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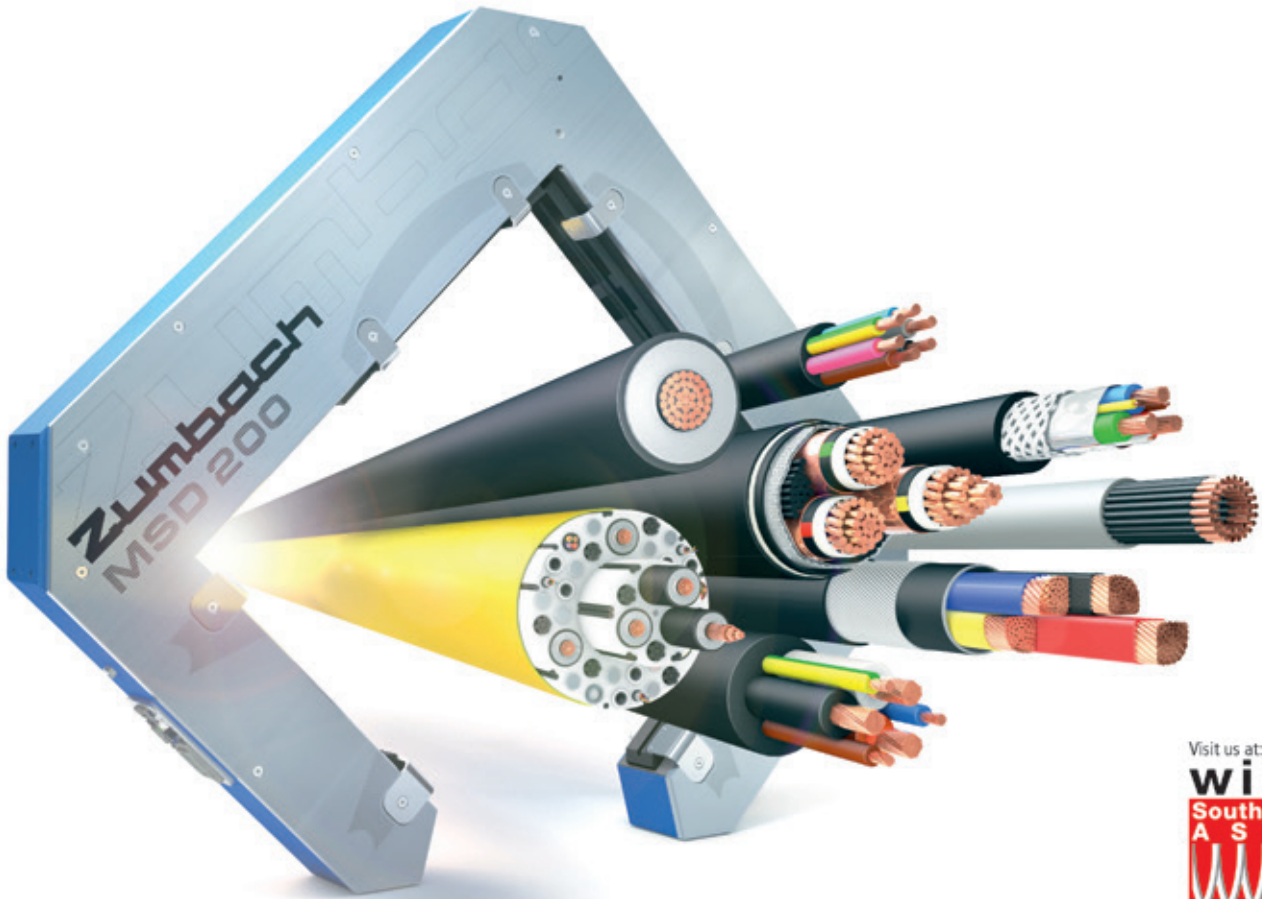
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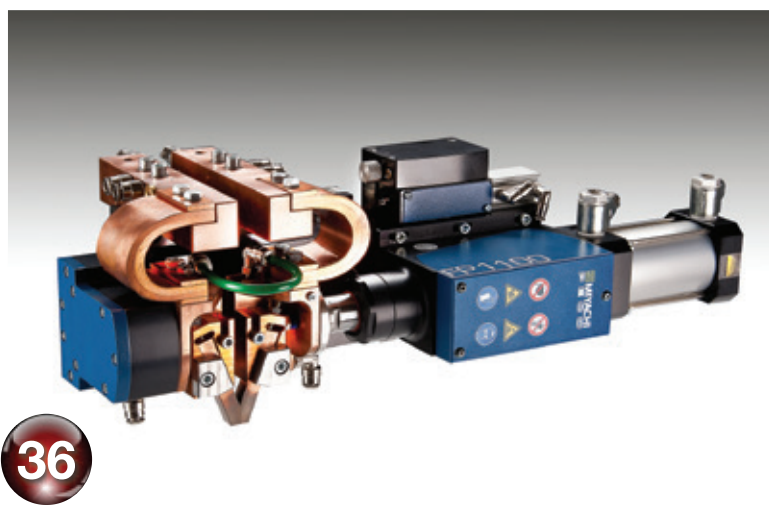


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contents

- 8 Industry News
- 28 行业新闻
- 36 Technology News
- 50 技术与产品
- 54 India Insight
- 54 印度透视
- 56 Telecom News
- 58 通信新闻
- 59 From the Americas
- 63 来自美国的消息
- 66 wire Southeast Asia
2013
- 98 Data, power
& instrument cable
production, testing,
marking & applications
- 101 数据、
电源和仪表线缆生产
- 111 Editorial Index
- 111 通讯目录
- 111 Advertisers Index
- 111 广告索引



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Technical Articles

103 Benefits of standards for wire and cable products
By Lawrence B Ingram,
Alcan Cable, a General
Cable Company

108 电线和电缆产品标准的益处
作者: Lawrence B Ingram,
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Next Issue

Feature On

- Wire and cabling for the transport industry

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All eyes look to Asia exhibition

New technology and solutions are the highlight for both exhibitors and visitors alike at this year's wire Southeast Asia, being staged in Bangkok, Thailand, from 17th to 19th September.

The region is fast becoming a manufacturing and industrial hub for many global companies, clearly emphasised by more than 300 exhibitors taking up residence at the Bangkok International Trade and Exhibition Centre for the three-day event.

Innovations and trends on high-performing machinery, processing and automation in the wire and cable industry feature heavily throughout the exhibition.

Our coverage starts on page 66. And whether you are exhibiting or just visiting, please feel free to stop at our stand J01 and collect your free copy of Wire & Cable ASIA.

Also in this issue is a report on the latest study from Integer Research – Wire & Cable Focus Report: Middle East and North Africa Markets – which provides a detailed analysis on the effects of the Arab Spring and the potential growth in the region to 2017.

The report clearly shows that the Middle East and North Africa (MENA) markets grew by 5.4 per cent in 2012, and this should increase further by the rebuilding and opening up of some further markets to 2017. You can see the report for yourself on page 12.

The replacement of the eastern span of the San Francisco-Oakland Bay Bridge is still causing problems, with 32 bolts failing and putting the \$6.4 billion project on hold. The re-opening was scheduled for Labor Day in early September, traditionally the end of the summer in the USA. Catch the latest on this in 'From the Americas' on page 59.



David Bell
Editor

when and where



'Piazza Duomo, Milan, Italy' www.bigstockphoto Photographer - Tumpangato

October 2013

1-3 Oct: **wire South America** – trade exhibition – São Paulo
Organisers: Messe Düsseldorf/Grupo Cipa
Fax: +49 211 456 0668
Email: infoservice@messe-duesseldorf.de
Website: www.wiresa.com.br

November 2013

4-5 Nov: **CabWire World Conference** – Milan, Italy
Organisers: ACIMAF, CET, IWCEA, IWMA, WAI
Fax: +44 1926 314755
Email: info@iwma.org
Website: www.cabwire.com

November 2013

10-13 Nov: **IWCS 2013** – trade exhibition – Charlotte Convention Center, Charlotte, NC, USA
Organisers: IWCS
Tel: +1 717 993 9500
Email: phudak@iwcs.org
Website: www.iwcs.org

March 2014

11-15 Mar: **METAV** – trade exhibition – Düsseldorf, Germany
Organisers: VDW
Fax: +49 69 756081 74
Email: metav@vdw.de
Website: www.metav.com



○ Donation ceremony at Ryakasinga Model Primary Boarding School in Bushenyi, Uganda

Solar goes to school in Tanzania and Uganda

KYOCERA Corporation has donated solar power generating systems to four secondary schools in Tanzania and three primary schools in Uganda.

The installations are part of larger projects in which Kyocera has been providing solar power generating systems to schools with no access to the electricity grid.

The five-year projects consist of

600-watt solar power generating systems for 35 schools in total.

With additional installations at seven schools in the last fiscal year, donations have already been made to a total of 28 schools, with seven more to follow by March 2014.

The solar systems are also occasionally used as an electricity source for the local community to charge mobile devices.

During the Fifth Tokyo International Conference on African Development (TICAD V) in Japan, the Japanese Government pledged 3.2 trillion yen of public and private assistance to Africa over the next five years and stressed the importance of private sector investment.

Kyocera believes in the great possibilities of the young generation in Africa and hopes that its donations in Tanzania and Uganda will help further the education of students who carry the future of the countries on their shoulders.

Kyocera's representative at the donation ceremonies, Youichi Higashi, manager of the business planning department in the corporate solar energy group, said: "The value of electricity is difficult to understand in countries where power access is always available."

Kyocera Corporation – Japan
Website: www.kyocera.com

Freedom Cable pulls out of Australia extension

Freedom Cable has cancelled the proposed extension to Australia of its subsea fibre optic cable, after failing to secure necessary financial backing. The change of plan comes only seven weeks after the extension idea was first proposed by entrepreneur and bandwidth brokerage company chief Sunil Tagare.

Mr Tagare said that his venture had been seeking a \$50 million investment from Telstra in return for 3TBPS of capacity on the cable, but that Telstra had declined.

Freedom Cable – Australia

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Philippines' 138kV transmission line

IN a move to improve the reliability of the Visayas grid, operator National Grid of Philippines (NGCP) has confirmed that it will complete the 138kV Ormoc-Maasin transmission line project by the first quarter of 2014.

The company will strengthen the existing 138kV line from Ormoc, Leyte, to Maasin, Southern Leyte, by stringing another circuit into the 113.97km facility.

NGCP spokesperson Cynthia P Alabanza said the project is important for the continuous power supply in to the Visayas grid: "For us to be able to fully dispatch the available supply and meet the growing demands of the Visayas, we need to invest in strengthening our line. Reinforcing our 138kV Ormoc-Maasin line is one step toward that."

The new circuit will allow NGCP to

comply with the N-1 contingency that helps the grid continue to operate, even when a major system component is lost. The Southern Leyte and Bohol regions risk being cut off from the grid every time the Ormoc-Maasin line experiences a power outage.

National Grid of Philippines – Philippines

Website: www.ngcp.ph

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Joint venture in Korea

Alstom Grid and Korea Electric Power (Kepco) have formed a joint venture to deliver high voltage direct current projects in Korea.

Alstom will hold 49 per cent in the JV, with Kepco holding the remaining 51 per cent.

The venture, named as Kepco Alstom Power Electronics Systems (KAPES), plans to use Alstom technology to increase Korean transmission grid capabilities.

Alstom Grid's senior vice president, Patrick Plas, said: "This joint venture will allow Alstom to increase its HVDC technical footprint in Asia, and [allow] Kepco to benefit from Alstom's proven industrial expertise."

Previously, Alstom provided the original 300MW HVDC bipole link for the 101km point-to-point submarine interconnection linking South Korea's Jeju Island.

Alstom Grid and Kepco began working together on HVDC projects in Korea in 1997.

Alstom Grid – Egypt
Website: www.alstom.com

Korea Electric Power – South Korea
Website: www.kepco.co.kr

OUR COVERAGE OF WIRE SOUTHEAST ASIA STARTS ON PAGE 66 – VISIT US ON STAND J01



OMEYA TECHNOLOGY

Introduction

- OMEYA Technology is one of the largest manufacturers in Taiwan as well as the world known supplier for wire and cable equipments. We are experts at designing and manufacturing high quality of machines (**Drawing Machine, Stranding Machine, Extrusion Line, etc.**) for clients to produce better and more competitive wires and cables.

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Arab Spring impact fails to derail growth

THE Middle East and North Africa (MENA) wire and cable market steadily recovered to reach US\$15.4 billion in 2012, up by 5.4 per cent from 2011.

This is according to Integer's latest study – Wire & Cable Focus Report: Middle East and North Africa Markets – which forecasts potential demand for MENA wire and cable to 2017.

"The short term effects of the Arab Spring, including project cancellations and delays, have been disruptive," said Andrea Valentini, senior analyst and editor of the report.

"However, the rebuilding and opening up of some North African markets post-Arab Spring, plus increased

investment in infrastructure by Gulf Corporation Council governments seeking to maintain political stability, should allow further gains in MENA demand."

The market for insulated wire and cable in the MENA region has experienced highs and lows in recent years.

The rally in oil prices from the mid-2000s to 2008 fuelled a boom in demand for cable from construction and infrastructure developments in the GCC, resulting in many companies adding cable-making capacity.

Meanwhile, European OEMs actively invested in North Africa's wiring harness

assembly industry, boosting local wire and cable consumption. Since the boom, the MENA cable industry has faced upheavals from both the Arab Spring and global financial crisis, resulting in new capacity coinciding with a sharp drop in demand for cable. In 2009, consumption contracted by 28 per cent year-on-year to US\$8.4 billion.

Within MENA, the North Africa and GCC cable markets are distinct, even though they share a common Arab heritage. "GCC cable consumption is much larger than North Africa's, and is dominated by power cable and building wire. In 2012, the GCC market reached almost 1.2 million gross cable tonnes, compared with 520,000 tonnes in North Africa," said Josie Armstrong, business manager of the wire and cable team.

"In contrast, a key determinant of North African cable consumption is the outsourcing of wiring harness assembly from European automotive and other OEM supply chains."

Integer Research – UK
Website: www.integer-research.com

Two new machines

Surtel Kablo has bought two new machines from a Turkish machine manufacturer with the commissioning due to complete in October. One machine is a steel wire armouring line for cables with a drum twist take-up and 48 steel-wire capacity, while the second machine is composed of one take-up and five pay-offs, all drum twist.

Surtel Kablo – Turkey

Website: www.surtel.com.tr



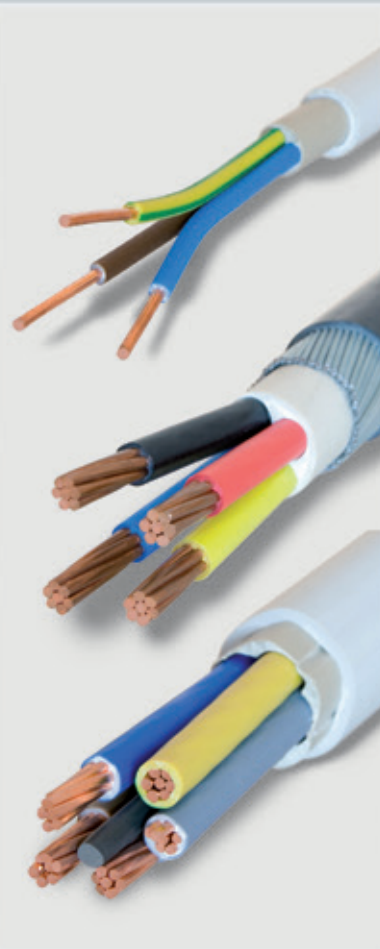
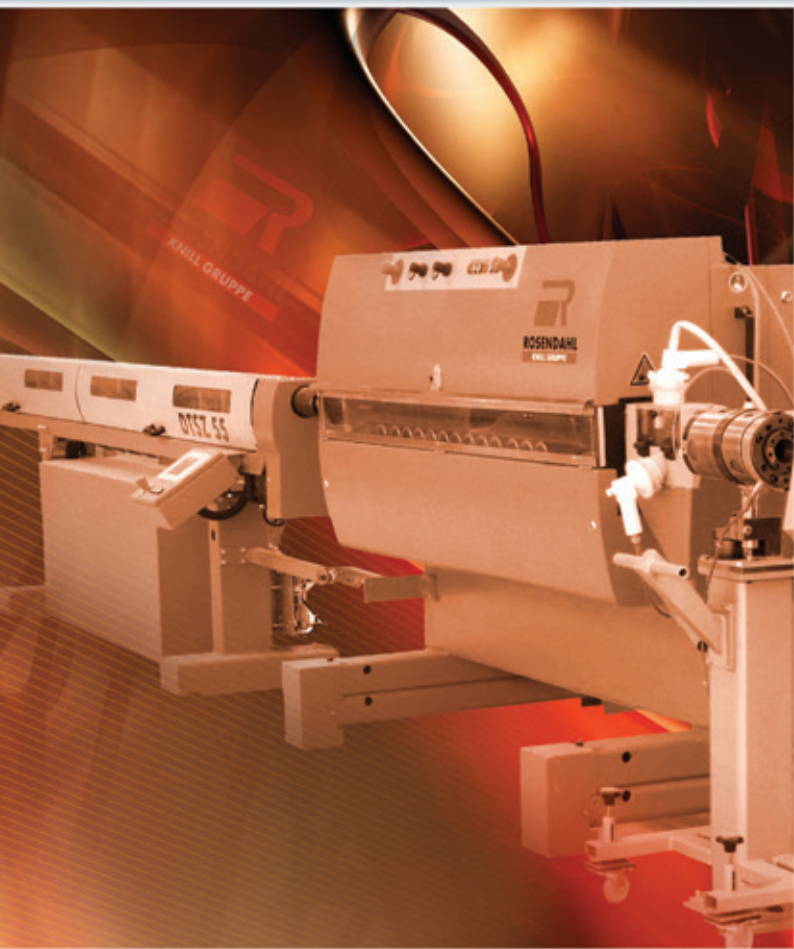
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They're the record breakers!

IT has been a record-breaking third quarter for leading wire and cable lubricant manufacturer Metalube, which is 33 per cent ahead of its previous record quarter, and overall sales are 25 per cent ahead of last year. This continues a trend of growth over the past three years that has seen sales double.

Coinciding with this good news and as part of the UK government's Export Growth Week, the company recently welcomed Clive Drinkwater, director UK Trade & Investment (Northwest) to its factory in Manchester.

"We export nearly all of our products and it is very encouraging that the UKTI are supporting our industry. Clive Drinkwater discussed with us in depth the many opportunities and challenges that we face as a successful exporter," said Douglas Hunt, commercial director.

The company plans to celebrate its year-end (August) with the presentation of its well-earned and highly prestigious Queen's Awards. The Lord Lieutenant of Greater Manchester will



○ Pictured from left, Clive Drinkwater, director UKTI (Northwest); Douglas Hunt, Metalube commercial director; Peter Thompson, UKTI; and Robert Brown, Metalube chairman

present the accolade on Thursday, 5th September 2013 with employees, families and local dignitaries.

- The company has also appointed Mohd Shahrin Abu Bakar (Shahrin) as technical sales engineer for Southeast Asia. Shahrin, however, is no newcomer to Metalube having spent

three years as a development chemist in the company's Manchester, UK, laboratory. He will now provide technical and sales support throughout the whole of Southeast Asia to local agent Meltech Resources.

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Year of investment ahead

DATWYLER Cabling Solutions continues to invest in production in Switzerland and China.

Over the next 12 months Dätwyler Cabling Solutions AG will be investing around 10 million Swiss francs – €8.1m – in fibre optic production facilities, around half of this in the Altdorf (Switzerland) site and half in the new Taicang site in China, which the company will be commissioning in 2014.

A massive amount of data is being sent around the world 24 hours a day. In the past ten years the worldwide bandwidth requirement for data communication has increased more than tenfold.

Ever-higher bandwidths are needed for watching television and making telephone calls over the Internet as well as for many other modern web applications – and this is a steeply upward trend. Fibre optic cables are the ideal medium for transmitting these huge amounts of data.

Datwyler was one of the first Swiss companies to begin producing fibre optic cable, 27 years ago at the Altdorf



○ The company's site at Altdorf in Switzerland

site, and it has now been manufacturing in China for 15 years.

Datwyler Cabling Solutions intends using these many years of know-how to profit from the rapidly growing demand for fibre optic cable. To this end the company will be investing a further ten million Swiss francs in its fibre optic cable production facilities.

In Altdorf the modernisation of fibre optic cable fabrication ties up seamlessly with the on-going investment programme.

The company has invested around 30m Swiss francs since 2011 in the Swiss cable plant, and by the end of 2013

17m francs will have gone into modernisation and the acquisition of new production facilities, and 13 million into renewing the building infrastructure.

Investment produces more efficient, more highly automated systems and optimised procedures and processes, which means that the Altdorf site will remain competitive, even in a challenging international environment.

In future Datwyler Cabling Solutions will operate two centres of excellence for the production of fibre optic cables: the technologically sophisticated cables for outdoor use will be fabricated exclusively in Altdorf, while the personnel-intensive cables for indoor applications will be manufactured and assembled in Datwyler's new plant in Taicang.

Datwyler Cabling Solutions can utilise the specific strengths of both sites and increase its global competitiveness.

Datwyler Cabling Solutions – Switzerland
Website: www.datwyler.com



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New book for low voltage wire and cable

Marc Stringer, director product management for Tappan Wire & Cable, has published Public Cable 1.0, containing generalised specifications for low voltage wire and cable.

The book normalises more than 2,100 manufacturer's part numbers from four major manufacturers in approximately 80 specifications and associated tables.

Each cable has been assigned a brand-neutral designation as well, making it possible for engineers to specify a detailed design without necessarily expressing a brand preference and limiting suppliers' options.

The 80 specifications include non-plenum rated and plenum rated cables for CCTV, CATV, SDI coax, RGBHV constructions, and a wide variety of multi-conductor and paired cables.

It is written in MasterFormat fashion and titled Public Cable 1.0; Building Specification Section 13410 Electronic Wire & Cable; the cable specifications appear in Part 2 – Products.

The book also contains Part 1: General and Part 3: Execution sections, keeping with the MasterFormat structuring for a non-descript low voltage systems' Special Applications or Integrated Systems project.

Public Cable 1.0 is available on Amazon and Barnes & Noble, and on Google Books as an e-book for PCs.

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SADC to boost output

THE Southern African Development Community is to commission new power projects to increase electricity generation capacity in the region.

Southern African Power Pool coordination centre manager Dr Lawrence Musaba said new power plants were required to meet the region's rising electricity needs. "In the period between 2013 and 2016, SAPP plans to commission 17,856MW in an effort to avert a regional power crisis," he said.

Dr Musaba said Angola will increase its power output by 3,610MW, while South Africa will add 7,893MW and Zimbabwe 630MW by 2016. He added that there is a need for incentives to attract more investors into the sector.

Dr Musaba urged SADC countries to start developing hydro-power stations, not thermal ones.

"Member countries going forward should build hydro-power stations as they are sustainable, have a longer lifespan and low maintenance costs compared with thermal power stations. For example,



○ *Bakota Gorge on the Zambezi River*

Kariba Power station began operations in the 1960s, while Hwange thermal power station was built in the 1980s, yet Kariba is proving to be sustainable and it is producing more than Hwange," he said.

Zambia and Zimbabwe are jointly constructing the Batoka Hydro Electricity plant on the Zambezi River, which is expected to add 1,650MW to the two neighbours. The SAPP estimates that by 2025 the SADC region will require at least 102,871MW of electricity.

Southern African Development Community – South Africa
Website: www.sadc.int

Kenya-Ethiopia transmission project

The African Development Bank (AfDB) has launched a \$1.26 billion transmission line project, to be developed between Kenya and Ethiopia. The project involves the construction of 1,068km of transmission lines, around 437km in Ethiopia and 631km in Kenya.

The scope of the project includes construction of the associated AC/DC converter stations at Wolayta-Sodo, Ethiopia, and Suswa, Kenya substations, with a transfer capacity of up to 2,000MW in either direction.

The project is funded by a \$338m AfDB loan with investment of \$684m from the World Bank. Kenya and Ethiopia have agreed to contribute \$88m and \$32m, respectively.

AfDB revealed that the French development agency has also expressed an interest to invest in the project.



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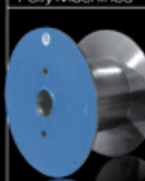
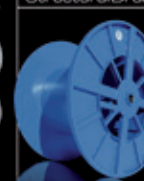
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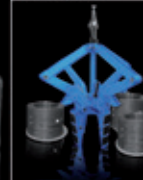
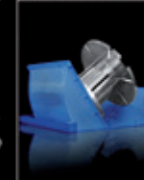
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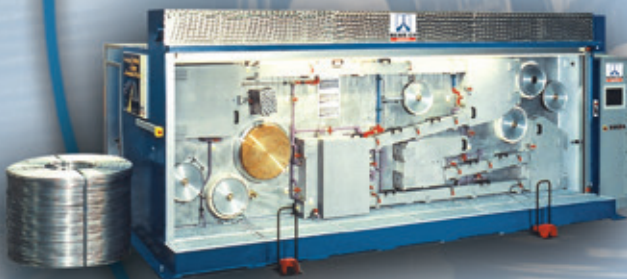


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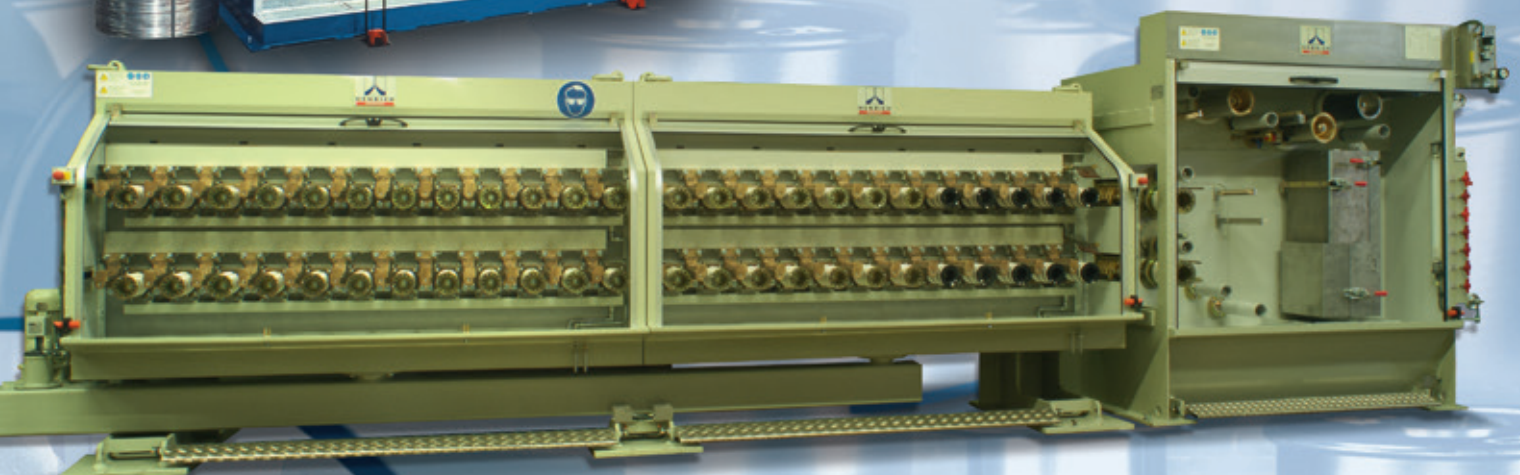
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New advanced offshore rope development facility

INTERNATIONAL rope manufacturer Bridon has launched a state-of-the-art facility for the development of the world's most advanced offshore ropes.

The Bridon Technology Centre (BTC) houses a range of purpose-built equipment to test rope properties and performance, enabling Bridon to refine complex rope constructions and optimise their design. The facility is set to develop the largest and most sophisticated rope products ever made available to offshore customers.

Bridon has cited offshore industry demand as a key reason for the centre's development, noting the sector's need for stronger, more sophisticated ropes that can perform at the highest levels in the world's most punishing environments.

Bridon has invested £5 million in the centre's custom-made testing and analysis equipment, which is designed to evaluate advanced rope constructions for their suitability in even the most challenging conditions.

The facility has the capacity to test



○ The world's most advanced ropes will come from Bridon's facility

samples from ropes that will weigh hundreds of tonnes, assessing their strength under extreme loads, their endurance against bend fatigue, their rotational characteristics, and their response to repeated layering on smaller, more economical spools.

It is also invested with the latest 3D microscope technology to examine ropes in minute detail, allowing for some of the most rigorous examinations ever conducted.

BTC also affords Bridon the opportunity to work with customers on selected technical projects. Over the

coming months, the company is expected to enter talks with major operators looking to optimise a rope for their equipment or application.

The launch of the Bridon Technology Centre follows the opening of Bridon Neptune Quay in November 2012 – a state-of-the-art manufacturing facility capable of producing the largest and most complex ropes in the world.

Bridon chief executive Jon Templeman said: "BTC will be a high-tech hub for next generation rope development, where the finest minds in rope technology use sophisticated testing equipment to validate the designs of the largest and most complex ropes ever made.

"Following the launch of BTC and Bridon Neptune Quay, Bridon now operates the world's most advanced rope development, manufacturing and testing facilities – giving us both the brains and the brawn required of a global technology leader."

Bridon International Ltd – UK
Website: www.bridon.com

Lukas is a global supplier of machinery for the wire and cable industry, located in Germany/Bavaria. As a leader in technology, Lukas is well known for its high quality and high precision products. Both standard machinery and customized solutions are provided.

We are exhibiting at the WIRE Southeast Asia Show in Bangkok, BITEC (Sept. 17 - 19, 2013)

Our current product highlight is a Vertical Taping Line with Vertical Sintering Oven. It is suitable for nearly all available kinds of tapes, such as: e. g. PTFE, Kapton, Mica, Polyester, Fleece, Laminated Tapes, Metal Tapes. The high speed and high precision taping is enabled by a closed loop tape tension control and a very precise speed synchronization between the capstan and the taping heads.

Depending on the application, the line can be equipped with a cooling unit for the taping area or equipment for quality control.

We are looking forward to welcoming you during the show! Booth no. J23, Hall 103

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Nipple for plastic coating of wire 挤出內模
Compacting or bunching dies 絞線壓線模
Others 其他用途鑽石模具

Hexagon 六角形

Oval 橢圓形

Rectangle 長方形

Triangle 三角形

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Thinness 扁方形

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Two new systems from ATE

APPLICAZIONI TermoElettroniche has been designing and manufacturing induction-heating equipment, including process automation, control and supervisor systems, since 1987.

The company has recently developed two induction-heating systems – IMW (independent control wire) and CMW (common control wire) – for treating wires in parallel.

Through the use of the most advanced technologies in the field of power electronics, these systems represent a sophisticated and efficient solution for the simultaneous heating of multiple wires with the same or even with different diameters.

The main characteristics of the two systems are:

IMW system – the possibility of heating multiple wires of different diameter separately, wire by wire, with the same or different temperatures and speeds (upon request).

CMW system – the possibility of heating wires of the same diameter to the same temperature or wires of slightly different diameter to almost the same temperature, taking account of a suitable “Velocity x Diameter” relation (DV).

Compared to other types of furnaces, such as resistance, gas, fluid bed or lead bath heaters, the IMW and CMW multi-wire induction heating systems have the advantages of no environmental pollution, being more compact, a higher efficiency and with an optional closed loop process control.



○ ATE – designing and manufacturing induction-heating equipment since 1987

Besides wires, the systems are also able to treat metal strips or bands. In these cases the systems are identified with the codes IMS or CMS, instead of IMW or CMW. In addition to ferrous materials, the systems can heat aluminium, copper and brass, etc with efficiency values proportional to the type of material.

The compactness of the heating unit allows them to be installed easily in limited spaces and, above all, in existing lines in which overall dimensions are binding. The frequency converter, the heat exchanger and the control panel can be positioned remotely in available spaces, even at a certain distance from the heating unit.

The IMW and CMW multi-wire induction heating systems can be used in various industrial processes, including annealing (max temperature

of around 720°C), stress relieving (max temperature of around 400°C), diffusion/brass coating of wires for steel cord (max temperature 550-600°C), preheating for galvanising (around 500°C), preheating for painting or coating (max 200-250°C), and preheating before an existing gas furnace in the case of increased productivity of the system.

The IMW/IMS and CMW/CMS systems are completely modular and can heat a variable number of wires, and the configuration can be defined according to the needs of the customer. Given the flexibility of the system, any unit can be custom-designed to meet the application requirements.

Applicazioni TermoElettroniche – Italy
Website: www.ate.it

New technical director for Uhing

Jörg Wadehn has been appointed technical director of Joachim Uhing GmbH & Co KG as successor to Burkhard W Bohn who retired in December 2012.

Chartered engineer Jörg Wadehn (mechanical engineering) has worked for Uhing since November 2012 and has to his credit a wide range of technological expertise in executive positions in international companies including AVL Zöllner, Kiel, the world's largest private manufacturer of engine dynamometers, and Vestas Wind Systems A/S.

Mr Wadehn convinced with his

technical versatility, his expertise in filing patents, and the executive positions held so far.

In his new field of responsibility, Jörg Wadehn will continue developing the tried and tested Uhing products for future applications, promote the development of innovations and further optimise the production processes. “I have a great number of visions to be translated into interesting products,” said Mr Wadehn.

Joachim Uhing GmbH & Co KG – Germany
Website: www.uhing.com



○ New technical director Jörg Wadehn



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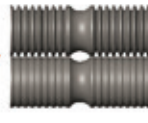
Finished product



Tight type



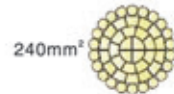
Rolling to dysmorphism wire



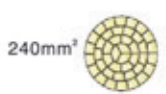
Roll device



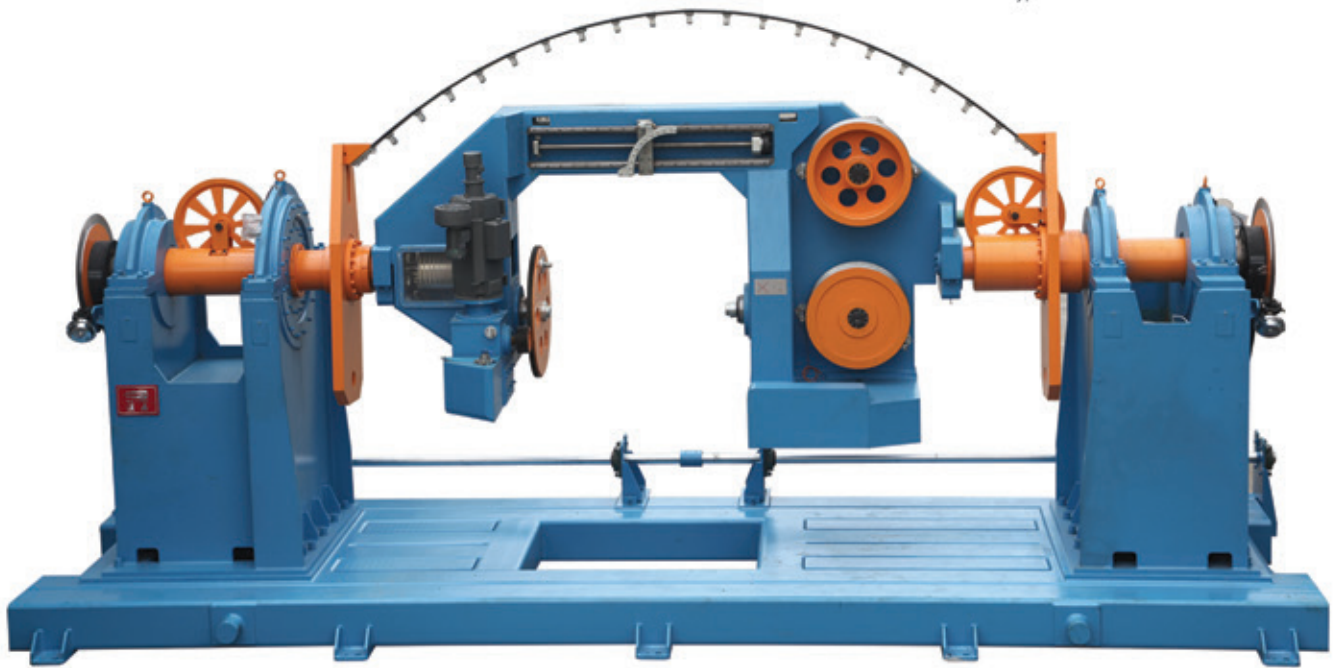
Round conductor (Copper, aluminium and aluminium alloy)



240mm²



240mm²



HD-SJGYØ1250-Ø1600-Ø1800-Ø2000-Ø2240-Ø2500mmDA Roller forming bunching machine production line

HD-DJGYØ2000mmB Roller forming single twisting machine

Aluminium alloy cable special-purpose equipment



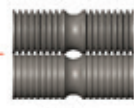
Finished product



Tight type



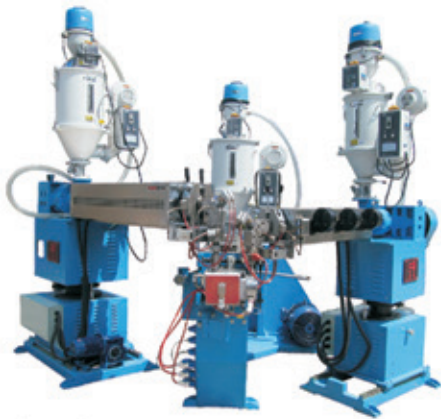
Rolling to dysmorphism wire



Roll device



Round conductor (Copper, aluminium and aluminium alloy)



Three layers co-extrusion extruder



Φ150mm extruder line



Ø60-90mm physical foaming extruder



High speed cantilever single twisting(cabling) machine



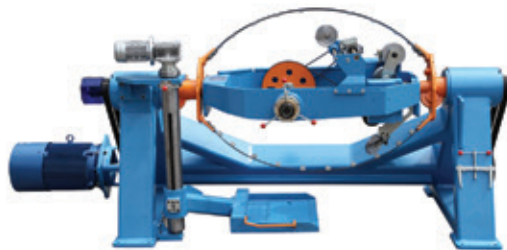
High speed rotate frame single twisting(cabling) machine



Double twist cabling machine



Ø800B High-speed copper bunching machine



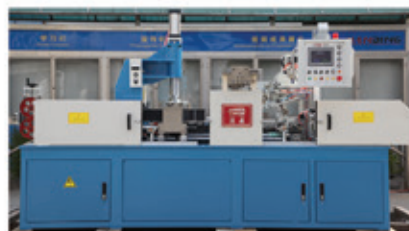
Ø800E High-speed copper bunching machine



Ø250-630B High-speed copper bunching machine



1250mm double twist cabling machine



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Easykoil, making it easier for you

GMP Slovakia is a producer of steel reels, drums and handling equipment for the wire and cable industry. Although formed ten years ago, the company has a dedicated and experienced staff, capable of helping customers with queries and finding solutions to their problems.

Every project is studied by the technical staff in cooperation with professional planning offices, which work with the most modern graphic systems to guarantee the best functionality of all products.

The range of products includes many different models of reels, for any kind of application, for steel, copper and aluminium wire and for cable and rope transport or process.

Dimensions of the models can be according to DIN standard or customised upon request.

GMP Slovakia is also the designer and manufacturer of a patented take apart reel for coil production – Easykoil. This is a take-apart reel that allows the operator to release automatically the flange below without any intervention, by just placing the suitable hooks in the correct position.

This is the best solution to save time during the opening and closing operation to load the coil and remove it once the reel is loaded



○ Experience counts with a dedicated team at GMP Slovakia

with wire. Easykoil is also available in the Plus version, which can work as a coil lifter, avoiding the use of additional equipment to lift the coil once the reel is full of wire.

GMP Slovakia – Slovakia
Website: www.gmp-slovakia.com

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Pohang Steelworks completes its wire rod mill 4

Pohang Steelworks has celebrated the commencement of operations at its 700,000 ton annual production scale wire rod mill 4.

Chief executive Chung Joonyang, national assembly member Kim Hyeongtae, Pohang city mayor Park Seunggho, Kiswel chairman Hong Mincheol, SeAH Specialty Steel CEO Yoo Eulbong, and others from Korea and abroad attended the ceremony.

With the expansion of this mill, POSCO is equipped with a 2.8 million ton annual capacity for the production of wire rods for the manufacture of nails, wires, screws, bolts, nuts, bearings, springs and wire ropes.

The new mill will also produce extremely high strength spring steel, and high strength wires for deep sea development.

Pohang Steel Works – South Korea Website: www.posco.com

Work begins on Ghana's network

Ghanian minister of communications, Dr Edward Omane Boamah, took part in a ground-breaking ceremony at the start of work on the Eastern Corridor Fiber Optic Backbone. The project, estimated to cost €38 million and to be completed in April 2014, will involve 800km of fibre cable from Ho through 27 other local authorities to Bawku, with links to Tamale and Yendi.

Dr Boamah expects the completed project to lead to a transformation in governance, education, health service delivery, agriculture, environmental monitoring, disaster prevention and management in the country.

Dr Boamah also appealed to communities where the cable would pass to act as the caretakers of the project to prevent unscrupulous people from cutting the cables.

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○ 捐赠仪式在乌干达布谢尼 (Bushenyi) 的Ryakasinga Model寄宿小学举行

太阳能走入坦桑尼亚和乌干达的学校

京瓷集团 (Kyocera Corporation) 向坦桑尼亚的四所中学和乌干达的三所小学捐赠了太阳能发电系统。本次安装是京瓷

向学校提供无需接入电网的太阳能发电系统项目的一部分。该5年的项目包括共计向35所学校提供600瓦特太阳能发

电系统。随着上一财政年度额外在7所学校安装了太阳能发电系统，共计已向28所学校提供捐赠，还有7所学校的捐赠将在2014年3月前完成。在日本举行第五届东京非洲发展国际会议 (TICAD V) 期间，日本政府承诺在接下去的5年内向非洲提供32,000亿日元的公共及个人援助并强调了私营企业投资的重要性。

京瓷相信非洲年轻一代人的伟大可能性并希望其在坦桑尼亚和乌干达的捐赠将会帮助更多那些肩负着国家未来的学生的教育。

京瓷在捐赠仪式上的代表，京瓷太阳能集团商业计划部门经理东村阳一 (Youichi Higashi) 称：“在那些电力接入始终可用的国家很难理解电力的宝贵。”

Kyocera Corporation – 日本
网址: www.kyocera.com

Freedom 电缆出局

在无法保证必要的财政支持之后，自由电缆 (Freedom Cable) 公司已经取消了将其海底光缆延伸至澳大利亚的提议。延伸计划首先由企业家和宽带代理公司首席苏尼尔·塔嘎勒 (Sunil Tagare) 提出，但在仅仅7周之后就做了修改。

塔嘎勒称他的企业一直在寻求澳洲电信5,000万美金的投资，作为回报澳洲电信将得到电缆3TBPS容载能力，但已被澳洲电信拒绝。澳洲电信尚未就此发表评论，但在今年已经为两个海底电缆项目注入资金。今年1月，澳洲电信购买了帕斯 (Perth) 和新加坡之间的4对ASSC-1光纤电缆中的一对，同时两个月后确定购买帕斯-新加坡运营线路上的另一组电缆。塔嘎勒没有透露是否对其他投资家或运营商做个提议，但是他肯定：“我将会公布自由电缆 [版本] 3.2，我将以此用电缆直接从关岛连接到加利福尼亚。”

Freedom Cable – 澳大利亚

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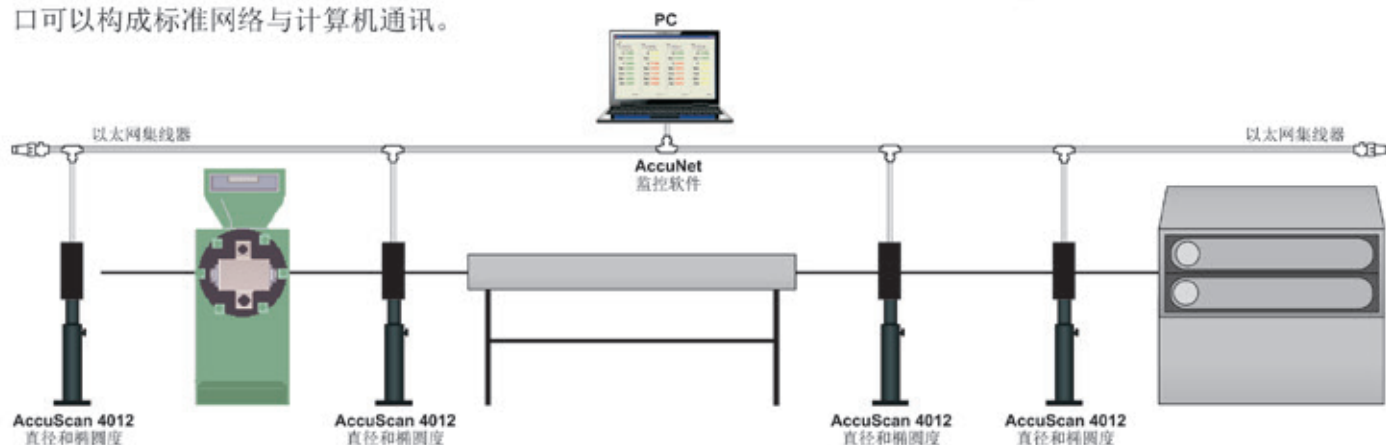
AccuScan 4012 测径仪组合套装促销活动

在生产线上实现多点监测线缆直径，我们为您提供一套完善的、高性价比的系统解决方案！

Beta LaserMike的AccuScan 4012组合解决方案为您提供了一种用于测量产品直径和椭圆度的可靠方案，基于此您可以很快体验到生产效率的提高和成本的节省。系统组合包括4套AccuScan 4012测径仪和灵活友好的AccuNet监控套装软件。通过AccuNet软件的完整SPC和趋势分析功能，您能轻松地实时监控和管理多台测径仪。而AccuScan 4012测径仪具备以太网接口可以构成标准网络与计算机通讯。



优惠活动截止日期：
2013年12月31号



性价比极高的直径和椭圆度测量系统

AccuScan 4012

- 外径测量范围：0.1-12mm (0.47 in)，精度可达 $\pm 0.0005 \text{ mm}$ ($\pm 0.000020 \text{ in}$)¹
- 增强型过程监控功能，扫描频率达1200次/秒
- 紧凑型设计，体积小巧 (235 x 109 x 40 mm; 9.2 x 4.3 x 1.6 in)
- 高度灵活的通信方式，可以采用RS-232、DeviceNet、以太网IP、Profibus和Profinet等方式方便地连接到主机PC或PLC上。
- 实时监测测量仪器的运行和性能，采用彩色LED状态显示灯显示如仪表状态、通讯选项、RS232和以太网的数据传输等。

¹产品外径： $\pm 0.02\%$

AccuNet Software

- 集中式的数据采集和监控使操作员控制整个生产车间变得更加容易。
- 菜单驱动Windows界面使设置便捷、操作简单。
- 配方存储和提取功能使对任何类型的产品配置变得简单。
- 使用Microsoft® Excel进行数据记录的功能，可对工艺特性进行审计跟踪，并进行深入分析。
- 彩色趋势显示功能，过程变化的可视化将大大减少次品的产生。



抓紧时间，时间有限。
优惠活动截止日期：2013年12月31号



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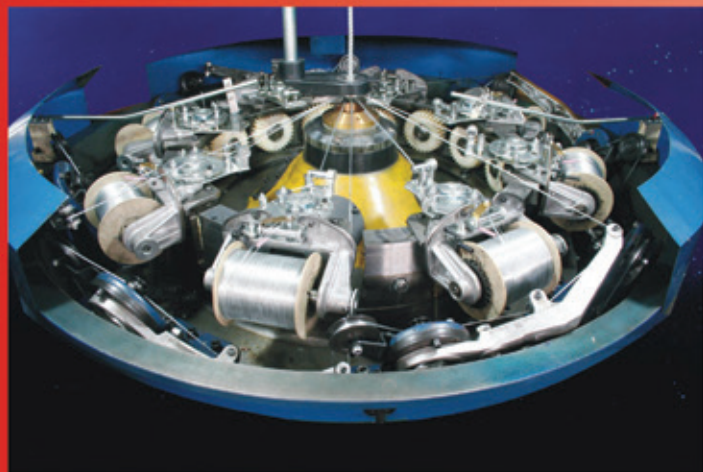
NYDG

上海南洋电工器材有限公司主要从事于电线电缆机械的设计和制造，现主要产品为编织机，绕包机，印字机。其中，编织机按编织线径由小到大分为：轻型、标准型、重型。



GSB-1Q型

GSB-1Q型16锭高速编织机是目前我公司的最新产品。该机型适用于编织极细丝，应用行业包括微型电脑，移动通讯设施，航天航空及军事领域等。该机型的主要技术指标达到国内领先水平，接近国际先进水平，每分钟转速范围0~120米，无极调速；由交流伺服系统控制牵引。编织节距可在2~60mm范围内以精度0.1mm无级任意选择；可编织0.03~0.05mm的极细铜丝；恒张力收放线机构确保编织过程中的张力均衡；机器工作噪音 ≤ 75 分贝。



GSB-Z系列

重型机方面，GSB-Z系列高速编织机主要适用于大直径、大长度线缆及管材的钢丝编织。GSB-1Z，2Z，WGSB-3，WGSB-3B型（16锭，24锭，32锭卧式，36锭卧式钢丝编织机）的最大编织丝直径可达0.4mm*12股（钢丝）。最大编织芯线直径 ϕ 100mm。



绕包机系列

本系列产品可分单头，双头或三头绕包，绕包分为卧式或立式，是生产通讯电缆、控制电缆、防火电缆等专用设备。绕包盘最大转速可达1500r.p.m，绕包节距0.5mm~30mm，绕包盘最大外径 ϕ 300mm。绕包带可分为片式和筒式两种。

上海南洋电工器材有限公司

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33896307 33896308

传真：0086-21-33896305

http: www.shanghai-nanyang.com

E-mail: sales@shanghai-nanyang.sina.net

刚果电力项目

刚果民主共和国 (DRC) 将于2015年10月之前在刚果河畔着手建设其第一阶段的40,000兆瓦的印加水电站项目。当局正在寻找一个承包商开发印加项目的3个低水头电站, 估计能有4,800兆瓦的发电能力。

公告发布在与南非共和国 (RSA) 举行的会议之后, 该会议澄清了诸多问题, 诸如甄选过程、周界、构架、融资同时决定了相关利益各方角色地位。

对于此次开发的评论, 刚果民主共和国部长称与南非当局的商谈已经帮助清理了可能延迟项目开展的障碍。“无论在地区还是在国际层面, 印加都是一体化的重要因素,” 他补充道。

刚果民主共和国与南非共和国的联盟对该项目来说至关重要, 预期该项目能够满足接近半个非洲大陆的电力需求。

南非共和国能源部办公厅主任, 嘎里斯·波泽登侯特 (Garrith Bezuidenhout) 称: “我们已经坚持了我们对项目的承诺, 通过在我们的预算计划中对此次的购买准备了拨备。” 南非共和国将购买这个项目所产生的2,500兆瓦的电力。

该项目的第二阶段, 印加水电站的高水头电站, 将会增加3,000兆瓦的电力。在同一个堤坝上的其他五家电厂的落成将为该项目划上句号, 从而提供了40,000兆瓦的电力。

浦项钢铁完成4号线材轧机

浦项钢铁已经在为其年产量70万吨的4号线材轧机的开始运营而进行庆祝了。

总裁郑俊阳 (Chung Joonyang)、国会议员金汉泰 (Kim Hyeongtae)、浦项市市长朴承浩 (Park Seungho) 高丽焊丝 (Kiswel) 主席洪明泽 (Hong Mincheol) 世亚特钢总裁刘乙奉 (Yoo Eulbong), 和其他海内外的嘉宾出席了庆典。

随着该轧机的扩建, 浦项钢铁具有了年产280万吨线材的能力, 生产的线材用于制造钉子、钢缆、螺丝、螺栓、螺母、轴承、弹簧及钢丝绳。

新的轧机将会生产极高强度的弹簧钢, 以及用于深海开发的高强度钢缆。

Pohang Steel Works - 韩国
网址: www.posco.com

肯尼亚-埃塞俄比亚输变电项目

非洲开发银行 (AfDB) 已经启动了一个12.6亿美金的输电线路项目, 该项目将在肯尼亚和埃塞俄比亚之间被开发。该项目涉及1,068公里传输线路的基建, 大约437公里在埃塞俄比亚境内, 631公里在肯尼亚境内。该项目的范围包括相关的直流/交流变电站的建设, 变电站将建在埃塞俄比亚的沃雷塔-索多 (Wolayta-Sodo) 之间, 配电站将建在肯尼亚的苏斯瓦, 该项目双向输电容量达到2,000兆瓦。

该项目的资金来源有世行提供的6.84亿美元的投资和非洲开发银行提供3.38亿美元贷款。肯尼亚和埃塞俄比亚分别同意赞助8,800万美元和3,200万美元。

非洲开发银行称法国开发署也表示有兴趣对该项目进行投资。非洲开发银行东非资源中心 (EARC) 区域主管, 加波利尔·尼加图 (Gabriel Negatu) 称该项目将会建立埃塞俄比亚和肯尼亚及东非地区的电力贸易。

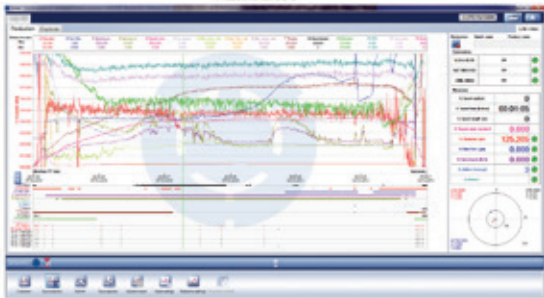



光纤 测量仪器

Measure & Control Instruments

在线数据采集、显示、记录、报告

电脑软件





LIS-Glass: 激光干涉测径仪

NCTM: 非接触式张力测试仪 (拉伸力、双折射原理)

CM5: 5向涂层检测仪

其他: AIR (汽线探测)
LDS-T (激光衍射测径仪, 用于透明圆柱体测试)

- 外径可重复性: $\pm 0.005\mu\text{m}$, 50kHz
- 外径不确定性: $\pm 0.15\mu\text{m}$
- 缺陷检测 75kHz, 事件记录
- 超微汽线检测, $0.3\mu\text{m}$, 400Hz
- 光纤位置: $\pm 2\text{mm}$ 区间 $\pm 0.1\text{mm}$, 1kHz
- 搓动频率测试
- 光纤不圆度测试

- 0-400 ± 1 克, 1kHz
- 测量区间: 4mm直径
- ± 1 gr 室内环境 10-40°C

- 绝对直径: $\pm 0.2\mu\text{m}$, 400Hz
- XY位置 $\pm 0.1\text{mm}$ 1kHz
- 5向 鼓包及凹凸: $\pm 2\mu\text{m}$, 3.6MHz 采样
- 涂层偏心: 30Hz
- 内部缺陷: 800kHz (汽线、气泡、内含物、杂质等)



www.CERSA-MCI.com

阿拉伯之春没有影响正常的增长

中东和北非 (MENA) 电线和电缆市场稳步恢复，在2012年达到了154亿美元，自2011年以来增长了5.4%。这是根据英特杰 (Integer) 公司的最新研究——电线和电缆专题报道：中东和北非市场，该报道预测中东和北非市场到2017年的潜在需求对电线和电缆。

“阿拉伯之春的短期影响，包括项目被取消和搁置在内均已经被消化了” 安德利亚·瓦伦蒂尼 (Andrea Valentini)，该报道的编辑及资深研究员称。“然而，在阿拉伯之春后重建和开放某些北非市场，加上海湾国家寻求维护政治稳定而对基建投资的增加，应使得中东和北非地区的需求获得增长。”

中东和北非地区的绝缘线缆市场在近年中跌宕起伏。油价自2000年代中期至2008年的回升使得海湾国家的建筑和基础设施的开发大幅增加刺激到了对电缆的需求。同时欧洲原始设备制造商积极的投资于北非的线束总成装配行业，促进了当地电线和电缆的消费。

自大幅增加有，中东和北非地区电缆行业同时面临来自阿拉伯之春和全球经济危机的巨变，导致新产能与电缆的需求同样大幅下滑。2009年，电线电缆消费为84亿美元与去年同期相比下滑了28%。在中东和北非地区，北非国家的电缆市场与海湾国家电缆市场不尽相同，尽管他们分享了同样的阿拉伯传统。

“海湾国家的电缆消费远远大于北非国家，同时主要由电力电缆和建筑电线组成。2012年，海湾国家市场几乎达到了1,200总电缆吨，同期，北非市场为520,000吨。” 电缆和电线团队商业经理乔希·阿姆斯特朗 (Josie Armstrong) 说。“相比之下，北非电缆消费的决定因素是欧洲汽车厂和其他原始设备制造商供应链将配线线束组装作业外包。”

Integer Research – 英国
网址: www.integer-research.com

韩国的合资企业

阿尔斯通电网 (Alstom Grid) 和韩国电力公司 (Kepco) 组成了一家合资企业在韩国传输高压直流项目。在合资企业中阿尔斯通电网将持有49%的股份，韩国电力公司持有其余51%的股份。企业被命名为韩国电力阿尔斯通电力系统公司 (Kepco Alstom Power Electronics Systems) (KAPES)，计划使用阿尔斯通的技术增加韩国电力网传输的能力。

阿尔斯通电网的资深副总裁帕特里克·普拉斯 (Patrick Plas) 说：“本合资企业将会使得阿尔斯通增加其高压直流技术在亚洲发展的足迹，并[使得]韩国电力公司能从阿尔斯通成熟的工业技术中获益。”

此前，阿尔斯通为韩国济州岛的101公里点到海底互联链接提供了原始的300兆瓦的高压直流双极链接。阿尔斯通电网和韩国电力公司在韩国就高压直流项目进行合作始于1997年。

Alstom Grid – 埃及
网址: www.alstom.com

Korea Electric Power – 韩国
网址: www.kepco.co.kr

Shanghai Shenchen Wire and Cable Equipment Co.Ltd.

上海申辰线缆设备有限公司

— The Kingdom of Cold Welding Machines



HD-2

Shanghai Shenchen Wire & Cable Equipment Co., Ltd is a company specializing in producing cold welding machines and dies. For many years, we have devoted ourselves to cold welder design, manufacture and sales. Now our company has become an international professional enterprise.

The welding copper wire ranges from ϕ 0.05 mm - ϕ 25 mm and aluminium ϕ 0.06mm - ϕ 35mm, the flat cable largest width is 33mm and smallest thickness is 0.40mm. Our enterprise has one of the largest welding range in the whole industry. Our cold welder series products rigorously comply with enterprise standard Q/YQJT1-2004 to produce quality and consistency.

Our company has accumulated a wealth of production experience though continuous innovation, constantly filling the domestic gap. Recently our company has launched a Multi-stand cluster welding machine, which ranges from 0.5mm²- 630mm². We are always leading the industry.

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ZJ-420 SGZ-170



SD-10 SD-II SJ-1D J1-A



J2-B J3-D J4-A



AC1510 AC3525



AC705-BM

Shanghai Shenchen Wire & Cable Equipment Co.Ltd.(head office、foreign trade office)
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法国的机械合同

连铸技术专家Rautomead最近已经与法国Le Bronze Industriel (LBI) Suippes公司, 达成合同, 在其法国的一个工厂中供应和安装一台RZR 1500/4机器。本合同是两个公司近三年来紧密合作作为LBI的全球战略市场开发特殊铜合金铸件流程的结果, 同时还是Rautomead在战略商业驱动下采用公司世界知名的连续铸造技术和专业知识开发了新的市场和运用的例证。

布莱恩·弗莱姆(Brian Frame) Rautomead的总经理称: “这个与LBI合作开发的项目, 是一个优秀的例子, 客户和供应商如何为了共同创造新技术的目标而紧密的合作, 造就了产品质量的改善和营运成本的降低。”

新的RZR 1500/4机器专用于生产特殊铜合金, 采用非常精密的合金容量和控制, 该机器将产生一个联合专利工艺的开发。

Rautomead设计和传播了连续铸造技术, 为电线和电缆、铸造和全球汽车市场提供广泛的市场应用。

Rautomead Ltd - 英国
网址: www.rautomead.com

低压电线电缆的新书

马克·思特林格, 塔潘电线电缆公司(Tappan Wire & Cable)的产品管理总监已出版《公众电缆1.0》一书其内容为广泛的低压电线电缆的规格。

本书根据四个大型的生产商大约80种规格和相关的表格将2,100家制造商的零件编码进行规范化。每条电缆也被分配了一个品牌中立的称号, 使得它对工程师来说能够指定一个详细的设计而不必表达品牌偏好同时限制供应商的选择。80个规范包括用于CCTV、CATV、SDI同轴电缆、RGBHV结构的非增压和增压率电缆以及各种各样的多导体和成对电缆。

用时尚的标准格式写作并命名为《公共电缆1.0》: 建筑规范部分13410电线和电缆; 电缆规范在第二部分——产品章节出现。该书还有第一部分: 总则和第三部分: 执行部分在非标准低压系统特殊应用或综合系统项目中保持标准格式的结构。

《公共电缆1.0》在亚马逊网及巴诺书店(Barnes & Noble)和谷歌图书可得到其电子版图书。

南部非洲开发共同体提高输出量

南部非洲开发共同体准备批准新的电力项目以增加该地区的发电能力。南部非洲电力联营集团协调中心经理, 劳伦斯·穆萨拔(Lawrence Musaba)博士称新的发电厂需要达到该地区日益增长的需求“2013年到2016年期间, 南部非洲电力联营集团计划尽力购买17,856兆瓦以避免地区电力危机,” 他说道。



○ 赞比亚河上的巴克塔峡谷

穆萨拔博士称安哥拉将增加其输出到3,610兆瓦, 同时南非将增加7,893兆瓦, 而津巴布韦在2016年为630兆瓦。他补充说那里需要激励以吸引更多的投资者进入该行业。穆萨拔博士督促南部非洲开发共同体国家开始着手水利发电站, 而非热能发电站。

“成员国从目前开始应该建水利发电站因为它是可持续的, 相比热能发电站来说寿命更长而且维护成本低。例如卡里巴(Kariba)发电站与上世纪60年代开始运营, 而万基(Hwange)热电站则建成于上世纪80年代, 现在卡里巴水电站证明是可持续的, 而且其产出要高于

万基热电站。”穆萨拔博士说。赞比亚和津巴布韦在赞比西河上联合建造吧托卡水利发电厂, 该厂预期将给这两个邻国增加1,650兆瓦的电力。南部非洲电力联营集团估计到2025年, 南部非洲开发共同体地区将会需要至少102,871兆伏的电力。

Southern African Development Community - 南非
网址: www.sadc.int

未来投资的一年

德特威勒布线解决方案公司(Datwyler Cabling Solutions)继续在瑞士和中国投资生产。

在接下来的12个月德特威勒布线解决方案公司将会投资大约1,000万瑞士法郎——810万欧元——于光纤生产设备中, 大约其中的一半将投资于阿尔道夫(瑞士)分厂, 另一半投资于新落成的中国太仓分厂, 该分厂将于2014年投入试运营。



○ 公司的工厂位于瑞士的阿尔道夫

每天二十四小时无限量的数据被送往全世界各地。在过去的10年里, 世界的宽带对数据交流的要求已经增加了将近10倍。通过网络看电视和打电话使得对宽带的需要日益升高, 其他现代的网页应用也同样需要——而且这是个稳步向上的趋势。光缆是传输这些巨型数据包的最佳载体。德特威勒是瑞士最早开始生产光缆的企业之一, 开始于27年钱的阿尔道夫分厂, 而目前在中国也已经开始生产长达15年了。德特威勒布线解决方案公司意图使用这些年积累的专业知识从对光缆的需求快速增长中获取利润。为了这个目的公司将会投资额外的1,000万瑞士法郎于光缆生产设备当中。

在阿尔道夫光缆生产的现代化进程与持续的投资计划紧密结合在一起。自2011年起, 公司已经投资了大约3,000万瑞士法郎在瑞士电缆厂中, 到2013年年末之前, 1,700万瑞士法郎将会投入到现代化和新生产设备的购买中, 1,300万瑞士法郎将被投入于翻新基础设施建设。投资产生了更具效率, 更高度自动化的系统并优化了过程和程序, 这使得阿尔道夫即便面对竞争激烈的国际环境中仍旧保持竞争力。

未来德特威勒布线解决方案公司将会运作两个卓越的光缆制造中心: 户外使用的技术成熟的光缆将在阿尔道夫专门装配, 同时室内使用的人员密集型的光缆将在德特威勒在太仓的新厂生产和安装。德特威勒布线解决方案公司能力有着两个分厂的特别优势并增加其全球竞争力。

Datwyler Cabling Solutions - 瑞士
网址: www.datwyler.com

他们打破了记录!



○ 照片从左至右克莱夫·德林克沃特, 英国贸易投资总署(西北部)主任; 格拉斯·亨特, Metalube公司商业主管; 彼得·汤普森(Peter Thompson), 英国贸易投资总署; 以及罗伯特·布朗(Robert Brown), Metalube公司主席

对电线电缆润滑剂生产商龙头企业Metalube来说这是破纪录的第三季度, 高于上一创纪录的季度33%, 整体销售高于上一年的25%。过去三年里保持了增长的势头销售量呈现翻番的局面。

与这个好消息及《英国政府出口增长周报》部分指引向一致的是, 公司最近在其曼彻斯特的工厂迎接了英国贸易投资总署(西北地区)主任克莱夫·德林克沃特(Clive Drinkwater)先生。“我们出口了几乎所有我们的产品, 英国贸易投资总署对我们的产业的支持非常令人振奋。克莱夫·德林克沃特作为一个成功的出口商与我们深入讨论了我们所面临的诸多机会和挑战。”商务主管道格拉斯·亨特(Douglas Hunt)说。“公司计划在其年底(8月)通过报道其应得的也是非常荣耀的女王大奖来庆祝。大曼彻斯特地区中尉殿下将会在2013年9月5日, 星期四, 与雇员、家庭和地方政府要员一起时发表祝词。

“报告日将会与我们的年度销售培训周相一致, 届时我们的国际团队中的诸多成员将从印度、中国、马来西亚和巴西来到曼彻斯特加入我们,” 亨特先生补充说。“这将给我们带来机会以感谢我们所有的员工和他们的辛勤工作, 这样的成功来之不易, 我们很荣幸与这么出色的团队一起工作。”

Metalube Ltd – 英国
网址: www.metalube.co.uk

菲律宾138千伏输电线路

为了改善维萨亚电网的可靠性, 运营商菲律宾国家电网(NGCP)已经确定其在2014年第一季度前将完成138千伏的奥尔莫克-马尔辛(Ormoc-Maasin)输电线路项目。公司将会加强现有的从奥尔莫克, 莱特岛到马尔辛, 南莱特岛138千伏线路, 采用的方法是将另一条串接进入113.97公里的电力设施。

菲律宾国家电网的发言人辛西娅·P·阿拉班匝(Cynthia P Alabanza)称该项目对大陆电力输入维萨亚群岛电网很重要: “对我们来说能够完全调度可用的能源并满足维萨亚群岛日益增长的要求, 我们需要投资以加强我们的线路。”她补充说: “加强我们的138千伏的伏奥尔莫克-马尔辛线路是向这个目标迈进过程中的一步。”

新回路的串联将使得菲律宾国家电网能按照N-1应急事件帮助电网继续运作, 甚至当一个主要系统部件丢失时候也是如此。南莱特岛和保和(Bohol)地区的风险来自电网的断线, 每当奥尔莫克-马尔辛线路遭遇电力停运时, 南莱特岛和保和(Bohol)地区也会被断线。

National Grid of Philippines – 菲律宾 网址: www.ngcp.ph

两款新机器

Surtel Kablo从土耳其机械生产商处购买了两款新机器, 两台新机器的调试将于10月完成。一台新机器是电缆钢丝铠装流水线有一个卷筒卷曲同时具有48钢缆的生产力。这台机器同时还有能力将从4条放线器放出的线绞合为4芯线。第二台机器由一个紧线器和5个放线器组成, 全部部件卷筒卷曲。这将使得Surtel可以生产扇形电缆。这台机器同样有70-钢线的铠装大规格电缆生产能力。

Surtel Kablo – 土耳其
网址: www.surtel.com.tr

Easykoil, 使您更便捷

GMP斯洛伐克是钢卷、鼓轮以及电线电缆处理设备行业的龙头企业。虽然成立于10年之前, 公司已经拥有了相当专业和经验丰富的员工, 有能力帮助有问题的客户寻找解决方案。

每一个项目均有公司的技术人员和专业计划办公室共同研究, 专业计划办公室使用最先进的图形系统以保证所有产品都有最好的功能。产品的范围包括很多不同型号的卷轴, 各种用途, 为钢, 铜和铝材质的电线和电缆和绳子运输或加工。模型尺寸可根据DIN标准或者根据要求定制。

GMP斯洛伐克同时还是专利产品可拆装卷轴线圈产品——Easykoil的设计者和制造者。这种可拆装卷轴使得操作者可以自动在凸缘下释放而无任何干扰, 只需将合适的钩子放在正确的位置即可。这是个在开始和结束运作时最佳方案, 用以装载和移动带有电线的卷轴。Easykoil的附加版本也已经面世, 它可以被当成线圈升降机, 在举起缠绕电线的卷轴时可避免使用额外的设备。

GMP Slovakia – 斯洛伐克
网址: www.gmp-slovakia.com

○ 在GMP斯洛伐克里经验与专业团队并存



来自应用热电子(ATE)的两个新系统

应用热电子 (Applicazioni TermoElettroniche) 在1987年以来, 已经在设计和生产感应加热设备包括过程自动化, 控制和监控系统。

该公司最近开发了两套感应加热系统——IMW(独立控制线)和CMW(共同控制线)——专用并行处理线。

通过在动力电子设备领域使用最先进的技术, 这些系统代表了一种针对相同或者不同直径的多根导线同时加热的成熟和有效的方案。

两个系统的主要特点为:

IMW系统——能够分别加热不同直径的多根电线, 一根接一根, 通过相同或不同的温度和速度(根据要求)。

CMW系统——能够用相同的问题加热相同直径的线路或是将直径有细微差别的电线加热到相同的温度, 能考虑适合的“速率×直径”关系(DV)。

相比其类型的加热系统, 例如电阻型、燃气、流化床或是铅浴加热器, IMW和CMW多线感应加热系统拥有没有环境污染的优势、更紧凑、效率更高以及一个可选的闭环过程控制。

除了电线之外, 系统同样有能力处理金属带或环。在这些情况下系统将会有IMS或CMS的代码鉴别, 而非IMW或CMW。对含铁的材质来说, 系统还能



ATE-自1987年以来设计和制造感应加热设备

加热铝、黄铜和青铜等, 效率值与材料类型成比例。

加热单元的紧凑性使得它们能够很轻易的被安装在空间有限的以及, 尤其是, 在所有的尺寸都很有限的现有的生产线中。频率控制器、热交换机和控制面板可在根据不同场合移动位置, 甚至可以离开加热单元一定距离。

IMW和CMW多线感应加热系统能够被用于不同工艺流程, 包括退火(最高温度大约为720°C)、应力消除(最高温度大约为400°C)、热扩散/钢丝帘线的黄铜镀

层(最高温度550-600°C)、镀锌预加热(大约为500°C)、上漆或涂层预加热(最高200-250°C)、在增加该系统生产力的情况下在现有燃气炉处理前预热。

IMW/IMS和CMW/CMS系统是完全模块化的, 并能加热不同数量的电线, 同时参数还能根据客户的需求做定义。给予了系统可变性, 任何单元能量身定做以满足所需的应用。

Applicazioni TermoElettroniche - 意大利
网址: www.ate.it

新型先进的海上缆绳开发设施

国际缆绳制造商布顿公司(Bridon)已经开始将国家最先进的设施用于开发世界上最先进的海上缆绳。

布顿技术中心(The Bridon Technology Centre)(BTC)设计了一细类专用设备已测试缆绳的性能和表现, 使得布顿得以改善复杂的绳索结构并优化它们的设计。该设备是专用于开发最大的和最复杂的专门用于海上客户缆绳制品。

布顿评论称海上工业需求是中心开发的一个重要因素, 注意到该行业需要更坚韧、工艺更成熟的缆绳, 能在世界上最艰苦的环境中表现出最佳水准的缆绳。布顿已经投资500万英镑在中心的定制测试和分析设备中, 该设备专门用来评估在最困难的条件下与之相配的先进缆绳结构。

该设备有能力测试重达数百吨的缆绳样品, 在极端负重情况下评估他们的强度, 它们的抗弯耐力疲劳, 他们的旋转特性, 记忆它们在更小更经济的线轴



布顿的工厂将产出世界上最先进的缆绳

上反复分层的回应。它也装置了最先进的3D显微技术以在微小的细节上测试绳索, 使得一些最为严格的测试能够实现。布顿测试中心同样还赋予了布顿公司与客户共同工作选择技术项目的机会。在未来的数月中, 公司希望与几个主要的运营商会谈优化其设备或应用的缆绳。

布顿技术中心的发起紧随2012年11月布顿海王星码头的开张之后——一个最先

进的制造厂拥有生产世界上最大和最复杂的缆绳的能力。

布顿首席执行官乔恩·汤普尔曼(Jon Templeman)称: “布顿技术中心将会是下一代缆绳开发的高科技中心, 那里将最好的想法用于缆绳技术, 采用最成熟的测试设备评估迄今为止最大最复杂的缆绳的设计。”

“这家最先进的设备将使得我们能够开发和测试在地球最恶劣的条件下缆绳最高级别的表现, 并与我们的哦客户合作订制解决他们面临最困难的挑战时的解决方案。

“在布顿技术中心和布顿海王星码头成立之后, 如今布顿开始运作世界上最先进的绳索开发、制造和测试设备——给予我们作为一个全球科技领袖的大脑和肌肉。”

Bridon International Ltd - 英国
网址: www.bridon.com



○ The new horizon weld pincher from Miyachi Europe

A 'new horizon'

MIYACHI Europe has launched Miyachi Peco's "new horizon" resistance welders, a new generation of resistance welding equipment that allows users to choose the ideal solution by selecting modular components best-suited for their application.

Users can choose from a total of 24 innovative modules to configure up to 400 weld heads and weld pincers that best fit their applications and technical specifications.

This innovation is a major step forward in technical specification and performance.

The modularity of components allows users to benefit from a versatile product portfolio combined with short delivery times and high serviceability.

Technical service and maintenance cost can be reduced by up to 33 per cent as individual components can be exchanged on-site.

Flexibility is doubled as a weld head or a weld pincer can be turned into a different version in minutes on-site.

The Miyachi Peco new horizon product line is trademarked globally and is available for ordering at any one of Miyachi Europe's seven sales offices located in Puchheim, Germany;

Helmond, The Netherlands; Prague, Czech Republic; Paris, France; Turin, Italy; and Budapest, Hungary.

Miyachi Europe Corporation – Germany

Website: www.miyachieurope.com

New brake for pay-offs and take-ups

Magnetic Technologies offers a variety of brakes for pay-offs and take-ups. The brakes, totally adjustable, give extremely accurate tension control and come in numerous sizes to fit customers' spools and reels.

Torque is developed magnetically and will remain the same year after year. Torque ranges from 0.11 inch ounces to 220 inch pounds. Single to multi-spool pay-off stands are also available.

Advantages include adjustability, portability, no electricity, and a minimum of floor space.

Every brake or clutch is carefully engineered to give exceptional long life, for even the most demanding production standards.

They are designed to be easily mounted and serviced or modified, should the need arise.

The company has added current controlled electric hysteresis brakes to its product offerings.

Available in sizes up to 220lb/inch, the brakes complement the extensive offering of permanent hysteresis and eddy current brakes and clutches.

Magnetic Technologies Ltd – USA

Website: www.magnetictech.com

Bringing energy all around

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As world leading providers of advanced polyolefin wire and cable compounds, Borealis and Borouge's solutions have an outstanding record for quality and reliability in the most challenging EHV, HV and HVDC cable applications, as well as in MV and LV energy transmission and distribution cables, building wires and communication cables.

We create the innovation links in the wire and cable industry's value chain, delivering step-changing technological solutions that respond directly to its needs for production, installation and cable system lifetime enhancements.

With Borlink™, Borealis and Borouge's wire and cable heritage technology brand, we offer a complete global package of cross-linked polyethylene compounds, experience, knowledge and support.



www.borouge.com | www.borealisgroup.com



New dry lubricants that reduce dust creation potential

By Mark Van der Vlist and Dan Howard, Blachford Corporation

IN 2009, a Georgia, USA, sugar mill suffered a devastating explosion due to the presence and subsequent ignition of a combustible dust cloud. This terrible accident resulted in the deaths of 14 people and changed forever the way industrial manufacturers manage and mitigate dust-related risk.

This accident illustrated the risk associated with combustible dusts and led many wire drawers to begin searching for ways to reduce both the creation and accumulation of dust in their facilities. As part of their search to reduce this risk, a number of wire producers turned to Blachford Corporation for technological developments that would reduce dust creation during steel wire drawing.

Blachford is known throughout the global wire drawing industry as an innovator and a solutions provider. It develops lubricant programmes that are tailored to the technical specifications of their customers' processes.

Blachford has been researching new technologies that aid in the production of wire for many of the world's largest wire drawers for over 50 years, and is valued within the global wire industry as an organisation that innovates, researches, and works with wire producers to create value and provide technical solutions.

When asked to find a way to reduce dust risk, Blachford's skilled team of scientists and engineers began working to find a solution.

As Blachford is primarily a lubricant manufacturer, and most dust concerns were coming from steel wire customers, it focused primarily on developing a steel wire drawing lubricant that would have a lower potential to create and/or liberate dust during use.

Producing steel wire tends to be a dusty enterprise, due to the activities performed and the materials used. Whether descaling, mixing dry pre-coats into water, drawing wire with dry lubricants or further processing that wire downstream – each unit operation in the wire production process has the potential to liberate dust. Blachford therefore needed to first qualify how dust is created when dry drawing lubricants are used in wire drawing.



○ Many companies have turned to Blachford for their expertise

There are primarily three sources of dust from dry drawing lubricants in wire drawing:

1. During transfer of drawing lubricant from packaging to the wire drawing machine: When lubricants are poured into the soapboxes, those that have high fines content will create dust. The high fine particle content is created when the lubricant is manufactured and ground to a set particle size. These fine particles are very light and can easily become a dust cloud. Blachford recommends overcoming this dust source by moving away from ground lubricants to beaded lubricants whenever possible. Beaded products are not ground and therefore they do not have fine particles. Instead, beaded products are manufactured with a very specific particle size distribution that does not liberate dust when poured into a soapbox.

2. During the drawing process – when the wire agitates the lubricant in the soapbox: This can be overcome in a number of ways, but all involve keeping the dust from leaving the soapbox.

3. After the wire is drawn through a die the lubricant on the wire cools and becomes brittle. When the wire is then bent around the capstan, the lubricant shatters and is thrown into the air. This happens because the lubricant – which is soft when it is hot in the high heat

and pressure of the die – becomes cool when the wire exits the die. As the lubricant cools it becomes hard again and the thin lubricant film on the wire becomes brittle. The wire is then pulled around a capstan, which bends the wire. The brittle lubricant film then shatters in the same way reverse bending shatters rod scale. The capstan's centrifugal force then causes the loosened lubricant to fly off the wire and become airborne. Until now there hasn't been any way to overcome this potentially significant source of dust.

As stated, the first two sources of airborne dust are easily controlled and have been for some time. The challenge existed in controlling the dust source detailed in the third problem. A technical innovation was required to develop a dry lubricant that would be less likely to become brittle when cooled and/or less likely to detach from the wire when rotating on the capstan. The company's efforts led to its newest technological development: Blachford's Low Dust Drawing Lubricants.

Blachford's new low dust lubricants are designed to reduce observable dust creation by reducing the potential of lubricant detaching from wire when the wire is bent and rotating around a capstan.

The reduced dust creation is achieved by improving the lubricant-to-wire interface such that adhesion between the two media is consistently maintained even after cooling. By reducing lubricant detachment, the potential for lubricant becoming an airborne dust is reduced as well.

Reducing the lubricant that is detached from the wire has added performance benefits as well. If more lubricant remains on the wire as it wraps around the capstan, more lubricant is delivered into the subsequent die. This can increase and improve lubricant film formation at each die, thereby improving overall lubricant attributes, like:

- Higher drawing speed
- Reduced lubricant consumption
- Extended die life
- Better wire surface protection
- Increased wire rust resistance
- Reduced blackened material in the soapboxes.

Blachford's new low dust lubricants are being run in a number of steel wire drawing applications, from high carbon, to weld wire, and tyre reinforcement wire, all with very good results. The new low dust lubricants are delivering to these applications both reduced observable dust creation and improved performance.

Blachford's new low dust lubricant technology also affects the material that falls from the die outlet – often referred to as “feathers”. Most lubricants produce feathers in some form; whether just chips that fall out of the die, flakes or streamers, most lubricants can feather. These feathers can contribute to dust formation when they cool and become brittle, break into fine particles and become airborne.

The same technical improvements that help Blachford's new low dust lubricants to remain attached to the wire even after the wire and lubricant are cool, also reduce the tendency of the resulting feathers to become brittle and break into fine particles. Therefore, feathers created with the new low dust products are less likely to contribute to dust creation.

In addition to the development of these new products, Blachford has invested in learning about dusts, their risks and methods of controlling them. Blachford sent research and development personnel to train at Chillworth Global (a leading dust testing lab services provider) to better help customers mitigate dust risk. It has tested many of its own products at Chillworth, to understand the products' impact. Blachford has authored an Information Bulletin (“Controlling Dusts From Dry Wire Drawing Lubricants”) – a copy of which can be supplied on request from the company.

Blachford has developed new products, gathered relevant information and invested in training so as to provide customers with the best guidance in the control and mitigation of dust risk.

The company's new low dust lubricants may provide to steel wire drawers an opportunity to reduce dust risk, while also improving overall process performance and profitability.

Blachford Corporation – USA
Website: www.blachford.com

CableData Collector finds defects in live cables

EA Technology has launched the most effective instrument yet for identifying defects in live cables of distribution voltages.

The CableData Collector works by testing for partial discharge (PD) activity: small discharges, which result in damage to the cable, and if left unattended will lead to insulation failure.

EA Technology commercial director Neil Davies said: “Measuring PD activity is a very accurate way of assessing the condition of cables and their likelihood of failure and outage. The ability to test cables without the need to de-energise them is a real benefit. Essentially, they can be fixed before they fail and cause expensive outages.”

The instrument quickly detects PD activity in live cables by measuring radio frequency currents. It works with most types of single and three phase insulated cables at distribution voltages, up to several miles/kilometres in length.

Information about PD activity is recorded by the CableData Collector hardware and can be sent to EA Technology for expert analysis. Alternatively, users can buy EA



○ *The new CableData Collector from EA Technology*

Technology's software package to perform their own data analysis. In either case, they will have access to clear reports on cables affected by PD activity and recommendations for remedial action.

CableData Collector instruments are supplied as complete, ready-to-use kits, with Radio Frequency Current Transformers (RFCTs), cabling, USB-powered data collection unit and carry case, together with optional software, training and factory technical support. Kits are also available for rental, or EA Technology engineers can provide cable testing as a site service, anywhere in the world.

EA Technology Group – UK
Website: www.eatechnology.com



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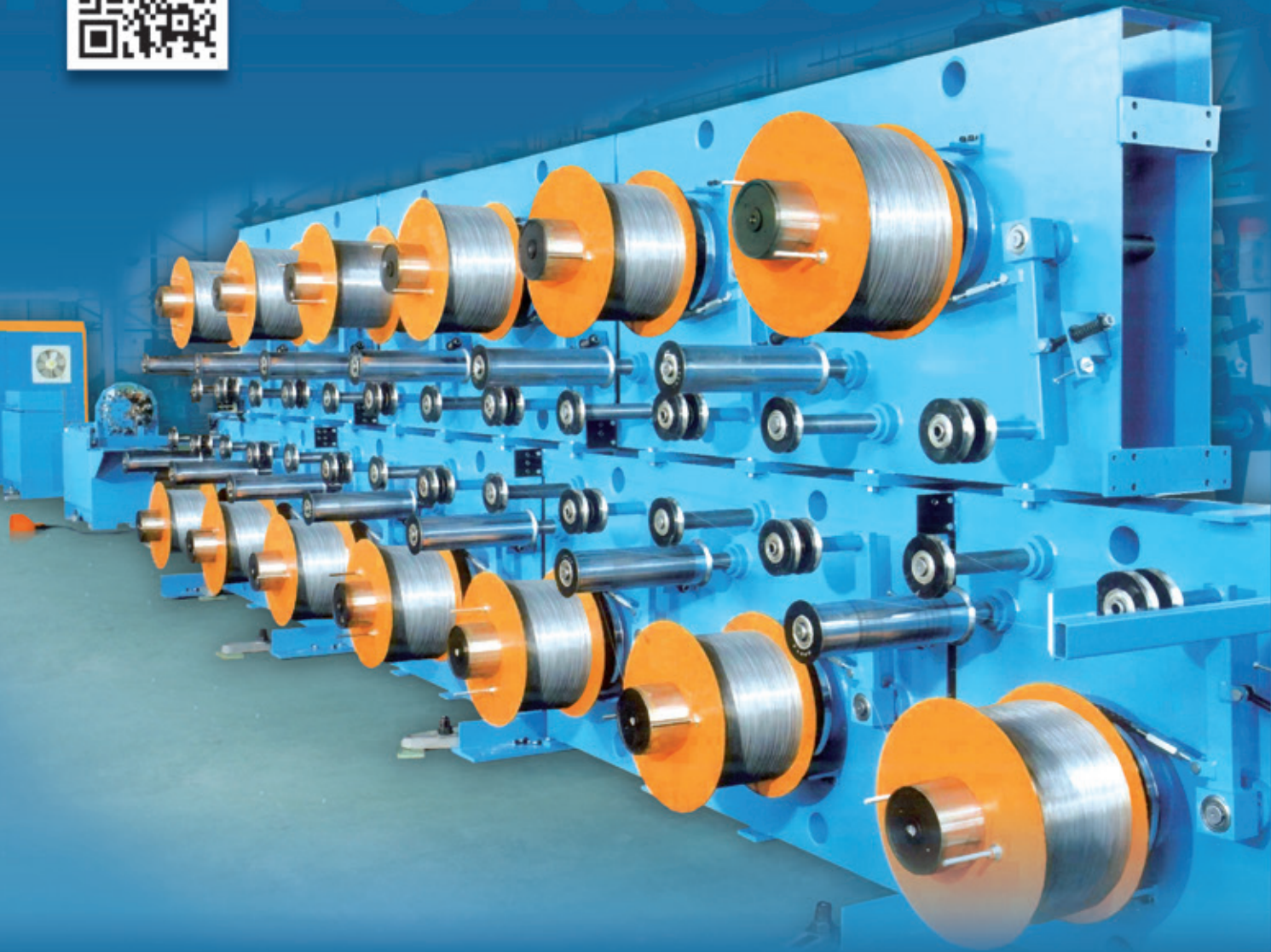
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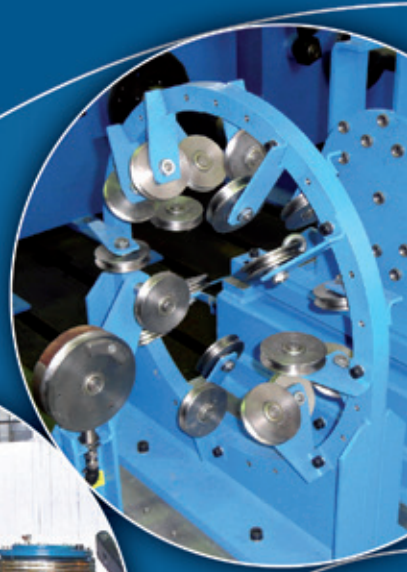
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We design, develop, manufacture and supply machinery and equipment for the manufacture of steel wire rope, steel cord, low relaxation prestressed concrete wire and strand, telecommunications cable (copper and fibre optic cable), power cable, submarine cable and OPGW cable. Installation and commissioning, reconditioning and upgrading, personnel training and after sales service.




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Systematic measurement of flat profiles and shaped wire

SHAPED wires are indispensable in industry sectors such as aerospace, watch and jewellery making and dentistry. In other words, wherever there is a demand for absolute precision and an extremely long service life.

Shaped wire can be used to quickly create near net shape complex geometries and profiles at a significantly lower cost than with other production methods which require finishing work such as abrading.

Although flat profiles and shaped wires are used in a huge range of environments, all application areas have one thing in common: mediocre quality is not an option. Manufacturing tolerances are extremely tight, and the surfaces of the cold-rolled profiles must be cleanly worked and exhibit no anomalies. It is surprising that manual measurements by skilled workers are still widespread today. The manual checks do not just interrupt the production flow but also consume valuable time and involve a certain margin of error. Nobody can afford to make errors.

The majority of optical systems equipped with laser or CCD cameras measure the shadow height of a product. This, however, like the human eye, is subject to heavy fluctuation if the product is not precisely aligned with the laser beam. A deviation of a twist angle of one degree may already lie outside the permissible tolerance range. So how can perfect production of flat profiles and profile wires be ensured?

Zumbach's answer is in its product range. It includes various solutions for in-line height and width measurement of profiles which are able to measure with extremely high precision, regardless of position and twist, and no worries about incorrect measurement. Robust and compact measuring systems can easily be integrated in existing production lines. Measurements are performed using either laser technology (ODAC®, DVW 1, DVO 2) or the light-cut method with image processing (Profilemaster® PMM 30/50/80).

Measuring with laser technology: Zumbach's ODAC® laser measuring heads measure the height and width of any profile without contact and ultra-fast (1,200 measurements/s). The extremely dirt-resistant scanners ensure maximum error detection and permanent calibration – incomparable



○ Pivoting support DVW 1 with ODAC® laser dimension measuring head

with manual measurement methods and, in view of tight manufacturing tolerances, an advance in quality in every respect.

The pivoting mechanism of the DVW 1 support rotates the ODAC® laser measuring heads mounted on it continuously around the measuring axis within $\pm 2.5^\circ$, $\pm 5^\circ$, $\pm 7.5^\circ$ or $\pm 10^\circ$. Extremely accurate measurements are ensured by the continuously pivoting motion of the laser heads together with the electronic 'minimal value detection' of the relevant dimension.

With the DVO 2 oscillating device for ODAC®, the angle can be increased to $\pm 50^\circ$, thereby ensuring maximum possible measurements of profile dimensions. The values acquired from the DVW 1/DVO 2 and ODAC® are processed via a connected USYS system and used for automated production monitoring.

Measuring with the light-cut method: Product quality can also be assured using image processing profile measuring systems. Zumbach's Profilemaster® PMM 30/50/80 are non-contact in-line and off-line high-tech systems for measuring profiles. The CCD megapixel gigabit Ethernet cameras use measure fields with diameters of within 30, 50 or 80mm. One to six laser/camera modules continuously measure the cross-section of the moving profile. A powerful PC-based processor adds the cameras' partial images, consisting of straight lines and curves, together to yield the momentary cross-section of the profile. All relevant dimensions such as width, height, thickness, angle and radii are added together to form the full cross-sectional picture.

Zumbach Electronic AG – Switzerland
Website: www.zumbach.com

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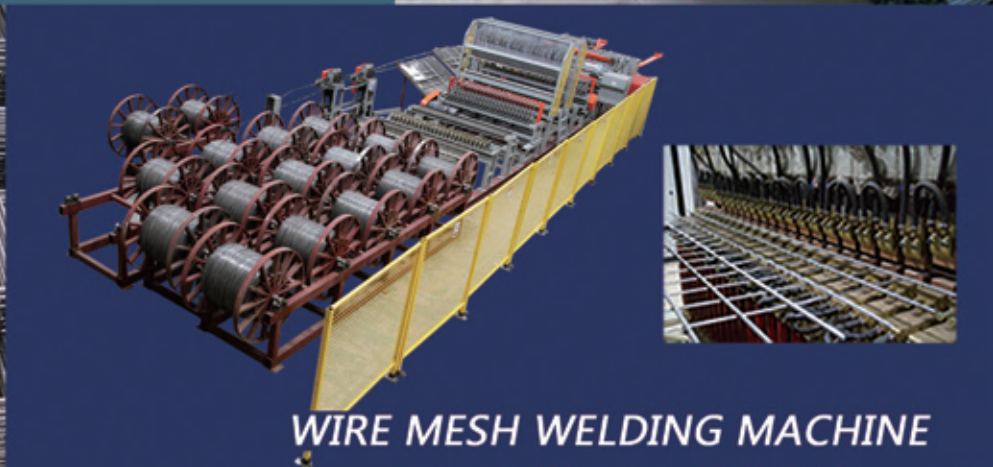
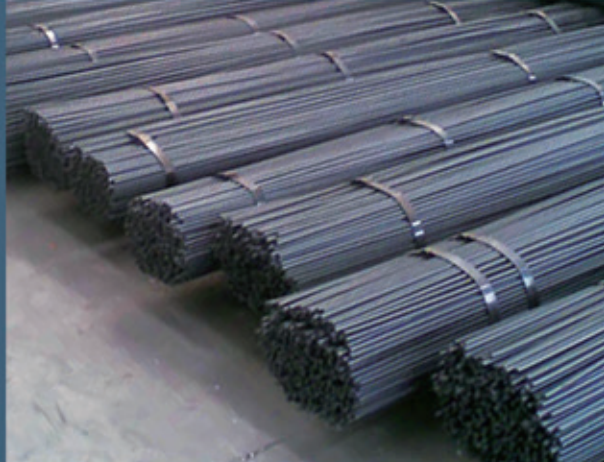
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Research pays off for Hydro

HYDRO Group, Aberdeen, UK-based global designer and manufacturer of underwater cables and connectors for subsea, underwater, topside and onshore applications, invested £300,000 into research and development in 2012, and has now developed the 36kV Dry Mate Hydro Bond Renewable Connector (HRC).

Doug Whyte, managing director, said: "The new connector is a significant advance on our previous product, the HRC 12kV, with an impressive reduction in installation time from 24 hours to less than 12 hours, and its ability to carry three times more power."

The reduced installation time means the 36kV Dry Mate HRC is a lower risk, more cost-effective and safer option, due to the reduction in offshore man hours. The connector has a 25-year operational lifespan and the ability to work at water depths of 100m and temperatures of -4°C to over 25°C.

"The advancement of systems in the offshore renewable sector is at an incredibly progressive and evolving phase. There are, however, currently no standard interconnect products defined within this market. Being first to develop any innovative product is always challenging, but the team at Hydro Group have taken advantage of this gap in the market, and established a forefront position in this area – providing extremely rewarding results," added Mr Whyte.

The success of Hydro Group's existing HRC product line means the new connector is being considered for a number of projects currently under development. These all involve submerged interconnection with varying detail regarding systems architecture, but a common need for underwater interconnection with the ability to carry increasingly higher levels of power.

The group plans to continue its strong level of investment into the development of HV connection infrastructure in order to enhance connection technology for subsea connection of offshore energy networks. This continued progression aims to help contribute to Hydro Group maintaining a leading position as a supplier of appropriate technology for the emergent applications.

Hydro Group's cable and connectivity

solutions are developed to withstand the harshest environmental conditions, including salt water, solar effects, storm force winds and dynamic tidal and wave motion. These factors place extreme loads on the subsea systems, connectors and cables, resulting in the company's connectors being designed and manufactured for flexibility and environmental endurance.

Hydro Group Plc – UK
Website: www.hydrogroupplc.com



○ Managing director Doug Whyte

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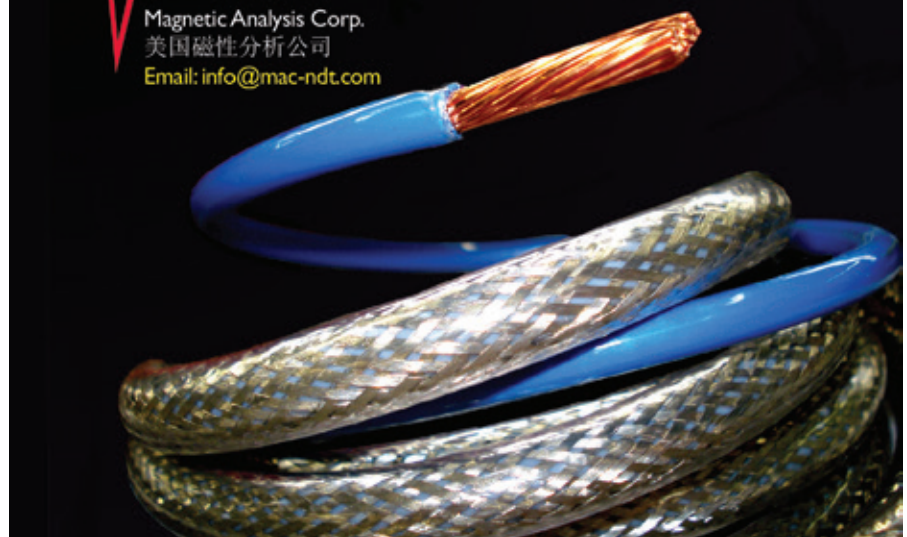
MAC公司的无损检测设备可以检测各种金属线材，包括定长线材，连续生产线材，多股绞合线材，多导体线材和绝缘线材。

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Preheating with temperature control

WITH the Preheater 6000 TC (TC - Temperature Control), Sikora offers a solution for a precise conductor preheating, the basis for high-quality cable production.

The Preheater 6000 TC is positioned before the extruder and preheats the wire by means of inductive heating up to 200°C. A controlling module controls the power of the Preheater 6000 TC depending on the conductor material, the conductor dimension, the line speed and the desired temperature.

A non-contact infrared camera takes the temperature inside the Preheater.

With the approach of the direct integration of a wire temperature measurement in the Preheater and the feedback to its power control, it is assured that the wire temperature is always at its desired level. The Preheater is available for a product diameter of 0.32 to 2.8mm (0.08 to 6mm²) and applicable for new lines as well as the retrofitting on existing lines. The system comes with all common interfaces such as Ethernet, Profibus and Profinet as well as analogue ports.

Initially developed for Sikora's Preheater, the Wire-Temp 6000 is also now available as a standalone version and for retrofitting to existing preheaters. The Wire-Temp 6000 determines the conductor temperature independently from the cross-section, the material, the line speed and the surface structure of the conductor.

A big advantage over conventional systems is that the temperature measurement is made by means of a non-contact thermal image sensor in an infrared camera, which detects the conductor and provides accurate measurements with no need for calibration. The Wire-Temp 6000 is available for product sizes from 0.1 to 10mm and from 0.15 to 100mm.

Various communication interfaces are available for the transmission of the measuring values to a Sikora processor system, the line control or a laptop. The universal interface module for connections to RS485, RS232, Profibus DP or industrial field buses such as CANopen, Ethernet/IP, DeviceNet, Profinet IO fulfils the demand. The interface module and all connection



○ Preheater 6000 TC with integrated Wire-Temp 6000

plugs are fully sealed for protection against water, dirt and mechanical damage.

Sikora AG – Germany
Website: www.sikora.net

Category 8 for data

Datwyler has developed 'CU 8203 4P', a compact S/FTP AWG23 cable which complies fully with the anticipated requirements of the new Category 8.2 as specified in the ISO/IEC draft.

The new international standards for Category 8 copper cable and balanced cabling systems for 40 Gbit/s are currently being developed as Draft Standards IEC 46C/976/NP and ISO/IEC TR 11801-99-1.

Unlike the proposed standards for symmetrical Category 8 data cables discussed a few years ago, the sole use foreseen by today's international standardisation bodies is in data centres with a maximum limiting frequency of 2 GHz.

Standard ISO/IEC TR 11801-99-1 defines a point-to-point connection between active devices at a maximum distance of 30 metres, comprising 26 metres of installation cable and 2 metres of patch cable on either side. Such a connection can replace expensive fibre optic and twinax cabling in data centres.

Datwyler Cables GmbH – Germany
Website: www.cabling.datwyler.com




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Copper Rod Breakdown Machine with Continuous Annealer (One Head/Two heads)



Flat wire for high-performance springs

TODAY'S technical applications call more and more for springs with a compact design combined with high spring forces. In addition, due to highly automated manufacturing processes, often tight dimensional tolerances are requested.

Whether in the automotive sector, precision engineering or medical technology, textile machinery or electrical connection technology, a high resistance to corrosion is often needed.

For such applications, stainless-steel flat wire is commonly used – both traditional materials, such as AISI 300 and 400 series as well as special alloys. Specialised suppliers are even able to offer almost all cold-formable materials, whose procurement is possible.

Flat wire is available in industrial quantities from widths of about 0.05mm, with a tolerance of ± 0.005 mm. Thicknesses start from about 0.02mm (20 micron) and tolerances of less than ± 0.001 are possible. Some specialised companies in this field achieve width-thickness ratios of up to 1:50, and even up to 1:70, while the majority of

providers work in the range of 1:2 to 1:10.

Depending on the required applications, such a flat wire has:

- natural edges
- rounded edges
- rolled edges or
- defined radii.

In the small to mid-latitudes thickness ratio natural edges provide an economical solution. Rounded edges, ie edges that go through a peeling process after cold rolling, offer an even closer and more regular width tolerance, especially for high quality products with very tight bending radii.

Rolled edges are formed by a vertical pair of rollers. This manufacturing step shows width tolerances similarly tight as rounded edges. Defined radii allow very tight customer specific requirements to be obtained.

Compared to steel strip, cold-rolled flat wire has the advantage of very large lengths without welds (wire up to 500kg per coil) and a homogeneous spread of

strength across the entire cross-section. In addition a stable supply-chain with a broad set of machines is recommended, that can ensure both small quantities for validation purposes and larger annual contacts with partial deliveries and accurately maintained tolerances.

Studer SA – Switzerland
Website: www.studersa.com


For extremes


As oil and gas producers push their technology to ever-greater ocean depths to find sources of supply, there has been an increased need for long-distance, high-temperature and high-pressure sensors and communications devices.

Ametek SCP has developed the technology to produce a glass-sealed fibre optic feedthru (FOFT) for extreme high-pressure, high temperature applications.

Ametek SCP – USA
Website: www.ametek.com

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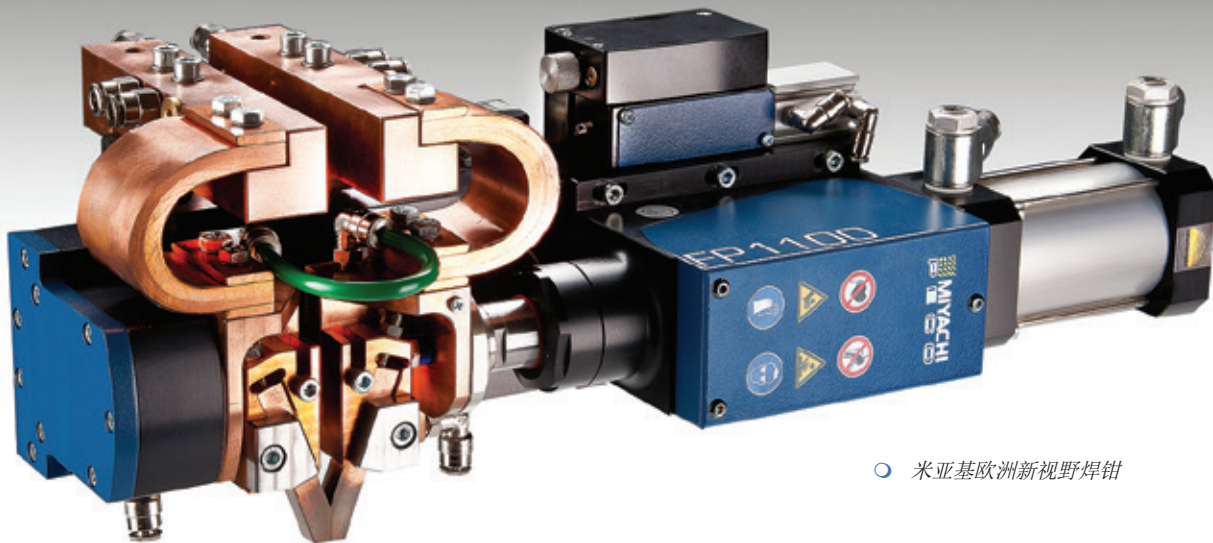
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一种“新视野”

米亚基欧洲已经推出了米亚基皮科“新视野”电阻焊接机，一种允许用户通过挑选最适合它们应用的模块化组件选择理想解决方案的新一代电阻焊接设备。

用户可以从总共24创新模块中做出选择，来配置多达400个焊头以及焊接最适合他们应用和技术规格的铁钳。

这项发明在技术规格和性能方面向前迈进了重要一步。组件的模块化使得用户受益于多功能的产品组合、缩短的交货时间以及更高的可维护性。

由于单个组件可以现场替换，技术服务和维修成本可以降低高达33%。焊头或焊钳可以在几分钟内现场转变成不同的版本使得灵活性增强了一倍。

米亚基皮科新视野产品线的商标已在全球注册，用户可以从米亚基欧洲的以下七个销售办公室中的任意一个预定：德国普赫海姆、荷兰赫尔蒙德、捷克共和国布拉格、法国巴黎、意大利都灵和匈牙利布达佩斯。

Miyachi Europe Corporation – 德国
网址: www.miyachieurope.com

用于数据中心的8类电缆

德特威勒已经发明了“CU 8203 4P”，这是第一款紧凑型S/FTP AWG23电缆，完全符合ISO/IEC草案中规定的8.2新类别预期要求。”目前正在制定新的8类铜缆国际标准和40 Gb/s均衡布线系统标准，并将作为IEC 46C/976/NP和ISO/IEC TR 11801-99-1草案标准。不同于几年前讨论的对称8类数据电缆建议标准——当时只针对结构化室内布线，最大限制频率为1.2 GHz——今天的国际标准化机构唯一预见到的用途是数据中心，最大限制频率为2 GHz。

ISO/IEC TR 11801-99-1标准定义了最大距离为30米的有源器件之间的点至点连接，包括在任意一侧安装26米的安装电缆和2米的连接电缆。这样的连接可以取代数据中心中昂贵的光纤和屏蔽双绞布线。”尽管新标准仍然处在草案阶段，德特威勒已经开发了“CU 8203 4P”，第一个紧凑型S/FTP AWG23电缆，完全符合ISO/IEC草案中规定的8.2新类别预期要求。S/FTP 和 F/FTP的其他新发明以及相应的连接电缆（柔性电缆）将陆续推出。德特威勒非常强调在衰减（NEXT, PS-NEXT）方面，新电缆在讨论和定义的限制值上还有大量备用容量的事实。

Datwyler Cables GmbH – 德国

网址: www.cabling.datwyler.com

收放线设备的新刹车

磁技术公司(Magnetic Technologies)提供一系列的收放线设备专用刹车。为适应客户的线轴和卷轴，这些刹车完全可以调节，拥有极其精确的张力控制和各种各样的形状。

扭矩是利用磁性设计的，这一点将维持多年不变。扭矩的尺寸范围从0.11英寸盎司至220英寸磅。放线架从单转子到多转子都有。

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Magnetic Technologies Ltd – 美国
网址: www.magnetictech.com

极端温度和压力专用

随着油气生产商将他们的技术应用于更深的海洋去寻找能源时，对更长距离、更耐高温和高压的传感器和通信设备的需求也日益增加。阿美特克SCP已经为极端高压、高温应用开发出了一种生产玻璃密封光纤馈通(FOFT)的技术。

阿美特克发明了玻璃密封光纤馈通来克服石油和天然气井的钻井和完井过程中遇到的恶劣的井下环境，该公司的客户已经证实了该产品在30,000磅/平方英寸和300摄氏度环境下的合格性。现在的玻璃密封光纤馈通由一至八根纤维组成，放置在一个0.375英寸的护套内，可在其上焊接或加上一个标准的高压接头。玻璃密封光纤馈通也变得小型化，以适应高压、高温的连接。

这种坚固的、高性能的光纤馈通以低释气材料为原料，配置有标准的单模和多模光纤。它可方便地与标准的3/8英寸高压配件相连接，适用于多种可选终端，包括裸的、剥离的、SMA、ST、FC、APC以及定制的连接套圈。

阿美特克独一无二的流程采用专用密封玻璃生产出了一种光纤和金属超合金之间的气密性密封。结果这种压缩密封产品非常耐用，可以承受极端高温和高压。连接器的稳定构造也使它十分耐腐蚀和化学侵蚀。这个行业中还没有一种基于光纤的馈通可以具备这些相同的特征组合并能承受严酷的服务条件。应用范围包括石油和天然气井下工具；高压和高温光纤检测器流量单元；以及潜艇耐压船体穿甲弹，舱壁连接器和干配对系统。

Ametek SCP – 美国
网址: www.ametek.com

用电缆数据收集器探测带电电缆缺陷

仪安科技公司已经推出了目前为止最高效的探测有配电压的带电电缆中缺陷的仪器。

电缆数据收集器(CableData Collector)测试局部放电活动：少量放电可能导致电缆损坏，如果不加以维修将导致绝缘失效。

仪安科技商务总监尼尔·戴维斯(Neil Davies)说：“测量局部放电活动是一种非常精确的评价电缆状况及其故障和停电可能性的方法。无需断电即可测试电缆的能力让使用者真正受益。事实上，电缆在出现故障和引起损失惨重的停电事故前可以修好。”

该设备通过测量无线射频电流能快速检测带电电缆的局部放电活动。

它可用于大部分类型的单相和三相有配电压的绝缘电缆，长度可达几英里/公里。

电缆数据收集器硬件记录关于局部放电活动的信息，并将数据传输到仪安科技进行专家分析。

另外，用户也可以购买仪安科技的软件包来自行进行数据分析。无论采用什么方法，他们都能获得关于受局部放电活动影响的电缆以及建议补救措施的明确报告。

仪安科技提供电缆数据收集器完整现成的套件，包括射频电流互感器(RFCTs)、综合布线、USB供电的数据采集单元和执行情况，以及可选的软件、培训和工厂技术支持。无论你在世界上哪个角落，都可以租赁套件，或者请仪安科技的工程师提供现场电缆测试服务。

EA Technology Group – 英国
网址: www.eatechnology.com



亚基欧洲新视野焊钳仪安科技新型电缆数据收集器

预热温度控制

西科拉推出的温度控制预热装置6000(Preheater 6000 TC)为作为高质量电缆生产基础的精确导体预热提供了解决方案。温度控制预热装置6000安装在挤出机前面，通过高达200摄氏度感应加热的方式对电缆进行预热。控制模块依据导体材料、导体尺寸、线速度和预期温度控制6000温度控制预热装置的电源。

预热器内部用非接触式红外摄像机探测温度。该设备利用直接集成在预热器内部的导线温度测量并直接向电源控制反馈信息，以确保电缆温度始终在希望的水平上。该预热装置适用于直径在0.32到2.8毫米(即0.08至6平方毫米)之间的产品，可以应用于新生产线或者加装在现有生产线上。该系统可以用于包括以太网、现场总线、PROFINET以及模拟端口在内的所有普通接口。

最初为西科拉预热器设计的产品电线温度6000(Wire-Temp 6000)现在可以作为

独立的版本加装到现有预热器上。电线温度6000根据导体的横截面、材质、线速度和表面结构独立确定导体工作温度。

与传统系统相比，新系统的最大的优势在于通过一台红外摄像机中的非接触式热图像传感器测量温度，它可以检测导体，无需较准便能进行精确测量。电线温度6000适用于尺寸在0.1到10毫米以及0.15到100毫米的产品。

可以用多种通信接口将测量值传输到西科拉处理器系统、线控或笔记本电脑上。用于连接到RS485、RS232、现场总线DP或工业现场总线的通用接口模块，如CANopen总线、以太网/IP、DeviceNet以及PROFINET IO均可以满足需求。接口模块和所有的连接插头都进行了完全密封，以起到较好的防水、防灰尘和机械损伤的作用。

Sikora AG – 德国
网址: www.sikora.net



集成有“电线温度6000”的温度控制预热装置6000

海德罗研发不负有心人

海德罗集团位于阿伯西，是一家总部在英国的海底、水下、干舷和陆上应用的海底电缆和连接器的全球设计和制造商。该公司在2012年为研发活动投资了300,000英镑，今天已经成功研制了3.6万伏干燥伴侣海德罗邦德可再生能源连接器(HRC)。常务董事道格·怀特说：“这种新型连接器与我们原先的产品相比有显著的提升，1.2万伏海德罗邦德可再生能源连接器(HRC)使安装时间从24个小时降低到惊人的低于12个小时，并且有能力承载三倍甚至更多的能量。”

安装时间减少意味着海上工时减少，从而使用这种3.6万伏干燥伴侣海德罗邦德可再生能源连接器(HRC)成为一种风险更低、更符合成本效益且更安全的选择。该连接器在100米深水下、温度为-4至25摄氏度的环境中工作的运行寿命为25年。

“离岸可再生能源领域的系统性能正在经历一个令人难以置信的进步和不断发展的阶段。然而，现在这个市场中还没有明确定义的标准连接器产品。做第一个开发任何创新产品的企业总是富有挑战性的，但是海德罗集团的团队充分利用了市场上这个空白，确立了这一领域中的主导地位——获得了非常丰厚的回报。”怀特先生说。海德罗集团现有的可再生能源连接器(HRC)产品线的成功意味着一些如今正在开发的项目正在考虑使用这种新型连接器。这些项目都应用到水下互联，涉及的具体内容与系统架构有关，但是对有能力

承载越来越高水平能量的水底连接的需求已成为一种普遍趋势。

为了增强用于离岸能源网络海底连接的技术，该集团计划保持高压连接基础设施上高水平的研发投入。这种持续的推进目的是帮助海德罗集团维持自身在新兴应用领域相关技术方面的领先供应商地位。海德罗集团开发的电缆和连通性解决方案目标是承受最严酷的环境条件，包括咸水、太阳的影响、暴风和动态潮汐以及波浪运动。这些因素对海底系统、连接器和电缆造成极端载荷，致使该公司必须要设计和生产灵活性大、环境容忍度高的连接器。

Hydro Group Plc – 英国
网址: www.hydrogroupplc.com

运营主管道格·怀特



高性能弹簧扁线

现在的技术应用越来越要求弹簧具备设计紧凑且弹力强的特点。此外，由于生产流程高度自动化，对尺寸公差的要求也常常很严格。无论在自动化领域、精密工程、医疗技术，还是纺织机械或电气连接技术中，较高的耐腐蚀性经常也很重要。这类应用中通常使用不锈钢扁线——同样都是传统材料，如AISI 300和400系列和特殊合金。专业供应商甚至能够利用几乎所有可以采购到的冷成型材料。

工业上使用的扁线宽度约为0.050毫米、公差精度约±0.005毫米。厚度从0.02毫米(20微米)起步且公差可能少于±0.001毫米。这个领域中的一些专业公司使用的宽厚比能达到1:50,甚至接近1:70,大部分厂商在1:2到1:10的范围内工作。斯图特为小到中等厚度比的自然边缘扁平线材提供了一种经济的解决方案，为圆边(即冷轧后还经过剥离过程)的扁平线材应用了更精密、更均等的宽度公差，尤其是对于弯曲半径较大的高质量产品。卷边扁平线材由垂直的一对辊形成。这个生产步骤表明其宽度公差与圆边的宽度公差大小相仿。定义好的半径使产品可以满足非常严格的个别客户需求。

Studer SA – 瑞士
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扁平型材和异型丝的系统测量

如今，航空航天、钟表和珠宝制作以及牙科等工业领域中异形丝已不可或缺。换句话说，无论哪里都对绝对精密和使用寿命极长的异形丝有需求。

异形丝可以被用于生产近净成形复杂几何形状和轮廓，成本要比用其他需要研磨等整理工作的生产方法低得多。

虽然扁平型材和异形丝在大量环境下使用，但所有应用领域都有一个共同点：质量平平是不能接受的。制造公差非常严格，冷轧型材的表面必须处理干净且不显

示出任何异常。奇怪的是，熟练工人手工测量现在仍很普遍。人工检查不只干扰了生产进程，而且消耗了宝贵的时间且容易产生一定幅度的误差。没有人能负担得起犯错误的成本。

大部分企业使用配备激光或CCD摄像机的光学系统测量产品的影子高度。然而，跟人眼一样，如果产品发生剧烈波动，激光束没有精确地对准产品，测量结果就会受到影响。一度的扭转角偏差可能已经处在允许的公差范围之外了。因此如何确保扁平线材和异形丝的精确生产呢？

仲巴赫的答案是我们的产品系列。它包括多种联机测量型材的宽度和高度的解决方案，无论型材的位置和扭转，测量结果都高度精确，且无需担心测量错误。强大紧凑的测量系统可以轻易集成到现有生产线上。测量的方法是激光技术(ODAC®, DVW 1, DVO 2)或者带图像处理的光切割方法(Profilemaster® PMM 30/50/80)。用激光技术测量：仲巴赫的ODAC®激光测量头不用接触便可快速(1,200次测量/秒)测量任何型材的高度和宽度。极其抗污扫描仪确保错误检测最大化和永久校准——手工测量方法与其无法比拟，且鉴于制造公差非常严格，各方面的质量都得到了提升。

DVW1的枢转机制支持安装在其上的ODAC®激光测量头在测量轴周围±2.5度、±5度、±7.5度或者±10°范围内持续转动。激光头的连续转动连同相关维度的“极小值检测”保证测量结果的高度准确性。

ODAC®的DVO2振荡装置能使扭转角度增加到±50°，从而确保最大限度地测量轮廓尺寸。经由DVW 1/DVO 2和ODAC®获取的结果由关联的USYS系统处理并被用于自动生产监控。

用光切割方式测量：使用图像处理型材测量系统也能保证产品质量。仲巴赫的Profilemaster® PMM 30/50/80为非接触式在线和离线高科技型材测量系统。CCD使用的的百万像素千兆以太网相机测量直径在30、50或80毫米以内的产品。一至六个激光/摄像头模块持续测量移动型材的横截面。基于PC的强大处理器增强了相机照出来的部分图像，包括直线和曲线，他们共同生成型材的瞬时横截面。包括宽度、高度、厚度、角度和半径在内的所有相关维度均被合在一起，来构成完整的横截面图像。

Zumbach Electronic AG – 瑞士
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○ DVW 1回转支承与ODAC®激光维度测量头



新型干燥润滑剂降低粉尘产生的可能性

2009年，位于美国佐治亚州的一家制糖厂由于可燃粉尘云的存在及其随后被引燃而遭受了一次毁灭性的爆炸。这场可怕的意外事故导致13人死亡，并永远地改变了工业企业管理和减轻粉尘相关风险的方式。

这场事故揭示了与可燃性粉尘相关的风险，引导许多电线拉丝企业开始寻求减少工厂里粉尘产生和堆积的方法。作为减少这种风险的探索中的一种，许多电缆生产商转向布莱克福德公司进行技术开发，目的是减少钢电线拉丝过程中的粉尘产生。

布莱克福德是全球拉丝行业著名的创新者和解决方案提供商。它根据客户流程的技术规格量身定制润滑剂方案。

布莱克福德50多年来一直在为多家世界上最大的拉丝企业寻求新的辅助电线生产的技术，并作为一家发明、研究、以及与电线生产企业协作创造价值和提供技术解决方案的组织享誉全球电线行业。

当被问及如何才能降低粉尘风险时，布莱克福德由科学家和工程师组成的技术精湛的团队便开始为寻找解决方案而工作了。

由于布莱克福德首先是一家润滑剂生产商，且大部分对粉尘的担忧来源于生产钢丝的客户，因此它首先想到的是开发一种能够降低使用过程中产生和/或释放粉尘的钢拉丝润滑剂。

生产钢丝的企业因其从事的活动和使用的原材料的原因，一般都尘土飞扬。无论是除锈、将干燥预涂层与水混合、使用干燥润滑剂拉丝，还是下游进一步加工成丝，电线生产过程中的每个单元操作都有可能释放粉尘。

电线拉丝过程中使用的干燥拉丝润滑剂主要通过三种途径制造粉尘。

1. 在把拉丝润滑剂从包装袋转移到拉丝机器时：当把润滑剂倒入肥皂盒中时，那些超精细成份将制造粉尘。这些超精细颗粒成份产生于润滑剂生产和研磨成颗粒状的过程中。这些精细成份非常轻，可以轻易形成一团粉尘云。布莱克福德推荐尽可能地以珠状而非颗粒状转移这些润滑剂，以便克服粉尘问题。珠状产品尚未研细，因此它们不含有精细颗粒。相反地，生产的珠状产品带有一种非常特殊的粒径分布，当倾倒入肥皂盒时不会释放粉尘。

2. 在拉丝过程中——当钢丝搅动肥皂盒中的润滑剂时：有很多种方法可以克服这个问题，但是每种方法的都是防止粉尘离开肥皂盒。

由布莱克福德公司马克·范·德·威利斯特和丹·霍华德撰写



减少从线材上分离的润滑剂也能起到增强性能的作用。如果线材绕主导轴旋转时其上保留的润滑剂越多，就有越多的润滑剂被输送到之后的模具上。这可以增加和改进每个模具上润滑剂薄膜的形成，从而提高了润滑剂的整体特性。

- 更高的拉丝速度
- 减少润滑剂消耗
- 延长模具使用期限
- 更好线材表面防护
- 提升线材的防锈性能
- 减少肥皂盒中发黑的材料。

布莱克福德新型降低粉尘拉丝润滑剂如今已被用于从高碳钢、焊丝到轮胎加固线等多种钢丝工业，都取得了良好的效果。这种新型降低粉尘润滑剂在这些应用中不但降低了可见的粉尘生成，而且提升了性能。

布莱克福德新型降低粉尘润滑剂技术也影响模具出口掉落的物料——通常被称作“羽毛”。大部分润滑剂都会产生某种形式的羽毛。无论只是跌出模具的晶片，还是薄片或飘带，大部分润滑剂会产生羽毛。当这些羽毛冷却变脆、裂成精细颗粒并飘浮空中时，它们就可能形成粉尘。使布莱克福德新型降低粉尘润滑剂甚至在线材和润滑剂冷却后仍然保持粘附在线材上的同样的技术改进也减少了产生的羽毛变脆并破裂成细小颗粒的可能性。因此，用这种新型低粉尘产品产生的羽毛更不易产生粉尘。

除了发明这些新产品外，布莱克福德也投资于学习粉尘、它们的危险以及控制它们的相关知识。布莱克福德将研发人员送至希尔沃斯环球 (Chillworth Global) (一家领先的粉尘测试实验室服务提供商) 学习怎样帮助客户减轻粉尘风险。它已经在希尔沃斯测试了许多自己的产品，研究产品的作用。布莱克福德已经授权一家资讯快报 (Information Bulletin) 撰写题为《控制来自干燥钢拉丝润滑剂的粉尘》的报道——可以通过下面提供的联系方式之一索要复印件。

布莱克福德已经发明了新产品、收集了相关信息并投资于培训，以便为客户提供控制和减轻粉尘风险的最佳指南。该公司的新型低粉尘润滑剂可以为钢拉丝企业提供降低粉尘风险的同时提升整个流程性能和盈利性的机会。

Blachford Corporation – 美国
网址: www.blachford.com

3. 在线材经过模具拉丝之后，线材上的润滑剂冷却，变得易碎：当线材围绕主导轴弯曲时，润滑剂粉碎并被抛向空中。发生这种情况是因为润滑剂——在受热时很柔软——模具具有高热度和高压——当线材离开模具时便冷却。随着润滑剂冷却，它重新变硬，线材上薄薄的润滑剂层变得脆弱易碎。然后线材被绕着主导轴拉伸，使它弯曲。脆生生的润滑剂薄膜以反向弯曲粉碎杆状标尺同样的方式粉碎了。之后主导轴的离心力导致松驰的润滑剂飞离线材，飘浮空中。直到现在还没有任何方法能克服这种潜在的大量粉尘来源。

如上所述，前两种飘尘来源容易控制且已经有一些控制经验了。真正的挑战是控制第三个问题中阐述的粉尘来源。为此，我们需要一项技术创新，发明一种冷却时不太可能变脆和/或在主动轮上转动时不易与线材分离的干燥润滑剂。布莱克福德公司的努力产生了这种最新的技术发明：布莱克福德降低粉尘拉丝润滑剂。

布莱克福德新型降低粉尘拉丝润滑剂的设计目的是：通过降低线材弯曲以及在主导轴周围打转时润滑剂与线材分离的可能性，减少可见粉尘的形成。降低粉尘产生的方式是改良润滑剂与线材接触表面，使两种介质之间的附着力在冷却以后还能继续保持。通过防止润滑剂分离，润滑剂成为飘尘的可能性也相应降低了。

India

Insight

Over-burdened wires blamed for rise in fires

Increasing loads on inadequate electrical wiring have caused a rise in fire emergencies across the city of Peshawar, gutting homes. Fire caused by short circuits is among the most common electrical mishaps in the city.

“Our reports prove the clear and exact cause of fire in shops and houses was short circuits,” Rescue 1122 public relation officer Bilal Faizi told *The Express Tribune*.

A short circuit usually occurs when a wire’s insulation wears off and the charge flows along a path it was not intended for, causing an excessive electric current.

Between January and mid-June, 82 major fire-related emergencies have been due to short circuits, the largest being fires in Jhanda Bazar, Kala Mandi, Ali Public School,

Nothia, and several recent fires in shopping malls.

Shopkeepers were eager to pass on the blame to building planners. “The internal wiring does not meet any acceptable standards even in larger shopping plazas,” complained a shop owner in Jhanda Bazaar, where several shops were gutted, adding: “When nothing is done to upgrade the system, there can only be more problems.”

As temperatures soar, almost every house in the city has air conditioners or air coolers. This is in addition to the usual electric load of a household – irons, microwave ovens, dishwashers, freezers, computers and electronic gadgets – but while the internal wiring remains the same, the system is stretched beyond its limit.

EU imposes anti-dumping duties

The European Union has imposed provisional duties on India's exports of stainless steel wire in a move to counter dumping that has allegedly damaged Italian, German and Spanish wire producers.

The Indian government's support, and a policy of selling the wire used in batteries at below production costs, has prevented European companies from benefitting from a booming market, the European Union claimed in its official journal during May.

The European Union and Asia's third largest economy accuse each other of protectionism, and talks towards a free trade pact that started in 2007 have stalled. Europe wants access to 1.3 billion potential customers in India, but Reuters reports that Indian prime minister Manmohan Singh and German Chancellor Angela Merkel were unable to break the impasse during a meeting in April.

The EU, which launched its steel wire investigation in August last year, said producers such as Germany's Hagener Feinstahl, Spain's Inoxfil and Italy's Rodacciai suffered while Indian imports grew by almost 50 per cent between 2007 and 2011.

Aluminium price cut

Reuters is reporting that National Aluminium Co Ltd (Nalco), India's third-largest producer of aluminium, has cut the domestic prices of aluminium ingots by three per cent, following a drop in global prices. Company officials confirmed the cut.

Nalco has been cutting prices over the previous three months, during which time aluminium prices have fallen around eight per cent. The state-run company cut prices for standard aluminium ingots by 4,000 rupees (\$74.27) to 126,700 rupees per tonne, officials told Reuters. The price of wire rods and billets has also been reduced by 3,500 rupees per tonne.

National Aluminium Co Ltd (Nalco) – India
Website: www.nalcoindia.com

New Indian cable plant

Leoni AG has officially opened a new plant near Pune; the company's second production site in India.

"India promises attractive medium and long-term growth prospects for several of our targeted industrial markets," said Dr Klaus Probst, president and CEO of Leoni.

"Opening this new plant near Pune is an essential move to better serve local customers and to drive our globalisation in India and [neighbouring] countries."

The new plant, which has a production area of around 15,000m², is already manufacturing standard cables for the automotive industry and will shortly begin production of special cables.

Industry watchers estimate 12 per cent annual growth in the Indian automotive market until 2016, to reach 5.8 million locally produced units per year.

The company plans local production of cables for the renewable energy market as well as standard and special cables, assembled cables, sub-systems and complete system solutions for rail vehicles.

Leoni Cable Solutions (India) Private Ltd – India
Website: www.leoni.com

Grid breakdown causes power cuts in Delhi

Power cuts were reported from several areas in East Delhi after the Badarpur Thermal Power Station (BTPS) link to Delhi Transco Limited's (DTL) Ghazipur 220kV grid broke down in the Noida segment. The line is maintained by the Uttar Pradesh Power Corporation Limited (UPPCL).

According to officials, the fault constrained the flow of electricity to DTL's Ghazipur grid, which in turn feeds electricity to Patparganj, Ghazipur and Mayur Vihar areas.

"This has been sporadically affecting power supply in parts of East Delhi for the last couple of days. On BYPL's request, DTL has agreed to loan 220kV jointing kits and cable spools to UPPCL for fixing this issue. It is expected that UPPCL will be able to restore the 220kV line in a couple of days," said a spokesperson at the time.

To supply power to the area, BYPL diverted power from its Akshardham grid to Ghazipur, and DTL replaced an undersized isolator in the downstream Patparganj grid. Rotational load shedding was carried out in a few pockets of Ghazipur, Patparganj and Mayur Vihar during the intervening period till the isolator was replaced at Patparganj.

Thai joint venture

Steel wire rope maker Usha Martin Ltd will be part of an equal joint venture between its existing Thai subsidiary Usha Siam Steel Industries Public Co Ltd and Tesac Wire Rope Co of Japan.

Rajeev Jhavar, managing director at Usha Martin, said the facility will produce 1,000 tonnes per day. Usha Siam has a 3,000 tonnes per day unit in an industrial park near Bangkok, where the new unit will also be built.

Mr Jhavar said that Usha Martin is expanding its marketing activities to Russia, South Africa and Latin America.

Usha Martin Ltd – India
Website: www.ushamartin.com

With the Comcast-Verizon partnership as a model, France Télécom mulls cross-selling deals with cable companies

According to France Télécom strategy chief Élie Girard, the French phone company is on the lookout for cable companies with which to cross-sell services, offering European users packages combining TV, mobile and Internet. The company sees an example in the relationship in the US between Verizon Wireless and the cable company Comcast Corp whereby the firms sell each other's services under their own brand names.

In an interview with Mr Girard at the French Open in Paris, in June, Amy Thomson of *Bloomberg News* learned that his company is seeking to expand into increasingly popular multiservice bundles – a strategy adopted by its competitors across Europe – without having to make expensive acquisitions. Romania and Belgium, where France Télécom offers only mobile service, are top venues for this type of relationship, Mr Girard said.

“When you look at the addressable market, it's shrinking by several points every year,” he told Ms Thomson. “You have this idea of trying to sign deals. Look at what Comcast and Verizon have done. One needed mobile. One needed fixed. So they cross-sold to each other.”

France Télécom already offers bundled packages in France and credits this with helping it retain customers in the face of cheaper services, notably Free brand mobile from Iliad SA. Still, as a price war initiated by Iliad last year continues, France Télécom has pledged to cut costs to the customer.

The latest financial results have been disappointing. First-quarter earnings, excluding interest, taxes, depreciation and amortisation, fell nine per cent and sales dropped 5.9 per cent. The company cut its dividend last year and is currently intent on conserving cash.

- Ms Thomson noted on *Bloomberg.com* (5th June) that the CEO of Britain's Vodafone Group, Vittorio Colao, also singles out the Comcast-Verizon partnership as a model for European carriers as they confront declining prices, weak economies and regulators who delay or reject acquisitions. Vodafone has network-sharing agreements with Germany's Deutsche Telekom and Telefónica, of Spain.

As reported in June by the GSM Association (GSMA) and cited by Ms Thomson, the average European consumer spent \$38 per month in 2012 on mobile subscriptions, compared with \$69 for a US counterpart. The mobile operators' group also said that wireless phone bills in Europe have declined steadily since 2000, while carriers in the US have reversed that trend beginning in 2010.

The 5,530-mile Southeast Asia-Japan Cable (SJC) undersea fibre system goes live

As reported by International Data Group (IDG), a 28tbps (terabits per second) undersea fibre cable system backed by a consortium including the American Internet-services giant Google, China Telecom, NEC and a host of local telecommunications companies, was opened on 27th June. The 5,530-mile system connects China, Hong Kong, the Philippines, Singapore and Brunei with Japan.

An eventual link to Thailand could bring its total length to 6,000 miles.

From Japan, according to Tokyo-based NEC, its main supplier, the Southeast Asia-Japan Cable (SJC) system links to existing trans-Pacific fibre that runs to the United States.

NEC said the system provides the lowest-latency connection from Singapore to Los Angeles.

The system is reported to consist of six fibre pairs that can carry the equivalent of 3 million HD video streams at the same time. Construction was started in April

2011 on the \$400 million project, first announced in 2009.

Jay Alabaster of the *IDG News Service* wrote that most of the investors are large telecom providers and mobile operators in the countries that were connected up. In addition to China Telecom and NEC, these include China Mobile, Hong Kong's Donghua Telecom, Globe (in the Philippines), SingTel, and TOT (in Thailand).

Mr Alabaster pointed out some notable aspects of Google's participation. Its share in the project could be used to link up three new Asian data centres and connect them to its US holdings.

In September 2011, Google acquired 1.6 million square feet of land in Taiwan to construct a facility slated for completion this year.

The American Internet-services giant said it had also acquired smaller plots in Hong Kong and Singapore with the intention of building data centres there, as well.

The new bandwidth could be used to one day expand Google's service provider business. In the US, over the last decade, the company purchased large amounts of “dark” (unused) fibre and recently launched fibre service in several towns, offering 1Gbps Internet as well as TV packages.

Rapid decline in copper-based connections in Asia promotes the advance of FTTx-based services – the new ‘broadband darling’.

Copper-based broadband connections, while still the dominant method of broadband access across the globe, are in an accelerating decline, according to a recent report from Point Topic.

That is not surprising news, according to *Telecompetitor's* Bernie Arnason, especially in the US “where the two largest incumbent DSL providers, Verizon and AT&T, have been haemorrhaging millions of basic DSL subscribers” for the past couple of years.

Point Topic had reported that copper-based broadband connections declined for the first time in fourth-quarter 2012, with 415 thousand copper-based broadband subscribers lost.

The research firm was now reporting acceleration in that trend, with over 2.77 million copper-based broadband connections dropped in the first three months of 2013.

Rapid declines for copper-based broadband in Asia were cited as playing a major role in the trend.

Mr Arnason noted that the US is "somewhat unique in the world," given the strong position of cable MSOs with respect to broadband connections. The rapid growth of 4G LTE services is also having some impact on copper-based broadband in the US, Mr Arnason suggested.

To be clear, he wrote on *telecompetitor.com*, copper-based services of DSL still hold a commanding global lead for broadband connections. But, he acknowledged, "the days of growth for this broadband workhorse may be over. FTTx based services are the new broadband darling, with impressive growth curves" across the globe. ("Copper-Based Broadband Decline Is Accelerating – Sort of," 28th June).

Even so, Mr Arnason wonders whether copper-based broadband is quite receiving its due. He noted that FTTN services, such as AT&T's U-verse, are included in the FTTx numbers and in fact account for the major part of the discerned growth pattern. In his view, that confuses the issue.

Most FTTN service is a hybrid combination of fibre connectivity to a node or cabinet, with copper-based connections (usually VDSL) to the premises. Why those copper-based connections contribute to the FTTN growth numbers are a mystery to Mr Arnason, who thinks they belong in copper-based broadband counts.

"They are, after all," he wrote, "a copper-based broadband connection to the home. Are they not?"

Elsewhere in telecom . . .

© The cost of using mobile phones in Portugal is among the lowest in the European Union, according to a study by the European Body of Electronic Communication Regulators and released by the Portuguese regulator Anacom.

As reported on *theportugalnews.com* (27th June), the study found

that the average Portuguese charge for mobile phones – 1.27 euros per minute – is half that in effect for the 34 European states in the analysis. That places Portugal in fifth position behind France (with the lowest calling costs), Denmark, Belgium, and Greece.

The study also looked at call termination charges in 26 of the same countries. Portugal's "average charge of 1.78 euros was deemed "well below the European average of 2.87 euros."

Anacom stated in a press release accompanying the report that, while the regulatory entity does not itself intervene in retail telecommunications pricing, it does "monitor the prices in effect in the wholesale market."

© On *telecomasia.net* (1st July), Michael Carroll reported on a Strategy Analytics finding that India overtook Japan to become the world's third-largest smartphone market in the first quarter, with shipments nearly tripling year-on-year.

The research firm estimates that Indian smartphone shipments reached 10 million in 1Q13 compared to 3.8 million units in 1Q12. The country's share of global shipments nearly doubled – from 2.5 per cent to 4.7 per cent – over the period, placing it behind market leader China and the United States.

Big brands including Apple and Samsung are driving growth in India. However, according to Neil Mawston, the executive director of Strategy Analytics, domestic manufacturers including Micromax, Karbonn and Spice are enjoying the fastest growth. He told Mr Carroll, "India is the new China – a low-penetration, high-growth market that no smartphone vendor, component maker, or app developer can afford to ignore."

© China Mobile on 28th June described the availability of a mature voice solution as "critical" to the continued development of its TD-LTE 4G network, and said it would look to launch voice-over-LTE (VoLTE) technology next year.

Steve Costello of Mobile World Live, in Shanghai for GSMA Mobile Asia Expo 2013, reported that Li Yue, China Mobile's president, said the company is set to begin testing the technology towards the end of this year.

It will move into pilot projects in the first half of 2014, then on to a full commercial launch.

With reference to a VoLTE white paper delivered the day before and detailing China Mobile's 4G voice plans, Mr Li cited what he said were the advantages of moving to VoLTE.

Among these is an all-IP architecture that is expected to cut costs and significantly increase capacity as well as to support the launch of HD voice services.

So far, wrote Mr Costello, "Only a handful of VoLTE launches have taken place on FDD-LTE networks, with SK Telecom of South Korea being perhaps its most vocal proponent in the Asia region."

© The World Bank has approved the award of \$30 million each in International Development Association (IDA) credits to Mauritania and Togo to support their efforts to strengthen telecommunications connectivity through expansion of fibre optic broadband networks.

In a press release issued 30th May, the Bank declared its presumption that legal and regulatory reforms to promote robust private-sector competition would be introduced by both governments.

As noted by Dorcas Appiah on *ghanabusinessnews.com* (2nd June), the investments are expected to serve as the backbone for greater private investment in ICT services and to drive down costs dramatically, as has been the experience in other African countries.

The project is part of the second phase of the \$300 million West Africa Regional Communications Infrastructure Programme that seeks to bridge connectivity gaps among 16 West African countries, and between them and the world at large.

法国电信以康卡斯特-威瑞森公司 (Comcast-Verizon) 合作伙伴为榜样, 计划与电缆企业实施交叉销售交易

据法国电信战略主管埃利·吉拉德 (Élie Girard) 称, 法国电话公司密切留意与电缆公司合作进行交叉销售, 向欧洲用户提供包括电视、移动通信和因特网在内的一揽子服务。该公司借鉴了美国威瑞森无线与电缆公司康卡斯特在各自的品牌名称下销售各自服务的关系。

在六月份巴黎举办法国网球公开赛期间, 彭博新闻记者艾米·汤姆森 (Amy Thomson) 采访吉拉德先生时得知, 他的公司正在寻求扩展到日益流行的多业务捆绑销售——整个欧洲的竞争对手都采用的一种战略——而不需要进行昂贵的收购。法国电信在罗马尼亚和比利时仅提供移动通讯服务, 因此这两个国家是发展这种关系的不二之选, 吉拉德先生说。

“你看这一特定市场, 它每年都在以几个点的速率萎缩,” 他告诉汤姆森女士“你会有试图达成交易的想法。看看康卡斯特和威瑞森的做法。他们一个需要移动, 一个需要固定。所以他们相互进行交叉销售。”

法国电信已经在法国提供捆绑套餐, 并相信这种做法从降低服务价格的角度有助于挽留客户, 尤其是来自伊利亚特SA的自由品牌手机。尽管如此, 伊利亚特去年引起的价格战还在继续, 法国电信已承诺为客户削减成本。最近的财务业绩令人失望。一季度息税折旧摊销后利润降低了9%, 销售下降了5.9%。该公司去年削减了股息, 目前计划留存现金。

- 汤姆森女士在彭博社网站Bloomberg.com (6月5日) 中写道, 英国沃达丰集团首席执行官维托里奥·科劳 (Britain's Vodafone Group, Vittorio Colao) 也专门挑出康卡斯特-威瑞森合作关系作为欧洲运营商面临价格下降、经济疲软和监管机构延迟或拒绝收购的情况下可以借鉴的楷模。沃达丰与德国电信和西班牙电话公司签署了网络共享协议。

正如6月GSM协会 (GSMA) 报道并由汤姆森女士引用的那样, 2012年欧洲消费者每月移动通信费用为38美元, 而美国接受同样服务的消费者需花费69美元。该移动运营商集团也称, 欧洲的无线电话账单自从2000年以来稳步下降, 而美国的运营商却从2010年以来扭转了这一趋势。

5,530英里的东南亚-日本电缆 (SJC) 海底光缆系统正式投入运营

如同美国国际数据集团 (IDG) 报道, 由包括美国互联网服务巨头谷歌、中国电信、日本电气股份有限公司 (NEC) 和本地电信公司东道主在内的财团资助的一条28tbps (太兆比特每秒) 的海底光纤电缆系统于6月27日正式开通。这一5,530英里的系统连接中国、香港、菲律宾、新加坡、文莱和日本。最终连通泰国以后它的总长度将达到6,000英里。

据总部在东京的主要供应商日本电气股份有限公司 (NEC) 称, 东南亚-日本电缆 (SJC) 系统直通现有到美国的跨太平洋光纤。日本电气股份有限公司称, 该系统提供了从新加坡到洛杉矶最短的通道。有报道称, 该系统包含六对光纤, 可以同时传输相当于三百万高清视频流的信息。这项四亿美元的项目启动于2011年4月, 最初于2009年公之于众。美国国际数据集团 (IDG) 新闻服务部杰伊·阿拉巴斯特 (Jay Alabaster) 写道: 大部分投资者是被系统连接起来的国家的大型电信提供商和移动运营商。

除了中国电信和日本电气股份有限公司, 还包括中国移动、香港东华电信、环球 (菲律宾)、新加坡电信以及泰国电话局 (TOT)。

阿拉巴斯特先生指出了谷歌参与的一些引人注目的方面。它在该项目中占的份额可以用来连接三个新的亚洲数据中心, 并连通至其美国总部。2011年9月, 谷歌取得台湾160万平方英尺的土地, 用于修建一组设施, 预计今年完成。这一美国互联网服务巨头称它在香港和新加坡也购得了小一些的场地, 准备在那里搭建数据中心。新带宽未来将被谷歌用于扩展服务提供商业务。在美国, 过去十年间, 该公司购买了大量的“黑暗” (未启用的) 光纤, 并于最近在几个城镇推出了光纤服务, 提供1Gbps因特网和电视频道组合服务。亚洲铜基连接的迅速减少促进了基于FTTx服务——一种“宽带新宠”的推进。

来自要点话题 (Point Topic) 最新的报道称, 虽然铜基宽带连接仍然是全球宽带接入的主要方式, 但其比重在加速下滑。这个消息一点也不令人感到惊讶, 电信竞争者 (Telecompetitor) 的伯尼·阿纳森 (Bernie Arnason) 说, 尤其在美

国, “两大现有的DSL提供商: 威瑞森和美国电话电报公司 (AT&T) 最近几年内已经流失了上百万的基础DSL用户。”

要点话题 (Point Topic) 的报告显示, 铜基宽带连接初次下滑出现在2012年第四季度, 有415,000铜基宽带用户流失。该研究公司报告称目前这一现象有加快的趋势, 2013年头三个月铜基宽带连接减少了277万人次。亚洲铜基宽带的迅猛下滑被认为对这一趋势起到了重要作用。阿纳森先生注意到, 考虑到电缆多系统运营商 (MSO) 在宽带连接方面的强势地位, 美国“在世界上有点特别”。4G LTE服务的迅猛发展也对美国铜基宽带有一些影响, 阿纳森先生说。

他在telecompetitor.com中写道, 需要明确的是, DSL铜基服务仍然占据着全球宽带连接遥遥领先的地位。但是, 他承认, 全球范围内“这一宽带主力的增长阶段可能一去不复返了。基于FTTx的服务作为宽带新宠, 有着令人印象深刻的增长曲线” (《铜质宽带加速下滑——可以这么说》, 6月28日)。

尽管如此, 阿纳森先生不知道铜质宽带是否大限将至。他观察到FTTN服务, 如美国电话电报公司 (AT&T) 的U-verse, 便包含在FTTx数量统计当中, 而且事实上构成了这种清晰可辨的增长模式的重要组成部分。在他看来, 这使得这个问题变得复杂。大部分FTTN服务是一种由光纤连接到节点或机柜、铜基连接 (通常是VDSL) 到驻地的混合型组合。为什么那些铜基连接能为FTTN增长率做出贡献对阿纳森先生来说仍是个谜, 因为他认为铜基连接应属于铜基宽带计数。“它们, 毕竟是,” 他写道, “用铜基宽带连接到家。难道不是吗?”

电信业其他消息.....

⑥ 6月28日, 中国移动称, 成熟的语音解决方案的可用性对其TD-LTE 4G网络的持续开发“至关重要”, 并宣称它预期将于明年推出VoLTE技术。移动世界在线 (Mobile World Live) 的史蒂夫·科斯特洛 (Steve Costello) 在上海2013年GSMA亚洲移动通信博览会上报道称, 中国移动总裁李跃 (Li Yue) 称, 该公司预计将于今年底开始测试该技术, 于2014年前半年启动试点项目, 之后谋求全面商业推广。关于前一天发布的VoLTE白皮书和细化中国移动的4G语音计划, 李先生援引了他之前关于转向VoLTE的优势的说法。这些好处中的一个便是全IP架构, 预期能削减成本, 大幅提高产能, 同时为高清语音服务的推出提供支持。到目前为止, 科斯特洛先生写道, “FDD-LTE网络中只有极少数公司推出VoLTE, 韩国SK电信可能是亚洲地区最强烈的支持者。”

Automotive

Americans are snapping up new cars and trucks at a pace not seen since before the recession

In yet another sign that the US economy is on track for growth, preliminary figures published 2nd July indicate that June 2013 was the best month for vehicle sales since December 2007, with a rise of around eight per cent from June 2012. The auto pricing site *TrueCar.com* estimated that dealers this June sold at an annualised rate of 15.7 million units. The gains were almost across the board for the domestic industry. Among major auto makers only Volkswagen bucked the trend. For a third straight monthly decline in US sales, the German company reported a three per cent drop in June.

Ford Motor Co led the sales growth in the month, reporting a 13 per cent increase for its Ford and Lincoln brands. General Motors reported a gain of six per cent; Chrysler Group, 8 per cent. Sales for Nissan Motor Co rose 13 per cent, giving the company its best June sales month ever in the United States. Toyota Motor Corp, the world's largest car maker, reported a sales gain of 9.8 per cent.

Possible contributing factors include rising demand for better fuel economy, the aging fleet on American roads, and auto loan rates which remained near historic lows in June. According to *Bankrate.com* the interest rate on a four-year new-car loan averaged 2.7 per cent. An "interesting wrinkle" noted by *Slate* auto blogger Matthew Yglesias is that the biggest sales surge was in full-sized trucks, perhaps a secondary consequence of the revival in residential construction and continuing oil-related work across the country.

❖ Other bright notes were sounded at the midpoint of the year. The Conference Board consumer confidence index, which had improved in May, increased again in June. And the Standard & Poor's 500, a stock market index of the leading companies publicly traded in the US and an acknowledged bellwether of the national economy, hit a six-year high. Also on 2nd July, it was reported that private employers stepped up hiring in June and that new applications for unemployment benefits had fallen for a second week, pointing to a steadily improving labour market picture.

'For want of a nail'

A fable updated for our time: 32 failed bolts on the eastern span of the San Francisco-Oakland Bay Bridge put a \$6.4 billion project on hold

"We are pushing for time against when the next earthquake will occur, and that's why there's urgency about this. At the same time, there's a strong feeling from all of us involved that we want to get it right."

Amy Rein Worth, the chairwoman of the Metropolitan Transportation Commission (MTC), one of the California organisations involved in the construction of the new eastern stretch of the San Francisco-Oakland Bay Bridge, has a double perspective. She is also the mayor of Orinda, a small (13-square-mile) city in the area whose residents are highly sensitive on questions of seismic safety.

In June, Norimitsu Onishi, the San Francisco bureau chief for the *New York Times*, interviewed Ms Worth and others for a status report on the work in progress on the bridge, the replacement for a span which partly collapsed during the last major Bay-area earthquake.

The reopening was set for Labor Day weekend in early September, the traditional end of summer in the US, until it was discovered that some high-strength steel bolts embedded in the roadway had failed. In March, when workers tightened the 17 to 24 foot-long bolts, 32 in a batch of 96 snapped.

The discovery, Mr Onishi wrote, presented California with two equally unattractive options for the most expensive infrastructure project in the state's history. Under the assumption that the next major quake could occur at any time, should the state delay the opening of the new bridge – which despite its imperfections is believed to be more seismically resistant than its 77-year-old predecessor?

Or should opening day go off according to plan, leaving some issues to be resolved later?

Transportation officials were wrestling with the decision when the *Times* article appeared. ("In California, Bolts May Hold Up a Bridge in More Ways Than One," 15th June).

The Bay Bridge's western section, a suspension bridge that runs from San Francisco to Yerba Buena Island in San Francisco Bay, was successfully strengthened after the Loma Prieta earthquake of 1989.

But the eastern half, a cantilever design that runs from the island to Oakland, was deemed beyond retrofitting.

The new bridge, with a foundation in bedrock, will be the world's largest self-anchored suspension bridge, an unusual design that contributed to its high cost (\$6.4 billion, at last count). Equipped with the latest anti-seismic technology, the bridge was designed to last 150 years by remaining intact in a major earthquake.

That is why the failure of some of the bolts attaching shock-absorbing devices, called shear keys, to a concrete crossbeam under the roadway raised alarms.

"Engineers blamed hydrogen-assisted cracking, in which atoms of hydrogen infiltrate steel and make it brittle," wrote Mr Onishi. "But they have yet to determine its cause."

On a recent visit to the pier where the defective bolts were installed, the *Times*'s man in San Francisco was shown some others that, despite having been tightened, had loose nuts.

"You can see how the nuts pop up a little bit," a Bay Bridge spokesman pointed out. "That's what clued everybody in that there was a problem with those."



- ❖ Mr Onishi observed construction crews working on the area around the shear keys and the adjoining bearings to prepare for installation of the so-called saddles: steel cables that will do the work of bolts by fastening the shear keys to the crossbeam.

But Thomas Devine, a professor of materials science and engineering at the University of California, Berkeley, told him that it was premature to adopt the saddle solution before engineers had ascertained the cause of the hydrogen-assisted cracking in the bolts.

"It's a matter of common sense as well as good engineering practice that before you attempt to remediate a problem, you define the problem," Dr Devine said, adding that only full (ie time-consuming) tests on the 32 bolts would yield an answer.

- ❖ Political and economic pressure to devise and apply a fix is immense. The eastern stretch of the Bay Bridge was one of the three busiest bridges in the nation, handling about 280,000 cars a day.

The longer-range consideration noted by Ms Worth is even more compelling. Government seismologists have said there is a two-in-three probability that a major quake, perhaps originating on the Hayward fault which runs under the Bay Area, could hit before 2033, and with even more devastating force than in 1989.

If, in the run-up to Labor Day, little else about the project seemed clear, Steve Heminger forthrightly called the bolt failure "catastrophic." The executive director of the Oakland-based MTC told the *Times*: "It is very unusual in bridge construction that you have an element of the structure fail at such a rate."

- ❖ Mr Heminger, who also chairs the Toll Bridge Program Oversight Committee, an umbrella organisation overseeing construction, made a further point. In addition to establishing what caused 32 bolts to fail, officials must decide whether some 2,000 other bolts – similar in design but with no apparent problems – could be inspected and modified, if needed, after the new span is opened to the public.

Elsewhere in steel . . .

- ❖ Accuride Corp (Evansville, Indiana), a supplier of steel components to the North American commercial vehicle market, announced a \$5.8 million expansion of powder coating capacity at its Henderson, Kentucky, manufacturing plant. Company officials said that the expansion would include a new, advanced-technology coating line at the steel wheel production facility.

Bob Matyi of *Platts* reported (21st June) that the company has preliminary approval from the Kentucky Economic Development Finance Authority for up to \$600,000 in tax incentives. The Henderson facility, originally a part of Firestone Steel Products, was opened in 1974.

- ❖ How do you transport a 50-foot-wide, 15-ton electromagnet to its new home 3,200 miles away?

The essential first step would be to establish that the magnet, the largest in the world when it was built by scientists at Brookhaven National Laboratory in New York in the 1990s, is inert. (It was.)

No longer essential at Brookhaven, the magnet would exhibit no magnetic properties until plugged in at another research institution funded by the US Department of Energy: Fermi National Accelerator Laboratory in Illinois.

The next concern would be for the magnetic ring, constructed of steel and aluminium with superconducting coils inside. According to Fermi it cannot be taken apart or twisted more than about one-eighth inch without irreparable damage to the coils.

In a five-week journey, commenced 22nd June, the secured magnet was moved by specially designed truck and barge to the shore of Long Island; then down the East Coast, around the tip of Florida, and up the Mississippi, Illinois, and Des Plaines rivers to Chicago.

The \$3 million moving costs may be deemed a bargain when compared with the \$30 million estimate to construct from scratch the electromagnet needed for an upcoming experiment at Fermi.

Airline industry notes

- ❖ Delta Air Lines opened a \$1.4-billion terminal at John F Kennedy Airport on 24th May, strengthening its position in the battle for the lucrative New York travel market. The facility replaces the dilapidated Pan Am terminal, built in 1960, that Americans, and New Yorkers in particular, had come to consider an embarrassment.

According to US Customs and Border Protection, JFK is still the primary gateway to the US, having seen 13.1 million inbound international passengers last year. Miami International Airport was second, at 9.8 million, followed by Los Angeles International Airport at 8.3 million.

Delta, the largest airline at Detroit Metro Airport, carries about 2.1 million of the international passengers arriving at JFK, more than any other carrier, according to airport operator the Port Authority of New York and New Jersey.

- ❖ Raymond L Conner, the chief executive of Boeing's civil aircraft division, acknowledged on 16th June that the company was still fielding questions about measures taken to eliminate risks associated with the lithium-ion batteries on the Boeing 787, known as the Dreamliner.

In separate incidents in January, smoke and fire erupted from batteries in two of the standing aircraft, prompting a three-month grounding of the entire Dreamliner fleet.

Speaking to reporters on the eve of the Paris Air Show, Mr Conner said of the blow that the battery troubles had dealt the company's reputation: "It's unfortunate, but it's just reality. We have to address it head-on."

Chicago-based Boeing recruited more than 250 engineers to develop a permanent fix to the problem. This yielded a redesign of the lightweight but highly volatile battery and its encasement in a steel box. Safety regulators in the US, Japan and other countries approved the modifications, and the 787 returned to the skies in April.

When the Boeing CEO spoke, the company had delivered 60 of the planes, with 830 more on order.

Telecom

Sweeping pro-competitiveness initiative in Mexico heartens companies struggling to gain on the dominant operators

President Enrique Peña Nieto of Mexico on 10th June signed into law a far-reaching reform of that nation's telecommunications and broadcast industries that aims to curb the market power of companies like America Movil in order to increase competition and investment in the sector.

As noted by Anthony Harrup of the *Wall Street Journal*, high costs and a low rate of investment have limited the number of Mexicans who enjoy access to modern telecom services. A 2012 government survey of households showed only 26 per cent of Mexican homes had Internet access; only 32 per cent of homes had computers.

Mr Peña Nieto said that the scope and spirit of the constitutional reform, which seeks to give Mexicans access to better and cheaper telecommunications services and raise competitiveness, should be reflected in the secondary legislation, which Mexico's Congress has six months to complete. The overhaul immediately creates a new regulatory body, Ifetel, with expanded powers including the ability to apply asymmetric regulation on dominant players and even force them to sell assets.

The company expected to be most affected by new regulations is America Movil, which has 70 per cent of Mexico's wireless subscribers and more than 70 per cent of fixed phone lines.

Mr Peña Nieto said that Ifetel, which will have the power to grant and revoke telecommunications and broadcast concessions, will order asset sales "in proportions needed to eliminate anti-competitive effects."

But whether the new regulator would order a breakup of America Movil, or what assets the company could be required to sell, is uncertain. From Mexico City the *Journal's* Mr Harrup wrote: "Analysts at Moody's Investors Service said in a recent report they expect asset sales would be a last resort in the case of operators that resist the pro-competitiveness decisions" of the new regulator. ("Mexican President Signs Telecommunications Reform into Law," 10th June).

❖ Competitors who have struggled for years to gain ground against America Movil and its fixed-line unit Telmex – notably Mexico's No 2 wireless service provider

Telefónica SA, with close to 20 per cent of the country's 100 million mobile phone subscribers – are optimistic about the new laws.

In particular, Francisco Gil Diaz, Telefónica's president for Mexico and Central America, pointed out that the unusual step of including in the constitution details that would normally go in the enabling legislation safeguards the plan from challenges on constitutional grounds.

The *Wall Street Journal* provided context: "America Movil has for years defended its market position through the courts, often blocking decisions by regulators."

Let the pundits agonise over encroachment by Washington on personal privacy: the public just wants a bargain

A new study from Amdocs Ltd, the market leader in telecommunications billing services, strongly suggests that Americans are far less concerned about safeguarding their telecom privacy than might seem from the indignation over government "snooping" currently convulsing the media.

As reported in *Light Reading* by Mari Silbey, a recent Amdocs survey found consumers willing to barter personal data for higher broadband speeds, service discounts, and priority customer service.

Some 57 per cent of respondents told the Chesterfield, Missouri-based company that they would exchange data on Facebook "friends", family members, and locations in return for a better service deal.

"The Amdocs news is timely for a cable industry that has recently jumped on the big data bandwagon," wrote Ms Silbey.

"Vendors of every stripe were hawking their big data wares at the Cable Show (10th-12th June in Washington, DC), all in the name of helping operators streamline costs and increase" revenue opportunities. ("Bartering for Broadband," 20th June).

The Washington-based independent tech writer noted that the Amdocs survey was released, at the show, in conjunction with the company's new Big Data Framework. This combines an existing Amdocs product suite of data analysis technologies with packaged professional services designed to help operators extract more value from customer and network information.

Supporting Ms Silbey's view of big data as "a hot commodity for service providers," the Amdocs research reflects evidence across multiple industries.

Facebook, for example, is testing a service which would enable consumers to access free Wi-Fi in select locations simply by checking in with their Facebook accounts.

Specific findings from the Amdocs survey:

❖ Forty-four per cent of consumers said they would exchange data for cash rewards



- ❖ Thirty-eight per cent would agree to hand over information as part of a loyalty programme; 39 per cent would do it for discount coupons or exclusive deals
- ❖ Thirty-six per cent said they would hand over personal data free of charge.

Ms Silbey began her *Light Reading* article with an (apparently) rhetorical question: “Would you sell your soul for a better broadband plan?” One wonders what might have been learned if this were an item in the Amdocs survey.

Elsewhere in telecom . . .

- ❖ In partnership with the city, the wireless provider AT&T in June placed 25 solar-powered charging stations in outdoor spaces around New York. The pilot project was inspired by Hurricane Sandy in October 2012, when the company supplied diesel generators and cell towers on wheels to hard-hit neighbourhoods in the five boroughs.

Working with Goal Zero (Bluffdale, Utah), a maker of portable solar chargers, and Brooklyn-based Pensa, which had been experimenting with the creation of stationary street chargers, AT&T won approval from Parks Department officials to test them, in rotation, at sites around the city.

Three 15-watt panels and a 168-watt-hour lithium ion battery pack can reportedly keep a single solar station operating through the night, or over five days without sunshine.

The user has a say in the powering-up: fill a smartphone in two hours, or give it a 30 per cent charge in 30 minutes. Chris Abbruzzese, vice president for marketing at Goal Zero, told the *New York Times* (17th June) that consumers know exactly how much charging is required to power a phone or tablet for, say, the ride home from work.

- ❖ Law enforcement officials in the US are demanding that smartphone makers create a “kill switch” that would render stolen devices inoperable.

Citing statistics showing that one in three robberies nationwide involves the theft of a mobile phone, Attorney General Eric Schneiderman of New York on 13th June announced the formation of a nationwide coalition of law enforcement agencies committed to stamping out what he called an epidemic of such robberies.

The Secure Our Smartphones Initiative will lean on smartphone companies and their shareholders to help dry up the secondary market in stolen phones by making kill switches standard on all new products within one year. Likening their use to the ability of credit card holders to cancel stolen cards, New York’s top prosecutor said: “All too often these robberies turn violent. There are assaults. There are murders.”

Police in New York City – “the Big Apple” – apply the term apple-picking to thefts of the popular iPhone and other mobile products. Authorities say that such thefts figure in 40 per cent of all robberies in the city.

Canada

New US immigration law: a ‘tax time bomb’ for Canadians who head south for the winter?

If, as expected, an American immigration reform bill becomes law, it could have significant tax consequences for Canadians accustomed to spending part of the year in Florida or other US winter havens.

The JOLT Act (Jobs Originated through Launching Travel), introduced in the US Senate on 15th April, will mandate changes to the current rules that seem bound to complicate winter plans for holders of the so-called Snowbird or Canadian retiree visa.

Toronto Star business reporter Madhavi Acharya-Tom Yew pointed out the good news for these Canadians in the JOLT Act. It would allow them to spend up to eight months, or 240 days, a year in the US without a visa – almost two months beyond the current 182-day limit. But she also found some bad news. Canadians who spend that long in the US may be required to pay US income and estate taxes. (“US Law Could Be a Snowbird Tax Timebomb,” 31st May).

The aim of the Senate bill is to buoy the domestic travel industry, which currently employs about one in eight Americans. But Roy Berg, an international tax lawyer at Moodys Gartner Tax Law LLP (Calgary), urged caution on Canadians. He told the *Star*: “It looks like a great deal. I can be in Palm Springs for 240 days. But they didn’t tell you that it comes with a very high tax cost.”

Currently, a Canadian who spends more than 182 days in the calendar year – or more than an average 120 days per year over a three-year period – may be considered a US resident for tax purposes.

Mr Berg noted that the US also imposes an estate tax on the value of assets owned worldwide by some individuals. Depending on circumstances, the estate tax could take effect with a decedent who had lived in the US for even a brief period.

- ❖ An estimated 500,000 Canadians spend the winter in Florida every year, and Canadian Snowbird Association executive director Michael MacKenzie expressed confidence in their ability to adapt to the new rules.

“Regular snowbirds are very aware of the tax consequences with respect to the current situation,” he told Ms Acharya-Tom Yew. “So I’m quite confident they would understand there would be an issue if they spent longer in the United States.”

It is not clear how soon after enactment the JOLT Act would take effect. In the meantime, Mr MacKenzie said, his association has been in discussions with US lawmakers in an effort to ensure that appropriate taxation changes would follow on the proposed visa changes.

Dorothy Fabian
Features Editor

汽车行业

美国人正以自衰退以来前所未有的速度抢购新轿车和卡车

美国经济步入增长轨道的另一个迹象，7月2日发表的初步数字显示2013年6月是自2007年12月以来汽车销售最好的月份，自2012年6月以来增长了大约8%。汽车价格网站TrueCar.com估计以年率计算今年6月经销商销售了1,570万辆。

国内产业几乎全线增长。主要汽车制造商中只有大众公司与潮流相反。这家德国公司在美国的销售额已经连续三个月下滑，公司在六月报告销售额下降3%。

福特汽车公司在本月引领了销售额的增长，报告称其福特和林肯品牌增长13%。通用汽车据报道增长6%；克莱斯勒集团为8%。

尼桑汽车公司的销售增长13%，给公司带来自进入美国市场以来最佳的月度销售。丰田汽车公司，世界最大的汽车制造商，报告显示其销售额增长了9.8%。

可能的成因包括对更具燃油经济性需求增加，美国道路上老化的车辆，同时汽车贷款利率在六月仍旧保持接近历史低位的位置。

根据Bankrate.com的报道四年期的新车贷款的平均利率为2.7%。

一道“有趣的利好因素”Slate汽车博客博主马修·伊格莱西亚斯(Matthew Yglesias)评论道，销售增幅最大的是大型卡车，可能是住宅基建复兴和遍布全国的与石油相关的工作持续不断的次要结果。

❖ 在年中的时点上还听到了其他的好消息。世界大型企业联合会(The Conference Board)信心指数在5月得到了改善，在6月再次增长。同时标准普尔500，美国上市交易龙头企业的股票指数也是公认的国家经济晴雨表，达到了六年来的高点。

同样在7月2日，据报道私营业主在六月增加了招聘数量，而失业救济的新申请数量连续第二周下滑，描绘出了一幅稳定增长的劳动市场画面。

“因为缺少钉子”

一则寓言因我们的时代进行了更新：旧金山——奥克兰海湾大桥东段上32个不合格的螺栓使得64亿美元的项目暂停。

“我们正在为对抗下次来临的地震争分夺秒，这就是为什么要抓紧时间的原因。同时我们所有人都有中强烈的感觉我们想要把事情搞清楚。”

艾米·瑞恩·沃斯(Amy Rein Worth)女士，大都会运输委员会(Metropolitan Transportation Commission (MTC))的主席，一个参与了旧金山——奥克兰海湾大桥东延伸段的基建工作的加利福尼亚机构，有着双观点。

她同时也是小城市(13平方英里)奥林达(Orinda)的市长，该地区的居民对地震引起的问题非常敏感。

六月，《纽约时报》旧金山分社的主编大西哲光(Norimitsu Onishi)，就最近海湾地区大地震中部分坍塌的桥段的替代工作的大桥工作进展的现状报告采访了沃斯女士和其他人。

再次开放原定在九月上旬的劳动节周末，传统美国夏天结束时间，但是发现部分嵌在路面上的高强度钢螺栓不合格。

三月，当工人在拧紧这些17到24英尺长的螺栓时，96颗螺栓中的32颗发生了断裂。

该发现，大西先生写道，代表加利福尼亚在该州历史上最昂贵的基建项目的两个同样不具魅力的选项。

如果假定下一次大地震会在任何时候发生，该州是否应该延迟新大桥的开放——撇开次品的事情不说，是否就意味着它比它那历经77年之久的前任更抗震？或是根据计划搁置开放日，将问题留待以后解决？

在《时报》发表文章时，交通官员还在纠结作何种决定。（“在加利福尼亚，螺栓用多种方式阻碍大桥”，6月15日）

尖端设计

这座跨海湾大桥的西段，一座从旧金山到旧金山湾耶尔巴·布纳岛的悬索桥，在1989年洛马普列塔大地震后成功的被加固了。但是东半段，从该岛到奥克兰的悬臂设计被认为无法安装。

新的大桥，已在基岩打了地基，将是世界上最大的自锚式悬索大桥，与众不同的设计导致了高昂的成本（最新统计为64亿美元）。配备了最新的抗震技术，大桥设计寿命为150年，能在一次大地震中完好无损。

那就是为什么部分连接吸震设备的螺栓不合格的原因，吸震设备名为剪切键，用来连接路面下方的水泥横梁提高预警能力。

“工程师将螺栓断裂的原因归咎于氢辅助作用，即氢原子渗入钢材使得钢材脆化，”大西先生写道。“但是他们还没有确定其原因。”

在最近对曾安装缺陷螺栓的码头的访问中，《时报》旧金山记者被出示了除拧紧螺栓之外的一些东西，已经松开的螺帽。

“你能看见螺帽突出了一小部分，”海湾大桥的发言人指出。“即向每一个人说明哪些螺帽存在问题。”

❖ 大西先生观察了在剪切键周边区域和准备安装的名为鞍座的相邻轴承的施工人员：钢缆将会承担螺栓在横梁上固定剪切键的加固工作。但是托马斯·迪瓦恩(Thomas Devine)加利福尼亚大学伯克利分校的材料科学与工程学教授，告诉大西先生采用鞍座方法为时过早，工程师应先查明造成螺栓氢辅助断裂的原因。

“这是常识问题也是很好的工程实践，在修复问题之前，你先找出问题，”迪瓦恩博士说，并补充称只有通过（例如长时间的）对32个螺栓进行测试才能得到答案。

❖ 政治和经济的压力对安装的设计和使用影响极大。海湾大桥东段是全国最繁忙的三座大桥之一，每日车流量大约为280,000辆。沃斯女士更深远的考虑是更加引人注目。政府地震学家宣称有2/3的概率会有大地震，可能发生于位于海湾区域底下的海沃德斯断层(Hayward fault)，可能发生在2033年之前，相比1989年的地震破坏力更大。

如果，在即将到来的劳动节没有其他有关工程的问题看似澄清，位于奥兰多的MTC执行董事史蒂夫·海明格(Steve Heminger)毫不忌讳的将螺栓事故定义为“灾难性事故”。他告诉《时报》：“在桥梁基建中这种速度下有一点结构性失败都是非同寻常的。”



- 进一步说，海明格先生还是监督施工的伞形机构收费桥项目监督委员会的主席。除了确定是什么造成了32个螺栓出故障之外，官员必须决定在新的桥段向公众开放之后，如果需要，是否其余的2,000个螺栓——设计类似但未暴露出问题——是否可能被检查或更正。

钢铁行业的其他新闻.....

- 雅固拉公司(Accuride Corp)(印第安纳州埃文斯维尔市)，北美商用汽车市场的钢构件的供应商，宣布投资580万美元投资以扩张其在肯塔基州亨德森县(Henderson)厂房的粉末涂敷能力。公司官员称该扩张将包括在钢制车轮生产厂内一条全新、高科技涂敷线。

普拉茨公司(Platts)的鲍勃·马茨(Bob Matyi)报道称(6月21日)公司已经获得肯塔基州经济开发金融管理局(Kentucky Economic Development Finance Authority)的初步批准以获得高达600,000美元的税收优惠。亨德森工厂，最初是费尔斯通钢制品(Firestone Steel Products)公司的一部分，成立于1974年。

- 你如何把一个50英尺宽、15吨重的电磁铁运到它3,200英里以外的新家?必不可少的第一步是建造这块磁铁，世界上最大的电磁铁于上世纪90年代由科学家们在纽约的布鲁克海文国家实验室(Brookhaven National Laboratory)建造，是惰性的(曾经是)。由于在布鲁克海文实验室里已不再是必需品，这块磁铁不再展现其磁性除非在另一个研究机构被接上电源，该研究机构由美国能源部资助，名为“费米国家加速器实验室”，位于伊利诺斯州。

接下来要关注的是磁环，由钢和铝构成，内含超导线圈。根据费米的说法电磁铁不可能在不对线圈造成不可挽回的情况下被拆开或扭曲超过1/8英寸。5周的旅途，开始于6月22日，有担保的电磁铁由特别设计的卡车运送至长岛海滩的驳船，接着在抵达东海岸佛罗里达的尖端附近，再上行至密西西比河、伊利诺斯河和德斯普兰斯河直至芝加哥。

费米即将进行的实验所需的电磁铁如从头开始建造估价约3,000万美元，与之相比，300万美元的搬运成本可被看作相当划算了。

航空业新闻摘录

- 达美航空公司(Delta Air Lines)于5月24日在约翰·F·肯尼迪机场开放了一个价值14亿美元的航站楼，巩固其在利润丰厚的纽约旅游市场争夺战中的地位。新设施取代了破旧的泛美航站楼。泛美航站楼建于1960年，美国人尤其是纽约人已经将其视为一种灾难。

根据美国海关和边境保护局，约翰·F·肯尼迪机场仍然是到美国的主要门户，去年1,310万国际旅客由此入境。迈阿密国际机场第二，为980万，紧随其后的是旧金山国际机场，为830万。

达美航空，底特律都会机场最大的航空公司，根据机场运营商纽约和新泽西州港务局的统计，达美航空带着大约210万国际旅客抵达约翰·F·肯尼迪机场，超过任何其他航空公司。

- 雷蒙德·L·康纳，波音公司民用飞机部门的总裁，在6月16日承认公司仍旧保留关于采取措施消除被称为梦幻飞机的波音787上与锂电池相关联的风险问题。一月发生的不同事件中，两架停靠飞机的电池爆发出来的烟和火似的整个梦幻飞机编队停飞了3个月。

巴黎国际航空航天展(Paris Air Show)前夜，康纳先生对记者讲话时提及了电池故障给公司声誉带来影响的风波。“很不幸，但确实是真的。我们必须迎面解决这个问题。”

位于芝加哥的波音公司已经雇佣了250名工程师以一劳永逸的解决这个问题。对这个重量轻但极不稳定的电池进行再设计并将其装置于钢质箱中。美国、日本和其他国家的安全监管机构批准了这项修改，787在四月重新飞向蓝天。

当时波音的首席执行官称，公司已经交付了60架波音787，还有830多架飞机的订单。

电信新闻

墨西哥自发的完全支持竞争激发公司努力获得主导运营商的地位

墨西哥总统恩里克·佩尼亚·涅托(Enrique Peña Nieto)6月10日在签署了一份影响深远的法律对国家的电讯和广播行业进行改革，目的是遏制诸如美洲移动(America Movil)这样的公司的市场支配力以增加这一行业的经常和投资。

如《华尔街日报》安东尼·哈鲁普(Anthony Harrup)评价道：高昂的成本和投资的低效限制了大量的墨西哥人享受登录现代通讯服务。

一份2012年政府对家庭的调查显示只有26%的墨西哥家庭能上网，只有32%的家庭拥有电脑。

佩尼亚·涅托先生称法律改革的精神和范围旨在给墨西哥更好更便宜的登陆电讯五福并提升竞争力，应该改反应在二级立法，墨西哥国会会有六个月时间来完成。

大检立刻创建了一个新的监管机构，Ifetel，拥有被加大的权利，包括应用非对称能力对占主导地位的参与者进行监管甚至迫使他们出售资产。

预计受新监管影响最大的公司是美洲移动公司(America Movil)，它拥有70%的墨西哥无线用户和超过70%的固定电话线。佩尼亚·涅托先生说Ifetel有权授予或撤销电讯和广播特许经营权，将责令资产出售“的比例达到消除反竞争的效果。”

但是是否新的管理者会下令分拆美洲移动，或要求公司出售某项资产都是不确定的。

在墨西哥城记者哈鲁普先生写道“穆迪投资服务公司(Moody's Investors Service)的分析师称在最近的报告中他们预期资产出售将是在运营商抵制“竞争支持”决定的最后的手段。(“墨西哥总统签署电信改革法案”，6月10日)

- 竞争对手们奋斗多年以求发展对抗美洲移动和它的固定电话单位墨西哥电信(Telmex)——特别是墨西哥的第二号无线服务供应商西班牙电信南美公司(Telefónica SA)，在这个有着1亿手机用户的国家中拥有接近20%的客户——对新消息非常乐观。

特别是弗朗西斯科·基尔·迪亚斯(Francisco Gil Diaz)西班牙电信墨西哥和中美洲分公司总裁，指出不同寻常的步骤包括法律细节即通常会进入立法为计划提供保护以应对法律依据的挑战。

《华尔街日报》提供事情原委：“美洲移动多年来一直通过法院保卫了自己的市场地位，经常阻挠监管者的决定。”

让专家们为华盛顿侵占个人隐私而烦恼：公众只想讨价还价

电信计费服务市场的领军人物阿姆多克斯公司 (Amdocs) 的最新研究报告强烈表示美国人对电信隐私防护措施的关注远远少于当前看似对政府的“偷窥”表示的愤慨，媒体感到震惊。

根据《休闲阅读》(Light Reading) 玛丽·希尔贝 (Mari Silbey) 的报道，一份阿姆多克斯公司的调查报告发现客户愿意用个人信息来交换宽带提速、服务折扣，和优先客户服务。大约57%的调查对象告诉位于密苏里的Chesterfield公司他们愿意与“脸书 (Facebook)”上的“好友”交换数据，家庭成员、以及所在地以交换更好的服务交易。

“阿姆多克斯的消息对电缆工业来说非常及时，该行业最近跃居巨量数据的行列，” 希尔贝女士写道。“形形色色的供应商在有限电视展会 (Cable Show) (6月10日至12日在华盛顿特区举行) 兜售他们的大数据产品，都号称帮助运营商合理化成本并增加” 收益的机会。(“为宽带交易”，6月20日)

居住在华盛顿的独立科技作家评论称阿姆多克斯调查在展会上的公布是配合公司的新的大数据框架。结合列现有的阿姆多克斯数据分析技术产品套件同时还配备带有专门用来帮助运营商，从客户和网络提取更有用信息的专业服务。

支持希尔贝女士将大数据比作“对服务供应商来说是热门商品”的观点，阿姆多克斯研究反应跨越多个行业的证据。例如，脸书，正在测试一项服务，该服务能使用的客户在选定的区域接入免费的无线网络 (Wi-Fi)，只需简单的用他们的脸书账户登录即可。

阿姆多克斯调查报告中的具体发现：

- ❖ 44%的客户表示他们会交换数据以获得现金奖励
- ❖ 38%同意交出信息作为忠诚度计划的一部分；39%将交出信息以换取折扣券或独家交易
- ❖ 36%宣称他们会免费提交个人信息

希尔贝女士在她《休闲阅读》的文章中用一个 (明显的) 反问作为开头：“你会为了更好的宽带计划而出卖你的灵魂吗？”人们想知道如果是阿姆多克斯调查报告中的某样物品，能从中了解什么。

电讯行业其他新闻.....

- ❖ 与城市合作，无线供应商美国电话电报公司 (AT&T) 于6月在纽约周围的室外空间安置了25个太阳能充电站。该市点项目受2012年10月的飓风桑迪影响而激发。当时公司为5个市镇中受灾严重的居民区提供了柴油发电机和移动基站。

该项目与Goal Zero公司 (犹他州布拉夫代尔市)，一家便携式太阳能充电器制造商，共同工作，合作的还有布鲁克林的Pensa公司，该公司正实验创建固定街头充电器，AT&T获得了公园管理处官员的批准得以在城市周围的基站轮流作测试。

三个15瓦的电池板和一个168瓦-小时的锂离子电池组据报道能使单一太阳能站整个晚上都保持营运状态，或者在没有阳光的情况下持续5天。

使用者宣称在在开机状态下：两个小时可充满一台智能手机，或在30分钟内使电量达到30%。克里斯·阿布鲁泽赛 (Chris Abbruzzese)，Goal Zero公司的营销副总裁，告诉《纽约时报》(6月17日)：客户知道到底需要为手机或平板电脑充多少电，比方说下班回家的路上。

- ❖ 美国的执法人员正要求智能手机制造商创建一个能致使被盗设备无法使用的“切断开关”。援引统计数据显示全国范围内每三起抢劫有一起涉及手机的盗窃，纽约检察总长埃里克·史奈德曼 (Eric Schneiderman) 在6月13日宣布成立全国性联合执法机构致力于打击他称之为“疫情”的类似劫案。

“保护我们的智能手机倡议”将依靠智能手机公司和他们的股东通过在一年内为所有新产品制定切断开关标准的标准来逐步使被盗手机二手市场逐渐干涸。就和信用卡持有人有能力取消被盗信用卡一样，纽约最高检察官称：“所有这些劫案往往变得暴力。有袭击。有谋杀。”

“大苹果”——纽约市的警方——将摘苹果这个术语用于描绘盗窃流行的iPhone手机和其他移动产品。当局称类似盗窃案在全市的抢劫案中占40%。

加拿大

新的美国移民法：在南方过冬的加拿大人的“税务定时炸弹”？

如果，不出意外的话，一项美国移民改革法案将变成法律，它可能对习惯每年花一部分时间在佛罗里达或美国其他地方避寒的加拿大人产生巨大的税务后果。JOLT法 (工作起源于发动旅游 (Jobs Originated through Launching Travel))，于4月15日被引入参议院，将强制改变现在的规则，看来一定会使所谓“雪鸟”或加拿大退休签证持有人的过冬计划变得复杂。

《多伦多星报》(Toronto Star) 商业记者马德哈维·阿查野-汤姆·耀 (Madhavi Acharya-Tom Yew) 指出JOLT法律对这些加拿大人来说好消息是，它将使得加拿大人每年能花8个月的时间或240天在美国而无需签证——几乎比目前的182天的限制多两个月。但是她同样发现一些坏消息。花费那么长时间在美国的加拿大人可能被要求支付美国的所得税和遗产税。(“美国法律可能是“雪鸟”的税务定时炸弹”，5月31日)。

该参议院法案的目的是支撑国内旅游业，目前每八个美国人中有一人从事旅游业。但是，穆迪高德纳税法律师事务所的国际税务律师罗伊·伯格 (Roy Berg) 敦促加拿大人谨慎行事。他告诉《星报》：“看起来像是笔划算的交易。我可以在棕榈泉 (Palm Springs) 呆240天。但是他们没有告诉你随之而来的是非常高昂的税务成本。”

目前，一个加拿大人每日历年花费超过182天——或超过三年的时间内每年平均超过120天——可能因税务目的被视为美国居民。伯格先生评论美国还在全球范围内对个人有价值资产征收遗产税。根据不同情况，遗产税可能因为死者曾在美国生活哪怕只是短暂的时期而生效。

- ❖ 据估计500,000加拿大人每年在佛罗里达过冬，加拿大“雪鸟”协会常务董事迈克尔·麦肯齐 (Michael MacKenzie) 表示对他们适应新规则有信心。

“长期往来的‘雪鸟’根据当前形势对税务结果非常了解，”他告诉马德哈维·阿查野-汤姆·耀女士。“所以我有信心他们会了解如果他们在美国呆更长的时间将会出现问题。”

尚不清楚JOLT法颁布后多久将会生效。同时，麦肯齐先生说，他的协会已经努力与美国国会议员讨论以保证适当的税务变化会跟随已被提议的签证变化。

Dorothy Fabian — 专栏编辑

17th – 19th September – 4th International Wire and Cable Trade Fair for Southeast Asia

With a projected growth of 5.5 per cent to 2017, Southeast Asia remains robust amidst global economic uncertainty.

This will be firmly underlined by wire Southeast Asia, taking place at Bangkok's International Trade and Exhibition Centre from 17th to 19th September.

More than 300 companies will be exhibiting during the three-day event with innovations and trends on high-performing machinery, processing and automation in the wire and cable industry featuring heavily throughout the exhibition.

This year has seen a rise in the number of high profile exhibitors from large international companies, 15 per cent of which will be making their first appearance on the floor.

Prominent associations, including the International Wire & Machinery Association, the International Wire and Cable Exhibitors' Association, ACIMAF the Italian Wire Machinery Manufacturers Association, and the Iron and Steel Institute of Thailand will be supporting Thailand's largest trade fair for the wire and cable industry.

Online visitor pre-registration is open until 9th September. Visitors interested in taking part should pre-register at www.wire-southeastasia.com

Opening hours:

17 - 18 September:

10.30am – 6.00pm

19 Sept:

10.30am – 5.00pm

For enquiries:

Tel: (65) 6332 9620

Fax: (65) 6337 4633

Email:

wire@mda.com.sg

Organiser:

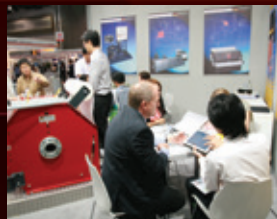
Messe Düsseldorf Asia
Pte Ltd

3 HarbourFront Place

#09-02 HarbourFront

Tower Two

Singapore 099254



Admission is free for business and trade visitors only by registration



wire Southeast Asia 2013



Bangkok International Trade & Exhibition Centre, (BITEC), Bangkok, Thailand

Alphabetical list of Exhibitors

Company.....	Stand
Advantage Austria.....	D13
Aesa SA (Aesa Cortaillod).....	F25a
Alloy Wire International Ltd.....	H06
An Chen Fa Machinery Co Ltd.....	B25
Anbao (Qinhuangdao) Wire & Mesh Co Ltd.....	C22
Applied Db Industrial Co Ltd.....	B27
Ateco Impianti Srl.....	D06
August Strecker Gmbh & Co Kg.....	J14
Beijing Holland Trading Co Ltd.....	C17
Beijing Tongdaxinming International Trading Co Ltd.....	C18
Beta LaserMike, Inc.....	K12
Bongard Trading Gmbh & Co Kg.....	K15
Britec Industrial (Zhangjiagang) Co Ltd.....	G03
Britx Wire Rope Ind Corp.....	G27
Buehler Wuerz Kaltwalztechnik Gmbh.....	G25
BWE Ltd.....	J10
Candor Sweden Ab.....	F11
Carl Bechem Gmbh.....	G21
Ceeco Bartell Products, Bartell Machinery System.....	J04
Chains Power & Machinery Technology Co Ltd.....	E25
Changzhou Be-Star Machinery Technology Co Ltd.....	F17
Changzhou Hongguang Optical Cable Accessory Manufacturing Co Ltd.....	E32
Changzhou Zhilin Plastic Co Ltd.....	G10
Chendu Shuhong Machinery Corp Ltd.....	E13
Cheng I Drawing Machinery Co Ltd.....	B25
Cheng I Wire Machinery Co Ltd.....	B25
Chengdu Centran Industrial Co Ltd.....	F23
China Fastener Info.....	Z05
Comsuc Technology Development Ltd.....	E14
Condat Lubricants.....	E28
Conoptica As.....	C27
Construcciones Mecanicas Caballe, S.A.....	C12
Continuus-Properti SpA.....	E09
Controle Measure Systemes.....	E29
Cortinovis Machinery SpA.....	D09
Cpa Wire Technologies Gmbh.....	D13
Cpt Sarl.....	A07
Dem Costruzioni Speciali Srl.....	E02
Dongguan Humen Senke Cable Co Ltd.....	B09
Dongguan Zhangli Machine Fittings Co Ltd.....	C06
Eder Engineering Gmbh.....	D13
Ejp Maschinen Gmbh.....	J13
Enkotec A/S.....	F25b
Enshiang Machinery Enterprise Co Ltd.....	B25
Ernst Koch Gmbh & Co Kg.....	J17
Esteves Group (Shanghai) Diamond Dies Co Ltd.....	F01
Eurotek Srl.....	D12
EuroWire Magazine.....	J01
Evg Entwicklungs-U Verwertungs-Gmbh.....	D13
Fib Belgium SA.....	K27
Flymca & Flyro.....	C24
FMS Force Measuring System Ag.....	J09
Fort Wayne Wire Die Inc.....	K11
Fuhr Gmbh & Co Kg.....	G13
Garg Inox Ltd.....	C25
Gauder & Co SA.....	L11
GCR Eurodraw SpA.....	E02
Golden Spot Industry Inc.....	C12
Golden Technologies Wire & Cable Equipment Co Ltd.....	G12
Gongyi Hengxing Hardware Co Ltd.....	C08
Goodcomer Co Ltd.....	B25
Greenworld Publication Co Ltd.....	A23
Gwo Lian Machinery Industry Co Ltd.....	H12
H.Folke Sandelin Ab.....	G25
Handuk Ultrasonic.....	G32
Hangzhou Aite Cable Co Ltd.....	F09
Hangzhou Xingguan Machinery Co Ltd.....	G05
Hefei Smarter Technology Co Ltd.....	G28
Henan Zms Cable Import And Export Co Ltd.....	B07
Henrich Maschinenfabrik Gmbh.....	H17
Highvolt Prueftechnik Dresden Gmbh.....	K13
Hipo Elelrix Science & Technology Co Ltd.....	F05
Hmp Heinrich Muller Maschinenfabrik Gmbh.....	K20
Hsiang Chuan Machinery Co Ltd.....	B25
Iedal Werk C+E Jungeblodt Gmbh Co Kg.....	G18
Innovites Bv.....	J07
International Wire And Machinery Association.....	H01
Intras Limited.....	J01
Isa Technology Pte Ltd.....	TBC
Ito-Sin (Deyang) Wire & Cable Equipment Co Ltd.....	G11
Jiangsu Jiacheng Machinery Co Ltd.....	G06
Jiangsu Jubilant Import & Export Co Ltd.....	E19
Jiangsu Qunye Electrical Co Ltd.....	J02
Jiangsu Rentian Industrial Enterprise.....	E17
Jun Rong Machinery Equipment Co Ltd.....	A11
Kjm Gmbh.....	H18
Klaus Merten Gmbh.....	K17
Kyoritsu Metal Industry Co Ltd.....	K34
Lamnea Bruk Ab.....	F11
Lenzing Plastics Gmbh.....	D13
Lin'an Zhongyidongfang Aluminum Foil Co Ltd.....	E22
Liwei Wire & Cable Machines Co Ltd.....	F18
Locton Ltd.....	H04

Lukas Anlagenbau Gmbh	J23	Shanghai Xudong Electric Machinery Factory	F24
M+E Macchine+Engineering Srl	E06	Shanghai Yessjet Precise Machinery Co Ltd	H11
Magnetic Analysis Corporation	P35	Sheng Chyeen Enterprise Co Ltd	B25
Maillefer Extrusion Oy	F02	Shenyang Tianrong Cable Materials Co Ltd	F14
Mali Gmbh	D13	Siber Communication Co Ltd	E24
Maschinenfabrik Niehoff Gmbh & Co Kg	G25	Siebe Engineering Gmbh	G22
Matherson Chemie Sdn Bhd	C11	Sikora Ag	K14
Medek & Schorner Gmbh	D13	Sirio Wire Srl	E06
Metalube Ltd	B28	Sket Verseilmaschinenbau Gmbh	H16
Mfl Group	D01	Smart Trade Publications Co Ltd	Z04
MTT Machinery Technology Trading Gmbh	D13	Sojitz Machinery Corporation	B36
Naber & Wissmann Gmbh	K19	Spring Tooling Ltd	H04
Nano-Diamond America Inc	J05	Strong Machinery Equipment Co Ltd	E15
Ndt Instruments Pte Ltd	L35	Suhil Co Ltd	E35
Nextrom	D25	Surrey Hi Tech Inc	E33
Ningbo Kaite Machinery Co Ltd	E18	Suzhou Forever Import & Export Corp Ltd	G07
OMCG Srl	E12	Suzhou Jessie Plastics Technology Co Ltd	F07
Omeya Technology Co Ltd	A25	T.J. Solution Co Ltd	D27
Orange Media	Z02	Tainan Chin Chang Electrical Co Ltd	B25
Pamica Electric Material (Hubei) Co Ltd	F03a	Taymax Wire Rope Industry Corp Co Ltd	G27
Pan Chemicals	D11	Techhaus Sdn Bhd	A19
Paramount Die Company	K09	Technology Promotion Association (Thailand-Japan)	Z03
Pengg Austria Gmbh	D13	Tes Global Pte Ltd	TBC
Petig Ag	J24	Tianjin Huayuan Times Metal Products Co Ltd	C21
Pioneer Machinery Co Ltd	B25	Tien Dat Company Limited	L01
Pressure Welding Machines Ltd	H09	Traxit International Gmbh	J25
Promostar Srl	D05	Troester Gmbh & Co Kg	K18
Proton Products International Ltd	J11	Tulip 3p Media Pvt Ltd	Z07
PWT Limited	C36	Unitek Maschinenbau Und Handelsges.M.B.H.	D13
Queins Machines Gmbh	G14	Verband Oesterr.Draht-Und Kabelmaschinen - Hersteller-Vã-Dkm Awcma	D13
Raajratna Metal Industries Ltd	C02	Wafios Ag	H25
Racer Wire Works Co Ltd	H27	Wafios Umformtechnik Gmbh	H25
Rautomead Limited	F13	Wai Tak Lung Engineering Factory	A09
Reber Systematic Gmbh+Co Kg	G21	Weihai Hongda Trading Co Ltd	F04
Rimjihim Ispat Ltd	A27	Welding Wire Machineries Srl	E05
Rosendahl Maschinen Gmbh	D13	Windak Ap	K35
Rsd Technik Gmbh	G17	Wire & Cable ASIA Magazine	J01
Sampat Heavy Engineering Ltd	C04	Wire & Plastic Machinery Corp	K01
Sas Engineering And Planning	E01	Witechs Gmbh	J18
Schlatter Industries Ag	A13	Wuxi Hengtai Cable Machinery Manufacture Co Ltd	E20
Schnell SpA	E11	Wuxi Kemaite Optic And Electric Products Co Ltd	J28
Shakun Polymers Limitd	G36	Wuxi Quantong Cable Material Co Ltd	F23
Shanghai Dielec Electrotechnics Co Ltd	G04	Ya Sih Technology Co Ltd	B25
Shanghai Hosn Machinery Technology Co Ltd	G01	Yangzhou Hongri Machinery Co Ltd	B25
Shanghai Kechen Wire & Cable Machinery Co Ltd	G04	Zhejiang Baichuan Conductor Technology Co Ltd	F20
Shanghai Nanyang Electrical Equipment Co Ltd	H08	Zhejiang Shaoyang Cable Co Ltd	E16
Shanghai Resources Industrial & Trading Co Ltd	E21	Zhejiang Tenglong Stainless Steel Group Co Ltd	G09
Shanghai Shenchen Wire&Cable Equipment Co Ltd	F22		

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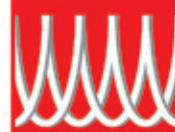
OUR CONTACT (BRASIL): Alexandre de luca souza

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Beta Laser Mike Stand K12

Beta LaserMike will exhibit its complete system solution for in-process measurement and automated quality testing of wire and cable. Beta LaserMike's in-process measurement system solution monitors all critical points of the cable production process to improve product quality, increase productivity and reduce manufacturing costs.

Notable brands on display include AccuScan for laser scanning diameter and ovality measurement, CenterScan for eccentricity measurement, LayScan for lay length measurement, LaserSpeed for non-contact length and speed measurement, LN Series for lump and neckdown detection, BenchMike for off-line sample inspection, and DataPro for process control.

Beta LaserMike will showcase its new AccuScan 4012 single-axis diameter and ovality gauge, especially designed for the Asia market. This compact, economical gauge performs 1,200 scans/second and can measure

product diameters from 0.1 to 12mm (0.004 to 0.47") with accuracies to $\pm 0.0005\text{mm}$ ($\pm 0.000020"$). It also includes highly flexible communications to a host PC or PLC and an optional, ultra-bright display.

The AccuScan 4012 gauge can be used with Beta LaserMike's AccuNet supervisory networking software. With AccuNet, users can monitor and manage up to four AccuScan gauges in real time from a single location with complete SPC and trend analysis. AccuScan 4012 gauges are Ethernet-ready, enabling the creation of a network hub using standard cabling for ordinary connection to a PC.

The company will also exhibit the latest release of its LayScan lay length measurement system. LayScan enables manufacturers to simultaneously measure four pairs at the cabling to confirm the accuracy of twisted-pair cable construction during production. This non-contact system uses four individual pair lay sensors and Beta LaserMike's LaserSpeed length and speed gauge to perform the high-speed lay length measurements.



○ The AccuScan 4012 from Beta LaserMike

A data acquisition and control system effectively collects and processes each lay length in the cable and allows the full use of the customer's off-line analysis tools such as trend charts, statistical analysis or FFT analysis to readily observe, measure and report systematic lay variations within each lay. Data can be easily stored on a local PC.

The LayScan system performs measurements to within 0.025mm (0.001") overall accuracy on the same twisted pair. It can measure lay lengths

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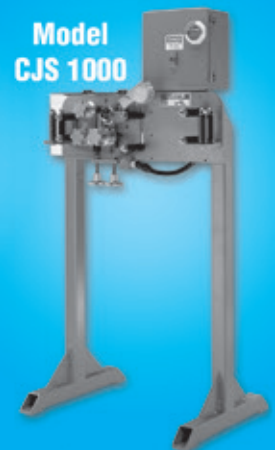
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up to 25.4mm (1") at throughput speeds up to 152.4m/min (500ft/min). In addition to its in-process measurement system, Beta LaserMike will display its solutions for automated cable testing, such as the DCM Model ES-2G for the quality testing of 4-pair category LAN/data cables up to 2 GHz and the DCM Model SCS-350B for the quality testing of 4-pair category LAN/data cables up to 600 MHz.

Beta LaserMike offers a full line of DCM cable testing solutions for testing LAN/data, telecom, RF/coaxial, and aerospace/defence cables.

Products include fast, reliable solid-state switching technology to automate cable testing functions and can be integrated with powerful vector network analysers (VNAs) for a complete high-performance testing system.

The DCM line of cable testing systems is engineered to deliver the highest quality results, performance and value for the investment.

Beta LaserMike – USA

Website: www.betalasermike.com



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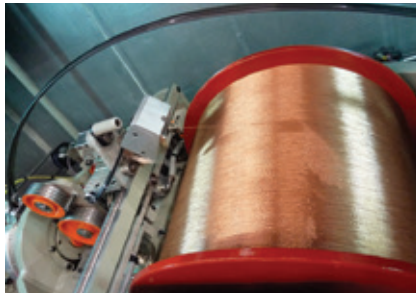
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Web:www.adwantek.com



Bow Technology Stand L11

Bow Technology, France, is the answer to cable makers concerned by quality and long-life reliable bows for all brands of double twist machines. With a comprehensive range of more than 500 designs in constant evolution, the division offers a global service from conception to production.



GreenBow technology

The company is the owner of the patented GreenBow, a unique design enabling important energy savings. The new multi-use "GreenBow2" (one bow fibre, three wire paths) is now available.

Bow Technology – France

Website: www.bowtechnology.com



Candor AB Stand F11

Founded in 1946, Candor is specialised in cleaning and plating plants for wire, and is a supplier of chemicals for various applications.

Candor supplies both single and multi-strand systems for ferrous and non-ferrous materials, and all plants are tailor made to meet customers' instructions.

A number of new designs will be on display, including:

- Candojet: High speed hot water/steam cleaning of wires. The unit is a very compact and efficient cleaning system to be installed after the drawing or rolling mill process
- High-speed copper coating line: For welding wires. Modular design for customised deliveries according to customers' requests
- Single wire plating plant: For copper and copper alloy wires with enhanced agitation and current distribution technology. The plating plant is available for Ni, Ag, Sn and Zn plating on non-ferrous wire and is also available for stainless and carbon steel



The steam/hot water cleaning unit Candojet

- Ultrasonic and electrolytic cleaning plant: For single and multi-wire applications. The units are to be placed in line with the annealing furnace, hot dip galvanising process or in line with other equipment such as the dry drawing process for very clean surfaces, typically stainless steel welding wires

The new design has further enhanced cleaning efficiency and is very operator friendly. Various filtration options can be added to extend the lifetime of the cleaning solution.

Multi-wire nickel/copper coating plants: For stainless steel spring wires or CHQ wires. The new enhanced design allows high current densities and an individual control of each wire with different speed and plating thickness.

Candor AB – Sweden

Website: www.candorsweden.com



Condat Lubricants Stand E28

Condat will present its latest developments in surface technologies for metal forming.

On display will be Vicafil®, a full range of surface coatings and lubricants for wire drawing; Steelskin®, advanced lubricant specialities for special wire drawing applications; Galvasmooth®, smoke-free charcoals for high zinc coating weights; and Condaclean, special cleaners for difficult degreasing on all metal surfaces.

As environmental issues are becoming more and more a reality through the new MSDS standards (GHS), Condat can provide the answers and advanced solutions in order to work more safely with improvements such as:

- Reduction of dust in workshops
- Environmentally safe substances

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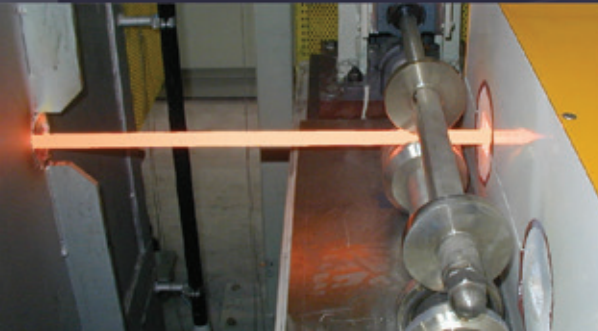
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○ *Eco-friendly lubricants from Condat*

This show is the first opportunity for the company to present Vicafil TS 7112, the latest generation high-performance boron and phosphorus free surface coating for low and high carbon steel (steel cord, PC strand, cold heading, spring wire, etc).

With a complete set of wire drawing solutions, Condat can help reduce production and processing costs whilst caring even more with regard to the environment and people.

Condat Lubricants – France
Website: www.condat-lubricants.com



Daloo
Stand L11

For cable producers wanting simple and reliable machines at affordable price, Daloo is an obvious choice.

While the design is based on European experience, the manufacturing is performed in China following strict quality criteria.



○ *Rigid stranding lines from Daloo*

Its complete stranding lines and accessories for the production of power and communication cables are delivered worldwide: rigid cage stranders, taping lines, rewinding lines, take-ups and pay-offs, and pulling caterpillars.

Daloo – China
Website: www.daloo-machines.com



Enkotec A/S
Stand F25B

Enkotec will focus on its ENKOnail series of nail manufacturing machines, intended for small and midsize capacity needs.

The machine models include the MI01, producing 1,000 nails per minute at ø2.3-3.8mm and 50-90mm lengths, and the new MM01, producing bigger nails of ø2.8-4.2mm and 60-103mm lengths at a speed of 850 nails per minute.

The machines are based on the well-known Enkotec rotary forming

○ *The MI01 from Enkotec*



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<<< principle, making it possible to manufacture high-quality nails at a high speed and with low running costs. Bent Petersen, managing director, said: "When designing the ENKOnail series, we have had a strong focus on assuring our customers optimal machine performance in relation to investment.

"The ENKOnail machine is synonymous with high efficiency and user-friendliness, featuring simple adjustments, quick tooling change-overs, easy access for cleaning and service, long tooling life, high stability, saving of space, and low-noise production." He added: "We see our ENKOnail models as a very strong alternative for our customers' capacity needs, whether they produce a single nail type or several different nails.

Combined with our high-end ENKOnail+ series, the ENKOnail models allow us to offer a complete range of high-speed nail machines, where many tooling parts are common for all machine models, thus increasing their cost effectiveness."

Enkotec A/S – Denmark
Website: www.enkotec.com



Eurotek Srl Stand D12

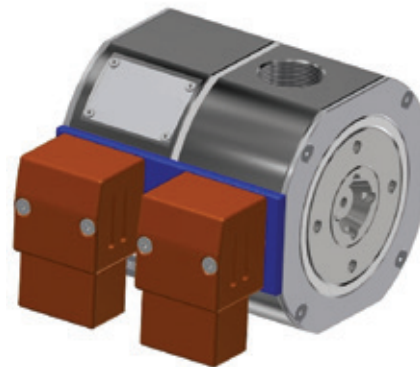
Eurotek will introduce its newly re-designed small section crosshead series, complete with a number of improvements, for either single layer, co-extrusion, dual or three-layer versions.

The company collaborated with the research and development teams from several cable manufacturers before making the changes.

On show will be the new small sections co-extrusion fluoropolymers crosshead ECF-10/LB-CH with an exclusive design. Several critical operational points have been solved, both in the manufacturing process and in the dismantling steps of the crosshead.

The hybrid-centring mode on the units has been retained, allowing operators to switch at any time the centring mode between manual or self-centring.

The efficiency of the Eco-line crosshead series has had several improvements whilst most of the key



○ Improvements all round from Eurotek

components have been redesigned in order to reach the best balance between efficiency, cost and operational ease.

Eurotek Srl – Italy
Website: www.eurotek-srl.com



FSP-One Stand E30

FSP-One is known worldwide as a specialised and innovative company in the production and sale of speciality conductors.



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- Green6 is still developing strongly and reveals itself as the best new RoHs alloy to replace the classic alloys such as cadmium copper. Green6 is already used in high technology markets such as geophysics and IT, and is now qualified by the aircraft industry
- NPCCA (nickel plated copper clad aluminium) and SPCCA (silver plated copper clad aluminium) have been specially developed for the aircraft industry by FSP-One. This new generation of conductors is now available as a standard industrial product and is already being used by Airbus in the A380 jumbo and for new series in the near future

The CCA conductor offers a competitive advantage over classic copper conductors. This allows the reduction of more than twice the weight of cable while keeping optimum performance. These excellent performances are now moving to other applications such as automotive.

FSP-One has had a presence in Asia for more than 15 years and is a recognised partner on the Asian markets.

To further its development in Asia and to offer an improved service, FSP-One now has a location in Vietnam, Hi Tech Wires Asia (HWA). The company is manufacturing the speciality conductors of FSP-One as well as the EDM wires of its mother company, Thermocompact.

FSP-One – France
Website: www.fsp-one.com



Gauder sa
Stand L11

Creating solutions together, Gauder, Belgium, has more than 1,000 second-hand machines in stock ready

- Some of the available stock from Gauder in Belgium



to manufacture non-ferrous and ferrous products like rods, wires, conductors, cables, strands, ropes, bars and meshes.

Gauder sa – Belgium
Website: www.gauderonline.com



Innovites BV
Stand J07

InnoVites BV will release its next generation ERP software at wire Southeast Asia. The latest software is based on Microsoft Dynamics AX 2012, the flagship ERP solution from Microsoft. Customers benefit from the investments of both Microsoft and InnoVites.

Visit the company to get a demonstration of the cable ERP software and cable design software which offers an integrated business solution for the industry.

InnoVites delivers an integrated solution of two products: the cable design software CableBuilder, and InnoVites for Cable, the cable solution for Microsoft Dynamics AX.

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Stand H04

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InnoVites resells CableBuilder for its partner Cimtek Ltd, based in the UK.

InnoVites BV – The Netherlands
Website: www.innovites.com



Lukas Anlagenbau Stand J23

A global supplier of machinery for the wire and cable industry, Lukas is known for its high quality and precision products. Both standard machinery and customised solutions can be provided.

Beside pay-offs, take-ups, rewinding lines, drawing machines, etc, the main focus is on taping and spinning lines. These taping lines are available in horizontal or vertical versions and are suitable for many different types of tapes and fibres, such as PTFE, polyimide, mica, polyester, fleece, laminated tapes, metal tapes, paper, etc.

The high speed and precision is enabled by a closed loop tape tension control and precise speed synchronisation between the capstan (or caterpillar) and the taping heads.



○ A vertical taping and sintering line for aircraft cables

Depending on the application, the line may be equipped with a cooling unit for the taping area, devices for quality control or an inline sintering oven. The picture shows a vertical taping and sintering line for aircraft cables which consists of pay-off, 2-head-taping-unit with air conditioning, capstan, vertical infrared sintering oven and take-up.

The vertical oven is a very space-saving solution. By using special IR heaters the power consumption is reduced to a minimum. These very fast reacting heaters allow adjustment of the heating power according to the line speed.

Lukas is able to provide taping lines for wire dimensions from round wire with diameter 0.15mm up to rectangular wire with cross section 100mm².

Possible application fields are aerospace cables, high frequency cables, fire resistant cables, and wires for generator, motor, transformer and railway applications.

Lukas Anlagenbau – Germany
Website: www.lukas-anlagenbau.de



Machinery Technology Trading Stand D13

Because of changing technologies and requests on products, a lot of companies consider making their existing lines more flexible. >>>

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They try to adapt the technological and financial expenditure to the recent requests on the market. Therefore the knowledge and adaptable hardware (in the form of multi-functional equipment/lines) is necessary. That was the reason for MTT creating an extruder assembly group in a modular design. Standard components are combined with flexible and free designed elements, like flange and machine stands, allowing easy and cheap integration into existing product lines.

The company is especially focusing on the high temperature extrusion of fluoropolymer (FEP, PFE, etc). MTT also sells periphery units, produced by partners which already have a broad product acceptance.

With its partners, MTT can offer extrusion line upgrading and machinery or key components of machinery (extruder, line controls, crossheads and extrusion tooling, capstan, pay-off and take-ups), up to maintenance equipment and service like cleaning units, etc.

Machinery Technology Trading – Austria
Website: www.mtt.or.at



Magnetic Analysis Corporation Stand P35

Magnetic Analysis Corporation, now celebrating 85 years of manufacturing NDT systems for the metals industry, will be co-exhibiting with its Thai representative, Siam Charn Co Ltd.

Featured equipment will include the MultiMac eddy current test system, widely used to inspect non-magnetic and magnetic wire and bar for surface and subsurface defects, and the Echomac FD-5 ultrasonic test system, to detect internal defects and meet more demanding specifications.

Important applications for the MultiMac include inspecting in-line with continuous wire operations such as wire drawing, parts forming, re-spooling, or straight and cut, to detect short, transverse, surface cracks, pinholes, and long continuous seam type defects. The Echomac® FD-5 system detects longitudinal, transverse, oblique and internal defects in products such as sucker rods for the oil industry, and piston rods for automotive use. MAC's ultrasonic rotaries allow testing at high throughput speeds.

Both instruments include MAC's high resolution, real time graphic presentations of test signals, thresholds and settings. Information will also be available on MAC's auxiliary mechanics that provide proper positioning and handling of the test product, and on networking software for test result follow up and quality assurance.

MAC test systems are installed in major manufacturers worldwide, and sales and service are provided in most areas by MAC's field engineers and experienced representatives.

Magnetic Analysis Corporation – USA
Website: www.mac-ndt.com



Maillefer Extrusion OY Stand F02

Maillefer provides complete extrusion solutions serving both wire and cable and pipe and tube manufacturers worldwide.

>>>

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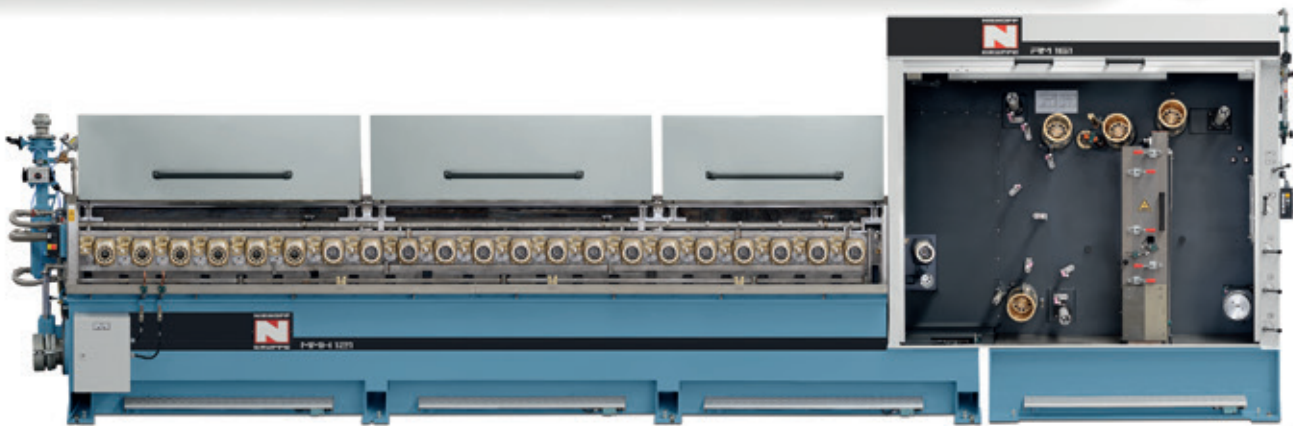
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Design: CONDAT - 06/2013

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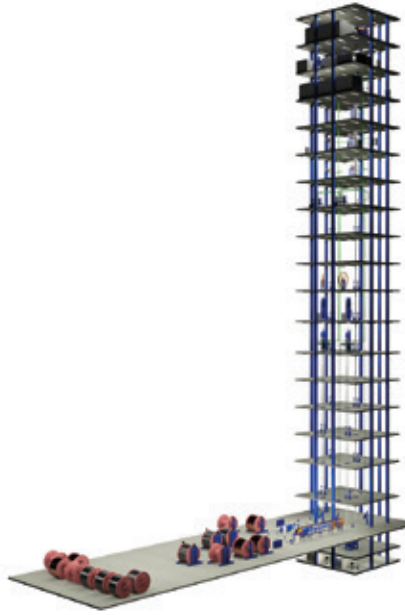
wire Southeast Asia 2013

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The progress achieved together with customers comes not only from Maillefer's supply of technological know-how and equipment solutions but also from products with high added value. Maillefer offers a wide range of services and maintenance packages, product cost and material-saving solutions, as well as insulation cleanliness and quality improvement solutions.

The product families available from Maillefer are energy cables including manufacturing solutions for producing automotive, building, LV, MV, HV and EHV cables; fibre optic cable manufacturing solutions for buffering and jacketing fibre optic cables; plastic pipe manufacturing technology; solutions for producing heating and plumbing, medical, automotive, irrigation, water and gas pipes; and telecom cable making, including solutions for producing telecom, LAN, coax and speciality signal cables.

Maillefer has sales and service support, production facilities, development and testing capabilities in Finland and Switzerland. Regional sales and service offices are



○ Maillefer VCV cable line EPL 51

established in China, Egypt, India, Russia and the USA. In addition the company has a worldwide agent network.

Maillefer Extrusion OY – Finland
Website: www.mailleferextrusion.com



Medek & Schörner GmbH
Stand D13

Medek & Schörner provide precision engineering services and will be presenting the following state-of-the-art cable marking machines at wire Southeast Asia:

- High quality gravure printers (LAN cables, control cables, etc) for speeds up to 1,200m/min
- Water misting unit for the application of fine water dust for pre-cooling of the hot wire immediately after the extruder
- Embossing metre markers/hot foil sequential metre markers for highest accuracy of length measurement (power cables, telecommunication cables, optical fibre cables, etc)
- High performance ring markers for marking telephone wires, switch-board wires, automotive cables and LAN cables
- Video system for monitoring the print quality of fast-running cable printing machines, eg allowing real-time inspection for bad quality and/or missing prints
- Laser marking system for cables

>>>



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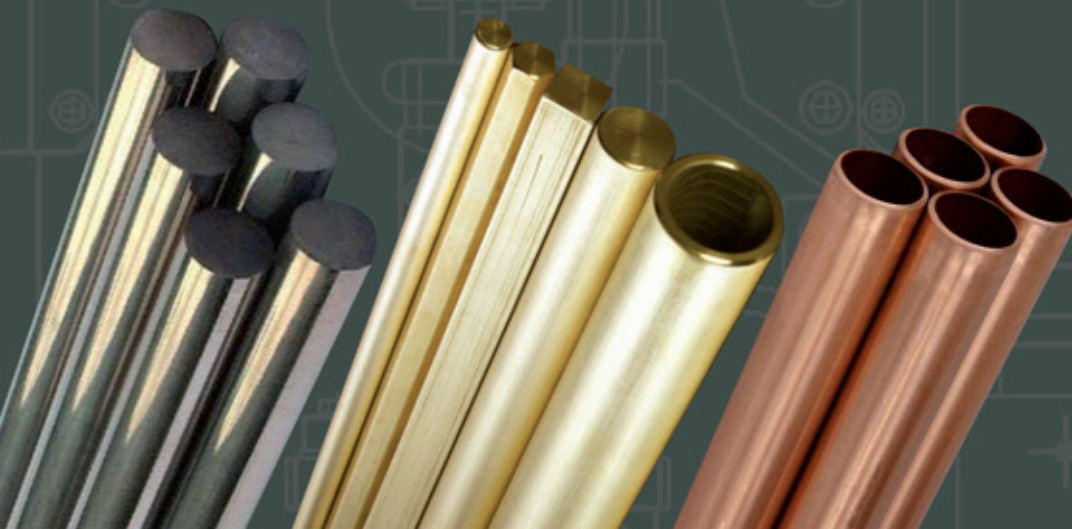
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- CFU production of compact fibre units



○ State-of-the-art machines from Medek & Schörner

Copper wire insulation with UV varnishes (enamelled wire):

- Dimension-sensitive precision micro flexible flat cables (FFC) using UV resins

Medek & Schörner GmbH – Austria
Website: www.medek.at



Nextrom is a premium supplier of optical fibre glass preform manufacturing equipment, producing fibre draw towers and associated machinery for the global fibre market using MCVD, OVD and VAD technologies.

Besides providing optical fibre equipment, Nextrom is a leading supplier of fibre optic cable production lines.

The company will present its latest advancements and technological highlights, including the latest developments for the production of energy, automotive, optical fibre and fibre optic cables.



○ Latest advancements will be on display from Nextrom

Rosendahl also has an office in Hong Kong, ideally placed to serve businesses in Southeast Asia. The office was established by Mr Bo Karlström, sales director for the Southeast Asian markets.

Nextrom OY – Finland
Website: www.nextrom.com



Maschinenfabrik Niehoff and its Singapore representative office will show a D 631 type double twist bunching machine with a newly developed ARP 630 pay-off.

The D 631 is designed to produce strands with 0.09 to 6mm² cross section and a steplessly variable lay length of 6 to 100mm.

The maximum number of twists is 6,500 twists/min with a maximum production speed of 300m/min. Both the D 631 and the new ARP 630 pay-off work without a lifting table. The ARP is equipped with two pneumatic pintles which are designed to clamp spools with various bore diameters and lift the spools from the factory floor into the pay-off position. As an additional option, spool lifting tables are available.

The Niehoff D type double twist bunching machines are built in seven different sizes and cover a cross section range from 0.013mm² to

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○ D 631 type double twist bunching machine

107mm² (copper wire). The machines represent the result of an experience in designing wire bunching and cable stranding machines which Niehoff has gathered since the late 1960s.

Compared to conventional bunchers, energy consumption and noise emissions from the D series machines are significantly reduced due to their one-bow design, the aerodynamically optimised ECO-bow, and state-of-the-art energy saving drive technology.

By means of the automatically working optoelectronic NBAT (NIEHOFF Bunching Automatic Traverse) system, optionally available, the spools are

perfectly filled and can be paid off tangle-free and without wire damage even at very high speeds.

The cold rolling mill manufacturer Bühler Würtz Kaltwalztechnik and the lead extruder and cable repair and recovery system manufacturer HFSAB will be present on the same stand.

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



Pan Chemicals Stand D11

Over the last 25 years, Pan Chemicals has become a leading manufacturer and supplier of high tech drawing lubricants and coatings to the wire industry.

The production programme includes:

- Dry drawing lubricants (Panlube S series), a full range of calcium, sodium and combined products for low and high carbon steel, non-ferrous and stainless steel

- Wet drawing lubricants (Panlube L series), a complete range of oils, greases and pastes for wet drawing of low and high carbon, welding wire, stainless steel and non-ferrous wire
- Lubricant carriers (Pancover series), phosphates and non-reactive coatings
- Flux for galvanising (Panflux series), especially developed to improve the efficiency of the galvanising process by a more uniform control of the reaction between the two metals, reducing operation costs and improving the quality of the zinc coating
- Auxiliary products (Panchem series), degreasing agents, pickling inhibitors, protective products, activated charcoal, wiping pads and more

Pan Chemicals has a strong emphasis on a technical collaboration with its customers, and is focused on the research and development of new products and solutions for specific applications.

Particular attention is dedicated to the development of ecological products



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单 / 双绞束线机
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带式牵引机
单轮和双轮牵引机
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according to the new international regulations (borax-free lubricants and coatings).

In addition to the chemical and auxiliary products the engineering department can offer different solutions for mechanical descaling, coating and drying units, rotating die holders and die reconditioning equipment.

Pan Chemicals – Italy

Website: www.panchemical.com



Paramount Die Company Stand K09

Paramount Die offers expertise in all areas of the wire industry with sales engineers averaging more than 20 years in the industry. Several wire industry trends have dramatically shaped the company's development over the past ten years. Perhaps the most dramatic has been the ever-growing trend for wire drawers to outsource their finished die requirements.

As this has caused wire drawers to become somewhat more dependent on die suppliers, great pressure has been placed on Paramount to increase capacity for die finishing, to reduce finished die costs, and to improve lead times.

Paramount Die Company has been able to reduce die costs by standardising on cost-effective carbide inserts and by increasing quality and capacity through automation. The company is working to take the human factor out of the manufacturing process.

Many of its highly automated machines now run on "Lights Out Operation" meaning that they will continue to produce product as long as there is raw material being fed into the system.

This not only improves production output, but also the quality (eliminating the human aspect).

Paramount's highly automated production equipment combines high volume speed and efficiency with superior accuracy and repeatability.

Average lead times have been reduced from three weeks to just less than five days by investing heavily in finished inventory.

Paramount is leading the way on another industry trend, "Eco-Friendly Products". It is a leader in supplying eco-friendly products to the wire industry and its die design allows the carbide insert to be easily recycled. Many of its customers worldwide now participate in this programme.

Paramount Die Company – USA

Website: www.paradie.com



Petig AG Stand J24

Petig AG, known globally for its state-of-the-art cutting equipment, always comes up with new products to meet the growing demands of the market.

The sturdy and solid design is a guarantor for a long operating life of the high quality cable and steel cutters by Petig.

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The Sampsystemi DM 80 is an innovative, compact and extremely flexible multi-wire drawing machine (up to 32 wires on two independent rows!).

The highly-efficient machine structure ensures no electrical losses, no mechanical friction and a completely maintenance-free machine.

In-depth tests carried out in real working conditions show that the average machine consumption is equal to - 36% if compared to traditional machines.

www.sampsistemi.com

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A special share of Petig's secret of success relies on the blades. The right choice of materials and the perfection of the production process over decades increase their longevity and enable the user to easily cut even heavy armoured cables or steel wire.

All Petig cutters are designed for heavy duty industrial need and are used worldwide.

Optimised for the most diverse environments, cable cutters are, for example, used in the seawater tight design, and are suitable for offshore applications.



○ Cutting equipment from Petig

In order to comply with the market's demands, Petig maintains several associations with well known cable manufacturers and steel plants all over the world.

Highlights include:

- Cuts cable up to Ø350mm
- Cuts steel wire and rod material up to Ø60mm
- Equipment specialised for heavy duty industrial need
- Mobile battery-powered versions available

For more than 100 years, the company has produced and distributed tools and machines which impress with their high efficiency, strong performance and longevity.

Whether it is a cable or steel wire cutter, wire straightener or chain cutter, Petig offers the optimal solution for all technical challenges.

Petig AG – Germany
Website: www.petig.com



Poutier sas Stand L11

Poutier, France, develops and produces rigid stranders and drum twisters for producing high quality Milliken conductors for high voltage and extra-high voltage power cable, from overhead cable (including ACCC™, ACSS-TW and ACSR-TW) to insulated cable AC type (using high quality Milliken conductor) and conductors for DC cables (round compacted and trapezoidal wires).



○ Rigid stranders from Poutier

The company also produces large equipment required for the production of submarine, umbilical and oil pump cables.

Among proposed services, maintenance and upgrades are the ideal solution for enhanced production capacities.

Poutier sas – France
Website: www.gaudergroup.com



PWM Ltd Stand H09

British company PWM, which has been at the forefront of cold welding technology for over 25 years, will present its full range of robust, reliable manual cold welders.

Designed and built in PWM's own UK workshops to stringent quality standards, PWM cold welders produce strong permanent welds on non-ferrous wire and strip.

Standard or custom designed dies for round or profile wire are individually hand-made in matched sets by PWM's skilled engineers.

PWM's largest manual welder, the M101, is one of its best-selling models. Simple to operate and maintain, this heavy-duty, versatile machine has a capacity of 1mm to 3.6mm copper and 1mm to 5mm EC aluminium.

The M101 can be used on a bench or supplied with trolley, enabling the operator to wheel it quickly to the work area.

○ The M101 will be on show in Bangkok



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Email: info@sf-diamond.com
Web: www.sf-diamond.com




The BM10 and BM30 models are durable, low maintenance machines which provide a reliable weld on non-ferrous wire 0.1mm to 1.8mm diameter. Light hand pressure on the operating lever completes the weld in seconds.

Ideal for repairing wire breaks quickly in confined spaces, PWM's M10, M25 and M30 hand-held manual cold welders for wire sizes 0.1mm to 1.8mm are comfortable to hold and easy to operate.

PWM Ltd – UK
Website: www.pwmltd.co.uk



Queins Machines GmbH
Stand G14

Movies and large photographs will be on display at the Queins stand in Bangkok this year.

Since the 1970s Queins has been supplying first-class new machinery as well as reconditioned machines to cable and rope industry customers worldwide.



○ Bow strander from Queins

Besides standard machines, the company also supplies huge production lines for special industries like the offshore or transformer industry.

Queins offers a wide range of modern, rigid, planetary, skip-type and tubular stranders, single and double twist bunchers, machines for the production of off-shore and umbilical cables, continuously transposed conductors (CTC), as well as capstans and taping machines.

It also offers used and reconditioned cable-making machines which have been modernised and finished with new components to meet the customer's needs.

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



Rosendahl Maschinen GmbH
Stand D13

Rosendahl is a supplier of high-tech wire and cable manufacturing solutions which offers first class products and turnkey solutions in the fields of extrusion, corrugation and fibre optic cable, as well as SZ stranding.



○ First class products and turnkey solutions

Out of these competences Rosendahl developed the product segments power cable, automotive wire, LAN cable, coaxial cable and fibre optic cables. The company will present its latest advancements and technological highlights, including the latest developments for the production of energy, automotive, optical fibre and fibre optic cables.

Rosendahl also has an office in Hong Kong, ideally placed to serve businesses in Southeast Asia. The office was established by Mr Bo Karlström, sales director for the Southeast Asian markets.

Rosendahl Maschinen GmbH – Austria
Website: www.rosendahlaustria.com



Setic sas
Stand L11

Setic, France, designs and manufactures large and small double twist bunchers/stranders for the power cable and automotive industry, as well as complete solutions to produce special/LAN cables with enhanced

○ Accessories and machines for maintaining and improving production of existing machinery



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performance in one step or two steps according to product mix. After sales and spare parts services including high technology bows – as well as the exclusive 'GreenBow2' – and accessories for all brands' rotating machines aim to maintain and improve production capacity of existing machinery.

Setic sas – France
Website: www.gaudergroup.com



Siebe Engineering GmbH
Stand G22

The Siebe Colour Match System is an inline control of colour during production or colour quality test for harnessing or laboratory control.

The device can detect single colour-coded insulation as well as stripe-coded wire and shows both colours.

The reference colour can be taken from a RAL database or a user-defined database where new entries are created with a teach-in function. The result is the nearest database colour to the selected reference (in units of Lab-dE). The minimum wire diameter is 1mm (40mil) and the minimum stripe width is 0.5mm (20mil).

Two device types are available: Inline with TCP-IP connection to line PLC or stand-alone with touch-screen. The offline device comes with touch-screen and turn mechanism for 360° inspection.

Siebe Engineering GmbH – Germany
Website: www.siebe.de



Sikora AG
Stand K14

With the Preheater 6000 TC (TC – Temperature Control), Sikora offers a solution for precise conductor preheating, the basis for high-quality cable production.

The Preheater 6000 TC is positioned before the extruder and preheats the wire by means of inductive heating up to 200°C. A controlling module controls the power of the Preheater 6000 TC depending on the conductor material, the conductor dimension, the line speed and the desired temperature. A non-contact infrared camera takes the temperature inside the Preheater.



○ Preheater 6000 TC with integrated Wire-Temp 6000

With the approach of the direct integration of a wire temperature measurement in the Preheater and the feedback to its power control, it is assured that the wire temperature is always at its desired level.

The Preheater is available for a product diameter of 0.32 to 2.8mm (0.08 to 6mm²) and applicable for new lines as well as retrofitting on existing lines. The system comes with all common interfaces such Ethernet, Profibus and Profinet as well as analogue ports.

Initially developed for Sikora's Preheater, the Wire-Temp 6000 is also now available as a standalone version and for retrofitting to existing preheaters.

The Wire-Temp 6000 determines the conductor temperature independently from the cross-section, the material, the line speed and the surface structure of the conductor.

A big advantage over conventional systems is that the temperature measurement is made by means of a non-contact thermal image sensor in an infrared camera, which detects the conductor and provides accurate measurements with no need for calibration. The Wire-Temp 6000 is available for product sizes from 0.1 to 10mm and from 0.15 to 100mm.

Various communication interfaces are available for the transmission of the measuring values to a Sikora processor system, the line control or a laptop.

The universal interface module for connections to RS485, RS232, Profibus DP or industrial field buses such as CANopen, Ethernet/IP, DeviceNet, Profinet IO fulfils the demand.



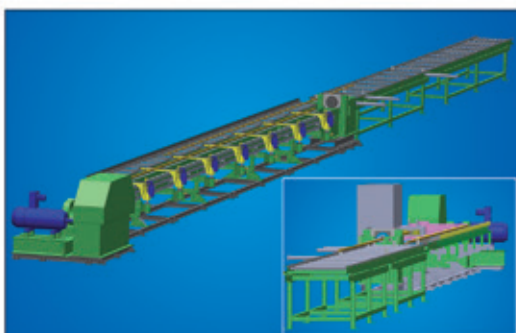


Revamping and modernisation projects

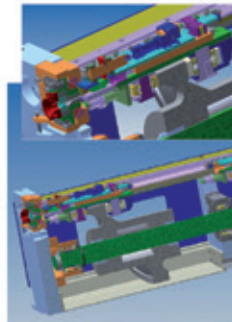
Revamping is a broad term, here at UDM modernisation is closer to a new machine. As an example, we have this drawbench project where at the core is a 25 ton drawbench that has been revamped and extended to 22 metres. In addition to the revamping is the modernisation of the automation and a recirculation system for multiple drawing of the same bars. The finished line is supplied with full CE certification and all safety systems.

Here are some of the innovations of the line:

- Loading bench with pneumatic positioning arms
- Spherical die stand with optional motorisation and memory
- Drawn bar rotating supports with motorised belts for unloading
- Accumulation roller table with re-feed to loading bench
- New electrical cabinets with automation system
- In-line pointing unit
- New non destructive controls



Special COMBINED DRAWING LINES

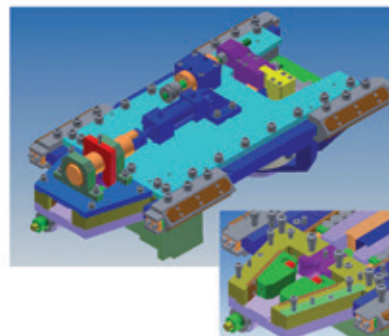
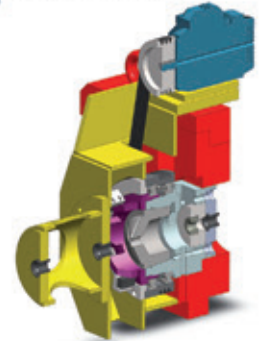


New or reconditioned drawbench

When supplying a drawing line, we can either supply it new or a upgraded and modernised used one with either the existing carriages with modern control systems or replacement ones

Scalping units

For continuous in line scalping of the material, simple or with rotary chip breaker

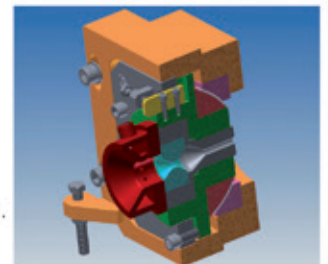


Drawing carriage modification or replacing

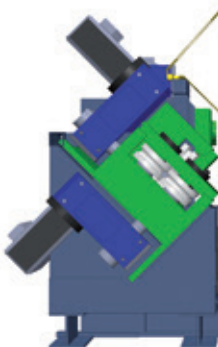
When revamping drawing lines we can either upgrade the existing carriages with modern control systems or replace them with new ones for the best production possible.

Motorised die blocks with load cell

Our motorised die supports allow you to memorise the position of the die for speeding up size changes as well as allowing the operator to adjust the die position while the material is being drawn. As an option, load cells can be mounted behind the die.



Cold rolling mill



- 16 stands individual stands each with adjustable speed and torque via inverters
- Robust structure to keep to high tolerances on the finished product
- Calendering unit in exit of the last stand
- Can be designed for coil to coil and different amounts of stands





wire
17.-19. Sept. 2013
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SEZ - 6 - 302
double-head belt grinding machine
(sander)

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at infeed-speed up to max. 3.5 m/s.
according to drawing speed.

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<<<

The interface module and all connection plugs are fully sealed for perfect protection against water, dirt and mechanical damage.

Sikora AG – Germany
Website: www.sikora.net



Sirio Wire Srl
Stand E06

Sirio Wire Srl is an Italian company specialising in the production of wire surface treatment lines. Its production range includes HCl fumeless pickling, H₂SO₄ electrolytic pickling, ultrasonic and electrolytic cleaning, electroplating lines, bronzing lines for beadwire, phosphating, coating and drying.

Sirio will display pictures and films of its recent lines and, in particular, the latest generation of electro-galvanising lines for steel wires.



○ *Electrolytic pickling from Sirio Wire*

Electroplating is the process of using electrical current to coat an electrically conductive object, in this case steel wire, with a relatively thin layer of metal. The primary application of electroplating deposits a layer of a metal having some desired property, in particular corrosion protection or lubricity, on the steel wire surface.

The latest generation of Sirio electro galvanising lines are made with insoluble anodes and separate dissolution tank. This is a huge advantage as no operation has to be made where the wires are moving.

A PLC-based control system with touch screen panel for control of the elements of the line allows an automatic calculation and supply of requested current intensity for the required coating thickness in function of the speed and of the wire diameter.

The containment of fumes is complete, thanks to covers with a counterweight

system, exhaust pipe and efficient scrubber for neutralisation.

Sirio Wire Srl – Italy
Website: www.siriowire.com



August Strecker
GmbH & Co KG
Stand J14

In the production of cables, the consistent and process-reliable joining of cables is an important topic. Generally, electrical resistance butt-welding is employed as a reliable means of joining two stranded conductors or cable ends. A distinction is made between two different methods, both of which are offered by Strecker.

When welding with the use of glass, ceramic or graphite tubes, the two ends of the stranded conductor or cable are inserted into a tube so that the contact point is in the centre. The material is brought to the melting point by means of an electrical current and is welded by the upsetting pressure in the tubes. The material that has become molten is distributed evenly between the individual strands of the conductor. After completion of the welding process, the tube is shattered.

The surface of the weld is flash-free, clean and smooth, and – provided the inner dimension of the tube was selected correctly – the weld is hardly thickened. Very little reworking (eg filing) is required in order for the slightly larger cross section resulting from the process to be drawn into the entry nozzle of the extruder without problem. For larger cross sections, these machines are equipped with pneumatic clamping and upsetting. At present, stranded cables up to a maximum of 1,200mm² can be joined using this method.

When welding without tubes, using electric double upset butt-welding machines with automatic de-burring, the cable ends at the contact point are brought to the required welding temperature with an initially light pressure. As soon as the material becomes molten, high pressure is applied and the heated material is pressed almost completely out of the welding zone. With the use of this double pressure, high-strength welds can be achieved.

Integrated in the process immediately after the actual welding procedure, the welding flash is cut away (ie the

>>>



The Heat Treatment Technology AEOX



The **AEOX Heat Treatment Technology** consists of energy-efficient recirculation convection furnaces for austenitization, diffusion, stress relieving, soft annealing and tempering as well as environmentally friendly quenching, based on a water-polymer-solution for the patenting of wires and strips.

CPA Wire Technologies GmbH

Lagergasse 322 | 8055 Graz | Austria | Phone: +43 316 4670-0 | Fax: +43 316 4670-7 | e-mail: wiretec@cpa.at

<<< material pressed out of the welding zone), so the joint remains the same diameter as the original cable, with no thickening. All motion sequences, ie clamping and upset processes as well as flash removal, are performed hydraulically. The welding zone is much shorter in this method than it is in welds using tubes. The flexibility of the conductor is influenced only in this short area.

The trend continues to move towards increasingly larger cable cross sections. In order to meet demand for welding machines for cable cross sections of 1,600 to 2,000mm², August Strecker introduced the Type MK 300-3P double-upset butt-welding machine. This machine welds copper cable from 185mm² up to a maximum cross section of 2,500mm² (5,000 kcmil), which translates to an outside diameter of around 65.5mm.

August Strecker GmbH & Co KG – Germany

Website: www.strecker-limburg.de



**Troester GmbH & Co KG
Stand K18**

Troester GmbH & Co KG is a supplier of machines and complete lines for the cable manufacturing and rubber processing industry, comprising CV lines for XLPE and rubber cables, silane lines, sheathing and insulation lines. In Bangkok, Troester will present its technology and solutions in the field of:

- High voltage CCV and VCV line concepts for XLPE power cables up to 500kV
- Medium voltage CCV lines (35kV)
- Sheathing lines for medium and high voltage cables



○ *The extruder group from Troester*

X-Compound, the new company of the Troester Group, will also be on the stand to present its kneader technology for the continuous compounding of HFFR, PVC, XLPE, semiconductive materials and EPDM.

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



**Windak Asia-Pacific
Stand K35**

Windak specialises in automatic packaging solutions for the wire and cable industry and has offices in Sweden, USA, Australia, Estonia and Shanghai.

The company will present the latest information about its new products such as Quickpack QP3, Coil packer D-pack, Spoolers SW6-14 and AR18-DB.

Quickpack is a fully automatic cable coiling and packaging machine. It is a concept based on absolute simplicity and maximum output, and has been designed to accommodate a range of product diameters up to 7mm with maximum speed up to eight coils per minute.



○ *The Quickpack from Windak*

D-pack is a new solution for shrink film packaging of coils. The D-pack is a shrink filmed coil with a hole in the centre allowing the user to carry the coils on the arms or to be put on a rack during transport.

The breakthrough development of the Windak D-pack allows for a faster coiling process than traditional coiling lines with wrapping of the coils. It is developed for 1mm-6mm single conductor and maximum 300mm OD coil size.

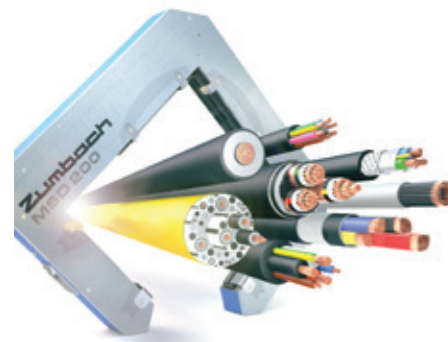
Windak will also show solutions for a large range of pay-off, take-up and other material handling and packaging machines.

Windak Asia-Pacific – Australia
Website: www.windak.se



**Zumbach
Electronic AG
Stand H03**

Zumbach Electronic will be presenting its wide range of measuring and control solutions for process monitoring, quality control and cost-effective production.



○ *One of the new series of diameter and ovality measuring heads based on linear sensor technology*

The company's team will provide information about the complete product range, including new MSD gauges for diameter and ovality measurement based on linear sensor technology, and 1, 2 and 3-axis diameter gauges for any cable and wire and any budget.

Besides the complete line of ODAC laser diameter gauges, new models with special beam geometry, fault detection function and high scan rate will be exhibited.

Zumbach will also be promoting the advanced ODEX concentricity and diameter gauge for wire extrusion, which is fully non-contact, and based on magnetic and laser technology; new ultrasonic wall thickness and eccentricity scanners of the UMAC series with quick and easy adaptation to cable diameters and space-saving integration; and Profilmaster profile and shape measurement systems using light section principle and machine vision.

As well as state-of-the-art spark tester systems and advanced KW fault detectors with new local BAE control and display unit, visitors to the company's stand will find information on modular high performance USYS IPC data acquisition, processing and display units.

Zumbach's complete measuring and control systems include the Rayex D series X-ray measuring and control system for CV lines, for wall thickness (three layers), eccentricity and diameter/ovality for CV lines; and Wallmaster/UMAC – Dialcal systems – ultrasonic wall thickness and eccentricity systems for cable jackets and Dialcal option for fully automatic calibration and control.

Zumbach Electronic AG – Switzerland
Website: www.zumbach.com

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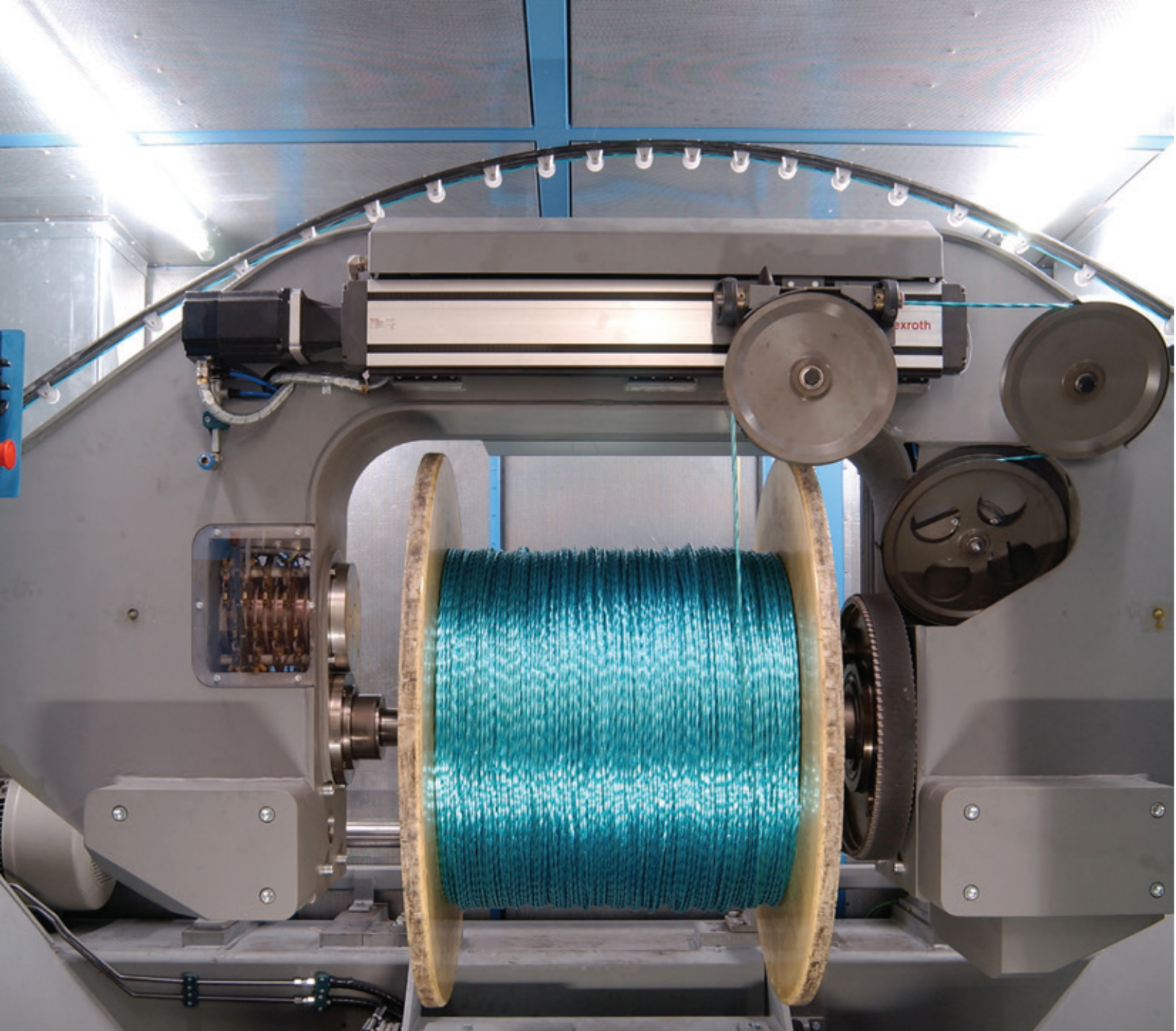


Hannover

The world of metalworking

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emo@vdw.de · www.emo-hannover.de





Data, power & instrument cable production, testing, marking & applications

While the end-user of a cable product is the ultimate judge, the maker's understanding of its main value can also be highly instructive. A producer of data cables will stress the wide variety of their applications (Ethernet, token ring, coaxial, serial).

The flexibility of power cables (buried, overhead, exposed) will be emphasised. Instrument cables will be recommended for their exceptional frequency response, tonal accuracy and sonic impact.

Individually, the specialities under review here demonstrate a feature characteristic of each: multiplicity, flexibility and aesthetics. Severally, they cover the full range of expectations satisfied by those who do the exacting work of producing, testing and marking transmissions cable.

Photo courtesy of Maschinenfabrik Niehoff GmbH & Co KG

New print head for inkjet printers provides highest precision

The highest precision is required for print applications in some production environments, eg in the medical industry. Variable data which should be printed must apply with a repeatability of up to a tenth of a millimetre at the same spot. With a new precision print head Leibinger's small character inkjet printer JET3 can be used for labelling tasks where perfection must be guaranteed.

The precision print head is guided precisely in the print head cover and fixed in the final position. This allows the print head to be put back into exactly the same position in the cover, after removal of the print head, guaranteeing an accuracy of 0.1mm. With the development of the precision print head, Paul Leibinger GmbH & Co KG has already won a well-known customer in the medical industry. In the past the continuous inkjet technology was not usable for special applications like this.

Despite a high precision the required tolerances couldn't be achieved. Furthermore, the position of the print head could not be reconstructed at 100 per cent, even if it had been removed. With the precision print head Leibinger now offers customers real added value. The precision solution for special printing requirements is available worldwide as an option to the basic equipment of the JET3 series.



○ The JET3 from Leibinger

Paul Leibinger GmbH & Co KG – Germany

Website: www.leibinger-group.com

New family of testers

Fluke Networks has launched its new family of Versiv™ cable certification testers designed to help data communications installers more quickly, accurately and profitably achieve system acceptance for copper and fibre jobs.

Versiv is a powerful platform offering interchangeable modules for copper, fibre and Optical Time Domain Reflectometer (OTDR) testing, as well as new software innovations that speed test time and accuracy, and simplify testing setup, planning and reporting.

In a global study of cabling professionals, mistakes, complexity and rework are adding more than a week of labour to a typical 1,000 cabling drop installation, resulting in average losses of more than \$2,500.

○ The Versiv cable certification tester from Fluke Networks



To combat these growing challenges, Versiv has been built from the ground up to go beyond testing and troubleshooting to address the entire certification life-cycle. Its new capabilities help contractors manage the complexities of today's certification landscape and reduce errors that can threaten profitability.

Key to simplifying the complexity is the new ProjX™ management system.

In addition to allowing team leaders to set up test parameters to work across

multiple jobs and media, the system accelerates planning and setup of projects by allowing technicians to capture consistent test parameters across an entire job, or switch from job to job by simply clicking between projects stored in the tester.

The system also allows up-to-the-minute project analysis and oversight to help speed certification and reporting. If problems are encountered during the testing process, technicians can create a "Fix Later" troubleshooting to-do list for later evaluation by more experienced installers.

Versiv also features an intuitive and instructive touch screen interface that elevates the capabilities of less experienced installers, and increases the speed of testing and global ISO Level V testing compliance. From wizards that speed set up to the advanced Taptive™ user interface for navigation to new workflow enhancements, all of the new features in Versiv combine to make it the fastest tester on the market, so jobs get done right the first time. "When doing cabling installation and certification, the difference between having a job be profitable versus a loss, is often times just a few percentage points," said Jason Wilbur, vice president and general manager of the datacom cabling installation business unit at Fluke Networks.

"In 2004, we defined the certification market with the introduction of our industry leading tester, the DTX, which was focused on certification testing speed. But today's challenges have changed and our customers must improve their agility and reduce errors when working across multiple mediums, codes and projects. The Versiv family is razor focused on helping our contractors profitably manage the complexities that are now part of their new normal."

Fluke Networks – USA

Website: www.flukenetworks.com

Custom-made manufacturing lines



○ DSI pairing line consisting of an ARD 630 double twist backtwist pay-off, an ALB longitudinal tape pay-off and a type DSI 631 double twist stranding machine

Cable design is continually becoming more and more complex because cables must meet ever more demanding tasks. In order to keep up with these developments, the manufacturers of such high quality cables need refined equipment which operates economically and can be used to produce reliably and efficiently today's and tomorrow's cables. The DSI stranding system developed by Maschinenfabrik Niehoff meets these requirements.

The already field-proven double twist stranding machines DSI 631 and DSI 1001 are designed to manufacture insulated conductors into pairs or quads or to strand conductor pairs into special cables with or without foils.

Compared to conventional cable stranding machines, energy consumption and noise emission of the DSI machines are significantly reduced due to their one-bow design and a state-of-the-art energy saving drive technology. A further characteristic is the contactless machine data transfer system which minimises maintenance and operational and material costs.

The DSI machines are built for a wide conductor cross-section range and a maximum strand diameter of 8.5mm or 15mm, respectively. The lay length can be freely adjusted over a wide range within a very narrow tolerance band. The machines can be combined in a modular system with double twist backtwist pay-offs, longitudinal tape pay-offs, pre-twisters and other ancillary equipment. In this way complete lines can be configured, perfectly adapted to the requirements of each user.

Such user-specific complete lines can be used to manufacture cables such as bus, data, sensor, signal, instrumentation and LAN cables. Depending on the configuration, a DSI stranding line can apply up to three foils inline on a cable under controlled foil tension in the multi-taping process.

Also backtwisting of single insulated conductors with a diameter of up to 3mm as well as pairs and quads can be achieved. The back twist ratio can be regulated from 0-100 per cent or even higher if required. The number of twists is infinitely variable up to 3,200 twists/min. The tension is on-line controlled during the operation; the production speed is up to 300m/min. Optionally the double twist backtwist pay-offs can be used to enable a triple twist stranding mode. In this configuration the stranding speed and therefore the production capacity can be increased considerably and – as a consequence – production costs can be reduced further.

With DSI lines all types of the above mentioned cables – and even cables of future categories – can be manufactured with high speeds and the utmost precision and quality. Because of the modular concept, DSI stranding lines can be modified and adapted to increasingly changing cable designs and specifications.

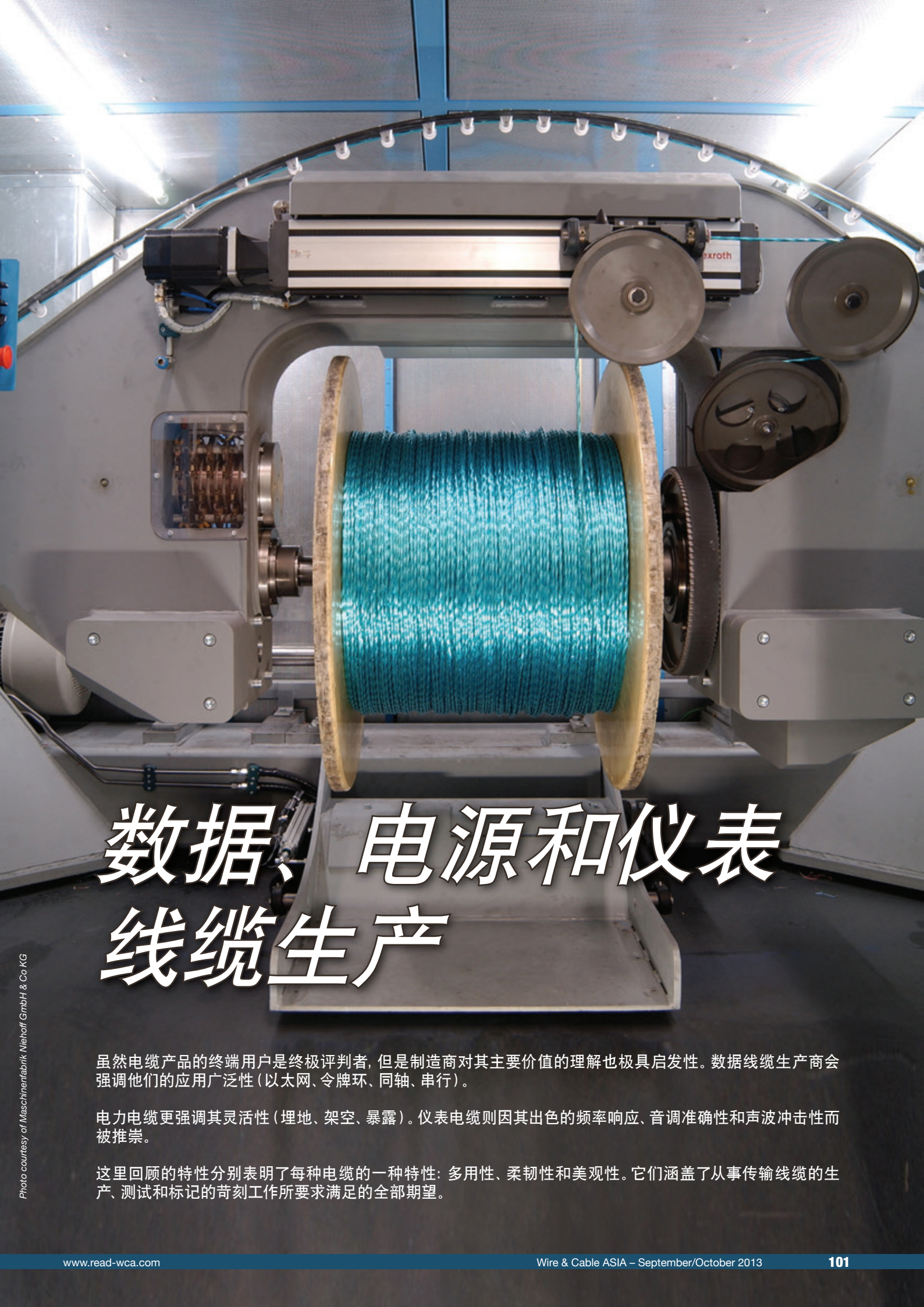
The user benefit of DSI stranding lines is even further enhanced by the fact that they can be adapted flexibly to manufacturing scheduling and planning: If a line is not fully utilised with the stranding of data cables, it can be used to manufacture other cables. It is also possible to realise completely new manufacturing processes and to test the production of new products.



○ Interior of a DSI 1001 type double twist stranding machine

In this manner, the DSI lines enable a maximum efficiency and productivity. Another advantage for the users of these and other Niehoff systems is that Niehoff supports customers with comprehensive process knowledge, professional after sales services and expedient customer services. The users of Niehoff technology therefore have the ideal tools at hand to benefit from the further development in the cable sector.

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



数据、电源和仪表 线缆生产

虽然电缆产品的终端用户是终极评判者，但是制造商对其主要价值的理解也极具启发性。数据线缆生产商会强调他们的应用广泛性（以太网、令牌环、同轴、串行）。

电力电缆更强调其灵活性（埋地、架空、暴露）。仪表电缆则因其出色的频率响应、音调准确性和声波冲击性而被推崇。

这里回顾的特性分别表明了每种电缆的一种特性：多用性、柔韧性和美观性。它们涵盖了从事传输线缆的生产、测试和标记的苛刻工作所要求满足的全部期望。

量身定制生产线

由于电缆必须满足越来越苛刻的使用需求，因此，电缆的设计正变得越来越复杂。为了紧跟发展的步伐，高质电缆制造商需要精炼设备，不仅运行经济，而且能够可靠、高效地制造适应现在和将来需求的电缆。Niehoff机械制造厂开发的DSI捻股机正满足这些需求。经过实地验证的双捻绞线机DSI 631和DSI 1001设计用于生产双股、四股绝缘导线，以及股导体对可加工成包金属带或不包金属带的特种电缆。与常规电缆绞线机相比，DSI机器由于其弓式设计，并采用了最先进的节能驱动技术，因此，消耗的能源和排放的噪音显著降低。另一特点是其无接触机器数据传输系统，最大限度地减少了维护、运

营和材料成本。DSI机器适用于各种导体截面，最大的绞线直径达到8.5毫米或15毫米。节距长度可自由调整，而且公差带很窄。机器可与模块化系统相结合，比如双捻退扭放线机、纵向带放线机、预捻绞机和其它配套设备。完整的生产线可以以这种方式进行配置，完全能够满足每位用户的需求。

根据需要，该量身打造的生产线可用于生产汽车、数据、传感器、信号、仪表和LAN等电缆。根据配置不同，在多包带加工过程中，DSI绞线机在箔张力控制下，可应对电缆上的三条金属箔包覆。机器可进行最大直径达3毫米的单

○ DSI配对线包括ARD 630双捻退扭放线机、ALB纵向带放线机、DSI 631双捻合股机按住 Shift 键的同时拖动短语即可重新排序



测试仪家族的新成员

福禄克网络公司 (Fluke Networks) 推出了威测 (Versiv) 电缆认证测试仪家族新成员，以便帮助数据通信安装人员更快捷、更精确地完成铜缆和光纤系统验收工作并收获更多的利润。威测作为一个强大的平台，为铜缆、光纤和光时域反射仪 (OTDR) 测试提供了可互换模块，同时进行了加快测试时间和精度的软件创新，并简化了测试设置、计划和报告。一份对电缆专业人士的全球研究表明，对一项典型的1,000个电缆分支安装来说，失误、复杂性和返工会增加超过一周的工作量，导致的平均损失超过2,500美元。

为战胜日益严峻的挑战，威测 (Versiv) 已经超越了测试和排除故障，从最底层一步一步向上应对认证的整个生命周期。它的新功能帮助承建商应付如今认证形势的复杂性，减少可能对盈利能力造成威胁的错误。降低复杂性的关键是新型ProjX™管理系统。除了允许团队负责人设置跨越多个作业和媒体的测试参数之外，该系统方便了操作人员在整个作业过程中捕捉持续测试参数，或者仅仅通过点击测试仪中储存的项目就能从一项作业跳到另一项作业，从而加快了项目计划和设置。

该系统也允许进行即时项目分析和监管，以便加快认证和报告。如果在测试过程中遇到问题，操作人员可以生成一份“稍后修复”故障排除待办事项列表，由更有经验的安装人员稍后进行评估。威测 (Versiv) 的另外一个特征是拥有直观且有启发性的触摸屏界面，不仅能增强缺乏经验的安装人员的能力，而且能提高测试速度和提升全球国际标准组织 V级测试合格率。从快速设置用于导航的先进Taptive™用户界面的向导到新的工作流程的改进，所有的新功能使得威测成为市场上最快的测试仪，再也无需返工。

○ 来自福禄克网络公司的威测电缆认证测试仪



“很多时候，在从事电缆安装和认证时，一项工作盈利和亏损之间的区别仅仅是几个百分点，”福禄克网络公司数据通信电缆布线安装业务部副总裁兼总经理贾森·威尔伯如是说。“2004年，我们通过引进专注于认证测试速度的行业领先测试仪DTX定义了认证市场。但是今天面临的挑战已经发生变化，我们的客户必须提升他们的灵活性，减少跨越多媒介、代码和项目工作时的错误。威测家族是专注于帮助我们的承建商管理现在经常面对的复杂性并能盈利的利刃。”

Fluke Networks – 美国
网址: www.flukenetworks.com

股绝缘导线的退扭，另外，两股、四股也可实现。退扭率可在0-100%范围内进行调节，根据需要，可达到更高。扭绞的数量无限可变，达3,200捻/分。在运行过程中，张力可在线控制。最高生产速度达到300米/分。供选择的双捻退扭放线机可用于三重捻合股模式。在此配置中，绞合速度和产能均可显著提高，因此，生产成本可进一步降低。使用DSI生产线，上述所有类型的电缆，甚至将来可能研发的电缆，都能够高效、高质、高精度生产。由于模块化设计理念，DSI绞合生产线可以进行修改，适应日益变化的电缆设计和规格。

DSI绞合生产线可灵活进行调度和规划，因此，其用户利益得以进一步强化。如果生产线没有充分用于绞合数据电缆，还能生产其它电缆。另外，也可实现全新的生产工艺和测试生产的新产品。以这样的方式，DSI生产线使得效率和生产力最大化。Niehoff系统的另一优势在于，为用户全面的工艺知识、专业的售后服务和权宜的客户服务。Niehoff技术的用户有理想的工具在手，能够受益于电缆行业的进一步发展。

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新型喷码机用打印头最大限度提高了精度

一些生产环境 (如医疗行业中) 对印刷的精准度要求是极高的。待印的变量数据必须以高达同一点上十分之一毫米的重复精度。有了新型精确打印头，莱宾格 (Leibinger) 小字符喷码机JET3便可以用于必须保证精准度的标签任务了。该精确打印头在打印头盖中被精确引导并固定在最终位置上。这使得打印头被拔出以后，可以原原本本地放回到打印头盖中的相同位置，可保证0.1毫米的精度。

保罗·莱宾格股份两合公司 (Paul Leibinger GmbH & Co KG) 已经通过推广精确打印头赢得了医疗领域的一个知名客户。在这之前，连续式喷墨技术还没被用作这样的特殊用途。虽然精确度很高，但仍不能达到要求的公差。另外，即使打印头已被移除，也不能百分之百地复位。现在，莱宾格精确打印头为顾客提供了真正的附加价值。作为JET3系列基础设备的一个备选，特殊印刷规格的精确保全方案在全世界范围内都可以应用。



○ 莱宾格JET3喷码机

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Benefits of standards for wire and cable products

By Lawrence B Ingram, Alcan Cable, a General Cable company

Abstract

Standards have a significant effect on the marketplace. These many benefits are realised by the suppliers, manufacturers and customers as a result of cable, properly developed, meeting good standards. Lack of participation in standards development by a company places it at a competitive disadvantage.

This paper discusses the basis and value realised through participation in standards development. Standards aid new product development decision-making. They bring value and benefits to you and the company. They provide a benchmark for the new product. They can specify the temperature rating, fire performance, conductor and insulation resistance, physical and chemical properties of the cable product, for example.

Standards provide the opportunity for marketing and sales to decide whether to develop a product that is limited in capability or one that meets more stringent performance criteria. Participation by manufacturers, suppliers and Standards Development Organizations (SDO) are all a critical part of this process. The benefits of participating in standards development are established.

1 Introduction

The wire and cable industry and standards are inextricably linked. Electrical fires have resulted in thousands of essentially unnecessary deaths during the past 100 years. For example, in 2009 there were 802 civilian deaths, 2,500 injuries and \$2.53 billion in property damages as a result of 65,800 electrical fires in homes⁽¹⁾.

The fire causes were electrical failure/malfunction, and electrical distribution or lighting equipment in the home. Amazingly, the number of electrical fires was actually down by about one-third based upon the 1980 to 1998 reporting period of the report issued in January of this year. This is part of the reason the National Electric Code (NEC) and Standards bodies have issued and revised the many Wire & Cable Standards we manufacture cable to today.

2 Basis for Standards

Standards have three basic objectives:

- 1 They must function effectively
- 2 They must satisfy a legitimate objective
- 3 They must be relevant

Standards help to provide safe products. The products are sustainable and bring benefits to people around the globe. Voluntary consensus standards are the foundation of the US, North American and global economy. They are the building blocks for innovation and competitiveness⁽²⁾.

The World Trade Organization (WTO) recognises that international standards have a legitimate and significant impact on industrial efficiency and expansion of world trade. Standards are essential to strengthen the world economy and maintain product integrity and competitiveness around the globe⁽³⁾. Standards developed by ASTM International and Underwriters Laboratories (UL) are widely accepted internationally. More than 150 countries signed the agreement on Technical Barriers to Trade (TBT), obligating them to take part in the development of international standards through the International Standards Organization (ISO) and the International Electrotechnical Commission (IEC). Unfortunately, strong harmonised standards are not always the practical result.

The International Electrotechnical Commission (IEC) tries for one solution. The WTO states that "international standards should not give preference to characteristics or requirements of specific countries or regions where different needs or interests exist in other countries or regions"⁽³⁾. Technical committees develop the standards. They must recognise that good IEC standards require an international solution where the developed standard reflects the needs of the global market. Failure to reach true consensus only sustains market barriers and impedes the development of a truly global market⁽³⁾.

Some North American proposals to the IEC have been blocked from implementation even though billions of units are installed and used safely worldwide⁽³⁾. Implementation of one solution through ISO/IEC cannot force the global market to create a limiting standard when there are two or more safe approaches to the same result. This result is anti-competitive, leading to entry barriers in a particular market. Your participation in ASTM or other standards development activities can strengthen and improve these building blocks for innovation and competitiveness.

2.1 Goal of Standards: Safety

**2.1.1 Reduce the Chances of Headlines Like This: Iroquois Theater Fire – Dec 30, 1903⁽⁴⁾
At least 605 people die**

The cause – a shorted arc light set a curtain on fire, and then the stage set materials ignited a significant amount of wood trim.

Problems: there were unfinished fire escapes, no extinguishers, sprinklers, alarms, telephones, or water connections, and blocked exits. The theater attendance exceeded 2,000 and the building was over capacity and at SRO. This tragedy contributed to produce better fire codes and standards.

Some results and improvements: this tragedy led to panic bars, a sheet metal screen to be raised and lowered between the audience and stage (not universally adopted by Codes & Standards) and doors of public buildings that must open in the direction of egress.

Wire and cable and electrical equipment standards were not implemented until later in the century. Standards support the minimum properties required for safety and performance.

Every three years the NEC is significantly revised to keep pace with technology and further enhance protection against electrical fire and shock hazards. The absence of, or poorly written, standards would significantly reduce the quality of life on earth. Good standards serve as a barrier to sub-standard products. Standards should bring value, be effective and not act as a barrier to free trade. You can help this process.

2.1.2 Value of Standards Development:

Standards are developed by a consensus reached based upon input from a variety of interests. Producers, users, testing companies and customers each bring their perspective to the standards development process. This process adds value because it develops standards that are effective, relevant, and credible based upon the integrity of the developers⁽⁵⁾.

Advances in technology influence standards. They evolve as wire and cable (W&C) technology changes. This makes all of us, as producers and users, important, with our input being vital for good standards to bring value and benefits. Wire and cable products meet demanding electrical test, physical, mechanical and chemical property performance criteria for a variety of rated temperatures.

Standards development revolves around generation of performance data and information to permit safe practices during installation, testing and usage of wire and cable products. We expect these products to last for 30 or more years.

ASTM was cited by The 1947 President's Conference on Fire Prevention⁽⁶⁾ for its recognition that performance rather than specific materials should decide the future course of fire safety. Performance allows for new materials developments to raise safety standards to the next level.

2.1.3 Benefits of Standards Development:

a **Safety** – The NEC and ASTM, among others, provide practical guidance to help safeguard employees and the public from hazards during the installation, operation, and maintenance of electric supply and communication lines and associated equipment. The NEC covers a broad range of electrotechnical areas, including storage batteries, transformers, conductors, switchgear, circuit breakers, physical clearances, cable terminations, safety warning signs, and protective clothing for workers installing electrical equipment.

To provide for electrical safety, methods that determine the level of insulation resistance to transmission of electricity through various substrates have been developed⁽⁷⁾. One measure is volts per mil determined by ASTM D149⁽⁸⁾. This method is a measure of the dielectric breakdown voltage and dielectric strength of the insulation. The value is high for a good insulation material.

Another measure is dielectric constant (DC) or dissipation factor (DF) measured by fluid displacement using ASTM D1531⁽⁹⁾. Electrical resistance to breakdown by treeing in insulation is measured by ASTM D3756⁽¹⁰⁾. The value is low for a good insulation material. ASTM D4872⁽¹¹⁾ is a test method for dielectric testing of wire and cable filling compounds. The inclined plane tracking and erosion test, ASTM D2303⁽¹²⁾, or the dust and fog tracking and erosion resistance test, ASTM D2132⁽¹³⁾, evaluate tracking resistance on the contaminated surface of an insulation material.

b **Physical Properties and Chemical Resistance** – Tensile strength, elongation low temperature and room temperature impact, crush resistance, and additionally, oil, gasoline, and ozone resistance can be evaluated for the operating environment. Examples of performance standards that contain these performance properties are ASTM D470⁽¹⁴⁾, UL 44⁽¹⁵⁾ and UL 83⁽¹⁶⁾.

c **Flame and Smoke performance** – Various levels are attained depending on the required level of safety. For cable, UL 44 contains FT1 – dripping particles, FT2 – horizontal and FT4 vertical tray fire tests for example. Additional examples of W&C fire and smoke performance tests are shown in *Table 1*.

Electrical cable product fire safety performance has been evolving. Fire safety is partly based upon control of ignition, the rate of heat released, and flame spread or smoke released during a fire. These are critical measures and are evaluated by UL 1685⁽²⁵⁾ and ASTM D5537⁽²³⁾, for example. The amount of heat released determines how quickly a fire can spread. Greater and more rapid heat release will overcome some fire resistant additives. More heat released creates a greater fire fighting challenge for firefighters who arrive on the scene.

Controlling the amount and intensity of the heat and smoke released will allow trapped people more time to escape safely and property damage may be less extensive.

The level of smoke can obscure vision and inhibit or prevent people from escaping from a fire scene. There are standards designed to measure the level of smoke through standards such as UL1685⁽²⁵⁾, ASTM E662⁽²⁴⁾, or smoke obscuration measured by ASTM D5424⁽²¹⁾. ASTM Standard D5485⁽²²⁾, first issued in 1994, addresses the corrosion of electronic systems as a result of fire damage. Loss of electronic systems can affect alarms and other critical systems in buildings. These revised and newer standards reflect the evolution toward better fire safety.

d **Temperature performance** – 75 or 90°C rating defines performance of cable for overload capability, or operating temperatures for example.

2.1.4 Electrical Fire Safety⁽²⁷⁾ Report issued by the US Fire Safety Administration

The Problem: During a typical year, home electrical problems account for 26,100 fires and more than \$2 billion in property losses. About half of all residential electrical fires involve electrical wiring. Statistically, December and January are the most dangerous months for electrical fires.

Fire deaths are highest in winter months with more indoor activities, and increases in lighting, heating, and appliance use. The bedroom is the leading area of fire origin for residential building electrical fires. However, electrical fires that begin in the living room/family room/den areas result in the most deaths.

The Causes of Electrical Fires: Most electrical distribution fires result from problems with “fixed wiring” such as faulty electrical outlets and old wiring. Problems with cords (such as extension and appliance cords), plugs, receptacles, and switches also cause many home electrical fires.

Light fixtures and lamps/light bulbs are also leading causes of electrical fires. Many avoidable electrical fires can be traced to misuse of electric cords. These include overloaded circuits, poor maintenance, and running the cords under rugs or in high traffic areas for example.

2.1.5 Marketing Considerations

Standards are necessary for business success. Having people who are standards experts in your organisation is essential. Many of our cable businesses are international. Therefore companies need standards experts who are intimately familiar with several national standards.

New materials must meet the same performance criteria of developed materials, and receive temperature ratings based upon standards performance protocols such as relative thermal index. The issued standard creates a level performance playing field for manufacturers. This enables companies to act by investing in product development resources⁽²⁸⁾.

3 Standards Development Organizations (SDO)

- ASTM International develops both Standard Test Methods and Product Standards
- UL and CSA related to the respective country National Electric Code in the US and Canada
- Insulated Conductor Engineers Association
- ISO and IEC, discussed previously
- Other international organisations include GB/T (China), NOM (Mexico), and BS (Great Britain)

ASTM International is a globally recognised leader in the development and delivery of international voluntary consensus standards⁽²⁹⁾. Today, some 12,000 ASTM standards are used around the world to improve product quality, enhance safety, facilitate market access and trade, and build consumer confidence.

Test	Type Test	Test Comment
D1929 ⁽¹⁷⁾	Ignition Temperature	Measures ignition temperature of plastics
D2863 ⁽¹⁸⁾	Oxygen Index	Percent of oxygen needed to sustain flame
D3801 ⁽¹⁹⁾	Extinguishing	Vertical flame, extinguishing characteristics
D3874 ⁽²⁰⁾	Ignition	Ignition of material by hot wire sources
D5424 ⁽²¹⁾	Smoke	Vertical cable tray smoke measurement
D5485 ⁽²²⁾	Corrosion	Cone calorimeter corrosion test
D5537 ⁽²³⁾	Fire Load	Heat release, flame spread, mass loss
E 662 ⁽²⁴⁾	Smoke Spread	Amount of smoke
UL 1685 ⁽²⁵⁾	Cable Vertical Tray	Vertical tray fire spread, smoke release
UL 2196 ⁽²⁶⁾	Fire Resistive Cable	Tests for fire resistive cable, (fire stop)

○ Table 1: Standards examples of ASTM and UL wire and cable fire and smoke tests⁽⁷⁾

ASTM’s leadership in international standards development is driven by the contributions of its members, who include more than 30,000 of the world’s top technical experts and business professionals representing 135 countries.

Working in an open and transparent process and using ASTM’s advanced electronic infrastructure, ASTM members deliver the test methods, specifications, guides, and practices that support industries and products worldwide. UL and Canadian Standards Association (CSA) undertake development of safety standards⁽⁷⁾ in the United States and Canada, respectively.

These two organisations make a significant contribution to the national electrical code of their country. In the United States, the National Fire Protection Association (NFPA) issues the National Electric Code. Materials suppliers and cable manufacturers can propose changes to the UL and CSA standards and subsequently obtain changes in the national electrical code.

This occurs after demonstrating that new materials or cables product meet rigorous and demanding performance capability. For North America, UL and CSA have a significant stake in assuring the safety of products that provide expected performance.

IEC wire and cable product standards are harmonised and international. The harmonisation efforts are complex since each country has an opportunity to comment and vote on the technical merits of a standard under development or being revised.

The International Standards Organization (ISO) develops standards for the world so that products such as automobiles or electro technical products that are manufactured on several continents are developed and produced to uniform standards. Your input is needed so that cable manufacturers, suppliers and other experts work with the standards development organisations to create new standards, update standards as a result of evolving technology, and review existing standards to ensure that relevance and value is maintained.

There is always a need to develop standards more rapidly for the evolving materials development work constantly ongoing. These efforts by people are required to provide the highest quality standards to meet electrical, fire safety and performance criteria. This makes your participation critical to the process.

3.1 Why Help Develop Consensus Standards?

- a Working on standards developments helps people to see another company's perspective
- b Working on standards helps a person to understand the reason behind a test or a product standard
- c The understanding gained allows your company to develop consistency and repeatability in testing and reporting
- d Your company brings its experiences to standards development. Having standards experts in your organisation is essential for continued success
- e It is vital to have continuity of personnel. When today's expert retires, then the next designee can seamlessly go forward for the company. New and more participation is needed
- f Your participation benefits the industry, fosters competition and stimulates global trade
- g There has been a reduction of support for standards development.

The message to take away from this is that standards are crucial for the future of your business. You must petition the management of your company and communicate the value and benefits obtained from participation in standards organisation work.

3.2 Benefits of Technical Committee Membership⁽²⁹⁾

3.2.1 Employer Benefits:

- a Ability to influence content of codes and standards
- b Contribution to improved safety and performance of products
- c Early awareness of new or revised requirements

3.2.2 Personal Benefits:

Professional development, networking and recognition.

3.2.3 Small Manufacturer Representation:

More than half of the members participating in ASTM's standards developing technical committees are employed in enterprises with 500 or fewer employees.

3.3 Standards Development Opportunities

3.3.1 Smart Grid, photovoltaic, wind and other types of grid connections

3.3.2 Micro grid Standards – self-supporting such as hospitals, military, university, etc

3.3.3 Determination of heat energy and the savings through reduction in usage of carbon based fuels⁽²⁸⁾

3.3.4 The standards of today are prescriptive⁽⁷⁾

Standards need to become performance based. New materials can improve the performance with higher V/mil, better abuse resistance, and yet, in wire and cable, standards remain locked within artificial constraints based upon 1960's and earlier technology. General Electric Co once advertised: "Progress is our most important product". New materials can provide better wire and cable products.

The benefits provided by standards are high. This value must be enhanced by recognition of the dynamic changes occurring in W&C products and movement towards development of performance based standards.

4 Conclusions

4.1 All of us need to work toward maintaining and improving standards

4.2 It is essential that you and your organisation participate to develop and maintain strong vibrant standards

4.3 Work is needed and challenges abound in the areas of smart grid, energy efficiency and nanotechnology developing areas of cable products

4.4 Standards must continue to bring value and benefits to the users of products

5 Acknowledgement

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 - 11 ASTM D4872 Standard Test Method for Dielectric Testing of Wire and Cable Filling Compounds
 - 12 ASTM D2303 Standard Test Methods for Liquid-Contaminant, Inclined-Plane Tracking and Erosion of Insulating Materials
 - 13 ASTM D2132 Standard Test Method for Dust-and-Fog Tracking and Erosion Resistance of Electrical Insulating Materials
 - 14 D470 Standard Test Methods for Crosslinked Insulations and Jackets for Wire and Cable
 - 15 UL 44 Thermoset-Insulated Wires and Cables
 - 16 UL 83 Thermoplastic-Insulated Wires and Cables
 - 17 ASTM D1929 Standard Test Method for Determining Ignition Temperature of Plastics
 - 18 ASTM D2863 Standard Test Method for Measuring the Minimum Oxygen Concentration to Support Candle-Like Combustion of Plastics (Oxygen Index)
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电线和电缆产品标准的益处

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摘要

标准对市场起着十分关键的作用。完全依照良好标准生产的电缆使得供应商、制造商和消费者体会到了这许多的好处。不重视开发标准将会使一个企业处于不利的竞争地位。本文探讨参与设定标准的依据及可实现的价值。

标准对新产品开发决策有辅助作用。它们为您和企业增值。它们为新产品提供一个基准。例如,它们可以规定电缆产品的耐温等级、防火性能、导线和绝缘电阻、物理和化学性质等。通过决定是否开发一种功能有限或者能满足更严格性能标准的产品,标准为营销创造了机遇。生产商、供应商和标准开发组织(SDO)的参与都是这一流程的重要组成部分。本文证实了参与标准开发的益处。

1 引言

电线和电缆行业与标准有着千丝万缕的联系。在过去的100年中,电气火灾已导致成千上万的实际上不必要的死亡。例如,2009年,65,800起家庭电气火灾导致802名平民死亡,2500人受伤,并造成了25.3亿美元的财产损失⁽¹⁾。火灾的原因为家中的电气故障/故障、配电或照明设备。令人吃惊的是,今年1月份发布的报告显示,1980至1998报告年度中,电气火灾的数量实质上降低了约三分之一。这是国家电气规范(NEC)和标准团体颁布和修订我们现在生产电缆所遵循的众多电线和电缆标准的原因之一。这也是您和您的同伴们应该加入ASTM国际组织等类似机构并通过你们的组织不断增强和改进为这种进步做出贡献的标准的原因。

2 标准的依据

标准有三个基本的目标。1 - 它们必须有效地发挥作用,2 - 它们必须满足一个合法的目标以及3 - 它们必须具有相关性。标准有助于提供安全的产品。该产品是可持续的并且有利于全球范围内的人们。建立美国经济、北美经济和全球经济是自发形成的共识标准。它们是创新和竞争力的积木⁽²⁾。世界贸易组织(WTO)认识到,国际标准对行业效率和世界贸易扩张有一种合理和重要的影响。标准对于增强世界经济和维持产品的全球完整性和竞争力是不可或缺的⁽³⁾。国际上广泛接受的是由ASTM国际组织和美国保险商实验室(UL)开发的标准。超过150个国家签署了技术性贸易壁垒协议(TBT),强行要求他们通过国际标准组织(ISO)和国际电工委员会(IEC)参与国际标准的制订。不幸的是,强大且统一的标准并不总是实用的结果。

国际电工委员会(IEC)尝试了一种解决方案。世界贸易组织(WTO)提出,“在其他存在不同需求或利益的国家或地区,国际标准不应当给予特定国家或地区的特性或要求优先权利”⁽⁴⁾。技术委员会制定了这项标准。他们必须认识到良好的国际电工委员会(IEC)标准需要一种国际解决方案,已开发的标准要反映全球市场的需求⁽⁵⁾。不能真正达成一致只会维持市场壁垒,阻碍一个真正的全球市场的发展。尽管全球已安装了数十亿个北美元件并在安全地使用,北美区向国际电工委员会提出的一些建议仍在实施时受阻⁽⁶⁾。当存在两种或更多可以产生同样结果的安全措施时,通过国际标准组织(ISO)/国际电工委员会(IEC)提出的一个方案的实施不能迫使全球市场

创造一种限制标准。这种结果导致特定市场上的进入壁垒,是违反竞争的。您参与ASTM国际组织或其他标准开发活动可以增强和改进这些创造和竞争力的积木。

2.1 标准的目标: 安全

2.1.1 减少出现这类头条的机会: 易洛魁剧院起火 - 1903年12月30日⁽⁷⁾ 至少605人死亡

这起火灾的原因——电弧灯短路引起帷幕着火,然后舞台背景材料点燃了大量的木饰。问题:走火通道尚未完成,没有灭火器、洒水喷头、报警器、电话或水连接,且出口被阻挡。影院观众超过2000人,座无虚席。这场悲剧促成了更好的消防规范和标准的制定。一些结果和改进包括:这场悲剧促进了恐慌条的产生,恐慌条是一片金属薄板屏幕,在观众和舞台之间升起和落下(没有被规则和标准普遍采用),以及公共建筑物必须有保持打开的安全出口。直到世纪末,电线电缆和电气设备标准才实施。标准支持安全和正常运作的最低性能。国家电气规范(NEC)每三年都要作大幅修订,以与技术保持同步,同时进一步加强对电气和短路风险的防护。缺乏或编写拙劣的标准会大大降低地球上的生命质量。良好的标准充当了不符合标准产品的障碍。标准应当带来价值、有效且不当妨碍自由贸易。您可以为这一过程做出贡献。

2.1.2 标准开发的价值:

标准的开发融合了不同利益群体的努力并经他们一致通过。生产者、使用者、测试公司和消费者都从自己的角度参与了标准制订的过程。这个过程增加了价值,因为基于开发者的诚信,它制订出了有效的、相关的且可依赖的标准⁽⁸⁾。技术的进步对标准也有影响。它们随着电线电缆(W&C)技术的变化而演进。我们对带来价值和益处的良好标准的关键投入,使得包括生产者和使用者在内的我们所有人显得重要。电线电缆产品满足多种温度级别下要求的电气测试、物理的、机械的和化学性能表现标准。标准开发围绕着性能数据和信息的产生,以设定安装、测试和使用电线电缆产品的安全操作。我们期待这些产品维持30年或更长的时间。

ASTM国际组织关于性能而不是特定材料决定消防安全的未来走向的认识获得了1947年总统防火会议的肯定⁽⁹⁾。性能使得新材料开发的安全标准又上升了一级。

2.1.3 标准开发的益处:

a. 安全性 - 国家电气规范(NEC)和ASTM国际组织等组织为帮助雇员和公众在安装、操作和维护供电和通信线路及相关设备时防范风险提供了实用指南。国家电气规范覆盖了电子电气行业诸多领域,包括蓄电池、变压器、导线、开关、断路器、物理间隙、电缆终端、安全警示标志和安装电气设备的工人防护服等。

为保障电气安全,通过各种基材输送电力的绝缘电阻电平的决策方法已开发出来⁽¹⁰⁾。一种方法是由ASTM D149⁽¹¹⁾确定的“每千伏(volts per mil)”方法⁽¹²⁾。这种方法测量绝缘体的介电击穿电压和介电强度。好的绝缘材料这个值很高。另一种方法是用ASTM D1531的流体驱替测量介电常数(DC)或耗散因数(DF)。根植于绝缘体的击穿电阻由ASTM D3756测量⁽¹³⁾。好的绝缘材料这个值较低。ASTM D4872⁽¹⁴⁾提供了一种测试电线和电缆填充化合物的介电的

测试方法。斜面跟踪和侵蚀试验、ASTM D2303⁽¹²⁾或灰尘和雾跟踪和耐腐蚀试验、ASTM D2132⁽¹³⁾衡量绝缘材料在被污染的表面上的追踪性能。

b. **物理特征和耐化学性** - 拉伸强度、低温和室温冲击下的伸长率、抗破碎性，此外，石油、汽油和耐臭氧性可以认为是运行环境。包含这些性能的性能标准的示例请参考ASTM D470⁽¹⁴⁾、UL 44⁽¹⁵⁾和UL 83⁽¹⁶⁾。

c. **防火和烟雾性能** - 根据要求的安全水平要达到不同的标准。例如，对电缆来讲，UL 44包括FT1 - 滴水颗粒，FT2 - 水平的和FT4 - 垂直托盘防火测试。电线电缆的防火和烟雾性能的其他例子在下面表1中列示。电力电缆产品的防火安全性能一直在不断发展。消防安全部分取决于点火控制、热量释放的速度和火焰蔓延或火灾过程中释放的烟雾。这些都是关键变量，由UL 1685⁽²⁵⁾和ASTM D5537⁽²³⁾来测量。例如，释放的热量多少决定了火灾蔓延的速度有多快。更多且更迅速的热释放将克服一些防火添加剂。释放更多的热量为到达现场的消防队员实施灭火创造了更大的挑战。控制释放的热量以及烟雾的量和强度将给被困群众更多时间安全逃生，也能减少一些财产损失。

烟雾水平能模糊视线，抑制或阻碍人们逃离火场。UL1685⁽²⁵⁾、ASTM E662⁽²⁴⁾或ASTM D5424⁽²¹⁾测量的烟雾遮蔽等标准都设计了测量烟雾水平的标准。1994年最初颁布的ASTM标准D5485⁽²²⁾界定了由火灾破坏引起的电子系统腐蚀。电子系统失控将影响警报和建筑物内的其他重要系统。这些经过修订的和更新的标准标志着朝着更好的消防安全的演变。

d. **温度性能** - 例如，75 or 90°C额定值定义了电缆超负荷能力的表现或工作温度。

2.1.4 电气消防安全⁽²⁷⁾

美国消防安全管理局发布的报告提出了以下问题：典型的一年中，家用电器问题引起26,100起火灾以及超过20亿美元的财产损失。所有住宅电气火灾中约半数与电气布线有关。统计数据显示，十二月和一月是电气火灾的高发月份。冬季人们室内活动增多，照明、取暖和家电使用更为频繁，致使火灾死亡人数最多。卧室是居民住宅电气火灾火源的先导区。但是，起居室/家庭房/书房区引发的电气火灾的致死率最高。电气火灾的原因：大多数配电火灾源于诸如电源插座故障和线路老化这类的“固定布线”问题。电线(如延长线和家电线)、插头、插座和开关的问题也导致了許多家庭电气火灾。灯具和灯管/灯泡也是导致电气火灾的原因。许多本来可以避免的电气火灾的发生可以追溯到滥用电线。例如，这些包括电路过载、缺乏维护和电线在地毯下或在人流量大的区域运行。

2.1.5 营销注意事项

企业要成功，标准很必要。您的组织聘请标准专家是不可或缺的。我们许多电缆企业是跨国企业。因此，企业需要熟悉多个国家标准的标准专家。新材料必须满足现有材料同等的性能标准，并且根据性能标准协议获取温度等级，如：相对热指数。已公布的标准为生产商创造了一个公平竞争的环境。这激励企业行动起来，投资于产品开发资源⁽²⁸⁾。

3 标准开发组织 (SDO)

- ASTM国际组织开发标准测试方法和产品标准
- UL和CSA与各自国家有关的美国和加拿大国家电气规则
- 绝缘导线工程师协会
- ISO和 IEC, 之前已经讨论过
- 包括GB/T(中国)、NOM(墨西哥)和BS(英国)在内的其他国际组织

测试	型式检验	评论
D1929 ⁽¹⁷⁾	点火温度	测量塑料的点火温度
D2863 ⁽¹⁸⁾	含氧指数	维持火焰的氧气百分比
D3801 ⁽¹⁹⁾	灭火	垂直火焰，灭火特性
D3874 ⁽²⁰⁾	点火	用热丝火源作为点火材料
D5424 ⁽²¹⁾	烟雾	垂直电缆托架烟度测量
D5485 ⁽²²⁾	腐蚀	锥形量热仪腐蚀试验
D5537 ⁽²³⁾	消防负荷	热释放、火焰蔓延、大量损失
E 662 ⁽²⁴⁾	烟雾扩散	烟雾量
UL 1685 ⁽²⁵⁾	垂直电缆托架	垂直托架火势蔓延，烟雾释放
UL 2196 ⁽²⁶⁾	防火电缆	防火电缆测试(挡火)

○ 表示1: 标准样品ASTM和UL线缆燃烧和烟雾试验

ASTM国际组织是一家开发和传播国际自愿共识标准的全球公认的领先组织⁽²⁹⁾。如今，全世界使用了大约12,000条ASTM标准，以提升产品质量和安全性，促进更多企业进入市场，以及树立消费者信心。ASTM在国际标准开发领域的领导地位由它的会员的贡献来驱动，它的会员包括代表135个国家的超过30,000名世界领先的技术专家和商务人士。ASTM会员在一个开放透明的环境中工作，利用ASTM先进的电子基础设施，在全球范围内提供测试方法、规格、指南和实践指导，为工业和产品提供支持。UL和加拿大标准协会(CSA)各自在美国和加拿大进行安全标准的开发⁽⁷⁾。这两个组织为他们国家的国家电气标准做出了显著的贡献。在美国，美国国家防火协会(NFPA)颁布了国家电气规范。材料供应商和电缆生产商可以向UL和CSA提出修改意见，随后获得国家电气规范的批准。这种情况在表明新材料或电缆产品满足严格和苛刻的性能后发生。在北美洲，UL和CSA在确保产品安全、提供预期性能方面有着举足轻重的作用。

国际电工委员会(IEC)的电线和电缆产品标准是国际统一的。由于每个国家都有机会对正在开发或修订的标准的技术优势进行评论和投票，协调工作相当复杂。国际标准组织(ISO)为全世界开发标准，使得类似汽车或电子技术产品这种在多个洲制造的产品可根据统一标准研发和制造。为了电缆生产商、供应商和其他专家与标准开发组织一道工作，创造新的标准、随技术进步更新标准以及检查现有标准，以保证维持相关性和价值，我们需要您的参与。

由于不断进行材料开发演进工作，我们也需要不断地、更迅速地开发标准。

为了提供最高的质量标准，满足电气、消防安全和性能标准，人们必须做这些努力。这使得您在这一过程的参与更为关键。

3.1 为什么帮助开发共识标准？

- 致力于标准开发有利于人们站在其他公司的角度看问题。
- 致力于标准开发有利于人们理解一项测试或产品标准背后的原因。
- 理解原理有助于您的公司在测试和报告过程中的维持一致性和可持续性。
- 您的公司把经验带入标准开发。为获得持续成功，您的组织需要标准专家。
- 人员的延续性很重要。当现在的专家退休时，下一个继任者可以无间断地接替。因此需要投入新的和更多的参与。
- 您的参与惠及这个行业，促进竞争，刺激全球贸易。
- 对标准开发的支持减少了。

本文要传达的信息是——标准对您公司的未来至关重要。你必须向贵公司管理层提出请求，传达参与标准组织工作的价值和益处。

3.2 技术委员会成员的益处⁽²⁹⁾

3.2.1 雇主的好处:

- 影响规则和标准内容的能力
- 为提升产品安全和性能做出贡献
- 提前知道最新或修订要求

3.2.2 个人好处:

职业发展、人脉和认知度

3.2.3 小型制造商展示:

参与ASTM标准开发技术委员会的超过半数的会员受雇于拥有500名或更少雇员的企业中。

3.3 标准开发机会

3.3.1 智能电网、太阳能、风能和其他类型的电网连接

3.3.2 微电网标准 - 自我配套, 如医院、军队、大学等

3.3.3 热能和通过减少碳基燃料使用节省的能量的测定⁽²⁸⁾

3.3.4 现行的标准是指令性的⁽⁷⁾

标准需要以性能为基础。新材料具有更高的V/mil、更好的耐虐性，从而能够改进性能。然而，在电线电缆行业，标准仍然被锁定在依据20世纪60年代和早期技术设定的人工限制范围内。通用电气公司曾广告说：“进步是我们最重要的产品”。新材料能够提供更好的电线电缆产品。标准带来的好处很多。必须通过对电线电缆产品发生的动态变化和基于标准的性能演进行动的认识提升这种价值。

4 结论

4.1 我们所有人都需要为维持和改进标准而努力

4.2 您和贵组织对于参与开发和维持强大而充满活力的标准至关重要

4.3 电缆产品正在发展的领域如智能电网、能源效率和纳米技术面临的挑战比比皆是，还有许多工作要做

4.4 标准必须为产品使用者持续带来价值和利益

5 致谢语

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Alstom Grid 10, 32	Integer Research 12, 32	Paul Leibinger GmbH & Co KG 99, 102
Ametek SCP 49, 51	Korea Electric Power 10, 32	Pohang Steel Works 26, 31
Applicazioni TermoElettroniche 23, 35	Kyocera Corporation 8, 28	Rautomead Ltd 33
Blachford Corporation 38, 39, 53	Leoni Cable Solutions (India) Private Ltd 55	Sikora AG 47, 51
Bridon International 20, 35	Magnetic Technologies Ltd 36, 50	Southern African Development Corporation 18, 33
Datwyler Cables GmbH 47, 50	Metalube Ltd 14, 34	Studer SA 49, 52
Datwyler Cabling Solutions 16, 33	Miyachi Europe Corporation 36, 50	Surtel Kablo 12, 34
EA Technology Group 39, 51	National Aluminium Co Ltd 55	Joachim Uhing GmbH & Co KG 23
Fluke Networks 99, 102	National Grid of Philippines 10, 34	Usha Martin Ltd 55
Freedom Cable 8, 28	Maschinenfabrik Niehoff GmbH & Co KG 100, 102	Zumbach Electronic AG 42, 52
GMP Slovakia 26, 34		
Hydro Group Plc 45, 52		

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Ajex & Turner Wire Dies Co 42	OM Lesmo SpA 2
AlphaGary Corporation Front cover	Leyer & Kiwus Ultraschall-u Lasertechnik GmbH 18
Anbao (Qinhuangdao) Wire & Mesh Co Ltd 16	Locton Ltd 76
ATE Applicazioni Termo Elettroniche Srl 74	LUKAS ANLAGENBAU GmbH 20
AWCMA/VOEDKM 22	Magnetic Analysis Corporation 45
Bar Products & Services Ltd 85	Metalube Ltd 49
Beta LaserMike Inc 29	Maschinenfabrik Niehoff GmbH & Co KG 82
Blachford Corporation 43	Ningbo Kaite Machinery Co Ltd 17
Bongard Trading GmbH & Co KG 26	OCN SpA 84
Borouge Pte Ltd 37	Omeya Technology Co Ltd 11
Bow Technology 39	Paramount Die Co 75
Cable Tech Machines 27	Pourtier - Gauder Group 21
Candor Sweden AB 85	Pressure Welding Machines Ltd 10
CERSA-MCI 31	Queins Machines GmbH 86
Comsuc Technology Development Ltd 42	Rautomead Ltd 89
Condat SA 81	Rosendahl Maschinen GmbH 13
Continuus-Properzi SpA 78	Samp SpA 88
CPA Wire Technologies GmbH 95	Setic - Gauder Group 21
Dalian Tongda Equipment Technology Development Co Ltd Back cover	SF Diamond Co Ltd 90
Daloo 47	Shanghai Hosn Machinery Technology Co Ltd 48
Dongguan Zhangli Machine Fittings Co Ltd 90	Shanghai Nanyang Equipment Co Ltd 30
Eder Engineering GmbH 22	Shanghai Shenchen Wire & Cable Equipment Co Ltd 32
EMO Hannover 2013 97	Sheng Chyeen Enterprise Co Ltd Inside back cover
Enkotec A/S 15	Sikora AG 9
FA.IN.PLAST Srl 1	Sket VMB 40-41
Fuhr GmbH & Co KG 14	Spring Tooling Ltd 77
Gala Thermo Shrink Pvt Ltd 92	August Strecker GmbH & Co KG 73
Gauder - Gauder Group 21	Tecnofil SpA 70
Gimax Srl 3	TJK Machinery (Tianjin) Co Ltd 44
GMP Slovakia sro 18	Troester GmbH & Co KG 91
Guanbiao Electrical Machinery Co Ltd 92	UDM Srl 93
Henrich Maschinenfabrik GmbH 19	Weilly Diamond Industrial Co Ltd 20
Huestis Industrial 71	Wire & Plastic Machinery Corp 83
Inhol BV 12	wirefirst.com 87
ITO-SIN (Deyang) Wire & Cable Equipment Co Ltd 112	Wirex Dies & Steel India Pvt Ltd 94
Jiangsu Handing Machinery Co Ltd 24-25	WiTechs GmbH 94
Jiangsu Qunye Electrical Co Ltd 87	Wuxi Xinrun Industrial Furnace Co Ltd 46
	Wyrepak Industries 79
	Zumbach Electronic AG Inside front cover



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ITO-SIN (DEYANG) WIRE AND CABLE EQUIPMENT CO., LTD



Copper Aluminum rod breakdown machine, LHD-450

Application: the breakdown machine is used to draw copper wire or aluminum alloy wire. it consists of a host drawing machine, pay-off stand, continuous annealer, accumulator, dual-spooler take-up unit.



YQL-150 continuous Lead Extruder

This series of Lead Extruder is used to continuous coat lead layer for marine cable or rubber cable.



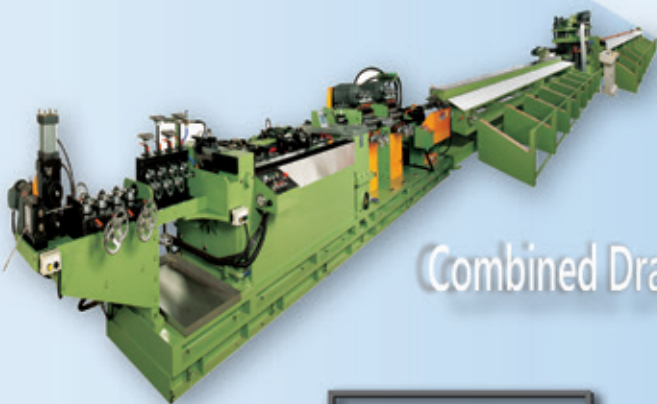
Copper rod continuous casting and rolling line, Aluminum rod continuous casting and rolling line

Copper CCR line is used to produce 8mm of copper rod from scrap copper and cathode copper. it consists of a refraction furnace, five-wheel casting machine, front haul-off unit, straightener, continuous rolling machine and down coiler take-up unit. Users can choose different furnace system according to different raw material and output capacity.

SHENG CHYEAN
 省權實業股份有限公司

Booth No. B25

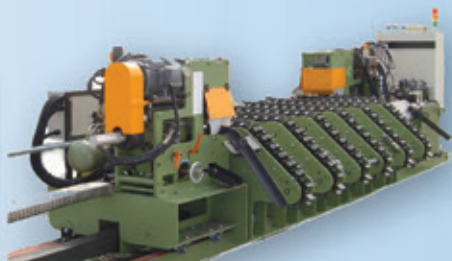
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Combined Drawing Machine



Chain Draw bench



Chamfering Machine



Two Roller Straightening Machine



Cold Draw Bar Equipment (Ferrous and Non Ferrous)



Peeling Machine



主要產品 Production Line

- 複合式伸棒機
Combined drawing machine
- 吊料/連線倒角機
Off line /On line chamfering machine
- 圓棒削皮機
Round bar peeling machine
- 異型棒矯直機
Irregular bar straightening machine
- 壓延機
Flat roll mill machine
- 切斷機
Cutting machine

Website: www.tw-sc.com.tw

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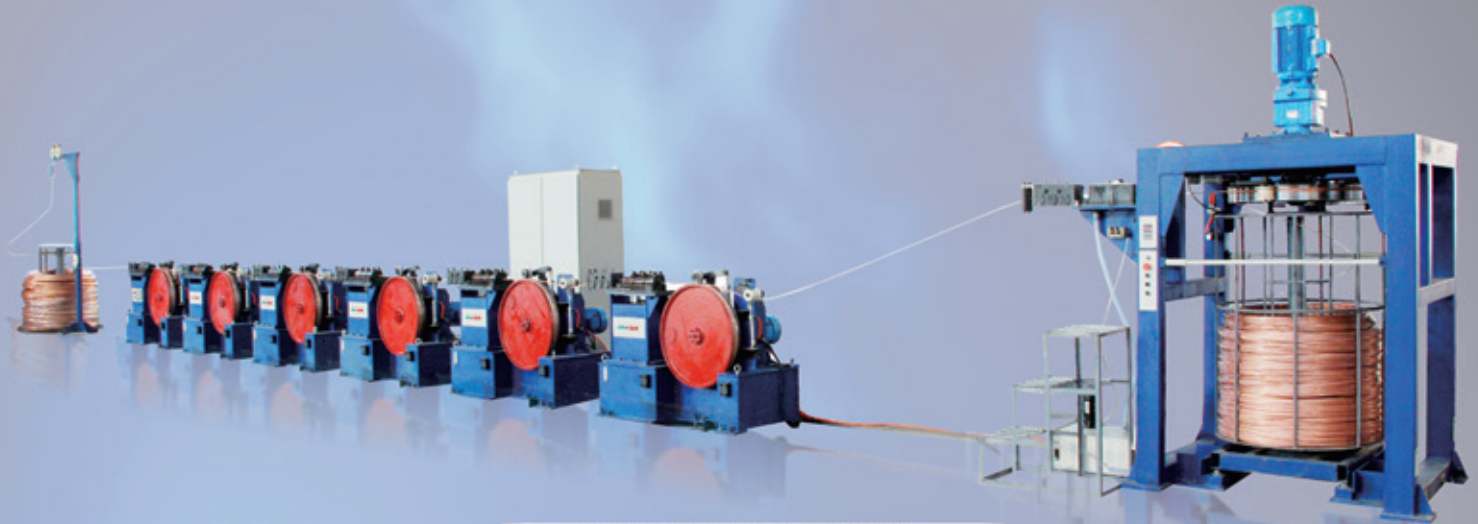
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Sophisticated machinery-made by T&D

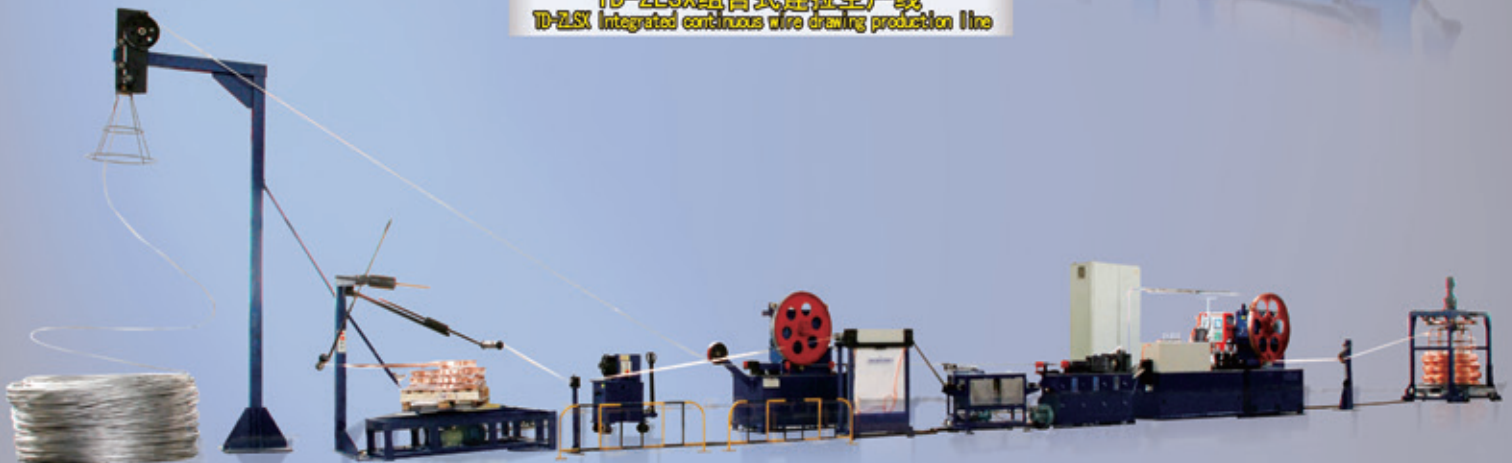


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● High yield ratio ● High efficiency ● High quality ● Less consumption



TD-ZLSX组合式连拉生产线
TD-ZLSX integrated continuous wire drawing production line



TD-ZSSX系列智能型包覆焊接生产线
TD-ZSSX series intelligent bimetallic wire cladding production line

T&D

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