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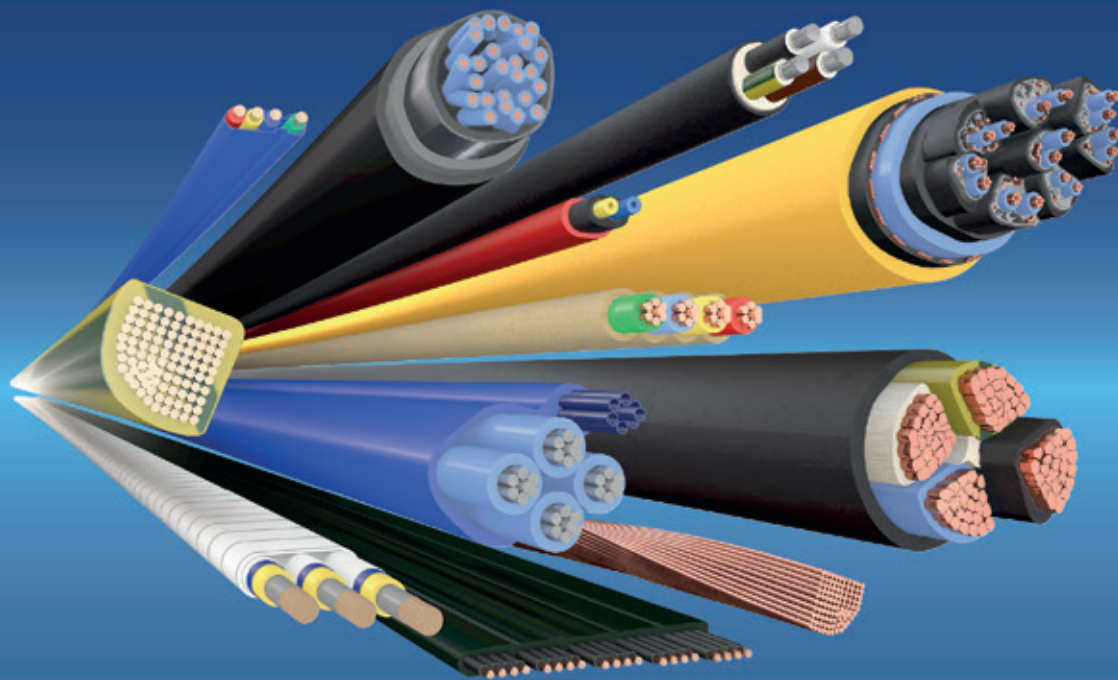


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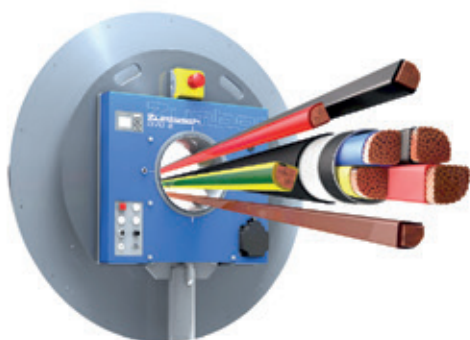


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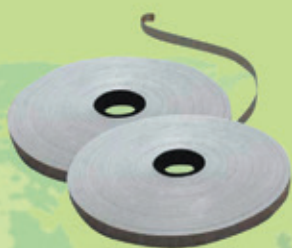
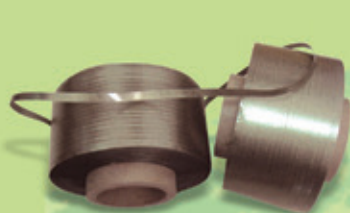


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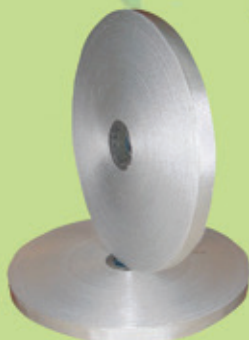
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The Americas call – both South and North

The whole wire and cable industry seems to be on the move, with three exhibitions and conferences taking part around the globe towards the end of 2017.

Our sister magazine, *Wire & Cable ASIA*, will host coverage of this year’s wire Southeast Asia, being staged in Bangkok, from 19th to 21st September.

This issue of *EuroWire* concentrates on the two October fairs, enticing the industry to both South and North America.

Firstly, it is the turn of wire South America to make its biennial appearance, with exhibitors and visitors alike converging on the São Paulo Expo Exhibition & Convention Center in Brazil from 3rd to 5th October.

Experts believe that Brazil will emerge from recession this year and, being rich in resources, it has enormous potential for investment in the wire and cable industries.

Products from the sector are of major importance for Brazil’s industry in general, particularly in view of planned investments in the construction and automotive sectors, and renewable energies. Our coverage starts on page 58.

Just days later – from 8th to 11th October – the sector turns its attention northwards to the Gaylord Palms Resort & Convention Center in Orlando, Florida, USA, for the 66th annual IWCS.

The latest technologies will be presented in a symposium format during the three-day show, with professional development courses and tutorials. As part of this, there will be expanded sessions on connectivity within the industry.

Running alongside the symposium will be the suppliers exhibition, providing an excellent chance to view the latest developments in an ideal networking format. Turn to page 56 for more details.



David Bell
 Editor

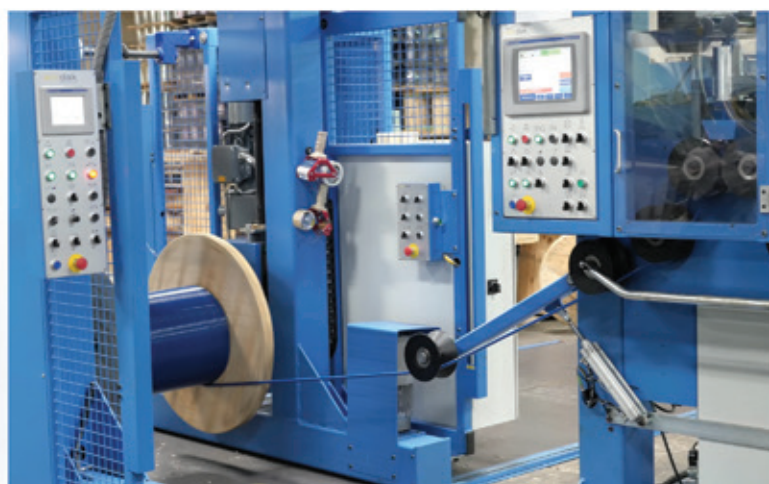
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OCT 8-11 ORLANDO, FL - BOOTH 234

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Next Issue

Getting Technical:

Development and Qualification of a High Performance Zero-Halogen Primary 90°C Wet Rated LV Insulation System

Feature

wire South America Review

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wire South America 2017

3–5 October:

wire South America – trade exhibition –
São Paulo, Brazil

Organisers: Messe Düsseldorf GmbH

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Website: www.wire-south-america.com

dates for your diary ...

2017

October

8–11 October:

IWCS Technical Symposium –
conference and exhibition –
Orlando, Florida, USA

Organisers: IWCS

Tel: +1 717 993 9500

Email: phudak@iwcs.org

Website: www.iwcs.org

November

7 November:

CabWire 2017 – conference –
Düsseldorf, Germany

Organisers: IWMA

Fax: +44 121 781 7404

Email: info@iwma.org

Website: www.iwma.org

December

6–9 December:

Iran Wire – exhibition –
Tehran, Iran

Organisers:

Messe Düsseldorf GmbH

Fax: +49 211 4560 668

Email: info@iranwire.ir

Website: www.iranwire.ir

2018

March

6–8 March:

AMI Cables Conference – conference –
Cologne, Germany

Organisers:

Applied Market Information LLC

Tel: +44 117 314 8111

Email: lr@amiplastics.com

Website: www.amiplastics-na.com

April

16–20 April:

wire 2018 – exhibition – Düsseldorf,
Germany

Organisers: Messe Düsseldorf GmbH

Fax: +49 211 45 60668

Email: wire@messe-duesseldorf.de

Website: www.wire.de

bigstockphoto.com "Octavio Frias de Oliveira Bridge, Sao Paulo, Brazil", Photographer: R W Nunes



▲ The Energy Observer

Going green aboard the *Energy Observer*, the first hydrogen vessel to circumnavigate the globe

PRYSMIAN Group has formed a partnership with the *Energy Observer*, the world's first catamaran powered solely by renewable sources, at the Paris Air Show.

Energy Observer and CEA Liten, the research institute that developed the project, have chosen Prysmian as the official supplier of cables which, through a high level of performance, reliability and light weight, provide energy generated from renewable sources to the vessel's motor.

The catamaran, 31m long and 12.8m wide, is powered solely by renewable energy, drawing on 130m² of solar panels, two vertical wind turbines and a sophisticated system that desalinates water, transforming it into hydrogen through electrolysis.

The *Energy Observer*, which set out on 14th April 2017 from the Port of Saint Malo (France), is currently committed to a six-year trip around the world during which it will travel to 101 ports in 50 countries.

The goal of the project is to share with the world a concept of electrical power not in conflict with nature.

It will be a long journey, but also an opportunity to engage in dialogue and build consensus about new solutions for a cleaner future.

"We are extremely proud to take part in the *Energy Observer* project and provide our contribution in the form of our knowledge and technology," said Alain Jeanguillame, director of the Aerospace Business Unit of Prysmian Group, at Salon du Bourget (Salon International de l'Aéronautique et de l'Espace, Paris, France), at which the partnership with the *Energy Observer* was officially presented.

"After having equipped the Solar Impulse, this partnership allows us to continue down the path towards clean energy to which we have committed, by once again taking part in an ambitious and compelling project."

The group was recently technical partner to the Solar Impulse, the solar aeroplane that travelled around the world without using fuel in 2015 and 2016.

The 17,000 solar cells integrated into the wings of this revolutionary aeroplane provided renewable energy to each of its four electric engines via the 150km of special aerospace cables made by Prysmian.

Prysmian Group – Italy
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Death of J William Scher

JOSEPH William Scher – a highly respected and instrumental figure in the wire and cable industry – has died aged 82 after a brief illness.

A father and grandfather, 'Bill' joined Weber & Scher Mfg Co Inc in 1957. Prior to this he received a Bachelor of Art Degree in Engineering from Dartmouth College in New Hampshire, USA.

Directly thereafter, he secured his Masters of Science Degree in Mechanical Engineering from the Thayer School at Dartmouth. He went on to become a licensed professional engineer in the state of New Jersey.

Directly after his studies, Mr Scher joined Weber & Scher where he was immediately responsible for the sole operation of the company.

In the 1940s, Weber & Scher, working closely with Western Electric, developed a line of metal tape handling, corrugating and forming equipment for producing what was referred to back then as the 'Stalpeth' and 'Alpeth' sheath constructions, which were utilised in the production of copper telephone cable.

Mr Scher advanced this technology by adapting and standardising the equipment such that it could be utilised in the diverse manufacturing environments of independent cable manufacturers within the USA.

This technology continues to be widely used today in the worldwide production of optical fibre cables, copper telephone cables, power cables, etc.

In addition to operating a successful company, he took on the role of consultant to the wire and cable industry.

During the early years, Mr Scher provided his consulting services to such companies as Indeco Peruana in Lima, Peru, Acevenca in Valencia, Venezuela, and ITT in New York, USA.

The extent of these consulting services extended to the complete development of cable manufacturing facilities. Shortly after, he pursued the initiative of introducing the full range of equipment



▲ Joseph William Scher – known in the industry as Bill

manufactured by Weber & Scher to established and newly emerging markets throughout the world, including the Far East, Central Europe, Eastern Europe, and the Middle East.

In 2007, Mr Scher was awarded the WCTI Technical Achievement Award for his 50 plus years of involvement in the wire and cable industry. He was also a member of the American Society of Mechanical Engineers for many years.

He is survived by his wife of 62 years, Joan; sons Douglas and Gregory; and six grandchildren.

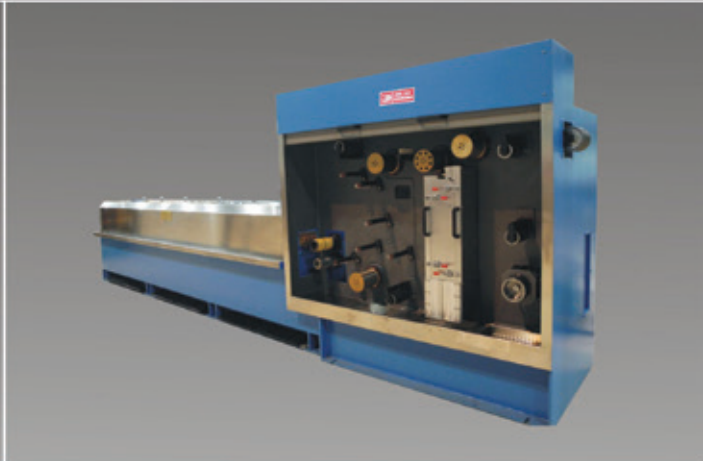
Weber & Scher Mfg Co Inc – USA
Website: www.webscher.com

**OUR COVERAGE OF THE IWCS
SYMPOSIUM AND EXHIBITION
STARTS ON PAGE 56**

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60mm Nokia/Niehoff Tandem Wire Insulating Line

WIRE DRAWING

Rod Breakdown

- WRD971 – **Niehoff** M-85 Rod Machine, 11 Die
- WRD980 – **Eurodraw** SA450.14.2, 2 Wire Rod Machine, 14 Die
- WRD824 – **Heinrich** MC-6063, 2 Wire Rod Machine, 13 Die
- WRD989 – **Syncro** 18T10, Tandem Rod Line, 11 Die
- WRD897 – **Bekaert** KDA, Tandem Rod Line, 9 Die
- WRD1027 – **Wire & Cable Tech.** CWF-13, Wire Rod Machine, 13 Die

Intermediate

- WRD1021 – **Niehoff** MT 200.4.2.2617/RDA 200.1.R.1400, Intermediate Tandem Drawing/Annealing Machine
- WRD1071 – **SAMP** TR/2-TP, Tandem Intermediate Wire Drawer/Annealer/Preheater
- WRD838 – **Niehoff** M30/ VG30, Intermediate Wire Drawing/Annealing Machine

MultiWire

- WRD678 – **SAMP** MLS/ST.14, MT8 (7+7), Multi-wire 14 Wire Drawing Line, 31 Dies, w/R12 Annealer
- WRD1031 – **Nextrom** AMW297, 7-Wire Fine Wire Drawing, Annealing and Spooling Line
- WRD932 – **Eurodraw** MMS100, 16-Wire Multi-wire Drawing Line w/Annealing Furnace
- WRD831 – **SAMP** MT8.2.4.21, 8-Wire Multi Wire Drawing, Annealing and Spooling Line
- WRD942 – **SAMP** MT10.10.22/ R14.10.10 1250, 10- Wire Multi Wire Drawing Line w/Annealer
- WRD973 – **Heinrich** 8 Wire Multi Wire line w/Annealer, 800mm Static Coiler

Spooler/Drop Coiler

- WRD967 – **Niehoff** SPH801.1.G.E.A, 800mm Spooler
- WRD887 – **SAMP** AS/3-820, 820mm Drop Coiler,
- WRD995 – **Endex** ECC-30, 30" (762mm) Drop coiler,

EXTRUSION

Extruders/Lines

- EXP1313 – **Jennings** 8108, 2.5" (63.5mm) PTFE Ram Extrusion Line
- EXPL362 – 60mm **Nokia/Niehoff** Tandem Wire Insulating Line
- EXPL411 – **Rosendahl** Tandem Extrusion Line w/**Niehoff** MT200
- EXPL421 – **Davis Standard** 2" (50mm) 30:1 High Temp Extrusion Line
- EXP1237 – **Nextrom** NMB60-24D, 60 mm Extruder, 24:1 L/D
- EXP1167 – **Rosendahl** RE1-120-30, 120 mm Extruder, 30:1 L/D,
- EXP1189 – **Nextrom** NMB80-24D, 80mm, 24:1 Extruder

Payoffs

- PAY1221 – **Skaltek** A12P4K, 1.2m Portal Traversing Payoff, Drag Brake
- PAY2114 – **Skaltek** A164K, 1.6m Portal Traversing Payoff, Driven
- PAY2090 – **Skaltek** A22-4K, 2.2m Portal Floor Traversing Payoff, Driven
- PAY2043 – **Skaltek** A26-4K, 2.6m Portal Floor Traversing Payoff w/ Upgraded Electronics
- PAY2049 – **Nokia Maillefer** AVR-3, 1.25m Portal Driven Payoff

Dual Takeups

- TKU1402 – **Maillefer** EKP50, 500mm Parallel Axis Dual Reel Takeup
- TKU1440 – **Nokia Maillefer** EKP-63, 560mm Dual Parallel Axis Shaftless Takeup
- TKU1520 – **Nokia Maillefer** EKP-100-A2/160, 1m Dual Parallel Axis Shaftless Takeup
- TKU1175 – **Nextrom** EKP-130, 1.3m Dual Parallel Axis Shaftless Takeup

Caterpullers

- CAT597 – **Mali** VBA2/15/200AC, 2.6m Belt Caterpuller
- CAT612 – **Queins** 45-7239, 1.4m Belt Caterpuller
- CAT486 – **Gauder** 2.2m Belt Caterpuller
- CAT237 – **Nokia Maillefer** Chenile UA-8, 1.2m Belt Caterpuller
- CAT526 – **Johnson Metals** CAT9/208/4, 2.0m Belt Caterpuller

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- CBR1184 – **Stolberger** type 630mm 6+12+18 Bay Planetary Cabling Line
- CBR1141 – **Queins** (refurbished Gauder) 500mm 12+18 Planetary Cabling Line
- CBR1265 – **Watson** 600mm 12 Bay Planetary Cabling Line
- CBR935 – **Trafalgar/Northampton** 420mm 12+18 Bay Planetary Cabling Line
- CBR1064 – **Ceeco** 1.6m 1+6 Single Bay Planetary Cabling Line
- CBR612 – **Northampton** 560mm 24 Bay Planetary Cabling Line
- CBR1143 – **Dimavag** 630mm 6 Bay Planetary Cabling Line
- CBR1285 – **Custom Built** 630mm 6 Bay Planetary Cabling Line

Drum Twist

- CBR1169 – **Brondel/MMC/Alind** 2.6m Drum Twist Line
- CBR1201 – **Ceeco** 2.4m Drum Twist Line
- CBR1000 – **Caballe/Pourtier/Kalmar** 2.2m Drum Twister Line
- CBR923 – **Pourtier** 1.25m Drum Twister Line

Double Twist

- CBR1216 – **Northampton** DTS-1800, 1.8m Double Twist Buncher
- CBR1226 – **Setic** 1.25m Double Twist Buncher
- CBR1181 – **Northampton** 1.25m Double Twist Buncher
- CBR953 – **Setic** 1m Double Twist Strander
- CBR1078 – **Frigeco** 800mm Double Twist Buncher
- CBR1286 – **Setic** 630mm Double Twist Twinner
- CBR1088 – **Niehoff** 560mm Double Twist Buncher
- CBR1260 – **SAMP** 630mm Double Twist Buncher

Single Twist

- CBR853 – **Ceeco** 1m Single Twist Cabler
- CBR1144 – **Entwistle** SC-36, 36" Single Twist Cabler
- CBR1263 – **Dynamex** TPC-224, 30" Single Twist Cabler
- CBR110 – **TEC** 630mm Single Twist Cabler

Tubular

- TBR196 – **Ceeco** 800 mm 6+1 Tubular Strander
- TBR199 – **Bartell** 406mm 12W Tubular Strander
- TBR201 – **Bartell** 254mm 12W Tubular Strander
- TBR190 – **Krupp** 560mm 12W Tubular Strander

OPTICAL FIBER AND OTHER

Extrusion

- EXPL416 – **Viteck** Fiber Jacketing Line, 3.5"
- EXPL409 – **Nokia Mallefer** Loose Tube Extrusion Line, 45mm
- PAY2019.2 – **Nokia Mallefer** 350mm 4 position Fiber Payoff
- PAY1468 – **Nextrom** CMP 300mm 4 position Fiber Payoffs
- EXPL406 – **Nokia Mallefer** 120mm Loose Tube Jacketing Line

Cabling

- CBR1252 – **Tensor** SZ Cabling Line
- CBR1001 – **Nokia Mallefer** 12W Fiber Planetary Cabler
- CBR1171 – **Rosendahl** KVT12-500, 500mm 12 position Ribbon Payoff Strander
- CBR929 – **Pourtier** 450mm Ribbon Payoff Strander
- CBR923 – **Pourtier** 1250mm Drum Twist Line for Slotted Core

Other

- TKU739 – **Hall** 300mm Buffered Dual Automatic Fiber Takeup
- PRN230 – **Nokia Mallefer** OFC 52-620, Fiber Coloring Line
- PRN232 – **Technical Development Corp.** Fiber Coloring Line
- TST119 – **Sterling Davis** Fiber Optic Proof Tester
- BIN085 – **Tensor** KS-200-18, 18 position Aramid Fiber Server
- CBR1275 – **Setic** 630mm 2 position DT Back Twist Payoff
- EXPL336 – **Kabelmetal** TIG Weld and Corrugator Line
- MSC2398 – **Tensor** TCOR-6, 6" Corrugator
- MSC1580 – **Weber and Scher** Rotating Corrugator Line

Interlock

- MSC2487 – **Calmec** 50mm Interlock Armoring Line
- MSC2488 – **Nextrom/Ceeco** 50mm BX Interlock Armoring Line
- MSC2482 – **Ceeco** 4" Interlock Armoring Machine with Belt Caterpuller
- MSC2372 – **Calmec** 20mm Interlock Armoring Line

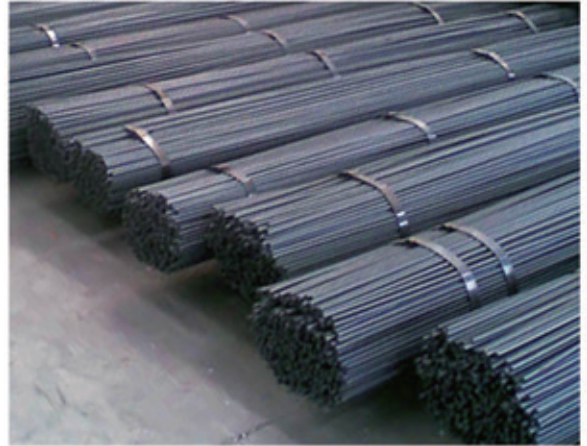
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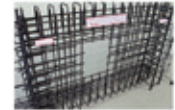
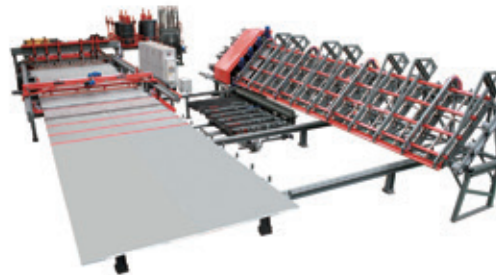
STIRRUP BENDER



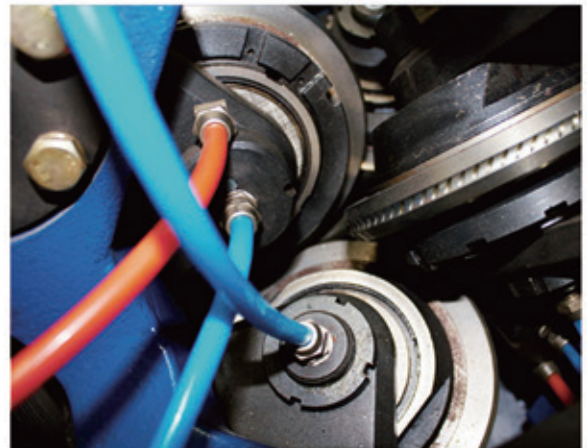
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 www.tjkmachinery.com yunjian.gao@tjkmachinery.com

An aerial view of the TJK Machinery factory complex, showing the large industrial buildings, parking lots, and surrounding infrastructure.

GKD: a sought-after problem-solver for challenging processes

THE innovative process belt solutions of GKD – Gebr Kufferath AG – received a great reception at the Techtextil trade fair in Frankfurt, Germany.

The model of a double-belt dryer with upper and lower belt proved to be a real eye-catcher at the leading trade fair for technical textiles and non-wovens. Plant manufacturers and users were particularly interested in V-crimp type belts for textile washing equipment as well as belts made of glass hybrid fabric with PFA coating. Because GKD is well known as a committed and competent problem solver in the field of process belt technology, many visitors discussed concrete, application-specific challenges directly with the experts.

Attention-grabbing models and exhibits guided visitors at the GKD stand straight to the right contact person. This enabled long waiting times to be avoided despite the large numbers of visitors and provided plenty of starting points for discussing detailed questions on products or individual specifications. University representatives as well as technicians and developers were keen to make the most of this intensive specialist exchange.

Woven dryer belts with non-stick coating now combine proven characteristics such as high lateral stability, optimum flatness, excellent running properties and robustness with even more process stability through easy product release. As such, they raise the productivity of critical drying processes while maintaining the same level of product quality and reducing downtimes and cleaning costs.

Self-tracking V-crimp type belts made of stainless steel are resistant to corrosion and aggressive lyes. The special design also ensures process reliability even when the bearing weight is uneven. This makes them particularly well-suited for challenging washing and bleaching processes for fibres and textiles.

With its innovative glass hybrid fabric, GKD meets demands that are normally mutually exclusive with energy-saving lightweight mesh and robust lateral stability. Glass strands in the warp direction coated with PFA lend this mesh structure a lower weight, while stainless steel weft wires guarantee reliable lateral stability.

At the same time, the high-quality PFA coating of the strands minimises both adhesion and soiling. Depending on customer wishes, the new mesh type is available in magnetic or non-magnetic form for use in single-belt and double-belt dryers.

Renowned non-woven manufacturers are already enjoying significantly optimised processes thanks to the Conductive® 7690 forming belt from GKD. This belt's special monofilaments safely dissipate the electrostatic charges that typically arise in such processes.

The coarse belt structure in the running direction guarantees high traction and homogeneous web formation – followed by optimum non-woven removal. The increased grip allows the required production speed to be reached more quickly without the need for time-consuming roughening when changing the belt.

However, what particularly impresses users of this belt type are its outstanding cleaning properties. Dirt simply peels off or can be removed effortlessly.

Ever higher production speeds mean that systems are subjected to greater wear and soiling. Because the belt properties are adapted to specific processes, the innovative process belt solutions offered by GKD reduce downtimes and therefore pay off in the form of noticeably higher productivity.

Cross-sector process knowledge and decades of expertise in the development and manufacturing of tailor-made mesh structures make GKD a truly sought-after problem-solver.

Gebr Kufferath AG – Germany
Website: www.gkd.com

DECALUB GREEN CLEANING TECHNOLOGIES FOCUS ON:

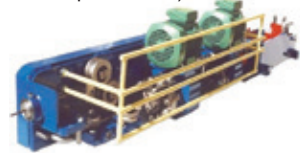
Wire Cleaning
(for plating and high glossy finish)



Wire Rod Lubrication
(for frictionless drawing)



Rod Dry Preparation
(with no speed limit)



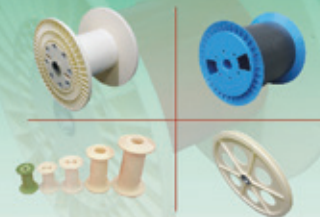
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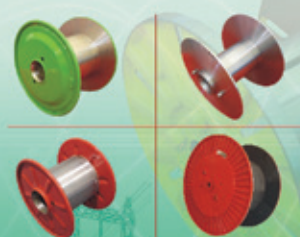
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Gearing up for wire 2018

WIRE and wire-based products – ie cables, springs, screws and bolts – can be found almost everywhere. No technical systems could function without them, and neither would there be any technical progress.

As the demands on technical systems are growing, the performance of such components is gradually being stretched further and further. Wire products must provide reliable service even under the most challenging conditions. They are used, for example, in automotive engineering – a sector that drives innovation in the wire industry.

A modern car has nearly 1,000 springs, and their reliable operation has a major impact on safety and passenger comfort. Springs are often expected to perform at the highest level, eg in the valves which they cause to close in a combustion engine.

Situated within a four-stroke engine, a valve spring must cope with up to ten billion movements throughout a mileage of 120,000 (200,000 kilometres). In addition to mechanical strain, a valve spring must also withstand extreme heat, hot gases and substantial temperature

fluctuations. If a spring breaks, it is likely to cause severe engine damage.

Other important wire products are screws and bolts, as so many components are connected in this way. A modern vehicle has over 1,000 screw fittings and bolted connections, of which 250 to 300 can be found inside the engine. It's a place where up to 150 different types of screws and bolts are in use. All of them must have very narrowly defined tolerances in terms of physical properties, and they must also be convenient to insert and assemble, so that automated processing can largely proceed undisturbed.

Metal mesh, too, plays a major role. Made either from stainless steel wire or from certain non-ferrous metals, it is used, among other things, for filtering exhaust gas from combustion engines, thus helping to reduce carbon monoxide and particulate emissions.

In an exhaust gas recirculation system such a filter ensures that particles from the combustion process or from the particulate trap cannot reach the turbocharger or engine, where this would have negative consequences. The stainless steel wire in a metal mesh has a thickness of only 35µm,

so that it is thinner than a human hair. Moreover, it can bear temperatures of 800°C and more.

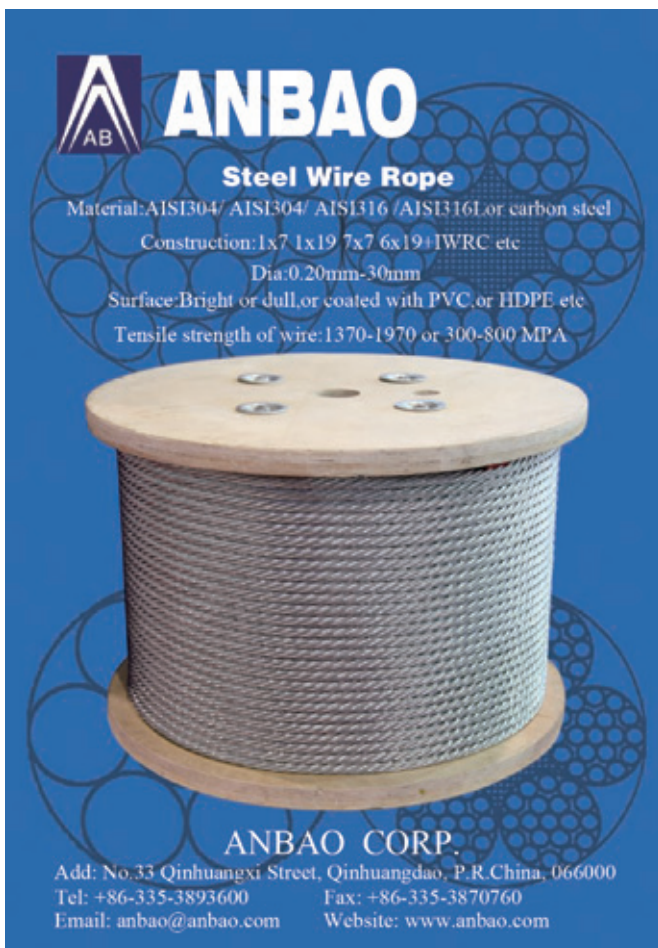
One of the most complex, most expensive and heaviest components in a modern vehicle is its on-board electrical system, once referred to as wiring harness. This is where the cables are assembled.

The VW Beetle, built around 1950, was equipped with a handy wiring harness that weighed no more than a few kilograms and whose cables had a total length of about 80 metres, with just over 70 electrical components connected to them.

By contrast, today's on-board electrical systems comprise up to 4,000 cables, with a length of up to 3.7 miles (6km) and up to 60kg in weight.

Information about state-of-the-art manufacturing technology, developments and trends in the wire, cable and wire-processing industries can be obtained every two years at wire – next being staged in Düsseldorf from 16th to 20th April 2018.

wire 2018 – Germany
Website: www.wire.de



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'One-stop shop' portfolio of reliable, high performance solutions

GLOBAL connectivity leader and innovator Huber+Suhner showcased its 'one-stop shop' portfolio of reliable, high performance solutions specifically designed for ease of use and system integration at this year's International Microwave Symposium (IMS), in Honolulu, Hawaii.

On display was the company's new line of high-end test assemblies: Sucoflex 500. When it comes to test and measurement, the Sucoflex 500V series guarantees a high level of satisfaction.

It offers the phase and amplitude stability with flexure, movement, temperature (<50ppm) and tensile stress.

Sucoflex 500V guarantees accurate measurements with longer calibration intervals.

Huber+Suhner has recently extended its assemblies portfolio with the Sucoflex 500S series offering low insertion loss, outstanding return loss and excellent phase stability, making it the recommended assembly for high performance, high quality applications.

Displayed alongside these products will be the new NEX10 connector interface, a miniature low PIM coaxial connector for small cells applications, and the Microbend L – which provides

the best loss performance in a small form factor cable solution. Performance combines flexibility with the unique bend-to-end feature.

Huber+Suhner's phase invariant over temperature (CT) cable, offering less than 300ppm phase change over the complete temperature range (-50 to +125°C), is now also available in hand-formable and semi-rigid assembly styles, completing the existing Minibend CT series.

Additionally, the company displayed its wide portfolio of multicoax solutions, from MXP and MXPM, the high performing push on solutions for test and measurement, to customised SMPM ganged solutions and the VITA-67, all offered with the bend-to-end cable for a user-friendly experience.

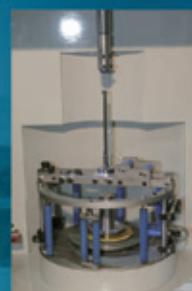
Huber+Suhner has a wealth of experience in the development and production of RF and microwave products for the global market, with a comprehensive product portfolio that meets the different requirements of data and energy transmission components in the communication, industrial and transport sectors.

Huber+Suhner – Switzerland
Website: www.hubersuhner.com

PTFE Coaxial taping machine

RBJ-Z series driven taping machine (vertical, horizontal) is the special equipment for producing communication cable, control cable, aircraft cable etc. This machine is specially suitable for small-tension, easily-stretching tape material, and it has the function of displaying tension change through the tension sensor.

10% up of speed for the braiding machine
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- GSB-Z series heavy braider*
- WGSB series horizontal heavy braider*
- LRBJ series vertical taping machine*
- WRBJ series horizontal taping machine line*
- Extruding line*
- Pay-off and take-up*



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E-mail: sales@shanghai-nanyang.com sales@shanghai-nanyang.sina.net
Contact person: Stephen Chen

Change of date and venue for Iran Wire

THE Aria Group, owner and organiser of Iran Wire, has decided to move the event to the new state-of-the-art Exhibiran International exhibition centre in Tehran.

A total of 15 halls are being constructed, of which three have already been completed: A4, A5 and A6.

The relocation of Iran Wire to the new hall A6 results in a slight date change and the event will be held from 6th to 9th December 2017.

It is the only Iranian trade fair for wire, cables, pipes, tubes, profiles and accessories and an ideal platform for foreign companies to enter the Middle East markets.

Messe Düsseldorf is the exclusive overseas associate for Iran Wire 2017, responsible for all international exhibitor participations including a wide range of services such as registration and stand design.

The company is renowned as the organiser of the worldwide leading wire and tube trade fairs held in Düsseldorf, Germany, every two years and brings this expertise to Iran Wire.

Exhibit space demand has been strong with 16,150ft² reserved so far, and hall A6 is almost fully booked.

Messe Düsseldorf GmbH – Germany
Website: www.iranwire.ir

**TURN TO
PAGE 58
FOR OUR
COVERAGE OF
THIS YEAR'S
WIRE SOUTH
AMERICA**





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REELS AND DRUMS

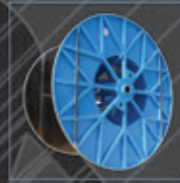
Metal reels for wire and cable. Process and transport.



REEL FOR DRAWING AND STRANDING



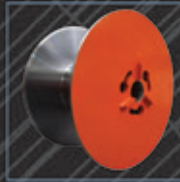
CABLE AND ROPE PROCESS REEL



CABLE AND ROPE PROCESS REEL



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AUTOMATIC LIFTER FOR COILS



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Companies of the group:
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Nashik - India

sales@gmp-slovakia.com
www.gmp-slovakia.com

Ideal Networks expands into Australia

IDEAL Networks, a manufacturer of data cable and network testers, has expanded into Australia, opening new premises in Melbourne to support its distributors, as well as data cable installers and network technicians.



▲ The new offices in Melbourne, Australia

The new facility includes a product warehouse, alongside the customer services and finance departments and the sales support team.

There is also a training centre, offering distributors and customers the opportunity to receive expert guidance on making efficient use of Ideal Networks' range of data cable testers, certifiers and network testers.

The site will also ensure that installers and technicians across the country have access to local support for test, calibration and warranty repairs.

In addition, a new Ideal Networks website is launching to make it easier for data cable installers, network technicians and IT managers in Australia to search for products and view extensive product information.

The website www.idealnetworks.net/au/en will feature full details about the data cable testers, network testers and telecoms testers available, including animations that show how customers can troubleshoot more easily and provide proof of performance to their clients.

Visitors to the website will also be able to benefit from support resources, such as product manuals, white papers, application notes, and all the latest news and social media updates from Ideal.

"This is the first time that Ideal Industries Inc has invested in premises in Australia," said Martin Van Os, group vice-president/general manager for Ideal Industries Asia Pacific.

Ideal Networks – USA

Website: www.idealnetworks.net



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Shanghai gears up for wire China 2018

AS one of Asia's most influential international trade platforms for the sector, wire China – the 8th All China International Wire and Cable Industry Trade Fair, and Tube China – the 8th All China International Tube and Pipe Industry Trade Fair, will return to the Shanghai New International Expo Center (SNIEC) from 26th to 29th September 2018.

Held concurrently again will be the Fastener Shanghai Special Zone.

The events will be organised by Messe Düsseldorf Shanghai, a subsidiary of Messe Düsseldorf in Germany together with the Shanghai Electric Cable Research Institute (wire China) and the Metallurgical Council of China Centre for the Promotion of International Trade Metallurgical Center for International Exchange and Cooperation (Tube China).

The exhibitors at wire China will present wire manufacturing and finishing machinery, process technology tools and auxiliary process technology materials as well as materials, special wires and cables, and measuring and control technology.

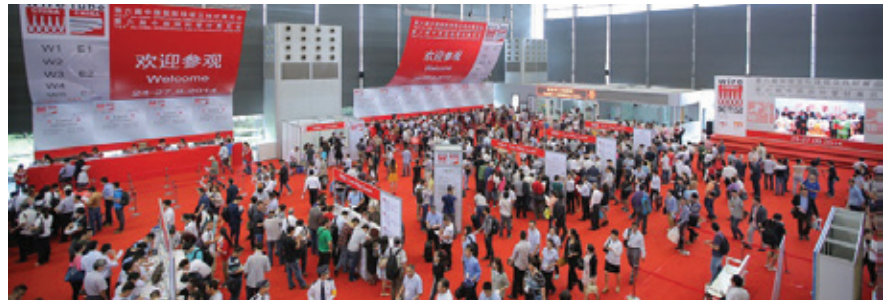
At Tube China, exhibitors will showcase the latest in tube manufacturing machinery, raw materials, tubes and accessories, process technology tools and auxiliaries and measuring and control technology as well as pipeline and OCTG technology, profiles and machinery.

Visitors at wire and Tube China will come from the following industries: wire, cable, tube, pipe, iron, steel and non-ferrous metals, automotive and aerospace supply as well as electrical, construction and water and energy supply.

The last staging of wire and Tube China in 2016 ended successfully with a record 42,199 trade visitors from 94 countries and 1,645 exhibitors from 31 nations presenting the latest technology, machinery and products from the wire, cable, tube and pipe processing industries on over one million square feet of exhibit space.

In addition to the large number of local attendees, a growing number of overseas buyers attended the trade fairs. The majority of the overseas visitors came from South Korea, India, Taiwan, Japan, Russia, Malaysia, Iran, Thailand, the USA, Indonesia and Vietnam.

Messe Düsseldorf Shanghai – China
Website: www.wirechina.net




▲ A previous staging of wire China

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Optical fiber drawing lines



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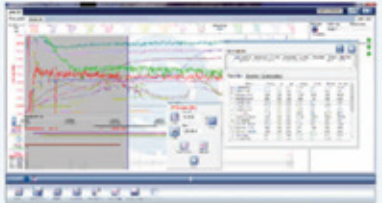
Cables, rods, tubes

Laser Projection Sensors: LPS

Ultra fast diameter measurement, Lump-neck detection, shapes check

Data recording & display, quality reports...


« CIM » PC software



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for the wire and
cable industries



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Remote service for support in real time

FAST, competent and reliable support for customers all over the world – Sikora meets these requirements with the Smart Assistance Manager (SAM). For customers this means significantly more efficient support and, therefore, optimised service processes.

Sikora's Smart Assistance Manager is a 13.3" tablet, optimised for the rough industrial environment.

The Smart Assistance Manager allows a direct connection with a Sikora support engineer to receive instructions for all maintenance, support and diagnosis tasks via the integrated video chat feature (5 MP camera).

In real time the Sikora support engineer gets direct access to the Sikora device for immediate diagnosis. In the same way, software updates are installed.

The assignment of the Smart Assistance Manager starts with the installation of the measuring device. With the SAM, the customer transmits via video-stream the environmental conditions as well as the line layout to Sikora. The Sikora support



▲ Sikora's Smart Assistance Manager

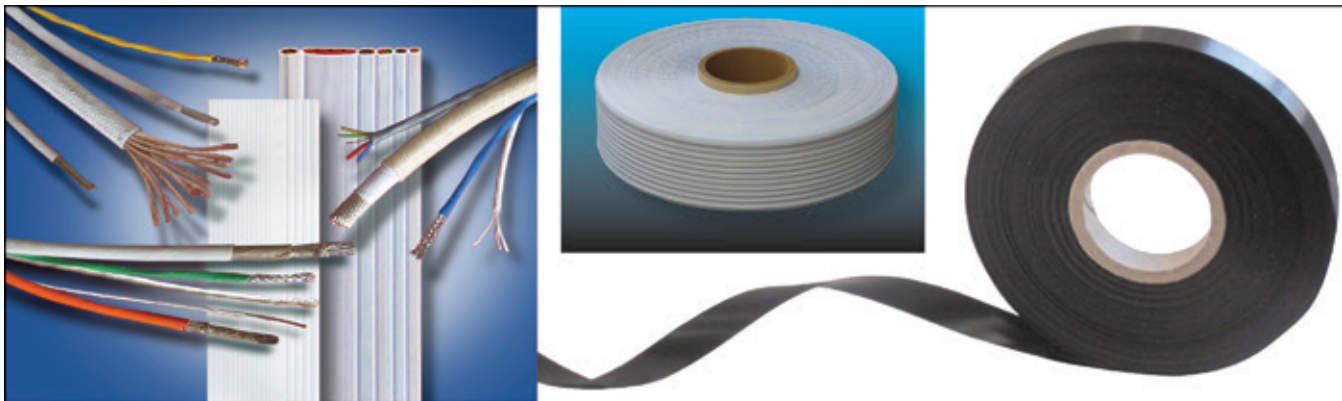
assists, for example with information on the best possible positioning of the equipment.

Due to diverse connection possibilities, such as USB 3.0, RJ 45 Ethernet, Bluetooth 4.0 and the LTE/UMTS module, as well as various application possibilities, the Smart Assistance Manager is an important tool for modern production lines, for example to support maintenance and diagnosis tasks, as

well as every Smart Factory in the era of Industry 4.0.

The individually designed licence module always guarantees the most current version of the diagnosis software for a live session for fault detection or as an offline diagnosis system for all Sikora measuring, control, inspection, analysis and sorting systems.

Sikora AG – Germany
Website: www.sikora.net



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Tehran, 6-9 December 2017

Iran | www.iranwire-expo.com



The graphic features a stylized world map with a grid overlay. At the top, a yellow box contains the text "IRAN WIRE" in bold, black, sans-serif font. Below the map, the text "Supported by" is followed by the "wire Düsseldorf" logo, which consists of the word "wire" in a lowercase, sans-serif font above "Düsseldorf" in a smaller font, with a circular icon below. At the bottom left, contact information for Messe Düsseldorf GmbH is provided: "P.O. Box 20 005 - 40001 Düsseldorf - Germany", "Tel. +49 (0) 2 11 / 45 60 - 01 - Fax +49 (0) 2 11 / 45 60 - 6 68", and "www.messe-duesseldorf.de". At the bottom right is the Messe Düsseldorf logo, a stylized "M" made of orange and red squares, with "Messe Düsseldorf" written below it.

Exhibition's highest attendance in years

WIRE & Cable Guangzhou 2017 concluded with a record-breaking number of visitors. Jointly organised by Guangzhou Guangya Messe Frankfurt Co Ltd, China Southern Power Grid Media Co Ltd and Guangzhou BoYou Exhibition Service Co Ltd, the fair ran from 9th to 11th June at the China Import and Export Fair Complex in Guangzhou, which welcomed 220 exhibitors and attracted 22,642 professional buyers from 42 countries and regions.

The three-day event spanned 20,000m² of exhibition space and presented an extensive display of South China's latest products and innovations in wires and cables, manufacturing machinery and related materials and accessories.

Some of the leading brands in attendance this year included Futong Group, Shenzhen Bendakang Cables Holding, Zhejiang Wanma Cable, Shandong Yanggu Cable Group, Shenzhen SDG Information, Asian Electric Appliances & Cables Technology, Qingdao Hanhe Cable, Guangdong Rihong Cable, Suzhou Zhihong Cable Materia and many more.

Emeka Hu, general manager of Guangzhou Guangya Messe Frankfurt Co Ltd, said: "Every year, we strive to enrich the experience for our participants by creating a professional and internationalised exhibition.

"We are grateful for the audience's support and are committed to create a more comprehensive platform for the industry. I am very pleased with the results of the 2017 show and I believe it has contributed to increased information exchange among industry peers."

Jiang Zhuoxun, project manager from Zhejiang Wanma Cable Co Ltd, said: "During the fair we have received an overwhelming response not only from Chinese visitors, but also from buyers on a global scale. Companies from Southeast Asia as well as India came to our booth for quotations, and some even placed orders. Wire & Cable Guangzhou is an important platform to promote high-end products domestically and internationally."

The wide variety of products on offer highlighted industry innovations coming out of South China, and met the diverse demands of buyers from around the world. Matthias Muller, general manager of Johann Leimbach Ltd from Germany, came to China for the first time searching for business opportunities.

He said: "Our goal was to find domestic cable manufacturers and business partners who have the capacity for manufacturing the high quality cables that our company is known for. Fortunately, here at the fair, I was able to network with a number of cable manufacturers who seemed interested in our business proposal."

Apart from the exhibition, the Wire and Cable Asia Forum continued to be a highlight at Wire & Cable Guangzhou. The two-day forum offered 17 high-profile seminars which focused on timely standard and certification procedures for USB adaptors, as well as future development on new energy vehicle charging modules.

Wire & Cable Guangzhou – China
Website: www.wire-cable-china.com

Three key elements to a groundbreaking solution

MICROSOFT and Tenova – a Techint Group company headquartered in Castellanza, Italy – announced their collaboration during SPS Italy – the fair trade dedicated to the world of industrial automation.

The companies presented the characteristics of the groundbreaking Tenova solution that is based on three key elements – sensors/actuators, decentralised intelligence, and supplier-customer interaction – with the objective to improve business productivity in the steel and manufacturing sectors.

Thanks to this system with multiple integrated sensors and actuators, plant machines will be enabled to manage the specific productive process as well as to provide the operators or AI algorithms with specific information on their own conditions – detected autonomously – through dedicated measurements and reporting with respect to specific events.

Decentralised intelligence, by evaluating the information derived from sensors,

will elaborate in real time the possible behavioural scenarios, providing functions of monitoring and predictive maintenance.

The system may also make available the opportunity to reset specific configurations automatically or to modify functioning parameters to achieve the optimal configuration of the plant.

A service portfolio of high added value, thanks to the network connection of the machines, will allow users to capitalise the data from machines and plants to optimise production, so to guarantee a prompt remote assistance and minimise downtime.

Through the partnership with Microsoft, Tenova will be able to provide even more efficient and innovative metal production plants, compliant with the strict regulations on safety and environmental sustainability.

The system will be realised thanks to three factors: the possibility to connect the plant machines (involved in each productivity phase) to Azure cloud

platform; the high computational power; and the application of provisional algorithms – based on machine learning technologies – available on the cloud platform.

The definite advantages of this Industry 4.0 solution are numerous and measurable. The system will allow an increase in the overall equipment effectiveness (OEE) index, reduce energy consumption, get valuable remote assistance by Tenova specialists to lower maintenance costs and downtime, guarantee flexibility in order management according to customers' business plans and equipment conditions, and control the plant more effectively through a comprehensive overview of single components.

"Technological innovation represents a major commitment for Tenova and a crucial factor in the company's growth strategy, and we found in Microsoft a key ally to bring about digital transformation," said Andrea Lovato, Tenova CEO.

Tenova – Italy
Website: www.tenova.com



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Making Light Work

AWI launches new app to help find the perfect alloy

ALLOY Wire International (AWI) has launched a new app to help its global customer base find the right material for their applications.

The company has spent the last four months developing an interactive database of all of its materials, their properties and their applications, and this is now available on computers, mobile phones and tablets.

The web-based app, which has been developed by technical experts, allows users to search for the type of wire they need by industry sector (eg aerospace, oil and gas and nuclear) or by application solution, such as high strength, sub-zero temperature, heat, corrosion and water resistance.

"We've got over 60 different nickel alloys in stock at any one time and we need to make sure our clients get the material that best suits their manufacturing requirements. The app will help them do just that," explained Mark Venables, managing director.

"It also provides a whole host of information on each alloy. This includes a brief description, key features and profile options, with an easy enquiry form readily available to log your interest."

He continued: "The initial feedback has been very positive and customers have said the process is easy and has helped them make important decisions on material selection that they might not have chosen without it."



▲ Alloy Wire International staff Andrew Du Plessis, Natalie Baker and Mark Venables proudly show off the new app

AWI, which makes round, flat, shaped profile and electrical resistance wire, is planning to translate the 'Wire Finder' app into a range of other languages to support its export drive.

This has seen the company supply into more than 52 countries, with the latest destinations to request AWI wire being the Dominican Republic, Nepal, Peru and Oman.

Responding to customer requests

Involved in the fields of tungsten carbide tools since 1870 and machinery for decades, the French company Agir Technologies provides solutions and advice to a variety of requests from customers.

The investments made in the company, such as a wire cutting EDM with two-wire spool of 0.03mm, a five-axis CNC machine to cut the electrodes, and new CAD/CAM software, allow Agir to widen its range of high precision and quality tools.

Agir is specialised in the production of tungsten carbide tools for wire and cable manufacturing and other wire transformation, including wire drawing dies (round, shaped, pressure), drawing dies and plugs, cable extrusion tools, straightening tools, wire guides, tools for welding rods and plated wires.

The company is able, thanks to its range of software, to calculate any drawing station for round wire just like for any shaped wire.

"About 50 per cent of our sales go overseas and this is a figure we believe will increase as we look to increase the number of international staff and the exhibitions we attend," added Mr Venables.

"The world is a lot smaller place these days and, thanks to our stockholding and manufacturing capabilities, we can produce wire and have it with clients – in any location across the globe – within three weeks."

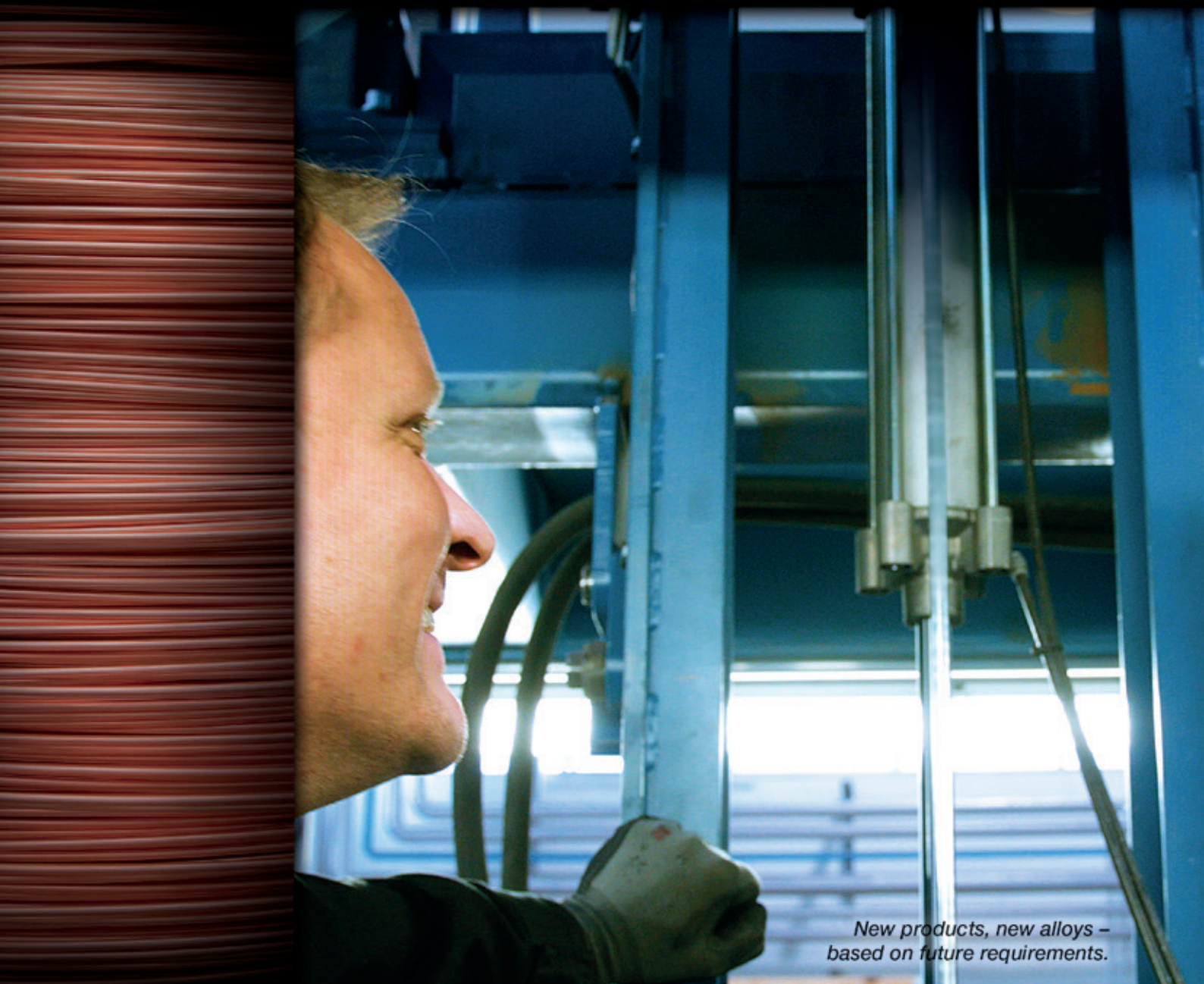
To download the new app, go to www.alloywire.com and click on 'Visit the app'. You can then add it to the home screen on your iOS or Android device.

Agir Technologies – France
Website: www.agir-technologies.com

Alloy Wire International – UK
Website: www.alloywire.com

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Good mood at Russian quartet of metal trade fairs



▲ Visitors at this year's wire Russia

wire Russia, Tube Russia, Metallurgy Russia and Litmash Russia were held jointly again in Moscow in June 2017.

The four trade fairs took place in one venue, creating ideal synergies for exhibitors and visitors as well as short routes between stands and a compact presentation.

As before, the Expo Centre in Moscow hosted a joint presentation of four technology trade fairs: wire Russia, the international wire and cable fair; Tube Russia, the international pipe and tube fair; Metallurgy Russia, the international metallurgical technology processes and metal products fair; and Litmash Russia, the international foundry fair.

The regional trade fairs were organised by Messe Düsseldorf GmbH, Messe Düsseldorf Moscow – in partnership with the Russian joint-stock company VNIIPK for wire Russia, and Metal Expo for the other three, Tube Russia, Metallurgy Russia and Litmash Russia.

In all, around 400 companies presented technical innovations from their industries, covering an exhibition space of 5,545m².

As well as Russian exhibitors, many international companies were represented in Moscow, showcasing their products and services to the Russian and Eastern European markets.

Throughout the world good business is being generated by an increasing global

demand, the international expansion of glass fibre networks and the prospect of the World Cup in Russia.

This is benefiting not only the Russian construction industry, but also international companies that are involved in building Russia's many stadiums and which are working on infrastructure projects.

Wire, cables, tubes, metal and foundry products are needed for the stadiums, and the forthcoming World Cup is therefore having a major positive impact on the exhibiting industries.

Tube Russia, Metallurgy Russia and Litmash Russia were attended by 4,200 trade visitors, primarily from Russia and its neighbouring countries. wire Russia attracted 2,720 visitors who spent four days finding out industry news, refreshing contacts and initiating business deals. Exhibitors rated their conversations at the stands as highly positive, and many are expecting good follow-up business as a result.

Visitors mainly came from Russia, other CIS regions and neighbouring European countries.

Further details of all four trade fairs can be found on the relevant websites: www.wire-russia.com, www.tube-russia.com, www.metallurgy-russia.com and www.litmash-russia.com

Messe Düsseldorf GmbH – Germany
Website: www.wire-russia.com

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RSB deal with China

MAANSHAN Iron & Steel Co Ltd (Masteel) has placed an order with Friedrich Kocks for a reducing and sizing block (RSB®) 370++/4 in 5.0 design with SCS® (Size-Control-System), 4D EAGLE (light section measuring gauge) and Thermo-Mechanical-Rolling (TMR) process.

Masteel is one of the largest iron and steel enterprises in Mainland China, headquartered in Maanshan, Anhui Province. The state-owned company was founded in 1958 and in 1993 was split into Magang (Group) Holding Company and Maanshan Iron & Steel Company Limited.

With an annual steel production of around 19m tonnes, Masteel is ranked among the 15 biggest steel producing companies in the world.

The Kocks three-roll RSB® 5.0 with four stand positions will be installed as core equipment in the new 400,000t/a SBQ mill, finishing straight bars for automotive, aerospace and mechanical engineering applications within a dimension range of Ø16–100mm at a maximum speed of 18m/s.

The RSB 5.0 will be located behind a continuous roughing and intermediate mill consisting of 22 stands in H/V arrangement and is designed for temperature-controlled rolling at low temperatures.

At the core of the future-orientated RSB® is the real-time closed-loop control system SCS, which further improves the rolled tolerances and simplifies the operation due to automated optimisation of the roll gap settings and motor rpms.

The Kocks 4D EAGLE measuring gauge is a perfect complement to the SCS. It integrates the newest technologies and meets the highest requirements of most modern rolling mills for full process transparency.

The Thermo-Mechanical-Rolling (TMR) process, including the Kocks Process Simulator (KPS) and the appropriate automation package, completes the scope of supply.

The KPS in combination with its advanced automation system ensures a precise temperature control of the bars and an optimal adjusted cooling process at any time, which assures subsequently desired material properties of the final product.

Friedrich Kocks & Co GmbH – Germany

Website: www.kocks.de

Death of Edward Trimpert Sr

Davis-Standard lost a loyal employee on 9th June with the death of Edward Trimpert Sr, after complications from a heart attack.

He spent the majority of his 20-year career as a plastics engineer with Davis-Standard, starting with Egan John Brown Plastics (now Davis-Standard) in 1983.

Most recently, he worked as an international sales engineer in the sheet group covering Asia and Latin America.

In addition to his outstanding work on the job, Mr Trimpert was an avid sports fan. He is survived by his wife Theresa and two children, Nikki and Eddie Jr.

Davis-Standard LLC – USA

Website: www.davis-standard.com

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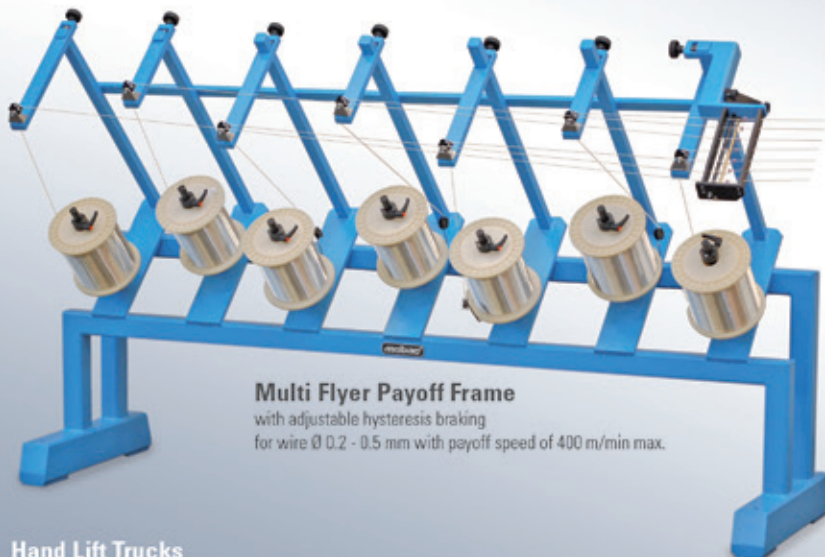
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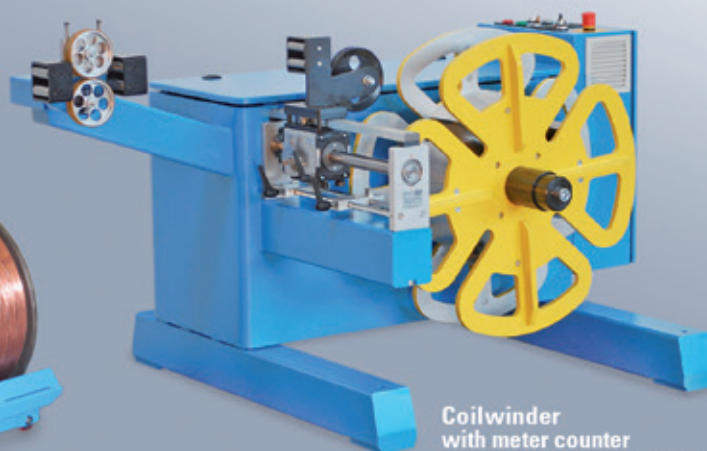
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Ugitech leads from the front in Europe

SAFE transport of hot gases and vapours at temperatures of up to 850°C – this is a problem facing many manufacturers of components for the process industry. The smart choice for the solution is austenitic stainless steel 1.4550/347H.

To meet the increasing demand, Ugitech has added UGI® 4550 to its broad stainless portfolio, and is one of only three suppliers in Europe.

Steam lines, superheater tubes and exhaust systems in reciprocating engines and gas turbines are classic applications for Ugitech's UGI 4550. The addition of Niobium makes the finished steel grades a well-adapted solution for temperature ranges between 425°C and 850°C.



▲ Steam lines, superheater tubes and exhaust systems in reciprocating engines and gas turbines are classic applications for Ugitech's UGI 4550. Photograph courtesy of Ugitech – ©istockphoto_annavaczi

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

The stainless product is optimum for parts for which treatment of the material after welding is not feasible, such as expansion joints and equipment for chemical processing at high temperatures. UGI 4550 is also readily formed at room temperature and is very easy to weld.

This means no hot cracking after welding. Good creep resistance (resilience against temperature-dependent deformation) and resistance to atmospheric corrosion and oxidation at high temperatures further increase process reliability.

Ugitech offers UGI 4550 in a wide range of dimensions: from steel bar with a diameter of 130mm to ultrafine 16µm in diameter.

The steel product is annealed or cold drawn to the required mechanical properties. The minimum order quantity at Ugitech is one ton for drawn steel bar and even lower for drawn wire.

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

Ugitech SA – France
Website: www.ugitech.com

Prysmian invests €250m in its worldwide optical fibre and cable facilities

PRYSMIAN Group has inaugurated its new optical cable plant in Slatina, Romania, the largest of its kind in Europe.

The new Slatina plant is part of a three-year, €250 million investment plan aimed at improving the group's production capacity and capabilities worldwide, to meet the growing demand for optical cables for the deployment of new high-speed telecommunications networks.

"As a worldwide leading player in the industry, we are strongly committed to supporting governments and telecom operators in developing new broadband networks by continuing to invest in optical fibre and cable capacity, as well as in new technologies and know-how," said Philippe Vanhille, senior vice president telecom business at Prysmian Group.

"The digital transformation goes through the development of new broadband and ultra-broadband fibre optic telecommunication networks and only the fibre can provide the necessary speed and reliability. These strategic infrastructures must be based on a high quality and designed to provide high performance over time so as to be ready for the services of the future like 5G, smart cities, smart transportation, and smart homes."

"Operational excellence is key to confirm competitiveness particularly in dynamic and complex markets like those of optical fibre and cables," added Andrea Piron dini, COO Prysmian Group.

"These investments involve existing optical fibre and cable facilities in Italy, France, the Netherlands, North and South America, together with new plants like those in Slatina, Romania, Presov, Slovak Republic, and Durango, Mexico."

Prysmian Group's telecom business reported sales of €1,164m in 2016, with adjusted EBITDA climbing to €163m, posting an increase of 22 per cent on 2015 and an improvement in margin to 14 per cent, from 12.1 per cent in 2015.

The group produced 35 million kilometres of optical fibre in 2016, and has recently presented its record-breaking Flextube® cable with 2,112 fibres, the highest fibre count for a flexible micromodule-based cable to be installed to date.

This confirms its commitment in providing ultra-dense cable solutions that are extremely compact and much faster to install, enabling service providers to easily deploy record number of fibres in difficult or congested areas.

In the past weeks, the group was awarded a \$300 million optical cable supply agreement from Verizon Communications to support the company's USA network expansion around a next-generation fibre platform that will speed the deployment of 5G services.

"We have been involved in projects all over the world and we are bringing the undisputed quality of our products, our experience and our commitment to innovation to all of our plants," added Mr Vanhille.

Prysmian Group – Italy
Website: www.prysmian.com

Niehoff finds stranding subsidiary NST

With the establishment of its new subsidiary – Niehoff Stranding Technology (NST) – Maschinenfabrik Niehoff is expanding its activities into the field of stranding.

NST, headed by Sebastian Neuerer, is located in the Barcelona area, Spain, and has a workforce of 13 people in total.

Most of them are focused on design/engineering and all of them have a profound knowledge in stranding machinery technology.

NST is starting with the development of a complete range of rotating equipment for stranding and cabling processes.

The projected equipment will complement Niehoff's existing and proven systems for the stranding of data, power and special cables, which represent an experience of around 50 years.

Maschinenfabrik Niehoff GmbH & Co KG – Germany
Website: www.niehoff.de



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CableBuilder giving Southwire the edge

SOUTHWIRE, one of North America's largest wire and cable producers, is integrating CableBuilder, the cable manufacturing software system by Cimteq, to all its plants in North America, transforming the efficiency, cohesiveness and productivity of its business.

The new fully integrated system will drive Southwire to realise its goal of a fully streamlined system linking all plants together through common data and specifications.

Following on from the successful implementation of CableBuilder to over a quarter of its plants, Southwire has scheduled CableBuilder to be rolled out to its remaining plants by the end of 2018.

With Southwire's key strategic goals to build organisational capability, drive operational excellence and accelerate growth, the company requires internal systems in place that will allow it to perform at its maximum potential.

Dwayne Johnson, director, specifications and standards, Southwire, said "CableBuilder software is a strategic

investment for us at Southwire. Its use as a product data management system is essential for our ERP's operation. CableBuilder software also offers us the flexibility to continuously improve our designs and our business processes."

Ali Shehab, CEO Cimteq, added: "When faced with selecting a system to satisfy Southwire's requirements, CableBuilder was the natural choice. The benefits that the software would bring to Southwire were clearly evident from the first demonstration.

"Following an intensive period of implementation at its headquarters with support from our experienced implementation consultants, Southwire is now rolling out CableBuilder across the board which demonstrates their confidence in the software."

With over 20 plants across North America, consistency is imperative in order for the company's SAP system to function effectively. CableBuilder is intuitive and flexible and can be adapted to any ERP system. CableBuilder integrates into SAP, delivering concise information, enabling

the system to match production to exact order requirements, reducing scrap and rework.

Furthermore, CableBuilder has allowed Southwire to take the automation process one step further by transforming activities that would traditionally be managed by a design engineer into automated processes within the system, for example, selection of materials and specification validation.

CableBuilder's unique function enables Southwire to utilise the principle of designing a product once and then rolling it out to multiple plants to the exact same specification of that original design. CableBuilder allows Southwire to optimise production and reduce costs, especially with regards to transportation. Any updates to a product are automatically implemented across all plants, saving time on design engineering.

Southwire Company LLC – USA
Website: www.southwire.com

Cimteq Ltd – UK
Website: www.cimteq.com

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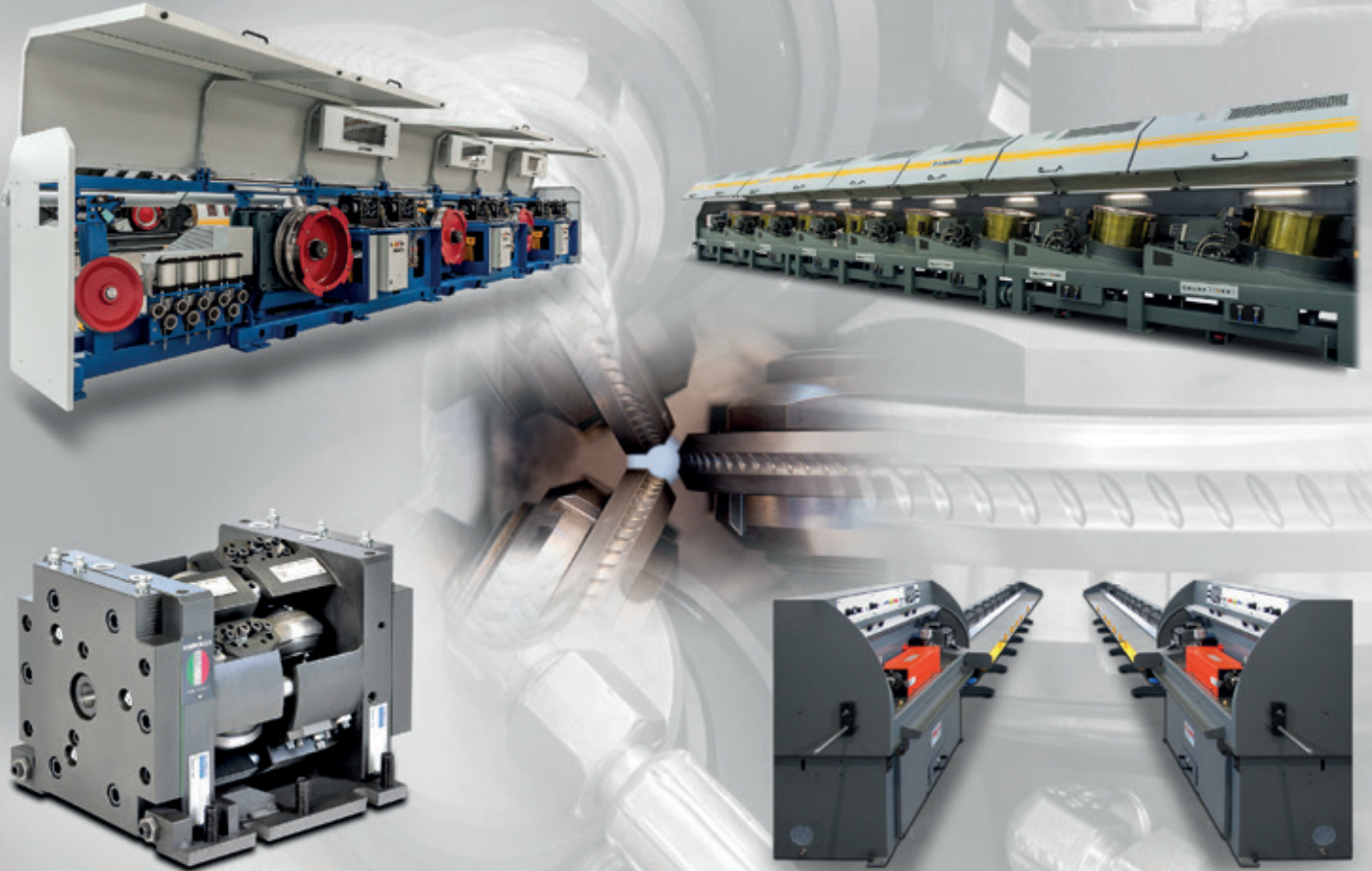
- a range of educational cable fundamental workshops
- an exclusive networking event on board a chartered ship for a Rhine River cruise – free of charge for delegates
- a visit to LEONI Kerpen GmbH on 8th November and a tour of their state-of-the-art cable manufacturing facility
- a tabletop exhibition including a number of leading organisations

Delegate numbers are strictly limited so book now to ensure that you don't miss out. If you do register soon, you'll also receive a special early bird discount.

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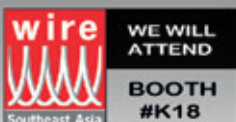


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- Hexagonal wire netting roll and gabion machines
- Barbed wire machines
- Nail making machines
- Dress-hangers machines





▲ Troester's headquarters have been in Hanover-Wülfel since 1892

125 years of excellence in extrusion

INNOVATIVE know-how, state-of-the-art research and development, the highest level of precision and reliability – that is what Troester stands for. The family-run company celebrates its 125th anniversary this year.

The extrusion specialist from Hanover-Wülfel, Germany, manufactures precision machines and complex units for repeated extrusion of tyre components, the manufacture of high-grade rubber goods or medium to extra high-voltage cables – always at the highest level. “We proudly look back at our long history,” said managing partner Dr Peter Schmidt.

“But we also look forward. Together with our partners and clients, we look forward to continuing Troester’s success story over the upcoming years and to facing the challenges in an ever-changing economy.”

Troester has a long history in mechanical engineering. Engineer Paul Troester spontaneously founded his own company on 4th July 1892, after his colleagues of Eisenwerk Wülfel dismissed his ideas.

Toward the end of the 19th century, the region around Hanover had developed into a hub for the rubber-processing industry. The background was the increasing demand for rubber products and rubber tyres for the burgeoning automobile industry. Paul Troester wanted to manufacture the required machines on site, instead of importing them from abroad, which was quite cumbersome. The idea to found the Troester plant was born.

Clients around the world appreciate solutions from a single source. 125 years later, the company has long since developed into one of the market leaders for technical rubber sheets, tyre components, profile and hose systems plus cable machines and cable systems. Export plays a major role: Troester yields 90 per cent of its revenue abroad.

Last year, the Troester group generated sales of over €120m and has over 600 employees at its main plant in Germany and the subsidiaries and representative offices in the USA, China, Switzerland and Russia.



▲ The continuous kneaders from X-Compound have a wide range of applications – including gentle processing of cable compounds

In 2011, the Troester Group was joined by Swiss company X-Compound, a specialist for plastics-processing and a manufacturer of continual kneaders.

Today, the big names in the tyre and rubber industry as well as major cable manufacturers are among the extrusion specialist’s clients.

Before the First World War broke out, Troester had established itself as a manufacturer of special machines for the rubber-processing industry. The company was economically well positioned; however, it was faced with new challenges during the war and post-war turmoil. The good times returned in 1924, with Carl Bredemeyer, who took the destiny of the company into his hands.

As part of the Buna programme, Troester experienced an economic high point in the 1930s. The company profited from the development of synthetic rubber and thermoplastics. The equipment manufacturer conquered new business sectors, for instance with extruders for PVC processing.

Yet the Second World War brought difficult times. By 1945, the plant in Wülfel had virtually been completely destroyed by two air strikes. However, currency reform, the lifting of seizure by British military authorities and the Marshall

Plan ensured that relations were soon normalised.

The reconstruction of the destroyed facilities began, and Troester presented itself to the public for the first time in 1947, on order of the British-organised ‘Export Trade Fair Hannover’, the predecessor of what later became the ‘Hannover Fair’.

Over the years, the company has developed from a classic equipment manufacturer to a system provider, accountable for comprehensive electronics, controlling and automation of state-of-the-art units, in addition to manufacturing. Among other things, the company is based on in-depth research and development work, which has always been a top priority at Troester.

The company spends about two per cent of its revenue on these areas. Key competencies and special know-how stay in the company.

“Courage and tireless commitment are characteristics that have shaped Troester since its founding,” added Dr Schmidt, who took over managing the company from his father in 2003. “The workers and staff feel like they are part of a family.”

On average, each employee has been in the company for about 16 years, while many are celebrating their 25th and even 40th anniversaries.

The company is committed to its location in Germany. As part of restructuring and optimisation of production conditions at the Wülfel plant, a new production hall with a surface area of 3,200m² was constructed in 2016.

A second construction phase with several buildings follows this year, which will expand the factory premises in Hanover to over 25,000m² – about 15,300m² of which is production space – thereby positioning Troester’s capacities and plant logistics for the future. New investments are already in planning to equip the company for the challenges of digitisation and Industry 4.0.

Troester GmbH & Co KG – Germany
Website: www.troester.de

The Wire Drawing Standard



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Automotive

▶ A peculiarly American mystery: the invisibility of electric vehicle charging stations

"Research shows car buyers have absolutely zero knowledge of electric vehicle infrastructure."

Sean Szymkowski of *Green Car Reports* was referring to American car buyers and specifically addressing their hyperopia as to electric vehicle charging stations.

The US Department of Energy estimates there are 15,993 public charging stations in the United States – over 3,000 of them in the state of California alone. But 60 per cent of respondents to a recent J D Power survey stated they never see a charging station in their area.

In fairness it should be noted that many of these facilities hide in plain sight at Dunkin' Donuts, Wal-Mart, McDonalds and similar sites across the country.

A quick search by Mr Szymkowski disclosed many such Level 2 and DC fast charging stations, and apps like Plugshare stand ready to pull up a convenient location.

It would seem that a driver/charger interface might be as routine as other connections in the cellphone era.

But no – the J D Power survey cited in *Green Car Reports* found the availability of charging stations to be the biggest concern of 37 per cent of shoppers considering an electric car. This is, in fact, the biggest deterrent to the purchase of electric and plug-in hybrid vehicles. ("Car Buyers Have No Idea Electric-Car Charging Stations Even Exist," 7th June)

The hesitancy of prospective electric car buyers is more understandable in the matter of range anxiety. They know where their comfort zone lies: within 300 miles. And the most affordable electric vehicle on the USA market – the 2017 Chevrolet Bolt EV – manages an Environmental Protection Agency (EPA)-estimated 238 miles per charge.

▶ But that gap will narrow. The thrust of the *Green Car Reports* article is that the resources available now to motorists for locating convenient electric charging stations clearly are not being utilised to their full potential. If automakers are serious about pushing electric cars at more affordable prices, Mr Szymkowski observed, consumers must be made aware that the infrastructure is no longer in its infancy. Until then, he wrote: "Electric vehicles will likely remain a niche."

Elsewhere in automotive ...

▶ General Motors on 16th June announced plans to open a 'supplier park' to support future vehicle production at its Arlington assembly plant in Texas. Expected to be operational in 2018, the addition will consist of two industrial manufacturing and warehouse buildings covering more than 1.2m ft².

GM estimates that nearly 600 of the 850-plus new manufacturing and other jobs created for these facilities will replace work previously done outside the USA.

Steve Kiefer, senior vice president of GM's global purchasing and supply chain, told the *Detroit Free Press* that the supplier park concept aims at "improved logistics efficiency and coordination."

Rogue 'co-bots'

▶ Going well beyond safety concerns, threats from hacked industrial robots now include sabotage and blackmail

"Give us the bitcoin we're asking for and we'll let you know which lot numbers have the faulty brake components."

Senior editor David Schneider of *IEEE Spectrum*, the journal of the Institute of Electrical and Electronics Engineers, had drafted an email message that no factory operator wants ever to receive. The particulars will differ, but the sense will always be the same: Pay up – or suffer the consequences.

Mr Schneider referenced the report "Rogue Robots: Testing the Limits of an Industrial Robot's Security" from the computer security firm Trend Micro (Irving, Texas) and researchers at Polytechnic University of Milan. The joint effort explored how malevolent hackers might compromise various kinds of industrial robots, whose number is expected to reach 2.6 million units worldwide by 2019.

"The dangers of industrial robots to factory workers have long been well appreciated, which is why most of these machines operate in cages designed to keep people out of harm's way," wrote Mr Schneider. As industrial robots are increasingly being designed to work alongside human workers, these collaborative robots ("co-bots") could present unique safety issues should their software be compromised. ("New Report Highlights Dangers of Hacked Factory Robots," 16th May)

Transatlantic cable

However, the main thrust of the *Trend Micro* report was not worker safety but industrial sabotage: real damage done to industrial machinery by compromised software.

It considers imperceptible changes that could be introduced by way of industrial robots, leading to subtle defects in the goods being produced.

Any such threat would leave manufacturers vulnerable to blackmail, much like the victims of the WannaCry ransomware exploit which in May of this year infected computers worldwide.

- Some ways in which users of co-bots fail to protect themselves were duly noted. Much of the software running these industry-grade devices is not properly updated and patched to correct known software vulnerabilities. Users may not be diligent about their default authentication credentials. And straightforward hacker-proofing measures like code-signing for firmware upgrades are often neglected.

Worrisome as these are, such lapses can be rectified. What came as much more of a surprise to Mr Schneider, who assumed that great pains would always be taken to keep industrial robots isolated, was the extent to which they are connected to the Internet.

He wrote: "When I dabbled in CNC [computer numerical control] work in my garage several years ago, I was careful to keep my router-toting robot off the Internet for the sake of safety. But apparently that's not the case in industry these days."

- To ignore the implicit warning here would be folly. Industrial robots – conceived to be isolated – have evolved and

are now accessible by way of corporate networks and the Internet. The *Trend Micro* authors readily found many examples of Internet-connected industrial robots.

"We were looking for connected robots from the top vendors . . . and found several, some of which even provided unrestricted access using anonymous credentials." I.e. the authentication system was disabled. (From "Rogue Robots: Testing the Limits of an Industrial Robot's Security")

Of related interest . . .

- The results of a recent BT survey of 1,501 information technology (IT) decision makers across UK organisations of all sizes revealed that artificial intelligence (AI) technologies are already being implemented by over one-third of respondents.

Also as reported by *BT Newsroom* (12th June), one in four organisations told the communications services provider that it used such automation technologies as robots, drones or autonomous vehicles, with almost two-thirds describing the adoption as "very beneficial."

Even as decision makers in the UK are divided about the impact of "disruptive" technologies – the so-called Fourth Industrial Revolution – on the labour market, one-third of the surveyed organisations planning to implement AI over the next two years expect it to mean more jobs, not fewer. This reflects the view that AI will generate new opportunities for programmers, algorithm designers and software engineers and create new job categories for AI-centred trainers, ethicists and lawyers.

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- Separately, the USA-based job-search site Indeed reported that more than 10 per cent of new jobs created in the UK through mid-June were in technology, with AI and data among the primary drivers.

Russ Shaw, founder of Tech London Advocates, told Indeed (14th June), "The salaries and prestige associated with the most in-demand specialisms – AI, data science, software developer – are turning them into the rock stars of the business world."

Steel

▶ Steel in the blockade of Qatar by Persian Gulf neighbours: how much of an Achilles heel?

When, on 5th June, Saudi Arabia, the United Arab Emirates (UAE) and Bahrain severed diplomatic, trade and transport ties with import-dependent Qatar, the halt in traffic into and out of Hamad Port raised fears of shortages of food and other essentials. But concern was also expressed for Qatar's steel trade, both imports and exports, with those nations and others.

One early commentator, *SteelOrbis*, reported a consensus among its market sources that the Qatari steel industry would have to be negatively affected.

The e-trading platform considered the situation faced by Qatar Steel, the first integrated steel plant in the Arabian Gulf and a regional steel industry leader. Feedstock billets for the company's wire rod mill in Dubai normally move from Qatar to Dubai through Saudi Arabia.

Blockage of these deliveries by the boycott would require Qatar Steel to find suppliers of billet where it could.

Qatar had also been exporting rebar to Saudi Arabia, Yemen and Libya. Even if existing rebar commitments were honoured, it seemed to *SteelOrbis* likely that subsequent exports would be halted. This would mean opportunity for Turkish steel producers who sell rebar in the region.

The political situation is still fluid at the time of writing, and there had been little news of steel specifically. But on 16th June, *Hellenic Shipping News* reported on a bustling Hamad Port in Qatar, with giant yellow cranes lifting hundreds of containers off cargo ships onto lorries waiting ashore.

After the launch of new direct shipping routes to cope with the crisis, port officials believed the worst was over; they said the episode might even help Qatar seal new transport deals that would circumvent its Gulf neighbours.

"The first five days of the crisis there were fewer shipments," said a supervisor at the port. "Now it's back to normal. I've seen the schedule and it looks packed."

This appeared to be an accurate reading. An alternate route to India's Nhava Sheva Port was announced on 14th June after two new services opened from Oman, which remained neutral during the crisis.

Earlier in the week the world's biggest container line, Maersk of Denmark, said it would accept new bookings for container shipments to Qatar from Oman. The first ship on a new direct weekly service from India's Mundra Port was expected to arrive shortly. Turkish vessels were on their way.

Hamad al-Ansar of the Qatari ports management company Mwani said ties with Turkey and Iran, which flew goods into the capital city of Doha during the boycott, might expand. "We'll open a relationship with anyone who can bring cargo," he told *Hellenic Shipping News*. ("Gulf Crisis a 'Blessing In Disguise' for Qatar Seaport," 16th June)

- Even so, ten days into the boycott, the cutting of transport links did affect some services to and from Qatar. One port official said that ships from Shanghai, which normally go through Jebel Ali in Dubai, had to be re-routed via Iraq, adding seven days to a normal 20-day voyage.

But – that early in the boycott, at least – it seemed that a week's delay in the arrival of materials might be something that the Qatari steel industry could tolerate fairly well.

▶ Appraising China as an opportunistic exporter of steel to the USA, a contrarian sees the threat as more apparent than real

Dated Sydney, Australia, a column by David Fickling on the *Bloomberg* fast-commentary platform *Gadfly* challenges the view – widely held in the USA, most notably by President Donald J Trump – that China's steel mills are killing their American rivals. ("Don't Blame China for the Fall of US Steel," 13th June)

Mr Fickling began by acknowledging that, since 2000, China's output of steel has risen more than 560 per cent, from just over 100 million metric tons per year to 690mmt over the 12 months to this spring.

In the same period, USA manufacturing employment in steel, aluminium and copper has dropped 38 per cent, from 625,000 to 385,000 jobs.

As US Department of Commerce (DOC) officials prepared to brief Congress on 16th June on an investigation into whether steel imports threaten USA national security – and commerce secretary Wilbur Ross weighed anti-dumping measures – Mr Fickling addressed the question whether the prima facie case against China is as persuasive as it seems. Here, condensed and edited, are his five arguments that it is not:

- A poor country uses very little steel per unit of gross domestic product (GDP). As it industrialises, its usage ("steel intensity") increases rapidly until the country starts to transition toward consumer-led growth. At that point, steel intensity will start to slip as spending shifts from industrial products like machinery and buildings to less metal-intensive categories.

Considered in the context of the evolution of steel intensity, Mr Fickling asserted, USA metal output isn't declining as a result of overseas competition "but because, as America gets richer, it's buying different stuff."

Further, employment is suffering in the USA because the steel it does produce is being made more efficiently. According to the Bureau of Labor Statistics, labour productivity (real output per labour hour) in the American primary metal sector more than doubled from 1987 to 2016.

America's steel mills produced some 79 million tons over the year to mid-June, compared with about 742,000 tons of imports from China. Wrote Mr Fickling, "You have to squint quite hard to even see Chinese steel imports to the USA, when compared to the size of the domestic trade."

Transatlantic cable

- ▶ China only just makes it into the top ten steel exporters to the USA by value. In every subcategory of traded steel, China is little more than a footnote in terms of USA imports.
- ▶ Mr Fickling considers DOC Secretary Ross to be on firmer ground in his claim that China's domestic steel glut is contributing to the recent weakness in prices – but only slightly. While China is certainly a big exporter of steel, by far the greatest amount goes to other Asian countries, most of them emerging economies that lack the capacity to meet domestic demand.
- ▶ The top ten importers of Chinese steel are all in Asia. To the extent that prices of USA and Chinese steel tend to go hand in hand, it is because both industries use raw materials – iron ore, coking coal, scrap, natural gas – that are traded on a busy global market.

"Isn't there at least a case for whacking Chinese steel producers as a message to [President] Trump's base that he's standing up for their jobs?" Mr Fickling dismissed his own query as "lame."

- ▶ The USA manufacturing sector comprises steel users as well as steel producers, and ten times as many manufacturing jobs as steel production jobs depend on steel consumption.

While primary steelmaking employs 385,000 Americans, transforming that metal into fabricated parts, machinery and vehicles accounts for some 4.1 million jobs. All things being equal, the *Bloomberg* contributor asserted, those industries stand to lose the most from the protectionist impulse that would preclude overseas competition.

- ▶ "The USA has everything to gain and little to lose from open global markets," wrote Mr Fickling, in summation. "In trying to hurt China, Washington risks shooting itself in the foot."

Elsewhere in steel . . .

- ▶ Most of the steel from the dismantled eastern half of the old San Francisco–Oakland Bay Bridge was sold, at \$160 a ton, and shipped to scrapyards in Asia. But the California Department of Transportation (Caltrans) held back a few choice pieces – about 450 tons' worth of large beams and struts – to award free to sculptors who promised to turn them into local public art works.

Steve Rubenstein reported in the *San Francisco Chronicle* that 16th June was pickup day for sculptors with flatbed trucks at the Caltrans yard at the eastern end of the bridge. Caltrans senior engineer Darryl Schram told the *Chronicle* it would be rewarding to see the old bridge reconstituted around the Bay Area in the form of artistic barriers, benches, sculptures and Stonehenges. The new span of the Bay Bridge replaced a seismically unsound portion with a self-anchored suspension bridge and a pair of viaducts.

- ▶ In June, Governor Eric Greitens of Missouri signed into law a bill giving electricity discounts to industrial companies using large amounts of energy. The legislation also ensures discounted energy rates to future Missouri high-intensity industrial companies. The governor in May had called a special session of the state legislature to lower electric rates for a steel mill and aluminium plant planned for southeast Missouri.



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Alisa Nelson reported in *Missourinet* (15th June) that supporters of the measure say it could bring some 600 high-paying jobs to Missouri's impoverished Bootheel region. According to one of the state's representatives in the US Congress, the average salary for aluminium plant workers would be about \$95,000. Managers would earn about \$125,000. Salaries for the steel mill were not known.

"Opponents of the proposal say giving lower electric rates to the few will hurt many of Missouri's electric ratepayers," wrote Ms Nelson. The opposition also contends that, in the absence of guarantees that the businesses will open and remain in Missouri, it is bad public policy to include lower electric rates as part of an economic development package.

- ▶ Nucor Corp, the Charlotte, North Carolina steel mini-mill, has announced that it is investing an estimated \$176 million to build a hot band galvanising and pickling line at its sheet mill in Ghent, Kentucky.

The new line will have an annual capacity of 500,000 tons and expand Nucor Steel Gallatin's product offerings. Estimated time to the beginning of operations is two years.

According to Nucor the 72" line will be the widest hot rolled galvanising line in North America. The intention is to create synergies with the company's other sheet mills and increase Nucor's share of the coated steel market in the Midwest.

The project "will allow us to move into segments of the automotive market we currently do not serve," John Ferriola, Nucor's chairman, CEO and president, said (25th May). He noted what he termed "a key need in the marketplace" for high quality, hot rolled galvanised steel.

Telecom

Tech Week in the USA, like Infrastructure Week before it, produced not much news but at least one Trumpian puzzlement

Some telecommunications companies may be having trouble deciding whether they are on their head or their heels in relation to US President Donald Trump. As reported by the technology news website *Recode*, which focuses on the business of Silicon Valley, the White House announced plans for a 22nd June meeting with 30 tech company executives that would focus, among other areas of interest, on 5G wireless technologies.

Responding to a request for a Tech Week demo by the US Office of Science and Technology Policy (OSTP), Ericsson on 13th June filed necessary paperwork with the Federal Communications Commission (FCC), only for it to be denied/dismissed on 14th June.

The FCC said only that it was "unable to grant [the Swedish telecom equipment and services company's] application for the facilities requested. Withdrawn by applicant. Event was cancelled." The agency's "dismissed without prejudice" notice was signed by the chief of the FCC's Experimental Licensing Branch.

Attempting to report on the non-event, editor Monica Allevén of *FierceWirelessTech* was unable to obtain a comment from any of the parties to it: neither Ericsson nor the FCC, nor the telecom Sprint – Ericsson's intended USA partner in the demonstration. ("Ericsson Sought Authority to Conduct 5G Demo with Sprint for President Trump at White House," 16th June)

What would Mr Trump have seen if the presenters had been allowed to go ahead? According to *Recode*, the application indicates they wanted to use the 14.5-15.35 GHz frequency using one Ericsson base station and one piece of Ericsson-supplied user equipment. The company sought a licence to start the demo on 21st June but said the operation would be limited in time to the technology meeting and any necessary setup.

The FCC had previously given Ericsson permission to conduct experiments using 14.5-15.35 GHz; the company chose that particular spectrum because its equipment was designed to operate in Sweden. For the White House demo, the aim was to keep the base station and mobile unit within 50 feet of each other. Plans also stipulated a larger radius of operation of 0.06 miles in case it had to go somewhat farther than 50 feet.

- ▶ Except for the intended participation of Sprint, the unaccountable cancellation of an apparently worthwhile demo might be chalked up to Mr Trump's habit of sharply distinguishing friends from enemies.

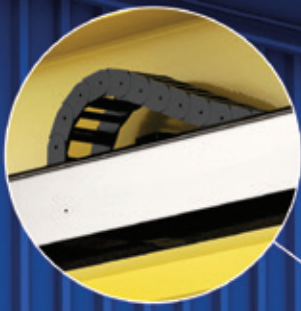
But *Recode* noted that Masayoshi Son, the CEO of SoftBank, which controls Sprint, has been an active supporter of Mr Trump and met with him in December when he pledged to invest billions of dollars in USA tech companies and create thousands of jobs. In May, SoftBank announced that it had raised \$93 billion for a new tech investment fund, set to become the largest in history.

- ▶ And, while Mr Trump and Nokia are at daggers drawn, the American president has no known animus against Ericsson. Companies whose Tech Week invites were not clawed back include Amazon, Google and Intel.

Dorothy Fabian – USA Editor

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▲ Easy guide system is a flexible, easy-to-install cable carrier system for standard cranes

Simple and flexible solution

WITH the easy guide system, Tsubaki Kabelschlepp has developed a new channel system for guiding cable carriers as a simple and flexible solution for standard cranes which is also suitable for other areas of application. On workshop cranes with cable carriers, for example, this omits loose festoon loops.

The requirements for modern crane systems are becoming ever more complex. "The focus is on a long service life and uninterrupted availability at maximum load," said Peter Sebastian Pütz, head of crane business at Tsubaki Kabelschlepp.

"For the development of our new channel system, we placed a special focus on the requirements of standard cranes."

Easy guide system is a standardised guide system for cable carriers which is suitable for trolley power supply and extended travel lengths of cranes, but also for other

applications involving complete cranes and crane sets as well as smaller process cranes.

Easy guide system features a space-saving design as well as simple and fast installation with few components. The guide channel is available galvanised or as a stainless-steel version. It can not only be installed vertically, but – in contrast to comparable systems – also horizontally, and remains flexibly adjustable even after installation.

The optional roof serves as a climbing protection, weather protection and mechanical protection. It also prevents the cable carrier from falling out or knocking. This means it has optimum guiding in a variety of different positions, including lying on its side.

The system channel requires no complicated steel structure and is suitable for all I-beams and box girders. Mounting

holes for the cable carrier and cable ducts are provided every 850mm. Tsubaki Kabelschlepp offers the same installation bracket for different channel sizes or cable carrier types. Permanently installed cables can easily be mounted behind the channel, directly on the bracket, so that no additional cable conduits are necessary, saving time and effort during installation. The system requires only one installer and can be installed on the fly.

The easy guide system is not only applicable for cranes, but also for other areas of application.

"Whether for extended travel lengths or for longitudinal, crosswise or corner travel – our system channel can meet a variety of different requirements, even in rough environments," Mr Pütz added.

Tsubaki Kabelschlepp GmbH – Germany
Website: www.kabelschlepp.de



▲ The new HTG400 handheld wire temperature gauge

The IntelliTHERM HTG400

Proton Products launched its new IntelliTHERM HTG400 handheld wire temperature gauge at Interwire 2017 in Atlanta, Georgia, USA.

This instrument is suitable for use on all bare wire types and comprises a special bimetallic wheel construction with integrated electronics for precise, responsive measurement performance. It provides high-precision wire temperature measurement of better than $\pm 0.5^\circ\text{C}$, up to 400°C (752°F).

Proton Products – USA

Website: www.protonproducts.com

SZ-stranding for a strong ROI

THE power cable SZ-stranding technology offers huge potential for ROI thanks to its practical machinery, easy operation and inline jacketing process.

Many years ago, Rosendahl discovered the benefits and simplicity of SZ-stranding both in machinery and during operation. The solution is called Power SZ, where heavy rotating machines are replaced by stationary equipment so that machine loading and unloading can be carried out easily and quickly. Simpler equipment has a higher operating reliability.



The line is able to handle three to five conductors with cross sections of up to 240mm^2 . With smaller cross sections, a performance of 60m/min is achieved while producing long production lengths due to stationary pay-off stands with bigger drums.

▲ SZ-stranding from RosendahlNextrom

Depending on what the manufacturer requires, the Power SZ can be set up offline or with an inline jacketing process. It is a proven and efficient solution where the cable is produced in one production step for sector-shaped conductors.

The line is mostly a very customised solution and the company can provide support with process and product know-how.

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New 500 Series rubber/silicone extrusion crosshead

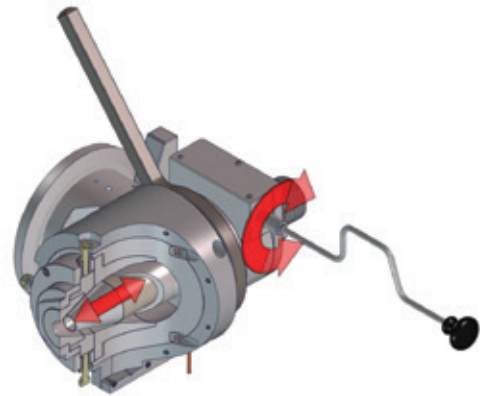
GUILL Tool has introduced the new 500 Series crosshead with MAGS gum space adjustment. The 500 Series is designed specifically for the flow characteristics and unique processing challenges of elastomeric compounds.

One of the key features on this crosshead design is the mechanically assisted gum space (MAGS) adjustment system. This new method of gum space adjustment allows the operator to make an effortless adjustment from a single point using a common socket wrench.

There is no more need to struggle with multiple nuts and bolts in order to adjust gum space, which leads to faster adjustments. The visual indicator on the core tube allows the operator to see how far the gum space has been moved, making adjustments more accurate and repeatable.

The hardware-free and patented cam lock design of the 500 Series means no time is wasted unbolting and re-securing fasteners for disassembly and reassembly. Only half of a rotation of the cam nut is required to loosen and automatically extract the deflector from the head body, which is another time saver. Also, with no undercuts on the deflector, there are no material hang-ups when extracting the deflector, allowing faster and easier cleaning and changeover.

The 500 Series also features the latest centre-stage concentricity adjustment system that significantly reduces pressure on



▲ Guill Series 500 crosshead with Mechanically Assisted Gum Space (MAGS) adjustment specially designed for the flow characteristics of elastomeric compounds

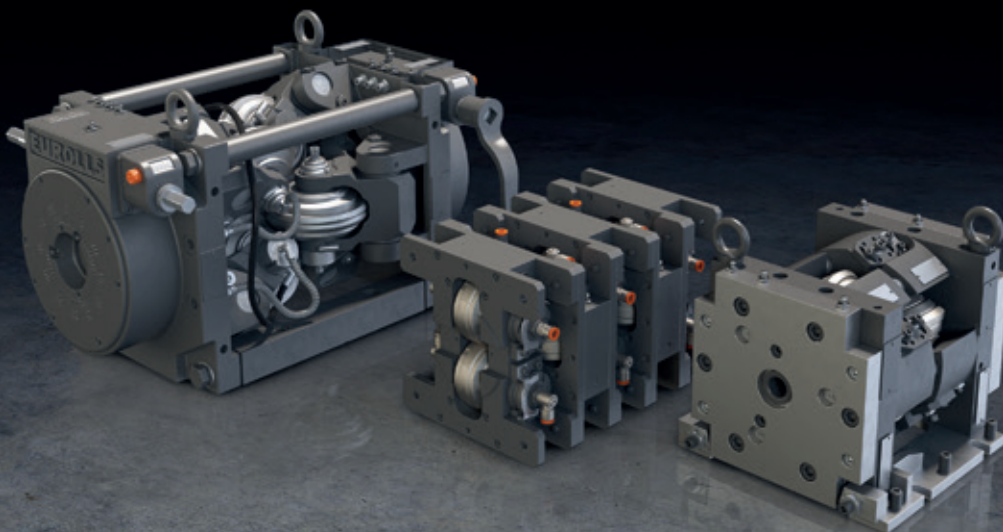
the tooling, allowing easier and more precise concentricity adjustments without loosening the face bolts. Easy-out inserts for the adjusting bolts also allow simple replacement of locked or damaged adjusting bolts, which further saves on repair and downtime.

Guill Tool & Engineering – USA
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Quality inspection on aluminium wires

For aluminium wire inspection, Contrôle Mesure Systèmes (CMS) has developed an eddy current system, allowing detection of defects such as cracks and holes at high speed (1,500-2,000m/min, for example, depending of the diameter range to inspect).

During the process, aluminium billets are transformed by lamination.

Then, the wire is guided and passes through an eddy current system composed of a support coil mounted in a support table with guide rollers assuring a good entrance of the product.

A special encircling coil, located in the support, allows the detection of cracks at the surface of the product. Eddy current testing is performed by Zet@premium instrument dual channels.

When a defect or an inclusion is detected, the system activates a line shutdown, marker, visual alarm, saw or some other outputs.

An encoder installed on the line allows precise location of defects in a customised report.

Contrôle Mesure Systèmes – France
Website: www.cmseddyscan.com



▲ The eddy current system from CMS

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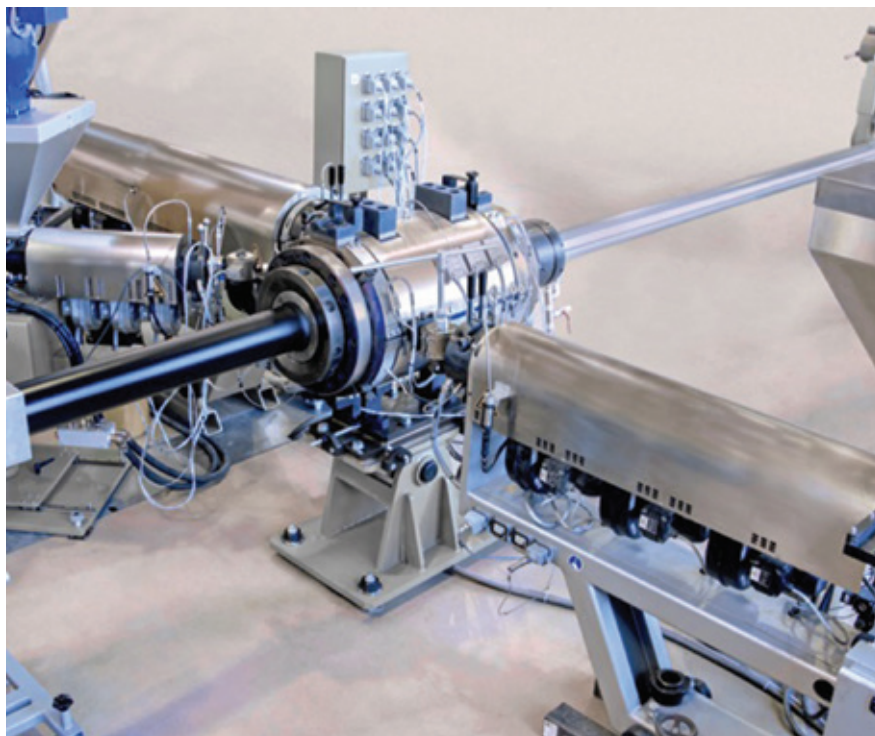
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▲ Rosendahl RH-W metal tape forming and welding line with tandem extrusion

Three metals and tandem extrusion

HV power cables can be designed in many different ways, depending on their field of application.

Rosendahl has placed its focus on metal sheathed cables with subsequent jacketing, all in one line.

These types of HV power cables are used for indoor as well as outdoor, direct buried or conduit installations. Other special applications that can be considered are submarine power cables, such as dynamic cables for floating platforms with a corrugated copper sheath, or power cables for renewable energy, such as export cables for offshore wind farms and cables for photovoltaic power plants.

Metal sheathed cables require high precision technology for the production process. Manufacturers need to be flexible in their production, as well as efficient, and with the corresponding performance.

Metal tape forming, welding and the subsequent jacketing process can be done inline in a tandem process. At the same time, the production speed as well as the product's quality are maintained at a constantly high level.

High productivity is provided by the

continuous welding solution, which supports long product lengths and smooth production.

The Rosendahl RH-W metal tape forming and welding line is designed to process aluminium, copper and stainless steel on the same line. The line concept is successfully applied at known references worldwide.

It is flexible in processing different metals as well as in its entire production process.

This is due to the fact that each of the production steps can be adjusted to a manufacturer's needs, eg either inline or offline, smooth or corrugated. The options are manifold.

Depending on the product diameter, ranging from 40mm to maximum 200mm, the line runs at speeds of up to 15m/min.

The tools are easy to change and the line's performance can be tracked by the RIO line control system. This system reports and analyses the process and output.

It is an all-in-one solution with many benefits for the final product.

RosendahlNextrom – Austria
Website: www.rosendahlnextrom.com

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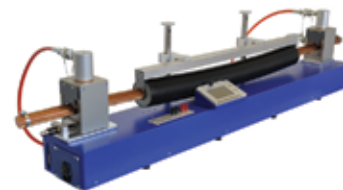
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New lubrication layer for wire drawing

DO you want superior drawability and forming characteristics? Then E-molyphos from Staku Anlagenbau is the answer.

This is in the form of a new lubrication layer for wire drawing as well as warm and cold forming of alloy made of stainless steel and titanium material by applying an electrolytic process.

Draw peeled wires have no more surface defects and deliver a homogeneous metal structure which will be perfect for coating with E-molyphos. Together, this prepared material results in a unique wire quality.

E-molyphos replaces expensive conventional high performance oils and graphite lubricant.

The central issue in warm and cold forming of chemically highly resistant material is the creation of perfect tribological conditions between the friction partners.

A chemical coating in the way of the usual conversion coating is almost impossible due to the inherent surfaces of the material. The electrolytic process can do the job.

When analysing the requirements of the



▲ *The Staku Anlagenbau plant*

whole system and the environment it will result in the following profile:

- Resistance of forming pressure >300 kN
- Low friction coefficient μ even at elevated temperatures above 500°C
- High adhesion between lubricant and material surface
- High environmental compatibility (green coating), resource-conservative
- Avoiding waste materials and low energy consumption
- Short exposure time at phase to phase inline processes

E-molyphos is a lubrication system which matches all named requirements by electrolytic coating in one single bath. In this process a highly performing solid lubricant is deposited within a matrix of components which also contribute to the lubrication.

E-molyphos is the consequent improvement of the e-phos process developed by Staku and which is successfully working in numerous applications worldwide.

Staku Anlagenbau GmbH – Germany
Website: www.staku-gmbh.de

Easy-fit fastening solutions

IN day-to-day practice, cables and lines are often fastened in a somewhat makeshift manner with cable ties to the round, smooth arms of 'cobots' (robots which collaborate with humans without additional protection).

Two new Reiku multi-purpose fastening systems designed for different load levels now combine rapid, uncomplicated fitting with further advantages including very high slip resistance and gentle, virtually wear-free fixing of the cable protection.

With high reliability over a wide temperature range from -40°C to +80°C (with transient exposure up to 100°C), both systems help to ensure lasting, trouble-free cobot operation because they largely prevent downtime due to damage to the cable protection and consequently to the wiring itself.

The new LSDFB series is suitable for slow to moderate cobot movement velocities under low load. Fastening is by means of a hook and loop strap which encircles the robot's arm.

Available in two sizes, the LSDFB series can be used for arm diameters from 54 to



▲ *Two new Reiku fastening systems designed for different load levels for quickly and reliably fixing cable protection systems to smooth, round robot arms without screw, flange or stop faces, as are typical of cobots. Photograph courtesy of Reiku*

110mm and corrugated tubing diameters from NW 17 to NW 29. The associated polyamide (PA) rotary plate means the cable protector can be guided as desired using the Reiku gripping clamps made from the same grade of polymer.

The other new series, MESUB, is designed for the higher dynamic and mechanical loads typical of industrial and palletising robots, and combines a stainless steel clamp with pivot bolt screw fastening and a friction-enhancing rubber profile.

Available in six variants, it is suitable for robot arm diameters of 54 to 108mm

and for fitting all Reiku gripping clamp variants, from NW 17 to NW 90, to the integral general purpose bracket.

A special adapter plate allows Reiku rotary flanges to be used under the gripping clamps.

The cobot market is growing in leaps and bounds and analysts estimate it will be worth \$3bn by 2020.

As Johann Kasper, product manager for robot cable guides at Reiku, explains: "Because many of these systems need to supply compressed air, hydraulic oil, control signals, etc, separately to the working heads, they have lines arranged on the outside of the robot arm.

"Reiku customers can relax, though, because our cable protection conduits and the new fastening systems specifically developed for cobots minimise unscheduled system downtime."

Reiku GmbH Kabelschutzsysteme – Germany
Website: www.reiku.de

New series from AIM

AUTOMATED Industrial Machinery Inc (AIM) has released a new stand-alone product for wire welding.

The new high precision butt welder "BW series" consists of butt welders from 40 to 150 KVA (for up to 16mm or 5/8") with AC or mid frequency inverter models featuring:

- Fully automatic welding control with multiple schedule capability
- Heavy duty/high precision guides provide accurate and repeatable alignment
- Adjustable clamp and tip force (pneumatic control)
- Weld head can be ordered at 90° or 0° (front forward or top down welding)
- Adjustable upset position with mechanical counters
- Fully adjustable and easily accessible clamp adjustment for precise clamp alignment
- Available magnetic guides

Depending on customer needs, the



▲ One of the new BW series butt welders from AIM

welders can be supplied with various options:

- Robot loading
- Handheld programming unit pendant
- AGI argon gas for stainless welding
- Consumables: weld inserts made with Elkonite (copper tungsten/tungsten and molybdenum)

The BW welder series offer high precision and robust construction for consistent

and quality welds with minimal maintenance in any environment.

Welding integration is made easy for automated cells, with simple robot integration offering the most consistent quality welds at all times. Power savings can be accomplished with the mid frequency DC models with a balanced three-phase electrical load.

AIM Inc – USA

Website: www.aimmachines.com



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**OUR COVERAGE
OF WIRE SOUTH
AMERICA STARTS
ON PAGE 56**

Annealer for flat stainless steel wires and profiles

PLASMAIT GmbH from Austria is seeing an increasing demand for its high-output plasma heat treatment lines for stainless steel products.

The next deployment of its PlasmaAnnealer will take place at wire Southeast Asia. Plasmaid sold a 30kW plasma annealer to a renowned stainless steel wire producer, who wants to replace its traditional tube furnace for production of flat ferritic and austenitic product with widths up to 30mm.

The HPA30 plasma annealer with output capacity of 100kg per hour will allow the manufacturer to halve the energy cost per kilogram of output whilst allowing for a considerable cost saving in terms of peak power consumption. Much lower power connection requirements of the plasma annealer also means cheaper cabling installation for connecting power.

The new, compact, single-line production will have the same output as the old multi-line furnace and will take about one third of shop floor space. Single-line production will also reduce material manipulation and limit the investment into the associated take-ups, payoffs and transport system. A typical plasma annealer



▲ The PlasmaAnnealer HPA60 from Plasmaid

installation for stainless steel applications can substitute around ten traditional lines on a conventional strand furnace.

PlasmaAnnealer allows accurate heat input and hence more uniform recrystallisation, which is reflected in homogeneous grain size in the longitudinal and transversal direction. The HPA30 annealer also features an extended tempering zone to allow for extended dwell time or slow cooling, which is necessary for selected ferritic grades of stainless steel.

Processed material does not touch the plasma chamber when at high temperature, which reduces the risk of surface scratching.

This is different to the conventional strand furnace where tubes remain in contact with the furnace guiding supports during the maximum elevated temperatures, when they are most vulnerable to surface damage.

Plasmaid GmbH – Austria
Website: www.plasmaid.com

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SunWyre's clean galvanising solutions

MHD (magneto-hydro-dynamic) galvanising technology is claimed to be the only eco-friendly galvanising process on the market today.

SunWyre offers economical and environmentally friendly galvanising solutions for rod, wire, rebar, pipe and tubing.

SunWyre's modern process is for high or low carbon steel wire rods or wire, 4 to 16mm diameter, moving at speeds from 1.7 to 5m/sec automatically and continuously through galvanising and drawing, non-stop.

The skilful integration of continuous rod pay-off, blast cleaning, induction heating, MHD galvanising, quenching, wire drawing and coiling or spooling, all managed by touch-screen PC, provides an efficient continuous process for galvanised wire manufacturing.

SunWyre's proprietary MHD process offers the following advantages over traditional hot dip galvanising:

- It is energy efficient
- Energy costs to maintain only one ton of zinc, instead of 50 or more, are lower than traditional wire galvanising
- 7kW or less will maintain the pot temperature when the system is idle
- Non-polluting
- Uses no acid or flux
- Requires no waste water treatment system
- Emits no toxic fumes
- Creates no hazardous by-products
- Offers lower operating costs than traditional hot dip galvanising
- Fewer man-hours are required to operate the process
- Low nitrogen consumption compared to conventional gas wipe methods

The SunWyre MHD process offers an innovative approach to the production of galvanised and galvanized steel wire.

The process creates a wire with superior formability and corrosion resistance and is non-polluting and energy efficient.

Capital and operating costs are lower than traditional hot dip galvanising.

SunWyre Inc – USA
Website: www.sunwyre.com



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Special crosshead for special products

Low-smoke zero-halogen material is commonly used for a wide range of products, such as low-voltage power cables, automotive cables and premises cables. This material is special with regard to its properties, since it only allows for low-temperature processing. Extrusion crossheads typically run at high temperatures and high pressure, which is why a special solution is required for the LSOH material.

Rosendahl's RX 40 F.1.0 extrusion crosshead is designed to run high output at low pressure to ensure safe and adequate handling of highly filled materials. The precise match of the crosshead and its tools allow for low shear rates and stable processing at low mass temperatures.

The RX 40 F.1.0 is a single-layer extrusion crosshead that is easy to both assemble and disassemble. Maintenance is also kept very simple and easy. It is very user friendly and most importantly it meets the material's special requirements to achieve best results on the final product.

RosendahlNextrom – Austria
Website: www.rosendahlnextrom.com

Rod rust removal

WIRE rod rust is no longer an alarming phenomenon, since the introduction of the Smooth-Brush (SB) wire rod green and dry cleaning system.

Installed in-line after a simple rod reverse bending descaler, the SB system removes excess rod scale and rust, converting over 95 per cent of rod scale into useful micro-abrading pads, providing efficiency and simplicity in rod dry cleaning applications, H/C and L/C, including 0.98%C.

Continuously liberated rod scale provides, in-line, an extremely receptive about 5-micron size texture enabling powder lubricant to be chemically and mechanically interlocked to the rod surface, forming a hard and consistent anti-wear and anti-friction conversion coating that is found to perform comparably to or better than zinc phosphate.

This achieves in-line direct drawing from mechanically descaled bare rod, at virtually zero energy consumption and zero maintenance cost, in a totally green and dry application.



▲ Rod and wire cleaning by SB brushing system

The SB rod cleaning is used in demanding wire drawing applications, including spring wire, plating wire, galvanised wire, PC strand wire, Al clad wire, cold-heading wire, CO₂ welding wire, etc.

The SB dry cleaning system replaces costly operations in wire rod cleaning processes (including acid and other aggressive wet chemicals), generating substantial cost savings, environmental benefits and improvement of productivity.

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Stage is set for the 66th IWCS conference and exhibition

MORE than 150 papers will be presented at the 66th IWCS Conference and Technical Symposium, staged at the Gaylord Palms Resort and Convention Center, Orlando, Florida, USA, from 8th to 11th October.

The papers will be presented in 20 sessions over the three full days of the conference.

Running alongside this will be the suppliers exhibition with more than 100 companies displaying the latest technology to a captive audience.

The exhibition offers a unique opportunity

for suppliers to present new and established products, processes and services to highly qualified visitors to more than 1,000 potential customers.

The conference provides:

- The latest technologies presented in a symposium format
- Professional development courses with tutorials on basic and emerging technologies
- Suppliers exhibition with the latest developments from industry suppliers
- Networking with other industry professionals
- Expanded sessions on connectivity

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66th IWCS Conference 2017 exhibitor listing

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wire South America will throw open its doors at the São Paulo Expo Exhibition & Convention Center in Brazil from 3rd to 5th October 2017, set against the background of expectations for an economic recovery in the coming year.

The show will run alongside the popular TUBOTECH, with both exhibitions likely to attract around 500 exhibitors from 24 countries

on an exhibition space of over 32,000m² (gross) and more than 11,000 trade visitors.

Economic experts believe that the Brazilian economy is set to step out of its current recession in 2017. Although it is still uncertain how dynamic this recovery will be, the experts are spreading cautious optimism.

After its successful premiere in 2013, this will be confirmation of a positive trade fair policy



wire South America 2017

© São Paulo, Brazil at night! - www.bigstockphoto.com - Photographer - Frazao

for wire South America, the international wire and cable trade fair. The event will feature machines for the manufacturing and finishing of wire, tools and auxiliary materials in process engineering as well as materials, special wires and cables.

The trade fair will also cover innovations in measurement and control engineering, test engineering and a range of specialist areas. Taken together, the two trade fairs form a

superb technology pair, primarily attracting visitors from the oil and gas industries, automotive engineering, construction, metal design and mining.

Brazil has an extremely large domestic market. Being rich in resources, it has so far had a low level of market saturation. It also has great potential for future investment in the wire, cable and pipe industries. Products from those sectors are of major importance for Brazil's industry in general.

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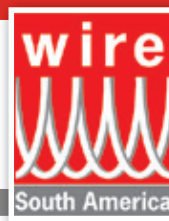
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Aesa Cortailod Stand 503A

The current trend in the cable industry is increasingly towards larger cross section cables and aluminium conductors. As a direct consequence, cable manufacturers have difficulties in taking reliable and repeatable electrical measurements and in achieving the aimed accuracy. AESA Cortailod recently introduced novel equipment from the ResTest family, the ResTest 210, which addresses these challenges.



▲ ResTest 210: Universal and powerful linear resistance equipment for all types of conductors

ResTest 210 masters the issues encountered in the measurement of large cross-sections (up to 2,500mm²), especially with aluminium, flexible and/or insulated conductors. The use of hydraulic jaws ensures a good current distribution while a hydraulic jack allows for the tensioning of the sample under test. This fully integrated equipment not only offers operating comfort, but also the mastering of all the uncertainties related to the measurement.

Therefore, AESA specifies the overall accuracy of the measurement and not the accuracy of the micro-ohmmeter only. This two-in-one equipment can also measure shorter samples of smaller sections or copper material.

AESA Cortailod – Switzerland
Website: www.aesa-cortailod.com

AIM Stand 731

AIM will present automated work cell solutions: Input wire from straight and cut or coil and form, weld and systematically arrange the finished parts along with secondary operations and production assistance from digital importing, digital verification and machine/cell utilisation.

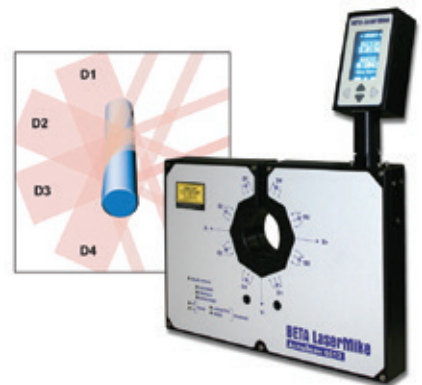
From its patented hybrid forming solution, the Synchro AFM line, capable of versatility, fast output and low cost maintenance to the newest innovation in wire bending, upgraded and updated 2D and 3D CNC wire bending solutions, single and double bending head machines with Fanuc robotics integration and complete automated systems, AIM provides the answer to complex solutions.

In all instances, wire can be fed directly from a coil, straightened, bent and cut using a software package that provides flexibility and simplicity in programming and is offered in all "universal" languages.

AIM Inc – USA
Website: www.aimmachines.com

Beta LaserMike (An NDC Technologies brand) Stand 735

The Beta LaserMike products team from NDC Technologies will be presenting the latest solutions for in-process dimensional monitoring and automated



▲ Beta LaserMike's new AccuScan 6012 for measuring products up to 12mm

quality cable testing. The Beta LaserMike exhibition will demonstrate to cable makers how precision gauging and control can maximise product quality, production efficiencies and manufacturing savings.

wire South America attendees will get an inside look at the latest diameter and ovality measurement solutions, such as the AccuScan 6000 Series four-axis gauge. The Beta LaserMike AccuScan 6000 Series is the industry's only four-axis scanning diameter and ovality gauge that provides high measurement accuracy to ensure wire and cable products meet the tightest design and quality specifications.

With communication cables, such as coaxial and twisted-pair LAN products, any error in the diameter or roundness of the conductor or insulation directly impacts the cable's performance characteristics – rendering the product useless for the designed application. The AccuScan 6000 Series solves this by providing comprehensive measurement coverage on wire and cable products.



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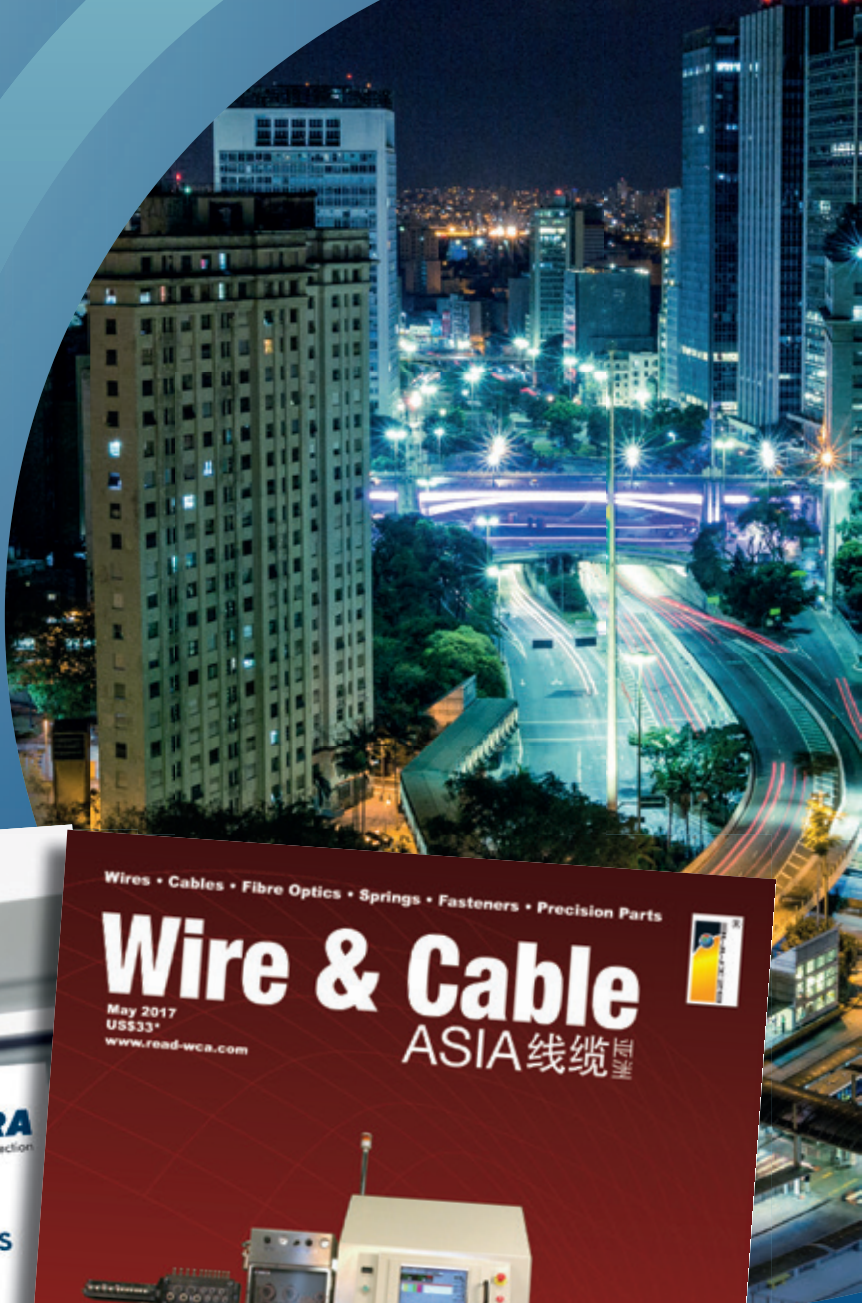
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www.sikora.net/laser

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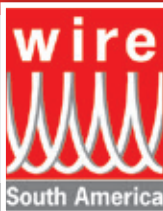
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The AccuScan 6000 Series includes the AccuScan 6012 for measuring products up to 12mm and the AccuScan 6050 for measuring products up to 50mm. It offers several distinct advantages not found in competitive two- and three-axis diameter and ovality gauges, such as:

- Fast scan rate, 9,600 scans/sec
- High ovality accuracy up to 100 per cent
- High flaw-detection accuracy

Attendees will also have the opportunity to explore the newest Beta LaserMike cable gauging solutions and learn about the range of products, such as:

- New LaserSpeed® Pro – the non-contact length and speed gauge with high accuracy (better than $\pm 0.03\%$) is now equipped with improved connectivity consistent with Industry 4.0 and a faster processing engine for rapid communications. LaserSpeed is a suitable replacement for contact rotary encoders. There are over 8,000 gauges installed worldwide
- New BenchMike Pro – the off-line diameter and ovality measurement system with over 15,000 units installed worldwide is now outfitted with a larger, higher-resolution display, equipped with improved connectivity consistent with Industry 4.0 and offers faster communications processing
- LayScan – accurately and consistently measures the lay length of twisted pairs at the cabler and twinner
- DCM cable testing systems – for the quality testing of LAN/data, coaxial, telecom and aerospace cables

Beta LaserMike (An NDC Technologies brand) – USA

Website: www.betalasermike.com



**Condat
Stand 514A**

Condat has earned an international reputation for supplying lubricants to the steel wire industry with its brand name Vicafil™. The company has used its 160 years' expertise in lubricant technology to develop a comprehensive range of products dedicated to the electrical wire and cable market.

Among a range of neat oils, soluble and vanishing lubricants for this specific market, Condat will highlight an innovative and high-performing new lubricant.

Vicafil TFA 1460, released in May 2016, has already proven great results for customers drawing aluminium, in particular on drawing from rod to diameters $>1\text{mm}$. Designed to offer both low residues and extended operating life, its specifically formulated additives package minimises thermal oxidation and maintains longer lubricant performance. The bath life is increased and thus maintenance costs are reduced. Thanks to its low viscosity, Vicafil TFA 1460 reduces lubricant consumption whilst offering high lubricity and increased die life.

Compatible with the insulation process, Vicafil TFA 1460 also has the advantage of being a chlorine-free semi-synthetic lubricant: a step forward to 'user-friendly lubricants' and a responsible technology.

The show will also be the opportunity to exhibit Condat's specific offering for tube drawing. The Condatab product range covers most tube forming processes from hot forming to cold forming. It has been designed to answer specific issues for all metals (carbon and stainless steel, aluminium, copper alloys) and includes hot forming graphite and ceramics dispersions, non-reactive and reactive drawing soaps, pilger rolling and forming soluble lubricants, neat drawing oils and corrosion inhibitors.

Condat – France

Website: www.condat-lubricants.com

Visit us at wire South America 2017
October 3-5, Hall 05 Stand 704

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Eurobend Stand 215

The newest mesh welding line for the production of standard, customised, precast mesh and mesh with openings used in wall panels is equipped with Eurobend's patented wire feeding system, which ensures elimination of diameter change-over dead-times.

Any type of mesh can be produced instantly without manual adjustments.

Different models are available for both the economic and high output production of precast mesh, offering maximum flexibility without changeover adjustments.

Designed for the production of standard and non-standard mesh designs and sizes, these allow the welding of uneven line and cross wire lengths and different line and cross wire diameters within the same mesh, and mesh used in various precast wall panels with openings (for doors and windows).

Depending on the machine version, line and cross wires are fed fully automatically from two flexi-line rotor straightening and cutting machines with automatic diameter changing system (patented) or from pre-cut wires/bars.

Single or double Y-axis programmable, servo-motor driven welding head configuration with four or eight welding points (PL X-Y Series) or multi-head configuration with up to 81 fixed welding heads (PLC AMM Series).

Cold or hot rolled wires up to 20mm from or pre-cut bars or coils can be processed automatically by the machines. The productivity of the PL X-Y Series ranges up to 2,200m² with single four-point moving welding head, or up to 3,800m² with double four-point moving welding head.

The PLC AMM Series is equipped with fixed welding heads with either single or double cross wire feeding system. Available optional modules include:

- Mesh bending modules, which can be installed inline with the welding line for the automatic production of bent mesh used in various precast applications
- Robotic transportation systems to automatically move the produced meshes from the mesh collector to the precast moulds

Eurobend GmbH – Germany
Website: www.eurobend.com

Gotex Stand TBC

In June 2016, Coats acquired Gotex, a Spain-based company which designs and manufactures high-tech industrial yarns and tapes used in the telecommunications, energy and oil and gas sectors. One year later, Gotex has gone from strength to strength and is performing ahead of management expectations.

The company has seen growth in two specific areas:

- Gotex's fibreglass products complement Coats' aramid, ripcord and binder product range. Together they have become a stronger combined player and increased market share in the fibre optics sector
- Gotex's tapes manufacturing capacity and aramid reinforcement innovation are natural synergies for composites. Combining Coats' carbon composites offering with Gotex's tape innovation provides customers with an optimal and advanced solution

Coats – UK
Website: www.coats.com

Gotex SA – Spain
Website: www.gotexweb.com

Madem Reels Stand TBC

Madem Reels Group, a Brazil-based manufacturer of wooden reels for the wire and cable industry, will embark on a joint venture with Moorecraft Reels Inc, a North Carolina, USA-based reel manufacturer, in order to provide wooden reels throughout North America.

Madem Reels will provide its proprietary manufacturing technology, including CNC and ink jet machinery for the new joint venture, while Moorecraft Reels will provide the general management, sales, customer support, assembly warehouse and logistics development.

Madem Reels brings a global presence for quality and innovation in the wire and cable industry with manufacturing plants in Brazil, Spain and Bahrain. Moorecraft Reels, a well-established organisation in North Carolina, brings its market experience and long-time business expertise to expand the new joint venture in North America.

"We are very proud to join forces with Moorecraft Reels, a company with 51 years' experience manufacturing wooden reels in the USA.

Certainly the JV will add value to our global customer base, while developing customers located in the USA," said Gino Mazzocato, president director of Madem.

Steve Redhage, Moorecraft Reels, president and general manager, added: "Our two family-owned businesses complement each other very well. The joint venture provides an opportunity to create jobs here in the USA. We are very excited to be a part of a company that prides itself on quality, customer service and innovation."

Madem Group, with headquarters in Brazil, has forests, sawmill and manufacturing plants in Brazil, Spain and Bahrain, with more than 400 employees, and produces more than 400 containers/trucks of knock-down reels per month, supplying 120 cable factories in 40 countries.

Today the Madem name represents over 68 years of industry experience. The team constantly strives to build trust and confidence by offering customers a quality product.

Moorecraft Reels, founded in 1966, is a second-generation, family-owned business that manufactures and distributes nailed wooden reels for the wire and cable industry in the mid-Atlantic region.

Madem Reels – Brazil
Website: www.madem.com.br

Moorecraft Reels – USA
Website: www.moorecraft.com

Queins Machines Stand 573

Queins and Stolberger, both based in Germany, have been in business for more than 40 years as machinery manufacturers.

▼ *New Queins portal take-up for reel flange with a diameter of 5,600 mm (220.47")*





Visitors to the stand will be able to see a number of large photographs of machines delivered to customers in the rope and cable industries.

Main products are high-speed stranding machines, payoffs/take-ups, taping heads, disc- and belt-type caterpillars, extrusion/sheathing lines, and machines for manufacturing CTC-strands (continuously transposed conductors), umbilicals and steel wire ropes. The second-hand department offers a full choice of machines and equipment.

Queins Machines GmbH – Germany
Website: www.queins.com

Stolberger KMB Maschinenfabrik GmbH – Germany
Website: www.stolberger.com

Sikora Stand 531

Sikora, with its headquarters in Bremen, Germany, is a manufacturer and global supplier of innovative measuring, control, inspection and sorting technology for quality assurance in the wire, cable, optical fibre, hose and tube as well as plastics industries.

The company will showcase its non-contact measuring systems based on progressive laser (Laser Series 2000/6000) and X-ray technology (X-Ray 6000) for various applications, such as the measurement of the diameter, wall thickness, eccentricity and ovality of cables.

Sikora's product range also includes spark testers for the detection of insulation faults, lump detectors for the detection of faults on the product surface,

▼ The conductor preheating system Preheater 6000 TC



capacity measuring systems and devices for conductor preheating as well as temperature measurement and control.

In addition, the company will present the innovative Purity Scanner, a system for online inspection and sorting of plastic pellets, and the Purity Concept Systems that are used for offline inspection and analysis of pellets, flakes and films/tapes. Users of its technology benefit from process optimisation, increased quality and cost saving.

Technological highlights at the Sikora stand will include:

- Wire-Temp 6000: Non-contact conductor temperature measurement
- Centerview 8000: Non-contact eight-point eccentricity, four-axis diameter and eight-point ovality measurements suitable for the production of coax cables, LAN cables as well as automotive and installation cables. Scatter plot shows distribution of short-term variations
- Laser Series 2000/6000: Classic and high-end diameter measuring devices. Laser Series 6000 with up to 5,000 measurements per second and integrated lump detection. Extremely high single value precision
- Lump 2000: Detection of lumps and neckdowns on the cable surface
- Spark 6000 HF: High-frequency high-voltage spark tester for the detection of pin holes and bare patches in the insulation of cables. Integrated three-step self-test and calibration system with exchangeable module
- X-Ray 8000 NXT and X-Ray 6000/X-Ray 6000 Pro: X-ray based eccentricity, wall thickness, diameter and ovality measuring systems
- X-Ray 8000 NXT for CV-lines, VCV-lines and MDCV-lines
- X-Ray 6000/X-Ray 6000 Pro for jacketing lines (measurement of foaming and wall thickness of RF cables)
- Purity Scanner: Inspection and sorting system for XLPE pellets
- Dual inspection: X-ray and optical for detection of metallic and organic contamination from 50µm on the pellet surface and inside the pellet
- Fiber Series 6000: Diameter measurement before and after coating. Determination of the fibre position, vibration frequency, tension and spinning. Airline detection. 100 per cent lump detection. Temperature measurement, coating concentricity evaluation. Processor system for visualisation and control of the drawing process

Sikora AG – Germany
Website: www.sikora.net



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New stretch-bend-levelling line for very thin copper strips is energy efficient and operates with minimal tolerances

By Volker Lüdecke, Burghardt + Schmidt GmbH, Remchingen, Germany

Flatness requirements for metal strips have increased steadily in recent years. At the same time there is a trend – particularly in the electronics industry – towards increasingly thinner materials. Here, quality improvements through stretch-bend-levelling facilitate further processing considerably. As a result, for example, dimensional accuracy is increased in the stamping process and thinner surface coatings can be achieved. Hence, the cutting and levelling machine specialist Burghardt + Schmidt GmbH (B+S) developed an innovative solution for the levelling of extremely thin copper strips for a Chinese manufacturer. The line is suited for all alloys of the material as well as for phosphor bronze, and allows strips just 30µm thick to be processed with minimal tolerances. Depending on the starting material, flatnesses down to one I-unit can be achieved.

The client in China manufactures parts for the electronics industry that need to satisfy exacting requirements with regard to surface quality as well as flatness or dimensional accuracy. In this case, extremely thin metal strips are used.

At a plant to be redesigned, these are to be prepared for further processing. The aim of the new purchase was to keep the shape tolerance within tight limits during the stamping process. This is vitally important in regard to the automated assembly of electronic components. Besides flatness, the client also defined exclusion criteria relating to the surface quality. This means that the optical density of the end product should not be changed through the processing.



All photographs courtesy of Burghardt + Schmidt GmbH

▲ Since the old lines noticeably reached their control limits when it comes to the processing of very thin materials, Burghardt + Schmidt has developed a new stretch-bend-levelling line. This allows the levelling of copper strips with thicknesses of as little as 20µm and the achievement of evennesses down to one I-unit, depending on the starting flatness

“Given the clearly recognisable trend for ever thinner strips, the B+S lines constantly reach their control limits. Due to customer requirements as well as the results of corresponding market analyses, we have therefore pressed ahead with basic developments for some time. These generally allow the levelling of metal strips that are just 20µm thick,” said Volker Lüdecke, technical manager at B+S.

The concept presented and the company's extensive experience in stretch-bend-

levelling were ultimately the decisive factors in winning the contract from China.

Cassette with 8mm levelling rollers

For the build-up of tension, the line has four rollers on the braking side, ie, in front of the levelling machine. Around these rollers runs the metal strip. Together with the decoiler, they generate the back

tension. Behind the levelling machine the four tension rollers, together with the recoiler, pull on the strip.

By means of force superposition (tension and bending) between the groups of upper and lower levelling rollers, the internal tensions and shape deviations of the strips are reduced.

To achieve a sufficient levelling effect in the case of very thin strips with material thicknesses of between 30 and 200µm, the metal strip specialist has developed a cassette with a levelling roller diameter of 8mm. For thicknesses greater than 200µm, 12mm levelling rollers are used.

Deviations are automatically detected by a Vollmer shapemeter roll for continuous strip shape measurement. Strip zones with waves exert less force on the segmented roller than flat strip zones.

Software calculates the mathematical formula for the strip shape with the help of the measured values and uses this to create a 3D model.

Based on this, the necessary position of the levelling roller supports can be calculated and automatically adjusted. Manual readjustment is unnecessary.

A special feature is the four adjusting axles at the upper levelling cassette, which ensure the ultra-precise position of the three spatial axes. "Depending on the initial flatness, evennesses down to one I-unit can be achieved. This corresponds to a 0.2mm high and 100mm long wave in the strip", added Mr Lüdecke.

▼ To still achieve a sufficient levelling effect despite strips having very small material thicknesses between 30 and 200 µm, the metal strip specialist has developed a cassette for levelling rollers with a diameter of 8mm. For thicknesses greater than 200µm, 12mm levelling rollers are used



▲ A feed-in system without a manual feeder, developed by B+S, contributes to ease of operation and the economic efficiency of the line. The beginning of the strip is clamped in a clamping bar at the beginning of the line and pulled through to the outfeed. This means that no pilot strip is required, and welding or the need for guide plates is eliminated. Winding on the recoiler also takes place automatically

Highly dynamic drive for broad control spectrum

In principle, all copper alloys are processed on the line without restrictions, with the strips having a wide range of cross-sections and the tensile strength of the material varying between 300 and 1,100N/mm². The thickness lies between 30 and 500µm and the width is between

100 and 450mm, which results in an aspect ratio of 1:75. If the yield strength of 200 to 1,050N/mm² is added, the ratio to be controlled for is 1:390. Due to this wide spectrum, the strip tension is measured directly at the decoiler and recoiler, as well as in front of the levelling machine, and serves as a control value for the drives. These are equipped with highly dynamic AC motors.

The installed capacity here amounts to around 550kW. "Feed-in is performed with Sinamics S120 Basic Line assemblies, so that the regenerative energy can be reused via an energetic recovery system on the pull side – that is, for the motors after the levelling machine. This leads to significant energy savings," added Mr Lüdecke, pointing out one of the main advantages of the line.

Activation is performed by fully digitalised inverters, which are coupled to the PLC of the line controller via Profibus L2-DP. The actual control functions are controlled via a microprocessor that enables not only considerable ease of operation but also easy start-up and maintenance.

Especially user-friendly and safe operating concept

The complete line bears the CE sign and is designed in accordance with the European Machinery Directive 2006/42/EC, which provides for, among other things, a protective fence for employee safety.



The existence of several protective areas means that activities can be performed by the operator in one of the areas while automatic movements are still taking place in the other. When such a sub-area is opened, the speed there is automatically reduced to a safe level.

"In addition, due to the spatial arrangement of the consoles, a sufficient distance to the moving machine parts and the strip is ensured by design", said Mr Lüdecke. The normal length of time until standstill is 12 seconds, but this can be reduced to six seconds or, in the case of emergency, even to three seconds if required.

From the operator's point of view, the material runs from left to right through the installation at a speed of up to 300m/min. The individual process steps are visualised by means of overview and detailed images. The operator can perform input directly via buttons and data fields in the images or via pop-up windows. The axle positions typical for the materials can be stored as individual data sets with alphanumeric names in a database.

Customer-specific order management can also be integrated into the system. Connection to the company's network ensures that the operator can access the current production plan at all times. During a cassette change, the system recognises by means of an identification system which cassette is currently installed. Manual, time-consuming readjustment is no longer necessary. By means of further automatic systems, for example in the form of an automatic coil and spool transport, parallel activities can be performed. As a result, what previously took two operators to do can now be undertaken by a single employee.

A feed-in system developed by B+S also contributes to economic efficiency and convenience. In this case, the strip to be processed is mounted as usual in the form of a coil onto the decoiler. Manual feed, however, is not necessary. Instead, the beginning of the strip is clamped in a clamping bar at the beginning of the line and pulled through to the outfeed at a speed of 10 to 15m/min. This means that no pilot strip is required, and welding or the need for guide plates is eliminated.

Initial winding on the recoiler also takes place automatically with a belt wrapper. "The productivity of the line is increased, since the actual processing can be started quickly and efficiently," summed up the technical manager.

To ensure that the strip is wound up neatly at the end, the decoiler and recoiler are also each equipped with a strip edge controller.

The reels, each weighing six tons, stand on linear guideways that are pre-loaded, free of play and mounted on anti-friction bearings. Together with the edge detection and position control, the reels ensure precise unwinding and winding via a servo-hydraulically controlled hydraulic cylinder. ■

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Website: www.b-s-germany.de

Ugitech nimmt eine führende Position in Europa ein

HEIßE Gase und Dämpfe bei bis zu 850°C sicher leiten – für viele Hersteller von Komponenten für die Prozessindustrie ist der austenitische Edelstahl 1.4550/347H eine überzeugende Lösung.

Um die steigende Nachfrage zu erfüllen, hat Ugitech sein breites Edelstahlportfolio um den UGI® 4550 erweitert und ist damit einer von nur drei Anbietern in Europa.

Dampfleitungen, Überhitzerrohre sowie Abgassysteme in Hubkolbenmotoren und Gasturbinen sind klassische Anwendungsgebiete für den UGI 4550 von Ugitech. Die mit Niob veredelte Stahlgüte ist eine anforderungsgerechte Lösung für Temperaturbereiche zwischen 425°C und 850°C.

Im Gegensatz zu den meisten austenitischen Werkstoffen ist der UGI 4550 gegen Gefügeausscheidungen in Form von Chromkarbiden und damit gegen interkristalline Korrosion gewappnet.

So eignet sich das Edelstahlprodukt optimal für Bauteile, bei denen eine Nachbehandlung des Materials nach dem Schweißen nicht möglich ist, wie beispielsweise bei Dehnungsfugen und Ausrüstung für die chemische Bearbeitung bei hohen Temperaturen.

Der UGI 4550 zeichnet sich darüber hinaus durch eine gute Umformbarkeit bei Raumtemperatur aus und ist sehr gut schweißbar.

SZ-Verseilung für einen starken ROI

Die Stromkabel-SZ-Verseiltechnik bietet ein enormes Potential für Ihren ROI, dank seiner zweckmäßigen Anlagen, der einfachen Bedienung und des Inline-Ummantelungsverfahrens.

Vor vielen Jahren hat Rosendahl die Vorteile und Einfachheit der SZ-Verseilung sowohl hinsichtlich der Maschinen wie während des Betriebs entdeckt.

Die Lösung wird Power SZ genannt, wo schwere Rotationsmaschinen durch stationäre Anlagen ersetzt werden, sodass das Be- und Entladen der Maschine einfach und schnell durchgeführt werden kann. Außerdem weisen einfache Geräte eine höhere Betriebssicherheit auf.

Die Anlage kann drei bis fünf Leiter



▲ Dampfleitungen, Überhitzerrohre sowie Abgassysteme in Hubkolbenmotoren und Gasturbinen sind klassische Anwendungsgebiete für den UGI 4550 von Ugitech. Aufnahme mit freundlicher Genehmigung von Ugitech – ©istockphoto_annavaczi

Das bedeutet, dass eine Warmrissbildung nach dem Schweißen ausgeschlossen ist. Weiterhin erhöhen eine gute Kriechfestigkeit (Resilienz gegen temperaturabhängiges Verformen) und die Beständigkeit gegen atmosphärische Korrosion und Oxidation bei hohen Temperaturen die Prozesssicherheit.

Ugitech bietet den UGI 4550 in einem sehr breiten Spektrum an Abmessungen: von Stabstählen mit 130mm Durchmesser bis zu ultrafeinen Drähten mit 16µm Durchmesser.

Das Stahlprodukt wird je nach geforderten mechanischen Eigenschaften gegläht oder kaltgezogen angeboten. Bei Ugitech liegt die Mindestbestellmenge anders als bei Wettbewerbern lediglich bei einer Tonne bei gezogenem Stabstahl und noch niedriger bei gezogenen Drähten.

Durch die Ausstattung des Stahlwerks mit 40-t-Schmelzöfen ist Ugitech stets schnell lieferfähig.

Ugitech SA – Frankreich
Website: www.ugitech.com



▲ SZ-Verseilung von Rosendahl Nextrom

mit Querschnitten bis zu 240mm² handhaben. Mit kleineren Querschnitten wird eine Leistung von 60m/min erzielt, während lange Produktionslängen hergestellt werden dank den stationären Ablaufgestellen mit größeren Trommeln.

Je nach Bedarf des Herstellers, kann die Power SZ Offline oder mit einem Inline-Ummantelungsverfahren eingerichtet werden.

Es handelt sich dabei um eine bewährte und effiziente Lösung, wo das Kabel in einem Produktionsschritt für Sektorleiter hergestellt wird.

Die Anlage ist vor allem eine kundenspezifische Lösung und wir freuen uns, dabei ein Höchstmaß an Unterstützung mit Prozess- und Produkt-Know-How anbieten zu können.

Rosendahl Nextrom – Österreich
Website: www.rosendahlnextrom.com

Neue App von AWI zur Unterstützung bei der Suche der perfekten Legierung

ALLOY Wire International (AWI) hat eine neue App im Markt eingeführt, um seinen weltweiten Kundenstamm bei der Suche des richtigen Materials für deren Anwendungen zu unterstützen.

Das Unternehmen hat in den letzten vier Monaten eine interaktive Datenbank seines gesamten Materials entwickelt sowie dessen Eigenschaften und Anwendungen. Das steht nun für Computer, Mobiltelefonen und Tablets zur Verfügung.

Dank der webbasierten, von technischen Experten entwickelten App, können Benutzer den Drahttyp suchen, der für den entsprechenden Industriesektor (z. B. Raumfahrt, Öl und Gas sowie Kernenergie) gefordert wird bzw. nach den Anwendungslösungen, wie z. B. hohe Festigkeit, Minustemperaturen, Wärme-, Korrosions- und Wasserbeständigkeit.

“Wir verfügen jederzeit über mehr als 60 unterschiedliche Nickellegierungen ab Lager und müssen sicherstellen, dass unsere Kunden das Material erhalten, das sich am besten für entsprechende Fertigungsanforderungen eignet. Die App wird sie dabei unterstützen,” erklärte Mark Venables, Geschäftsführer.

“Diese App bietet auch eine Menge Informationen über die verschiedenen Legierungen. Darunter eine kurze Beschreibung, Hauptmerkmale und Profiloptionen, mit einem sofort zur Verfügung stehenden Auskunftformular um Ihr Interesse festzuhalten.”

Er fuhr fort: “Die ersten Rückmeldungen waren sehr positiv und die Kunden meinten der Prozess sei einfach und hätte sie dabei unterstützt wichtige Entscheidungen bei der Auswahl des Materials zu treffen, das sie sonst nicht ausgewählt hätten.”



▲ Mitarbeiter der Alloy Wire International, Andrew Du Plessis, Natalie Baker und Mark Venables haben diese neue App stolz vorgestellt

AWI, die Rund-, Flachdraht, Draht in Profiform und elektrischen Widerstandsdraht herstellt, plant die App “Wire Finder” in einer Auswahl anderer Sprachen zu übersetzen, um deren Exportanstieg zu unterstützen.

So lieferte das Unternehmen in über 52 Länder, dabei sind die neusten Destinationen, die AWI-Draht fordern, die Dominikanische Republik, Nepal, Peru und Oman.

“Rund 50 Prozent unserer Verkäufe gehen ins Ausland und das ist ein Wert, der sich unserer Meinung nach erhöhen wird, da wir die Anzahl unserer internationalen Mitarbeiter steigern sowie die Messen,

an denen wir teilnehmen,” fügte Venables hinzu.

“Die Welt ist in diesen Tagen viel kleiner und dank unserer Lagerhaltung und Produktionskapazität, können wir Draht – innerhalb drei Wochen – herstellen und dem Kunden liefern, und das an jedem beliebigen Standort weltweit.”

Herunterladen könnte nicht einfacher sein: www.alloywire.com besuchen und auf “Visit the app” klicken. Danach können Sie es in Ihrer Startansicht auf Ihrem iPhone oder Android hinzufügen.

Alloy Wire International – UK
Website: www.alloywire.com

Schweissen zwei- und dreidimensionaler Drahtprodukte im Einzelbetrieb

Mit dem neuen System Posiweld bietet Schlatter eine universelle CNC Schweisszelle für die wirtschaftliche Fertigung von Drahtprodukten in kleinen bis mittleren Losgrößen an.

Der Drehtisch ermöglicht es einem einzelnen Bediener, die Spannvorrichtung zu be- und entladen, während die Maschine in Betrieb ist.

Dank der enormen Flexibilität und Variabilität kann diese Maschine in den verschiedensten Arten von Schweißanwendungen eingesetzt werden. Dabei können Produkte wie z.B.: Einkaufsgestelle, Einkaufswagen, 3D Drahtkörbe und Ventilatorenengitter sowie jegliche Arten von Haushaltsgeräten (Weiße Ware) hergestellt werden.



▲ Das neue System Posiweld von Schlatter

Schlatter Industries AG – Schweiz Website: www.schlattergroup.com

Neue Streck-Biege-Richtanlage für dünnste Kupferbänder ist energieeffizient und arbeitet mit minimalen Toleranzen

von Volker Lüdecke, Burghardt + Schmidt GmbH, Remchingen, Deutschland

Die Anforderungen an die Planheit von Metallbändern sind in den letzten Jahren kontinuierlich gestiegen. Gleichzeitig geht der Trend - gerade in der Elektronikindustrie - zu immer dünneren Materialien. Hier wird die Weiterverarbeitung wesentlich vereinfacht, dank der Qualitätsverbesserungen durch das Streck-Biege-Richten.

Daraus folgt, dass z. B. die Formgenauigkeit im Stanzprozess erhöht wird und dünnere Oberflächenbeschichtungen erreicht werden können. Daher entwickelte der Schneid- und Richtmaschinenexperte Burghardt + Schmidt GmbH (B+S) eine innovative Lösung zum Planrichten extrem dünner Kupferbänder für einen chinesischen Hersteller. Die Anlage eignet sich für sämtliche Legierungen des Werkstoffes sowie für Phosphorbronze und erlaubt es, Bänder von nur 30µm Dicke mit minimalen Toleranzen zu bearbeiten. Je nach Ausgangsmaterial können Ebenheiten bis hinunter zu einer I-Unit erreicht werden.

Der Auftraggeber in China fertigt Teile für die Elektronikindustrie, die sehr hohen Anforderungen an die Oberflächengüte und die Planheit beziehungsweise die Formgenauigkeit genügen müssen. Dabei kommen extrem dünne Metallbänder zum Einsatz.

Diese sollen in einer neu zu konzipierenden Anlage für die Weiterverarbeitung vorbereitet werden. Das Ziel der Neuanschaffung war es, die Formtoleranz im Stanzprozess in



Alle Aufnahmen mit freundlicher Genehmigung von Burghardt + Schmidt GmbH

▲ Da die alten Anlagen bei der Bearbeitung sehr dünner Materialien zusehends an ihre regelungstechnischen Grenzen stießen, hat Burghardt + Schmidt eine neue Streck-Biege-Richtanlage entwickelt. Mit dieser lassen sich bis zu 20µm dünne Kupferbänder richten und je nach Ausgangsplanheit Ebenheiten bis hinunter zu einer I-Unit erreichen

engen Grenzen zu halten. Dies ist in Hinblick auf die automatisierte Montage der elektronischen Bauteile von großer Bedeutung. Neben der Planheit definierte der Auftraggeber auch Ausschlusskriterien an die Oberflächengüte. Das heißt, das Endprodukt sollte durch die Bearbeitung sein Reflexionsvermögen nicht verändern.

„Angesichts des klar erkennbaren Trends zu immer dünner werdenden Bändern stieß B+S mit seinen Anlagen immer wieder an die

regelungstechnischen Grenzen. Bedingt durch Kundenanforderungen sowie entsprechende Marktanalysen haben wir deshalb seit geraumer Zeit die Basisentwicklungen vorangetrieben. Diese erlauben prinzipiell das Richten von Metallbändern mit nur 20µm Dicke“, erläuterte Volker Lüdecke, technischer Leiter bei B+S. Das vorgelegte Konzept sowie die langjährige Erfahrung im Streck-Biege-Richten des Unternehmens gaben schließlich den Ausschlag für den Erhalt des Auftrags aus China.

Kassette mit 8mm Richtwalzen

Zum Zugaufbau besitzt die Anlage auf der Bremsseite, also vor der Richtmaschine, vier Walzen. Um diese Walzen läuft das Metallband. Und zusammen mit dem Abhaspel generieren sie den Rückhaltezug. Hinter der Richtmaschine ziehen die vier Zugwalzen gemeinsam mit dem Aufhaspel am Band.

Durch Überlagerung von Zug und Biegung zwischen den Gruppen aus oberen und unteren Richtwalzen werden die inneren Spannungen und die Formabweichungen der Bänder reduziert. Um bei den sehr dünnen Bändern mit Materialdicken zwischen 30 und 200µm noch einen ausreichenden Richteffekt zu erzielen, hat der Metallband-Experte eine Kassette mit 8mm Richtwalzen-Durchmesser entwickelt. Bei Dicken über 200µm kommen 12mm-Richtwalzen zum Einsatz.

Abweichungen werden automatisch durch eine Vollmer-Planheitsmessrolle zur kontinuierlichen Bandformmessung detektiert. Dabei üben Bandzonen mit Wellen weniger Kraft auf die segmentierte Rolle aus als die ebenen. Eine Software errechnet anhand der Messwerte die mathematische Formel der Bandform und erstellt daraus ein 3D-Modell.

Davon ausgehend lässt sich die notwendige Anstellung der Richtwalzen-

▼ Um noch einen ausreichenden Richteffekt zu erzielen, obwohl die Bänder sehr geringe Materialdicken zwischen 30 und 200µm aufweisen, hat der Metallband-Experte eine Kassette für 8mm Richtwalzen-Durchmesser entwickelt. Bei Dicken über 200µm kommen 12-mm-Richtwalzen zum Einsatz



▲ Zur Wirtschaftlichkeit der Anlage und zum Komfort bei der Bedienung trägt ein von B+S entwickeltes Einfädelsystem ohne manuellen Einzug bei: dazu wird der Bandanfang im Anlageneinlauf in einem Klemmbalken eingespannt und bis in den Auslauf durchgezogen. So wird kein Pilotband benötigt und das Anschweißen oder die Notwendigkeit von Leitblechen entfallen. Auch das Anwickeln auf dem Aufhaspel erfolgt automatisiert

Abstützungen errechnen und automatisch anpassen. Ein manuelles Nachjustieren ist dabei unnötig. Eine Besonderheit sind die vier Stellachsen an der oberen Richtkassette, die für die extrem genaue Anstellung in den drei Raumachsen sorgen. „Je nach Anfangsplanheit können so Ebenheiten bis hinunter zu einer I-Unit erreicht werden.

„Das entspricht einer 0,2mm hohen und 100mm langen Welle im Band“, erklärte Lüdecke.

Hochdynamischer Antrieb für breites Regelungsspektrum

Grundsätzlich werden auf der Anlage ohne Einschränkung alle Kupferlegierungen bei einem großen Bandquerschnittsbereich gefahren, wobei die Zugfestigkeit des Materials zwischen 300 und 1.100N/mm² liegen kann. So liegt die Dicke zwischen 30 und 500µm und die Breite zwischen 100 und 450mm, was ein Querschnittsverhältnis von 1:75 ergibt.

Rechnet man die Streckgrenze von 200 bis 1.050N/mm² hinzu, beläuft sich das zu regelnde Verhältnis auf 1:390. Aufgrund dieses weiten Spektrums wird der Bandzug direkt an Ab- und Aufhaspel sowie vor der Richtmaschine gemessen und dient als Regelgröße für die Antriebe. Diese sind mit hochdynamischen AC-Motoren ausgestattet.

Die installierte Leistung beläuft sich dabei auf rund 550kW. „Die Einspeisung erfolgt mit Sinamics S120 Basic Line-Baugruppen, so dass die generatorisch erzeugte Energie über eine Rückspeisung auf der Zugseite – das heißt, für die Motoren hinter der Richtmaschine – wiederverwendet werden kann. Dies führt zu einer deutlichen Energieeinsparung“, legt Lüdecke einen der zentralen Vorzüge der Anlage dar.

Die Ansteuerung übernehmen voll digitalisierte Wechselrichter, die über Profibus L2-DP an die SPS der Anlagensteuerung gekoppelt sind.

Die eigentlichen Regelfunktionen werden über einen Mikroprozessor kontrolliert, der neben einem hohen Bedienkomfort auch eine einfache Inbetriebnahme und Wartung ermöglicht.

Besonders benutzerfreundliches und sicheres Bedienkonzept

Die gesamte Anlage trägt das CE-Zeichen und ist nach der europäischen Maschinenrichtlinie 2006/42/EG ausgeführt, die zur Sicherheit der Mitarbeiter unter anderem einen Schutzzaun vorsieht. Mehrere Schutzbereiche gewährleisten, dass in einem davon schon Tätigkeiten durch den Bediener ausgeführt werden können, während in einem anderen noch automatische Bewegungen ablaufen.

Ist ein solcher Teilbereich geöffnet, wird die Geschwindigkeit dort automatisch auf ein sicheres Maß reduziert.

„Durch die räumliche Anordnung der Pulte ist zudem konstruktiv ein ausreichender Abstand zu den beweglichen Anlagenteilen und zum Band sichergestellt“, so Lüdecke. Die normale Zeitdauer bis zum Stillstand beträgt 12 Sek., bei Bedarf kann diese auf 6 Sek. beziehungsweise im Notfall sogar auf 3 Sek. verkürzt werden.

Das Material läuft aus Bediener Sicht von links nach rechts mit einer Geschwindigkeit bis zu 300m/min durch die Anlage. Die einzelnen Prozessschritte werden mit Übersichts- und Detailbildern visualisiert.

Der Bediener kann seine Eingaben direkt über Buttons und Datenfelder in den Bildern oder über PopUp-Fenster vornehmen.

Die materialtypischen Achseinstellungen lassen sich als einzelne Datensätze mit alphanumerischen Namen in einer Datenbank abspeichern.

Auch eine kundenspezifische Auftragsverwaltung kann in das System integriert werden. Eine Anbindung an das Firmennetz sorgt dafür, dass der Bediener jederzeit seinen aktuellen Produktionsplan abrufen kann. Bei einem Kassettenwechsel erkennt das System durch ein Identifikationssystem, welche Kassette aktuell eingebaut ist.

Ein manuelles, zeitintensives Nachjustieren ist nicht mehr notwendig. Durch weitere Automaten, beispielsweise in Form eines automatischen Bund- und Spulentransports, können Parallelarbeiten getätigt werden. Was zuvor zwei Männer erledigt haben, kann somit nun ein einzelner Mitarbeiter übernehmen.

Zu Wirtschaftlichkeit und Komfort trägt auch ein von B+S entwickeltes Einfädelsystem bei: das zu bearbeitende Band wird dabei wie üblich in Form eines Bundes auf den Abhaspel aufgebracht. Ein manueller Einzug ist jedoch nicht nötig.

Vielmehr wird der Bandanfang im Anlageneinlauf in einem Klemmbalken eingespannt und mit einer Geschwindigkeit von 10 bis 15m/min bis in den Auslauf durchgezogen.

So wird kein Pilotband benötigt und das Anschweißen oder die Notwendigkeit von Leitblechen entfallen.

Auch das Anwickeln auf dem Aufhaspel erfolgt automatisiert mit einem Gurtwickler. „Die Produktivität der Anlage steigt, da schnell und effizient mit der eigentlichen Bearbeitung begonnen werden kann“, resümiert der technische Leiter.

Damit das Band am Ende akkurat hochgewickelt ist, sind Ab- und Aufhaspel zudem jeweils mit einer Bandkantenregelung ausgerüstet. Dabei stehen die jeweils sechs Tonnen schweren Haspel auf spielfrei vorgespannten, wälzgelagerten Linearführungen.

Diese sorgen zusammen mit der Kantenerfassung sowie der Positionsregelung über einen servo-hydraulisch angesteuerten Hydraulikzylinder für ein präzises Ab- und Aufwickeln. ■

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Ugitech ведет за собой в Европе

Безопасная транспортировка горячих газов и паров при температуре до 850°C - для многих производителей комплектующих для технологической отрасли надежным выбором является аустенитная нержавеющая сталь 1.4550/347H.

Для соответствия растущему спросу компания Ugitech добавила UGI® 4550 к своей широкой линейке нержавеющей стали, которая является одним из трех поставщиков в Европе.

Паропроводы, трубы перегревателей, а также системы выхлопа в поршневых двигателях и газовых турбинах являются классическими сферами применения UGI 4550 Ugitech. Добавление Niobium делает марки прокатной стали хорошо адаптированным решением для диапазона температур между 425°C и 850°C.

По сравнению с большинством аустенитных материалов, UGI 4550 препятствует образованию отложений углеродистого хрома на границе кристаллов и, таким образом, останавливает межкристаллитную коррозию. Продукция из нержавеющей стали оптимальна для частей, для которых обработка материала после сварки не целесообразна, таких как сильфонные компенсаторы и оборудование для химической обработки при высоких температурах. UGI 4550 также готов к формовке при комнатной температуре и



▲ Паропроводы, трубы перегревателей, а также системы выхлопа в поршневых двигателях и газовых турбинах являются классическими сферами применения UGI 4550 Ugitech. Фотография предоставлена с разрешения Ugitech – @istockphoto_annavaci

очень легко поддается сварке. Это означает отсутствие образования горячих трещин после сварки. Хорошая устойчивость к ползучести (устойчивость к температурной деформации) и сопротивление атмосферной коррозии и окислению при высоких температурах еще больше увеличивают технологическую надежность.

Компания Ugitech предлагает UGI 4550 в большой линейке размеров: от стального стержня диаметром 130 мм до ультратонкого диаметра 16 мкм.

Стальная продукция отжигается или вытягивается в холодном состоянии до необходимых механических характеристик. В отличие от конкурентов, минимальное количество для заказа у Ugitech составляет одну тонну тянутого стального стержня и еще меньше тянутой проволоки. Ugitech всегда может организовать оперативную доставку, так как сталелитейный завод оборудован плавильными печами на 40 т.

Ugitech SA – Франция
Вебсайт: www.ugitech.com

Разнонаправленная скрутка для высокого финансового результата

Технология разнонаправленной скрутки силового кабеля предлагает огромный потенциал для вашего финансового результата благодаря ее практическому станку, легкой эксплуатации и режима одновременного покрытия оболочкой.

Много лет назад компания Rosendahl обнаружила преимущества и простоту разнонаправленной скрутки как на станках, так и во время функционирования. Решение называется Power SZ, где крупногабаритные вращающиеся станки заменены на стационарное оборудование, чтобы погрузка на станок и разгрузка с него могла выполняться легко и быстро. Более простое оборудование обладает более высокой эксплуатационной надежностью.



▲ Разнонаправленная скрутка от RosendahlNextrom

Линия способна обрабатывать от трех до пяти проводников с поперечными сечениями до 240 мм². С меньшими поперечными сечениями достигается производительность 60м/мин при производстве больших длин

благодаря стационарным датчикам с барабанами большего размера.

В зависимости от требований производителя Power SZ может быть установлен для отдельной эксплуатации или эксплуатации в режиме покрытия оболочкой.

Это проверенное и эффективное решение для производства кабеля в один производственный шаг для секторных проводников. Линия, в основном, является крайне индивидуальным решением, и мы рады предоставить поддержку по технологии и ноу-хау.

RosendahlNextrom – Австрия
Вебсайт: www.rosendahlnextrom.com

AWI запускает новое приложение для помощи в поиске идеального сплава

Компания Alloy Wire International (AWI) запустила новое приложение для помощи своей глобальной базе данных заказчиков в поиске подходящего материала для их применения. Компания провела последние четыре месяца разрабатывая интерактивную базу данных всех ее материалов, их свойств и сфер применения, и сейчас доступ к базе есть на компьютерах, мобильных телефонах и планшетах.

Приложение на основе сети, которое было разработано техническими специалистами, позволяет пользователям искать тип проволоки, который им нужен по сфере промышленности (например, аэрокосмическая, нефтегазовая и атомная) или по решению для применения, такому как высокая прочность, минусовая температура, жара, коррозионная и водостойкость.

«На нашем складе находится более 60 различных никелевых сплавов одновременно, и нам нужно убедить в том, что наши клиенты получат материал, который наилучшим образом соответствует их производственным требованиям. Приложение поможет им в этом», - пояснил Марк Венэйблз, управляющий директор.

«Оно также предоставляет целую массу информации по каждому сплаву. Это включает краткое описание, ключевые характеристики и опции профиля, с простой формой запроса, доступной для регистрации вашего интереса».

Он продолжил: «Первоначальная реакция была крайне позитивной, и клиенты отметили, что процесс не представляет сложностей и помог им принять важные решения по выбору материала, который они, вероятно, не выбрали бы, если бы не приложение».



▲ Персонал Alloy Wire International Эндрю Ду Плессис, Натали Бейкер и Марк Венэйблз с гордостью демонстрируют новое приложение

Компания AWI, которая изготавливает круглые, плоские, фасонные профили и проволоки с электросопротивлением планирует перевести приложение «Wire Finder» («Поисковик проволоки») на ряд других языков для поддержки экспортного направления.

Оно охватывает более 52 стран, с самыми новейшими пунктами запроса на поставку проволоки AWI из Доминиканской Республики, Перу и Омана. «Около 50 процентов наших продаж идет на экспорт, и это число, мы думаем, увеличится, так как мы планируем увеличить количество международных сотрудников и выставок, в которых мы участвуем»,

- добавил Венэйблз. «Сегодня мир стал еще теснее и, благодаря нашим складским и производственным возможностям, мы можем изготавливать проволоку и сохранять ее для наших клиентов - в любом месте по всему миру - в течение трех недель».

Скачивание приложение не могло бы быть проще, всего лишь зайдите на www.alloywire.com и кликните на «Visit the app». Затем вы можете добавить приложение на стартовый экран вашего iPhone или Android.

Alloy Wire International – Великобритания
Вебсайт: www.alloywire.com

Сварка двух- или трехразмерной проволочной продукции за одну операцию

С новой Posiweld system компания Schlatter предлагает гибкий сварочный модуль с ЧПУ для экономичного производства проволочной продукции в небольших или средних партиях. Вращающийся профиль с поворотной платформой позволяет одному оператору загружать/разгружать работу, придерживая фиксатор в то время, как станок функционирует.

Благодаря огромной гибкости и вариативности, данный станок может использоваться для всех различных видов сварки. Продукция, такая как: Магазинные витрины, элементы магазинной тележки, глубокие проволочные корзины и кожухи вентилятора, а также все типы электробытовой техники.



▲ Новая система Posiweld system от Schlatter

Schlatter Industries AG – Швейцария

Вебсайт: www.schlattergroup.com

Новая высокоэффективная линия гибки-растяжения-листоправки для очень тонкого медного проката с минимальными допусками

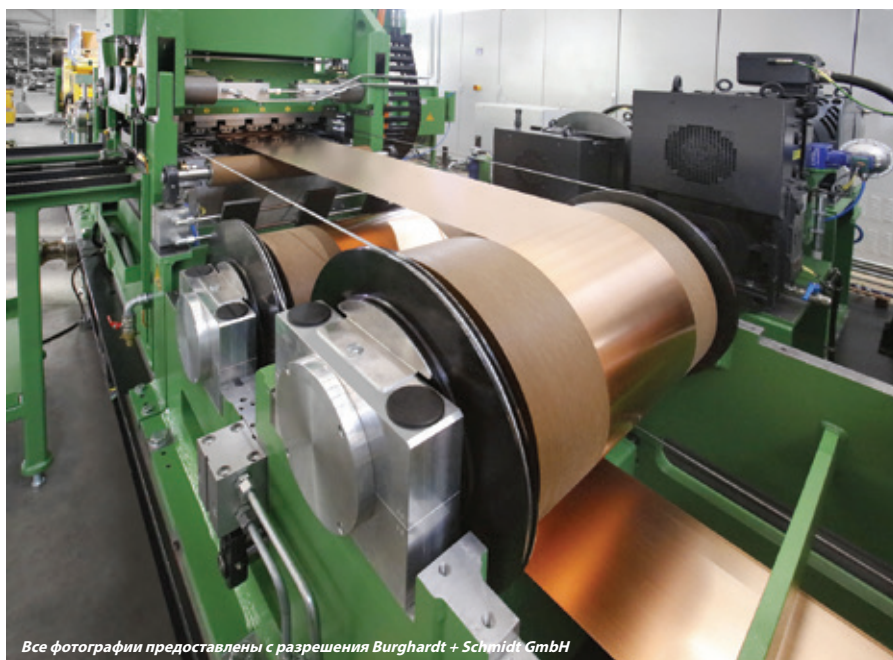
Фолькер Людеке, Burghardt + Schmidt GmbH, Ремхинген, Германия

За последние годы неуклонно растет количество требований к плоскости металлических полос. В то же время существует тенденция, особенно в сфере электроники, к все более тонким материалам. При этом улучшение качества за счет гибки-растяжения-листоправки значительно облегчает дальнейшую обработку.

В результате, например, габаритная точность увеличивается в процессе штамповки, и могут быть получены покрытия с более тонкой поверхностью. Таким образом, специализирующаяся на резке и листоправке компания Burghardt + Schmidt GmbH (B+S) разработала инновационное решение по правке очень тонких медных пластин для китайского производителя. Линия подходит для сплавов материала, а также для фосфористой бронзы и пластин из сплава толщиной всего лишь 30 мкм для обработки с минимальными допусками. В зависимости от первоначального материала может быть получена плоскость до так называемого «I-unit» (0,01 мм/м).

Заказчик в Китае производит части для электроники, которые должны удовлетворять точным требованиям в части качества поверхности, а также плоскости и габаритной точности. В данном случае используется очень тонкие металлические полосы.

На установке, которая подлежит перепроектированию, необходимо было подготовить данные полосы для дальнейшей обработки. Целью нового приобретения было сохранение допуска



Все фотографии предоставлены с разрешения Burghardt + Schmidt GmbH

▲ Так как старые линии очевидно достигли своих пределов управления в части обработки очень тонких материалов, компания Burghardt + Schmidt разработала новую линию гибки-растяжения-листоправки. Она обеспечивает правку медных пластин, толщина которых достигает всего 20 мкм, и плоскость до так называемого «I-unit» (0,01 мм/м), в зависимости от изначальной плоскости

на форму в жестких пределах во время процесса штамповки. Это чрезвычайно важно в отношении автоматической сборки электронных компонентов. Помимо плоскости заказчик также определил критерии исключения в части качества поверхности. Это означает, что оптическая плотность конечной продукции не должна быть изменена в течение всего процесса обработки.

«С учетом четко установленной

тенденции к уменьшению толщины пластин линии B+S постоянно достигают контрольных пределов. Благодаря требованиям заказчиков, а также результатам анализа соответствующих рынков, мы продвинулись вперед в сфере основных разработок на определенное время. В основном, это позволяет выравнивать металлические пластины толщиной всего лишь 20 мкм», - заявил Фолькер Людеке, технический руководитель B+S. Представленная

концепция и большой опыт компании в гибке-растяжении-листопрямке были решающими факторами, которые позволили выиграть контракт в Китае.

Модуль с правильными вальцами 8 мм

Для увеличения натяжения линия оборудована четырьмя вальцами со стороны торможения, т.е. перед листопрямочным станком. Вокруг данных вальцов проходит металлическая полоска. И вместе с разматывателем они создают противонапряжение. Сзади листопрямочного станка четыре вальца натяжения вместе с разматывателем натягивают пластину.

Посредством сильного наложения (натяжение и гибка) между группами верхних и нижних выравнивающих вальцов, уменьшается внутреннее натяжение и отклонения от формы пластин. Для достижения эффекта достаточного выравнивания в случае с очень тонкими пластинами при толщине материала между 20 и 300 мкм, специалисты по металлическим пластинам разработали модель с диаметром выравнивающих вальцов 8 мм. Для толщины более 200 мкм используются вальцы диаметром 12 мм.

Отклонения автоматически выявляются при помощи вальца профилометра

▼ Для достижения эффекта достаточного выравнивания, несмотря на очень тонкий материал пластин в диапазоне между 30 и 200 мкм, специалисты по металлическим пластинам разработали модель с диаметром выравнивающих вальцов 8 мм. Для толщины более 200 мкм используются вальцы диаметром 12 мм



▲ Система подачи без ручной подачи, которая была разработана компанией B+S, облегчает эксплуатацию и обеспечивает экономичную эффективность линии. Начало пластины зажимается прижимной планкой в начале линии и протягивается к подаче. Это означает, что пробной пластины не требуется, и нет необходимости в сварке или направляющих планок. Намотка на разматыватель также осуществляется автоматически

Vollmer для непрерывного измерения формы пластин. Участки пластин с волнами оказывают меньшее давление на сегментные вальцы, чем плоские участки пластины. Программное обеспечение рассчитывает математическую формулу для формы пластины с помощью измеренных показателей и использует ее для создания 3D модели.

На основе этого необходимое положение опор выравнивающих вальцов может быть рассчитано и автоматически настроено. Ручная повторная настройка не требуется. Особой характеристикой являются четыре регулирующие оси в верхнем выравнивающем вальце которые обеспечивают ультра-точное положения трех осей пространственной системы координат. «В зависимости от первоначального материала может быть получена плоскостность до так называемого «l-unit» (0,01 мм/м). Она соответствует волне высотой до 0,2 мм и длиной 100 мм на пластине», - добавил господин Людеке.



Высокодинамичный привод для широкого спектра управления

В принципе, все медные сплавы обрабатываются на линии с ограничениями, при этом пластины имеют широкий диапазон разрезов и прочностей на разрыв материала, которые варьируются между 300 и 1 100 Н/мм². Диапазон толщины - от 30 до 500 мкм, а ширины - от 100 до 450 мкм, что приводит к соотношению длины к ширине 1:75. Если добавляется предел прочности на растяжение от 200 до 1 050 Н/мм², подлежащий контролю коэффициент составляет 1:390. Благодаря такому широкому спектру напряжение при прокатке полос измеряется непосредственно на

разматывателе и сматывателе, а также перед правочным станком и служит в качестве контрольного показателя для приводов. Они оборудованы высокодинамичными двигателями переменного тока.

Установленная мощность достигает около 550 кВт. «Подача осуществляется комплектами Sinamics S120 Basic Line, так чтобы рекуперированная энергия могла быть использована через систему восстановления энергии на стороне натяжения, то есть, для двигателей после правочного станка. Это приводит к значительной экономии энергии», - добавил господин Людеке, отмечая основные преимущества линии. Активация осуществляется полностью дигитализированным инвертором, который совмещен с ПЛК контроллера линии посредством Profibus L2-DP. Функции фактического управления осуществляются посредством микропроцессора, который не только легкость в эксплуатации, но и легкий запуск и простое техническое обслуживание.

Концепция максимальной простоты и безопасности эксплуатации

Вся линейка имеет значок ЕС и разработана в соответствии с Европейскими указаниями по охране труда в машиностроении 2006/42/ЕС, которые предусматривают, помимо прочего, защитное ограждение для безопасности сотрудников. Существование нескольких защитных зон означает, что оператор может выполнять работу в одной из них, в то время как в другой все еще происходят автоматические движения. Когда такая подзона открывается, скорость в ней автоматически уменьшается до безопасного уровня.

«Кроме того, благодаря свободному расположению консолей, исполнение предусматривает достаточное расстояние до движущихся частей станка», - говорит Людеке. Обычное время до остановки составляет 12 секунд, но оно может быть сокращено до шести, или, в аварийных случаях, до трех секунд при необходимости.

С позиции оператора материал подается слева направо через установку при скорости до 300 м/мин. Отдельные технологические шаги визуализируются посредством обзора и детальных

изображений. Оператор может вносить данные непосредственно через кнопки и поля данных или через всплывающие окна. Положение осей, стандартное для материалов, может храниться в качестве отдельных пакетов данных с алфавитным указателем имен в базе данных.

Индивидуальное управление запросами может быть интегрировано в систему. Соединение с сетью компании обеспечивает постоянный доступ для оператора к текущему производственному плану. При смене модуля система узнает при помощи системы идентификации, какой модуль устанавливается. Ручная, длительная настройка больше не требуется. Посредством дополнительных автоматических систем, к примеру, в форме автоматической транспортировки бобины и катушки, могут выполняться параллельные операции. В результате то, для чего ранее необходимы были два сотрудника, может быть сделано одним работником.

Система подачи, разработанная B+S, также способствует экономичности, эффективности и удобству. В данном случае пластина, которая должна быть обработана, устанавливается как обычно в форме катушки на разматыватель. Ручная подача, тем не менее, не требуется. Вместо этого начало пластины зажимается прижимной планкой в начале линии и протягивается к подаче на скорости от 10 до 15 м/мин. Это означает, что пробной пластины не требуется, и нет необходимости в сварке или направляющих планок.

Первоначальная намотка на разматыватель также выполняется автоматически при помощи ременного захлестывателя. «Продуктивность линии повышена, так как фактическая обработка может быть начата быстро и эффективно», - подытожил технический руководитель.

Для обеспечения аккуратной намотки в конце сматыватель и разматыватель оборудованы контроллером кромки пластины. Катушки, каждая из которых весит шесть тонн, стоят на линейных направляющих, которые предварительно загружаются без зазоров и устанавливаются на подшипники качения. Вместе с обнаружением и контролем положения кромки катушки обеспечивают точную размотку и намотку при помощи гидравлического цилиндра с сервогидравлическим приводом. ■

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Ugitech joue un rôle moteur en Europe

EN ce qui concerne la sécurité du transport de gaz et de vapeurs à chaudes températures arrivant jusqu'à 850°C, pour de nombreux producteurs de composants destinés à l'industrie de transformation, l'acier inoxydable austénitique 1.4550/347H représente le choix idéal.

Pour répondre à la demande croissante, Ugitech a ajouté UGI® 4550 à son vaste portefeuille d'acier inoxydable. La société est ainsi l'un des trois fournisseurs uniques en Europe.

Les tuyaux de vapeur, les tubes de surchauffe ainsi que les systèmes d'échappement dans les moteurs à pistons et dans les turbines à gaz représentent des applications classiques pour UGI 4550 d'Ugitech.

L'addition de niobium rend les nuances de l'acier fini une solution parfaitement adaptée à des températures comprises entre 425°C et 850°C.

Par rapport à la plupart des matériaux austénitiques, l'UGI 4550 empêche la formation de précipités de carbure de chrome aux limites des grains en interrompant ainsi la corrosion intergranulaire.

Le produit inoxydable est optimal pour les pièces ne permettant pas d'effectuer le traitement du matériau après le soudage tels que les joints de dilatation et les équipements pour le traitement chimique à hautes températures.

En outre, le matériau UGI 4550 peut être moulé aisément à température ambiante et il est très facile à souder.



▲ Les tuyaux de vapeur, les tubes de surchauffe ainsi que les systèmes d'échappement dans les moteurs à pistons et dans les turbines à gaz représentent des applications classiques du matériau UGI 4550 d'Ugitech. Photo publiée avec l'autorisation de Ugitech - © istockphoto_annavaczi

Cela signifie qu'il n'y a pas de craquelures à chaud après le soudage. Une bonne résistance au fluage (résilience contre les déformations qui dépendent de la température) et la résistance à la corrosion atmosphérique et à l'oxydation à hautes températures augmentent davantage la fiabilité du processus.

Ugitech offre le matériau UGI 4550 dans une large gamme de dimensions: de la barre d'acier d'un diamètre de 130mm à un diamètre ultra-fin de 16µm.

Le produit en acier est recuit ou étiré à froid en fonction des propriétés mécaniques souhaitées. Contrairement à la concurrence, la quantité minimale de commande chez Ugitech est d'une tonne pour la barre d'acier étirée et même inférieure pour le câble étiré. Ugitech est toujours en mesure d'effectuer des livraisons rapides grâce à son aciérie équipée de fours de fusion de 40t.

Ugitech SA – France
Website: www.ugitech.com

Toronnage SZ pour un rendement de l'investissement élevé

La technologie de toronnage SZ pour les câbles d'alimentation offre d'énormes potentiels pour votre rendement sur l'investissement grâce à ses machines pratiques, à la simplicité de fonctionnement et à son processus de revêtement en ligne.

Il y a de nombreuses années, Rosendahl a découvert les avantages et la simplicité du toronnage SZ aussi bien concernant les machines que pendant leur fonctionnement. La solution appelée Power SZ, prévoit le remplacement des machines rotatives lourdes par un équipement fixe afin que le chargement et le déchargement de la machine puissent être effectués simplement et rapidement. Et un équipement plus simple présente une fiabilité de fonctionnement supérieure.



▲ Toronnage SZ de Rosendahl Nextrom

La ligne est capable de gérer de trois à cinq conducteurs avec des sections transversales allant jusqu'à 240mm².

Avec des sections transversales plus petites, il est possible d'obtenir un rendement de 60m/min tout en

produisant de longues durées de production importantes grâce à des dérouleurs fixes à tambours plus grands.

En fonction des exigences du producteur, le système Power SZ peut être configuré hors ligne ou avec un processus de revêtement en ligne. Il s'agit d'une solution testée et efficace où le câble est réalisé dans une unique phase de production pour les conducteurs à âme sectoriale.

La ligne est principalement une solution très personnalisée et nous sommes heureux d'offrir le support maximum grâce à notre connaissance du processus et des produits.

Rosendahl Nextrom – Autriche
Website: www.rosendahlnextrom.com

AWI lance une nouvelle application pour aider sa clientèle à trouver l'alliage parfait

ALLOY Wire International (AWI) a lancé une nouvelle application pour aider sa clientèle mondiale à trouver le matériel correct pour ses applications.

La société a passé les quatre derniers mois à développer une base de données interactive de tous ses matériaux, de leurs propriétés et de leurs applications.

Ces données sont maintenant disponibles sur les ordinateurs, les téléphones portables et les tablettes.

L'application basée sur le Web, développée par des experts techniques, permet aux utilisateurs de rechercher le type de fil nécessaire selon le secteur d'activité (par exemple le secteur aéronautique, le secteur du pétrole et du gaz et le secteur nucléaire) ou en fonction de la solution applicative comme la haute résistance, les températures en dessous de zéro, la chaleur, la corrosion et la résistance à l'eau.

"Nous disposons à tout moment de plus de 60 alliages de nickel différents dans nos stocks et nous devons nous assurer que nos clients obtiennent le matériau le plus indiqué pour leurs exigences de fabrication. L'application les aidera à faire exactement cela," a expliqué Mark Venables, directeur général.

"L'application fournit également toute une série d'informations sur chaque alliage. Cela comprend une brève description, des caractéristiques clés et des options de profil avec un simple formulaire de demande d'information facilement accessible pour enregistrer votre intérêt."

"Les réponses initiales ont été très positives et les clients ont déclaré que le processus est facile et qu'il les a aidés à prendre des décisions importantes quant à la sélection des matériaux, décisions qu'ils n'auraient peut-être pas



▲ Les employés d'Alloy Wire international Andrew Du Plessis, Natalie Baker et Mark Venables présentent avec fierté la nouvelle application

pris sans cette application," a poursuivi M. Venables.

AWI, qui produit du fil rond, plat, à profilé façonné et pour résistances électriques, envisage de traduire l'application 'Wire Finder' dans une gamme d'autres langues pour supporter son accroissement d'exportation.

La société a ainsi approvisionné plus de 52 pays, avec les dernières requêtes d'expédition de fil AWI à des pays comme la République dominicaine, le Népal, le Pérou et l'Oman. "Environ 50 pour cent de nos ventes sont destinées à l'étranger. Nous estimons que ce chiffre augmentera au fur et à mesure que la quantité de notre personnel international et les

expositions auxquelles nous participons augmenteront," a ajouté M. Venables.

"Le monde est un lieu beaucoup plus petit ces jours-ci et, grâce à nos capacités de stockage et de production, nous pouvons produire du fil et le livrer aux clients quel que soit l'endroit où qu'il se trouve dans le monde, dans un délai de trois semaines."

Le téléchargement ne pourrait pas être plus simple. Il suffit d'aller à l'adresse www.alloywire.com et de cliquer sur "Visit the app". Vous pouvez ensuite l'ajouter à votre écran d'accueil sur votre iPhone ou Android.

Alloy Wire International – Royaume-Uni
Website: www.alloywire.com

Soudage de produits en fil bidimensionnel ou tridimensionnel en une seule opération

Avec le nouveau système Posiweld, Schlatter offre une cellule de soudage CNC universel pour la production économique de produits en fil en lots petits et moyens.

La conception de la table tournante permet à un seul opérateur de charger/décharger le dispositif de fixation pendant le fonctionnement de la machine.

Grâce à l'énorme flexibilité et variabilité, cette machine peut

être utilisée dans toutes sortes d'applications de soudage. Il est possible de fabriquer des produits tels que: les expositifs des points de ventes, les chariots pour les magasins, les paniers en fil tridimensionnel et les grilles de protection pour ventilateurs ainsi que tous types d'applications pour appareils électroménagers (produits blancs).

Schlatter Industries AG – Suisse
Website: www.schlattergroup.com

La nouvelle ligne de planage par traction et flexion de bandes de cuivre très minces est efficace du point de vue énergétique et fonctionne avec des tolérances minimales

Par Volker Lüdecke, Burghardt + Schmidt GmbH, Remchingen, Allemagne

Les exigences de planéité pour les bandes métallique ont augmenté de façon constante au cours des dernières années. Il existe toutefois en même temps une tendance – en particulier dans l'industrie électronique – orientée vers des matériaux de plus en plus minces. Ici, les améliorations de la qualité grâce au planage par traction-flexion facilitent considérablement les traitements suivants.

Il ressort, par exemple, que la précision dimensionnelle a augmenté dans le processus d'estampage d'où la possibilité d'obtenir des revêtements de surface plus fins. Par conséquent, Burghardt + Schmidt GmbH (B+S), spécialiste dans la fabrication de machines à découper et de planeuses, a développé une solution innovante pour le planage des bandes de cuivre extrêmement minces pour un fabricant chinois. La ligne est conçue pour tous les alliages de matériau ainsi que pour le bronze phosphoreux, et permet de traiter des bandes de seulement 30µm d'épaisseur avec des tolérances minimales. En fonction du matériau de départ, on peut obtenir une planéité jusqu'à une 1-unité.

Le client en Chine fabrique des pièces pour l'industrie électronique qui doivent satisfaire les exigences très strictes en matière de qualité de la surface ainsi que de planéité et de précision dimensionnelle. Dans ce cas, l'on utilise des bandes métalliques extrêmement minces.



Toutes les photos sont publiées avec l'autorisation de Burghardt + Schmidt GmbH

▲ En partant du fait que les anciennes lignes ont atteint, de toute évidence, leurs limites de contrôle, quant au traitement de matériaux très minces, Burghardt + Schmidt a développé une nouvelle ligne de planage par traction-flexion. Cela permet d'aplanir les bandes de cuivre ayant des épaisseurs arrivant jusqu'à 20µm et d'obtenir une uniformité jusqu'à une 1-unité, en fonction de la planéité de départ

Ces dernières doivent être préparées dans une installation à reconcevoir pour le traitement supplémentaire. L'objectif du nouvel achat consistait à maintenir la tolérance dimensionnelle dans des limites étroites pendant le processus d'estampage. Ceci est d'une importance vitale en ce qui concerne l'assemblage automatisé de composants électroniques.

Outre la planéité, le client a également défini des critères d'exclusion liés à la qualité de la surface. Cela signifie que la densité optique du produit final ne devrait subir aucune variation du fait du traitement.

«Compte tenu de la tendance aisément reconnaissable vers les bandes toujours

plus minces, les lignes B+S atteignent constamment leurs limites de contrôle. En raison des exigences des clients ainsi que des résultats des analyses de marché correspondantes, nous avons donc poursuivi les développements de base pendant un certain temps.

Généralement, ceux-ci permettent le planage de bandes métalliques d'une épaisseur de seulement 20µm», a déclaré Volker Lüdecke, responsable technique chez B+S. Le concept présenté et la vaste expérience acquise par l'entreprise dans le planage par traction-flexion ont finalement été les facteurs décisifs dans l'adjudication du contrat de la Chine.

Cassette avec rouleaux de planage de 8mm

Pour obtenir la tension, la ligne est équipée de quatre rouleaux sur le côté de freinage, c'est-à-dire devant la planeuse. La bande métallique passe autour de ces rouleaux. Ces derniers génèrent donc, avec le dérouleur, une traction arrière. Derrière la planeuse, les quatre rouleaux de traction et l'enrouleur tirent la bande.

Grâce à la superposition de la force (traction et flexion) entre les groupes des rouleaux de planage supérieurs et inférieurs, les tensions internes et les écarts de forme des bandes sont réduits. Pour obtenir un effet de planage suffisant dans le cas de bandes très minces avec des épaisseurs de matériau compris entre

▼ Pour obtenir encore plus un effet de planage suffisant, bien que les bandes présentent des épaisseurs de matériau très réduites entre 30 et 200µm, le spécialiste de la bande métallique a développé une cassette pour rouleaux de planage d'un diamètre de 8mm. Des rouleaux de redressement de 12mm sont utilisés pour des épaisseurs supérieures à 200µm



▲ Un système d'alimentation sans alimentateur manuel développé par B+S contribue à faciliter l'utilisation et la rentabilité de la ligne. Le début de la bande est bloqué dans une barre de serrage au début de la ligne et tiré jusqu'à la sortie. Cela signifie qu'aucune bande pilote n'est nécessaire et que le soudage ou le besoin de plaques de guidage est éliminé. L'enroulement sur l'enrouleur s'effectue également automatiquement

30 et 200µm, le spécialiste de la bande métallique a développé une cassette avec un diamètre de rouleau de planage de 8mm. Pour des épaisseurs supérieures à 200µm, l'on utilise des rouleaux de planage de 12mm.

Les écarts sont automatiquement détectés par un rouleau de mesure Vollmer pour la mesure continue de la forme de la bande. Les zones de la bande présentant des ondulations exercent une force inférieure

sur le rouleau segmenté par rapport aux zones plates de la bande. Un logiciel calcule la formule mathématique pour la forme de la bande à l'aide des valeurs mesurées et l'utilise pour créer un modèle 3D.

En fonction de cela, il est possible de calculer automatiquement la position nécessaire des supports du rouleau de planage. Le réglage manuel n'est pas nécessaire. Une caractéristique particulière est représentée par les quatre axes de réglage de la cassette de planage supérieure, qui assurent la position ultra-précise des trois axes spatiaux.

«En fonction de la planéité initiale, on peut obtenir une planéité jusqu'à une I-unité. Cela correspond à une onde de 0,2mm de haut et de 100mm de long dans la bande», a déclaré M. Lüdecke.

Actionnement hautement dynamique pour un ample spectre de contrôle

En principe, tous les alliages de cuivre sont traités sur la ligne sans restrictions, avec des bandes ayant une large gamme de sections transversales et une résistance à la traction du matériau allant de 300 à 1 100N/mm².

L'épaisseur est comprise entre 30 et 500µm et la largeur est comprise entre 100 et 450mm, ce qui donne un rapport



dimensionnel de 1:75. Si l'on ajoute la limite d'élasticité de 200 à 1 050N/mm², le rapport à contrôler est de 1: 390.

En raison de ce large spectre, la traction de la bande est mesurée directement sur le dérouleur et sur l'enrouleur ainsi que devant la machine à dresser et fait office de valeur de contrôle pour les actionnements. Ceux-ci sont équipés de moteurs CA hautement dynamiques.

La capacité installée s'élève à environ 550 kW. «L'alimentation est effectuée avec les ensembles Sinamics S120 Basic Line, de sorte que l'énergie de régénération puisse être réutilisée via un système de récupération énergétique placé sur le côté de traction, dans les cas des moteurs positionnés en aval de la planeuse.

Cela permet de réaliser d'importantes économies d'énergie», a ajouté M. Lüdec, en soulignant l'un des principaux avantages de la ligne. L'activation est effectuée par des inverseurs entièrement numériques, qui sont couplés à l'API du contrôleur de ligne via Profibus L2-DP.

Les fonctions de commande effectives sont contrôlées via un microprocesseur permettant non seulement une facilité de fonctionnement considérable, mais également un démarrage et une maintenance aisés.

Un concept opérationnel particulièrement convivial et sûr

La ligne complète porte le marquage CE et est conçue conformément à la directive machines européenne 2006/42/CE, qui prévoit, entre autres, une clôture de protection pour la sécurité des employés.

L'existence de plusieurs zones de protection signifie que l'opérateur peut déjà exécuter les activités dans l'une d'elles alors que les mouvements automatiques sont encore en cours d'exécution dans une autre. Lorsqu'un tel sous-secteur est ouvert, la vitesse est automatiquement réduite à un niveau de sécurité.

«De plus, en raison de la disposition spatiale des consoles, une distance suffisante des pièces de la machine en mouvement et de la bande est assurée par le type de conception adopté», a déclaré M. Lüdecke. La durée normale jusqu'à l'arrêt est de 12 secondes, mais elle peut être réduite à 6 secondes ou, en cas d'urgence, voire même à 3 secondes si nécessaire.

Du point de vue de l'opérateur, le matériau se déplace de gauche à droite à travers l'installation à une vitesse allant jusqu'à 300m/min. Les étapes individuelles du processus sont affichées au moyen d'une vue d'ensemble et d'images détaillées.

L'opérateur peut entrer directement les données via des boutons et des champs de données dans les images ou via des fenêtres surgissantes.

Les positions des axes typiques pour les matériaux peuvent être mémorisées sous la forme de jeux de données avec des noms alphanumériques dans une base de données.

Il est en outre possible d'intégrer dans le système la gestion des commandes personnalisées pour les clients. La connexion au réseau de l'entreprise garantit à l'opérateur l'accès à son plan de production courant à tout moment.

En cas de changement de cassette, le système reconnaît quelle cassette est actuellement installée au moyen d'un système d'identification.

Aucun réglage manuel exigeant une perte de temps n'est donc plus nécessaire. Grâce à d'autres systèmes automatiques, par exemple le bobinage automatique et le transport de couronnes et de bobines, il est possible d'exécuter des activités parallèles.

En conséquence, des activités, qui avant exigeaient la présence de deux hommes pour l'exécution, peuvent être maintenant réalisées par un seul opérateur.

Un système d'alimentation développé par B+S contribue également à la rentabilité et à la convivialité: dans ce cas, la bande à traiter est montée comme d'habitude sous la forme d'une couronne sur le dérouleur.

L'alimentation manuelle n'est cependant pas nécessaire. Au contraire, le début de la bande est bloqué dans une barre de serrage au début de la ligne et tiré jusqu'à la sortie à une vitesse de 10 à 15m/min.

Cela signifie qu'aucune bande pilote n'est nécessaire et que le soudage et les plaques de guidage sont éliminés.

L'enroulement initial sur l'enrouleur s'effectue également automatiquement moyennant un enrouleur à ceinture. «La productivité de la ligne a augmenté, car le traitement effectif peut démarrer de façon rapide et efficace», résume le responsable technique.

Pour s'assurer que la bande est soigneusement enroulée à son extrémité, le dérouleur et l'enrouleur sont également équipés d'un système de réglage du bord

de la bande. Les dévidoirs, chacun pesant six tonnes, sont installés sur des guides linéaires préchargés, sans jeu et montés sur des paliers à roulement.

Outre la détection du bord et le contrôle de la position, les dévidoirs assurent un déroulement et un enroulement précis à l'aide d'un vérin hydraulique à commande servo-hydraulique. ■

Ugitech assume un ruolo dominante in Europa

PER quanto riguarda la sicurezza di trasporto di gas e vapori caldi a temperature che raggiungono 850°C, per molti produttori di componenti destinati all'industria di trasformazione, l'acciaio inossidabile austenitico 1.4550/347H rappresenta la scelta ideale.

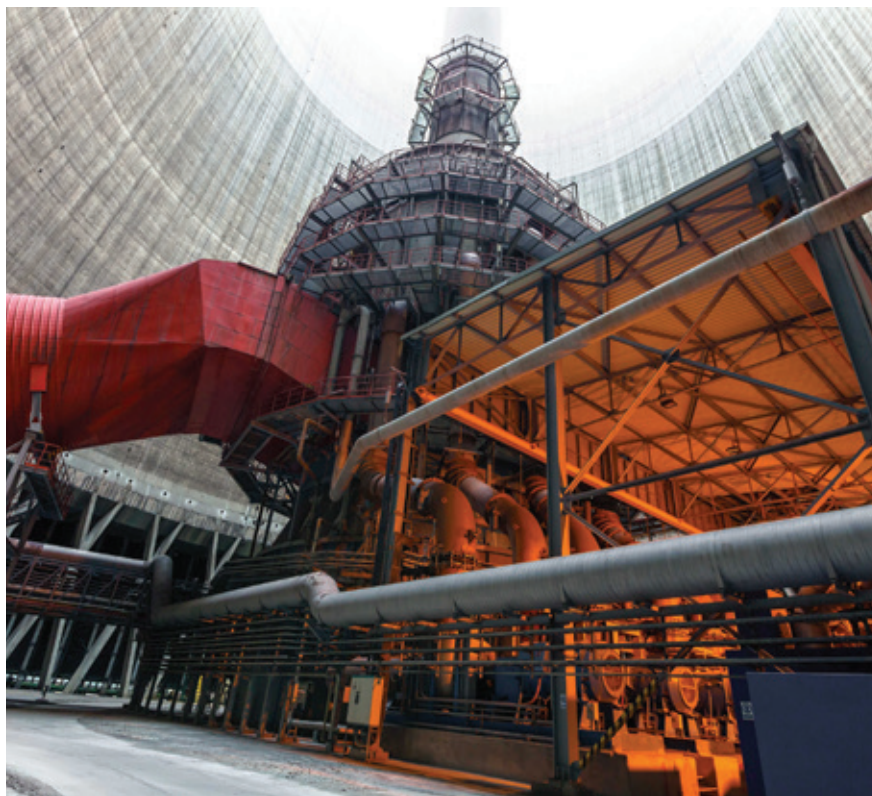
Per soddisfare la crescente domanda, Ugitech ha ampliato il suo vasto portafoglio di acciaio inossidabile inserendo UGI®4550. La società ne è così uno dei tre unici fornitori in Europa.

Le tubazioni del vapore, i tubi di surriscaldamento e i sistemi di scarico nei motori a pistoni alternati e nelle turbine a gas sono alcuni campi di applicazione classici per UGI 4550 di Ugitech. L'aggiunta di niobio rende le qualità di acciaio finito una soluzione adatta per temperature tra 425° C e 850° C.

Rispetto alla maggioranza dei materiali austenitici, l'UGI 4550 inibisce la formazione delle precipitazioni a bordo grano sotto forma di carburo di cromo interrompendo così la corrosione intergranulare.

Il prodotto inossidabile è ottimale per le parti che non consentono trattamenti del materiale dopo la saldatura quali i giunti di dilatazione e gli equipaggiamenti per la lavorazione chimica a temperature elevate. Il materiale UGI 4550 inoltre si può foggare con facilità a temperatura ambiente ed è molto facile da saldare.

Ciò significa che non si formano cricche di calore dopo la saldatura. Una buona resistenza allo scorrimento (resilienza contro le deformazioni che dipendono dalla temperatura) e la resistenza alla corrosione atmosferica



▲ Le tubazioni del vapore, i tubi di surriscaldamento e i sistemi di scarico nei motori a pistoni alternati e nelle turbine a gas rappresentano le classiche applicazioni del materiale UGI 4550 prodotto da Ugitech. Fotografia pubblicata con la cortese autorizzazione di Ugitech – ©istockphoto_annavazi

e all'ossidazione a temperature elevate aumentano ulteriormente l'affidabilità del processo.

Ugitech offre il materiale UGI 4550 in un'ampia gamma di dimensioni: dalla barra d'acciaio con un diametro di 130mm fino al diametro ultrafine di 16µm.

Il prodotto in acciaio viene sottoposto a ricottura o trafilato a freddo in funzione delle proprietà meccaniche richieste. A

differenza della concorrenza, la quantità minima di ordinazione a Ugitech è una tonnellata per la barra d'acciaio trafilato e una quantità ancora inferiore per il filo trafilato.

Ugitech è sempre in grado di effettuare le consegne rapidamente grazie al suo laminatoio dotato di forni di fusione da 40t.

Ugitech SA – Francia
Website: www.ugitech.com

Trefolatura SZ per un elevato rendimento sull'investimento

La tecnologia a trefolatura SZ per cavi di alimentazione offre enormi potenziali per il vostro rendimento sull'investimento grazie alla praticità dei macchinari, alla semplicità di funzionamento e al processo di rivestimento in linea.

Molti anni orsono, Rosendahl scoprì i vantaggi e la semplicità della trefolatura SZ sia riguardo ai macchinari sia durante il funzionamento. La soluzione chiamata Power SZ, consiste nella sostituzione delle macchine rotanti pesanti con attrezzature fisse in modo che il carico e lo scarico della macchina possano essere eseguiti in modo semplice e rapido. E le apparecchiature più semplici presentano una maggiore affidabilità operativa.



▲ Trefolatura SZ di Rosendahl Nextrom

La linea è in grado di gestire da tre a cinque conduttori con sezione trasversale fino a 240mm². Con sezioni trasversali più piccole è possibile ottenere un rendimento di 60m/min e realizzare

lunghezze di produzione consistenti grazie a svolgitori fissi con tamburi più grandi.

In base alle necessità del produttore, il sistema Power SZ può essere configurato in modalità fuori linea o con un processo di rivestimento in linea. Si tratta di una soluzione collaudata ed efficiente in cui il cavo viene realizzato in un'unica fase di produzione per conduttori settoriali. La linea è per lo più una soluzione molto personalizzata e siamo lieti di fornire il massimo supporto grazie alla nostra conoscenza del processo e del prodotto.

Rosendahl Nextrom – Austria
Website: www.rosendahlnextrom.com

Saldatura di prodotti di filo bidimensionale o tridimensionale in un'unica operazione

Con il nuovo sistema Posiweld, Schlatter offre una cella di saldatura universale CNC per la produzione economica di prodotti di filo in lotti piccoli e medi.

La struttura della piattaforma girevole consente a un singolo operatore di caricare/scaricare il dispositivo di fissaggio mentre la macchina è in funzione.

Grazie all'enorme flessibilità e variabilità, questa macchina può essere utilizzata in diversi tipi di applicazioni di saldatura. Possono essere fabbricati prodotti quali: espositori dei punti vendita, carrelli per negozi, cesti in filo tridimensionali e griglie di protezione per ventilatori nonché tutti i tipi di applicazioni per elettrodomestici (prodotti bianchi).



Schlatter Industries AG – Svizzera Website: www.schlattergroup.com

▲ Il nuovo sistema Posiweld di Schlatter

AWI ha lanciato una nuova applicazione per aiutare la propria clientela a trovare la lega perfetta

ALLOY Wire International (AWI) ha lanciato una nuova applicazione per aiutare la sua clientela globale a trovare il materiale giusto per le proprie applicazioni.

L'azienda ha trascorso gli ultimi quattro mesi sviluppando un database interattivo di tutti i propri materiali, delle relative proprietà e applicazioni. Questi dati sono ora disponibili su computer, telefoni cellulari e tablet.

L'applicazione web-based, sviluppata da esperti tecnici, consente agli utenti di cercare il tipo di filo necessario per il settore industriale (ad esempio il settore aerospaziale, il settore del petrolio e del gas e il settore nucleare) o in base alla soluzione applicativa come l'elevata resistenza, le temperature sotto lo zero, il calore, la corrosione e la resistenza all'acqua.

"Disponiamo in qualsiasi momento di oltre 60 leghe diverse di nichel a magazzino e dobbiamo assicurarci che i nostri clienti ottengano il materiale più adatto alle loro esigenze produttive. L'applicazione li aiuterà a fare proprio questo," ha spiegato Mark Venables, amministratore delegato.

"L'applicazione fornisce anche una serie di informazioni su ciascuna lega. Ciò include una breve descrizione, le caratteristiche chiave e le opzioni di profilo, con un semplice modulo di richiesta di informazioni prontamente disponibile per registrare il vostro interesse.

"I feedback iniziali sono stati molto positivi e i clienti hanno affermato che il processo è facile e che li ha aiutati a prendere decisioni importanti circa la selezione dei materiali che altrimenti non avrebbero preso senza l'applicazione," ha proseguito Venables.



▲ I dipendenti di Alloy Wire International Andrew Du Plessis, Natalie Baker e Mark Venables mostrano orgogliosamente la nuova applicazione

AWI, che produce filo tondo, piatto, a profilo sagomato e filo per resistenze elettriche, sta progettando di tradurre l'applicazione "Wire Finder" in una gamma di altre lingue per supportare il loro aumento di esportazioni.

La società ha così effettuato forniture in oltre 52 paesi, con le ultime richieste di spedizione di filo AWI presso destinazioni come la Repubblica Dominicana, il Nepal, il Perù e l'Oman.

"Circa il 50 per cento delle nostre vendite è destinata all'estero e questa è una cifra che riteniamo aumenterà a mano a mano che aumenteranno la quantità di personale internazionale e le mostre

a cui parteciperemo," ha aggiunto Venables.

"Il mondo è un luogo molto più piccolo in questi giorni e, grazie alle nostre capacità di stoccaggio e produzione, possiamo produrre filo e farlo pervenire ai clienti, in qualsiasi punto del globo, entro tre settimane."

Il download non potrebbe essere più semplice. È sufficiente andare all'indirizzo www.alloywire.com e cliccare su "Visit the app". Si può quindi aggengerlo alla schermata iniziale del proprio iPhone o Android.

Alloy Wire International – Regno Unito
Website: www.alloywire.com

La nuova linea di raddrizzatura mediante trazione-flessione per nastri di rame molto sottili è efficiente dal punto di vista energetico e funziona con tolleranze minime

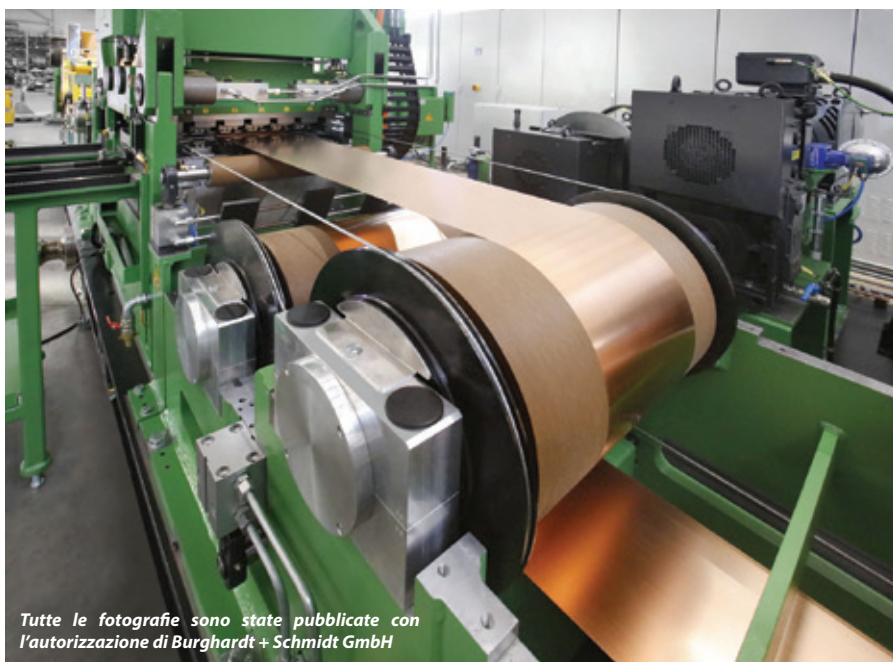
A cura di Volker Lüdecke, Burghardt + Schmidt GmbH, Remchingen, Germania

I requisiti di planarità per nastri metallici sono aumentati costantemente negli ultimi anni. Vi è tuttavia allo stesso tempo una tendenza, in particolare nel settore dell'elettronica, verso materiali sempre più sottili. Qui, i miglioramenti della qualità grazie alla raddrizzatura mediante trazione-flessione facilitano considerevolmente i trattamenti successivi.

Ad esempio, risulta aumentata la precisione dimensionale nel processo di stampaggio da cui la possibilità di ottenere rivestimenti superficiali più sottili. Burghardt + Schmidt GmbH (B+S), specializzata nella fabbricazione di macchine di taglio e di raddrizzatrici, ha così sviluppato una soluzione innovativa per raddrizzare nastri di rame estremamente sottili per un produttore cinese. La linea è progettata per tutte le leghe di materiale così come per il bronzo fosforoso e consente la lavorazione di nastri dello spessore di appena 30µm con tolleranze minime. A seconda del materiale di partenza, è possibile ottenere planarità fino ad una I-unità.

Il cliente in Cina produce dei componenti per l'industria elettronica che devono soddisfare requisiti molto elevati per quanto riguarda la qualità della superficie, nonché la planarità e la precisione dimensionale. In questo caso vengono utilizzati nastri metallici estremamente sottili.

Questi devono essere preparati in un impianto da riprogettare per l'ulteriore lavorazione.



Tutte le fotografie sono state pubblicate con l'autorizzazione di Burghardt + Schmidt GmbH

▲ Dal momento che le vecchie linee hanno evidentemente raggiunto i rispettivi limiti di controllo, per quanto riguarda la lavorazione di materiali molto sottili Burghardt + Schmidt ha sviluppato una nuova linea di raddrizzatura mediante trazione-flessione. Ciò consente di raddrizzare i nastri di rame con spessori fino a 20µm e di ottenere un'uniformità pari a una I-unità, a seconda della planarità di partenza

Lo scopo del nuovo acquisto consisteva nel mantenere la tolleranza dimensionale entro limiti ristretti durante il processo di stampaggio.

Ciò è di vitale importanza per quanto riguarda l'assemblaggio automatico dei componenti elettronici. Oltre alla planarità, il cliente ha anche definito i criteri di esclusione relativi alla qualità della superficie.

Ciò significa che la densità ottica del prodotto finale non dovrebbe subire variazioni attraverso la lavorazione.

“Data la tendenza facilmente riconoscibile verso nastri sempre più sottili, le linee B+S raggiungono costantemente i propri limiti di controllo.

“Visti i requisiti dei clienti e i risultati delle analisi di mercato corrispondenti,

per un certo periodo di tempo abbiamo proseguito con gli sviluppi di base. Generalmente, questi consentono di raddrizzare nastri metallici di appena 20µm di spessore”, ha dichiarato Volker Lüdecke, responsabile tecnico di B+S.

Il concetto presentato e la vasta esperienza maturata dall'azienda nella raddrizzatura per trazione e flessione sono stati, in ultima analisi, i fattori determinanti per l'aggiudicazione del contratto dalla Cina.

Cassetto con rulli di raddrizzatura da 8mm

Per ottenere la tensione, la linea è dotata di quattro rulli sul lato di frenatura, cioè davanti alla raddrizzatrice. Intorno a questi rulli passa il nastro metallico.

Quindi, assieme allo svolgitore generano una trazione di ritenuta. Dietro la raddrizzatrice, i quattro rulli di trazione, assieme al riavvolgitore, tirano il nastro.

Mediante la sovrapposizione della forza (trazione e flessione) tra i gruppi dei rulli di raddrizzatura superiori e inferiori, le tensioni interne e le deviazioni di forma dei nastri vengono ridotte.

Per ottenere un effetto di raddrizzatura sufficiente in caso di nastri molto sottili con spessori del materiale compresi tra 30 e 200µm, l'azienda specializzata in nastri metallici ha sviluppato una cassetta dotata di un diametro del rullo di raddrizzatura

▼ Per ottenere ancora un effetto di raddrizzatura sufficiente, nonostante i nastri presentino degli spessori molto ridotti tra 30 e 200µm, lo specialista del nastro metallico ha sviluppato una cassetta per rulli di raddrizzatura con un diametro di 8mm. Per spessori superiori a 200µm, vengono utilizzati rulli di raddrizzatura da 12mm



▲ Un sistema di infilaggio senza un alimentatore manuale sviluppato da B+S contribuisce a facilitare l'uso e all'economicità della linea. L'inizio del nastro è bloccato in una barra di serraggio all'inizio della linea e tirato fino all'uscita. Ciò comporta l'eliminazione del nastro pilota, della saldatura e di eventuali piastre di guida. Anche l'avvolgimento sull'avvolgitore avviene automaticamente

di 8mm. Per spessori superiori a 200µm, vengono utilizzati rulli di raddrizzatura da 12mm.

Le deviazioni sono rilevate automaticamente da un rullo Vollmer di misurazione della planarità per la misurazione continua della forma dei nastri.

Le aree del nastro che presentano delle ondeggiature esercitano una forza inferiore sul rullo segmentato rispetto alle

aree piane del nastro. Un software calcola la formula matematica per la forma del nastro con l'aiuto dei valori misurati e la utilizza per creare un modello 3D.

In base a ciò, è possibile calcolare e regolare automaticamente la posizione necessaria dei supporti del rullo di raddrizzatura. La regolazione manuale non è necessaria. Una caratteristica particolare è rappresentata dai quattro assi di regolazione nella cassetta di raddrizzatura superiore, che garantiscono la posizione estremamente precisa nei tre assi spaziali.

“In base alla planarità iniziale, è possibile ottenere una planarità fino ad una l-unità. Ciò corrisponde ad un'onda dell'altezza di 0,2mm e della lunghezza di 100mm nel nastro”, ha dichiarato Lüdecke.

Azionamento altamente dinamico per un ampio spettro di controllo

In linea di principio, tutte le leghe di rame vengono lavorate sulla linea senza restrizioni, con nastri che presentano un'ampia gamma di sezioni trasversali e una resistenza alla trazione del materiale che varia tra 300 e 1.100N/mm².

Lo spessore è compreso tra 30 e 500µm e la larghezza è compresa tra 100 e 450mm, con un rapporto dimensionale pari a 1:75. Se si aggiunge il limite di snervamento da 200 a 1.050N/mm², il rapporto da controllare corrisponde a 1:390. Dato questo ampio spettro, la trazione del

nastro viene misurato direttamente sullo svolgitoro, sull'avvolgitoro e davanti alla raddrizzatrice e funge da valore di controllo per gli azionamenti. Questi sono dotati di motori AC altamente dinamici.

La capacità installata equivale a circa 550kW. "L'alimentazione è effettuata con i gruppi Sinamics S120 Basic Line, in modo che l'energia rigenerativa possa essere riutilizzata mediante un sistema di recupero energetico posto sul lato di trazione, nel caso dei motori a valle della raddrizzatrice.

"Ciò consente notevoli risparmi energetici", ha dichiarato Lüdec, sottolineando uno dei principali vantaggi della linea. L'attivazione viene eseguita mediante inverter completamente digitali, che sono collegati al PLC del controllore di linea tramite Profibus L2-DP.

Le funzioni di controllo effettive sono monitorate mediante un microprocessore che facilita notevolmente non solo il funzionamento ma anche l'avvio e la manutenzione.

Concetto di funzionamento particolarmente facile da usare e sicuro

La linea completa reca il marchio CE ed è progettata in conformità con la Direttiva Macchine Europea 2006/42/CE, che prevede, tra l'altro, delle recinzioni protettive per la sicurezza dei lavoratori.

L'esistenza di più aree protettive significa che l'operatore può eseguire le attività in una di esse, mentre i movimenti automatici sono ancora in corso in un'altra. Quando viene aperto un sottosettore, la velocità viene automaticamente ridotta ad un livello di sicurezza.

"Inoltre, data la disposizione spaziale delle console, grazie al design è garantita una distanza sufficiente dalle parti mobili della macchina e il nastro", ha dichiarato Lüdecke.

La durata normale fino all'arresto è di 12 secondi, ma può essere ridotta a 6 secondi o, in caso di emergenza, addirittura a 3 secondi, se necessario.

Dal punto di vista dell'operatore, il materiale scorre da sinistra a destra attraverso l'impianto ad una velocità che raggiunge i 300m/min.

Le singole fasi del processo sono visualizzate mediante immagini panoramiche e di dettaglio.

L'operatore può inserire i dati direttamente tramite pulsanti e campi dati nelle immagini o mediante finestre a scomparsa. Le posizioni degli assi tipiche per i materiali possono essere memorizzate come singoli set di dati con nomi alfanumerici in un database.

È inoltre possibile integrare nel sistema la gestione degli ordini personalizzati per i clienti. La connessione alla rete aziendale assicura che l'operatore possa accedere in qualsiasi momento al proprio piano di produzione attuale.

In caso di cambio di cassetta, mediante un sistema di identificazione il sistema riconosce quale cassetta è attualmente installata. Non è quindi più necessario effettuare aggiustamenti manuali che comporterebbero un dispendio di tempo. Utilizzando dei sistemi automatici supplementari, ad esempio il trasporto automatico di matasse e bobine, è possibile eseguire delle attività parallele. Di conseguenza, attività che precedentemente richiedevano due uomini per l'esecuzione, possono ora essere eseguite da un solo operatore.

Un sistema di infilaggio sviluppato da B+S contribuisce inoltre all'economicità e alla facilità d'uso: in questo caso, il nastro da lavorare viene montato come di consueto sotto forma di matassa sullo svolgitoro.

L'alimentazione manuale, tuttavia, non è necessaria. Invece, l'inizio del nastro viene bloccato in una barra di bloccaggio all'inizio della linea e tirato fino all'uscita a una velocità da 10 a 15m/min.

Ciò significa che non è richiesto alcun nastro pilota e non sono necessarie né la saldatura né le piastre di guida.

Anche l'avvolgimento iniziale sull'avvolgitoro avviene automaticamente mediante un avvolgitoro a cinghia. "La produttività della linea è aumentata, poiché la lavorazione effettiva può essere avviata in modo rapido ed efficiente", conclude il responsabile tecnico.

Per garantire che il nastro sia avvolto accuratamente all'estremità, lo svolgitoro e l'avvolgitoro sono inoltre dotati di un sistema di regolazione del bordo del nastro.

Gli aspi, ciascuno dei quali pesa sei tonnellate, sono installati su guide lineari precaricate, prive di gioco e montate su cuscinetti a rotolamento.

Oltre al rilevamento del bordo e al controllo della posizione, gli aspi garantiscono uno svolgimento e un avvolgimento precisi tramite un cilindro idraulico a servocomando idraulico. ■

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Ugitech al frente en Europa

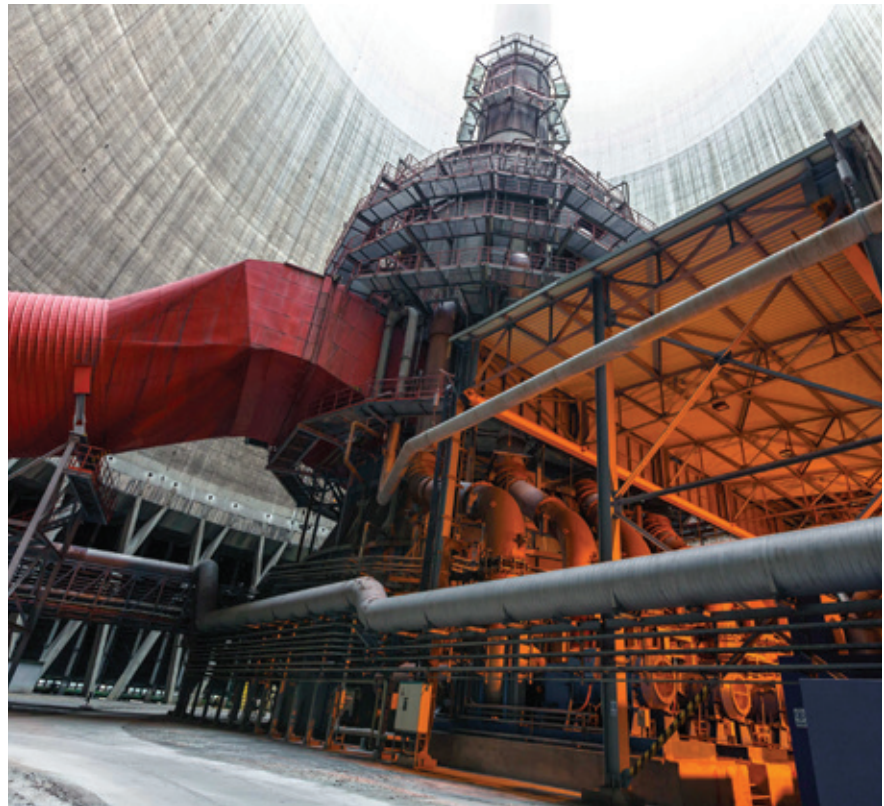
EN lo referente al transporte seguro de gases y vapores calientes a temperaturas de hasta 850°C, para muchos fabricantes de componentes destinados al sector del procesamiento industrial la única elección es el acero inoxidable austenítico 1.4550/347H.

Para satisfacer la creciente demanda, Ugitech ha incorporado el UGI® 4550 a su amplia gama de productos inoxidables y es uno de los únicos tres proveedores de Europa.

Entre las aplicaciones clásicas del UGI 4550 de Ugitech podemos citar los conductos de vapor, los tubos de los sobrecalentadores y los sistemas extractores de los motores alternativos y de las turbinas de gas. La incorporación del Niobio convierte a los aceros acabados en una solución perfectamente aplicable a los campos de temperatura comprendidos entre 425°C y 850°C.

En comparación con la mayoría de los materiales austeníticos, el UGI 4550 impide la formación de carburos de cromo en los bordes del grano, deteniendo así el proceso de corrosión intergranular. El producto inoxidable es ideal para las piezas cuyo material no puede recibir tratamiento después del soldado, tales como las juntas de expansión y los equipos de procesado químico a altas temperaturas. El UGI 4550 también se conforma fácilmente a temperatura ambiente y es muy fácil de soldar.

Esto significa que no se produce fisuración por calor después del soldado. Una buena resistencia a la fluencia (resiliencia contra deformación dependiente de la temperatura) y la



▲ Los conductos de vapor, los tubos de los sobrecalentadores y los sistemas extractores de los motores alternativos y de las turbinas de gas son algunas de las aplicaciones clásicas del UGI 4550 de UGI. Fotografía cortesía de Ugitech – ©istockphoto_annavaczi

resistencia a la corrosión y oxidación atmosférica a altas temperaturas aumentan todavía más la fiabilidad del proceso.

Ugitech propone el UGI 4550 en una amplia gama de dimensiones: desde barras de acero de 130mm de diámetro hasta alambre de 16µm de diámetro. El producto de acero es recocido o estirado en frío para darle las propiedades

mecánicas requeridas. Al contrario de sus competidores, Ugitech permite hacer pedidos mínimos de una tonelada de barras de acero estiradas e incluso de menos en el caso del alambre estirado. Ugitech puede entregar rápidamente los pedidos gracias a la disponibilidad de hornos de fusión de 40t en su acería.

Ugitech SA – Francia
Website: www.ugitech.com

Cableado SZ para un fuerte retorno de la inversión

La tecnología de cableado SZ para cables de suministro ofrece un enorme potencial para el retorno de su inversión, gracias a la práctica maquinaria, a su fácil funcionamiento y al proceso de recubrimiento en línea.

Hace bastantes años, Rosendahl descubrió las ventajas y la simplicidad del cableado SZ tanto en las máquinas como en su funcionamiento.

La solución se llama Power SZ y las pesadas máquinas giratorias se han cambiado por equipos fijos que permiten cargar y descargar la máquina con facilidad y rapidez. La mayor simplicidad del equipo le da mayor fiabilidad operativa.



▲ Cableadora SZ de RosendahlNextrom

La línea puede manejar de tres a cinco conductores de hasta 240mm² de sección. Trabajando con secciones más pequeñas, se consigue un rendimiento de 60m/min y se producen tramos largos gracias

a los desenrolladores fijos que utilizan tambores más grandes.

Dependiendo de las necesidades del fabricante, la cableadora Power SZ puede ser configurada fuera de línea o con un proceso de recubrimiento en línea. Es una solución probada y eficiente donde el cable se produce en una sola fase productiva en el caso de los conductores sectoriales. Prácticamente, la línea es una solución altamente personalizada y estamos encantados de ofrecer el máximo en soporte junto con know-how del producto y del proceso.

Rosendahl Nextrom – Austria
Website: www.rosendahlnextrom.com

AWI lanza una nueva App para buscar la aleación perfecta

ALLOY Wire International (AWI) ha lanzado una nueva App con el objeto de ayudar a sus clientes globales en la búsqueda del material ideal para sus aplicaciones.

En los últimos cuatro meses la empresa ha estado desarrollando una base de datos interactiva con todos sus materiales, sus propiedades y sus aplicaciones, que ahora está disponible para ordenadores, teléfonos móviles y tablets.

La App web, que ha sido desarrollada por técnicos expertos, permite a los usuarios buscar el tipo de varilla o alambre por sector industrial (ej. aeroespacial, petróleo y gas y nuclear) o por tipo de aplicación (alta resistencia, temperatura bajo cero, calor, resistencia al agua y a la corrosión).

"Tenemos más de 60 aleaciones de níquel distintas disponibles en todo momento y queremos asegurarnos de que nuestros clientes reciben el material que más se adapta a sus exigencias de fabricación. La App les ayudará a conseguirlo," explicó Mark Venables, director general.

"También les ofrece gran cantidad de información sobre cada aleación. Dicha información incluye una descripción breve, características clave y variedades de perfil, con un simple formulario de solicitud donde introducir los intereses del cliente."

Prosiguió: "El feedback inicial ha sido muy positivo y los clientes han declarado que el proceso es fácil y les ha ayudado a tomar decisiones importantes a la hora de elegir el material a comprar, material que podrían no haber seleccionado sin la App."

AWI, que produce varilla de resistencia eléctrica, redonda, plana y perfilada, está planeando traducir la App "Buscador de



▲ Andrew Du Plessis, Natalie Baker y Mark Venables, de Alloy Wire International, muestran orgullosos la nueva App productos" a otros idiomas para promover sus exportaciones.

Esto le ha permitido a la empresa suministrar en más de 52 países, donde los últimos destinos en pedir varilla AWI fue la República Dominicana, Nepal, Perú y Omán.

"Aproximadamente el 50 por ciento de nuestras ventas van al exterior y creemos que este porcentaje aumentará, ya que tenemos planeado aumentar nuestra plantilla internacional y el número de ferias a las que asistimos," añadió el Sr. Venables.

"El mundo resulta mucho más pequeño hoy en día y, gracias a nuestras capacidades de fabricación y almacenamiento, podemos fabricar varillas y entregárselas a los clientes, en cualquier lugar del mundo, en un plazo de tres semanas."

Descargarse la App no puede ser más fácil, solo hay que entrar en la página www.alloywire.com y hacer clic en "Visitar la App". Luego, puede añadirla a la pantalla de su iPhone o Android.

Alloy Wire International – Reino Unido
Website: www.alloywire.com

Soldar productos de alambre bidimensionales y tridimensionales de una sola vez

Con el nuevo sistema Posiweld, Schlatter ofrece una celda de soldar CNC flexible para la producción económica de productos de alambre en lotes de pequeño a medio tamaño.

El diseño de la tabla giratoria permite cargar y descargar el mecanismo de sujeción, con ayuda de un solo operador, mientras la máquina está en función.

Gracias a la alta flexibilidad y variabilidad de esta máquina, puede ser utilizada para todo tipo de aplicaciones de soldadura. Productos tales como: expositores para puntos de venta, componentes de carros de la compra, cestas de alambre tridimensionales y cubiertas protectoras de ventiladores, además de todo tipo de aplicaciones para productos blancos (electrodomésticos).

Schlatter Industries AG – Suiza
Website: www.schlattergroup.com



▲ Nuevo sistema Posiweld de Schlatter

La nueva línea de aplanado mediante estirado y doblado para bandas muy delgadas es eficiente desde el punto de vista energético y funciona con tolerancias mínimas

Por Volker Lüdecke, Burghardt + Schmidt GmbH, Remchingen, Alemania

Los requisitos de planaridad para bandas de metal han aumentado constantemente en los últimos años. Al mismo tiempo se observa una tendencia, en particular en la industria de la electrónica, a utilizar materiales cada vez más delgados. En este caso, las mejoras de calidad realizadas con el aplanado mediante estirado y doblado facilitan considerablemente el procesamiento sucesivo.

Por ejemplo, se aumenta la precisión dimensional en el proceso de estampado y se pueden obtener revestimientos superficiales más delgados. Por esta razón, Burghardt + Schmidt GmbH (B+S), especialista en cortadoras y aplanadoras ha desarrollado una solución innovadora para aplanar bandas de cobre extremadamente delgadas para un fabricante chino.

La línea es adecuada para todas las aleaciones del material como también para el bronce fosforoso, y permite procesar bandas de solamente 30µm de espesor con tolerancias mínimas. Según el material de partida, se puede alcanzar una planaridad de hasta una unidad I.

El cliente de China fabrica componentes para la industria electrónica que necesitan cumplir requisitos rigurosos por lo que se refiere a la calidad superficial, planaridad y precisión dimensional. En este caso, se usan bandas de metal extremadamente finas.

Éstas deben ser preparadas para los procesamientos sucesivos en una planta



▲ Dado que las líneas viejas han alcanzado marcadamente sus límites de control durante el procesamiento de materiales muy finos, Burghardt + Schmidt ha desarrollado una nueva línea de aplanado por estirado y doblado. Esta permite aplanar bandas de cobre de espesores de hasta 20µm y alcanzar una planaridad de hasta una unidad I según la planaridad inicial

pendiente de rediseñar. El objetivo de la nueva adquisición era mantener la tolerancia dimensional dentro de estrictos límites durante el proceso de estampado.

Esto es de importancia vital para el ensamblaje automatizado de los componentes electrónicos. Además de la planaridad, el cliente también había impuesto criterios de exclusión para la calidad superficial.

Esto significa que la densidad óptica del producto final no debería cambiar durante el procesamiento.

“Dada la evidente tendencia a usar bandas cada vez más delgadas, las líneas B+S alcanzan siempre sus límites de control.

“Debido a las exigencias de los clientes y a los resultados de los análisis de mercado correspondientes, hemos continuado con

desarrollos de base durante un tiempo. Generalmente, permiten aplanar bandas de metal de tan solo 20µm de espesor” dijo Volker Lüdecke, director técnico de B+S. El concepto presentado y la grande experiencia de la compañía en el aplanado mediante estirado y doblado fueron, en definitiva, los factores decisivos para adjudicarse el contrato de China.

Cartuchos con rodillos de aplanado de 8mm

Para obtener la tensión, la línea presenta cuatro rodillos en el lado de frenado, es decir delante de la aplanadora. La banda de metal se desliza alrededor de estos rodillos. Junto con el desenrollador, generan una retracción.

Detrás de la aplanadora, los cuatro rodillos de tensión, junto con el enrollador, tiran de la banda.

Mediante la superposición de las fuerzas (tensión y doblado) entre los grupos de rodillos de aplanado superiores e inferiores, las tensiones internas y las desviaciones de forma de las bandas se reducen. Para obtener un efecto de aplanado suficiente en caso de bandas muy delgadas con espesores del material de entre 30 y 200µm, el especialista en bandas de metal ha desarrollado un cartucho con un rodillo de aplanado de 8mm de diámetro. Para espesores de más de 200µm, se usan rodillos de aplanado de 12mm.

▼ Para alcanzar un efecto de aplanado suficiente, a pesar de que ya se procesen bandas muy delgadas con espesores de entre 30 y 200 µm, el especialista en bandas de metal ha desarrollado un cartucho con un rodillo de aplanado de 8mm de diámetro. Para espesores de más de 200µm, se usan rodillos de aplanado de 12mm



▲ B+S ha desarrollado un sistema de alimentación que no necesita intervención manual y que contribuye a facilitar el funcionamiento y la rentabilidad de la línea. El inicio de la banda es enganchado en una barra de agarre al inicio de la línea y tirada hasta la salida. Esto significa que no se requiere banda piloto y que se eliminan las operaciones de soldadura y las placas de guía. También el enrollado en el enrollador se realiza automáticamente

Las desviaciones son detectadas automáticamente por un rodillo medidor de planaridad Vollmer que mide constantemente la forma de la banda.

Las zonas onduladas de la banda ejercen una fuerza menor en el rodillo segmentado respecto a las zonas planas de la banda. Un software calcula la fórmula matemática de la forma de la banda sirviéndose de los valores medidos y la utiliza para crear un modelo 3D.

Basándose en estos datos, se puede calcular y ajustar automáticamente la posición correcta de los soportes del rodillo de aplanado. No se requieren ajustes manuales.

Una característica especial es representada por los ejes de ajuste del cartucho superior, que aseguran el posicionamiento ultra-preciso de los tres ejes espaciales. “Según la planaridad inicial, se puede alcanzar un aplanado de hasta una unidad I. Esto corresponde a una ondulación de 0,2mm de altura y 100mm de longitud en la banda” añadió el señor Lüdecke.



Accionamiento altamente dinámico para un amplio espectro de control

En principio, todas las aleaciones de cobre se procesan en línea sin restricciones con bandas que presentan una amplia gama de secciones y resistencia a la tracción del material que varía entre 300 y 1.100Nmm².

El espesor puede variar entre 30 y 500µm y la anchura entre 100 y 450mm, lo que se representa con una relación dimensional de 1:75. Si se añade límite elástico de 200 a 1.050N/mm², la relación por controlar es 1:390.

Debido a este amplio espectro, la tensión de la banda se mide directamente en el desenrollador y en el enrollador y también delante de la aplanadora y sirve como

valor de control para los accionamientos. Estos están equipados con motores de CA altamente dinámicos.

La capacidad instalada es de aproximadamente 550kW. "La alimentación se realiza con unidades Sinamics S120 Basic Line de manera que la energía regenerativa pueda ser reutilizada mediante un sistema de recuperación de energía en el lado de tracción, que, en el caso de los motores, está después de la aplanadora.

"Esto permite ahorros de energía significativos" añadió el señor Lüdecke, subrayando una de las ventajas principales de la línea. La activación se realiza con invertidores completamente digitales, que están conectados al PLC del controlador de línea mediante Profibus L2-DP.

Las funciones de control efectivas son controladas por un microprocesador que facilita considerablemente el funcionamiento, la puesta en marcha y el mantenimiento.

Un concepto operativo que facilita el uso y aumenta la seguridad

Toda la línea lleva la marca CE y está diseñada de acuerdo con la Directiva Europea de Máquinas 2006/42/EC, que requiere, entre otras cosas, un recinto de protección para la seguridad de los trabajadores.

La existencia de varias zonas de protección significa que el operador puede realizar operaciones en una zona mientras los movimientos automáticos todavía se están ejecutando en otra.

Cuando una de estas sub-zonas se abre, la velocidad en esa zona es reducida automáticamente a un nivel de seguridad.

"Además, gracias a la disposición de las consolas, se asegura una distancia de seguridad suficiente de las partes de la máquina en movimiento y de la banda", dijo Lüdecke.

Suele tardar normalmente 12 segundos en pararse, pero se puede cambiar a 6 o incluso a 3 segundos en caso de emergencia, si es necesario.

Del punto de vista del operador, el material se desliza de la izquierda a la derecha a través de la instalación a una velocidad de 300m/min.

Las fases del proceso se pueden visualizar como vista general o imágenes detalladas. El operador puede introducir los datos

mediante botones y campos de datos en las imágenes o ventanas emergentes.

Las posiciones típicas de los ejes para los materiales pueden ser almacenadas como grupos de datos individuales con nombres alfanuméricos en una base de datos.

También se puede integrar en el sistema la gestión de pedidos personalizados de los clientes. La conexión a la red de la compañía da al operador acceso a su plan de producción corriente en cualquier momento.

Durante el cambio del cartucho, el sistema reconoce el cartucho instalado mediante un sistema de identificación. Por lo tanto, no es necesario realizar ajustes manuales que causan pérdidas de tiempo.

Por medio de otros sistemas automáticos, por ejemplo el sistema automático de transporte de la bobina y del carrete, se pueden realizar operaciones paralelas.

Por consiguiente, operaciones que antes requerían la presencia de dos hombres, ahora pueden ser realizadas por un solo operador.

Un sistema de enhebrado desarrollado por B+S contribuye también a la rentabilidad y facilidad de uso. En este caso, la banda por procesar es montada como siempre en forma de bobina en el desenrollador. Sin embargo, la alimentación manual no es necesaria.

Al contrario, el inicio de la banda es enganchado en una barra de agarre al inicio de la línea y tirada hacia la salida a una velocidad de 10 a 15m/min. Esto significa que no se requiere banda piloto y que se eliminan las operaciones de soldadura y las placas de guía.

También el enrollamiento inicial en el enrollador se realiza automáticamente con el envolvente de correa.

"La productividad de la línea aumenta, dado que el procesamiento efectivo puede ser iniciado de manera rápida y eficaz" afirma el director técnico.

Para asegurar que la banda se enrolle bien en el extremo, el desenrollador y enrollador están equipados también con un regulador de los bordes de la banda.

Los carretes, que pesan seis toneladas cada uno, están puestos en guías lineales precargadas, sin holguras y montadas sobre rodamientos antirozamiento.

Además de las funciones de detección del borde y control de la posición, los carretes aseguran la precisión del desenrollado y enrollado gracias a un cilindro hidráulico con servomando hidráulico. ■

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* Front cover courtesy of Mexichem Specialty Compounds showing their tailored plastic compound solutions.

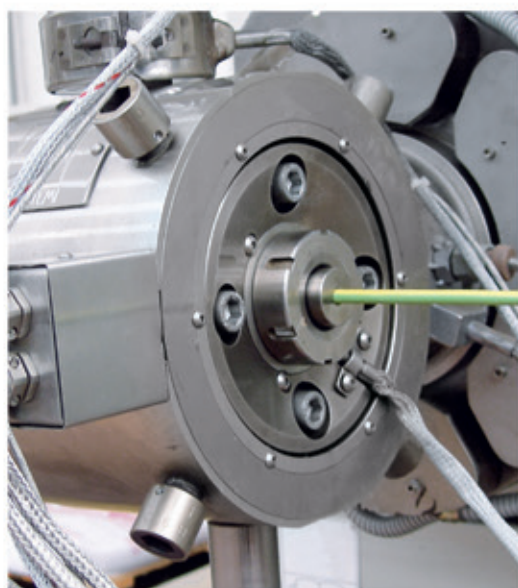
For more details please call +1 888 540 9074, or email mscenquiries@mexichem.com Website: www.mexichemspecialtycompounds.com

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Our decade-long experience guarantees the highest performance available on the market in terms of linear speed, wire concentricity, insulation properties and easy line data management.

Contact us today for more information, visit www.sampsistemi.com

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Drawing more with less!



The latest addition to a long history of innovation is the new type MSM 86 rod breakdown machine designed for wires made of copper, copper alloys, aluminum, aluminum alloys, and other non-ferrous metals. State-of-the-art technological features and modular design result in dependably high quality wire surfaces and high production output. The real innovative power comes from unprecedented energy efficiency and an energy consumption which is 10% lower than that of its predecessor model MSM 85 and 20% lower than that of conventional rod breakdown machines.

The MSM 86 is designed to be combined with the new R 502 continuous resistance annealer. With an annealing power of 530 kW, the R 502 is the most powerful NIEHOFF annealer to date. Power consumption is reduced by 20% compared to state-of-the art DC annealers due to the newly developed voltage control system NAC (Niehoff Annealing Controller) and the AC annealing principle.

High efficiency: 2 wires Cu 2.60 mm with 24 m/s = 8,100 Kg/h

NIEHOFF combines outstanding expertise along your entire value chain with customer proximity and reliable service, for the entire lifecycle of your investment. It is just this combination that will make the difference, so you can concentrate on what is most important to you: your decisive competitive advantage.

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