

# Tube Products

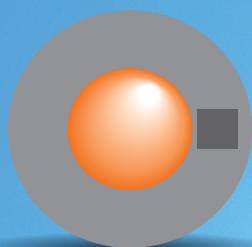
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## INTERNATIONAL



The World of Tube & Pipe Products, Materials & Ancillaries

January 2008



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235 quality pipes, round, square and rectangular, black, hot galvanised

Pipes made of hot galvanised strips

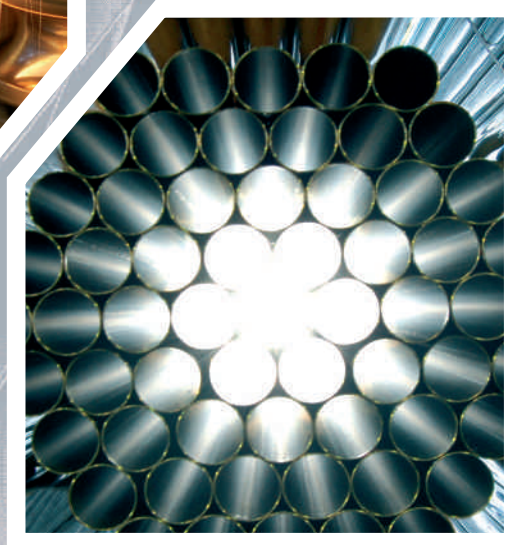
Black, pickled, galvanised sheet steel





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OF ELECTROWELDED STAINLESS STEEL TUBES*



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**EXHAUST TUBES**

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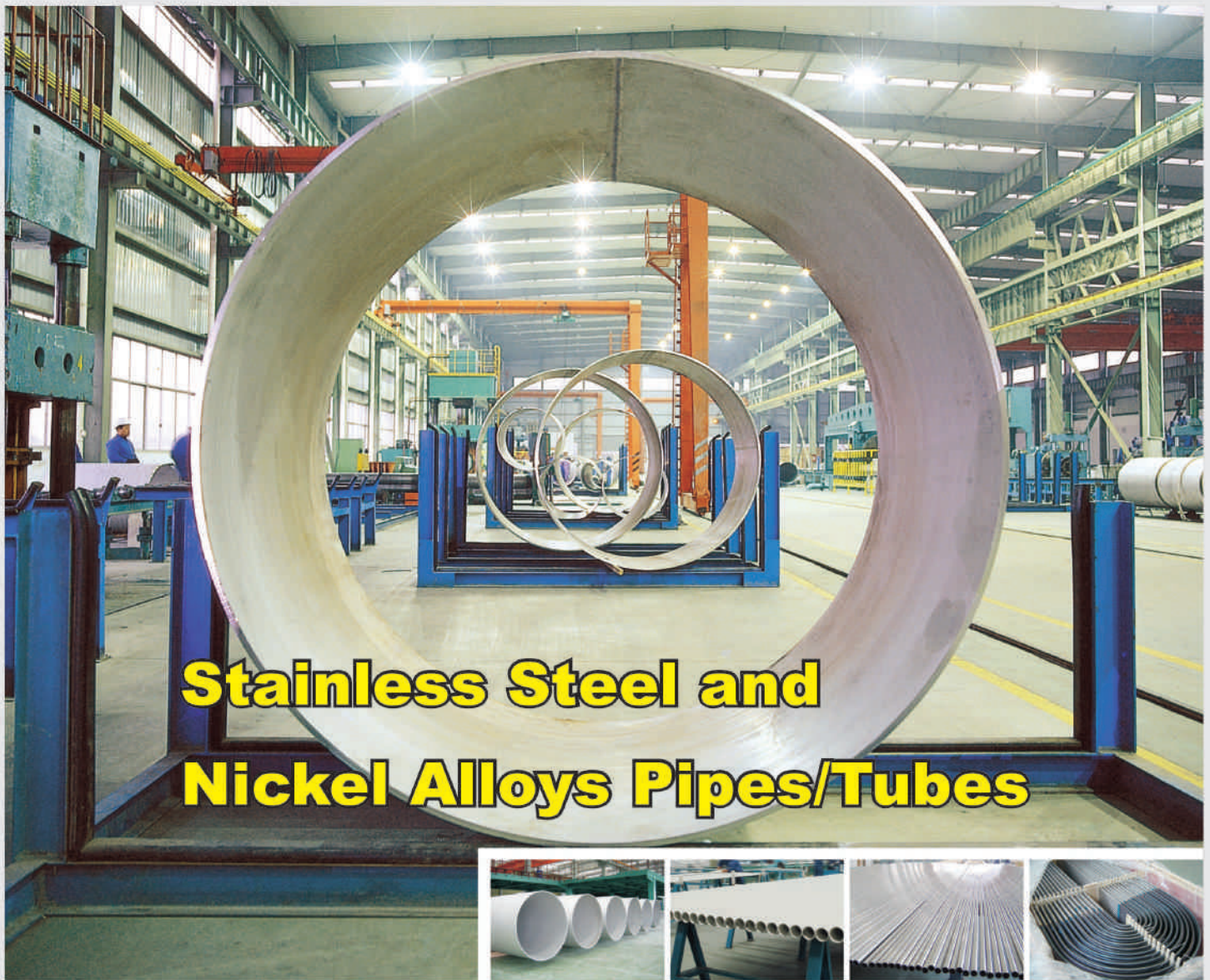
**AUSTENITIC GRADES**

W1.4301 - 304  
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W1.4828 -  
W1.4404 - 316L

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## Stainless Steel and Nickel Alloys Pipes/Tubes

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### Dimension:

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Welded OD8~2540mm

U tubing OD15.88~48.3mm



31 March-4 April 2008

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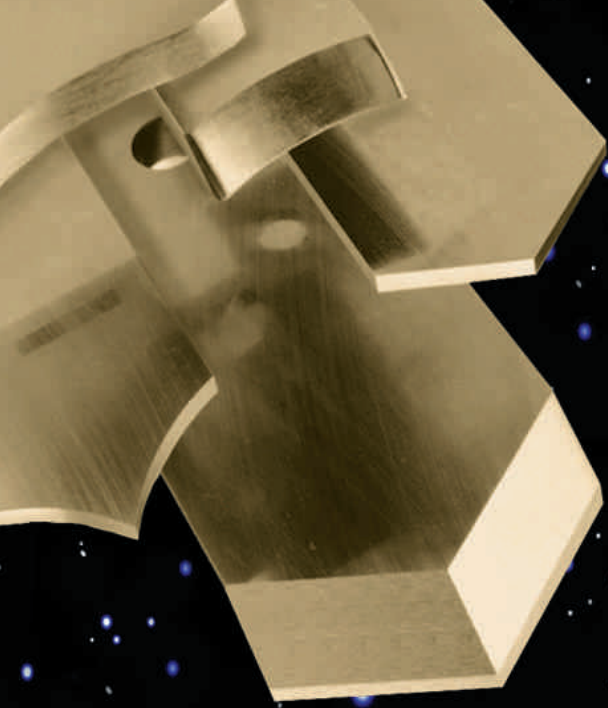
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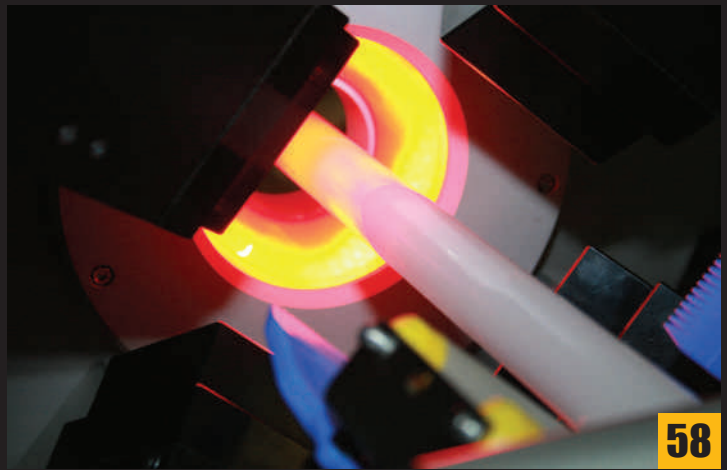




January 2008

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# Tube Products

## INTERNATIONAL

The World of Tube & Pipe Products, Materials & Ancillaries

Image from BigStockPhoto.com Photographer: Maria Carme Barcelo



# Welcome!



A Happy New Year to all our readers and a warm welcome to the first edition of Tube Products INTERNATIONAL magazine.

This exciting new trade publication has a large international audience of buyers, specifiers and business end-users of metal, plastic & composite tube and pipe materials, products and fittings.

Within the pages of every issue we report the latest corporate and economic tube and pipe industry information, as well as featuring new technological advances in materials, products and ancillaries available within the tube and pipe industry around the world.

In this inaugural issue you will read about tube and pipe products manufactured from stainless steel and the technological advances in this material.

A further feature on plastic tube and pipe products and ancillaries is well worth a read – a massively growing sector in our industry. We have also included a special section previewing Tube Düsseldorf 2008 (31 March – 4 April) – the most important international exhibition in the industry's calendar.

We hope you enjoy reading Tube Products INTERNATIONAL and we look forward to keeping you up to date with more exciting industry news and product developments over the coming issues. If you would like to order an annual subscription to receive every issue of Tube Products INTERNATIONAL magazine, please turn to page 29 for more details.

For now, we hope you enjoy this magazine and until our next issue in the summer this year, we wish you a successful and prosperous 2008!

**Paul Hogg**  
Editor

## events calendar

### 2008

- 12 February **Pipe Dream India 2008**  
Technical Conference  
[www.itatube.org](http://www.itatube.org)
- 13-15 February **Tube India 2008**  
International Exhibition  
[www.tube-india.com](http://www.tube-india.com)
- 28 February – 2 March **Boru 2008**  
International Exhibition  
[www.boru.com.tr](http://www.boru.com.tr)
- 31 March – 4 April **Tube 2008, Düsseldorf**  
International Exhibition  
[www.tube.de](http://www.tube.de)
- 10-12 April **Shanghai Steel Tube Expo**  
International Exhibition  
[www.gangguan-expo.com](http://www.gangguan-expo.com)
- 27-30 May **Tube Russia 2008**  
International Exhibition  
[www.metallurgy-tube-russia.com](http://www.metallurgy-tube-russia.com)
- 2-4 June **Middle East Plastic Pipes**  
International Exhibition  
[www.amiplastics.com](http://www.amiplastics.com)
- 17-20 June **Tubes & Fittings Ukraine**  
International Exhibition  
[www.tube-ukraine.com](http://www.tube-ukraine.com)
- 23-26 September **Tube China 2008**  
International Exhibition  
[www.tubechina.net/](http://www.tubechina.net/)
- 6-8 October **Fabtech 2008**  
International Exhibition  
[www.sme.org/fabtech](http://www.sme.org/fabtech)

### 2009

- 11-14 January **Tube Arabia 2009**  
International Exhibition  
[www.alfajer.net](http://www.alfajer.net)
- 12-15 May **Tube Russia 2008**  
International Exhibition  
[www.metallurgy-tube-russia.com](http://www.metallurgy-tube-russia.com)

*For further information on any of the above events please contact INTRAS Limited UK office (address and contact details on page 4)*

# Tube Products INTERNATIONAL

**The World of Tube & Pipe Products, Materials & Ancillaries**





www.tmk-group.com



# EVOLUTION

natural selection

TMK is Russia's largest manufacturer and exporter of steel pipes and ranks among the global top three pipe producers.

The Company's plants produce almost the entire range of existing pipes used in the oil and gas sector, the chemical and petrochemical industries, energy and machine-building, construction and municipal housing, ship-building, aviation, space and rocket equipment, and agriculture.

TMK GDRs and ordinary shares are traded on the London Stock Exchange, Russian Trading System and Moscow Interbank Currency Exchange (MICEX).

The Company is currently implementing a long term technical development programme, drawn up in collaboration with the industry's leading institutions and consumers. The programme includes the comprehensive modernisation

of operating capacities and improvements to all production stages: from steelmaking to finishing, product quality control, branding, and packing. It enables us to satisfy new needs and requirements of the companies of extracting sector to world trumpet branch.

TMK has a diversified sales territory and supplies products to more than 60 countries. TMK's main export markets are Europe, the Middle East, Northern Africa, Southern and South-East Asia, and the CIS countries

TMK's clients include major oil and gas companies such as Gazprom, Transneft, Lukoil, Rosneft, TNK-BP, Surgutneftegaz, Shell, Total, Occidental Petroleum, Anadarko Petroleum, Saudi Aramco, AGIP, Wintershall, ONGC, Kuwait Oil Company, Repsol, and Statoil.





# business & market news

Photo – Muller Europe Ltd, see page 12

## BSS lines up new facility

The BSS Group, UK, sells, markets and distributes heating, plumbing, pipeline, tools, industrial supplies and mechanical services equipment in the UK and Ireland. The group has three divisions: domestic, industrial and specialist. BSS Pipeline and Heating Solutions is part of the Group's industrial division.

The company has opened a new national distribution centre for linear product at Cross Point Business Park, near Coventry, UK. The new 47,500ft<sup>2</sup> centre represents the company's single largest investment in distribution since the opening of its Magna Park warehouse in Leicestershire, and will enable BSS to offer a unique service to its current customer base and help to develop into wider markets, including the water, power generation, food and beverage industries.

Frank Elkins, managing director, said, "This national distribution centre will dramatically increase our ability to supply linear product to the market. It will give us the capacity to make up to three deliveries per week to our nationwide network of 56 branches, on a lead time of either 24 or 48 hours. This excellent rate of turn around means we can offer our customers a consistent service, on a wider range of product than ever before."

BSS has traditionally provided linear product and technical support to the building services industry, while servicing a small number of specialist accounts.

With its new capabilities, the company is looking to expand its reach to a wider range of industries including water, pharmaceuticals, food and drink, chemical, power, ship building, automotive, dairy and aggregates.

Mr Elkins added, "Within our business we have had the specialist knowledge to support these niche markets for many years, but up until now we didn't have infrastructure in place to support the product requirements."

The new facility has the capacity to store 2,600 bundles of tube, and the stock profile will include all types of linear product, including 1387, API, stainless and plastic. It is serviced by a new fleet of articulated vehicles, and customers will also be offered the facility to collect direct. The facility began trading in August 2007, but was officially opened on 25 September by BSS Group CEO, Gavin Slark.

**BSS – UK**  
reception@bssgroup.com  
www.bssuk.co.uk

## SSC Laser Cutting opens sales branch

SSC Laser Cutting, UK, is a subcontract laser cutting company specialising in flat bed, tube and box section laser cutting on a range of materials, including mild steel, stainless steel and aluminium.

The company also provides an in-house CAD service and has press braking and laser quality control scanning facilities.

The company produces components for a wide range of industries, including yellow goods, automotive, construction and engineering. Its work ranges from producing small-scale products for individuals and small businesses to acting as a regular supplier for well-established, international organisations.

SSC opened its first sales branch in February 2007. SSC North East, located in Sunderland, UK, acts as a base for the region, giving the company a stronger presence in the area and extending its coverage across the UK.

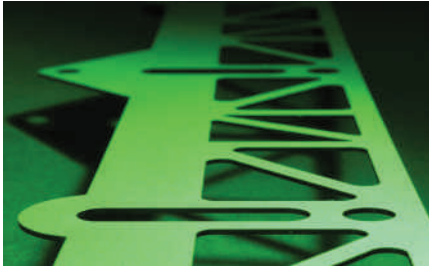
The North East branch is initially a sales division supported by the manufacturing facility at the company's headquarters in Staffordshire.



▲ SSC's UK sales director Andy Evans (right) welcomes Colin Hewitt, area sales manager North, to the company

The company plans to install machinery at the North East site as it progresses, giving the branch its own manufacturing capability.

The introduction of the North East division represents the first step in a long-term expansion project developed by the company.



▲ SSC specialises in flat bed, tube and box section laser cutting

The company's equipment includes: a Bystronic Bytube Laser for 323mm diameter tube, 220 x 220mm box section, with 15mm wall thickness on mild steel, 10mm on stainless steel and 8mm on aluminium; two Bystronic Byspeed Flatbed Lasers with 3m x 1.5m beds, and capabilities for 25mm thick mild steel, 15mm thick stainless steel, 10mm thick aluminium, 3mm thick brass, and 25mm thick hardox and abrazo; a Bystronic Beyeler Press Brake with 150 tonne capacity and 3,100mm bed; two Amada Press Brakes (100 tonne and 80 tonne); and a Laser Quality Control Scanner that scans flat parts and creates DXF files in seconds.

'Reverse Engineering' scans finished parts and compares them to the original DXF file, for stringent quality checking.

**SSC Laser Cutting – UK**  
sales@steelservicecentre.co.uk  
www.ssclaser.co.uk

## Tube 2008, Düsseldorf

Pipe producers and dealers, machine manufacturers and plant/facility builders will come together at the next Tube industry event in Düsseldorf, 31 March to 4 April 2008.

The International Tube Fair will once again demonstrate and present the tube and pipe industry's innovativeness.

At Tube, the latest developments and trends in the areas of tube/pipe products and pipe manufacture will be shown, on a more comprehensive level than ever before, complementing the sectors raw materials, pipes and accessories, pipe production machines, second-hand machines, process technology tools and auxiliary instruments, measuring, control and regulating technology, pipeline and OCTG technology.

The sectors of pipe trading/dealing, pipelines and logistics have been included for the first time.

Approximately 960 exhibitors are expected at Tube 2008, in net exhibition space of 41,000m<sup>2</sup>. In addition to the now traditional parallel staging with wire, International Wire and Cable Trade Fair (in Halls 9 to 14 and the CCD East), valuable synergies are also generated through the first-time concurrent staging with METAV International Fair for Manufacturing Technology and Automation, which will be held in exhibition Halls 1 to 5 and 15 to 17.

**Messe Düsseldorf GmbH – Germany**  
infoservice@messe-duesseldorf.de  
www.tube.de



▲ Tube 2008 will be held between 31 March and 4 April 2008

## Oilfield engineering with polymers

Applied Market Information Ltd and the Materials Engineering Research Laboratory Ltd (MERL) have announced the 6<sup>th</sup> two day international conference on Oilfield Engineering with Polymers, to be held in London, UK, 7-8 October 2008, at the Cavendish Conference Centre.

Elastomers, thermoplastics, thermosets and composite materials play a vital role in many critical applications in the oilfield, such as coatings, insulation, pipes (bonded and flexible), hoses, seals, flexible joints and bearings, inflatable tools, umbilicals, risers, and blow out preventers.

The industry challenge is to operate safely and reliably under a wide range of operational and environmental conditions. Key to this is research and development, design, qualification and operational experience.

Rigs are being built in increasingly hostile conditions. Industry trends include an increasing number of sub-sea completions for deep and ultra deep water, increasing temperatures and pressures downhole, a growing market for liquid natural gas (LNG), new drilling fluids and reinjection of sour gas.

These trends bring greater demands on the materials and components that are employed and a greater need for understanding material behaviour and limits.

Papers are invited on a variety of topics including operational experience, new materials, applications and operating conditions, insulation systems, sealing materials and seal performance, qualification test methods (eg NORSOK M-710), material durability and lifetime assessment, materials for high and low

temperature extremes, sour fluid handling, repair and maintenance, standards and regulatory requirements, and market trends in oilfield engineering.

MERL is an independent British company founded in 1986, providing contract research, physical testing, computational modelling and consultancy services in materials science and engineering to oil and gas, and other industries.

Oilfield Engineering with Polymers 2008 aims to bring together operators, contractors, equipment and component suppliers, materials suppliers and research organisations involved in the use of polymers in upstream oilfield operations.

**Applied Market Information Ltd – UK**  
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www.amiplastics.com



## The growth market of large tube and pipe

In the run up to the international tube and pipe trade fair, Tube 2008 in Düsseldorf, there are indications that the economic and business trend in the international steel pipe and tube market is continuing.

In the mechanical engineering, automobile and construction sectors, but in particular the energy industry, steel pipe and tube-buying sectors are indicating growth.

In 2006 a total of 156 pipeline projects covered 33,000km. Early estimates for 2007 put pipeline projects at around 300, covering a total length of around 100,000km, and for 2008, 144 projects are already planned, equivalent to around 100,000km.

Reasons for the continuing positive trend in the international steel pipe/tube market include the fact that high oil and gas prices have led to a permanent heavy demand for pipes and tubes from the energy industry in the areas of exploration, transport and the processing of crude oil and natural gas.

The worldwide boom in power plant construction is also generating powerful impulses. At the same time lively order

placing has been registered from the machinery and plant engineering industry, the automobile sector and the construction industry. Large pipe-producing companies and manufacturers of medium-sized pipeline tubes have benefited from this trend. Producers of precision pipes also profited from the general economic situation in the first half of 2007. In particular, the automobile industry and mechanical engineering sector increased their order placing compared to the first six months of 2006. The same applies to the manufacturers of stainless steel pipes and tubes who registered a clear increase in incoming orders, especially from the energy-related sectors.

In 2006, the driving force behind global growth was mainly the continuing high demand in the USA for oilfield pipes. Overall, according to the Steel Tube Manufacturers Association (Wirtschaftsvereinigung Stahlrohre) in Düsseldorf, world production of steel pipes and tubes increased by 12.6% to 99.8 million tons.

In addition to Asia and Europe, the American continent plays a key role in steel pipe production. Compared to the previous year, production in North

America increased by 5.5% to 7.87 million tons. At 1.8%, growth in Latin America was much lower. While Brazil was still able to register an increase of 3.4%, in Argentina it was only 1.2% and in Mexico only 0.6%.

Compared to total pipe production, the production of seamless steel pipes and tubes not only increased worldwide at an above-average rate, but also on the American continent. In North America the increase was 6% and in Latin America 3.3%. Production of large welded pipes and tubes increased in North America by as much as 515,000 tons, corresponding to 75.6%. The production increase in seamless pipes and tubes is in particular attributable to the heavy demand from the energy sector, especially in the area of oilfield pipes and boiler pipes for power plant construction as well as the great demand resulting from international infrastructure projects.

In terms of steel pipe and tube market coverage, the figures provided by the Steel Tube Manufacturers Association for the USA reveal completely different data to those for the European Union.

While throughout the EU around 86% of production is exported and imports therefore meet the demand for the greater part of the market, the export quota of the US producers is below 30% (2006: 1.44 million tons). The US market – and this is what makes it so attractive and interesting for producers in other countries – is an import market. In 2006, 6.84 million tons were imported in order to meet the market coverage of 10.32 million tons. Both values are clearly above the previous year's level, which in terms of imports was 5.2 million tons with market coverage at 8.64 million tons. On the other hand, in 2006 the USA was able to increase its exports from 1.19 million to 1.44 million tons.

With imports to the EU, the largest share (almost 25,000 tons) was accounted for by seamless pipes. The main customer (with approximately 9,800 tons) was Great Britain, which also purchased more than half of all the large pipes and tubes exported from the USA to the EU. In contrast, in terms of the smaller welded pipes, Germany accounted for the largest part of the US contingent, taking delivery of almost half the total volume.

### 4<sup>th</sup> China (Shanghai) International Steel Tube Expo

The fourth Shanghai Steel Tube Expo 2008 will be held in Shanghai International Exhibition Center, 10-12 April 2008.

The 2007 expo came to a successful conclusion in Shanghai International Exhibition Center and Shanghai World Trade Shopping Mall. The expo attracted 455 companies from America, France, German, Japan, Italy, Russia, Korea and China, covering an area of more than 20,000m<sup>2</sup> and 905 stands.

20,134 professionals from home and abroad took part in the expo, and more than 20 seminars were held in various forms of special research and the release of new products.

New technology of the steel industry and new marketing patterns of the steel tube market will be fully discussed in the China steel tube technology and market forum and several seminars.

Up-to-date technological exhibits will show seamless steel tube and welded tube, illustrating the development of the steel tube industry in China.

Shanghai Shenshi Exhibition Service Co Ltd – China  
tube@gangguan-expo.com • www.gangguan-expo.com

With over 53,000 tons in 2006, Argentina exported a lot more steel tubes/pipes to the EU than the USA. Here too, it was mainly seamless pipes and tubes (almost 51,000 tons), more than half of which were exported to Italy, while Great Britain was the second most important EU market for the Argentineans. EU imports from Mexico (around 18,200 tons) were much lower. These were also mainly seamless tubes.

It is not foreseeable how the sub-prime mortgage crisis originating from the USA will impact on the world economy in the long term. Apart from this, the positive trend in the steel pipe/tube industry, which has been continuing for several years, is based on the strong, powerful growth of the world economy with a special focus on the threshold countries and continuing heavy demand by the energy industry.

As before, this has led to strong demand for oil-field, pipeline and boiler pipes/tubes. This is complemented by a positive, encouraging order situation for other seamless and welded steel pipes/tubes which are used in major infrastructure projects worldwide.

The positive market perspectives are also reflected in the different investments made by the companies within the sector at the most diverse locations. In addition to China, Russia and Eastern Europe, there is also an expansion of capacities in other regions such as the USA and Brazil.

## EuroBLECH 2008 show

The 2008 EuroBLECH trade show will be held in Hanover, Germany, 21-25 October 2008.

The exhibition will cover the entire sheet metal working technology chain, including areas such as sheet metal, tube and sections (ferrous and non-ferrous); finished products, components and assemblies; handling; separation and cutting; forming; flexible sheet metal working; tube and section processing; joining, welding and fastening; surface treatment of sheet metal; and tools and dies.

Entrance tickets for the event will be available online from August 2008. Tickets can also be purchased on-site on all exhibition open days.

**Mack Brooks Exhibitions Ltd – UK**  
info@euroblech.com • www.euroblech.com

Spiral-welded large pipes, powder-coated on the inside as well as outside, in highly robust steel qualities, are in demand on the international stage and are used, for example, in two ambitious pipeline projects in the USA.

The Rockies Express Pipeline, is a mega pipeline extending over a total of 2,100km, making it the longest US pipeline to have been built in the last 20 years. Used for transporting natural gas from the producing stations in the Rocky Mountains to the east of the USA, the pipeline uses 335km of Salzgitter pipes. A further 215km of spiral pipes are to be used in the construction of the complete Louisiana Pipeline, which transports natural gas

– following its re-conversion – in the form of liquid gas from the Gulf of Mexico to inland Louisiana.

The steel pipe and tube sector therefore has a great deal of momentum as it approaches the next Tube exhibition – 31 March to 4 April 2008 in Düsseldorf. Product focal points will include tubes and tube products, manufacturing and processing machinery, tools such as measuring, control, regulating and testing technology appliances. Around 960 exhibitors are expected, along with 30,000+ visitors.

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## Schenk Stahl GmbH

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Tel: +49 2131 230-37, Fax: +49 2131 230-35  
info@schenk-stahl.de, www.schenk-stahl.de





## PVC pipe market presentation

SolVin SA, Belgium, is a major supplier of PVC resins. The company's three major lines are: general purpose for rigid or plasticized application; PVC pastes for rigid to flexible use end-products; and PVC specialities, mainly represented by copolymers.

The company's pipes and fittings expert, Mr Joël Fumire, gave a presentation at the 3<sup>rd</sup> Chlor-Vinyls Russia and CEE Markets conference, held in Warsaw, Poland, in June 2007.

The presentation included an analysis of the pipe markets in central and eastern Europe, and a focus on the main applications for PVC owing to its cost/performance advantages versus traditional materials.

The presentation can be viewed online at: [www.solvinpvc.com/solvin/services/newshp/0,,56326-2-0,00.htm](http://www.solvinpvc.com/solvin/services/newshp/0,,56326-2-0,00.htm)

**SolVin SA** – Belgium  
[www.solvinpvc.com](http://www.solvinpvc.com)

## Travel and accommodation for Düsseldorf shows

Pressplan Travel Limited, UK, has announced that it is offering a selection of centrally located accommodation for the Tube, wire and METAV Düsseldorf events, which are being staged at the Düsseldorf Exhibition Complex between Monday 31 March and Friday 4 April 2008.

All of the hotels offered are situated in the city centre for easy and convenient access to the exhibition grounds, and range from 2-star to 4-star to suit all needs and budgets. Prices start from £65 per person per night, including breakfast, based on sharing a twin room.

As the three fairs will be running at the same time, accommodation in Düsseldorf will be at a premium, so early booking is recommended.

Pressplan is a fully licensed IATA and ATOL agency, and can also offer ferry and rail travel in addition to flights from all UK airports.

Quotations will be provided based on the lowest fares available at the time of booking.

**Pressplan Travel Limited** – UK  
[info@pressplantravel.com](mailto:info@pressplantravel.com)  
[www.pressplantravel.com](http://www.pressplantravel.com)

## New facility in Mexico

Clark Fixture Technologies, USA, has announced the opening of its newest facility in Mexico.

The facility will design and manufacture the company's full line of quality verification checking and in-process fixtures/gauges. The facility is ISO9001:2000 certified and its quality lab is accredited to 17025 standards.

**Clark Fixture Technologies** – USA  
[sales@clarkfixtures.com](mailto:sales@clarkfixtures.com)  
[www.clarkfixtures.com](http://www.clarkfixtures.com)

**Clark Fixture Technology México S de R L de CV** – Mexico  
[sales@clarkfixtures.com.mx](mailto:sales@clarkfixtures.com.mx)  
[www.clarkfixtures.com](http://www.clarkfixtures.com)

## Homeowners prefer copper tubing

A national survey, commissioned by copper tube manufacturer Mueller Europe, UK, has revealed that 79% of UK homeowners feel more comfortable having copper tubing fitted in their home, when it comes to plumbing and heating systems.



The survey, commissioned through MORI, showed that while many homeowners selected plastic tube, 79% of men and 78% of women preferred copper.

Neil Overton, marketing and sales director of Mueller Europe, commented, "There are many benefits to fitting copper tubing. It's strong, adaptable, tough, and it is 100% recyclable so it's ideal for homes that have an environmentally friendly concept to the structure. Although plastic tubing is quicker to install, copper provides a comfort factor for homeowners because of the way that it is fitted through soldering and it has a very long lifespan. We manufacture a product that provides peace of mind, especially for anyone who is away from the home for long periods of time because the material adapts well with the changing weather."

▲ Mueller Europe manufactures several ranges of copper tube

From a regional point of view, 83% of northern homeowners said they would ask installers to fit copper tubing. The Midlands agreed, with 80% supporting the material, and 78% of southerners were also in favour. This preference towards copper tubing is also shared among UK heating and plumbing engineers, where 57% prefer to install copper over plastic tube on new build housing projects.

Mueller Europe manufactures copper tube to the European Norm 1057:1996 for water, gas, sanitation and heating in the range 6mm to 159mm diameter. These ranges are colour coded Blue, Black, White and Red Labels (formerly tables W, X, Y and Z of BS2871 Part 1). The company also produces a chrome plated range, Protec and Protec 200 plastic coated tube, and ARC tube for refrigeration and engineering applications.

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**Mueller Europe Ltd** – UK  
[sales@muellereurope.com](mailto:sales@muellereurope.com) • [www.muellereurope.com](http://www.muellereurope.com)

## HVAC&R exhibition in Istanbul

ISK-Sodex Istanbul 2008, an international HVAC&R exhibition, will take place from 8 to 11 May 2008. The event, which is held in Istanbul every two years, is claimed to be Eurasia's largest exhibition of HVAC&R (heating, ventilation, air conditioning and refrigeration).

Turkey, with a population of 75 million, is a fast-growing market, partly thanks to its location and socio-economic qualities. The country offers a strategic gateway to conduct business with the growing economies of Eurasia, eg Southeast Europe, the Middle East and the Central Asian Republics.

Turkey is an energy corridor between east and west, with the implementation of natural gas distribution lines and further projects of natural infrastructure, and is also a candidate to become the largest producer and consumer in Europe for the heating appliance industry, as well as other industries related to HVAC&R.

Sodex exhibitions have been held in Istanbul since 1997, and are organised by Hannover Messe Sodeks Fuarcilik AS, Turkey.

ISK-Sodex displays the latest developments and technologies in heating, cooling, ventilating and air conditioning. The 2006 exhibition covered a net area of 49,058m<sup>2</sup>, featured 735 direct exhibitors, and was attended by 73,984 visitors.

**Hannover-Messe Sodeks Fuarcilik AS – Turkey**  
 info@hmsf.com  
 www.sodex.com.tr

## New international sales manager

Uponor Infrastructure UK has appointed a new international sales manager.

Alistair Carson, who joined Uponor as Scottish regional sales manager in 1999 and has led sales and marketing for Uponor Radius in Northern Ireland for the last three years, takes on the role of international sales manager for Uponor Infrastructure on the retirement of Dave Hewson.

Mr Carson now leads a team that includes Helen Xu in China, Tim Perkins in Dubai and Dave Truman in the UK. Alistair will concentrate on growing the company's international division in gas, water and telecommunications, and commented, "Uponor has some exciting international projects happening at the moment, and I'm looking forward to further developing these."

**Uponor Limited – UK**  
 uponor.sales@uponor.co.uk • www.uponorie.co.uk

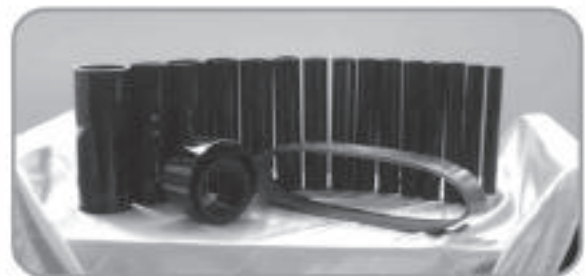
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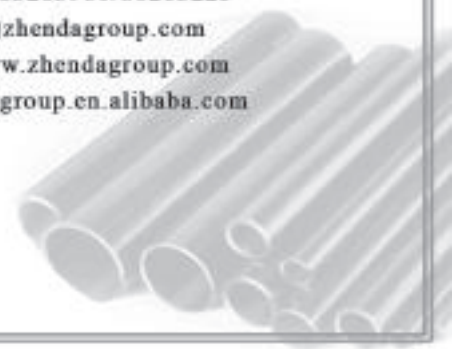
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## The legacy lives on

The Laser Cutting Co, UK, was sad to announce the death of John Stalker, managing director, in October last year, following a lengthy battle with cancer.

Dee Wilde now heads the company as managing director. John and Dee purchased the business in 2003, and have since transformed it with new

investment and a new ethos on quality, productivity and customer focus.

Mr Stalker had previously been managing director of Van Leeuwen Precision Tube, a global supplier of specialist tube and accessories into the petrochemical, construction and other industries.

## Launch of the Gulf Plastics Pipe Academy

Borouge, United Arab Emirates, has announced the launch of the Gulf Plastics Pipe Academy (GPPA), of which it is a founding member. The GPPA, formally launched by Harald Hammer, CEO of Borouge Pte Ltd at Dubai PlastPro, is set to play an important role in increasing the use of high quality plastics pipe systems in the Middle East.

The GPPA is an independent, non-profit organisation that has been formed to promote the use of specified plastics pipe systems and good installation practices in the greater Middle East region.

The organisation represents all stakeholders in the plastic pipe value creation chain, including polymer producers, pipe and fittings producers, pipe system designers and contractors, pipe installers and utility providers.

The organisation's commitment to raising the knowledge and skills required to develop high quality plastics pipe systems will be achieved through developing education and training programmes, promoting standardisation and certification and by encouraging best practice in health, safety and environmental matters. Borouge believes that adopting better plastic pipe systems will benefit all stakeholders and, ultimately, result in advanced pipe networks that provide real benefits to communities in the Middle East.

Mr Hammer commented, *"Robust and leak-free pipe networks are a fundamental element in any country's infrastructure. Borouge recognises the role it can play to address the global challenge of clean water availability and sanitation, and ensure the sustainable development of the communities in which we operate."*

Rob Lawrence, chief executive of GPPA, commented, *"We are pleased to have the support of Borouge during our establishment period. The GPPA will offer a range of services based on the needs identified by those working throughout the plastics pipe value chain and we expect to be able to address many of the concerns that will come from the exceptionally tough environment in the region. The GPPA's unique strength is that its members represent all interested parties, enabling it to be a powerful lobby group on behalf of the industry and its customers."*

*"The GPPA model also has relevance in the significant pipe markets in India and China, where the full benefits of specified plastics pipe systems have yet to be realised,"* added Bjorn Klofolt, vice president of Plastics Pipe Academy Project. *"We have had very positive responses to this joint industry educational initiative from several major Indian and Chinese companies."*

**Borouge** – United Arab Emirates  
info@borouge.com • www.borouge.com

The transition into laser cutting of tube and plate came easily for John, maintaining many long-standing and beneficial business relationships. John was promoted at the age of 25, and became the youngest ever MD in the Ductile Steels Group, and went on to other divisional appointments in the Glynwed International Group, parts of which are now Aga Foodservice or owned by Caparo.

John's career progression took him from MD of individual companies within Glynwed to manage multiple businesses across the UK, France and Canada. John rose to group divisional director and was a charismatic driving force on the operations board of Glynwed Steels for many years.

Dee Wilde said, *"John was proud of the achievements that we were continuing to make at the business. During his illness he was always heartened to see the monthly management figures showing the bottom line going from strength to strength."*

Laser Cutting is continuing with its vision to be a premier supplier of laser cut metal components to blue chip and OEM partners, and has a structured, ongoing investment plan which will see further new automatic loading machines installed in two tranches during 2008. The company is skilled in flat and bent components, as well as tubular components, to provide a combined package to clients such as Tanfield Group, Nifty Lift and Hope Technical Developments.

**The Laser Cutting Co Ltd** – UK  
metal@lasercutting.co.uk  
www.lasercutting.co.uk

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## US\$300 million olefins conversion unit contract for Borouge 2 expansion project

Borouge, United Arab Emirates, a provider of plastics solutions, has awarded to Samsung Engineering a contract worth approximately US\$300 million, for the construction of a new olefins conversion unit (OCU) for Borouge 2, the major expansion project at the company's production facilities in Abu Dhabi.

The unit, which will convert ethylene into propylene to feed two new Borstar® technology polypropylene plants, will be the world's largest using ABB Lummus licensed technology.

Total annual output from the OCU will be 752 kilotonnes of propylene plus 39 kilotonnes of butane-1.

Work on the OCU is scheduled to be completed by mid-2010. Borouge 2 will triple the company's annual production capacity to two million tonnes of polyolefins.

Harri Bucht, chief executive officer of the Borouge production company, commented, "This expansion is not only a cornerstone of Borouge's continued growth as a company, it is a milestone

in the growth of the plastics industry in the Middle East. With the technology of this olefin conversion unit Borouge is leading the way in producing propylene monomer to meet the rising demand for Borstar high performance polypropylene in key markets."

Borstar is a proprietary technology from Borealis, Austria, that supports differentiated PE and PP products.

Benefits include short start-up times, quick transitions among grades and the capacity to produce a whole range of product mix in one cycle.

The next generation of the technology, Borstar PE 2G, represents a leap forward in polymer design – from bi-modal PE to multi-modal PE – allowing the development of a wide range of new plastics by enabling a tailored molecular structure of PE to precisely match the application requirements.

**Borouge** – United Arab Emirates  
info@borouge.com  
www.borouge.com

**Borealis AG** – Austria  
info@borealisgroup.com  
www.borealisgroup.com

## Pipebursting trials

Uponor, UK, has been working closely with National Grid, the North West Gas Alliance, contractor May Gurney and equipment supplier TT UK Ltd, to trial the use of 110mm ProFuse PE100 gas pipe for pipebursting 4" iron mains, using the TT Rollerblade pipebursting system with reduced diameter bursting head.

National Grid's current recommendation for pipebursting with PE pipe is that the minimum PE pipe wall thickness to be used is 11.5mm, limiting the use of this technique to pipe diameters of 125mm SDR11 and above.



▲ Pipebursting with Uponor's ProFuse 110mm pipe

The use of ProFuse, with its external skin, has demonstrated that it is possible to pipeburst 4" iron mains with 110mm ProFuse, while minimising or eliminating damage to the ProFuse core pipe.

110mm ProFuse offers a bore for bore replacement of 4" iron mains, while the combination of the TT Rollerblade cutting head and reduced diameter bursting head has demonstrated that it is

possible to use the pipebursting technique while minimising ground movement and without damaging the existing infrastructure.

The success of the North West Gas Alliance trials has led National Grid to approve the use of 110mm ProFuse for pipebursting applications. A total of 14 pipebursting operations have taken place on six sites so far, and tests carried out by the University of East London to analyse ProFuse samples from all these pipebursting schemes have shown no damage to the ProFuse pipe, and only superficial damage to the peelable outer skin in 1,115m of tested pipe.

**Uponor Limited** – UK  
uponor.sales@uponor.co.uk  
www.uponorie.co.uk

## PaintExpo Trade Fair 2008

PaintExpo, an international trade fair for industrial coating technology, will be held at the Exhibition Center in Karlsruhe, Germany, 11-14 March 2008.

A wide range of standard products and individual solutions will be presented to visitors, and exhibitors will include suppliers of application systems, coatings, pre-treatment, automation, liquid paints, powder coatings and accessories.

Many exhibitors from PaintExpo 2006 will also participate in the 2008 show, and the organiser expects the number of exhibitors to exceed the 244 who took part in the 2006 event.

**FairFair GmbH** – Germany  
haussmann@fairfair.de  
www.paintexpo.de

## Trade fairs for Ukraine, Russia and Kazakhstan HVAC&R markets

In addition to the ISK-Sodex HVAC&R trade fair in Istanbul, Turkey, Sodex is organising three events in Ukraine, Russia and Kazakhstan.

The main exhibiting groups at these events will be: refrigeration and components; insulation; pumps, sanitary equipment, water treatment, fittings, pipes, fire prevention, and valves; air conditioning and ventilation; and heating and solar power.

The Ukrainian event, Sodex Kiev, will be held from 30 January to 2 February 2008, at the Sport Palace venue. Ukraine has a population of 47 million, and its GDP increased by more than 50% from 1999 to 2004. The construction sector is a leading industry pushing the country's economic boom, and several residential construction projects, new hotel investments, hospitals and other facilities illustrate the necessity for the HVAC&R industry in Ukraine.

Sodex Moscow, Russia, takes place from 1 to 4 September 2008, at Hall 1 of the city's Expocentr. Russia has an area of 17 million km<sup>2</sup> (6.5 million sq miles), and a population of over 143 million. The country is rich in raw materials such as oil and natural gas, and has benefited from rising oil and gas prices to become the tenth largest economy in the world.

If the current growth rate is sustained, the country is expected to become the second largest European economy after Germany, and the sixth largest in the world within a few years.

The Russian construction sector encompasses both the renovation of old buildings and the construction of new projects such as 5 star hotels, shopping malls, skyscrapers, skiing centres, infrastructure investments and luxury houses, all of which drive the demand for HVAC&R appliances.

Kazakhstan's Alatau Sport Complex will host Sodex Astana, from 12 to 15 November 2008. Since independence in 1991, Kazakhstan has experienced growing economic health, and has become the first former Soviet Republic to repay all of its debt to the IMF, seven years ahead of schedule.

Planned expansion in oil production is expected to take the country into the ranks of the top ten oil producers. Astana, Kazakhstan's capital, hosts 1,566 hectares of Special Economic Zone (SEZ), with 155 facilities registered and under construction. A second Free Zone is being considered. Together with the State Housing Programme, at least 12 million m<sup>2</sup> of housing is expected to be built.

**Hannover-Messe Sodeks Fuarcilik AS**  
– Turkey  
info@hmsf.com  
www.sodex.com.tr

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# products & developments

Photo – Uponor Ltd  
see page 20

## QuickSwitch wins fans

KraussMaffei, Germany, is a supplier of key application technologies for the plastics and rubber compounding and processing industries. Since launching its QuickSwitch system for inline pipe dimension change in 2003, the company has sold more than 24 systems. Initially engineered only for PO pipe, QuickSwitch systems for PVC pipe are now available.

A number of the new PVC versions have already been sold. European producers were quick to see the benefits of dimension change on the fly. The company supplied a line for PO pipe in the diameter range 25-63mm, with a single-layer pipehead, to an Italian customer. Another line, for 70-160mm pipe and with a 3-layer pipehead, went to an Italian market leader, where it is already in operation.

The system has also established itself in the Eastern Europe pipe market, where QuickSwitch systems for all three currently available dimension ranges have been installed. The lines are headed by single-screw extruders KME 60-36 B/R, KME 75-36 B/R and KME 90-36 B/R, in each case with a single-layer pipehead.

Teamed with the appropriate pipehead, a QuickSwitch system can be used flexibly to produce single- or multi-layer pipe in its specified dimension range. The PVC QuickSwitch version

is currently available in the dimension range 90-160mm, and is capable of processing all PVC dryblends on the market and C-PVC.

The polyolefin QuickSwitch version is currently available for three dimension ranges: 25-63mm, 70-160mm, and 160-250mm. QuickSwitch is supplied either as complete, fully-automated lines or as upgrade kits for existing conventional systems.



▲ The calibration basket is a core component of the QuickSwitch line

The upgrade kits enable a phased transition from conventional pipe production to flexible production with QuickSwitch.

Benefits of the system include reduced costs of dimension changes, break-even and profits with smaller batch sizes, and boosted production capacity (due to the elimination of stoppages).

**KraussMaffei GmbH** – Germany  
[www.kraussmaffei.com](http://www.kraussmaffei.com)

## Growth market in hot water pipes

Cincinnati Extrusion GmbH, Austria, has shipped an aluminium-plastic composite pipe extrusion line and installed it on the premises of Nuova PDM Srl, Italy.

The Italian pipe manufacturer has acquired its first composite pipe extrusion line to extend its product portfolio, with the objective of catering to the growing market for hot water transport pipes.

Thanks to their corrosion resistance and simple laying properties, aluminium composite pipes are increasingly in demand in the sanitary installation industry.

They are particularly gaining ground in the areas of radiator heating systems and potable water transport pipes.

In some countries they have also made a successful entry into under-floor heating systems, where the market is still dominated by PEX and PE-RT pipes.

Factors contributing to this boom in the sanitary installation sector are the absolute resistance to corrosion and high flexibility of composite pipes, for example in on-wall applications, and their impermeability to oxygen in radiator connection pipes.

Another argument in favour of composite pipes for heating and sanitary installations is the continuously high copper price.

Besides weldable pipe systems made of PP-R and PB, the first real breakthrough in hot water transport pipes was achieved with PE-Xa pipes, followed by PE-Xb, PE-Xc and CPVC pipes, depending on the region. PE-RT pipes were mainly used for under-floor heating, until they were also established as inner layers in aluminium composite pipes. The approval for drinking water transport (hygiene requirements) for various types of pipe is granted only after lengthy approval procedures, which often differ from one country to another.

**Cincinnati Extrusion GmbH** – Austria  
welcome@cet-austria.com  
www.cet-austria.com

**Nuova PDM Srl** – Italy  
www.nuovapdm.com

## Indonesian steel manufacturer

PT Steel Pipe Industry of Indonesia (Spindo) is an experienced manufacturer of a wide range of steel pipes/tubes and other related products.

The company is certified to ISO 9002 and API 5L, and its products also comply with international standards such as API, JIS, BS, ASA, ASTM, and SNI, the national standard of Indonesia.

Products undergo pressure tests, leak tests and other tests using high standard testing equipment such as hydrostatic machines, ultrasonic test and evaluation machine, holiday detector and thickness gauge.

Products include ERW pipes (¼"-8"), spiral welded steel pipe (8"-120"), stainless steel pipe (½"-4"), and steel pole.

Other services include inside cement mortar lining, outside wrapping tape/coaltar enamel, general galvanising, shearing service and slitting service.

**Spindo** – Indonesia  
marketing@spindo.co.id  
www.spindo.com

## Pipe couplings for Russian WTW modernisation

Fittings from Viking Johnson, UK, are being used to help bring international quality standards to one of the Russian Federation's largest water treatment plants.

FlexLock and UltraGrip couplings are being supplied for connecting filtration pipework in St Petersburg's Northern water treatment works, which is being modernised and expanded to a capacity of 1,275MI/d.



FlexLock is particularly suitable for above-ground applications and as an alternative to traditional anchoring systems, and UltraGrip is a versatile means of gripping and sealing onto most pipe materials.

▲ Viking Johnson's UltraGrip pipe coupling

The Northern WTW project is part of a comprehensive upgrading of the water and wastewater facilities serving St Petersburg's 5 million inhabitants. It has been commissioned by the city's water utility Vodokanal, and is the first in Russia certified to ISO 14001. Funded by the European Bank for Reconstruction and Development, the programme is being implemented by an international consortium with input from the UK, Sweden and Finland.

Viking Johnson's patented FlexLock range of self-anchoring pipe couplings and flange adapters is a quick and simple alternative to on-site welding, harnessing or thrust blocks. Suitable for ductile iron or steel pipes, FlexLock has stainless steel teeth moulded into the gasket that grip the outer surface of the pipe as the bolts are tightened, preventing pipe pullout under pressure yet still allowing for angular deflection.

Available in nominal sizes from DN50 (2") up to DN300 (12"), FlexLock couplings and flange adaptors have pressure ratings of 16 bar from DN50 to DN200 and 10 bar from DN250 to DN300. Couplings can accommodate total angular deflection of  $\pm 6^\circ$  ( $\pm 3^\circ$  for flange adaptors).

UltraGrip pipe couplings, flange adaptors, Pecatadaptors and end caps are supplied complete with unique grippers that offer full end restraint to most pipeline materials equally effectively to prevent axial movement due to the internal pressure in the pipeline. This makes them particularly suitable for transitions between grey cast iron and PE when repairing or rehabilitating pipelines.

The convenience of UltraGrip is further enhanced by its wide tolerance range of up to 44mm, which simplifies stockholding and installation. In appropriate cases, pipes of different materials and diameters can be joined by a single UltraGrip coupling. Extended sleeve length makes the couplings easy to position when site conditions are difficult, and grippers remain visible after installation so that the end load restraint can be confirmed.

Both products are protected against corrosion and handling damage by a coating of Rilsan Nylon 11, which meets WIS 4-52-01 (Part 1) performance standards. Nuts and bolts are coated with PTFE Sheraplex in accordance with WIS 4-52-03.

**Viking Johnson – UK**  
info@vikingjohnson.com • www.vikingjohnson.com



## International steel products supplier

Attieh Steel Ltd (ASL), originally based in Jeddah, Saudi Arabia, has branch offices throughout the Gulf area and is expanding operations to other parts of the Middle East and Africa. The company is divided into three main divisions: industrial and commercial steel, building material, and oil and gas.

To support its 46 outlets in Saudi Arabia, UAE, Qatar, Kuwait, Oman, Bahrain,

Jordan, and Sudan, ASL has four main warehouses and logistics hubs covering the region, in Jeddah, Dammam, Riyadh and Dubai, with a combined area of 950,000m<sup>2</sup>.

The company's newly established oil and gas division was set up to serve the growing demand for tubes, pipes, fittings and other related accessories in the oil, gas and construction industries.

Operations in the division began in Saudi Arabia in 2007, and are expected to spread all over the Gulf region within 2008.

ASL operates in international steel markets and through strategic alliances with local and international mills such as Tubos, Schulz, Mega, Delcorte, Sumitomo, Anabeeb and Precision Forging.

The company successfully obtained exclusive rights of distribution and sales of Tubos CS pipes in Saudi Arabia and Kuwait, and Schulz SS pipes and fittings for Saudi Arabia.

**Attieh Steel Co Ltd** – Saudi Arabia  
attieh@attiegroup.com  
www.attiegroup.com

## Ultra Fortis now available from stock

The Ultra Fortis sewer pipe system from Uponor is now available to installers across the UK.

Fortis is a structured solid wall thermoplastic sewer pipe which not only meets stringent Kitemark certification, but also resists water jetting pressures of up to 4000 psi in accordance with Water Industry Specification (WIS) 4-35-01, and has independent third party verification from BSI.



▲ The Fortis sewer pipe system from Uponor

The system is designed for use in non-pressure gravity sewer applications, and is available in three diameters: 150mm, 225mm and 300mm. All three sizes have BSI Kitemark certification against WIS 4-35-01. Fortis meets the additional specific requirements of Thames Water Utilities, Southern Water and Anglian Water, as well as Sewers for Adoption 6.

Claimed to be the industry's highest performing structured solid wall

sewer pipe ever developed in response to industry requirements, Fortis has a distinctive brown ribbed outer surface and blue inner. Robust yet light, Fortis is up to 10 times lighter than clay. For example, the clay equivalent of a 7.5kg, 1m long 300mm Fortis rocker pipe weighs in excess of 72kg.

The impact resistance of Fortis is 50 times higher than clay, leading to fewer breakages on site, and jointing is reduced by up to 58%, as Fortis is supplied in longer pipe lengths than traditional materials.

Uponor application manager Lawrence Richards confirmed that South of England installations had already commenced, following transfer and commissioning of UK-based manufacturing for all sizes up to 300mm, to provide a technically advanced, high performing, long-term solution for sewers of 300mm and below. A full range of socketed fittings and adaptors to alternative materials is also available.

Fortis stocks are available through Burdens, UK.

**Uponor Limited** – UK  
uponor.sales@uponor.co.uk • www.uponorie.co.uk

**Burdens** – UK  
www.burdens.co.uk

## Wide range of steel products

Peter Holzrichter GmbH, Germany, offers a product range consisting of hot and cold rolled steel, stainless steel, bright steel, aluminium, sheets, piston rods and cylinder tubes (also hardened and stainless), tubes, strips, coils and slit strips.



▲ Peter Holzrichter GmbH manufactures products using a range of different steels

In addition to its trade business conducted from warehouse locations in Wuppertal and Herdecke, and the soon to be re-opened warehouse in Schwerte-Geisecke, the service division is gaining increasing importance with sawing plants, longitudinal parts and cut-to-length lines, as well as machines for grinding and foil coating of flat products.

**Peter Holzrichter GmbH** – Germany  
info@holzrichter-stahl.de  
www.holzrichter-stahl.de

# Stainless Steel Tubes, Pipes, Fittings and Flanges for Industrial Applications

**we know how**

Power  
Chemical  
Engineering  
Shipyards  
Oil & Gas  
Projects



## Tube flaring system from Swagelok

The Swagelok® FTF 1000 plastic tube flaring system from Swagelok Company, USA, flares the end of plastic tubing prior to installation with PFA fine thread flare type fittings.

The flaring system provides consistent, well-shaped flares of 1/4, 3/8, 1/2, 3/4 and 1" PFA and FEP tubing, which increase the reliability of plastic fluid systems by reducing potential entrapment areas and ensuring a leak-tight connection. The flaring tool features a robust, patent-pending design, making it easy to operate with minimal training. The unit is portable and features improved cycle times compared to other available flaring technologies.

Swagelok claims that its FTF 1000 system is a major improvement for customers using existing cold and

hot flaring technology, which fails to provide repeatable, well-formed tube ends. Inconsistent flaring results in poor mating of the tube-to-fitting connection, which can lead to installation difficulties, create large entrapment areas, and produce leaks.

Headquartered in Santa Clara, California, with manufacturing and distribution facilities located near Cleveland, Ohio, Swagelok Semiconductor Services Company is a strategic business unit of Swagelok Company, dedicated to developing and manufacturing fluid system component technology for the global semiconductor manufacturing industry.

**Swagelok Company** – USA  
janice.drost@swagelok.com  
www.swagelok.com

## Concentric workholding of pipes, tubes, bars and shafts

The revised and extended workholding XR systems, built by Arla Maschinentchnik GmbH, Germany, are very stiff units used for realising a concentric, accurate, and firm clamp of round workpieces such as pipes and tubes, or any other symmetrical parts.

According to the model size, the maximum outer diameter is between 5mm and 410mm, which is compatible with a maximum pipe size of 16" or less.

Mechanically synchronous clamping technology allows a high clamping force of between 10 and 175 kN to be achieved.



▲ Arla's clamping device with pneumatic actuation

The workholding systems are actuated either manually, pneumatically, or hydraulically. With reference to the workpiece design, changeable jaw sets, with optional integrated workpiece support, are used to allow the diameter to be reduced without readjusting the centre for every change of diameter. The fast motion of the actuation arms is monitored by sensors.

Typical applications are found in endworking processes, in special-purpose machine tools such as those in transfer lines or trunnion machines.

**Arla Maschinentchnik GmbH**  
– Germany  
info@arla.de  
www.arla.de

## Hoses for abrasive material transportation

Masterflex, UK, is a European manufacturer of flexible hose and ductings.

The company's products include the Master PUR range of polyurethane hoses for the transportation of granular and other abrasive materials.

The flexible, lightweight hoses are abrasion resistant and feature a smooth bore to provide good flow characteristics.

To complement this range of hoses, Masterflex has introduced the Combiflex connecting system. The system is available in fixed and screwable versions with two types of cuffs, fixed and swivel flanges, threaded socket to suit many standard couplings and pipe fittings, and a quick release male and female connection.

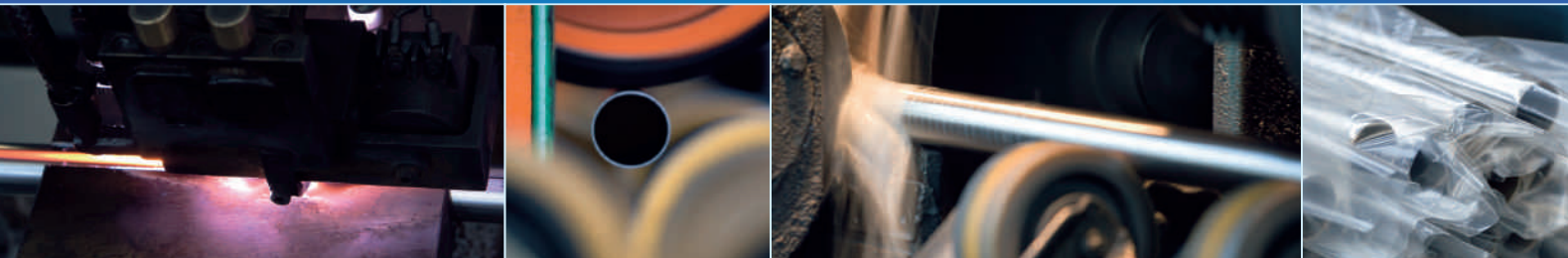
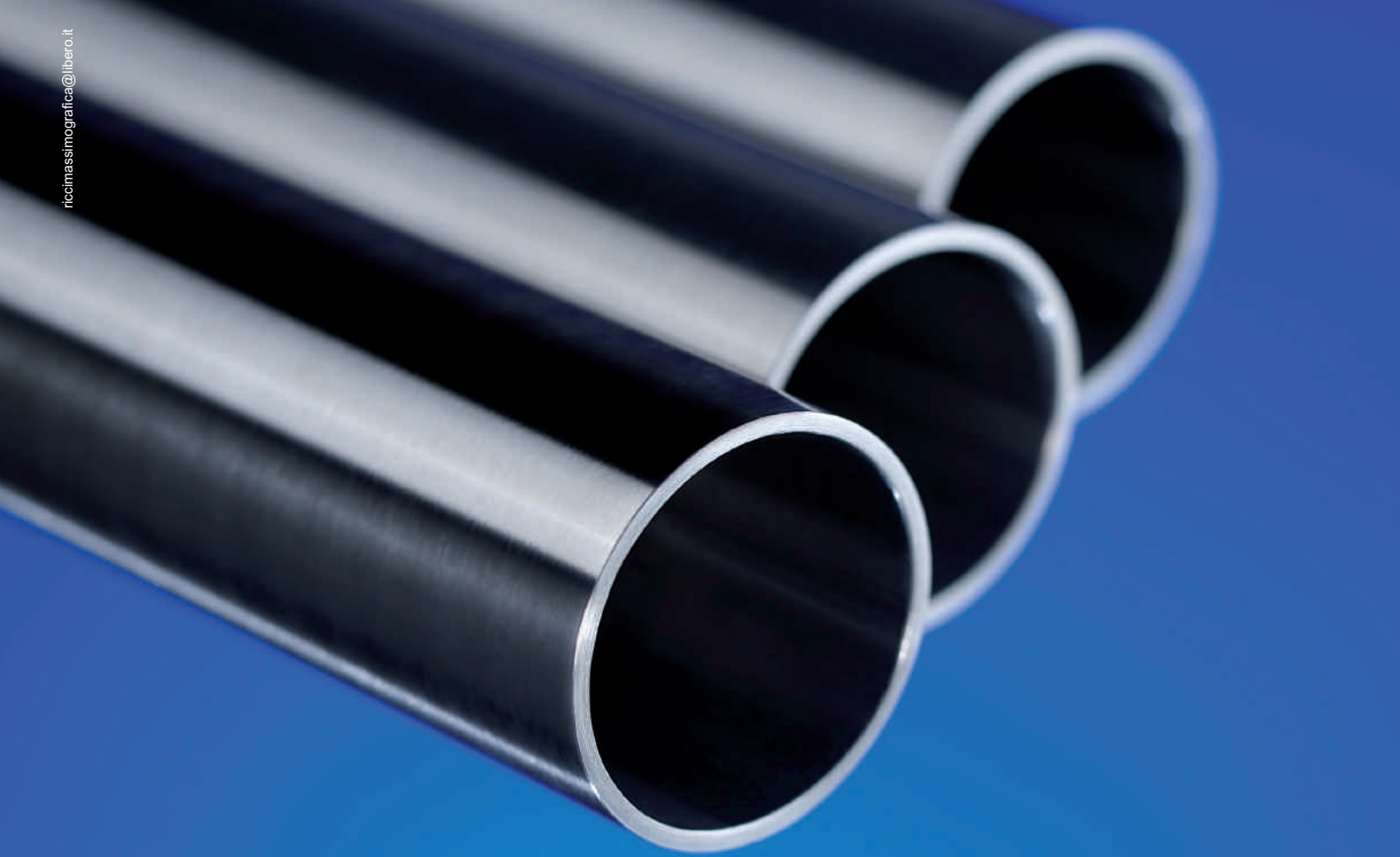


▲ A selection from Masterflex's Combiflex range of connectors

The company also manufactures Master-Clip fabric and polymer ductings, which are mechanically locked with a robust external wire helix, and available in a size range of 38-900mm. The special materials and construction used means the range can accommodate applications covering temperatures from -260°C to +1,100°C.

Masterflex has also developed a wear resistant range of pipe bends for pneumatic conveying systems, for use in a range of industries, including chemical, construction material, foundry and glass manufacturing.

**Masterflex Technical Hoses Limited** – UK  
info@masterflex-uk.com • www.masterflex-uk.com



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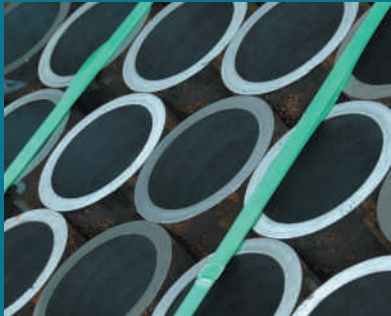
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Tel. +39 0341 201 724  
Fax +39 0341 206 150

[www.tubi-tis.it](http://www.tubi-tis.it)  
[info@tubi-tis.it](mailto:info@tubi-tis.it)





## New European standard for steel tubes leads to wider choice



▲ Pouchard has introduced tubes of new dimensions in response to the new European standard

EN 10294-1 is a new European standard for steel tubes that are used for machining mechanical components.

Steel tube manufacturer Pouchard, France, has responded to the new standard by introducing an additional range of dimensions to its already extensive stock list of carbon steel tubes.

The wider choice of sizes now available should allow customers reduce overall component costs by using the optimum size of tube.

New tubes available for machining mechanical parts to high quality include Grade E470.

**Pouchard** – France  
pantin@pouchard.fr • www.pouchard.com

## New product launch: boiler pipes

Steel pipes and wheels producer Interpipe is strongly focussed on technologically sophisticated pipe products for machinery and power generation.

Interpipe manufactures a wide variety of seamless pipe products for special applications.

The company's principal products in this segment are boiler pipes, roller pipes, pipes for submerged pump stations, precision pipes and cold drawn pipes. These products are primarily used in the power, oil and gas, machinery, automotive and shipbuilding industries.

Boiler tubes and pipes are the specific products used in boiler plants (steam generators), operating under high pressure and high temperature, and are used in industries where indirect heating and steam are used.

The major consumers are heat power plants, petroleum processing and chemical plants, as well as the food industry.



▲ Hot mill in operation

In boiler plants the pipes are built up as coils in units and welded by high frequency welding. In the boiler water circulates in tubes externally by hot gas, which can be generated inside the boiler itself (conventional steam generator), or outside the boiler (heat recovery steam generator).

The growth surge in the power industry and the growth in demand for electrical energy have directly challenged producers of power generation equipment.

## Steel pipes, valves and fittings

Borşen Boru, Turkey, is a distributor of steel pipes, valves and fittings, and a manufacturer of TIG welded stainless steel pipes.

The company is the Turkish representative and single distributor of Ham-Let for valves and fittings, and of Alfa-Laval for sanitary flow equipment. In January 2006, the company started to manufacture TIG welded stainless steel pipes in its own facilities.

Manufacturing processes such as tricathode TIG welding, outside and inside bead removal, in-line bright annealing, straightening, surface finishing and tube-end deburring allow Borşen Boru to meet delivery expectations.

Borşen Boru continually improves products, processes, services, and uses the latest manufacturing technology.

The company's production line has two eddy current systems. The first test system is used to detect defects of incomplete welding, and the second is used to test whole pipe section after the annealing process.



▲ Borşen Boru distributes steel pipes, valves and fittings

The company is focussed on continuous quality control and improvement. Some of the standard tests in its new non-destructive and destructive quality control test laboratory include chemical analysis by spectrometer, surface roughness test, hardness test, tensile test, shear strength test, flattening test, flaring test, reverse bending test and hydrostatic test.

Stainless steel tubes produced by Borşen have a producer test and analysis report according to EN 10204/3.1.

Technical specifications include outside diameter from 19 to 76.1mm, wall thickness from 0.5 to 4mm, tolerance D4/T3, and length tolerance 3m to 12m.

**Borşen Boru** – Turkey  
borsen@borsenboru.com  
www.borsenboru.com

As a result of these circumstances, Interpipe launched a new line for the production of boiler pipes up to 24m in length and 31.8 to 114.3mm in diameter, according to ASTM, DIN, EN standards. The new production line is situated at one of the company's mills – Interpipe Niko Tube.

The first step was the test rolling of boiler pipes from low-alloy steel grades 13CrMo4-4, 16Mo3, 13CrMo4-5, 10CrMo9-10 in the range from 32 to 76mm.

As a result of test rolling, many of the issues associated with boiler pipe production were identified and defined, such as the high requirements of metal cleanness, internal cleanness (descaling) and external surface and precision of geometric measurements. The advantages of rolling at pipe-rolling mill 30-120 are: high quality of internal surface (due to free moving long mandrel); availability of large squeezes at 24 stand stretch-reducing mill that helps to avoid internal cutting; and high total deformation providing high quality metal structure.



▲ *Finishing line at Interpipe*

The company made the decision to reduce the diameter of boiler pipes from 57 to 32mm.

The heat treatment of boiler pipes depends on the grade of steel, class

and category based on standard and includes annealing and tempering. The pipes' quality is monitored by considerable testing, which includes stretching, flattening, dispensing, chemical analysis, hydro and eddy-current and ultrasonic (for availability of longitudinal, transversal defect, exfoliations).

The process flow currently includes hot rolling through the piercing mill, continuous rolling mill and sizer.

To exclude the influence of limescale (as a result of heating) at surface, the line is equipped with a capacity of descaling water (p=160atm).

Needing to provide the highest quality of heat treatment (normalising and tempering), the tempering furnace of 111m has been considerably upgraded.

The company has also installed a new finishing line which includes equipment for pipe straightening in oblique roll straightening machines, pipe facing, finishing line control room, geometry measuring and a non-destructive



## Progress by Tradition

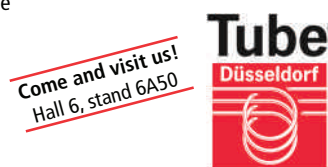
For more than 225 years BUTTING has been supporting the customers with its skill and innovations. We produce longitudinally welded stainless steel and clad pipes, fittings, piping components and vessels for end users all over the world and for many industrial sectors: e.g. chemical industry, oil and gas industry, ship-building and food industry, pneumatic conveyors and water treatment plants.

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➔ testing machine (MAC), which provides ultrasonic, electromagnetic testing and grades verification.

The line project facility has a capacity of 30,000 tubes per year.

Production facilities include a continuous mandrel mill for the production of seamless pipes from 32 to 114.3mm; general finishing floors, including testing equipment; a quench and tempering heat treatment line for seamless OCTG and transport line pipes; upsetting lines for seamless OCTG; non-destructive testing (ultrasonic, electromagnetic, magnetic and vortex-current); lines for pipe and coupling threading, hydrotesting, coating and bundling; and finishing line and annealing heat treatment line for boiler pipes.

**Interpipe** – Ukraine  
officeChudnovskyDp@interpipe.biz  
www.interpipe.biz

## Aluminium precision drawn tubes

Tan-V-Tech Aluminium, India, manufactures aluminium redrawn profiles, tubes, sections, rods, profile rods, linear motion parts, pipes, strips and coils, and is a specialist in non-ferrous drawing.

The company, which has recently doubled its production capacity, supplies drawn aluminium tubes to many pneumatic cylinder manufacturers. Tolerances are as close as  $\pm 0.02$  on both OD and ID, and products feature a reduced weight compared to extruded tubes, with no eccentricity or ovality.

Tan-V-Tech's production range is from 1mm to 100mm OD, with thickness ranging from 0.1mm to 20mm. The company, which has already developed ISO series dimension tubes, can also develop special sizes, according to

customers' requirements, to enable proper cutting, chamfering, threading and flaring. Tubes in small cut length can also be supplied. The company has special instrument to check all parameters relating to pneumatic barrels.

Aluminium drawn tubes can be provided in a range of alloys, depending on the application, including 1050, 1070, 1100 F, 2012, 3100, 3103, 5052, 6061, 6063, 6351, and 6082.

**Tan-V-Tech Aluminium** – India  
hemangrshah2001@sancharnet.in  
www.tanvtechdrawnaluminium.com

## Extended range of aluminium pipe plugs

Huntingdon Fusion Techniques Ltd, UK, (HFT Pipestopper™ Division) has extended its product range and introduced four new diameters of aluminium pipe plug to the market.

These plugs, also known as pipe (end) stoppers or test plugs, are primarily used in petrochemistry, water supply and effluent, as well as in power stations and the construction business. Aluminium plugs from HFT are suitable for use whenever a pipe or duct needs to be temporarily sealed for a leakage test or for other reasons.

The extended product range now includes plugs with 40, 65, 90 and 115mm diameters, so that pipes ranging in diameter from 40 to 165mm can now be sealed.

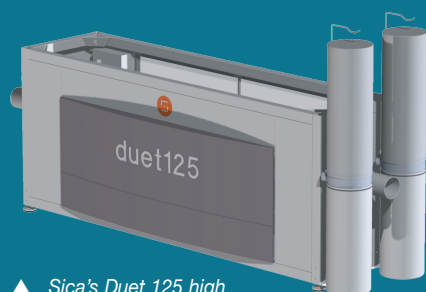
The plugs are manufactured using a new process, which ensures higher quality at the same price. The company was able to lower production costs to an extent that enabled the price rises of polymers (rubber seals) during recent months to be offset, allowing a stable price to be maintained and guaranteed.

The plugs are normally supplied with a seal manufactured from natural rubber. For special uses, seals manufactured from various synthetic rubbers can

## Super-fast cutting machine

Duet is a new Sica patent for a machine and cutting method for producing large quantities of short pipes on high-speed extrusion lines.

Duet cuts pipes made of PP, HDPE and PVC-U, and the 125 version, for PP pipe, makes as many as 35 bevelled cuts per minute, achieving an hourly production rate of over 2,000 crop ends 150mm long.



▲ Sica's Duet 125 high speed cutting machine

The machine's electronic control unit allows the programming of the quantities of crop ends of different lengths that are to be produced in succession or at the same time.

High precision in the length of the crop end ( $\pm 1$ mm) is guaranteed by the 'cutting on the go' CNC control system (Sica patent), synchronised with the pipe speed and precise positioning on the point of the pipe to be cut.

For bevel cutting, Duet 125 allows the installation of interchangeable cutters to a new Sica design with better efficiency and less noise.

The machine includes the innovations already applied to the TRS series of planetary saws: the system for moving the carriage with belt drives, the expansion of the shavings extraction systems (Dust Jet type of Sica devices) to collect the extracted product in a single place, and the expansion of the planetary unit rotation system, with the motor members positioned outside the machine's rotating drum, to reduce the inertia of the drum and make the cutting operations faster.

**Sica SpA** – Italy  
info@sica-italy.com • www.sica-italy.com

also be supplied, such as nitrile rubber (NBR), chloroprene rubber (CR) and fluorine rubber (FPM). NBR guarantees high oil and petrol resistance, CR offers high ozone and atmospheric weathering protection while FPM has proved to be extremely heat resistant.

In certain cases, a longer threaded-hollow-shank is required, eg when a plug must be inserted further into a pipe or when the placement of two seals on a shank is required in order to maintain greater pressure.

A further advantage of the HFT aluminium plugs is the existence of a friction free washer made of synthetic material, which allows the plugs to be easily tightened by hand without the aid of additional tools, and makes damage to or breakage of the wings nuts almost impossible.

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

## Steel products from Taiwan

Yee Young Industrial Co Ltd, Taiwan, is an ISO 9001:2000 approved company with over 20 years of experience in the manufacture of all types of hydraulic/pneumatic cylinder honed tubes, chromium plated piston rod, linear motion shift and all kinds of fluid power transmission products.

▼ A selection of products from Yee Young



## Modern production and plant technology



▲ Aro Steel was established to produce steel pipes in Asia

has enabled the company to set up exclusive working relationships with sector leaders, enabling the newly established organisation to make its mark in the European steel sector.

The company's production range consists of:

- EN 10219 round, square and rectangular cold formed structural pipes, produced to S355J2H quality level and 3.1 certified (dimensions up to 500 x 500 x 20mm)
- EN 10210 round, square and rectangular hot finished structural pipes, produced to S355J2H quality level and 3.1 certified (dimensions up to 500 x 500 x 20mm)
- Black welded gas and water pipes, hot galvanised with smooth end
- 235 quality pipes, round, square and rectangular, black, hot galvanised
- Pipes made of hot galvanised strip
- Black, pickled, galvanised sheet steel

**Aro Steel** – Italy  
info@arosteel.com • www.arosteel.com

The company offers the guarantee that its steel tube, pipes and rods are manufactured and delivered according to the highest quality standards.

**Yee Young Industrial Co Ltd** – Taiwan  
service@yeeyoung.com.tw  
www.fluid-power.com.tw

## Mexican ERW manufacturer with US subsidiary

Tubería Laguna SA de CV, a Mexican ERW carbon steel pipe manufacturer, recently opened its first foreign subsidiary, Laguna Tubular Products, USA. Located in the Houston area, the new facility will distribute all Tubería Laguna products, including carbon steel line pipe (from 2<sup>3</sup>/<sub>8</sub>" to 24" OD), OCTG casing and tubing (from 2<sup>3</sup>/<sub>8</sub>" to 6<sup>5</sup>/<sub>8</sub>" ), bridge slot and mill slot casing, and pipe column. The company also

offers services such as FBE and 3-layer pipe coatings, and cathodic inspection and protection systems. Like many pipe manufacturers, Tubería Laguna has a range of different certifications that prove its high quality standards. In addition to ISO9001:2000 and the American Petroleum Institute API-5L certifications, the company recently achieved the API-5CT certification.

offers services such as FBE and 3-layer pipe coatings, and cathodic inspection and protection systems. Like many pipe manufacturers, Tubería Laguna has a range of different certifications that prove its high quality standards. In addition to ISO9001:2000 and the American Petroleum Institute API-5L certifications, the company recently achieved the API-5CT certification.

The motivation of the company's founding partners, the high quality standard of the product and acknowledged production experience

has enabled the company to set up exclusive working relationships with sector leaders, enabling the newly established organisation to make its mark in the European steel sector.

Tubería Laguna has played a key role in Mexico's energy sector, and has supplied important ERW pipeline projects for Petroleos Mexicanos (Pemex), including sour gas line pipe. The company is an Associate Member of Technical Program of PRCI (Pipeline Research Council International, Inc) in the USA, sponsoring research to improve pipeline performance. In addition to mill facilities in Northern Mexico, the company has nine distribution centres throughout Mexico.

**Tubería Laguna SA de CV** – Mexico  
luis.salinas@tuberialaguna.com.mx  
www.tuberialaguna.com.mx



## PE pipes and fittings – breaking records at the new Wembley Stadium

George Fischer Sales Limited, UK, has supplied Elgef electrofusion and PE moulded butt fusion fittings for use in London's new Wembley Stadium. The company's products are used to convey water to the stadium's 2,618 toilets – more than any other stadium in the world, according to estimates by operator Wembley National Stadium Ltd.

Much of the PE moulded butt fusion pipework was 'customised' off-site at George Fischer's facility in Coventry, UK, which reduced both on-site working and the amount of skilled labour required, shortened the contract time and helped contain costs. George Fischer's products provided the mechanical engineers who designed the system with a comprehensive range of fittings, tubes and couplings, for manual and automatic valves, from 20mm to 315mm, as well as associated control and measurement systems.

The company's light, PE moulded butt fusion fittings reduced the weight imposed on the stadium's plant room structure, and will remain stable at very low temperatures while retaining flexibility and chemical resistance. The PE pipe and fittings have high impact strength, and an operating temperature range from -50°C to +60°C. The fittings are designed to enable simple yet perfect joints. Mouth entry zones are designed for easy pipe insertion, with a depth marking, and exact alignment is made easier by 45° divisional markings. To protect the fusion zones on fittings from contamination, fittings are supplied in clear PE bags.

George Fischer's high performance MSA electrofusion jointing system units are lightweight, rugged and easy to use, and feature an aluminium housing with in-built cooling. With an exchangeable memory card, the MSA electrofusion units provide automatic recording data, and feature a fusion programme which means joint integrity is traceable by means of a bar code system.

**George Fischer Sales Limited – UK**  
uk.ps@georgfischer.co.uk  
www.georgfischer.co.uk

## Precise CNC end-working of pipes, tubes and shafts

Arla Maschinenteknik GmbH, Germany, builds CNC controlled end-working machines for single-sided or double-sided end-working. The company's machines are based on a solid frame with one or two precise machining units, and include a unique concentric work-holding technology.

The Arla end-working machine can be compared to two separate CNC lathes, operated independently for every side of the workpiece. The principal difference is that this end-working concept incorporates a fixed workpiece and revolving tools. All machining units are directly driven by servomotors and are therefore very stiff and designed for high torques.

Typical applications include turning, tapping, threading, chamfering, boring, drilling, milling, de-burring, slotting, and other operations where additional slide units are necessary for a multi-axis machining. In order to produce complex contours, facing heads can also be implemented in dedicated machining units.

**Arla Maschinenteknik GmbH**  
– Germany  
info@arla.de  
www.arla.de

## A partner in the steel market

Pipex Italia, established in 1993, has a team consisting of specialists with many years of industrial and commercial experience in the seamless and welded tube industry.

The company's expertise extends from raw materials through to finished products, and includes billets, coils, seamless pipes, welded pipes, fittings and flanges. In 2004, the company established a quality management system according to DIN EN ISO 9001:2000.

**Pipex Italia – Italy**  
info@pipex.it  
www.pipex.it

## Molybdenum, titanium and tungsten products

Benxi Nonferrous Metal Alloys Factory, China, develops titanium, molybdenum and tungsten products.

The company's molybdenum products include rod, bar, wire, plate, sheet, foil, discs, nuts, washer screws, hangers, pins and special shaped products.

Titanium products include rod, bar, wire, tube, alloy pipe, plate, sheet, foil, bolts, pads, nuts, washer fasteners (DIN, ANSI, ISO, JIS and GB) and special shaped products. The company's tungsten product list consists of rod, sheet, plate, washer wire, tungsten-copper rod (for EDM machines), filaments (for lamps), electrodes (for welding) and heating elements.

**Benxi Nonferrous Metal Alloys Factory – China**  
salesmike@126.com  
www.benxiyongxing.com

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# Fittings



Photo – Erne Fittings GmbH, see page 34

## New series of multipurpose ball valves

Swagelok Company, USA, develops and provides fluid system solutions, including products, assemblies and services for the research, instrumentation, pharmaceutical, oil and gas, power, petrochemical, alternative fuels, and semi-conductor industries.

The company's new SK series multipurpose ball valves offer positive, quarter-turn shut-off for general process and control applications in fluid systems.

Key features of the new valves are 316 stainless steel construction, spring-loaded seats, floating ball, low-torque operation, and compact design.

The spring-loaded seats and floating ball provide leak-tight integrity in both low- and high-pressure systems, while reducing wear and extending cycle life. Low-torque allows for easy manual operation and the use of smaller pneumatic and electric actuators. Compact envelope and standard panel mounting make the valves suitable for installation in panels.

In addition to manual actuation, SK series valves are available with standard Swagelok or ISO 5211-compliant rack and pinion pneumatic actuators. End connection options include Swagelok gaugeable tube fitting, NPT and ISO



▲ The SK series multipurpose ball valves from Swagelok company

pipe, and VCO® O-ring face seal. Sizes are 1/4", 3/8", 6mm and 8mm. Service options include low-temperature and sour gas applications.

The new valves are rated for working pressures to 6,000 psi (413 bar), and temperatures ranging from -40° to 302°F (-40° to 150°C).

**Swagelok Company – USA**  
[www.swagelok.com](http://www.swagelok.com)

**Swagelok Europe – Switzerland**  
[www.swagelok.com](http://www.swagelok.com)

## Carbon and stainless steel pipe and fittings

Petek Boru Sanayi AS, Turkey, produces and coats carbon and stainless steel pipe and fittings, and also manufactures polyethylene pipe and fittings.

The company's spirally welded steel pipe production line can manufacture pipe from 8" to 48" (219.1 to 1,219mm) diameter range and 3.2 to 12.7mm wall thickness range, via continuous on-line UT (ultrasonic test) control. Current production capacity is 15,000 tons per year.

Petek Boru continuously invests in up-to-date technology in order to ensure production of high-quality products.

▼ Petek Boru can manufacture spirally welded steel pipe from 8" to 48" in diameter



The company has EN 10217-1 and ISO 9001-TUV SUD certifications, and can produce according to ASTM A-53 standards. The company has started to build a new 40,000m<sup>2</sup> facility in Sakarya, Turkey, to increase its production capacity.

The company's manufacturing portfolio consists of: spirally welded steel pipes (carbon steel and stainless steel); fittings (carbon steel and stainless steel), including elbows, tees and reducers; HDPE 100 polyethylene pipes and fittings; chimney pipes; victaulic pipes; sigur-headed pipes; and threading and coupling.



▲ The company exports 30% of its annual production and sales turnover

Coatings and linings of pipes include PE (polyethylene) coating, FBE (fusion bonded epoxy) coating and lining, solvent-free epoxy coating and lining, bitumen coating, concrete lining, and thermal insulation (geothermal). The company also sells seamless pipe and fittings, ductile iron pipes and fittings, sewage pipes, irrigation pipes, natural gas and petroleum pipes, boiler pipes, construction pipes, rectangular and square sections, and cold drawn pipes.

**Petek Boru Sanayi AS** – Turkey

info@petekboru.com.tr

www.petekboru.com.tr

## System for thermal installations

Eurotubi Pressfitting, from Eurotubi Europa, Italy, is a system of tubes and fittings used for hydrothermosanitary installations, and is suitable for the conveyance of water, gas, and compressed air.

The fittings are able to support high pressures and temperatures over 85°C. Tubes and fittings are assembled through the permanent deformation of the fitting by special pressing jaws

## Grooved piping for faster installation

Victaulic, USA, manufactures grooved and plain-end mechanical pipe joining systems. The company's product range is based around its mechanical bolted coupling that fits into grooves with a gasket seal.

The grooved piping method reduces the amount of installation time and saves a claimed 10 to 30% on total installed costs compared to welding, threading or flanging.

This method is used for HVAC, plumbing, fire protection, water and wastewater treatment, oil field operations, mining, industrial processes, power plants, military and marine systems, and other demanding fluid-handling applications.

The Victaulic grooved-end product range consists of rigid and flexible couplings, fittings, valves and tools and accessories. The grooved piping method accommodates most piping materials, including lightwall, standard and extra-heavy steel, stainless, aluminium, PVC, ABS and other plastics, as well as FRP glass fibre and high-density polyethylene and polybutylene.



▲ A range of Victaulic couplings and fittings

In addition, products for copper tubing (CTS) and ductile iron (AWWA) for water supply, and underground and waste-treatment process piping are available.

Metric/ISO sizes are available in addition to products made to British Standards (BS), Deutsches Institut Fur Normung eV (DIN), Japanese Industrial Standards (JIS), Australia Standards (AS) and other worldwide specifications.

Victaulic also offers products using unique joining methods. For example, using a spline to join pipe, the Aquamine system offers reusable, high-impact PVC pipe, couplings and fittings for water-system solutions. The Depend-O-Lok line of products allows mechanical joining of large diameter pipe regardless of the size or standard.

The Victaulic joining system can achieve working pressures up to 1,000 psi (69 bar), and with correct gasket selection, temperatures up to 110°C, making it suitable for the HVAC, fire protection and industrial markets. Victaulic coupling and fitting sizes range from 25mm to 600mm, with its latest product, the new Advanced Groove System (AGS), accommodating sizes 350mm to 600mm.

**Victaulic** – USA

victaulic@victaulic.com • www.victaulic.com

mounted on small electromechanical tools. Once pressed, the O-ring ensures hermetical connection.

The Pressfitting system combines the reliability of joints with a quick and easy method of laying, as it requires no gluing, threading or welding. A wide range of fittings are available in diameters from 15mm to 108mm in stainless steel 316L, and in diameters from 12mm to 108mm in carbon steel.

The quality of materials, constant sealing and duration tests, and rigorous quality control allow the Eurotubi Pressfitting System to obtain conformity within strict European certifications. Carbon steel provides a competitive solution for thermal installations, offering the same quality provided by copper systems, at lower cost. The Eurotubi Pressfitting System is also compatible with most significant brands of fittings.

**Eurotubi Europa** – Italy

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www.eurotubieuropa.it



## Fittings in PPSU

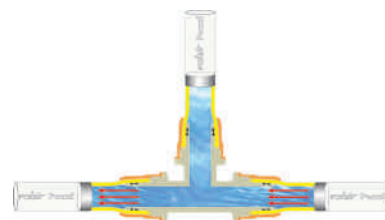
Valsir, Italy, is a specialist in the technology of multilayer pipes and crimp-fittings. The company's Pexal-easy is an advanced system of fittings made of Polyphenyl Sulfone (PPSU).

The material's characteristics make the new Pexal-easy fittings equal in performance and quality to brass fittings. The elevated mechanical characteristics (including tensile strength and modulus

of elasticity) exceed those of normal polymers, and are similar in performance to metal fittings, withstanding accidental or deliberate blows, either at low or high temperatures. The body of the fitting, the nuts and the threads are all made from PPSU.

Pexal-easy also possesses elevated ageing resistance that is maintained even at high temperatures. The structure of the fittings is immune to chemical agents, and it can therefore be laid in grooves or in surface mounting.

Connection between the pipe and the fitting is carried out easily, reducing the laying times. An innovative system that locks the nut onto the fitting ensures a firm connection with the pipe, eliminating the possibility of error, and the base of the thread features a special anti-loosening profile.



▲ An example of the use of Valsir's Pexal-easy pipe fittings

The fitting can be reused without having to replace the o-rings or the nut. Unlike other systems, with Pexal-easy there is no reduction in the bore when passing from the pipe to the insert, meaning a significant reduction in pressure drops. Where a  $\frac{5}{8}$ " pipe was required, with Pexal-easy it is possible to use a  $\frac{1}{2}$ " pipe.

**Valsir SpA** – Italy  
[www.valsir.it](http://www.valsir.it)

## Simulation software helps save time in valve design

Ventrex Automotive GmbH, Austria, has saved four months in the design of an automotive valve, by taking advantage of EFD.V5 Catia V5-embedded computational fluid dynamics (CFD) simulation software.

*"In the past, we would have had to build and test at least 50 valves in order to get the design right,"* said Peter Pfaffenwimmer, project manager for Ventrex. Daniel Gaisbacher, also a project manager for Ventrex, added that *"CAD-embedded CFD made it possible to determine simulation results nearly as fast as we changed the design. The result is that we were able to improve the flow rate of our new valve by 15% while eliminating about 50 prototypes and reducing time to market by four months."*

## Pipe coupling makes Portuguese re-lined main leak-proof



▲ Viking Johnson's LinerGrip has been used by Portuguese water company EPAL

Lisbon water company EPAL has employed a specialist coupling developed by Viking Johnson, UK, for terminating pipes that have been re-lined with a thin-wall PE liner.

The DN800 LinerGrip couplings for the rehabilitation work – on a concrete main at Ota, 50km north of the city – were ordered by Portuguese contractor Vacqualiner, which is using the Subline Æ system under licence from British company Subterra and in cooperation with Dutch company BAM Nellis Infra.

Explaining the reasons for the choice of LinerGrip, Vacqualiner's Hugo Santos said, *"We needed to be confident that the PE liner was fully supported and held firmly in place when we returned the main to its operating pressure. This is particularly important when using thin-wall liners, because they rely on the strength of the host main and couplings for pressure retention."*

Other successful applications of LinerGrip include 2.5km of concrete main through the historic centre of Haarlem in the Netherlands, and a 9km cast iron supply main to a service reservoir in the UK.

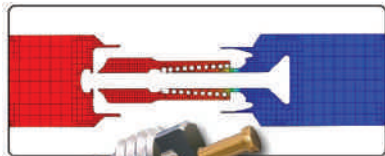
LinerGrip has an in-built gripping arrangement to hold the PE liner and prevent it retracting inside the host main due to changes in temperature or the Poissons Effect. It also provides a flanged end for connection to other pipework in the make-up piece. The support provided by LinerGrip prevents damage by the shear forces arising as it emerges from the host main. It 'seals back' onto the outside of the host, stabilising the entire fitting and preventing the ingress of ground water into the annulus between host and liner pipes.

Corrosion protection is provided by factory applied thermoplastic polymer Rilsan Nylon 11, which meets the stringent performance standards of WIS 4-52-01 (Part 1) for the highest adhesion, flexibility, penetration and impact resistance characteristics. As a result, LinerGrip products are well equipped to withstand transport, storage, site and corrosion damage, eliminating the need for further protection such as on-site wrapping.

**Viking Johnson** – UK  
[info@vikingjohnson.com](mailto:info@vikingjohnson.com) • [www.vikingjohnson.com](http://www.vikingjohnson.com)

Automotive air conditioning systems are beginning to use CO<sub>2</sub> as the refrigerant because it does not damage the ozone layer and has a very low impact on global warming. However, CO<sub>2</sub> based systems need to operate at pressures 7 to 10 times higher than previous generation systems, and this requires redesign of many components. Among the components most affected by the change are the valves used to evacuate and charge the systems.

Most importantly, the pressure drops seen in existing valves are too high to enable the required flow rates. Reducing the pressure drop of valves is challenging, because of the complexity of



internal flow passages caused by the presence of components used to open and close the valve.

◀ Ventrex Automotive used Flomerics' EFD.V5 computational fluid dynamics simulation tool to improve the flow rate of a new valve

In the past, engineers would make design changes based on educated guesses. For each design change they had to build and test a prototype of the valve. This process was time-consuming and expensive, and the test results did not provide diagnostic information that would help engineers determine whether or not the design change had the intended effect.

CFD makes it possible to build a software prototype of the valve that can be solved to determine the pressure drop of any particular design iteration without having to build a prototype.

The greatest obstacle to the use of CFD has been that traditional CFD codes require the user to have a deep understanding of the computational aspects of fluid dynamics in order to be certain of obtaining accurate results.

EFD.V5 from Flomerics, UK, greatly simplifies the simulation process by extending Catia V5 functionality to include fluid flow and heat transfer simulation within a single user environment. "We selected EFD.V5 because it simplifies the process of performing fluid flow analysis to the point where it can be accomplished by any engineer," commented Mr Gaisbacher. "By using CFD software that is embedded into our CAD software we could evaluate the performance of each new design iteration almost as fast as we could conceive it. This made it possible to quickly improve the performance of the design. We reduced pressure drop to the point that flow rate improved by about 15% in the final design at any given pressure. We reduced the number of prototypes that were required during the design process by about 50, which saved a considerable amount of money, but most importantly let us bring the product to market faster. We have already shipped this product to customers and they have verified that it performs nearly exactly as predicted by the simulation."

Flomerics is a developer of engineering simulation software and services for analysis of fluid flow, heat transfer and electromagnetic radiation. The company's software is designed to be embedded deeply into the design process and used by mainstream design engineers, not just by analysis specialists.

A demonstration of EFD.V5 can be viewed online, at [www.flomerics.com/products/efd5/demo.php](http://www.flomerics.com/products/efd5/demo.php)

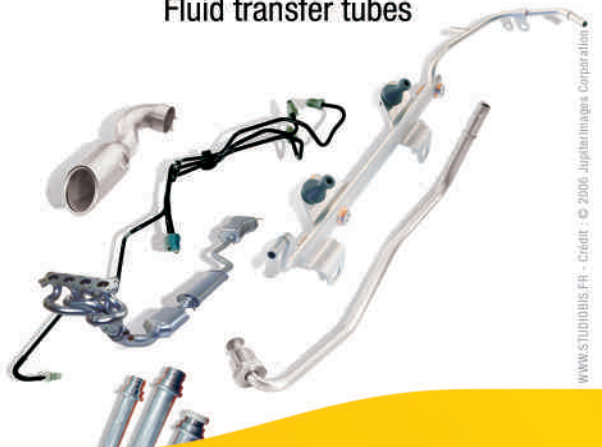
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## Instrumentation fittings for leak-proof connection

Brennan Industries Inc, USA, is an international supplier of hydraulic fittings and adapters. Supplying a wide range of industries throughout the world, Brennan offers more than 20,000 standard and special products in sizes ranging from 1/8" to 2 1/2". Most products are available in carbon steel, stainless steel and brass, and meet or exceed JIC, SAE and other specifications.

The company offers a line of high-quality double ferrule instrumentation grade tube fittings that provide leak-proof and torque-free seals at all tubing connections. The tube fitting line reduces the chance of hazardous and expensive leaks in instrumentation, process, pneumatic, hydraulic, gas and other tubing systems.

▼ *Leak-proof fittings from Brennan Industries*



It consists of the nut, the back ferrule, the front ferrule and the body, and when installed becomes a five-piece connection with the addition of the tubing providing a solid leak-free joint.

The two ferrules are tightly swaged around the tube, and the lack of initial strain on the tubing ensures no tubing wall damage. Leaks are prevented because there is an axial movement along the tube instead of a rotary motion creating the joint. This axial movement prevents torque from being transmitted from the fitting to the tubing.

The fittings are resistant to temperature change, do not significantly reduce flow area, and work with a variety of tube materials. In addition, the two ferrule action supersedes variations in wall thickness, hardness and dimensional tolerance of tubes, compensating for most variables that lead to failure with other fittings.

The double ferrule compression tube fittings can be remade several times, and can withstand heavy impulse and vibration in both vacuum and pressure systems. Requiring no special tools for installation or torque for initial make



▲ *A selection of metric bite-type hydraulic fittings*

up and using only geometry, the fitting requires 1 1/4 turns to be tightly fitted.

Brennan also offers a line of metric bite-type hydraulic fittings, available in all popular styles and sizes. The range of more than 260 fittings is built for extreme pressure applications. The fittings are manufactured to the highest standards and are approved by all major certifying agencies.

The company also supplies a range of steel and stainless steel bite-type compression fittings, designed for both hydraulic and pneumatic applications, and available in 35 standard configurations.

Custom sizes and configurations are also available upon request. The fittings are suitable for indoor use and non-corrosive environments in OEM and

▼ *Brennan's compression fittings are designed for hydraulic and pneumatic applications*



## Butt-welding fittings from Austria

Erne Fittings, Austria, is a manufacturer and supplier of butt-welding fittings such as elbows, tees and reducers, from 1/2" (20mm) to 36" (914mm) external diameter and wall thicknesses up to 50mm, made of alloyed, unalloyed steels and exotic materials.



▲ *Erne Fittings produces butt-welding fittings up to 36" in diameter*

The company offers expertise in butt-welding fittings made of carbon, alloyed and stainless steel.

Production takes place in the firm's three plants in Austria and Germany, where special demands for short production times can be accommodated. The company has a well-stocked finished product warehouse, which features a high degree of product availability.

Erne products are used worldwide, in power stations, oil and gas fields, pipelines, refineries, chemical plants, ships and other areas of industry.

**Erne Fittings GmbH** – Austria  
office@ernefittings.com • www.ernefittings.com

MRO applications involving pressurised gases and fluids. Because of their compact size, they are suited to work in confined spaces, with no special tools required. The fittings are designed for a variety of working pressures.

Brennan products are stocked at five strategically located, full-service distribution centres, in Atlanta, Cleveland, Dallas, Los Angeles and Seattle.

**Brennan Industries Inc** – USA  
sales@brennaninc.com  
www.brennaninc.com

## Training ensures right advice – every time

Valves and fittings supplier Aqua-Gas AVK, UK, has enhanced its product training programme to ensure that staff in all customer-facing areas of the business have the technical knowledge to respond to enquiries.

*“Customers need to know that the AVK product they are proposing to buy will do the job they want it to do, and our staff need to be confident that what they are offering is appropriate for the application, so the training will be mutually beneficial,”* explained technical support manager Tony Bedford.

More than 50 people from sales, customer support, marketing, logistics and accounts are participating in the first wave of the new training programme.

The programme already includes 15 courses, beginning with induction, health and safety and quality sessions for new starters, followed by introductions to sales and core products, then training on each product group in turn.

Particular attention is paid to building the core knowledge of new starters, who spend a month on training before they have their first contact with customers.



▲ Aqua-Gas AVK technical support manager Tony Bedford, running a training session with sales staff Louise James, Helen Wilkins and Sandra Reid-Sinclair

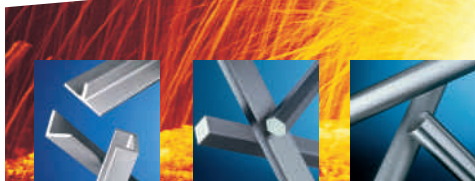
The new training arrangements are part of a group-wide programme which will collate knowledge across the whole of the business so that it is accessible to everyone who needs it.

To ensure consistency and correctness of response, there will be a bank of answers to technical FAQs that can be accessed by customers through email and the company’s website.

**Aqua-Gas AVK Ltd** – UK  
sales@aquagasavk.co.uk  
www.aquagasavk.co.uk

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## High-pressure 'push-fit' fluid connections for larger bore sizes

Parker Instrumentation, UK, has extended the applications potential of its 'push-fit' fluid connectors for high-pressure industrial applications.

Eight new variants allow the 20,000 psi (1,379 bar) rated connector to be used on larger metric and imperial tubing sizes of 14, 16, 18, 20, 22 and 25mm, 3/4" and 1", making it suitable for use in new areas such as high pressure hydraulic systems, steam and gas services and supply lines in factories, plants, power stations and ships, and high performance test equipment.

Assembled by means of a simple push-fit operation, the Phastite connectors provide permanent connections for high-pressure fluid systems. For permanent

connections at these elevated pressures, system builders would typically use either welded or 'cone and thread' style fittings, which are time consuming and expensive to install. Compared with these products, the company claims that Phastite connectors can reduce installation costs by a factor of 90% or greater.

Phastite employs a compression assembly principle using a novel form of toothed profile to make the seal. The connectors are supplied as one-piece components. To make a joint, all that is required is to insert the tube, then push the collar along the connector body until it reaches a dead stop.



▲ Phastite – Parker Instrumentation's tube fitting for permanent and high pressure connection applications

This operation is performed by a simple hydraulic tool requiring no skill to use, and takes only a few seconds.

This assembly approach contrasts with the requirement to perform a 360° weld around the circumference of a tube, an operation requiring skill, consumables, expensive equipment, and up to 10 minutes of time. It also avoids the coning and threading of a tube end to prepare it for use in a special screw-together fitting.

Phastite connectors incorporate a sealing system based on a collar that slides along an angled body, in the process compressing a number of circular profiles into the tubing. At the end of the short travel is a vertical face that provides confirmation of correct assembly.

The multiple profiles mean that less pressure is applied at each sealing point than a traditional fitting, which allows Phastite to be used with thin wall tubing – a further benefit when compared with cone and thread fittings (which require more expensive, thicker wall tubing in order to allow for the threading and coning).

In addition to being faster and easier to assemble, the high degree of control over make up that the tooling imposes assures users of right-first-time assembly.

This is not the case with welded and cone and thread fittings, where many users expect a certain degree of rework.

When used to replace a welded fitting, the Phastite connector also eliminates any need for a 'hot work permit', another equipment building expense faced by many organisations.

## Foolproof testing in seconds

WEH GmbH, Germany, manufactures a wide range of products for testing general fuel system components, cooling system components, climate control systems, steering and suspension systems and brake system components.

Engine manufacturers use WEH connectors to provide fast, reliable leak free connections that deliver fuel, circulate cooling fluid and oil.

Safety features such as an optional integral stop valve of the WEH TW800 and TW850 connectors automatically shut off fuel flow when disconnected. This safety feature not only helps to eliminate the hazards of split fuel, but also keeps the test area clean.



▲ Engine block testing with WEH's TW800 connector

The WEH TW17 and TW18 Series connectors are suitable for threaded connections. The split collets design quickly and securely grips the thread, making an instant seal. Manual squeeze lever or pneumatic actuation provides a variety of operating choices.

For automated sealing applications, or for sealing on ports with moulded or cast finish, the large elastomer seal on the FI and FE series provides

rugged reliability for leak free production testing. The large elastomer seal conforms to the rough surface seal, to seal up to 35 bar when fixed in place.

WEH's product line includes quick connectors for pressure, function and leak testing, quick connectors for filling of gases and refrigerants, check valves, complete filling rigs and gas mixing plants.

WEH GmbH – Germany  
sales@weh.com • www.weh.com



▲ Phastite assembles in seconds via a push-fit, and is now available in sizes up to 25mm/1"

The 20,000 psi (1,379 bar) pressure rating of Phastite opens up a large potential marketplace. Welded and cone-and-thread style tube fittings are used in industrial applications where there are pressures above those that can be handled by ferrule types – generally above 6,000 psi (413 bar). Applications include high pressure hydraulics, deepwater oil and gas drilling, ROVs and subsea, laboratory testing, and high pressure machinery such as water-jet cutters.

Welded fittings are additionally used in lower pressure applications if there is a need for a 'fit and forget' permanent connection, or where a leak could have serious consequences. Examples include subsea applications, aerospace, boat building and military equipment, and plants that are remote or unmanned, or have safety implications.

The extended Phastite range now includes straight union, union elbow, 'tee' and union cross connector shapes in imperial sizes from 1/4" to 1", and metric sizes from 6mm to 25mm. A range of termination connectors provide a link between fixed, permanent tubing and any element that needs to be disconnected or maintained.

**Parker Instrumentation – UK**  
 ipd@parker.com  
 www.parker.com

## Stainless steel products supplier

Quilinox SL, Spain, is a distributor of stainless steel products and services for the pharmaceutical, biotechnology, cosmetic and chemical industries.

All of the company's products are in compliance with CEE and ASME standards. Products supplied by the company include Abscisse sterile

## Process product catalogues

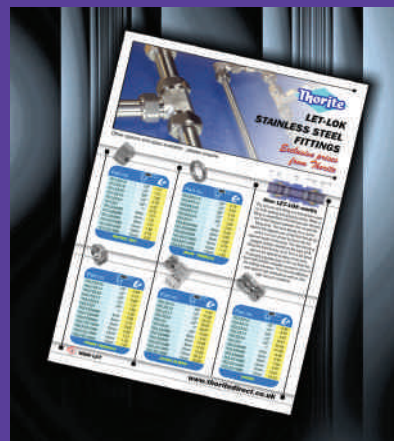
Thorite, UK, a supplier of compressed air and fluid processing systems, has produced two process product catalogues, each designed to make the selection of components from a variety of manufacturers fast and straight forward.

Process and Industrial Valves 2007 contains the full range of industrial and process valves from Bonomi. These include ported, manual two- and three-way ball valves, available in sizes from 1/8" to 4" BSP, with bodies constructed from brass or stainless steel.

Flanged, wafer and split-body versions are also available, in a choice of steel, stainless steel or cast iron, with the option of pneumatic or electronic actuation for any type of ball valve. Butterfly valves from 1 1/2" to 12" are available, with larger sizes made to order.

The catalogue also illustrates pneumatically actuated, angled steam and globe valves, constructed from bronze, with port sizes from 1/2" to 2" BSP. The back of the publication offers a range of diaphragm valves, proportional 3-15 psi control valves, flow meter indicators and back-flow preventers.

A range of accessories, including safety valves, non-return valves and strainers, in both brass and stainless steel, round off the selection of products in the publication.



▲ The new LET-LOK catalogue features stainless steel connectors

The second catalogue features the Ham-Let LET-LOK® range of stainless steel connectors. These products have been developed to meet the increasing demand for tube fittings suitable for high pressure use in specific environments, including petrochemical, fluid, power, nuclear and electronic applications, as well as other major industries.

LET-LOK stainless steel tube fittings are manufactured and tested to withstand the demands imposed by high pressure, impulse, vibration, vacuum and temperature. The new catalogue features 20 fitting types, in metric (4mm to 12mm) and imperial (1/8" to 1/2") sizes, with the majority available ex-stock.

Both catalogues are available free of charge from any of Thorite's eight regional sales and service centres, from the company's website, or by contacting the national distribution centre on 0800 0345850.

**Thorite – UK**  
 www.thorite.co.uk

The company also supplies Graco USA diaphragm pumps, Eurobinox sanitary butterfly valves, Advanced Couplings stainless steel clamps and ferrules, Omac lobular pumps, GECITech technical silicon hoses, and Breconcherry Sellers 'Fury' tank washers.

**Quilinox Ltd – Spain**  
 quilinox@quilinox.com  
 www.quilinox.com





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# **Tube 2008, Düsseldorf:** **The world's largest exhibition** **for the tube and pipe industries**

# Tube<sup>®</sup>

Düsseldorf



## 31 March – 4 April 2008

The world of tube and pipe will once again convene in Düsseldorf, Germany for Tube 2008. The show, organised by Messe Düsseldorf GmbH and supported by its Industry Partner, the International Tube Association, will be held for the 10<sup>th</sup> time between 31 March and 4 April 2008.

Over 960 exhibitors will be displaying their latest products and machinery and the organisers expect the visitor figures to exceed the 28,000 that came to the last event in 2006.

In the following pages we present a selection of companies that will be exhibiting at the event together with details of the new products and technology they will be displaying.



## Thai-German Products – Stand 5H11

Thai-German Products PCL (TG-PRO) is one of the largest Thai manufacturers of high quality stainless steel tube, pipe and sheet. With over 30 years of experience, TG-Pro claims to be the only company in Thailand that uses automatic lines together with laser welding technology.

With ISO 9001:2000 certification, the TG-Pro range includes industrial pipe (ASTM A-312) for chemical and petrochemical applications, pulp and paper industry, and condensers in fossil-fired and nuclear power stations (OD up to 20"). The company also supplies boiler, super heater, heat exchanger and condenser tubes (ASTM A-249), based on a unique thin-wall stainless steel tube production technique. General services tube (ASTM A-269) is provided for various industries, especially the heater industry. In addition, sanitary tube (ASTM A-270) is supplied for the dairy, food and beverage, pharmaceutical and other industries.

Requiring a high level of cleanliness, the company's perfect welding and polishing enables the inside wall to be as smooth as seamless tube. This



▲ Thai German manufactures a range of stainless steel tube, pipe and sheet

is not only to prevent contamination and micro-organisms from being stuck inside, but also to enhance the hygienic condition.

Ornamental tube (ASTM A-554) is used for the construction industry – for both interior and exterior decoration – and has a glossy surface suited to any building. This can be used for producing the handrails of subway station and sky-trains, balconies, terraces, doors and gates, kitchens and furniture.

**Thai-German Products** – Thailand  
intsale@tgpro.co.th  
www.tgpro.co.th

## GH Electrotermia Stand 7.1B35

GH Electrotermia offers an entire range of modern high frequency power supplies and equipment for induction heating applications, from MF IGBT inverters to HF Mosfet inverters. This complete range allows the use of the most suitable technology in every induction heating application, avoiding the need for obsolete and low efficiency technologies.

In the area of tube induction welding, which often requires frequencies up to 500kHz, the natural, most reliable and efficient component is the Mosfet transistor. This technology is provided by the company's latest developments in variable frequency and automatic load adjustment.

The company has launched Transithermic<sup>®</sup> generator solid-state welders, which are able to weld any tube specifications allowing for any tube diameter, thickness and material. These machines provide flexibility and economy through reductions in downtime and scrap material.

GH Electrotermia has headquarters in Spain, with subsidiaries in India, Germany, China, South Korea, Brazil, France, Mexico and Argentina. The company can provide equipment and local support in every geographical market.

**GH Electrotermia SA** – Spain  
ghgroup@ghe.es  
www.ghe.es

## Tecnofar SpA – Stand 8aD15

Tecnofar SpA, Italy, was founded in 1974, originally having a speciality in manufacturing stainless steel and nickel alloy tubes.



▲ Tecnofar can produce cut pieces measuring just a few millimetres in length

Years of experimentation and research, together with the development of new technologies, have made Tecnofar one of the more advanced companies in this field; the use of up-to-date technology ensures constant production quality.

The company has two production units, located in Delebio and Gordona, covering a total surface area of 7,000m<sup>2</sup>. Tecnofar SpA produces redrawn precision tubes, both in bar

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

The company uses stainless steels provided and guaranteed by leading steel mills, and offers high quality products in line with the strictest production controls. Tecnofar's quality system achieved ISO 9001:2000 accredited by ITALCERT, and has been certified by RINA for the welding system and heat treatment for the production range OD 6-19mm and wall thickness 0.4-1.1mm.

**Tecnofar SpA** – Italy  
info@tecnofar.it • www.tecnofar.it

## Noksel Steel Pipe Stand 6G51

Noksel Steel Pipe Co Inc, Turkey, is a steel pipe manufacturer whose main products include spirally welded and ERW tubes.

For spiral welded steel pipes, the company has an annual production of 300,000 tons. Standard pipe lengths are from 6 to 16m, with special lengths up to 24m. Outside diameters range from 219.1 to 3,048mm, with wall thicknesses from 4 to 26mm.

The company's plants are used mainly for the production of pipes in API standard, and pipes are also manufactured in accordance with AWWA, DIN, BS, ASTM and Turkish Standards to serve the petroleum, gas, waterline projects and construction industries.

Noksel supplies spirally welded steel pipes in the following standards according to usage areas:

- Petroleum and gas line – API 5L, ISO 3183, TS 6047, DIN 17172, GOST 20295, EN 10208-2
- Water line pipes – EN 10217-1, DIN 1626, AWWA C200, DIN 2460, BS 534, UNI 6363, EN 10224
- General purpose pipes – BS 3601, DIN 1626
- Piling pipes – ASTM A 252
- Pipe joints and specials – AWWA C208, BS 534

The company's annual production of ERW tubes and hollow sections is 400,000 tons.

The standard tube length is 6m, with lengths of 4 to 12m available upon request. Outer diameters range from 13 to 168.3mm, and wall thicknesses from 0.7 to 7.1mm.

Noksel supplies longitudinally welded steel pipes in the following standards:

- Round hollow section – EN 10305-3, DIN 2458 & 1615, DIN 2394-1/2, BS 6363, ASTM A500, EN 10219-1/2 (outer diameter 13 to 168.3mm, wall thickness 0.7 to 7.1mm)
- Water pipes – EN 10255, DIN 2440, DIN 1626, BS 1387, ASTM A53, ISO 65 (outer diameter 21 to 168.3mm, wall thickness 2 to 7.1mm)
- Square hollow sections – EN 10305-5, DIN 2395-1/2, BS 6363, ASTM A500, EN 10219-1/2 (outer diameter 10 x 10mm to 130 x 130mm, wall thickness 0.7 to 7.1mm)
- Rectangular hollow sections – EN 10305-5, DIN 2395-1/2, BS 6363, ASTM A500, EN 10219-1/2 (outer diameter 10 x 20mm to 120 x 140mm, wall thickness 0.7 to 7.1mm)
- Elliptical pipes – EN 10305-3 (outer diameter 15 x 30mm to 32 x 50mm, wall thickness 0.8 to 2mm)
- Sheet metal – EN 10051 (length 300 to 3,000mm, width 400 to 1,600mm, wall thickness 0.8 to 4mm)

**Noksel Steel Pipe Co Inc – Turkey**  
noksel@noksel.com.tr  
www.noksel.com.tr

## Erne Fittings – Stand 5A12



▲ Erne Fittings operates a fully automated logistics centre

Erne Fittings, Austria, is a European manufacturer and supplier of butt-welding fittings such as elbows, tees and reducers from 1/2" to 36" (20mm to 914mm) external diameter and wall thicknesses up to 50mm, made of alloyed, unalloyed steels and exotic materials.

Production takes place in the company's three plants in Austria and Germany, where special demands for short production times are accommodated. The company has a fully automated logistics centre, and offers customers a high degree of product availability and ability to deliver on urgent demands. In addition to products, information such as stock levels, scheduled production dates and prices can be called up at any time.

Erne products are used worldwide, in power stations, oil and gas fields, pipelines, refineries, chemical plants, ships, and other areas of industry.

**Erne Fittings GmbH – Austria**  
office@ernefittings.com • www.ernefittings.com

## US Steel Košice – Stand 7D07

US Steel Košice sro, Slovak Republic, is part of the United States Steel Corporation, a steel producer with annual capability of 26.8 million tons.

US Steel Košice produces steel flat rolled products, with an annual capacity of 4.5 million tons. It is an advanced integrated steel company, involving processes from raw material processing through iron and steel making to final product outputs with a high added value.

The company principally produces deep-drawing, micro-alloyed and structural flat rolled steels for a large range of industries.

The company also processes structural and micro-alloyed sheets to spiral welded pipes in its pipe plant, using

▼ Factory view at US Steel Košice



a largely automated pipe production process. Steel sheet with machined edges is formed into a pipe shape and welded from both sides by an automatic submerged welder using an electrical arc, followed by cutting to required lengths with bevelled trims.

Each pipe passes a series of non-destructive tests: ultrasound and x-ray inspections, pressure testing and a visual inspection from both outside and inside. All results are recorded and archived.

The diameters of produced pipes range from 406 to 1,420mm, wall thickness from 5 to 14.3mm and length from 8 to 18m. Annual production capability is approximately 60,000 tons.

The pipes are used mainly for gas, crude oil and water distribution lines and for other civil engineering and structural purposes.

The pipes are made from materials with strengths up to X 70 according to specification API Spec 5L. The products are also fully compliant with several European standards.

**US Steel Košice sro – Slovak Republic**  
pavolhiznay@sk.uss.com  
www.usske.sk



## Sandvik Materials Technology Stand 8aB40

Sandvik's new hyper-duplex stainless steel will be one of the products in focus on the company's stand at Tube 2008.

Sandvik SAF 2707 HD is a high alloy duplex stainless steel, specially developed for service in highly corrosive conditions, such as seawater cooled heat exchangers.

It is particularly suited to aggressive, acidic, chloride-containing environments and displays excellent resistance to pitting and crevice corrosion, stress corrosion cracking and general corrosion. At the same time, it has high mechanical strength and good weldability.

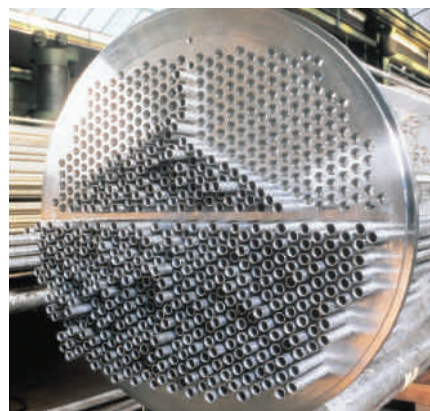
Designed and developed to increase operating performance and extend service life in severely corrosive heat

exchanger applications, Sandvik SAF 2707 HD is already being used to achieve longer run times and set new uptime standards.

Aimed particularly at the chemical, petrochemical and refinery industries, it has been developed to meet higher industry demands on performance whilst maintaining the reliability and safety of the equipment.

Sandvik SAF 2707 HD heat exchanger tubes have been extensively evaluated, over time and in a variety of refinery applications.

In a joint project with a major refiner in the US, there is evidence of increased operating reliability and uptime benefits of using the new grade. Applications



▲ Sandvik's new hyper-duplex stainless steel aims to increase operating performance in severely corrosive heat exchanger applications

in Europe and the Middle East, under a variety of operating and corrosion conditions, have generated similar positive feedback.

At the end of 2003, in a US oil refinery application, a complete tube bundle was retubed with hyper-duplex Sandvik SAF 2707 HD in a top pump-around exchanger in an atmospheric distillation unit.

The previous carbon tubes had a life expectancy of around nine months, with most difficulties having been caused by chloride attacks and increased corrosivity from a greater use of lower quality crude oils. To date, the Sandvik SAF 2707 HD tubes have performed without problems.

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

## Profilmec SpA Stand 6E51

Profilmec SpA, Italy, specialises in the manufacture of high-frequency electro-welded cold rolled precision steel tubes and profiles.

The materials used are hot rolled pickled steel (standard and special), cold rolled steel (standard and special), aluminised steel, hot galvanised steel and aluminium. Global production is approximately 1,450 tons/day.

The diameter range is 8-120mm, with thickness from 0.5mm to 3mm.

## Teijin Aramid – Stand 9C39



▲ RTP has already proved its performance in extreme environments ranging from arctic to desert climates

Teijin Aramid, Netherlands, is a supplier of Twaron<sup>®</sup> aramid fibre for use in reinforced thermoplastic pipe (RTP). RTP is a flexible pipe system, designed for hydrocarbon production and water transport in aggressive environments with high H<sub>2</sub>S or CO<sub>2</sub> content.

The RTP system is easy to handle due to its low weight and high flexibility, and is therefore easily installed by a small crew and light equipment. Combined with the production of road-transportable coils of 400m and interconnecting the segments by electrofused in-line couplers to provide a metal-free solution, RTP offers the industry a state-of-the art pipeline solution in applications for transport of oil, gas and water.

No maintenance is required after installation, because the pipe is corrosion resistant and remains smooth for the full service lifetime.

Fouling is no longer a problem, as scales hardly adhere to PE, and the system has a design lifetime of 20 years on surface and 50 years for underground installation.

RTP pipe consists of three layers: a liner pipe ensures a corrosion resistant fluid tight containment, a Twaron aramid reinforcing layer gives the system the ability to take up the high-pressure rating, and the outer layer protects the pipe from abrasion and the environment.

**Teijin Aramid BV** – Netherlands  
[anne-marieke.vreeman@teijinaramid.com](mailto:anne-marieke.vreeman@teijinaramid.com) • [www.teijinaramid.com](http://www.teijinaramid.com)

All products can be supplied with special finishing and packaging, and pipes can be supplied in bars or in pieces cut on specific measures.

The surface can be customised on the basis of the final application.

The company's products are used in various markets, from automotive, cycle and motorcycle, to the manufacture of furniture, camping items, toys and household articles, radiators and buildings.

The company offers tubes with specific technological characteristics, suitable for any next working step – cutting, bending, funnelling, welding, painting, galvanic treatment, etc.

Profilmec Group is equipped with technologically advanced plant and machinery. In addition to equipment for pipe production, the Group's facilities include a steel cold-rolling mill.

**Profilmec SpA – Italy**  
[profilmec@profilmec.it](mailto:profilmec@profilmec.it)  
[www.profilmec.it](http://www.profilmec.it)

## Raccorderie Metalliche – Stand 8bC38

Raccorderie Metalliche SpA, Italy, is a producer of carbon steel welded and threaded fittings, stainless steel welded and threaded fittings, collars for pipe clamping and fixing systems, and plugs and accessories for radiators.

The company has two plants located in Mantua, Italy, and is supported by two subsidiary companies: Inoxpres SA (Barcelona, Spain) and RM Pressfitting GmbH (Munich, Germany). Raccorderie Metalliche is UNI EN ISO 9001:2000 certified. The InoxPRES® and SteelPRES® press fitting systems represent the company's core business.

InoxPRES (in stainless steel AISI 316L) and SteelPRES (in galvanised carbon steel), are both available in dimensions ranging from 15 to 108mm. The fittings are equipped with an EPDM O-ring. The press fittings up to 54mm are equipped with 'leaking if not pressed' O-rings.

The patented lenticular O-ring profile enables: perfect filling of the housing, reducing the fluid deposit between fitting



▲ Products from Raccorderie Metalliche

and tube; reducing the risk of damaging the O-ring during the insertion of the pipe; increasing the contact surface between the O-ring and the pipe (ensuring better seal); and reporting any leakage during the starting-up phase, if not pressed. The two press fitting systems are certified by European certification authorities such as DVGW, SVGW, WRAS, CSTB, ÖVGW, ETA, SITAC, KIWA, and PCT (DIN GOST).

**Raccorderie Metalliche SpA – Italy**  
[info@racmet.com](mailto:info@racmet.com) • [www.racmet.com](http://www.racmet.com)

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## International Tube Association (ITA) Stand 6A03

As might be expected of the main sponsors and industry partners of Tube Düsseldorf since its inception, the ITA will be providing extensive facilities for its members and exhibitor group at the exhibition. Whether exhibiting or just visiting members can expect the following facilities and benefits:

- Free entrance voucher to exhibition
- Free members' lunch
- Exhibitor badge service
- Multilingual staff: German, French, Spanish, Russian, Ukrainian, Dutch, Chinese, English
- Free hospitality: drinks and snacks service
- 2 free meeting rooms for up to 8/10 persons (bookable)
- Lounge and bar area
- Fully manned office with phone, fax, photocopier, 2 PCs with Internet/email connection and printer.
- Message board service
- ITA executive committee members for help and advice.
- Overnight security service (for small items)
- Message service



▲ The ITA website – re-designed for 2008

International Tube Association – UK  
info@itatube.org • www.itatube.org

The ITA is the world's largest personal membership organisation of tube and pipe engineers and professionals and has much to offer new members in addition to its extensive support programme at Tube 2008.

Readers of this exciting new magazine who would like to learn more about the ITA are invited to visit its recently re-designed website for more information. Soon the ITA will also be revealing a new logo as well as an updated look for its newsletter ITAN.

## Protem SAS Stand 8bC48

Protem SAS has been manufacturing prep welding equipment since 1980, with a number of recent introductions designed to improve production time and facilitate faster and more efficient welding. The company's wide range of standard machines is able to prepare pipe ends from 1/8" (2mm) up to 76" (2m).



▲ Protem manufactures a range of prep welding equipment

A perfect end preparation is required when assembling pipes, using an automatic or semi-automatic welding process. For this purpose, Protem manufactures high-speed and heavy-duty pipe facing machines (PFM) to end prep pipe from 6-60" (HSB series) in a minimal time. These PFMs usually clamp the pipe from the inside, but due to the heavy wall thickness and reduced inside diameters often required by some applications, Protem also has a new generation of PFMs – branded OHSB – that can grab the tube from the outside.

The design of the OHSB allows bevelling with internal wheel trackers even with a small inside diameter. This new generation of machine can also bevel extremely heavy walls up to 70mm in a few minutes. The OHSB concept is all hydraulically controlled and can bevel cladded pipe with a very precise result on the nozzle. Protem also has a range of stationary machines. The Protem CTA machine can cut and bevel two ends simultaneously in a few seconds. This machine is fully mechanical to avoid the electrical worries that can occur in some countries. The Protem BB bench bevellers – which can machine any end welding preparation in a few minutes – are able to bevel pipes from 3-48" with only three machines.

**Protem SAS** – France  
www.protem.fr

## Hart BV – Stand 6D20

Hart bv, Netherlands, has over 40 years' experience as a distributor of heat and corrosion resistant materials. Nickel, Monel<sup>®</sup>, Incoloy<sup>®</sup>, Hastelloy<sup>®</sup>, and titanium alloys are supplied globally to the chemical, petrochemical and offshore industries.

Complete packages of pipe, flanges, forgings, plate, bar and fittings are supplied to fabrication companies, contractors, engineering companies, and direct to the oil and gas industries.

The company supplies through its extensive stocks (in Alloy 200, Alloy 400, Alloy 600, Alloy 625 and titanium grade 2)

within 24 hours or, for larger quantities and longer deliveries, through major Nickel and titanium manufacturers. Hart bv supplies to all international standards, and can also accommodate customers who require custom-made parts manufactured to specification.

The company works with its customers to find solutions for complicated parts and requirements. Small, quick turnaround orders for breakdowns and shutdowns are commonplace, as well as large projects.

**Hart bv** – Netherlands  
central@hartbv.nl  
www.hartbv.nl

## ATI Srl Stand 6A51

ATI Srl, Italy, produces stainless steel TIG and laser welded tubes.

The company brings to the market a wide range of products, from 6 to 168.3mm in diameter and from 0.4 to 6mm in thickness, which are inspected and certified by leading international institutions including Lloyd, Tüv, Norske Veritas and Bureau Veritas.

The products can be offered with a wide selection of finishes, from brushed and pickled to re-drawn, inside polished and annealed.

ATI round tubes are provided to industries such as food production, pharmaceuticals, chemical, petrol-chemical, automotive, decorating industry, heating and plumbing tubes.

**ATI Srl** – Italy  
info@ati-italia.com  
www.ati-tube.com

## DWT – Stand 7.1D29

DWT has been the licensed manufacturer of portable pipe bevelling machines under the brand name Babcock for over six years.

This product range was originally developed by boiler manufacturer Babcock based on the onsite knowledge of its workers.

Designed to improve the welding process, the rugged and compact machines have a high metal removal rate and are easy to handle.

Especially designed for boiler walls, DWT offers very special applications for onsite operations with flexible and low weight machines.

In practice it has been proven that weld preparation of tube ends considerably influences the quality of the welding junction.

For welding applications of tubes with a high wall-thickness and for orbital



▲ The Babcock portable pipe bevelling machine from DWT

welding technology the welding engineer currently requires a perfect and effective weld preparation by use of mechanised weld preparation.

The machines have a high working speed and quick readiness to facilitate economic manufacture. With the complete product range tube diameters of 12mm to 711mm ID can be machined onsite.

**DWT** – Germany  
www.dwt-gmbh.de



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<b>Specification</b>	: ASTM A-213, A-249, A-269, A-312, A-358, A-554, A-688, A-789, A-790,
<b>O.D.</b>	: 6 mm OD to 219.08 mm OD.
<b>Thickness</b>	: 0.6mm to 10.00mm,
<b>Length</b>	: Up to 30 Mtr. Long
<b>Inspection</b>	: Like EIL, LRIS, BVOI, DNV, SGS & also Under All Customers' Third Party Inspection

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## Shree Ganesh Forgings – Stand 6A02

Shree Ganesh Forgings Ltd, established in 1982, is a manufacturer of forgings/flanges and pipe fitting components, all compliant with international standards. The company supplies Indian and international industries including oil and gas, petrochemical, pharmaceutical, dairy, brewery, nuclear, defence and automobile.



▲ SGF manufactures an extensive range of flanges and forgings

With a total current installed capacity of 25,000 MT per annum, the company can supply a wide range of forgings weighing from 0.5kg (1.1lb) to 1,000kg (2,200lb).

The company is equipped with all necessary technical facilities such as design and estimation, die and tool making, cutting, heat treatment, grinding shop/finishing, testing and laboratory, and machining and CNC machining.

The company's product range contains flanges including weld neck, slip on, blind, threaded, lap-joint, and automotive forgings. These products conform to international standard including ASME B 16.5-2003, EN 1759 – 1:2004, DIN, AS 2129:2000, API 6A-2004, NFE 29-203-1989, BS 4504, BS 10:1962, JIS flanges EN 1092 – 1:2005, and ASME B 16.11 screwed and socket weld fittings.

Shree Ganesh has a comprehensive range of product certification from authorities including ISO-9001:2000, AD – 2000 MerkblattWO and pressure equipment directive, Canadian Registration Number (CRN) OB 1054.95 (for all 13 Canadian provinces), together with Syncrude, Suncor, EIL, IBR, PDO, Oman Oil, Qatar Petroleum, BARC, and ONGC. SGF has also been awarded the Certificate of Excellence by the Engineering Export Promotion Council of India for a successive number of years starting from 1990, including a trophy in 2002-03.

**Shree Ganesh Forgings Ltd – India**  
 ganesh@bom3.vsnl.net.in • www.shreeganeshforgings.com

## Buhlmann Stand 6C28

Buhlmann is a global supplier of tube, pipe and other materials, with a wide range of product stock and a comprehensive service network. The company's whole product range conforms to relevant standards (ASTM/DIN/EN), and includes alloy and carbon steel tube and pipe, seamless and welded stainless steel tube and pipe, and flanges in carbon, alloy and stainless steel.

The company can also provide long and short radius elbows, tees, reducers and caps – seamless and welded – in carbon, alloy and stainless steel.

The Buhlmann-Group specialises in providing complete solutions for pipeline construction. As an industry partner, the company can supply plant contractors and companies in various sectors, including the energy, chemical, petrochemical, shipbuilding and mechanical engineering industries.

**Buhlmann Rohr-Fittings – Germany**  
 tubes+fittings.hb@buhlmann.de  
 www.buhlmann.de

## Multimetals Ltd Stand 7C24

Multimetals Limited is a manufacturer and exporter of seamless extruded drawn copper and copper alloy tubes. The company supplies applications including heat exchangers, nuclear and thermal power plants, shipbuilding and repairs, petroleum refineries, sugar plants, defence establishments, and air conditioning and refrigeration.

The product range includes tube and pipe manufactured from copper, capillary, cupro-nickel, admiralty brass, aluminium brass and other brasses, together with bare, low fin and U-bend tubes.

The company, which exports to all developed countries, has won 11 Export Excellence awards in the last 13 years.

**Multimetals Limited – India**  
 sales@multimetals.in  
 www.multimetals.in

## Ad Tubi Inossidabili SpA – Stand 6D28

Ad Tubi Inossidabili SpA, Italy, produces welded tubes made of stainless steel, duplex and superduplex steels, and exotic alloys. The company's production range includes TIG-welded round section tubes, in diameters from 7.24 to 50.8mm, and wall thicknesses from 0.4 to 3mm.

The company specialises in the production of tubes for heat exchangers, with special lengths/tolerances, in bright annealed executions. This type of product represents an average of 65% of the complete output.

Ad Tubi has introduced a fully controlled working process incorporating very strict parameters, helping the company to obtain ISO 9001:2000 and AD2000W0 certifications with TUV and the Lloyd's Register approval.

The company is currently undergoing an expansion, focussed on the building of a new factory that will be ready for mid-2008.

This will allow Ad Tubi to increase the quantity of material produced and the range of dimensions offered, thanks to the introduction of new welding lines.

The factory will be equipped with new machinery. Continuous technological research and development will ensure quality standards, and the installation of photovoltaic panels for the production of electric energy demonstrates the company's attention to environmental issues.

**Ad Tubi Inossidabili SpA – Italy**  
 info@adtubi.com  
 www.adtubi.com

## DK Jones Ltd – Stand 8aE21

DK Jones Ltd is a major stockholder of pipe, fittings and flanges in carbon, alloy and stainless steels. The company has also added a full range of high yield fittings and flanges to its growing stock range.

With a stock level of more than 2,500t of fully certified material and the support of many leading manufacturers, DK Jones Ltd regularly supplies a wide range of materials to the oil and gas, chemical, petrochemical and power sectors in more than 60 countries.

The company's wide ranging stock and the continued support from many major international mills enable DK Jones to supply complete packages of material from stock or on short delivery times.

**DK Jones Ltd – UK**  
sales@dkjones.com • www.dkjones.com

## Ilta Inox – Stand 6A38

Ilta Inox, Italy, founded in 1963, manufactures welded stainless steel tubes. The company targets its main production in the most demanding industrial sectors, including power generation, chemical, pharmaceutical and food industries.

The company exports 80% of its production, and has a large number of welding lines equipped with the most qualified laser welding technology. The company's production range recently extended, to include diameters of up to 711mm.

Modern systems of heat treatment, now up to 219.1mm diameter, and numerous finishing lines allow Ilta Inox to satisfy stringent market demands, thanks to the high quality of its products, which are recognised and certified by the most important international testing organisations.

Ilta Inox has also obtained the ISO 14001 environmental certification.

The company's production range includes outside diameters from 10 to 711mm, and thicknesses from 0.8 to 6.35mm.

Production standards include: ASTM/ASME A249, A269, A312, A554, A778, A789, A790; DIN 17455, 17457, 11850; NFA 49147, 49247, 49249, 49647; EN 10217-7, 10296-2, 10312.

Steel grades include: TP 304, 304L, 316, 316L, 321, 316TI, 316SL, 310S, 31801, 32304-309, EN 4301, 4306, 4307, 4401, 4404, 4521, 4571, 4432, 4435, 4845, 4462, 4362, 4828.

**Ilta Inox SpA – Italy**  
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# stainless steel



## **Stainless steel: still new after all these years**

The qualities for which manufacturers choose stainless steel are well known: resistance to surface pitting and corrosion; high and low temperature resistance; strength and ease of fabrication; hygienic properties and long service life; and, not least, aesthetic appeal. Polishing, etching, and embossing will turn this workhorse into a showhorse as if by magic.

A century and more after its “discovery”, stainless steel is still endowing a quite astonishing range of products with these qualities. But the sheer variety of its uses can still surprise.

This versatile metal is also 100% recyclable. More stainless is recycled than paper or glass — making it as modern as tomorrow in a world in which environmental factors will govern more and more of the materials choices made by specifiers.

It is a fair assumption that no other material in industrial use since 1919 will be staking a similar claim.

Photo - RathGibson, see page 54

## New brand in the tube market

A new stainless steel tube brand – International Holding Centraviv – was launched in November 2007, at two prestigious exhibitions held in Europe and CIS countries.

The Centraviv presentation for the Western European market took place on 6 November within the framework of the Stainless Steel World Exhibition in Maastricht, the Netherlands.

Mr Ilya Shirokobrod, Centraviv sales and marketing director, was the presenter.

For CIS countries, the brand was presented by Mr Yuriy Atanasov, Centraviv chief executive officer, within the framework of the Metal-Expo exhibition held in Moscow, Russia, on 13 November.

The speakers presented their vision of the current situation in the industry of seamless stainless steel tubes to the international community, and gave their detailed appraisal of the challenges put forth by the market to the industry's major players. Along with this, the top management team, the new company strategy and business principles were also presented.

Centraviv's strategic objective is to become a global player with European business culture and European quality and service in the world market of seamless stainless tubes.

Mr Shirokobrod said, "For our clients the new brand is, first of all, the wide range of high-quality tubes at competitive prices, flexible service and modern business thinking, transparent management style with clear client orientation. For our suppliers this is a reliable partner, long-term business growth and excellent quality level of the production, as it was before. Moreover, due to our innovations and more sophisticated product solutions we intend to ensure our partner's technology improvement."

Mr Atanasov commented, "We have been showing permanent growth and stable financial position in the international market for years, along with setting the standards for Ukrainian business. This is why I claim with confidence that for our financial partners the new brand will be an attractive and creditworthy partner with

a transparent corporate management structure on investment and bond markets. For general public Centraviv is a socially and environmentally responsible company. The company reinvests into the country, creates jobs and ensures budgetary tax proceeds, thus improving life of people in Ukraine."

All major Centraviv clients and partners, industrial experts and analysts were invited to the presentations in Maastricht and Moscow. The company's product

portfolio includes more than 1,000 standard size tubes produced from more than 100 corrosion and heat resistant steel grades, in seven segments: general pipes, boiler tubes, heat-exchanger tubing, instrumental tubing, furnace tubes, hollow bars and Ni-alloy tubes.

The company's products are used in chemical and petrochemical industries, nuclear and thermal power engineering, non-ferrous metallurgy, machine and shipbuilding, food and other industries.

**Centraviv** – Ukraine  
www.centraviv.com

## High-performance check valves

WEH, Germany, produces a check valve for applications where gaseous and liquid media require leak-tight connections.

New manufacturing processes, materials and techniques put increasing demands on check valve properties, especially with regard to pressure range, flow characteristics, temperature and leak-tightness. Further features are maintainability, corrosion resistance and customer-specific cracking pressures. The WEH check valves combine all these properties.

WEH offers check valves with thread connections, and also with ferrule fittings, flanges, hose nozzles, nipples or custom-designed press-in valves, even for small quantities. The check valves are silent in use, even under high flow requirements, and offer minimum opening pressures from 0.01 bar onwards, and high leak tightness.

The WEH check valves can be used for a large range of applications in mechanical engineering and construction, chemical/pharmaceutical and food industry, materials-handling and medical technology, and vary in construction and material.

The check valve system is designed to minimise the effect of dirt particles on the sealing components within the unit. The valves are manufactured from stainless steel, or other materials on request, and have a robust interior construction making them very durable in operation. The check valves are available for different dimensions and connections, including special sizes, with materials suitable for the requested media, and are rated to 1,000 bar maximum pressure.

The valves are manufactured according to quality assurance standard ISO 9001 and the pressure equipment directive (PED).

WEH's product line also includes quick connectors for pressure, function and leak testing, as well as for filling of gases and refrigerants, complete filling rigs and gas mixing plants.

**WEH GmbH** – Germany  
webinfo@weh.com • www.weh.com



▲ WEH's check valve series



## Stainless steel non return valves

The principle of the non return valve with integrated soft sealing in the valve cone has already proved itself in the market, forming the basis for a successful application in many different procedures and areas of industry.

Non return valves from Schwer Fittings, Germany, manufactured out of stainless steel 1.4571, ensure maximum precision and functional character.

▼ A selection of valves from Schwer Fittings



The company's range includes non return valves with guts ring connection (German Institute for Standardization 2353 / EN ISO 8434-1) for tube dimensions of light series 6L to 42L and for series 6S to 38S.

Schwer also offers non return valves with external thread connection (German Institute for Standardization of ISO 228) in the sizes G 1/8" to G 1 1/2", and a wide range of valve feathers for different opening pressures.

Non return valves with one-piece valve housing and internal thread connection (German Institute for Standardization of ISO 228) by the thread sizes G 1/8" to G 2" and the proved close system with soft sealing are standard.

Depending on the connection variant and sealing material, the valves are suitable for many fluids or gaseous media, as well as with raised temperatures.



▲ Eco-Tube couplings provide a high standard of finish

The valves are also available in special materials, on request.

Schwer Fittings also produces Eco-Tube couplings – cavity-free connectors for use when a high standard of finish on all coupling surfaces is required.

Eco-Tube couplings consist of four parts: inlet, threaded body, sealing ring and nut. The inlet and threaded body are secured together by the nut.

During the process of joining the inlet and threaded body together, the two parts are centred due to a specially designed geometry.

Smaller dimension nuts are manufactured in hexagonal form as standard, while larger sizes are usually octagonal.

The threaded body is fabricated with two flat sides, to facilitate precise installation.

Weld-ends are supplied according to customer specification, eg orbital welding or autogenous welding.

The centring and ingress of the inlet and the threaded body are such that radial disassembly is simple.

The seal is ensured by an O-ring, which can be a standard sealing or an FEP Jacket sealing (O-ring with PTFE jacket).

The jacket ensures that no contact exists between the elastomer and the medium. Eco-Tube couplings are suitable for paint-line applications.

**Schwer Fittings GmbH** – Germany  
marketing@schwer.com  
www.schwer.com

## High quality pipes from Italy

TIS, Italy, produces stainless steel pipes for use in sectors that demand pipes of high mechanical and aesthetic quality. All work is performed using high-tech, cutting-edge systems with the support of environment-friendly equipment, and monitored by trained personnel committed to quality.

TIS is able to certify end product quality because only select raw materials are used.



▲ TIS manufactures high quality stainless steel pipes

The company produces its pipes starting from top-quality, certified cold and hot laminate sheet from European steelworks. The tight tolerance limits and strict adherence to measurement parameters mean that TIS products are of high technical quality, are highly reliable and provide excellent mechanical performance.

Tungsten inert gas (TIG) welding and the application of exclusive production

systems eliminate virtually any alteration in the raw materials and ensure external and internal pipe cleanliness. All production lines are equipped with induced current (eddy current) equipment to detect pipe defects. The structural quality of TIS pipes is further heightened by external satin finish and polishing using a range of grits.

TIS continues to expand its production and sales capabilities, multiplying its efforts towards research into new technological solutions.

**TIS Srl** – Italy  
Tel: +39 0341 201724

## Ukrainian stainless steel and austenitic alloy tubes

State Enterprise Ya Ye Osada Scientific Research Tube Institute (SE NITI), Ukraine, includes a number of R&D departments and a pilot production shop equipped with a horizontal hydraulic 16 MN press, a 2-roll piercer, cold tube rolling mills of roll and roller types, drawing mills and thermal and chemical treatment and finishing facilities.

The pilot production shop ensures fulfilment of the Institute's R&D programmes, including comprehensive investigations, development of new technologies and improvement of existing ones, and mastering production of new products by pipe and tube producers in Ukraine and CIS countries.

It also enables the production of experimental samples and pilot lots of special purpose tubes, and production of unique precision tubes and tubular goods for instrument engineering, nuclear power engineering, aerospace, ship building and other industries.

The Institute develops technologies and production of tubes of stainless steels and austenitic alloys, including:

- cold worked tubes of corrosion resistant steel 12X18H10T in a size range of 5-20mm x 0.2-2.5mm to standard GOST 9941-81
- cold worked tubes of corrosion resistant steel 12X18H10T for oil conduits and hot water systems in a size range of 8-20mm x 0.5-2.5mm to standard GOST 19277-73
- cold worked tubes of corrosion resistant steels 08X18H10T, 09X18H10T and 12X18H10T with a high surface quality in a size range of 5-30mm x 0.2-4mm to specification TU 14-3-197-89
- cold-worked tubes of age-hardenable alloy 36HXTЮ (ЭП701) in a size range of 3.5-25mm x 0.15-2.6mm to specification TU 14-224-119-88
- cold-worked extremely thin-walled 5mm x 0.3mm tubes of age-hardenable alloy ХН50ВМТЮБ-ИД (ЭП-648 ИД) to specification TU 14-3-1462-87 for heat exchangers

- cold-worked thin-walled and extremely thin-walled tubes of corrosion resistant and heat resistant alloy ХН78Т (ЭИ-435) in a size range of 1-19mm x 0.1-1mm to specification 14-3-949-80 and standard GOST 14162-79 for aircraft engine building
- small diameter (capillary) tubes of corrosion resistant steels 06X18H1010T, 09X18H10T and 12X18H10T in a size range of 0.7-5mm x 0.15-1.6mm to standard GOST 14162-79 for aerospace and nuclear power engineering industries
- high quality cold-worked extremely thin-walled tubes of corrosion resistant steels ЭИ-844 БУ-ИД and ЭИ-847 ПЩ in a size range of 1-22mm x 0.12-0.5mm to specifications TU 14-3-550-80, TU 14-3-1041 and TU 14-3-1070-81 for nuclear power engineering.

The tubes are delivered in lengths beginning from 1 metre, in accordance with customer requirements.

**State Enterprise Ya Ye Osada Scientific Research Tube Institute** – Ukraine  
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## Drawn over mandrel tubing specialist

PEASA was founded in Mexico in 1961 to produce carbon steel tubing, and later developed products such as flux tube, welded tube, fence tube, conduit tube, DOM tube (drawn over mandrel), aluminised and stainless steel tube.

Today, PEASA produces quality drawn over mandrel tubing, and offers customers cut to length services (from 24mm up to 500mm).

The company is part of a wide organisation based in Mexico (GIM Grupo Industrial Mexicano), which integrates nine manufacturing, commercial and service companies mostly related to plastics and steel products.

The company's modern manufacturing facility is located in San Luis Potosi, Mexico, and offers state-of-the-art welding, forming and cutting technology. PEASA has invested millions of dollars in two laser welders that allow the company to reduce margins of error to a minimum.

In PEASA's process for producing DOM tubing, the tube is pointed and cold drawing is carried out by passing the tube through two tools of tungsten carbide. Inside and outside diameters

are controlled with high precision, and achieve mirror-like finish.

Steel tubes are manufactured with cold or hot rolled steel in grades SAE-1006 up to 1020 Standards ASTM-A513 and DIN 2393.

Tubes manufactured under the standards ASTM A-178 and A-214 are welded, under A-179, A-192 and A-210 are seamless, and under standards 213 in grade T-22 are carbon steel (seamless).

PEASA has two main divisions, commercial and automotive. The automotive division is dedicated to manufacturing complete exhaust systems and catalytic converters for original and aftermarket.

For the tubing lines, the main applications in the automotive industry are eye rings, shock absorbers, hydraulic jacks, seats, steering wheels, drive shafts, air bags and steering columns. The company has received the ISO TS-16949 certificate and ISO 9000:2000.

**PEASA – Mexico**  
gsander@peasa.com.mx  
www.peasa.com.mx

## Stainless steel finished goods

Ferimpex Steel Inc, USA, and Ferimpeks Diş Ticaret, Turkey, supply stainless steel as finished goods, such as sheets, bars, round bars, squares, flat bars and hexagonal bars, pipes, profiles and fittings, to the international market.

The company has built long-term partnerships with the largest manufacturers in China and the Far East, in order to supply the international and domestic markets without compromising quality. The company is also a partner of manufacturers from Europe.

The company's product range includes steel products, angles, square bars, flat bars, t-bars, wire rods, steel billets, round bars, steel HR/CR coils and sheets, galvanised CR coils, steel tubes and profiles, galvanised tubes, aluminium profiles, quality steel, stainless steel products, aluminium extrusion, high pressure aluminium cylinders, and turn key steel mill projects.

**Ferimpex Steel Inc – USA**  
**Ferimpeks Diş Ticaret – Turkey**  
sales@ferimpeks.com  
www.ferimpeks.com

## Pressfitting system

Eurotubi Pressfitting is a system of tubes and fittings used for hydrothermosanitary installations, recommended for the conveyance of water, gas and compressed air.

The fittings present at the extremities the O-ring seating, where the rubber seal of high use resistance is allocated, able to support high pressures and temperatures over 85°C. Tubes and fittings are assembled through the permanent deformation of the fitting by special pressing jaws mounted on small electromechanical tools.

Once pressed, the O-ring ensures a perfectly hermetical and non-divisible connection.

The Pressfitting system combines reliability of joints with a quick and easy way of laying, as it does not need any gluing, threading or welding.

## Chinese stainless steel production

Baofeng Steel Industrial Co Ltd (Baofeng Enterprise), China, is a stainless steel manufacturing group with an annual production capability of 30,000 tons of austenite steel and 10,000 tons of stainless steel tube.



▲ Baofeng Steel Industrial Co specialises in the production of stainless steel pipe and tube

The company's products include bars, quadrate tubes, rectangular tubes, seamless stainless steel tubes of diameter 6-630mm, and welded tubes of specification upwards of 114mm diameter, according to GB, ASTM, JIS, DIN and EU standards.

The company's products have been exported to South Asia, the Middle East, USA and EU.

**Baofeng Steel Industrial Co Ltd – China**  
baofeng@wzbfhg.com  
www.wzbfhg.com

As a consequence, the major costs of fittings are balanced by the low cost of labour.

Eurotubi Pressfitting system has a wide range of fittings available in diameters from 15mm to 108mm in stainless steel 316L, and in diameters from 12mm to 108mm in carbon steel.

High quality materials, constant sealing and duration tests, and rigorous quality control have allowed the Eurotubi Pressfitting system to obtain conformity with the strictest European certifications.

Carbon steel represents for thermal installations a competitive and innovative solution, offering the same quality level provided by traditional copper systems, but at lower costs.

The Pressfitting system is compatible with most important brands of fittings available in the market.

**Eurotubi Europa** – Italy  
[info@eurotubieuropa.it](mailto:info@eurotubieuropa.it)  
[www.eurotubieuropa.it](http://www.eurotubieuropa.it)

## Elbows, tees and reducers

Erne Fittings, Austria, is a manufacturer and supplier of butt-welding fittings such as elbows, tees and reducers from 1/2" (20mm) up to 36" (914mm) external diameter and wall thicknesses up to 50mm, made of alloyed, unalloyed steels and exotic materials.

In stainless steel, Erne provides elbows, tees and reducers from 1/2" to 12" (21.3mm to 323.9mm). Materials include WP304/316L-S (ASME B16.9),

UNS-S31803/32205, N-1.4541-S(W), Q-1.4571-S(W), (DIN2609), 1.4432-S(W), and other materials on request.

Production takes place in the company's three plants in Austria and Germany, where special demands for short production times can be accommodated.

The company has a modernised and well-stocked finished product warehouse, which features a high degree of product availability.

Erne products are used world-wide in power stations, oil and gas fields, pipelines, refineries, chemical plants, ships and other demanding industrial sectors.

**Erne Fittings GmbH**  
 – Austria  
[office@ernefittings.com](mailto:office@ernefittings.com)  
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▼ Erne Fittings operates a modern, fully-automated logistics centre





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## Guiding customers in successful product choice



▲ RathGibson manufactures tube and pipe from stainless steel, nickel, and titanium

RathGibson, USA, a manufacturer of stainless steel, nickel, and titanium welded, welded and drawn, and seamless tubing and pipe, uses its experience and technical expertise to guide customers in the selection of tubing or pipe.

The company educates its customers to think in terms of requirements, such as corrosive environment, dimensional limits and strength.

*"Too often, customers choose tubing based upon the tubing's production process, such as welded, welded and drawn, or seamless," explained RathGibson's Dave O'Donnell, director, process and product development.*

*"There are times when each of these options is appropriate; however, the requirements that will be placed on the tubing product itself should always be the crucial determining factor in selection."*

Characteristics to be considered when selecting tubing or pipe include OD and wall tolerances, corrosive environment, high temperature wasting, cleanability, and cosmetic OD and ID. RathGibson employs a comprehensive quality control programme that includes rigorous testing to ensure that requirements are met in each situation. The company's internal quality control processes meet and exceed recognised industry standards.

RathGibson supplies its products to diverse markets such as chemical, petrochemical, general commercial, food, beverage, pharmaceutical, biopharmaceutical, energy, and oil and gas. In 2006, the company acquired speciality stainless steel and nickel tubing supplier, Greenville Tube.

**RathGibson – USA**  
www.rathgibson.com

**Greenville Tube Company – USA**  
www.greenvilletube.com • info@greenvilletube.com

## Seamless Super Duplex tubes

Stahlkontor Hahn, Germany, a division of ThyssenKrupp Materials International, is a master distributor for austenitic seamless stainless steel tubes and pipes in grade TP304L, 316L, 321H, 304H, 347H, 316TI and 904L, and has extended its range for special grades.

In addition to standard Duplex UNS S31803 (1.4462), the company has added to its stock range Super Duplex grade UNS S32760 (1.4501) for seamless tubes from 1/2" to 8" NPS.

**Stahlkontor Hahn – Germany**  
stainless@s-k-h.com  
www.s-k-h.com

## Turkish trade association

PASIAD (Association of Industrialists and Businessmen of Stainless Steel of Turkey) is an association for all areas and products related to stainless steel in Turkey. Aims of the association include providing information to consumers and to traders about the usage of stainless steel, increasing awareness of its applications, and preparing regular publications about the stainless steel sector.



▲ PASIAD provides services to the stainless steel industry in Turkey, including attending trade events

The association, which has more than 100 members in Turkey, supports and organises commercial and educational activities in collaboration with other producers, associations and universities.

**PASIAD – Turkey**  
info@pasiad.org.tr  
www.pasiad.org.tr

## Stainless steel tubes from Bulgaria

KG Ltd, Bulgaria, founded in 1991, specialises in the manufacture of stainless steel tubes, according to EN-10312 standard (or other standards upon request) in the following materials:

▼ KG specialises in stainless steel tubes



AISI – 304, 304L, 309, 316, 316L, 316 Ti, 321 and 430. The main welding method used and approved is TIG.

Sizes vary from Ø 6mm to 21.3mm and from Ø 25.4mm to Ø 95mm, with wall thickness from 1mm to 4mm.

The organisation, management and control in the company is subordinated to a quality management system, certified to ISO 9001:2000.

**KG Ltd – Bulgaria**  
office@kg-bg.com  
www.stainless-steel-tubes.com

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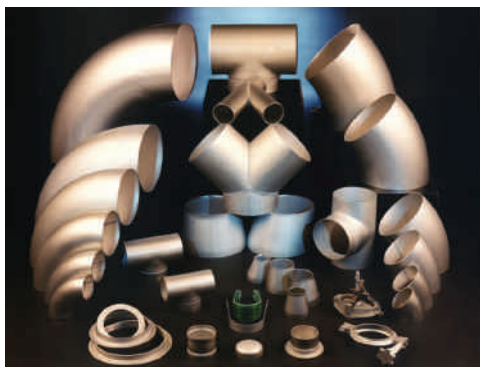


## Steel products and material test reports

Felker Brothers Corporation, USA, established in 1903, is committed to pioneering and implementing modern manufacturing facilities, diversified product capabilities, and information technologies.

The company provides an extensive product line of high quality, corrosion resistant stainless steel pipe, tube, and fittings. All products are ISO 9001 certified.

▼ *Felker Brothers Corporation produces a wide range of stainless steel pipes and fittings*



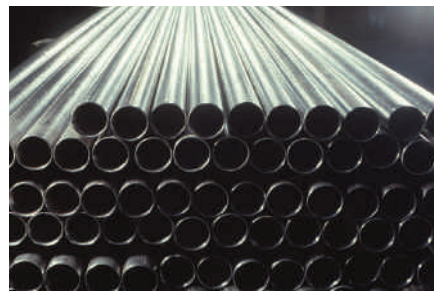
The company comprises two divisions, Felker Piping Products and Felker Fabrication, to serve the needs of a diversified customer base.

Felker Piping Products Division offers a full line of type 304/304L and 316/316L dual certified, welded stainless steel to the following standards: ASTM/ASME A-312/SA-312, ASTM A-778, ASTM/ASME A-269/SA-249, ASTM A-774, ASTM A-403, and a variety of miscellaneous pipe accessories.

Pipe diameters include 2"-36" Schedule 5S, 2"-36" Schedule 10S, 2"-8" Schedule 40S, and 10"-96" gauge/plate thickness to 1/2".

Tube diameters include 3"-12" .065-.120 wall. Special alloys, diameter sizes, and gauge thicknesses are available upon request. Fittings are also available in Schedule 5S and Schedule 10S.

Felker Fabrication Division offers customised prefabricated pipe



systems, ducting, and inserts for customers with specific and unique needs.

Felker Brothers Corporation also provides easy access for customers to receive product material test reports (MTRs) via the internet.

**Felker Brothers Corporation – USA**  
felker@felkerbrothers.com  
www.felkerbrothers.com

## Large pigtail order

Buigstaal Tube Bending Alkmaar, The Netherlands, is an ISO 9001-2000 certified producer and supplier of tubular components.

The company has booked one of the largest orders in his history, for bending and completing of inlet and outlet stainless steel pigtails, from KTI Corporation, USA.



▲ *Buigstaal Tube Bending Alkmaar has undertaken one of its largest ever orders*

The order consisted of 1,248 outlet pigtails from ASTM 312 TP347H OD 44.5 x 6.35mm, and 1,248 inlet pigtails from B407 UNS N08811 OD 38.1 x 3.5mm.

Buigstaal produced the job completely in-house, including the two different bend radii in one product and bevelling.

Since 2007, Frank Tuin has been the company's managing director, taking over the responsibility from Cor

Breen, who is enjoying an early retirement while maintaining a role as technical advisor to the company.

**Buigstaal Tube Bending Alkmaar – The Netherlands**  
info@buigstaal.nl • www.buigstaaltubebending.nl

## Fittings and valves

Haixing Dongfang Stainless Steel Products Co, Ltd, China, manufactures a wide range of pipe fittings, ball valves, marine hardware and precision mechanical castings.

The ISO 9001:2000-certified company's products are durable against acid, alkali and caustery, and are extensively used in the fields of chemistry industry, medicine, paper manufacture and architecture.

The products are exported to the countries of Southeast Asia, America, Australia, Taiwan and others areas.

**Haixing Dongfang Stainless Steel Products Co, Ltd – China**  
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# focus on... plastics

Photo – Pixargus GmbH, see page 63

## “Plastics offer it all.”

Because the Society of the Plastics Industry (SPI) was founded in 1937, that unabashed declaration might seem like the exaggeration of an old-timer. But it is the simple statement of a stark fact. Plastics do offer it all: light weight, durability, weatherability and chemical resistance, premium thermal and insulating properties, design flexibility, parts consolidation — and much more besides.

Plastics are such a familiar presence in our public and private spheres, and we have come to take them so much for granted, it is difficult to imagine life without them. That is probably just as well, since a world without plastics would be an unaccommodating, uncomfortable, and uninviting place.

As well as the world of tubes and pipes, these remarkable materials figure just as prominently in a host of areas, among them aeronautics, transportation, building and construction, packaging, home appliances — again, the list has no obvious stopping-point.

The Society of the Plastics Industry may be charged with partiality. But not with exaggeration.

Truly, plastics offer it all.

## Proven performance for sanitary pressure pipes

Sabic Europe, Netherlands, is a supplier of pipe grades in bimodal HDPE and various PP grades. The company's Vestolen P 9421 is a PP Random copolymer (PPR) grade used in applications such as hot and cold water supply. Pressure pipes made of this grade have been in use for over 30 years, which is longer than any other PPR pipe grade.

Vestolen P 9421 is available in a variety of colours and contains a fine tuned stabilisation package proven to be fully effective against thermo-oxidative degradation. Pipes produced from the grade meet the requirements of the commonly used ISO EN 15874 and ISO 3213 standards. Vestolen P 9421 is easy to handle and process on conventional extruders and injection moulding machines, and easy to install. It is also environmentally friendly and corrosion-free.

**Sabic Europe** – Netherlands  
[www.sabic-europe.com](http://www.sabic-europe.com)

## Loose aluminium flanges for PE/PVC plastic pipes

Fonderia Fazzini Srl, Italy, produces loose aluminium flanges for PE and PVC plastic pipes, branded FF-PL and FF-PV. Loose aluminium flanges are an alternative to those made from other materials as they benefit from aluminium characteristics including light, hard, corrosion resistance, and cost efficiency.

The inside diameter of these flanges is qualified for plastic pipes according to UNI-DIN standard. The mating dimensions are in accordance with the EN 1092-1 PN10/16 standard. The aluminium flanges can be supplied blank, sand-blasted or coated, and are manufactured from EN AC-47000 aluminium alloy.

## Patented bi-stable reel composite tube for pipeline applications

RolaTube Technology, UK, has introduced a globally patented bi-stable reel composite (BRC) that can be repeatedly rolled and unrolled from flat spool to rigid tube. In principle, bi-stable composite reel products are fully capable of replacing and/or reinforcing all retractable and fixed tubular structures such as masts, poles and pipes, resulting in unlimited potential applications.

The company has also identified the commercial potential of thermoplastic elastomers (TPEs), high tech plastics that contain rubber-like properties.

RolaTube was provided with invaluable research support from the London Manufacturing Advisory Service (MAS), a DTI initiative supported by the London Development Agency.

RolaTube can be used for pipelines and pipeline rehabilitation. The company has manufactured and successfully tested prototype designs of flat-reeled composite pressure pipes and linings for the oil and gas industry. The commercial product, when shipped as a reel, and deployed, welded and installed on site, can potentially save up to 90% of transportation costs compared with extruded pipes.

Bistable pipelines are equally useful in replacing and repairing low-pressure aqueous and non-aqueous applications.

**RolaTube Technology Limited** – UK  
[sales@rolatube.com](mailto:sales@rolatube.com) • [www.rolatube.com](http://www.rolatube.com)



▲ RolaTube is a newly developed bi-stable reel composite (BRC) that can be repeatedly rolled and unrolled from flat spool to rigid tube



▲ The loose aluminium flanges for use with PE/PVC plastic pipes

With 40 years of experience in aluminium flanges, the company produces a wide range, not only for plastic pipes, but also for steel pipes.

**Fonderia Fazzini Srl** – Italy  
[info@fonderiafazzini.it](mailto:info@fonderiafazzini.it)  
[www.fonderiafazzini.it](http://www.fonderiafazzini.it)

## Glass fibre reinforced plastic pipe from Turkey

Superlit Boru Sanayi AS, Turkey, is a manufacturer and exporter of pressure and non-pressure pipes and accessories.

The company's product portfolio includes glass fibre reinforced plastic (polyester) pipes, high density and medium density polyethylene water and gas pipes, and corrugated polyethylene pipes.

The company produces GRP pipe using both continuous filament winding and centrifugal casting technologies, and is able to manufacture seven different diameters at the same time. The main applications of the company's glass



➔ fibre reinforced plastic pipes are potable water, irrigation, sewerage, drainage, cooling, submarine, re-lining and jacking systems.

The pipes are manufactured in diameters ranging from 300mm to 3,000mm. Stiffness classes are 2500, 5000, 10000 and working pressure up to 32 bar. The glass fibre reinforced plastic pipes are manufactured in accordance with ISO, BS, ASTM, TS, and AWWA standards, or to customers' technical requirements. Superlit also has the ISO 9001 Quality Management Certificate issued by the German TUV.

HDPE pipes are offered to gas and water markets, with diameters from 16mm to 800mm, and working pressure up to 32 bar.

Corrugated pipes are available in a range of diameters from 150mm to 600mm, for usage in sewerage, drainage, non-pressure and industrial drainage systems.

The company can also provide technical assistance, and supervise unloading, stockpiling, laying, assembling and first field-testing.

**Superlit Boru Sanayi AS** – Turkey  
 impex@superlit.com  
 www.superlit.com

## Polypropylene pipes for smooth-flowing sewer project

Borealis, a plastics solutions specialist, has supplied plastics processor Rehau with BorECO™ BA 212E, a highly developed polypropylene (PP) for pipe systems.

Rehau was faced with the challenge of installing a smooth-flowing sewerage system in the residential area of Traiskirchen, Austria, during the winter season, and benefited from BorECO's features, which include low weight, high stiffness, durability and good impact resistance even at low temperatures.

Mr Guido Kania, Rehau's senior manager, research and development, commented, *"The wintry weather during installation plus the cold conditions facing the pipes once underground meant that a heavy duty solid wall pipe with high ring stiffness and good cold climate performance had to be used. In combination with the community's demands for a sewer pipe system with good corrosion resistance and long-term performance, we felt that Borealis' BorECO was the ideal material to produce our Awadukt PP sewer pipe system."*

The low weight of pipes made from BorECO PP compared to traditional

concrete pipes allowed the construction company fast and cost-efficient pipe laying in the trench, even for large pipes with thick walls.

Smooth installation at the trench was assisted by the high ring stiffness and jointing flexibility of the finished pipes. Rehau used a safety-lock pushfit system to ensure both quick installation and long-term performance.

**Borealis AG** – Austria  
 info@borealisgroup.com  
 www.borealisgroup.com

## PE, PVC and PPRC pipe and joints

Aydin Plastik, Turkey, serves customers in both domestic and international markets with its experience in the plastic sector. The company uses up-to-date technology with qualitative production which is sensitive to the environment.

The company's wide product range caters to building, industry and agriculture, and includes hoses, polyethylene pipes, and pipe and joints made from PE, PVC or PPRC.

Aydin Plastik's PVC waste water pipes and joints feature slider-gaskets and are designed to be easy to fit. The pipes and joints have smoother inner and outer surfaces, low levels of corrosion and calcify at zero level which prevents blockage, so that leak-free, fast and continuous flow of liquids can be achieved. The material used in the PVC pipes and joints is non-flammable, unless directly exposed to fire.

The company's PPRC pipes are used in building installation and heating systems, and are easy to fit, light to handle and feature smooth inner surfaces to prevent calcification.

The pipes are resistant to chemicals, and do not affect the quality of the transferred liquids.

**Aydin Plastik** – Turkey  
 info@aydinplastic.com  
 www.aydinplastic.com

## Manila Water switches to PE pipe



Manila Water's decision to switch from PVCu to PE as its preferred pipe material has brought about a change in the products it sources from pipe joint and repair specialist Viking Johnson. A recent supply contract for the Philippines water company specified AquaFast couplings and flange adaptors in place of the MaxiFit range it previously used.

AquaFast couplings and adaptors are designed for both polyethylene and PVCu pipe connections, including PE/PVC transitions. The MaxiFit is a wide tolerance range suitable for use with PVCu, steel, ductile iron, cast iron and asbestos cement pipe materials.

AquaFast flange adaptors, featuring progressive gripping and sealing technology, are used for connections to valves and other flanged fittings. No specialist tooling is required and the fittings can be installed in all weathers and site conditions.

▲ Viking Johnson's AquaFast range is designed for use with both polyethylene and PVCu pipe

**Viking Johnson** – UK  
 info@vikingjohnson.com • www.vikingjohnson.com

## Increased safety for pipe systems for potable water

The quality requirements for drinking water are defined in various international standards. It has become common practice to disinfect potable water in order to eliminate possible health risks. Disinfection with chlorine has been proven as reliable and cost-effective, and has therefore become the most common treatment.

An important consideration is how the chlorination might affect the service life of pipe systems. A project has been initiated to research the long-term effects of chlorine on plastic pipe systems.

This project is being organised by two professional institutions renowned for testing methods for plastics: the Süddeutsche Kunststoff-Zentrum (SKZ), Germany, an independent testing and research institute for plastics and plastics products, and IPT Institut für Prüftechnik Gerätebau GmbH & Co KG, a developer and manufacturer of test equipment for the plastic pipe industry.

IPT's specialists are designing and manufacturing suitable state-of-the-art equipment to provide the project with a test unit that will produce reliable results.

Using this equipment, a sustained pressure test on pipe systems can be performed over a range of temperatures with chlorinated medium. During the entire test duration the pH level and free-chlorine concentration of the test fluid is measured and regulated to the predetermined parameters, while data is continuously monitored, collected and documented by means of a data logging system.

SKZ is contributing its expertise in the area of pipe systems for potable water supply and house installations. The company has many years' experience of testing, supervising and certifying products and companies in the plastic industry. With the newly developed IPT unit, important knowledge will be gained



▲ Chlorine has become a common treatment for disinfecting drinking water

regarding the long-term behaviour of these systems under the influence of complex chemical and physical conditions.

The project will be supported directly by the German Federal Ministry of Economics and Technology (BMWi).

**Süddeutsches Kunststoff-Zentrum – Germany**  
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**IPT Institut für Prüftechnik Gerätebau GmbH & Co KG – Germany**  
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www.iptnet.org



**Zibo Wel-Fit Metal Products Co Ltd**

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Stub Ends – MSS TYPE-A& B  
Stub Ends – ASME Long  
End Caps  
Sch5S – XXS  
½" – 60", ¾"X½" – 60"X38"



### Specifications

ASME B16.9  
ASTM A403 304/L 316/L 321 347  
ASTM A234 WPB P11 P22 P5 P9  
ASTM A420 WPL6  
ASTM A815 S32205 S32750  
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## Easy-to-install PEX pipe

Uponor Housing Solutions, UK, manufactures a PEX range that incorporates complete plumbing and heating systems for all applications in domestic, public and commercial buildings. All Uponor systems are based on Uponor PEX special cross-linked polyethylene material, which was developed specifically for this type of application.

Uponor PEX pipe is available in UK sizes 15mm, 22mm and 28mm, and is suitable for all types of heating and potable water applications. The pipes are flexible and light, and feature an integral oxygen diffusion barrier, and a smooth bore.

Already extensively used in Europe and the USA, Uponor PEX's expansion fitting system is designed for fast and reliable installations, with no rubber seals or moving parts. To make an Uponor PEX joint, the installer places the PEX ring over the end of the pipe. The pipe and ring are both expanded simultaneously with the expander tool (either manual or battery-powered), and the pipe is pushed onto the fitting. The expanded pipe and ring then shrink back due to the elasticity of the material, providing a firm grip on the fitting.

The pipes, which are white in colour, are designed for a minimum 50-year service life, and are supplied in coils or straight

lengths to minimise wastage. Pipes are also available pre-inserted in conduit to meet Water Regulations 1999. Fittings are available in PPSU plastic or DZR brass.

**Uponor Housing Solutions Ltd** – UK  
 hsenquiries@uponor.co.uk  
 www.uponorhousingolutions.co.uk

## First optical inspection of transparent tubing

Pixargus GmbH, Germany, develops and manufactures systems for optical inline measurement and inspection of plastic and rubber profiles.

For the manufacture of medical technology products, the company has launched its new ProfilControl 5-Medictube inline inspection system – the first system to enable optical inline inspection of transparent tubing. Previously, such tubes could only be inspected by random checks.

ProfilControl 5-Medictube can be used to inspect tubing made of PVC, PE, PUR or rubber and used in medicine, for example, for cardiac catheterisation or dialysis.

Due to its compact design – it requires an installation length of only 250mm – the system can be easily integrated into existing production lines. The system is suitable for use under clean room conditions.

Especially for medical tubing, the homogeneity of the tube material plays a decisive role. If, for example in transparent dialysis tubes, inhomogeneities are mistaken as blood or other contaminations, or an inclusion in the tube wall is misinterpreted as an

▼ *ProfilControl 5-Medictube during inspection of medical tubing*



## Pipe for heating and sanitary systems



The Prandelli Plus system, from Prandelli SpA, Italy, consists of a PE-Xb/AL/PE-Xb composite pipe and dezincification-resistant brass connectors. Connections are made using an axial sliding operation.

During the manufacture of Prandelli Plus pipe the inner core is covered lengthwise with butt-welded aluminium foil. The fluid runs through this inner core, with full compliance with PE-X pipe standards. The aluminium is then covered with a further layer of cross-linked polyethylene (PE-Xb).

Due to the size of the pipe, the finished product has high mechanical and thermal resistance, making it suitable for both heating and sanitary systems, the latter often being under stress.

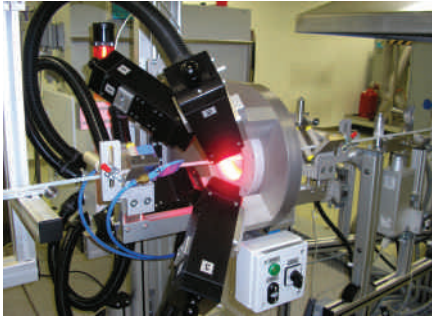
▲ *The Prandelli Plus system uses PE-Xb/AL/PE-Xb composite pipe and brass connectors*

Important characteristics of Prandelli Plus pipe include corrosion proofing, smooth and even surface, thermal conductivity, low noise, and a barrier to oxygen.

Prandelli Plus has been designed to safely withstand any stress which may occur within hydraulic, heating and sanitary systems. The tube can be classified as PN16, meaning it can withstand a pressure of 16 bar at a temperature of 20°C for a continuous operation period of 50 years.

The tube can work constantly at a running temperature of 60-70°C. It can withstand temperatures of up to 80°C and malfunction temperatures of the hot water generator or control systems of up to 95°C. For applications in panel heating systems, the maximum temperature is 90°C and the malfunction temperature is 100°C, as provided for by the specific UNI EN ISO 15875-1 regulations.

**Prandelli SpA** – Italy  
 prandelli@prandelli.com • www.prandelli.com



▲ The compact measuring head enables the system to be easily integrated into existing production lines

air bubble, this can cause irritation or lead to false conclusions.

PC 5-Medictube detects such defects – for example holes, fissures, foreign particles or inclusions in the tubing material – during the production process.

Operating staff can immediately take corrective action and correct the defective material.

At the same time it helps to avoid such defects in the future. Besides the fact that the outside diameters of the tubing are often very small, the semi-transparency of the product surfaces poses another challenge to inspection system designers, and was one reason why automatic inspection of these materials was not possible in the past.

Also, material-inherent reflections of the lustrous tube surfaces pose a difficult-to-solve problem for optical inspection systems. Pixargus has now succeeded in combining light and camera technology in a sophisticated

design that, despite these difficulties, makes material defects visible.

Björn Lindner, managing director of Pixargus, sees great advantages for both manufacturers and users. *“Especially in medicine, 100% inspection is a must. At production speeds of 50m/min and above, the human eye is unable to detect extremely small irregularities, above all on a transparent material. Also, so-called node monitoring devices, which used to be employed in the past, only measure the outside diameter in two axes. Our system, on the other hand, inspects every individual centimetre of the complete tube. This ensures that only material of perfect quality is delivered to the customer. But the system also helps manufacturers to significantly reduce their production costs.”*

**Pixargus GmbH** – Germany  
 info@pixargus.de  
 www.pixargus.de

## Turkish pipes and fittings

Esen Plastik, Turkey, produces and exports PPRC, PVC and PE pipes and fittings, and PVC profiles. The company uses the latest technology to provide a rapid and accurate response to customer needs and reduced lead times for its exported goods. The company has the ISO-9002 quality certificate and exports to countries in Europe, Africa, Asia and the Middle East.

The company’s PVC profile products include door and window systems (60-70mm, 3-4-5 chambers), wall covering (lambaries) profiles, decorative suspended ceilings, rolling shutter profiles and door filling profiles. Rigid PVC products include disposal pipes and fittings, pressure pipes and fittings, and deep well pipes and fittings. Other PVC products include transparent and coloured garden hoses, braided transparent hoses and LPG hoses, spiral hoses, drainage pipes and fittings, and irrigation and infrastructure systems.

Esen Plastik’s polypropylene products include PPRC pipes and fittings for the replacement of galvanised iron pipes and fittings at the building, and PEX-AL-PEX pipes.

The polyethylene product range consists of HDPE pipes and fittings, LDPE pipes and fittings, MDPE natural gas pipes, PEX crosslink polyethylene, aluminium PEX pipes and PE corrugated pipes.

**Esen Plastik** – Turkey  
 cuneytnarin@esen.com  
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## Parts and fittings from China



▲ A selection of products from ZheJiang Panan Xingda

ZheJiang Panan Xingda Rubber & Plastic Factory, China, was established in 1989, and is located in Jianshan Industry Zone, Zhejiang Province.

The company produces a wide range of plastic products, including rubber plastic hoses, tubes and pipes for home appliances such as vacuum cleaners, air conditioners and washing machines, plastic parts and fittings, and sanitary plastic component parts.

**ZheJiang Panan Xingda Rubber & Plastic Factory** – China  
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