FLNG) facility will be designed to produce close to 3.4 Mtpa of liquefied natural gas, and will be moored in 2,000m of water depth in the Area 4, offshore Mozambique.

Doug Pferdehirt, chief executive officer of TechnipFMC, stated, "We are honoured to be the leader of the execution of

this prestigious contract awarded by Eni and its partners to the TJS consortium. Combining TechnipFMC's unique capabilities in both FLNG and subsea, we have been able to propose to our client an optimum combination, demonstrating the strength of our integrated offerings."

TechnipFMC plc – UK
www.technipfmc.com

Tubacex reaches backlog of €700mn for premium products

Tubacex is a multinational group supplying stainless steel and high-alloyed tubular solutions. It also offers a wide range of services from the design of tailor-made solutions to installation and maintenance operations.

Based on a strategy focused on premium products, the improvement of the company's sales positioning, and an entrance into new markets, the Tubacex Group has boosted sales of higher added-value products. This has led the company to make progress throughout the second quarter of the year with a backlog for premium product order intake of €700mn – the highest in Tubacex history – with supply taking place over the next three years.

The orders include tubular solutions with a high technological value for oil and gas extraction (umbilical tubes used in offshore wells and OCTG),

petrochemical, and power generation with supercritical technology (boilers).

The company's order backlog includes a large volume of projects in the Middle East, especially in Iran, where the group will supply the National Iranian Oil Company (NIOC) with tubes for gas extraction and production. In Europe, the order activity will take place mainly in Norway and Russia, with special mention of a large OCTG order for Russian oil company Lukoil.

In Asia, there will be a special focus on the Caspian Sea, where the Tubacex Group has received its largest order to supply umbilical tubes for the Shah Deniz project, one of the world's largest gas fields. In China, five orders have been placed for new power stations, as well as an order for premium tubes for one of the country's main refineries. The orders also include significant

engineering solutions such as full tube connection packages and services for gas extraction wells.

"Having a backlog worth €700mn places us in an advantageous position, having met our growth expectations in a segment to which Tubacex is fully committed," explained Jesús Esmoris, CEO of Tubacex Group. "These are the company's most technically demanding products and our most powerful tools to increase turnover and profitability."

The expansion of these high value-added products comes in parallel to the deployment of Tubacex Service Solutions (TSS) with stock and service centres in Spain, France, Austria, USA, Brazil, Dubai, Iran and India.

Tubacex SA – Spain
www.tubacex.com



mltech wins international contracts

Specialist pipework set-up and measurement software developer mltech is celebrating the completion of several contract wins, totalling six figures, for the provision of its pioneering automet technology and the associated training.

automet enables direct transfer of design information from plant design systems, which can then be compared with survey data to give fast and accurate certificates of conformity. It also allows a reliable, safe and cost-effective way of replacing existing (or installing new) pipe and steelwork by removing the requirement for hot work.

Earlier this year mltech completed its first training contract in pipe spool surveying and dimensional control for engineering company Ocean Kinetics.

The firm has also provided training to Forsyths Ltd's pipework surveyor to enhance its staff's skills for fixing and reporting interface surveys on preassembled skid units, ultimately increasing Forsyths' survey capability.

On an international level, mltech's new clients include SDL Nobel, one of the largest steel fabricators in Baku, Azerbaijan, for which the team provided training for the pipe spool measurement within the fabrication process to workshop personnel over a five-day period.



Mike Lloyd, mltech managing director

USA-based Becht Engineering tripled the amount of automet software licences held with mltech, while key personnel within IKM Mekaniske in Norway also received training for pipe spool measurement, and the company signed a further hire contract with mltech.

DEE Development Engineers, based across India and Thailand, also added a new licence to its pool of automet licences.

Mike Lloyd, managing director of mltech, said, "It's been a successful first half of

the year for mltech on both a local and international level. We're delighted to have secured clients around the world and build on our training offering, which is a key component for the success of any company. The varied scope and location of these achievements also underpin our view that, regardless of whereabouts, time and cost savings are at the forefront of effective solutions of the energy industry."

mltech – UK
info@mltech.co.uk
www.mltech.co.uk

Trelleborg acquires advanced composite components manufacturer

Trelleborg has, through its business area Trelleborg Sealing Solutions, signed an agreement to acquire the US-based, privately owned Automated Dynamics, which specialises in the manufacturing of advanced composite components.

Composites are a strategic, adjacent technology for Trelleborg, with high potential in multiple industries. Completion of the transaction is subject to the approval of the relevant authorities. Automated Dynamics is located in Niskayuna, New York.

The 'bolt-on' acquisition is part of Trelleborg's strategy to strengthen its positions in attractive market segments.

"I am thrilled to present this acquisition," said Claus Barsøe, president of the Trelleborg Sealing Solutions business area. "The acquired company provides key capabilities in composites, bringing new competences to Trelleborg Sealing Solutions. We already see many opportunities for new products, applications and materials for the aerospace and oil and gas markets,

and in the long-term also for other markets.

"The acquired company's expertise in automation of the production of composite products is impressive and should be possible to leverage into other manufacturing facilities."

The transaction is expected to be finalised in the third quarter of 2017.

Trelleborg AB – Sweden
www.trelleborg.com



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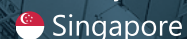
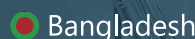
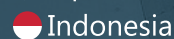
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Top 10 visiting countries



TMK awarded first INTERGAZCERT certificate of quality

Dmitry Pumpyanskiy, chairman of TMK's board of directors, has taken part in a meeting held in Saint Petersburg, Russia, by Alexey Miller, chairman of Gazprom's management committee, for the heads of major Russian producers of tubular products.

Mr Miller awarded Mr Pumpyanskiy one of the first quality management certificates under Gazprom's new voluntary certification system, INTERGAZCERT, for TMK's Volzhsky Pipe Plant.

The new system streamlines the process of confirming the compliance of products, works, services and

management systems with national standards, as well as Gazprom's corporate standards. Specifically, it helps ensure stable properties and improve the quality of supplied products.

"The INTERGAZCERT system is an innovative framework that offers a new level of product quality assurance for Gazprom and sets even higher standards for pipe producers," said Mr Pumpyanskiy. "The fact that Volzhsky Pipe Plant has become one of the first enterprises to obtain the new certificate once again confirms TMK's leadership as supplier of reliable tubular solutions for the gas major."



Gazprom's Alexey Miller (left) presents the certificate to Dmitry Pumpyanskiy, TMK

TMK manufactures and supplies steel pipes for oil and gas industry, operating more than 25 production sites in the USA, Russia, Canada, Romania, Oman and Kazakhstan, and with two R&D centres in Russia and the USA.

TMK – Russia
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Analysing the global plastics market

Plastics are indispensable in everyday life. In 2016, the global plastics market reached a volume of more than 263 million tonnes, according to Oliver Kutsch, CEO of market research institute Ceresana. For the first time, Ceresana analysed the whole world market for all commercially important plastics in one large study, from standard products to high-performance engineering materials.

According to the demand volume and price development, Ceresana expects revenues generated with plastics to rise to about US\$560bn until 2024. The data regarding quantities and revenues does not include synthetic fibres, paints and varnishes, adhesives or sealants. Synthetic resins such as epoxy, phenolic, melamine and urea formaldehyde resins as well as silicones are not analysed either.

With a market share of over 51 per cent, Asia-Pacific is the region with the largest plastics demand; North America, Western Europe, Eastern Europe and South America follow. China and the USA are the major consumers of plastics worldwide. In this market report, Ceresana analyses the development of each individual

product type and application area in several regions and countries. In 2016, the plastics sales markets flexible packaging, construction products and rigid packaging dominated. These three segments account for around 65 per cent of the total demand for plastics. The sales markets with the highest growth rates of more than 3 per cent per year are, however, the segments transportation and electrical and electronics.

In civil engineering and building construction, plastics are mainly used for films, cables, pipes, profiles and covers, sheets, fastening elements such as dowels and screws, glazing, coatings and membranes. 54.8mn tonnes of plastics were utilised for building applications in 2016. The Asia-Pacific region is by far the largest consumer.

While PVC and PET might be more widely known, the top-selling product of 2016 was polypropylene (PP), with a 23.4 per cent market share. Polypropylene is a semi-crystalline thermoplastic polymer that is compatible with many processing technologies and is used in a wide variety of applications. High density polyethylene (HDPE) and linear

low density polyethylene (LLDPE) also belong to the types of plastics that were most frequently used. HDPE is solid and hard, and is processed into films but also into rigid containers, pipes, and a variety of household goods. Both flexible and rigid products are made of LLDPE, often in blends with LDPE or HDPE. In this way it can be used, for example, for thinner films. LLDPE is also processed into multi-layered packaging.

The Ceresana study provides a thorough presentation and analysis of the market for plastics, including forecasts up to 2024. Demand development as well as revenues and production volumes are analysed for each individual region. Data on demand and production split by types of plastics, as well as revenues, import and export, are provided for 25 individual countries.

The study also deals with the applications of plastics in detail, and looks at the types of plastics available, with company profiles of the largest producers.

Ceresana – Germany
info@ceresana.com
www.ceresana.com

Upgrading WPS and qualification management

WeldEye software simplifies welding management, and now offers an efficient and secure cloud solution to create and manage WPS and qualification base.

Suitable for any size and type of company with welding operations, WeldEye Welding Procedure and Qualification Management software is claimed to be up to 85 per cent faster in prolonging personnel qualifications compared to traditional methods. It has a user-friendly built-in drawing tool for sketching weld joints, enabling the creation of sketches in just one minute. Support for AWS, ASME, EN and ISO standards capitalises on the full potential of digitalised welding management.

“This is efficiency at its best in WPS and qualification management,” said Vesa Tiilikka, product manager, software, Kemppi Oy. “WeldEye has been tested

and proven to perform in an excellent way in the coordination of welders, operators and NDT personnel alike, regardless of the industry.”

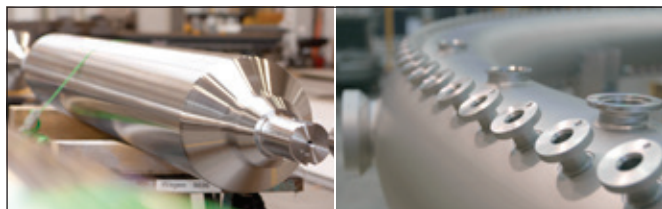
WeldEye is suitable for multi-site welding management. It generates a range of EN ISO qualifications and enables convenient qualification prolongation with internal and third-party signatures. It also has a time-saving function for copying templates, sends automatic certificate expiry warnings via email, and offers an advanced search function and content filtering.

Welders’ data is transferred automatically in connection with the creation of new qualification certificates, which results in significant time saving in qualification management. When used together with Kemppi’s X8 MIG welder, WeldEye enables the use of digital WPS.



Headquartered in Lahti, Finland, Kemppi’s offering includes welding solutions – welding management software and expert services – for both demanding industrial applications and ready-to-weld needs. Local expertise is available via a global partner network covering more than 60 countries.

Kemppi Oy – Finland
www.kemppi.com



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ArcelorMittal-led consortium reaches agreement regarding Ilva lease and purchase

ArcelorMittal and Marcegaglia have announced that AM Investco Italy Srl has concluded the exclusive negotiation phase and reached a binding agreement concerning the lease and obligation to purchase Ilva SpA and its subsidiaries with the Italian government. Intesa Sanpaolo will formally join the consortium before transaction closing.

Strategic highlights of the agreement include a unique opportunity to acquire a major integrated steel-making asset that is Europe's largest single steel site, in Europe's second largest steel market; an investment plan to materially improve Ilva's environmental footprint and realise its full potential; and identified synergies of €310mn targeted by 2020 (excluding impact from fixed cost reductions and volume improvements). Ilva is expected to be EBITDA accretive to ArcelorMittal in year one, and free cash flow accretive in year three.

The purchase price is €1.8bn, with annual leasing costs of €180mn to be paid in quarterly instalments. Ilva's assets will be initially leased by AM Investco,

with rental payments qualifying as down payments against the purchase price. The lease is expected to start around year-end 2017, subject to regulatory authorisations, and the lease period will be a minimum of two years.

Investments of around €2.4bn will be made over a seven-year period, including €1.3bn to support an extensive industrial plan, with an investment programme focussed on blast furnaces, steel shops and finishing lines; and around €1.1bn to ensure that Ilva complies with the Integrated Environmental Authorisation (AIA) as set out by the Italian government.

Finished steel shipments will systematically increase to 9.5mn tonnes by 2023. Crude steel production will initially be limited to 6mn tonnes per annum, increasing to 8mn tonnes once AIA provisions are complied with.

Crude steel production will be supplemented by imported slabs and hot rolled coil, in order to maximise utilisation of Ilva's finishing facilities,

with a commitment to keep at least 10,000 employees for the entire duration of the industrial plan, according to the outcome of negotiations with the unions.

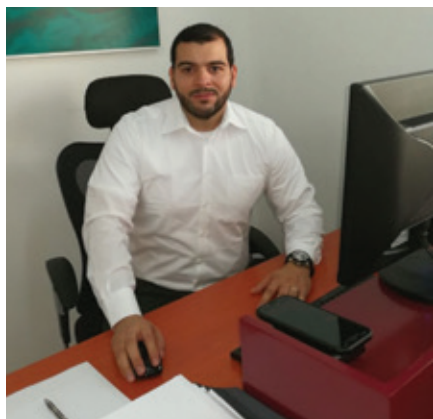
Ilva is the largest, and only integrated, steelmaker in Italy. Its main production facility in Taranto is strategically located next to one of Europe's largest deep-water ports, enabling easy access to raw materials. The company also has significant steel finishing capacity in Taranto, Novi Ligure and Genoa. It will provide ArcelorMittal with a primary production presence in Italy, where the company currently has no primary steelmaking capacity.

Italy imports between 60 and 70 per cent of its flat steel requirements, in part due to a decline in Ilva's output because of numerous commercial, quality and environmental issues it has faced in the recent past. ArcelorMittal believes that, over time, Ilva's production levels and competitiveness can be restored.

ArcelorMittal – Luxembourg
www.arcelormittal.com

New general manager at Hart Middle East

Germán Gómez has been appointed as general manager of Hart Middle East FZE in the United Arab Emirates. Hart Middle East is a subsidiary of the Hart



Germán Gómez, general manager of Hart Middle East

group of companies, with the head office based in the Netherlands.

Hart bv, founded in 1964, is a stockholder and trader in nickel alloy piping products for the oil and gas and (petro-) chemical industry.

Mr Gómez has been working for Hart bv in the Netherlands for the last eight years as a sales engineer. He has been responsible for project sales in several regions, including Southern Europe, South America and Southeast Asia.

Hart Middle East sales office and warehouse was founded in 2013 and stocks a wide range of nickel alloy piping products used in the oil and gas industry.

Mr Gómez commented, "Before 2013, customers in the Middle East were used to sourcing from Europe or the USA with delivery times of six to eight weeks being common. Now deliveries can be done 24 hours ex works. Hart ME is the only company with extensive stocks in this material in the Middle East. Our philosophy is to bring the stocks to the markets, to be as close as possible to customers worldwide. Hart ME was the first step, followed by a sales office in Abu Dhabi."

Hart bv – Netherlands
sales@hartbv.nl
www.hartbv.nl

Hart Middle East FZE – UAE
sales@hartme.ae
www.hartme.ae

MRC to open new Gulf Coast regional distribution centre

MRC Global (US) Inc, the US subsidiary of pipe, valves and fittings distributor MRC Global Inc, has entered into 15-year leases with a unit of Liberty Property Trust to open a new regional distribution centre (RDC) and operational hub for the Gulf Coast area in La Porte, Texas. The new facility will house over 400,000 ft² of warehouse space, more than 75,000 ft² of office space and an extensive pipe yard to support MRC Global's customers in the refining and chemical market.

"MRC Global is excited to open this new facility, which will be our largest distribution centre in our global operations and one of the largest warehouses for a single distribution company in the Houston area," said MRC Global president and CEO Andrew R Lane. "We plan to relocate our operations at Galena Park, Texas,

and Darien Street in Houston, Texas, to the new facility as well as two other satellite locations to provide an efficient and seamless experience to support our Gulf Coast customers. As part of the facility, we are also building a state-of-the-art valve actuation centre (VAC), a fulfilment centre for our online MRCGO™ catalogue, and establishing a hub for technical PVF excellence."

Mr Lane continued, "In addition to our valve, automation, measurement and instrumentation product offerings, we will supply our stainless and high alloy product lines from the new RDC as well as our traditional gas utility, carbon pipe, fitting and flange and oilfield supply products."

The new facility is strategically located near many of MRC Global's downstream refining and chemical customers. It has



ready access to rail at the facility and to the container terminals at Barbours Cut Terminal and the Bayport Terminal, both of which are less than three miles away. MRC Global expects the RDC to be operational in late 2017, and the adjacent offices to be ready in the third quarter of 2018.

MRC Global Inc – USA
www.mrcglobal.com

Molecor expands PVC-O production capacity in South Africa

Molecor, a developer of molecular orientation technology applied to the conveyance of water under pressure, has expanded the production capacity of oriented PVC pipes (PVC-O) in South Africa, with the installation of a second manufacturing line.

The company and its partner Sizabantu Piping Systems Pty Ltd have already supplied thousands of kilometres of PVC-O pipelines on the African continent, certified according to the specifications of the South African standard SANS 16422.

Molecor South Africa was inaugurated in 2016 with the implementation of a production line for PVC-O pipes, and a year later, the production capacity is doubling with the start-up of this

second production line. The plant, located in Richards Bay (KwaZulu-Natal region), now has a production capacity of 8,000t/year in the manufacture of TOM® PVC-O pipes under the licence of Molecor technology, for the southern African countries.

With this expansion the company will have access to large water projects with water pipes of large diameters and high pressures, manufactured with the Molecor technology, which allows the automatic production of TOM PVC-O pipes with pipe-to-pipe quality control, ensuring the reliability of the product throughout its useful life.

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



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JD7 rebrands to Aquam Pipe Diagnostics

Aquam Corp subsidiary JD7 is rebranding to Aquam Pipe Diagnostics, with immediate effect. The new company name, logo and corporate structure will allow for greater market penetration for its technology and services, as well as new product licence agreements and distributors across North America.

“The announcement of a new name reflects the company’s continual transformation and encompasses future pipe diagnostic technology

that is currently being developed by our R&D team,” said Aquam Pipe Diagnostics managing director Daniel Krywyj. “By aligning our brand with our parent company, we acknowledge the ongoing progress and hope to add value for our licensees, distributors and stakeholders.”

Aquam Pipe Diagnostics technology is used globally for potable water, gas and industrial pipeline investigations focusing on asset assessment, pipeline

CCTV and in-line leak detection. The products are for sale through a network of distributors and are available for field services for asset owners, municipalities or contractors via approved licensees.

The new brand debuted at AWWA’s ACE17 Annual Conference & Exposition in June.

Aquam Pipe Diagnostics – USA
info@aquamcorp.com
www.aquamcorp.com

Pipeline industry performance report

The Canadian Energy Pipeline Association (CEPA) has released its third annual Transmission Pipeline Industry Performance Report, which reveals how the association’s members are performing in the areas of safety, the environment and socio-economic contributions.

CEPA states that research continues to show that safety and environmental protection are top priorities for Canadians when it comes to the transmission pipeline industry. This

year’s report seeks to address these issues by demonstrating what CEPA’s members are doing collectively to improve safety, minimise environmental impacts and develop solutions regarding the concerns Canadians have about the industry’s operations and performance.

“We have a responsibility to be open, consistent and accountable to government, regulators, indigenous groups and all stakeholders,” said Chris Bayle, CEPA board chair, president and

CEO, Inter Pipeline. “CEPA members strive to operate to the highest safety standards, but know that there is always room to improve. Each CEPA member company is committed to collaborating and going beyond regulation to strengthen safety performance across the entire industry.”

Canadian Energy Pipeline Association – Canada
aboutpipelines@cepa.com
www.cepa.com

Trelleborg appoints business unit president to drive growth in pipe seals

Simon Burke has been appointed president of Trelleborg’s pipe seals operation. Based in Lelystad, Netherlands, Mr Burke will be responsible for the strategic direction, growth and management of Trelleborg’s pipe seals operation globally.

Mr Burke has almost ten years’ experience in business-to-business sales and market development at Trelleborg. He previously worked for five years as commercial manager for pipe seals in North America, after spending four years as business development manager in Singapore.

During his time at Trelleborg, Mr Burke has developed and achieved growth in

key markets. He has an understanding of the business on a global scale, from technical application to sales.

Mr Burke commented, “Trelleborg’s pipe seals operation has been through many changes in the past decade, but keeps growing and gaining recognition throughout the industry.

“I am delighted to be given the opportunity to help the company flourish in the years to come in my new role within the operation.

“It’s an exciting time for the pipe seals business in all regions. The increase in urbanisation and the pressure to preserve clean water and provide sanitation

continues to grow exponentially. While developed countries are looking to repair or replace their ageing infrastructure and invest in more sustainable solutions, developing markets face a growing demand for quality drinking water networks and sanitation.”

The pipe seals operation is a supplier of new and rehabilitation sealing solutions for concrete, plastic pipes and manhole structures used for water, sewerage and drainage. Mr Burke’s predecessor, Bill Hagenberg, has been appointed president of Trelleborg’s fluid handling solutions business.

Trelleborg AB – Sweden
www.trelleborg.com

NBD Nano in partnership with condenser tube manufacturer

NBD Nanotechnologies has announced a partnership agreement with Mendener Präzisionsrohr GmbH (MPG), an international manufacturer of condenser tubes.

Under the terms of the agreement, MPG will incorporate NBD's RepelShell coating on the condenser tubes it sells to its power plants customers. This coating helps plants run more efficiently and reduces their overall carbon footprint.

The steam-electric generation power industry has long been seeking ways to improve the efficiency of converting steam back into water. Condenser cooling tubes are used to facilitate the steam-water conversion cycle. NBD Nano's RepelShell coating is specifically designed to increase the

rate of dropwise condensation on metal surfaces. When the coating is applied to MPG's tube, the nucleation of the droplets is enhanced, resulting in greater efficiency of heat transfer and direct fuel savings.

NBD has successfully piloted the technology in a coal-fired power plant, and it will integrate seamlessly into MPG's existing manufacturing processes.

"We're proud to partner with MPG, the leading high-performance specialised supplier of heat exchanger tubes and heat technology products," said Deckard Sorensen, president at NBD Nanotechnologies.

"MPG has selected NBD because our solution provides proven heat

transfer performance and aligns with MPG's existing manufacturing process perfectly."

MPG managing director Dr Andreas Gahl commented, "We're really excited about our partnership with NBD Nanotechnologies. NBD's RepelShell coating is an industry game changer that promises to improve the operating efficiency of an entire class of power plants. This is a solution we have been waiting for."

NBD Nanotechnologies – USA
info@nbdnano.com
www.nbdnano.com

Mendener Präzisionsrohr GmbH – Germany
info@mpg-tubes.com
www.mpg-tubes.com

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products & developments

Fittings from Conex Bänninger's K65 range

System provides high pressure tube solution

Conex Bänninger, in partnership with Wieland K65 tubes, has developed K65 fittings for the commercial sector, as a solution for high pressure ACR applications. Conex Bänninger CO₂ solutions can deliver pressure ratings up to 120 bar (1,740 psi). The K65 system also enables businesses to retain their green credentials by using the highly pressured CO₂ R744 refrigerant.

Suited to a range of highly pressured refrigeration and air conditioning applications, such as installations in office blocks, high rise apartments, schools and supermarkets, the K65 system simplifies specification as there is no tube gauge variation in Wieland's alloys and Conex Bänninger's complementary fittings range. With installer safety of paramount importance, both the tube and fitting

components of the K65 system are UL 207 certified. The K65 range's processing properties, similar to those of copper, mean that the fittings can be easily brazed to the tubing without the need for expensive or special equipment.

The thermal conductivity of K65 enables heat to be transmitted through the pipe with improved energy efficiency – claimed to be higher by a factor of 20 compared to its stainless steel counterparts. Its high mechanical strength means that it can be manufactured economically and at a lighter weight compared to some alternative materials.

Bill Barlow, Conex Bänninger's UK sales director for OEM and ACR, commented, "At Conex Bänninger we

recognise the significant rise in demand for highly pressurised CO₂ solutions within commercial refrigeration and air conditioning. To this end, the K65 system offers a best-in-class system. The product not only delivers outstanding pressure withstanding performance of up to 120 bar (1,740 psi), but is also an environmentally friendly solution."

Conex Bänninger K65 fittings are easily identified by the manufacturer's mark, as well as the K65 mark and 120 bar (1,740 psi) pressure rating. In addition, the material is slightly magnetic and can be easily distinguished from copper by means of a neodymium magnet, providing a practical advantage for installers and system builders.

Conex Bänninger – UK
www.conexbanninger.com

Simulating the bending process

Depending on the application, bending can be a faster and cheaper alternative to welding, which makes the investment in a pipe-bending machine attractive for many companies.

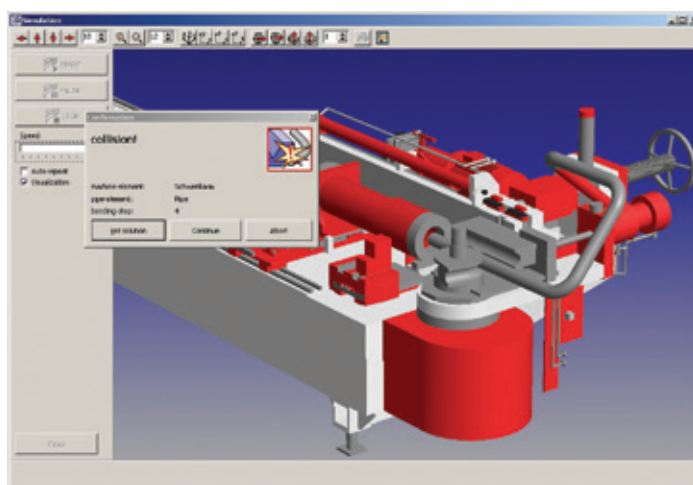
Beyond the savings in fabricating time and material costs, additional savings on NDT and QC can lead to increased efficiency and productivity in fabrication.

There are additional ways to maximise the benefits of a pipe-bending machine, however, and this is where the software application is of importance.

With the right software, the operator can easily generate or import pipe geometries and simulate the bending sequence, which allows for the detection of potential collisions or other problems (eg bends that are too close together) before the pipe is scheduled to go into fabrication.

In the case of a collision, the software will attempt to find an alternative bending sequence, which can vary depending on the complexity of the spool and the capability of the machine.

From a simple reversal of the bending order (last point first) or the rotation direction, to a change of the bending direction on multi-stack machines,



Among other features, RONIKolli7 can detect potential collisions

RONIKolli7 from 3R solutions will test a number of scenarios for feasibility.

In addition to simply checking for collision, RONIKolli7 can generate the required CNC data, so the operator at the machine knows exactly what to enter.

In many cases this data can be provided in a format that the machine can process, so the operator only has to confirm the data on the screen.

Since the pipe retains a certain amount of elasticity, it will try to return to its original shape after bending. Therefore, in order to achieve a specific angle, the actual bending angle at the machine has to be slightly larger, so that after springback the pipe has the desired

shape. In addition, rotary draw bending results in a certain amount of stretching, so the last segment of the pipe spool is a little longer.

In RONIKolli7, the operator can create and manage a record of all materials and dimensions that are processed on each machine.

By making test bends, measuring them and tracking the results, it is possible to create a material master file that enables the software to calculate the required adjustment to bending angles

and cutting length, so the bending result matches the drawing.

3R solutions states that a pipe-shop that integrates RONIKolli7 into its processes can achieve increases in efficiency, as the software can be used to: reduce the danger of collisions; confirm that a pipe is bendable without the need to create a wire model; compensate for material factors; provide CNC data for the bending process; prepare freely customisable work sheets/reports for the operator; simulate a bending process for flanged pipes and calculation of flange rotation; and calculate potentially required extensions.

3R solutions – Germany
 info@3-r.de
 www.3-r.de

Valves in the power industry

Quarter-turn, air valves and check valves from Val-Matic are designed to meet the needs of the power generation industry in various areas from renewable power to natural gas, nuclear energy, oil and coal.

The company's quarter-turn valves include the QuadroSphere® trunnion mounted ball valve, Ener•G® ball valve, American-BFV® butterfly valve and the Cam•Centric® plug valve, which are all problem-solving valve options in a variety of power applications.

The QuadroSphere trunnion ball valves can handle solids/abrasives and high-pressure requirements for valves of the power generation industry.

Air valves are key elements in a piping system because they help to maintain design efficiency and provide system protection.

Air valves also help to stabilise and automatically relieve the pressure that can often build up in a pipeline. Val-Matic's check valves can be selected

based on their overall design and engineering efficiency, longevity and variety.

The check valves are available in a wide range of metallurgies, seating materials and coatings to handle substances from potable water to abrasive slurries and corrosive chemicals.

Val-Matic Valve & Manufacturing Corp – USA
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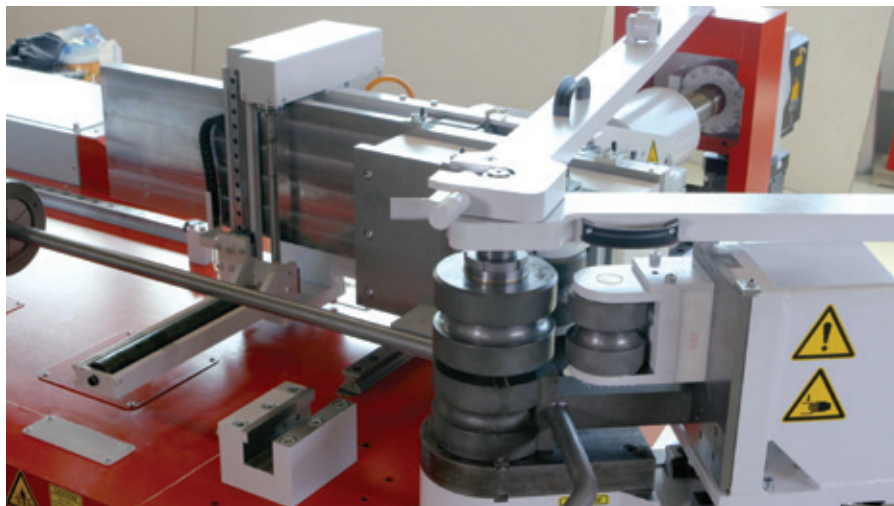
Portable measurement system expands opportunities for bending tubes

Obtaining exact measurement data for component production, reverse engineering or component inspection is especially useful for creating valuable results during tube bending. For this reason, transfluid Maschinenbau GmbH has developed 't control', together with a partner.

The wireless system for measuring tubes and connection elements such as flanges does not need arms, joints or laser beams, and measures via an exactly defined light pattern, which is observed by one or more cameras that determine the position and orientation of the light pattern in space. This enables the desired raw data to be recorded. Corresponding interfaces allow exchange of data with CAD and transfluid's 't project' bending program, and direct integration of the tube bending machine in the process. The overall system therefore increases flexibility. t control is portable, ensures a high level of precision in the measuring space (directly at the object), and is suitable for use on construction sites.

"During cooperative development, the strong performance of the overall system was important to us: measuring, digital documentation, data processing, and execution of bending," explained Stefanie Flaeper, general manager of transfluid. "However, easy operation and the fact that t control would be ready for measuring quickly are also important practical factors, of course."

No calibration is necessary and t control is ready to start within five minutes,



Direct integration of the tube bending machine in the process is possible

with up to 20m of measurement power. Depending on the requirements, this is implemented via tactile measurement with standard measurement sensors or tube measuring calipers.

In addition to control measurements for components, material correction values for transfluid 't bend' tube bending machines can be recorded. In the area of reverse engineering, simple existing geometries can be measured in order to reproduce them precisely.

Data for component production is recorded by drawing a fictional tube shape using 'air points' between the connection pieces. This enables simple and exactly matching tube construction directly at the installation location. Connections like flanges and screw connections can be recorded and

processed digitally. This also includes detection and bypassing of possible projecting edges. The data exchange with CAD and the connection with the transfluid bending program enable the geometry to be optimised, including the bending collision test.

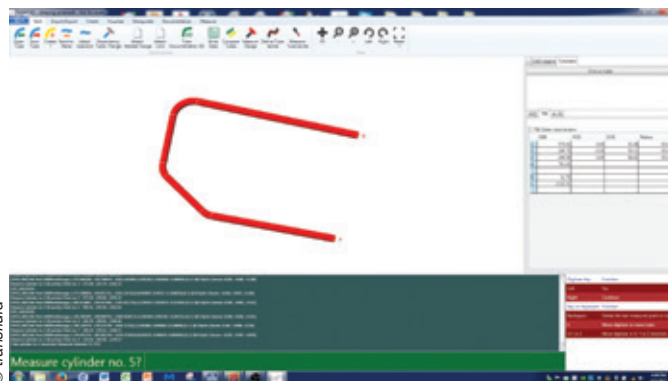
Over-bending values for the bending machine can be recorded within the scope of the component inspection. Evaluations that make CPK detection and measurement series are also possible. The system provides measurement logs and comparison of measurement results with the CAD master component.

transfluid Maschinenbau GmbH –
Germany
sales@transfluid.de
www.transfluid.net

The wireless t control system can be used to measure tubes and connection elements like flanges directly on site



Corresponding interfaces allow exchange of data with CAD and transfluid's t project bending program



Secure, easy selection and more uptime with one-type-fits-all valve actuator

There are several factors to consider when choosing an actuator. Manufacturer Alfa Laval states that easy selection is crucial in hygienic industries.

To meet these demands, the company's Unique DV-ST UltraPure actuator fits its complete range of standard diaphragm valves, simplifying inventory management and making the specification process quick, easy and secure.

Regardless of the process or application, the same actuator can be stocked as a spare part for all Alfa Laval Unique DV-ST UltraPure diaphragm valves, whether cast, forged or block, and can even be used for autoclave duties.

The actuator withstands the high temperatures required for sterilisation, and operates at working pressures up to 10 bar (6 bar TFM/EPDM).

Unlike some actuators on the market, it is able to close the valve at the same working pressures at 0% pressure drop.

As long as the working pressure remains below 10 bar (6 bar TFM/EPDM), the actuator continues to deliver reliable, trouble-free performance.

There is no need to change the actuator size or configuration, even if changes in the process line occur.

Alfa Laval sensing and control units can easily be integrated with the Unique DV-ST UltraPure Actuator, which enables customers to take advantage of the company's valve automation solutions.

Alfa Laval sensing and control units feature tight tolerance bands to provide process safety, and no-touch, set-and-forget sensors with simple set-up.

This minimises human error and promotes safe and efficient production, ensuring more uptime.

Alfa Laval – Sweden
alfa.laval@alfalaval.com
www.alfalaval.com



Alfa Laval's Unique DV-ST UltraPure actuator

'Bulletproof' solution for tube, hose and pipe cleaning

New tubes are often dirtier than might be expected, and can cause contamination of the product circulating in them as well as the malfunction of the connected components.

In regular maintenance, dirty tubes represent a serious problem in the industry: they are the cause of system inefficiency and sudden halts in production.

Alka provides a tube-cleaning solution that operates by shooting a special projectile with compressed air. The system can be applied to tubes measuring in internal diameter from

2mm up to a few hundred, and lengths of 10 to 1,000m (depending on air capacity), and can also be applied in the presence of 90° curves, 'T' or 'Y' couplings or ball valves.

The solution allows cleaning of tubes of all types, from those used in hydraulic systems, to air conditioners, and from the food industry to pharmaceutical.

It can quickly and efficiently degrease, lubricate and disinfect, using only minimum quantities of chemical products, if necessary. The system can also remove production scraps (eg from cutting or welding), and can be

used for product recovery in dosage piping, or as an instrument for regular maintenance or quality control on new tubes.

The manufacturer claims that the system provides stronger cleaning power than techniques using compressed air or flushing.

It can be used on rigid or flexible tubes and is compatible with a huge number of different materials.

Alka Srl – Italy
info@alka-srl.com
www.alka-srl.com

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Smaller proportional solenoid cartridge valves with improved performance

Power management company Eaton has introduced the ESV9 series of proportional solenoid cartridge valves, aimed at offering a general-purpose alternative to industrial-rated valves.

The ESV9 valves are smaller, reducing the manifold size, and allow increased flexibility during installation. The valves offer control with optimised linearity, operational efficiency and low hysteresis of less than 7 per cent. Broader ramp changes also allow greater resolution.

The size 10 ESV9 is a four-way three-position screw-in cartridge, and is available with either a type E or F spool configuration. The E spool type solenoid valve has all the ports closed in the de-energised position.

This valve is suitable for moderate flow applications where an actuator needs to be proportionally controlled in both directions and stopped in any position.

With the F spool in the de-energised condition, ports two and four are open to tank with the inlet port three blocked. This allows the service ports to decay to tank pressure in the de-energised

condition. The size 10 ESV9 valve has a rating of up to 22 litres per minute and up to 250 bar.

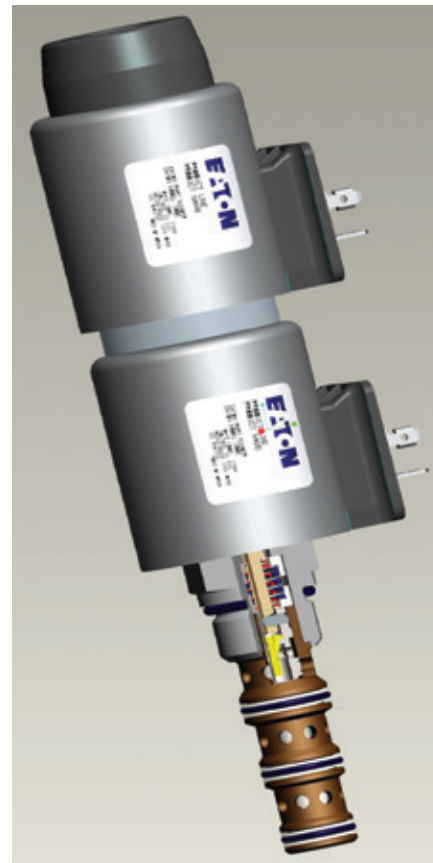
“The introduction of the ESV9 series will help provide significant up-front cost savings to our customers, complementing Eaton’s Cetop 3 industrial-rated, high-flow KDG4-V3 series,” said Andreas Kling, product marketing manager power and controls products EMEA at Eaton.

As an option, the valves are available with a manual override and can additionally be fitted with or without the IP69K compatible ‘L Series’ Large ToughCoils™.

12V or 24V DC coil voltages, with or without a diode, can be selected, along with a number of housing materials (steel or aluminium) and port sizes.

Applications include construction machinery, agricultural, material handling and a broad range of general equipment.

Eaton – Switzerland
www.eaton.com



ESV9 proportional cartridge valve

Swing-Flex and Surgebuster check valves

Val-Matic’s Swing-Flex® and Surgebuster® check valves are designed for years of maintenance-free service. Both valves have a short 35° stroke, which provides fast closure to minimise slamming and slam-related surges.

The Swing-Flex check valve has a non-clog design with only one moving part. It is constructed of ductile iron with cold working pressures up to 250 psi, making it an option for systems where traditional 125-lb valves are unsuitable and for those where surges may be a concern.

The valve design and performance has been verified through an independent million-cycle test and fully complies with ANSI/AWWA C508. The valve’s



Swing-Flex and Surgebuster check valves from Val-Matic

smooth, unrestricted flow path makes it a suitable choice for sludge and slurries.

The Surgebuster check valve has all the design features of the Swing-Flex, with the addition of the Disc Accelerator™ to prevent slamming in the most severe applications. The Disc Accelerator is a precision-formed stainless steel

mechanism that closes the valve disc rapidly, avoiding slamming by flow reversal yet allowing the disc to be stabilised under flow conditions.

The accelerator is fully enclosed within the valve and completely out of the flow path. The Surgebuster is suited to a number of applications, including high head, multiple pump and surge tank installations.

The valves are both NSF/ANSI 372 Certified Lead-Free, NSF/ANSI 61 Certified for Drinking Water, and designed and built in accordance with AWWA C508.

Val-Matic Valve & Manufacturing Corp – USA
valves@valmatic.com
www.valmatic.com

Overlay pipe in multiple dimensions with guaranteed wear resistance

Hardox Wearparts, part of SSAB, has added Duroxite 100 Pipe to its Duroxite overlay product line. The finished pipes have the same high wear resistance as Duroxite plate products. Consistent wear properties are guaranteed throughout the pipe down to 75 per cent of the overlay thickness, as opposed to just the surface of the overlay. The remaining 25 per cent of overlay is the transition layer necessary to maintain good bonding to the base plate. An optimal carbide composition ensures homogeneous bonding between the base metal and overlay, adding to its high wear resistance and long service life.

Duroxite pipe is manufactured by welding chromium-rich, abrasion-resistant materials inside a mild steel pipe. Extremely hard chromium-rich carbides with a typical hardness of 1700 HK (Knoop micro hardness) are dispersed in a ductile eutectic austenite matrix. Duroxite 100 Pipe is available in multiple dimensions and shapes, in diameters from 150 to 900mm (6" to 36"). The lengths can be cut to order, and the ends can have custom-made flanges for easy installation in existing equipment.

The pipe can be ordered with square-to-round transitions, elbows, T- or Y-shaped connections or as long sweeps. Standard Schedule 40 and 80 pipes can also be delivered with hardfacing, which can substantially increase the service life over that expected from the Schedule 40 and 80 pipes alone.

Duroxite 100 Pipe is produced in the USA and available worldwide from Hardox Wearparts.

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


Hardox Wearparts – Sweden
 info@hardoxwearparts.com
 www.hardoxwearparts.com




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 www.tsingshan.net

Fluid power components on more than 1,700 pages

At the Hanover Trade Fair, Germany-based fluid power specialists from Stauff presented the company's recently revised, updated and expanded product catalogue, which now consists of ten individual catalogues per language.

The company's comprehensive range includes components for leak-free connecting and secure fastening of

pipes, tubes and hoses for mobile and industrial hydraulic applications and other industries, as well as components for shutting off, regulating, throttling and measuring fluid media.

The portfolio is rounded off by filtration systems and replacement filter elements as well as accessories for the construction of tanks, reservoirs, power packs and gearboxes in mobile

and industrial hydraulics. Now also included in the catalogue are hydraulic hose connectors and quick-release couplings developed and manufactured by Voswinkel GmbH, a member of the Stauff Group since April 2015.

With more than 1,700 pages in total, the product catalogue provides information about the company's 40,000 standard components that are considered to be relevant and of particular interest to design engineers and technical purchasers of pipework components and hydraulic accessories.

Product characteristics and features, dimensions, materials and ordering designations are included.

The new catalogue can be viewed and downloaded from the company's website, which also allows users to request printed and digital copies on CD-ROM or USB memory stick, free of charge and without obligation.

Walter Stauffenberg GmbH & Co KG – Germany
sales@stauff.com
www.stauff.com

Stauff's new catalogue comprises ten volumes



Keeping an Eye on tube weld purging with The PurgEye 100 from Huntingdon Fusion

When welding metals such as stainless steel, titanium and nickel alloy, where a high quality weld is required, weld purge monitors can help obtain non-oxidised, zero-colour welds by monitoring the oxygen content. Huntingdon Fusion Techniques' (HFT) PurgEye® 100 can help to eliminate post-weld cleaning costs.

According to the company, a customer recently said, "The PurgEye 100 is one of the best, if not the best residual oxygen detector instruments on the market today, with its digital residual oxygen level, LCD screen readouts measuring as low as 100 ppm and its large, user-

friendly viewing screen making it easier for me to read. The PurgEye 100 also has a great accuracy of residual oxygen, with speedy measurements being displayed within seconds."

The PurgEye 100 is IP65 rated and features leak-tight push buttons, auto-calibration features, vacuum-sealed leak-tight probe assembly, wrist/neck strap and tripod mount. The extra long-life sensor provides approximately 18 months life before it requires changing. A low-sensor indicator will appear on the screen, warning that a new sensor is required. Once that icon appears, it provides the user with adequate time to

obtain a new sensor, which can be fitted like changing a battery, and the monitor can be re-calibrated easily by the user.

The PurgEye 100 has a clear, easy-to-read LCD screen, with a 24mm-high display, which also shows a low-battery icon. When the monitor is not in use, an automatic sleep mode activates to conserve battery life. HFT has a range of PurgEye weld purge monitors to measure oxygen levels from atmospheric content (20.94 per cent) down to 1 ppm (accurate to 10 ppm).

Huntingdon Fusion Techniques – UK
www.huntingdonfusion.com

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M-Steel Calculator digital service tool

Ovako has launched the M-Steel Calculator, a digital tool based on the company's Steel Navigator platform, which guides customers in identifying the right machine settings based on steel properties and cutting tools. The M-Steel Calculator also allows customers to compare tool life and cutting speeds between M-Steel® from Ovako and conventional steel.

"We are pleased to be able to offer our customers the M-Steel Calculator for comparison and verification of the correct machine settings," said

Göran Nyström, EVP group marketing and technology. "Similar digital tools on the market have until now been based only on the equipment and not the type of steel being used. With the M-Steel Calculator, we can provide our customers with an efficient and user-friendly way to calculate the right settings and evaluate the difference in processing costs between M-Steel from Ovako and conventional steel."

The M-Steel Calculator is a development of Ovako's Steel Navigator, a platform to help customers identify the best

steel, and is part of the company's digitalisation strategy. Primarily aimed at operators in the automotive and engineering industries, it is based on Ovako's M-Steel, which has characteristics that improve machining and can enhance the life of cutting tools.

The calculator is available for computers, tablets and smartphones.

Ovako AB – Sweden
info@ovako.com
www.ovako.com



M-Steel Calculator's start page



Tubular inspection services and equipment

Tuboscope, a division of National Oilwell Varco, LP (NOV), is a supplier of tubular inspection services and equipment to the petroleum and pipe manufacturing industry. Its technologies are used for inspecting new and used tubular goods, to demanding industry and customer specifications, and include Amalog® and Sonoscope® electromagnetic inspection (EMI) technologies, and Truscope®, TruWall® and TruScan® ultrasonic (UT) inspection systems.

The company supplies mill inspection equipment, available to manufacturers of tubular goods worldwide, that can be employed to inspect tubulars as rapidly as they are fabricated. These mill units are capable of operating at high testing speeds and can be custom-designed to production line requirements.

An example of the capability within the Tuboscope product line is the Truscope A/S (Amalog-Sonoscope). This inspection system combines the non-destructive techniques of EMI and UT principles to detect, evaluate and classify, in a single pass of the pipe through the system, transverse and longitudinal, internal and external flaws as well as wall thickness variations and laminations.

The Truscope A/S system provides full-body inspection across a large range of pipe diameters. The pipes can be seamless or ERW; manufactured of ferrous or non-ferrous alloy materials; and with a variety of end conditions – saw-cut or cropped, plain-end, threaded, coupled, and upset or non-upset. With its combination of EMI

(Amalog and Sonoscope) and UT (Truscope) techniques, the Truscope A/S satisfies the latest editions of API 5CT, 5L and 5D, as well as numerous other international specifications for non-destructive inspection of tubular products for the energy industry.

The inspection system comprises two main sections – the inspection platform and the computerised inspection electronics.

The Truscope can be configured to detect longitudinal, transverse and oblique defect orientations, as well as out-of-tolerance wall thickness variations and laminations.

Tuboscope – USA
www.nov.com

Benefits of copper highlighted in new CPD programme

Conex Bänninger, a manufacturer of plumbing fittings and valves, has introduced a new CPD programme highlighting the advantages of copper as a preferential fitting material.

As well as showcasing its performance benefits, the programme includes an update on current codes of practice and explains how using copper products helps to meet increasingly stringent building standards.

The CPD also addresses the positive role copper can play in maintaining water hygiene and how its anti-microbial properties can combat infections, including potentially deadly legionnaires' disease.

The programme is designed with specifiers and M&E contractors in mind, while stockists and installers will also find it useful.

Dan Wild, UK business unit director for Conex Bänninger, said, "While other materials have their place, copper has the edge from so many perspectives – its practical use, sustainability, environmentally and from a health and safety standpoint. In developing our latest CPD programme we've gone into great depth on this subject matter, whilst taking care to cover the



Copper medical gas fittings

necessary competencies required for a project consultant, specifier, designer, contractor, installer and water supplier."

As a 'noble' metal, copper is resistant to corrosion and oxidation. It is 100 per cent recyclable, with the recycling process better than others for the environment. It is also non-flammable and highly resistant to extreme temperatures, and it attacks a wide range of bacteria, making it suitable for medical and pharmaceutical applications.

While focusing on the benefits of copper, the programme considers the full range

of products and jointing solutions on the market, from solder and braze to compression, threaded and push fit.

Conex Bänninger – UK
www.conexbanninger.com

TOM mechanical calculation program


Molecor is a specialist in the development and commercialisation of TOM® orientated PVC (PVC-O) pipes for pressured water.

As part of its commitment to the development and continuous implementation of technical tools to support its collaborators, the company has provided an innovative design tool: the TOM Mechanical Calculation Program is a simple, functional and interactive application. Due to the importance of performing mechanical calculation of buried pipes to assess the mechanical

stresses that are transmitted to the pipe by the action of different external loads, the mechanical calculation of TOM pipes should be done before designing an installation.

The program determines the validity of the installation based on the efforts and stresses that the pipe will support, as well as its safety coefficients at breakage and crushing.

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



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Double safety allows system operation without downtimes

Fluid technology specialist Stauff has added the RFS-D series to its filtration technology product range. The switchable duplex return-line filters in a special heavy-duty version are suitable for nominal flow rates of up to 1,135 litres per minute and a maximum operating pressure of up to 25 bar.

The housings were designed as tank-top or in-line filters using threaded or flanged connections on inlet and outlet. As the last link in the hydraulic

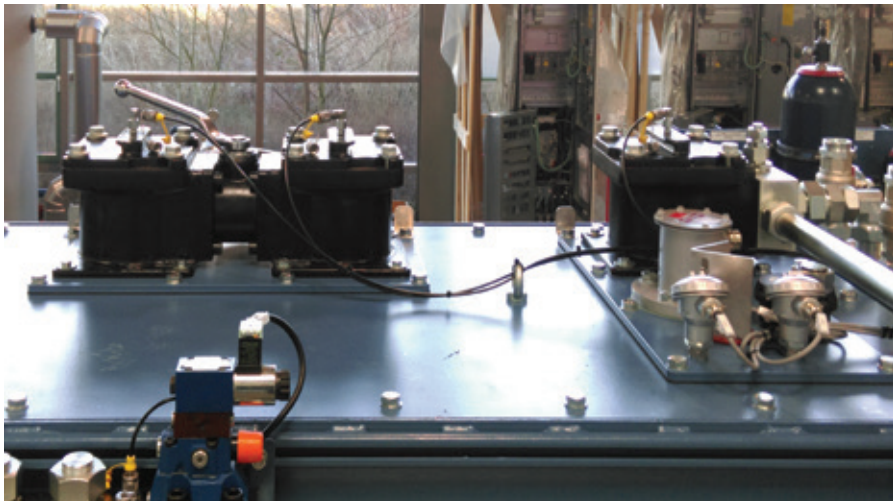
cycle, they retain solid particles in the return oil flow before these enter the supply tank, providing a significant contribution to ensuring maximum system performance.

The use of replacement filter elements from the RE series from Stauff ensures a high level of efficiency for removing solid particles. The high dirt absorption capacity of the elements allows a long service life, reducing maintenance work and costs.

The permanently integrated 90° switch valve between the two sides allows continuous use of the filters: when the first filter element has to be replaced upon reaching the maximum level of contamination – indicated by a visual clogging indicator or an electrical limit switch – the flow can be switched over to the opposite side by manually operating the switching lever without causing system downtime.

Filter housings of this size are used in modern clinker cooling systems in cement production, for example. Hydraulic components are usually installed on the outside of the actual cooling system, protected against dust and easily accessible for repair and maintenance purposes. For this type of application, the duplex return-line filters are essential components of a system of redundant motors and pumps that allows continuous operation of the system without expensive downtimes, even if repairs should become necessary.

The RFS-D series connects two separate filter housings with a 90° switch valve



Walter Stauffenberg GmbH & Co KG
– Germany
sales@stauff.com
www.stauff.com

Dual product launch from Hydra-Zorb

Hydra-Zorb Co, a manufacturer of products for clamping pipe or tube in the hydraulic, pneumatic and HVAC/R industries, has launched the Bronco tube and pipe saddle, and the Titan riser clamp.

The products were unveiled at the AHR Show (Air-Conditioning, Heating, Refrigerating) in Las Vegas, USA.

The Bronco tube and pipe saddle uses high-strength plastic that can snap into channels of any depth, offering stability and preventing damage to the insulation from pipe movement. The product is available in several sizes, in either black or white to match the insulation colour.

The Klo-Shure Titan insulated riser clamp series is made to fit vertical pipe runs and create a clean vapour barrier after insulation is installed.

Titan risers are moulded with high-strength plastic with a crush-resistant design and a vertical load rating range of 1,000 to 2,000 lb. The clamps are claimed to offer three times faster installation with an improved finished appearance. Both products are made in the USA at Hydra-Zorb's new 52,000 ft² plant in Auburn Hills, Michigan, which was built specifically with these products in mind.

The company's two primary products – Hydra-Zorb cushion clamps and

Klo-Shure insulation couplings – are simple but important components in projects ranging from small power units for hydraulics to couplings used for HVAC/R lines in construction.

“We've purposely stayed focused on our core products,” said Hydra-Zorb president Robert Dodge.

“The new Bronco and Titan lines complement what we do and were developed in direct response to our customers' most frequently requested needs.”

Hydra-Zorb Co – USA
sales@hydra-zorb.com
www.hydra-zorb.com

Potable and sanitary water in hospitals and the use of stainless steel press-fittings

When dealing with large plumbing systems, press fittings are of interest due to their qualities and speed of installation. Adding in the hygienic qualities of AISI 316L stainless steel makes a suitable system for potable and sanitary water in hospitals.

From a sanitary point of view, AISI 316L stainless steel does not release any substances that could alter the qualities of potable water. The smooth walls of pipes and fittings made with the material do not allow bacteria to grow and proliferate inside the system.

With Eurotubi's Pressfitting system, the resistance over time and speed in creating the junctions (on average about 50 per cent less than for traditional systems) are important factors when building crucial structures such as hospitals.

Unlike welded fittings, the installation of press fittings does not require the use of chemical substances that could be hazardous to human health.

Patients in hospitals are often already weakened by illness, so maximum hygiene is required in potable and sanitary water. In this regard, sanitising treatments with chlorine-based substances must be performed periodically on the systems. The AISI 316L stainless steel used in Eurotubi press fittings offers significant resistance to deterioration that can result from the passage of these sanitising substances.

One of the most hazardous bacteria that can proliferate inside hospital systems is Legionella pneumophila, which can reach into water pipes, medical equipment and air conditioning systems. The bacteria have a stronger effect on those who are already weakened, such

as patients in hospitals. In addition to periodic sanitising intervention, the use of stainless steel pipes and surfaces is one of the most effective solutions to prevent the formation of the ideal conditions for the growth of the bacteria.

Creating fittings with Eurotubi's press fitting system is a relatively quick process, but they must be performed according to the requirements in the Eurotubi Pressfitting Technical Manual.

AISI 316L stainless steel press fittings resist the passage of chlorine-based solutions for disinfection of the system, provided that the dispensers are efficiently calibrated and regularly inspected.

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



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Offshore oil rig installation with ATEX MAG meter



The robust Siemens Sitrans MAG 3100 electromagnetic flow sensor is ATEX zone 1 approved, making the meter suitable for use in harsh, explosive environments

Bell Flow Systems is a distributor of flow meters, instrumentation and fluid transfer equipment for domestic, commercial and industrial applications worldwide.

The company was recently approached about a seawater pumping application for an offshore oil rig. The customer required a highly accurate meter to fit onto an existing 3" line that would be suitable for operation in an ATEX zone 1 hazardous area, and also capable of withstanding the harsh conditions that come with being offshore. In addition to this, the meter was required to have UKAS-accredited calibration and EN 10204 material certification.

Due to the high quality build and robust nature, the Siemens Sitrans MAG 3100 electromagnetic flow sensor combined with an ATEX 18-30V DC MAG 6000 display was selected for the application. The Siemens Sitrans MAG meters have

a large variety of liners to suit almost any medium, as well as a choice of 316 steel, Hastelloy, platinum or titanium electrode materials and grounding electrodes as standard.

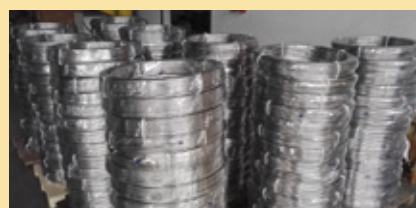
To strengthen the resistance to the harsh offshore environment, the meter body was also coated in a special wear- and fire-resistant paint that conforms to a NORSOK M-501 system 1 Spec. The benefit of using NORSOK M-501 is that it ensures optimal protection of the installation with minimum need for maintenance.

With an accuracy of ± 0.2 per cent and ATEX approval, the MAG 3100 meter was a suitable choice for the precise measurement that the client required.

Bell Flow Systems – UK
sales@bellflowsystems.co.uk
www.bellflowsystems.co.uk



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 $\frac{3}{16}$ "-1 $\frac{1}{2}$ " (6mm-38mm), WT 0.028"-0.118" (0.7mm-3mm)
Tolerance: Outer Diameter: ± 0.08 mm (0.00315"), Wall Thickness: $\pm 10\%$
Certification: ISO9001:2000, GB/T19001-2000

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 $\frac{3}{16}$ "-1" (4.76mm-25.4mm), WT 0.028"-0.083" (0.7mm-2.11mm)
Tolerance: Outer Diameter: ± 0.08 mm (0.00315"), Wall Thickness: $\pm 10\%$
Length: 100ft-2,000ft, or according to customers' requests
Certification: ISO9001:2000, GB/T19001-2000

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www.pipe-coil.com

Easy valve matrix solution

Processes in hygienic industries, such as beverage, food, dairy, pharma and personal care, are becoming increasingly complex. Some of the challenges include higher volumes, increased efficiency, and reduction in water and energy use. It is necessary to optimise flow management without compromising flexibility, plant safety, product quality or hygiene.

A valve matrix – also known as a valve cluster – is an option for maximising process efficiency through optimised flow management. Each stage of the design and installation process is an important component to fully realising potential in the process by saving time and avoiding lost revenue associated with production downtime.

Compared to traditional flow plates, a valve matrix is designed to allow simultaneous circulation of liquids – including CIP – on several levels with the exact number of lines and rows to match the specific requirements of the process. The matrix ensures the



An Alfa Laval valve matrix

flexibility to run multiple products to multiple destinations while other lines are being cleaned.

Alfa Laval states that installing a valve matrix with its Mixproof valves provides product safety with good cleaning conditions and no risk of cross-contamination. It eliminates the chance for human error, which can occur using

manual connection of lines and handling of swing bends.

Alfa Laval specialises in pre-built valve matrices customised to meet individual requirements. The company can help ensure efficient flow management using as few components as possible, and dealing effectively with key issues that include thermal cycling, cleanability, drainability and flow control.

Alfa Laval valve matrices can be supplied pre-assembled and pre-tested, as well as fully wired and with all the necessary pneumatic tubing, junction boxes and control panels pre-connected. This allows even complex installations to be brought online as quickly as possible, saving time and avoiding lost revenue associated with on-site assembly, troubleshooting and downtime.

Alfa Laval – Sweden
alfa.laval@alfalaval.com
www.alfalaval.com

New model for miniature proportional pneumatic valve series

The Precision Fluidics division of motion and control technology firm Parker Hannifin has released its newest model of the miniature proportional valve VSO® LowPro for OEMs looking for innovation in size, power and manufacturability when controlling the flow rate of inert gases.

The new model utilises a smaller 0.76mm (0.03") orifice within the same small VSO LowPro footprint – 16mm wide and 14mm tall (0.63" x 0.55") – to create a combination of size and flow control between 0 and 30 SLPM. Typical applications for the new model of the VSO LowPro valve include pressure control, volumetric flow control and pulse dose control.

With the release of this new model, Parker has expanded its pressure specifications for its new Model 3 and existing Model 4 and Model 5 valves up



Parker's new VSO LowPro miniature proportional valve

to 100 psi (6.9 bar) with flows up to 57 SLPM, further increasing the range of capabilities within the platform.

The VSO LowPro series focuses on reliability of operation and is qualified for up to 100 million cycles with a reliability factor of 0.96 and a confidence interval of 99 per cent.

The VSO LowPro family also allows designers to reduce power or battery size due to an efficient typical power requirement of one watt.

The continued expansion of the VSO LowPro series provides engineers with configurations that include four orifice sizes ranging from 0.76 to 2.03mm (0.03" to 0.08"), three voltage levels (5, 12 and 24V), and manifold mount accessories to handle air, oxygen or any non-reactive, non-condensing gases, while complying with Reach, RoHS, CE, IP65 and ISO 15001 regulations.

Parker Hannifin Ltd – UK
ppfinfo@parker.com
www.parker.com

Heat-resistant stainless steel for the safe transport of hot gases and vapours by the process industry

For the safe transport of hot gases and vapours at temperatures of up to 850°C, many manufacturers of components for the process industry choose austenitic stainless steel 1.4550/347H.

To meet increasing demand, Ugitech has added UGI® 4550 to its stainless steel portfolio, making it one of only three suppliers in Europe.

The company sees this move as a way of enhancing its position as a producer of austenitic heat-resistant stainless steel grades for the process industry.

Steam lines, superheater tubes and exhaust systems in reciprocating engines and gas turbines are typical applications for Ugitech's UGI 4550. The addition of niobium makes the

finished steel grades well adapted for temperature ranges between 425°C and 850°C.

Compared to most austenitic materials, UGI 4550 inhibits the formation of chromium carbide precipitates at the grain boundaries and thus stops intergranular corrosion.

The stainless product is optimum for parts for which treatment of the material after welding is not feasible, such as expansion joints and equipment for chemical processing at high temperatures.

UGI 4550 is also readily formed at room temperature and is easy to weld – there is no hot cracking after welding. Good creep resistance (resilience against

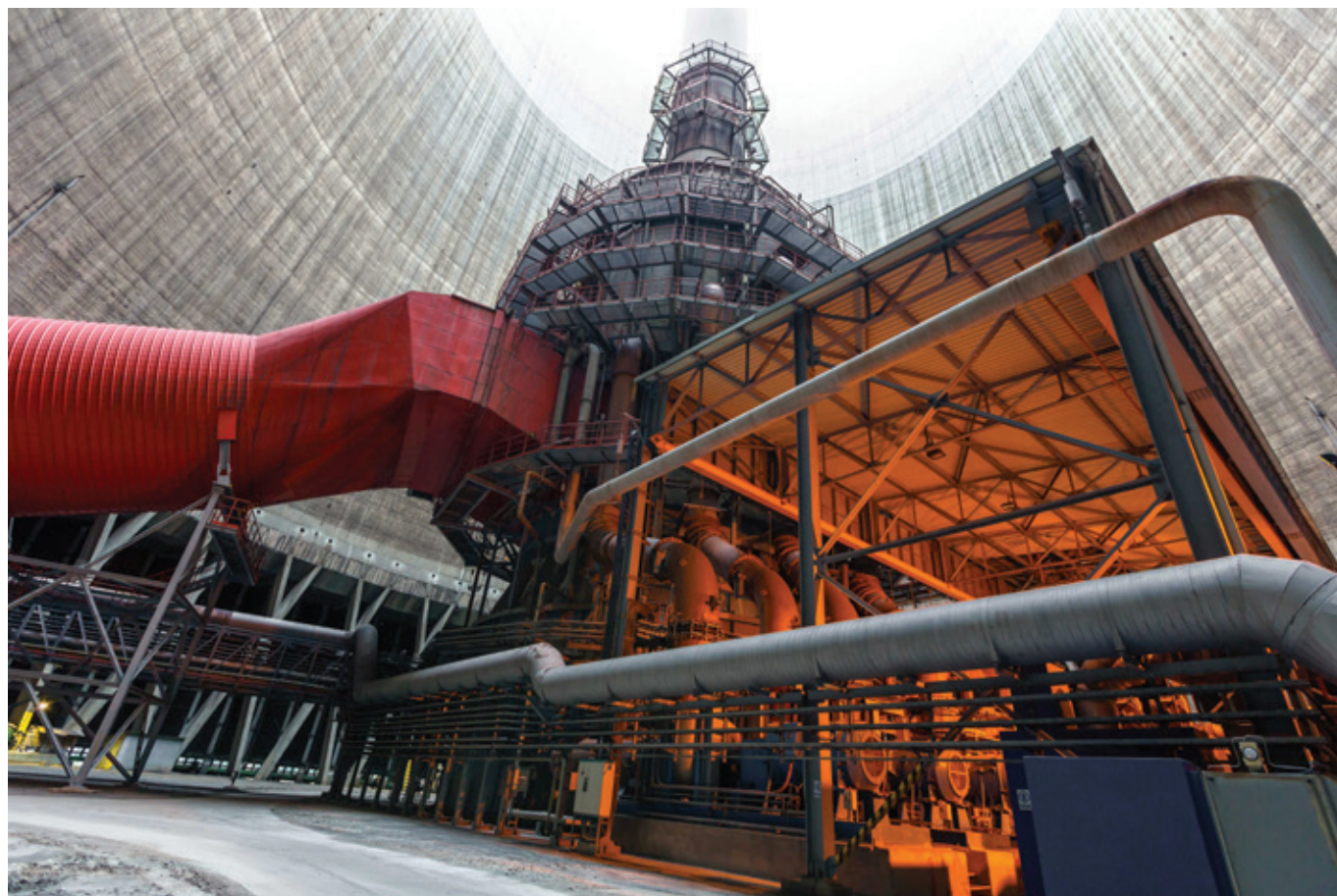
temperature-dependent deformation) and resistance to atmospheric corrosion and oxidation at high temperatures further increase process reliability.

Ugitech offers UGI 4550 in a wide range of dimensions, from steel bar with a diameter of 130mm to ultrafine 16µm in diameter. The steel product is annealed or cold drawn to the required mechanical properties. The minimum order quantity at Ugitech is one ton for drawn steel bar, and lower for drawn wire.

The company is able to deliver rapidly because the steel mill is equipped with 40t melting furnaces.

Ugitech SA – France
www.ugitech.com

Ugitech's UGI 4550 is used in applications such as steam lines, superheater tubes and exhaust systems



McElroy releases industry-first outlet fusion tool

McElroy has designed the first all-in-one fusion tool for outlet fusion of polypropylene pipe. The Hornet (patent pending) helps installers maintain perfect alignment of the pipe and fitting for more efficient and accurate fusions, with less time and strain compared to manual methods.

"It's exciting to offer a machine that did not exist in this marketplace until now," said Jason Lawrence, director of product development for McElroy. "In the past, outlet fusion was a painstaking process done by hand so this is a huge leap forward. The Hornet makes it easier and faster because it's doing all the work."

The 'V-base' design of the Hornet allows it to self-align on the centre of the main pipe. A slide-mounted precision carriage guides the drilling of the outlet hole and fusion of the fitting, keeping everything perfectly aligned to produce consistent and accurate fusions.

With a small footprint and weighing just 13 lb, the Hornet is capable of performing outlet fusions in any orientation, making it suitable for overhead and vertical fusions in tight spaces.

The Hornet works with all McElroy socket heaters and fusion outlet adapters for polypropylene pipe from 20 to 63mm, on mains up to 630mm.

Each socket adapter is Teflon-coated for durability and long life. The Hornet utilises small McElroy heaters that feature microprocessor control and a dial thermometer for precise, reliable temperature.

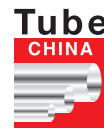


The Hornet is built to withstand tough environments, and comes with a five-year warranty.

McElroy – USA
fusion@mcelroy.com
www.mcelroy.com

McElroy's Hornet outlet fusion tool

join the best: worldwide



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FABTECH

6-9 November 2017



Venue

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Organisers

Fabricators & Manufacturers Association, International
Tel: +1 815 399 8775 | Email: information@fabtechexpo.com

Opening times

6 November: 10.00am to 6.00pm | 7-8 November: 9.00am to 5.00pm | 9 November: 9.00am to 3.00pm

North America's largest metal forming, fabricating, welding and finishing event



North America's largest metal forming, fabricating, welding and finishing event heads to McCormick Place in Chicago, Illinois, USA, from 6 to 9 November 2017.

The upcoming event is expected to cover more than 550,000ft² and it is anticipated that over 40,000 attendees and 1,500 exhibiting companies will take part over the four days of the show.

FABTECH 2017 provides a convenient 'one-stop shop' venue in the welcoming city of Chicago, where you can meet with world-class suppliers, see the latest industry products and developments in action, and find the tools you need to improve productivity, increase profits and discover new solutions to all of your tube, metal forming, fabricating, welding and finishing needs.

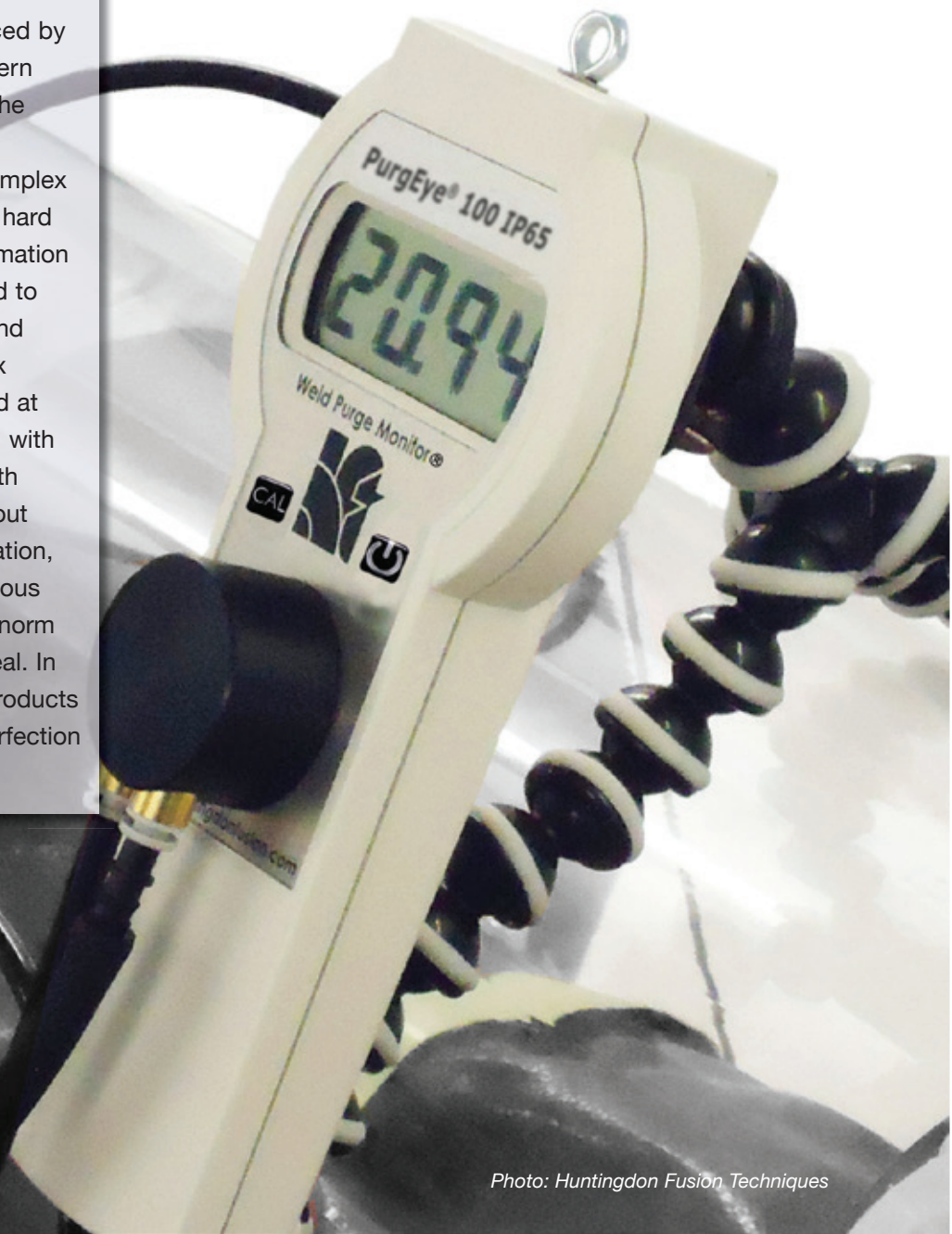
A Tube Producers' and Suppliers' Pavilion will be organised and implemented by Messe Düsseldorf this year. The trade fair company will be the official point of contact for any potential exhibitors from outside the USA.

The Tube Producers' and Suppliers' Pavilion is Messe Düsseldorf's answer to rising demand from the tube industry and the tube trade for a separate segment covering tubes, tube end products and the tube trade at FABTECH.

www.fabtechexpo.com

Inspection technology

What is the ultimate challenge faced by inspection technology in the modern age? A likely candidate might be the making of on-line corrections to a machine imposing multiple and complex bends in a tube intended for long, hard use in a hostile environment. Information supplied to the system would need to be accurate not only about the bend points but as to the entire complex tube contour. The workpiece would at all times require direct comparison with a master tube or a CAD model, with super-sensitive alerts to any area out of tolerance. Correlation, conformation, correction: all would be instantaneous and to standards well beyond the norm and very little short of absolute ideal. In fact, to the professionals whose products and services are reviewed here perfection is the ultimate aim.



NDT for pipelines to feature strongly at materials testing exhibition

The latest in tube and pipeline inspection technology will be on display at Materials Testing 2017, which takes place from 5 to 7 September in Telford, UK. The biennial event is a comprehensive exhibition of non-destructive testing (NDT), materials testing, condition monitoring and diagnostic technologies.

The show comes as new techniques such as the use of permanently installed sensors in pipelines and greater automation offer potential to improve efficiency and reduce maintenance costs.

Materials Testing 2017 promises to be the largest and best exhibition to date, with more than 70 exhibitors and a wide range of seminars covering the practical aspects of NDT and related

technologies. The event is organised by the British Institute of Non-Destructive Testing (BINDT) and will run alongside its annual conference, NDT 2017, providing additional networking opportunities.

Paul Fidgeon, chairman of the organising committee, said, "NDT plays a major role in ensuring the safe and efficient operation of plant and pipelines. Current trends include the increased use of permanently installed sensors in line with the move towards predictive maintenance, and greater automation. Materials Testing is the most comprehensive event of its type and allows NDT practitioners and end users alike to keep up to date with developments and hear from industry experts."

The event, which is free to attend for registered visitors, takes place at the International Centre in Telford, West Midlands, and is open from 9:30am to 4:30pm on Tuesday 5 and Wednesday 6 September, and from 9:30am to 2:00pm on Thursday 7 September.

The British Institute of Non-Destructive Testing aims to promote the advancement of the science and practice of NDT and all other associated materials testing disciplines – particularly condition monitoring.

British Institute of Non-Destructive Testing – UK
mt2017@bindt.org
www.materialstesting.org

Inspection, testing and quality control

Contrôle Mesure Systèmes (CMS) is a specialist in non-destructive testing, and with a complete range of products in eddy current and ultrasonic methods can supply solutions for most industrial applications.

CMS's product line is designed to meet inspection, testing and quality control on both ferrous and non-ferrous products, including steel, copper, alloys, carbon steel, stainless steel and aluminium.

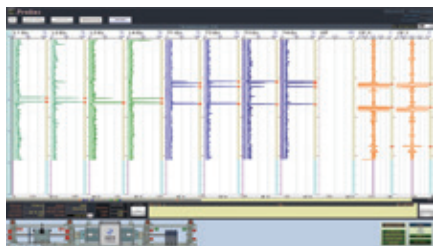
Applications for tube, bar, pipe and wire inspection include surface flaw detection by eddy current rotating head; internal and dimensional flaw detection by ultrasonic rotating head; tube inspection with product in rotation; full body and/or weld of welded tube inspection; full body and/or ends of

non-welded tube inspection; defect detection on double wall tubes; heat treatment, hardness, coating verification and measurement; supra conductor wire inspection; multiple line inspection; hot rod inspection; material sorting; and exchanger tube inspection.

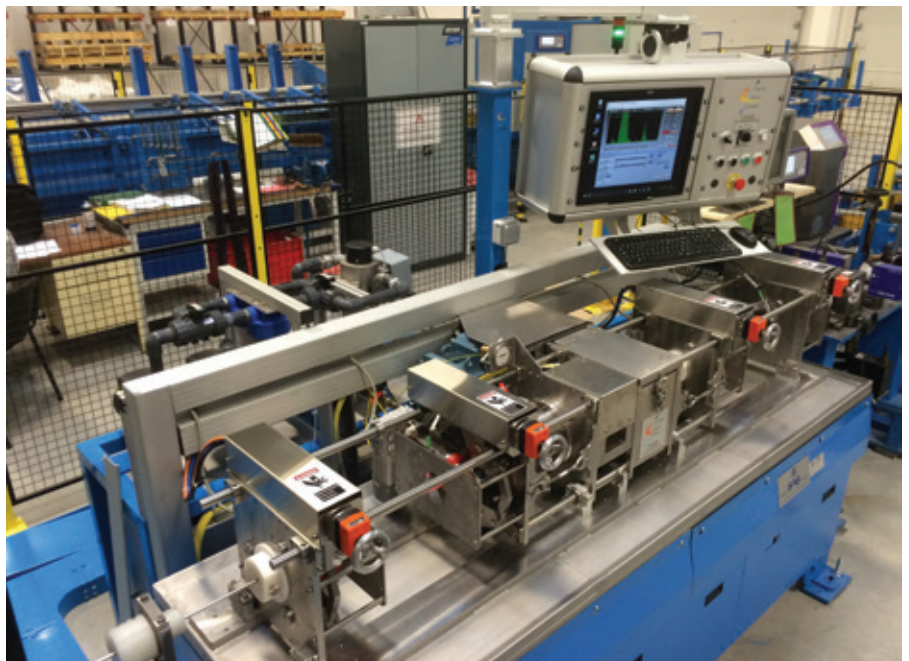
All the systems (on-line and off-line) meet quality standards such as API, ASTM and DIN.

Contrôle Mesure Systèmes – France
contactcms@cmseddyscan.com
www.cmseddyscan.com

Non-ferrous bar inspection using an ultrasonic rotating head system



Supervision software for non-ferrous tubes and bars



Case study: Measuring ten tubes in 85 seconds

Proton Engineering measures bent tubes using AICON's TubelInspect P16

From a sketch through to the finished product, from a single source – that is the business idea of the Swedish Proton Engineering company. The company is a one-stop supplier of tube and sheet metal structures: air/fuel lines, struts and covers for lorries.

The company's core business is based on bent tubes in a wide variety of different shapes and sizes, made from steel, stainless steel, aluminium and brass, with diameters of between 6 and 150mm. The company offers complete solutions that include all the necessary processes: tube bending, end shaping, sheet metal work, welding with high levels of automation, and complete assembly of components. It consolidates the areas of design, prototype development, initial sample inspection, series production, surface treatment, inspection and logistics in one location.

The main aim is to provide customers with the best possible quality. This means that reliable quality control at all stages of the production process is vital. The company has been using AICON's TubelInspect P16 tube and wire measuring system since 2015.

The main tasks of the TubelInspect P16 are initial sample inspection and in-process sample measurement. The inspected parts are then further processed in the assembly or welding department, or are dispatched directly to the customer. If there are any deviations from the CAD specification, TubelInspect provides support in analysing faults. Proton Engineering was one of the first

TubelInspect P16's narrow front edge allows for easier insertion of objects into the measuring cell



Photo credit: Proton Group

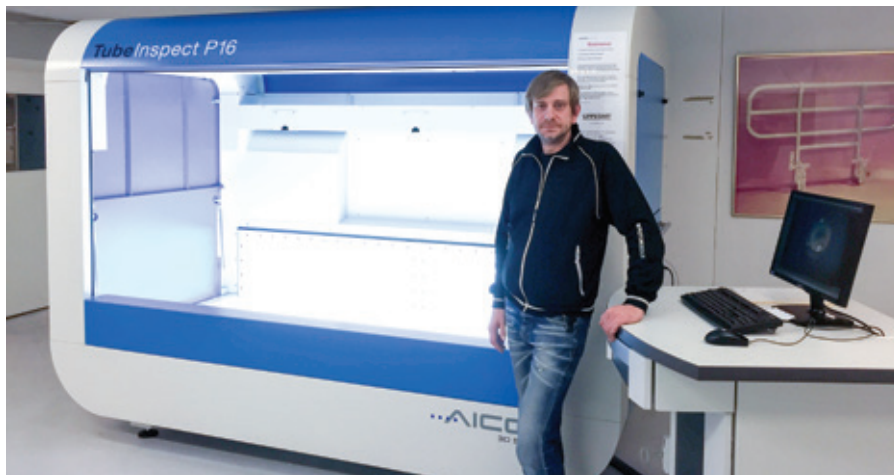


Photo credit: Proton Group

Measurement engineer Richard Johansson is responsible for measurements with TubelInspect P16

customers to purchase a TubelInspect P16 tube and wire measuring system. For the first time, Proton set up a measuring system next to the production line on the shop floor rather than in a measuring room. TubelInspect is insensitive to vibrations, which meant that it was possible to integrate it directly into the production process.

The company was soon able to report positive results from the new testing process. The measurements that are carried out using TubelInspect P16 are faster than earlier methods, some of which were mechanical. This saves time and costs, since it minimises machine downtimes. The new system is also more precise, and provides more comprehensive results. Proton uses TubelInspect to measure the majority of its bent tubes and, using adapters, even measures complete components with attachment parts.

TubelInspect P16 is fitted with 16 high-resolution digital cameras using gigabit Ethernet technology, and has a large 2,600 x 1,250 x 700mm measuring field. It is possible to measure wires and tubes of up to 2,500mm in length in one step, with longer tubes measuring up to 7m being processed in several steps. In general, measuring results are available in less than ten seconds. Proton Engineering had been considering the TubelInspect P16 as

an appropriate solution for some time, and was convinced by the system's user-friendliness, among other things. The company is said to be very pleased with the choice, and has managed to measure ten tubes in only 85 seconds.

Measurement engineer Richard Johansson has been working with the system from the start. "It's easy to operate, measures quickly and the auto-correction feature for bending machines is a major advantage for us," he commented, "We produce much less waste and have minimised the downtimes of our bending machines. This has taken our quality assurance process to a new level."

AICON 3D Systems is a provider of optical camera-based 3D measuring systems. The company, founded in 1990, develops and distributes portable coordinate measuring machines for the fields of inspection and testing, including car safety and tube and wire inspection, as well as optical 3D scanners for the measurement of complex surface structures.

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Sandvik inaugurates fully automated OCTG ultrasonic testing facility

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

“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. “This new ultrasonic testing facility allows us to increase our capabilities and capacity significantly. 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 develops and manufactures products in advanced stainless steels and special alloys for demanding environments, as well as products and systems for industrial heating.

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



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 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

The multi-test system for automotive shock absorber tubing





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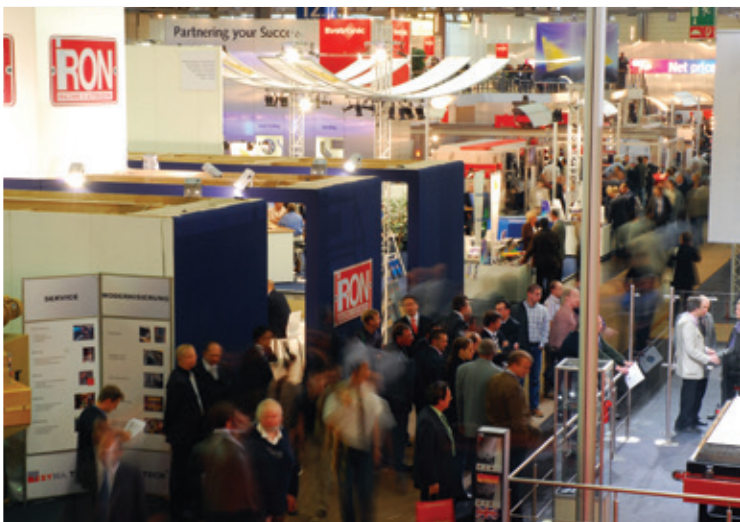
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Oil and gas market: an analysis and how to steer your way through it

By Barry Rust, energy and sustainability manager, Tata Steel

While there are suggestions that, after three years, the downturn in the oil and gas industry may have bottomed out, the sector remains in a state of flux, particularly in terms of the supply and demand markets.

China's thirst for energy to fuel its industrial growth has abated somewhat and is unlikely, in the medium term, to hit those heady heights experienced in recent years. The rapid growth of the North American shale industry has added 15 per cent to recoverable reserves.

The economics of supply and demand (assisted by OPEC's production policy) resulted in a 47 per cent decline in Brent Crude from the summer of 2014 to, in 2016, the lowest average annual price since 2004.

While OPEC's recent decision to cap production by 1.2 million barrels of oil per day has triggered an increase in commodity prices, it may be that this policy will last no longer than six months.

Meanwhile, our journey to a lower carbon economy has well and truly started. As an example, it has been forecast that the renewable industry's proportion of global energy generation

will quadruple over the next 20 years, and carbon emissions will grow at less than a third of the rate of the past 20 years as coal consumption declines. As demand for coal reduces, the contribution of gas in our transition to lower carbon energy use will be significant.

Projections for the primary energy mix indicate that oil and gas will continue to remain the dominant energy source, despite the rise in renewables. But the current and short-term lack of investment in the industry is, and will, make an impact.

McKinsey & Company suggested that capital expenditure in global oil production had fallen more than 60 per cent in the past two years.

The International Energy Agency (IEA) predicted non-OPEC oil supply could have declined by as much as 500,000 barrels per day (bpd) in 2016 because of a reduction in capex. Such a drop would represent the biggest annual fall in 24 years.

Without greater investment, production from mature oil fields will decline by around 9 per cent per year on average, according to the IEA. In a world where oil prices are expected to average \$50 to \$70 per barrel over the next few years, actual decline rates could easily reach 3 or even 4 per cent a year.

Investment decisions to develop just eight billion barrels of oil were taken by oil companies in 2015 – less than a quarter of the oil output that needs to be replaced every year from new projects, according to Rystad.





Patrick Pouyanne, CEO of French oil company Total, has also warned of a possible ten million barrel per day global oil supply deficit by 2020.

Are we therefore en route to a tightening of the supply balance in the next years as investment fails to keep up with depletion? Only time will tell.

The real question now is how can we contribute to a sustainable industry? The answer lies in smart solutions, a focus on value with a holistic, life-cycle approach to cost and risk, and continuous improvement.

The oil and gas supply chain knows it can't influence the volatilities and fluctuations in the global industry, so companies like ours must focus instead on areas where we can make a difference – improvements in our own performance.

Across the business, we are committed to a culture of continuous improvement. Just some of the things we have undertaken include a significant investment in supply chain transformation to improve the flow of materials and products through our business to the client, a continuous focus on improving dimensional performance, mechanical properties and pipe tolerances and an unwavering commitment to research and development.

For more than ten years we've been alert to identifying the most marginal gains in all aspects of our operational performance, which, when linked together, accumulate into greater efficiencies and customer benefits.

Shaving seconds off production stages in our pipe mills has led to cumulative time savings that have not only reduced costs for our customers but have also increased our productivity rates.

Such a focus on continuous improvement means that we are always ready to achieve success.

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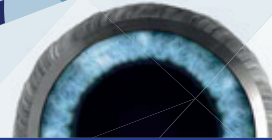


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