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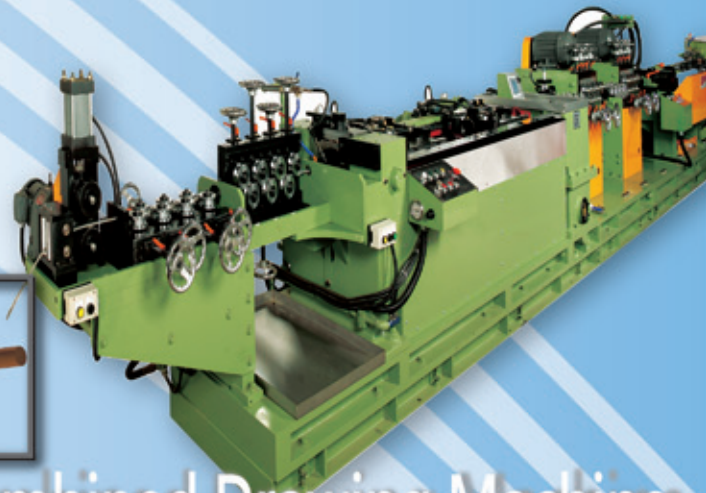
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INDIA 2012

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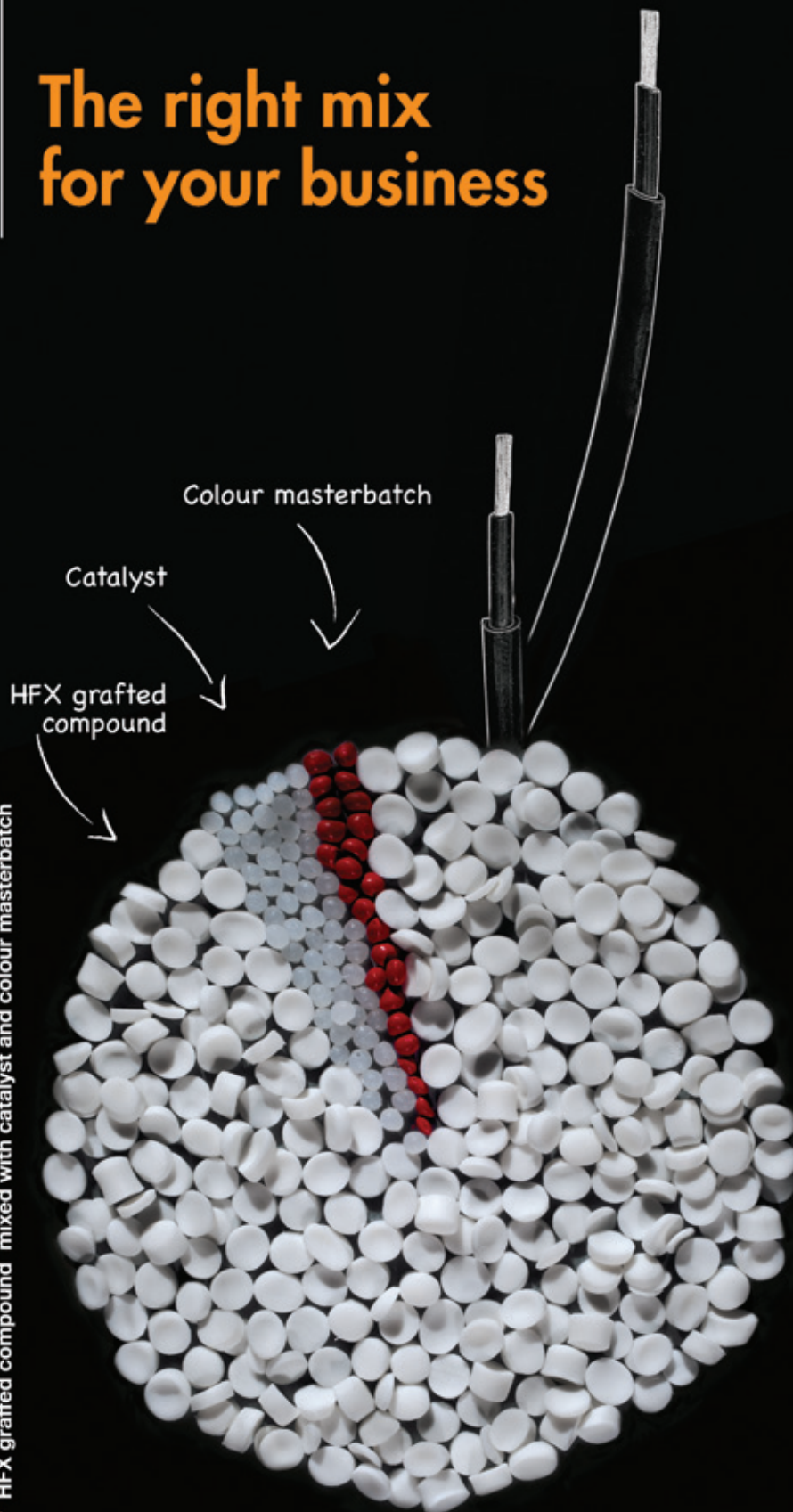
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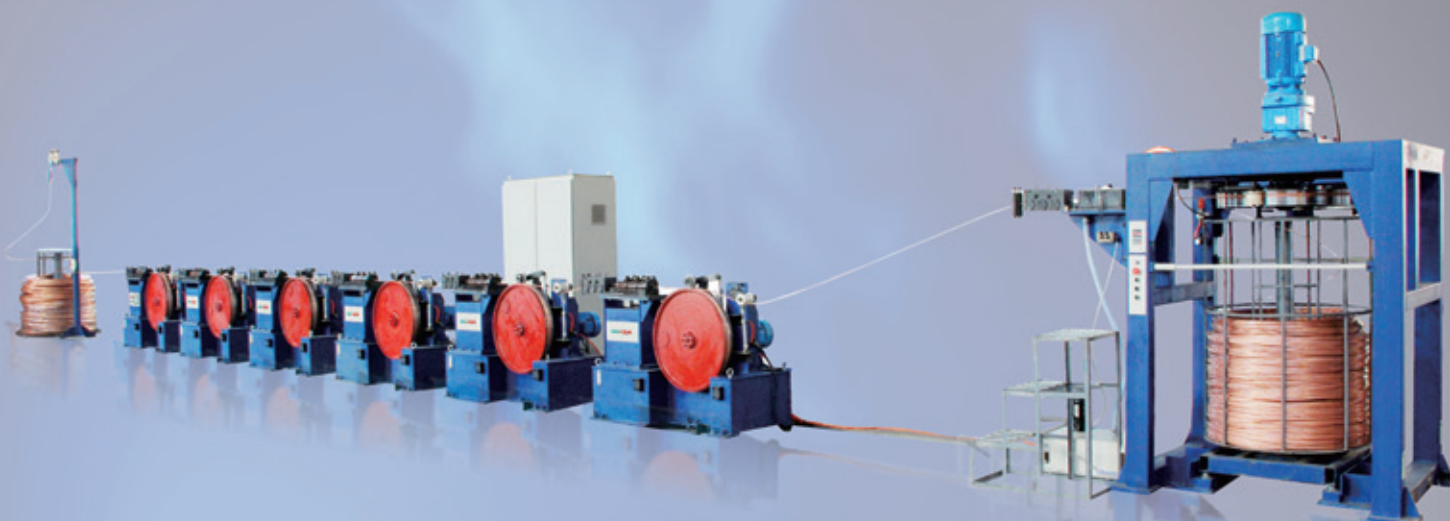
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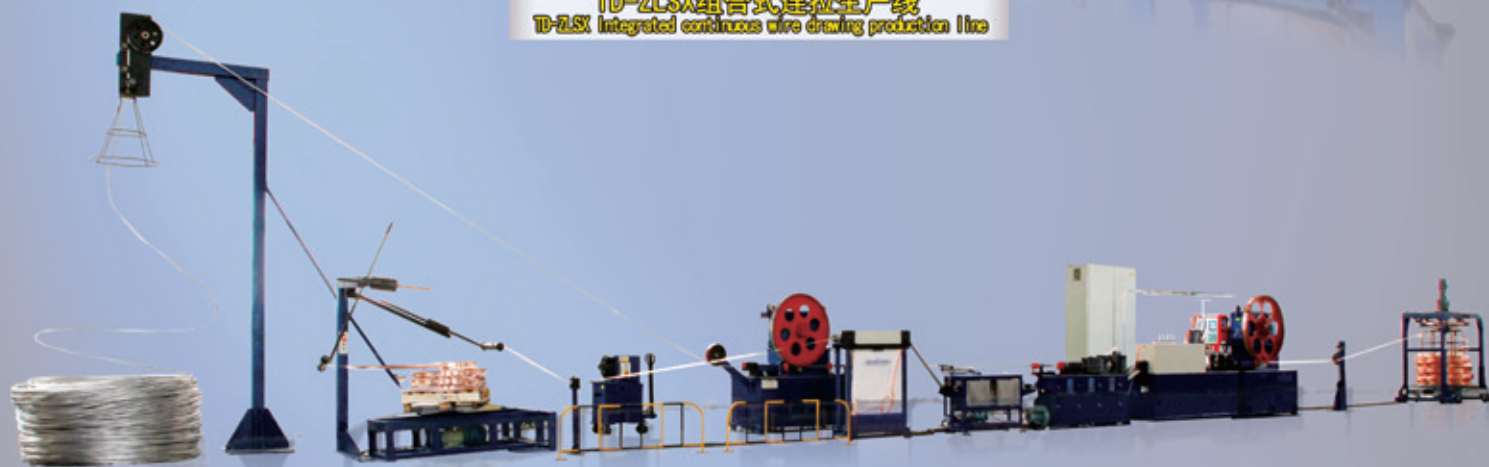
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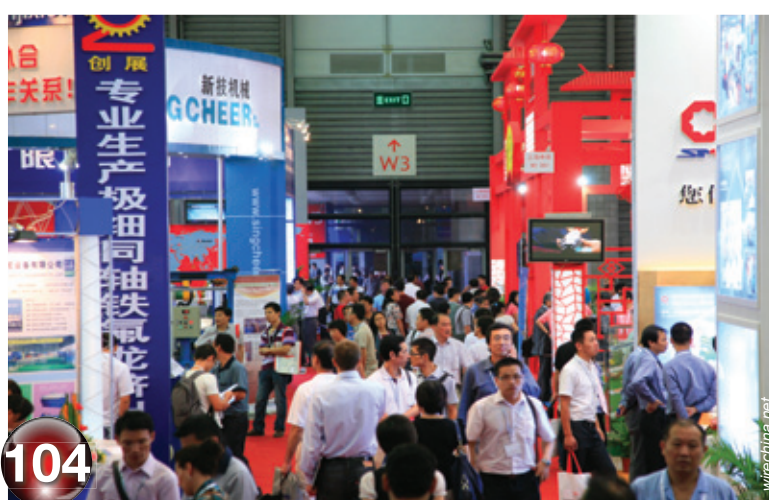
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作者: Taymer International Inc.公司Craig Girdwood和Commscope公司 Brian Franklin

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- Wire bending, straightening & forming

Getting Technical

Extended quality control of cable insulation by colour measurement during extrusion
By Dr Horst Scheid, Siebe Engineering, Germany

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Heading east for wire showtime

The whole wire and cable industry turns to a taste of the east over the next two months with both wire China and Wire & Cable India being staged on the Asian continent.

The uptake in Shanghai has again been particularly popular with more than 750 companies signing up to the four-day exhibition.

Organisers Messe Düsseldorf (Shanghai) are anticipating that this year's exhibition will break all visitor records at the Shanghai New International Expo Centre from 25th-28th September.

You can catch up with some of the exhibitors, starting on page 104. You can also meet up with staff from *Wire & Cable ASIA* on stand B1B49.

Whilst Wire & Cable India may not have attracted as many exhibitors, the popularity of this exhibition is growing as companies recognise the opportunities in this booming economy.

This is only the fourth time the event has been staged and more than 250 companies are expected to display their latest technology at the Bombay Convention and Exhibition Centre in Mumbai.

Please feel free to pay us a visit on stand 1G42 from 30th October to 1st November. You can see some of those companies in the section starting on page 118.

Equally important in this issue is a bustling feature section on the popular 'Dies, lubricants and drawing'.

Catch up with the latest news from companies in this section of the industry on page 70.



David Bell
Editor

when and *where*



Aerial view of Shanghai - www.bigstockphoto.com Photographer - Diego Zang (third photography)

October 2012

30-1 Nov: **wire and Cable India/Tube India** – trade exhibition – Mumbai, India
Organisers: Messe Düsseldorf India
Fax: +91 112 697 1746
Email: info@md-india.com
Website: www.md-india.com

November 2012

11-14 Nov: **IWCS** – Technical conference & trade exhibition – Providence, RI, USA
Organisers: IWCS Inc
Fax: +1 732 389 0991
Email: phudak@iwcs.org
Website: www.iwcs.org

April 2013

23-25 April: **Interwire 2013** – trade exhibition – Atlanta, USA
Organisers: WAI
Fax: +1 203 453 2777
Email: info@wirenet.org
Website: www.wirenet.org

June 2013

25-28 Jun: **wire Russia** – trade exhibition – Moscow, Russia
Organisers: Messe Düsseldorf GmbH
Fax: +49 211 4560 7740
Email: info@wire-russia.com
Website: www.wire-russia.com



○ The production facilities of Niehoff Machinery Changzhou (NMC) Co Ltd

New factory in China

NIEHOFF Machinery Changzhou (NMC) Co Ltd, the most recent subsidiary of the Niehoff Group, officially opened its new factory in the Wujin Economic Development Zone in Changzhou, approximately 200km west of Shanghai in May.

The 3,600m² plant is designed for the production of diverse drawing machines and double twist bunching machines as well as additional equipment like annealers, spoolers and coilers under Niehoff licence for the Chinese market.

As well as manufacturing areas and offices, the building comprises an exhibition area and a spare parts warehouse.

NMC is also responsible for the complete after-sales service

and the reliable and fast supply of Niehoff's Chinese customers with Niehoff original parts for all kind of Niehoff machinery.

NMC has already a high order backlog for 2012 and beyond. Some of the approximately 30 staff members obtained knowledge and experience at the Niehoff Shanghai Representative Office and members of the core team are continuously trained at the headquarters in Schwabach. NMC also runs a sales office in Shanghai.

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Experts lining up for Wire & Cable Asia 2012

INTEGER Research's first Wire & Cable Asia conference now has over 25 key industry expert speakers confirmed who will investigate and establish profitable growth strategy plans for the wire and cable industry, and tackle the technological issues faced by Chinese cable makers.

Wire & Cable Asia 2012 will take place on 27th-28th November in Shanghai and will bring together the leading cable makers in Asia, and provide them with

an opportunity to network and discuss the opportunities and challenges faced by cable producers in the region.

And the organisers have teamed up with Wire & Cable ASIA Magazine as media partners for the conference, which will tackle the challenges in achieving growth including addressing R & D requirements, copper price volatility, technological developments and environmental and quality control issues.

The speaker line-up includes Luigi Migliorini, CEO China at Prysmian Group, one of the world's leading manufacturers of high-technology cables, who will share his industry knowledge and take part in a debate addressing methods of growing wire and cable market share in emerging Asian markets.

With the fluctuation in the price of copper it is vital that the cable industry understand trends in price that directly affect production cost and pricing strategy. Michael Jansen, Head of Metals Research at JP Morgan will discuss methods of minimising the impact of copper price volatility on the wire and cable industry.

The speaker line-up also includes: Yang Yingjian, chief engineer, the State Grid Corporation of China; Koo Cha-yol, CEO, LS Cable & System; Ding Shanhua, chairman and general manager, Jiangsu Shangshang Cable Group; Wang Chuanbin, chief technical director, Far East Cable Co Ltd; Zhou Lijing, Commercial Director, Fibre Business Unit, Yangtze Fibre Optic and Cable Company Ltd and Jia Xiaotie, deputy chief engineer, State Grid Information & Telecommunication Company Ltd.

The full conference programme and line up of industry expert speakers can be found at www.integer-research.com/wac-asia

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

Astronergy completes 50MW solar project

Astronergy has completed the construction of a solar photovoltaic (PV) power plant in Bulgaria, with a total installed capacity of 50MWp.

The plant is expected to produce 1,858,548,000kWh of electricity during the next 25 years with zero carbon emission.

The company manufactured and mounted all the polycrystalline PV modules needed for the project.

Astronergy – China
Website: www.astronergy.com

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30.Oct-01.Nov.2012
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Japan to restart nuclear plants after tsunami

JAPAN has begun the process of getting its nuclear energy sector back online, starting with two nuclear reactors at Oi in Fukushima.

The work follows a directive to Kansai Electric Power from Japanese PM Yoshihiko Noda, with the aim to avoid power shortages during the summer.

Each Oi nuclear plant has a capacity of 1,180MW energy and the restart could reduce LNG usage by 180,000t per month, as reported by Reuters.

Iran increases copper reserves

Iran has announced the discovery of new copper mines with 7 million tons of proven reserves, significantly increasing the country's copper reserves.

"Numerous mines have been discovered in the exploration drillings and Iran's copper reserves have increased from 14 million tons to 21 million tons," Ali Mohammadi, manager of Iran's Sarcheshmeh Copper Complex, told the press. He added that Iran plans to carry out over 200,000 metres of exploratory drilling in the current Iranian year.

Iran owns three per cent of the world's copper reservoirs and is the largest copper producer in the Middle East. The country produced 235,000 tons of copper during the last Iranian year (ending March 2012).

Managing director of the National Iranian Copper Industries Company Ardeshir Saad Mohammadi said that NICICo plans to set up two plants for producing copper concentrate before the end of the current Iranian year. He estimated that the total amount of copper ore processing from mines amounted to 124 million tons last year and will rise to 200 million tons this year.

National Iranian Copper Industries Company – Iran
Website: www.nicico.com

Oil analyst Alex Yap is reported to have told Reuters that the restarting of nuclear reactors will make a huge impact in reducing oil demand, which is expected to rise in the next few months when power demand is higher.

While many remain sceptical of nuclear reactors in the wake of the earthquake and subsequent tsunami damage, Japan has already drawn plans to bring up more reactors in the near future – the two Hokkaido Electric Power Co reactors in Tomari, northern Japan and the No.2 reactor at the Shika station operated by Hokuriku Electric Power Co in western Japan are expected to be restarted soon.

Japan has 50 nuclear reactors, all of which have been offline since May 2011. Nuclear energy accounts for a third of Japan's energy needs.

Hokuriku Electric Power Co – Japan
Website: www.rikuden.co.jp

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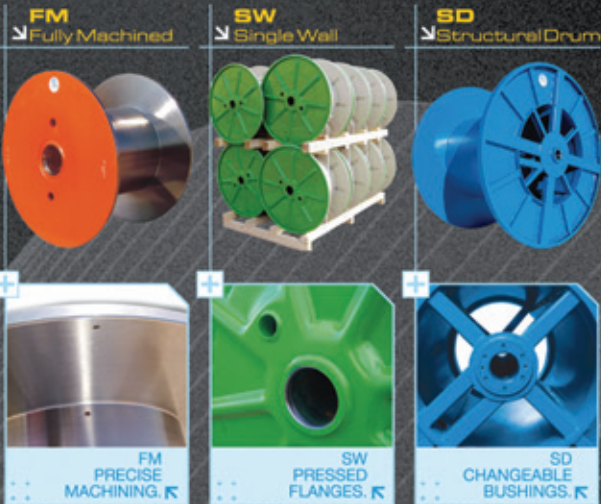
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New plant in Xinyu, Jiangxi

BEKAERT and Xinsteel have broken ground for a new production plant in Xinyu, Jiangxi Province, China. The new plant, to be called Bekaert (Xinyu) New Materials Co Ltd, will be located in Jiangxi Xinyu High-Tech Industrial Park Development Zone and will house a spring wire manufacturing facility, which is currently located in two separate factories.

The plant is expected to begin operations during the third quarter of 2013, and will mainly serve domestic customers with spring wires.

Bekaert formed the partnership with Xinyu Iron & Steel Co Ltd (Xinsteel) in December 2011 with the establishment of a 50/50 joint venture, with the aim of combining their complementary technologies and applications to open up new opportunities in the markets.

Mr Xiong Xiaoxing, chairman of Xinsteel, said: "This new plant is a substantial step in our strategic partnership, and will create more business opportunities for Xinsteel in partnership with Bekaert. "I am confident that our partnership will bring both of us leading positions in our markets."

Mr Mark Goyens, president Bekaert Asia, added: "It is particularly meaningful for the establishment of Bekaert Xinyu New Materials Co Ltd and marks another big step forward in our long term China strategy."

Bekaert (Xinyu) New Materials Co Ltd – China
Website: www.bekaert.com

Dispatch your cable on steel reels

Established in 1989, Cabrol is a reel manufacturer that specialises in manufacturing steel CKD reels. The CKD reels are engineered to carry heavy loads, a perfect solution for dispatching finished cable.

With two manufacturing units in India and a third one coming up in the Middle East, Cabrol is well positioned to satisfy all reel requirements. For decades, with superior quality and lower prices, the CKD reels have proven to be an economical alternative to wooden reels.

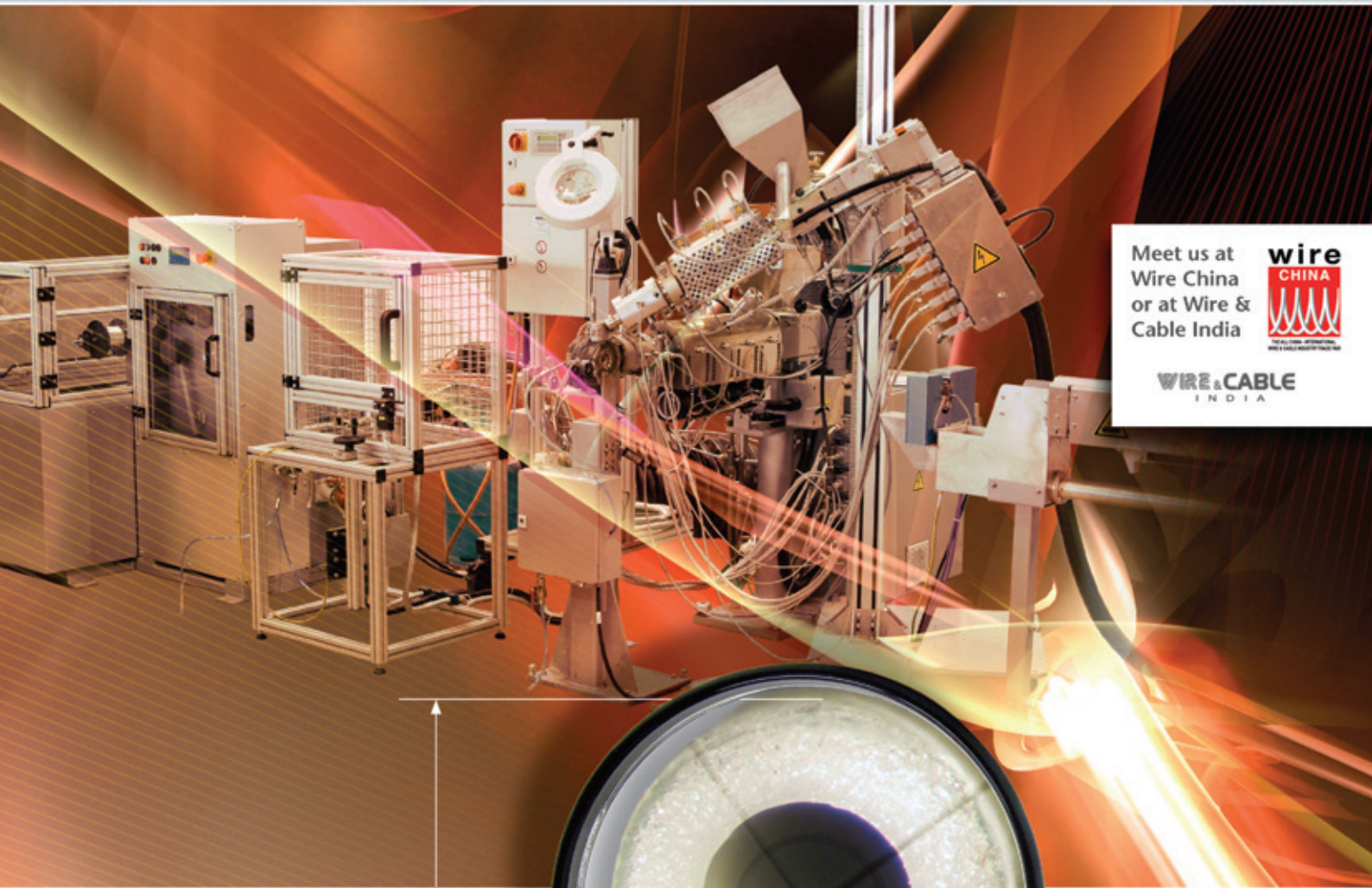
The company has gained the expertise to build an optimum design suiting customer requirements resulting in economical reels.

The CKD advantage is that they are stronger, durable, weather proof, recyclable, have a higher resale value, economical, have no nails, are environmentally friendly, provide better safety of cable and conductors, and are able to withstand high stringing speeds.

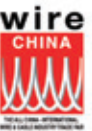
With a commitment to lower packing costs, Cabrol has also implemented a new concept of renting reels. Reels can also be fabricated and customised to meet customer needs.

Cabrol – India
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General Inspection celebrates 20 years

GENERAL Inspection, LLC (Gi) has recently celebrated an impressive 20 years in business.

Gi is celebrating this accomplishment with a new logo and new website to lead it into the next several decades of its business.

By investing in research and development, Gi has continually improved its edge in the market, releasing state-of-the-art inspection machines and accompanying user-friendly software.

General Inspection manufactures a complete line of gauging, sorting, and inspection systems incorporating: laser, eddy current, vision, and acoustic technologies for dimensional measurement, determining metallurgical defects as a method for achieving zero defects.

General Inspection LLC – USA
Website: www.geninsp.com



○ The new General Inspection website

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Deora Wires and Machines (P) Ltd – India Website: www.deoragroup.com

Entire board re-elected at general meeting

The AWCMA (Austrian Wire and Cable Machinery Association) has re-elected the entire board of directors following a general meeting in June.

Key positions are filled by: president Dr Kurt G Eder (Eder Engineering-Austria), vice-president Mr Robert Ebner (Ebner Industrieofenbau), secretary Mr Werner Lichtscheidl (Medek & Schörner), and coordination Mr Siegfried Altmann (Knill/Rosendahl).

The board was re-elected until 2015.

The AWCMA was established in 1988 and at present consists of 19 member companies; all of them exporting over 95 per cent of their products worldwide.

Achieving greater awareness of its market leading high-tech products and Austrian engineering for the international wire and cable industry are central to the global aims of the AWCMA.

The AWCMA specialist firms are available to apply state-of-the-art technology to the solution of any wire and



○ The board of the AWCMA following the meeting

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AWCMA – Austria
Website: www.awcma.com



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China shanghai exhibition, 25th-28th, Sep., 2012
 Stand: W2A03, W2B03

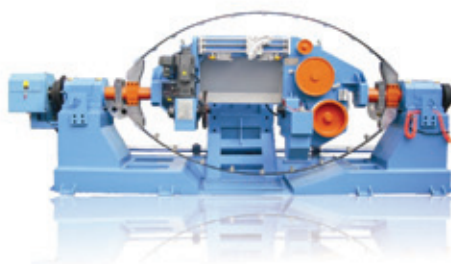
India Mumbai exhibition, 30 Oct.-01 Nov., 2012



Wire and cable extruder line



HD-Ø70+70+50mm PLC three layers co-extrusion extruder
 The latest Switzerland type



HD-Ø1250/1600/2000mm D type double twist bunching machine(for copper wire)



HD-Ø630/800/1000/1250 Taping machine(mica tape)
 The latest type



HD-Ø630/800/1000/1250mm PLC High speed rotate frame type single twister(cabler)



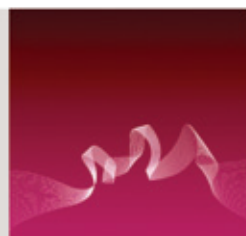
HD-Ø630/800/1000/1250mm PLC High speed cantilever type single twister(cabler)



HD-Ø250B/300B/400B/500B/630B/800Bmm PLC High speed bunching machine

Foreign market:
 Contact person:Lily Nie
 Cellphone:0086-13815079818
 Tel:0086-519-86230798
 MSN:keke_0345@hotmail.com
 Skype:keke0345
 Web:www.hdxljx.com
 Email:export@hdxljx.com

Domestic market:
 Contact person:Mr Xiao
 Cellphone:0086-13815076898
 Tel:0086-519-86486126
 Web:www.hdxljx.com
 Email:hd@hdxljx.com
 Add:Lijia Town,Changzhou City,Jiangsu Province,China.



New sales director for the Asia region

STUART Manser has been appointed sales director for the Asia region for Beta Laser Mike.



Mr Manser has been with Beta LaserMike since 1990, holding a number of key positions including UK & Ireland sales manager, general manager of Beta LaserMike Ltd (UK) and, most recently, as western USA district sales manager.

○ Stuart Manser

Prior to Beta LaserMike, Mr Manser developed extensive experience in the field of metrology. He spent his early career as an engineering metrologist for Rolls-Royce Aero Engines, and holds professional qualifications in both mechanical and production engineering.

In this new role, Mr Manser replaces Ken Wright, president of Beta LaserMike, who has been assuming the role of sales director in Asia. Mr Manser will be responsible for overseeing the Asia-Pacific sales strategy and implementation, as well as working closely with Beta LaserMike's channel partner network to increase the company's presence and delivery of measurement and control solutions in China, Japan, Korea and South East Asia.

Beta LaserMike – USA Website: www.betalasermike.com

Mexico conference

The non-ferrous division of MFL group (Frigeo) organised a technical conference in Mexico, with the main target to explain the latest technologies and products that Frigeo offers to the wire industry.

The topics discussed were focused on technical aspects related to the full range of drawing machines, stranding machines and cable insulating lines.

The event was celebrated over two days in two different locations (México DF, Monterrey) receiving a total audience of approximately 65 technicians from more than ten different Mexican companies.

Due to the success of this kind of event, the MFL Group intends to repeat the experience in other countries of the region. The goal is to make the Central and South American customer confident about the technical and technological cooperation that Frigeo can provide as a reliable supplier.

MFL Group – Italy Website: www.mariofrigerio.com



○ MFL group's Mexico conference



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- Single-side non-conductive water-blocking tape CDZD
- PET laminated non-conductive water-blocking tape CDZDF
- Reinforced non-conductive water-blocking tape CHDZD



2. Semi-conductive Water-blocking tape

- Double-side semi-conductive water-blocking tape CBZSD
- Single-side semi-conductive water-blocking tape CBDZD
- Semi-conductive laminated water-blocking foam tape CBHZD
- Single-side semi-conductive water-blocking woven tape CBDWD
- Reinforced semi-conductive water-blocking tape CHBSD
- Marine water-blocking tape CMBZD

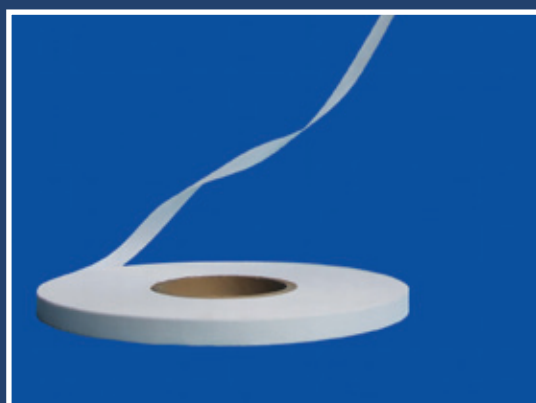


3. Binding, Bedding, Barrier & Separating tape

- Non-woven tape CWB
- Reinforced Non-woven tape CHWB
- High strength Woven tape CHB
- Semi-conductive nylon tape CBNLD
- Semi-conductive non-woven tape CBZD
- Semi-conductive woven toteron tape CBHD
- Flame-retardant tape CFR

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- High tension polyester yarn HZT
- Water-blocking E-glass Roving yarn BSW
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W3 C01

Cafca reports improved earnings in six months

ZIMBABWEAN cabling company Cafca has reported headline earnings per share of 3.6 cents for the six months to March 2012. This was a slight improvement on the 2.31 cents earned in the same period in 2011.

Cabling companies are well placed to

benefit from projects serving South Africa's current infrastructure spending.

Revenue for the six-month period was static compared with the same period in 2011, the company said. "The liquidity crunch in the last quarter has resulted in a significant drop in the

sales to our major customers, as they have not been able to meet their obligations to us," it said in a statement.

The company added: "Margins have remained tight in the face of imported competition. The net result is the operating profit being very much in line with the previous period. Net finance costs have shown a marginal improvement due to more competitive interest rates paid on reduced borrowings."

Cafca expects to maintain its performance in the short term, but said liquidity will remain tight and that revenue will be curtailed by enforcing credit terms. It said it would aim to grow exports — now at 20 per cent of volumes in the last quarter — in traditional markets, while also exploring niche markets.

The company's directors recommended waiving a dividend payment due to the strategic need to finance debtors and finished goods.

BICC Cafca – Zimbabwe
Website: www.cafca.co.zw

Colorant Chromatics appoints new distributor

Colourant and additive specialist Colorant Chromatics has appointed a new distributor in India to market its technologies for high performance plastics and fluoropolymers.

The new distributor, Nishigandha Polymers Pvt Ltd, will distribute the company's entire product range as an extension to its existing portfolio. Nishigandha currently supplies a wide range of high-tech rubbers and polymers including:

- Fluoroelastomers
- Fluoroplastics
- Polyacrylic rubber
- Epichlorohydrin rubber

- Chlorinated polyethylene elastomers.

The new distributor can be contacted at:

Nishigandha Polymers Pvt Ltd, Mr Rudresh Kumar, Rustom Building, 3rd Floor, 29 Veer Nariman Road, Mumbai 400 023, India. Tel: +91 22 2288 1293/2284 2712, Fax: +91 22 2288 1295. Email: rudresh@nishigandhapolymers.com

Colorant Chromatics – Switzerland
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Quadromatik 400



Four functions in one line



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Reelmatik 350D



The sinfonia of the spools



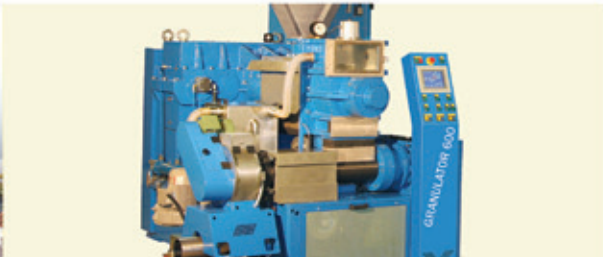
Double head automatic spool packing line for cable diameter 2,5-12 mm (0.0787-0.197 in) cable. Line speed up to 400 meters/minute (1315 feet/minute)



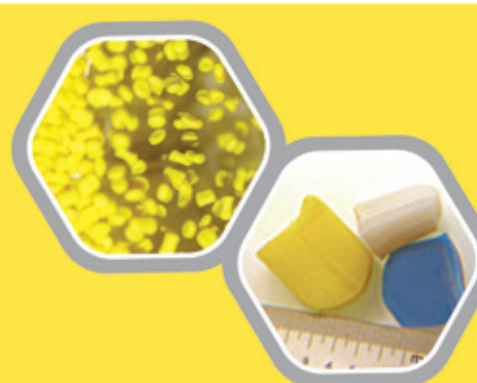
GRANULATOR 600



Chef great master



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The delights of Turkey await

CNR Holding, a leading fair organiser in Turkey, has acquired the Cable and Wire Fair from Mediaforce.

Cable and Wire Fair (cable accessories, cable realignment, electrical insulation materials, equipment and machines) is now ready to welcome the industry leaders for the fifth time at the largest fairground of the country, CNR Expo Center, in Istanbul, Turkey, from 15th-18th November 2012.

The Cable & Wire Fair will present new machines, products and systems from wire and cable and tube industries at the exhibition grounds of 150,000m² at the fair area.

Around 300 local and international companies are expected to participate at the fair.

Manufacturers of process engineering tools, companies producing machines for the production and refining of wire, materials manufacturers and companies offering speciality wire and cable from China, Germany, Italy, France, Spain, Japan, Taiwan, US and Turkey like Hes



○ The CNR Expo Center in Istanbul, Turkey

Kablo, Sarkusyan, Vatan will be the main exhibitors of the fair.

Focusing on the expectations of the

visitors, expected to participate mostly from England, Iraq, Germany, France, CIS and the Middle East, the exhibitors will display machines and systems for wire production and processing, materials, speciality wire and cables as well as tubes and accessories, tube production and processing machines.

Providing an excellent platform for the industry players from all around the world, Cable and Wire Fair aims to be the meeting point of the international producers, innovators and the global market leaders of the sector.

CNR Holding – Turkey
Website: www.cnrexpo.com

Bahra Cables in airport deal

The refurbished Saudi airport, King Abdulaziz International, will use cables from Bahra Cables Company. An agreement has been signed whereby Bahra Cables will supply medium-voltage cable worth \$80m for the first phase of the project, which will take 24 months to complete and will expand the airport's capacity to 30 million passengers per year when it begins operations in 2014.

Bahra Cables – Saudi Arabia Website: www.bahra-cables.com



Experience leads to success

Modern cable production demands a high level of reliability



Cable Position Control | NEW DESIGN



Maschinenbau SCHOLZ – Your partner in cable industries and for more than 50 years the specialist for design and production of CV lines. With more than 350 CV lines delivered worldwide for the continuous production of medium and high-voltage cables, we are one of the leading manufacturers in this segment. In our wide range of products you will find vertical lines, catenary lines, horizontal lines, pressure reversing systems as well as conversions of existing lines and special designs of all kinds. We also deliver individual parts, for example cable position controls, splice boxes, water seals and heating/cooling tubes. We are ready to accept every challenge.

Our program for continuous cable production: **complete CV tubes for gas and steam curing as catenary lines CCV, vertical lines VCV and horizontal lines HCV.** Additional equipment, such as pressurized reversing systems, low-pressure curing under superheated steam, gas cooling circuits, nitrogen supply stations, **retrofitting of existing steam CV tubes for gas curing, cable impregnating and drying vessels.**

WIRE . CABLE
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○ Niehoff 常州生产线

在中国的新工厂

今年5月，Niehoff集团公司旗下最新成立的子公司 Niehoff Machinery Changzhou (NMC) Co Ltd 公司在常州武进经济开发区的新工厂正式开张。常州位于上海西面200公里处。

拥有Niehoff 集团公司在在中国市场的许可证，这个占地3,600平方米的工厂主要生产各种拉丝机、双节距束线机，以及其他

一些设备如：退火处理机、络纱机、绕线机等。除了生产区域和办公区域外，这家工厂还有一个展览区域和一个零备件仓库。NMC同时也负责所有的售后服务，并向Niehoff集团公司的中国客户快速提供可靠的Niehoff原厂配件。

NMC已经拥有2012年及其后的大量累积订单。公司有大约30名员工，其中的一部

分人在Niehoff的上海代表处获取了知识和经验，而核心团队的成员则不断地在位于Schwabach（德国施瓦巴赫）的总部接受培训。NMC在上海还设立了销售处。

Maschinenfabrik Niehoff GmbH & Co KG – 德国
电子邮件: info@niehoff.de
网址: www.niehoff.de

伊朗向巴基斯坦出口电力

伊朗与巴基斯坦签署了一份出口1,000兆瓦电力的协议,为促进这个协议,双方正在筹划建设一条新的输电线路。

伊朗能源部副部长Behzad称这条新的输电线将联通伊朗的东南部港口城市哈赫巴哈尔和巴基斯坦的Guarder港口。“根据两国之间的协议,一条230千伏的输电线将在伊朗和巴基斯坦间建成” Behzad说到。

在伊朗东南部城市扎黑丹和巴基斯坦的奎达之间也将建成一条新的输电线,增加电力出口到1,000兆瓦。

伊朗的电力出口与去年相比已经增加了38.57%。伊朗能源部透露自本伊朗年(3月20日开始计算)以来,伊朗总计出口电力1,347兆千瓦时到它的邻国亚美尼亚、巴基斯坦、土库曼斯坦、土耳其、阿塞拜疆、纳希切万、伊拉克以及阿富汗。

五月份,负责电力和能源事物的伊朗能源部副部长Mohammad Behzad说伊朗已与它的邻国签订了不少这方面的合同,大力地推进了其电力出口。在过去的伊朗年里,伊朗总共出口了860亿千瓦时电力,与前年同期相比增加了29%。

Astronergy公司建成50兆瓦的太阳能项目

Astronergy公司在保加利亚建成了一个装机容量为50兆瓦的太阳能光伏电站。该电站将在未来的25年内共计发电1,858,548,000千瓦时,而其碳排放量为零。

Astronergy公司总裁Liyou Yang说:“我们公司将在生产替代能源方面继续努力。”

Astronergy公司副总裁、营销总监Alan Yuan表示公司一向遵守承诺,不仅在成熟的光伏市场,也在新兴的市场上与合作伙伴共同开发太阳能电站。“因为有母公司the Chint Group的支持,我们能向太阳能发展项目提供全套的电机产品和解决方案。”

Astronergy公司生产一系列单晶硅和多晶硅光伏组件。公司生产和安装太阳能项目所需的所有多晶硅光伏组件。

Astronergy – 中国
网址: www.astronergy.com


伊朗增加铜矿储量

伊朗宣布发现了新的铜矿,证实有七百万吨的储量,从而大幅增加了该国的铜储量。伊朗的Sarcheshmeh Copper Complex公司经理Ali Mohammadi告诉记者“在勘探钻井过程中发现了不少的铜矿,伊朗的铜矿储量从一千四百万吨猛增到了两千一百万吨。”他还补充说伊朗计划在本伊朗年进行多于二十万米的钻探。伊朗占有世界铜矿储量的百分之三,是中东地区最大的铜生产商。在上一个伊朗年(2012年3月结束),它生产了二十三万五千吨铜。National Iranian Copper Industries Company(伊朗国家铜产业公司)执行总裁Ardeshir Saad Mohammadi表示公司计划在本伊朗年底建成两个生产浓缩铜(铜精矿)的工厂。他说去年的铜矿石处理总量为一亿两千四百万吨,而估计今年将会增长到两亿吨。

National Iranian Copper Industries Company – 伊朗
网址: www.nicico.com

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江西新余的新工厂

Bekaert and Xinsteel在中国江西省新余的一家新工厂已破土动工。这家新的工厂将被命名为Bekaert (Xinyu)新材料有限公司。它坐落在江西新余高科技产业园区，它的建成将分散在两个不同工厂的弹簧钢丝生产设备组合起来。

这家工厂预期在2013年的第三季度开始运营，主要为国内客户生产弹簧钢丝。

Bekaert公司和新余钢铁有限公司(Xinsteel)早在2011年12月就建立了合作伙伴关系，是一个50/50的合资企业，目标是充分结合各自的优势互补技术以期开拓新的市场机会。

Xinsteel公司总裁Xiong Xiaoxing (熊晓星)先生表示：“这家新的工厂是我们战略合作伙伴关系中坚实的一步，将会为双方创造出更多的商业机会。我确信我们的合作将使我们占据市场的领先地位。”

Bekaert Asia公司总裁Mark Goyens先生补充说：“Bekaert Xinyu New Materials Co Ltd (Bekaert新余新材料有限公司)的建成具有非常的意义，标志着我们在中国的长期战略又向前迈了一大步。”

Bekaert (Xinyu) New Materials Co Ltd - 中国
网址: www.bekaert.com

日本将重启核计划

日本已经开始将其核能源问题重新送上议事日程，并在福岛大饭重启两个核反应堆。这是对日本首相野田佳彦对关西电力公司作出的指示的回应，目的是避免在即将到来的夏天的电力短缺问题。据路透社报道，每个大饭核电厂的产能都是1,180兆瓦，而两个核电厂的重新启用将降低液化天然气的使用量，达到每月180,000吨。

据报道，石油专家Alex Yap告诉路透社，核反应堆的重启将会大大减少石油需求，这一点将在未来的几个月里体现得尤其明显。在经历了福岛地震和随之而来的海啸之后，很多人对核反应堆持有怀疑态度，但是日本已经计划在不久的将来建立更多的核反应堆。在日本北部的两个属于北海道电力公司的反应堆和在日本西部的属于北陆电力公司的志贺2号反应堆都将在近期内重新启用。日本目前有50个核反应堆，但自2011年5月后就全部关闭。核能源占据日本能源需求的三分之一。

Hokuriku Electric Power Co - 日本 网址: www.rikuden.co.jp

Cabrol公司成立于1989年，专门生产整体拆装钢卷

整体拆装钢卷的设计是为了承载重物，是可以快速装载成品电缆的完美解决方案。由于已在印度拥有两个生产工厂，而第三家生产工厂马上将在中东地区建成，所以，Cabrol公司完全可以满足所有的钢卷需求。几十年来，因其完美的质量和低廉的价格，整体拆装钢卷已经被证实为是传统木质卷轴的经济型替代品。公司有根据客户需求设计最佳的经济型卷轴。整体拆装钢卷的优点在于它们更结实、更耐用、防风雨、可回收、更高的转售价值、经济、不用钉子、更环保，能使电缆和传感器更为安全，并能经受高速穿线。为了降低包装成本，Cabrol公司还实行了“租用卷轴”的新概念，并可为客户量身订造卷轴。

Cabrol - 印度 网址: www.cabrolindia.com



上海申辰线缆设备有限公司

Shanghai Shenchen Wire & Cable Equipment Co., Ltd

— The Kingdom of Cold Welding Machines



SB-10



SB-1D



SB-11



J2-B



J3-B

Shanghai Shenchen Wire & Cable Equipment Co., Ltd (SCH) is located in the city of Shanghai in China, we are a world wide leader in the manufacture of cold welding machinery. Our products are sold internationally including Germany, Brazil, Britain, Russia, Turkey, India, Indonesia, Malaysia, Thailand, Vietnam, Japan, Korea, Egypt and the USA. Our customer service and products are provided to the highest standards. Our products are approved by Safenet Limited and have conferred the CE certificate.

Our products can weld Copper (Cu) wire from Ø0.06 – Ø25mm, Aluminum (AL) wire from Ø0.08 – Ø35mm; and flat strips maximum width 33 mm, minimum thickness 0.45mm.

Website: <http://www.sch.chinacable.com.cn>
E-mail: schsc8@yahoo.com.cn
jasonzhong@vnet.citizen.net



YJ4-A

YJ5-B

AC705



AC107

AC1208

AC2013



AC158

AC1510

AC2515



Address: Rm. 1804, Bldg. No.1 (Guoke Mansion), Lane 1029, Kongjiang Road, Yangpu District, Shanghai 20093, China.
Tel: +86 21 65199437 / +86 21 65199438 / +86 21 65187232 Fax: +86 21 65199430



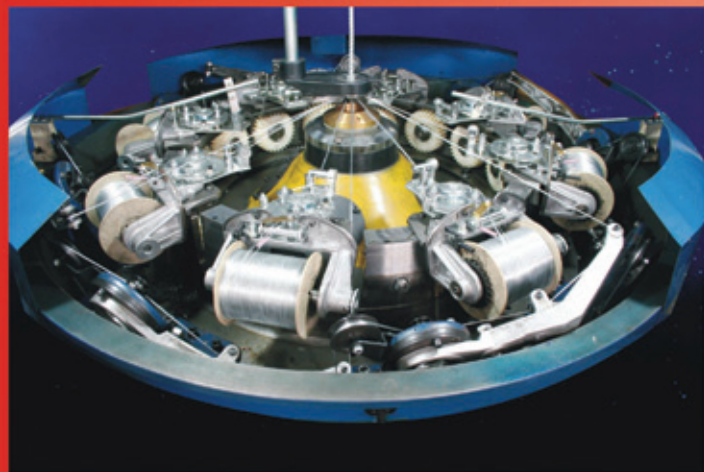
NYDG

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

地址：上海南汇区鹿达路110号

电话：0086-21-33896306

33896307 33896308

传真：0086-21-33896305

http: www.shanghai-nanyang.com

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

重新选举董事会



AWCMA董事会

紧接着六月份的股东大会之后，AWCMA (Austrian Wire and Cable Machinery Association 奥地利电线电缆机械集团) 重新选举了全体董事会。

新一届的主要职位任职人为：董事会主席 Kurt G Eder 博士 (Eder Engineering-Austria)，副主席 Robert Ebner 先生 (Ebner Industrieofenbau)，董事会秘书 Werner Lichtscheidl 先生 (Medek & Schörner)，以及协调员 Siegfried Altmann 先生 (Knill/Rosendahl)。

董事会任期到2015年。

AWCMA 成立于1988年，目前拥有19个成员公司，多于95%的产品出口到世界各地。AWCMA 全球战略目标的核心是让国际电线电缆行业充分认识到其市场领先的高科技产品以及奥地利的高品质工艺。

AWCMA 的各类专业公司能够运用最前沿的技术解决任何电线电缆生产方面的问题，经常在国际会展中展示其出众的产品，并承接重大经济贸易任务，从而使其客户受益。

AWCMA - 奥地利
网址: www.awcma.com

2012亚洲线缆学术会议组织邀请专家

INTEGER Research 组办的第一届亚洲线缆学术会议已经有25位业内重要专家演讲者确认参加，他们将探讨和确定线缆行业利润增长的战略方案和应对中国电缆制造商面临的技术问题。

2012亚洲线缆学术会议将于11月27-28日在上海举行，将使亚洲著名线缆制造商聚集一起，提供互相联络的机会，讨论该地区面临的机会和挑战。

会议组办方和媒体和作伙伴亚洲线缆杂志合作，来应对实现增长挑战，包括研究和开发要求的选择、铜价的多变、技术发展和环境，以及质量控制等问提。

组织的发言者包括 Luigi Migliorini，世界著名高技术电缆生产商 Prysmian 集团的执行总裁，他将分享他的业内经验，参加讨论在亚洲新兴电线电缆市场扩大市场份额的方法。

由于铜价的波动性，电缆行业了解铜价的趋势是至关重要的，它直接影响成本和价格策略。JP Morgan 金属研究部领导 Michael Jansen 将讨论把铜价波动对线缆行业的影响降低到最低的方法。

演讲者还包括：

Yang Yingjian, 总工程师, 国家电网总公司
Koo Cha-yol, 执行总裁, LS 电缆和系统
Ding Shanhua, 董事长和总经理, 江苏上上电缆集团
Wang Chuanbin, 技术总监, 远东电缆有限公司
Zhou Lijing, 商务总监, 光纤业务部, 长飞光纤光缆有限公司
Jia Xiaotie, 副总工程师, 国网信息通信有限公司
完整的会议安排和邀请的行业专家发言人信息可以在网站上看到：
www.integer-research.com/wac-asia

Integer Research - 英国

网址: www.integer-research.com

General Inspection 公司庆祝从业20周年

General Inspection, LLC (Gi) 公司近期度过了其在业界的辉煌20年。Gi 公司为庆祝这个成就，推出了新的公司标识和网站，将引领公司在未来几十年的发展。因为加大了对研发的投入，Gi 一直以来都能在市场上不断扩大竞争优势，生产出具有行业顶尖技术水平的检验机和相关的方便使用的软件产品。

General Inspection 公司生产一系列测量、分类和检测系统，使用了激光、涡流、视觉和听觉技术来进行尺寸测量，能够有效地检测出冶金方面的瑕疵，从而保证了产品的零缺陷。

General Inspection LLC - 美国
网址: www.geninsp.com

亚洲地区新销售总监

Stuart Manser 被任命为 Beta Laser Mike 公司在亚洲地区的销售总监。

Manser 先生自1990年起就在 Beta Laser Mike 公司任职，历任各种重要职位，包括英国和爱尔兰销售经理、Beta Laser Mike 英国公司总经理，以及最近担任的美国西部地区销售经理。

在 Beta Laser Mike 公司任职前，Manser 先生在计量学方面有丰富的经验。他早年在 Rolls-Royce Aero Engines 公司任职工程计量专家，并在机械工程和工艺设计方面取得了专业资格。

Manser 先生将取代一直担任亚洲地区销售总监的 Beta Laser Mike 公司主席 Ken Wright。他将负责监督亚洲太平洋地区的销售策略和实施，并与公司的渠道合作伙伴网络紧密联结，增强公司的影响力，同时向中国、日本、韩国和东南亚提供测量和控制解决方案。

Beta LaserMike - 美国
网址: www.betalasermike.com



Stuart Manser



富川机电

中国最具规模线缆设备制造商之一
One of the largest cable machinery manufacturers with advantages of scale in China

江苏富川机电有限公司

JiangSu Fuchuan Electrical&Mechanical Co.,Ltd

Jiangsu Fuchuan Electrical & Mechanical Co., Ltd. was founded in 2001. It is a hi-technology enterprise of being engaged professionally in designing, manufacturing, installing, and adjusting of electric wire and cable equipment. The company is located in Huaqiao Economic and Technological Development Zone in Kunshan City of Jiangsu Province, China.

Through unyielding efforts of all staffs, Fuchuan keeps developing incessantly and becomes one of the largest cable machinery manufacturers with the advantage of scale in China. The company owns three subsidiaries, Jiangsu Fuchuan, Kunshan Fuchuan, and Kunshan Sanyou, which covers an occupying area of more than 21000 m².

The wire and cable equipment launched by Fuchuan, including high-speed strander, high-speed annealing and tinning machine for ultra fine wire, high speed extruder, high speed wire drawing machine, high speed cable laying machine and all kinds of maintenance equipment for wire and cable equipments. All equipments reach the international advanced level in the industry. Currently, Fuchuan provides high quality equipments for famous corporations at home and abroad, such as Sumitomo Electric Group, Hitachi Group, Hewtech Electronics, Kurabe Industrial, Hayakawa wire, Zhenxiang Copper Group, Hanhe Cable Group, Jiangnan Group, Tianjin 609 Cable, Zhongli Sci-Tech Group, Wantai Group as well as Tebian Electric. Praised highly by all clients.



Series for FC-300B,250B,300B Ultra-fine high speed bunching machine



Series for FC-300C,250C,300C,500C high speed bunching machine



Series for FC-500B,450B,300B,300B new type of high speed bunching machine



Series for FC-1000B,1250B,1600B high speed bunching machine



Series for FC-10D,10DT gear type medium wire drawing and continuous annealing machine



Series for FC-14D,20D,22D,24D wire drawing machine



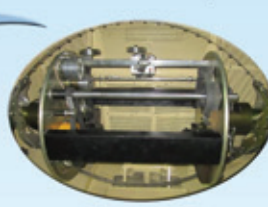
Series for FC-T12,T16,T24,T32 Ultra-fine high speed annealing tin machine



Series for FC-T24,T32,T40 normal wire high speed annealing tin machine



FC-650C bunching machine+Multiple active pay-off machine



Internal structure of FC-650C bunching machine



Series for automotive&electronic line wire high speed extruder



Series for FC-180 active/passive pay-off rack



车间一角 (A corner of workshop)

Contact Person: Xiaoping Ye
Cellphone: 0086-13372158288
Tel: 0512-57699169
Fax: 0512-57699189
Http://www.jsfjcd.com
E-mail: yw1@fcjd88.com

Address: NO.168 Garden North Road, Huaqiao Development District, Kunshan City, Jiangsu Province of China

第五届中国国际线缆及线材展览会
The 5th All China-International Wire & Cable Industry Trade Fair
展位号 (Show NO): W2B58

本企业为日本技术在江苏投入生产

The technology of this machine is brought from Japan and put in production in Jiangsu

走向世界

富川机电

FUCHUAN JIDIAN





○ The Logos II Evolution drawing machine

The latest technology . . .

CONTINUUS-Properti has designed the latest state-of-the-art vertical axis high-carbon wire drawing machine.

The Logos II Evolution drawing machine, with available capstan diameters of 900, 760, 670 and 500mm, is the evolution of the world's most well-known drawing machine, the Logos. For decades, hundreds of Logos machines have been sold all over the world, while keeping its main configuration and legendary toughness and reliability.

The new machine benefits from the most modern design and construction technologies and has been engineered to maximise overall efficiency and safety while minimising maintenance cost.

Here are some of the areas on which the re-design was focused:

- High efficiency narrow gap cooling system: the widespread system of narrow gap cooling, which has been one of the key factors of the Logos machines, has been further improved to yield even higher efficiency and better reliability

- Direct air cooling system: newly designed air ducts allow lower pressure losses which result in higher machine performance and improved wire quality
- High-efficiency transmission system: the combination of high-efficiency gear box, belt and pulleys results in very low energy losses and minimum required maintenance
- Pre-aligned modular frame facilitates easier installation at customer site
- Easy maintenance: the machine has been specifically designed to minimise the maintenance and facilitate better access to the maintenance points in order to reduce the down time
- Easy cleaning: the capstan/die box area has been specifically designed to easily eliminate the dust, scale and lubricant coming from the drawing operation, thereby respecting the operator's health
- Compact design: the machine frame has been optimised to reduce the general dimensions of the machine while keeping the ergonomics unchanged
- High sensitivity speed control:

through a sensor arm on each capstan

- Easy operation: short holing and single jog (forward and backward) of the blocks at each capstan position
- Drawing capstans made of induction heated forged steel yielding hardness up to 62 HRC for increased working life
- HMI: easy access to the working parameters through the Operator Control Desk
- Safety of the Machine: all the parts of the machine as well as the electrical control system have been designed and built to ensure the highest safety for the operator
- Soap Box refilling is possible while the machine is in operation.

All of those result in a very innovative drawing machine that, in the version with 900mm diameter capstans, is able to draw high carbon wire rod with a 14mm diameter and perform at a mechanical speed of 18m/s.

Continuus-Properti – Italy
Website: www.properzi.com



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Other available range
of equipment:



Double Twist Stranders



Rigid Stranders



Drum Twisters



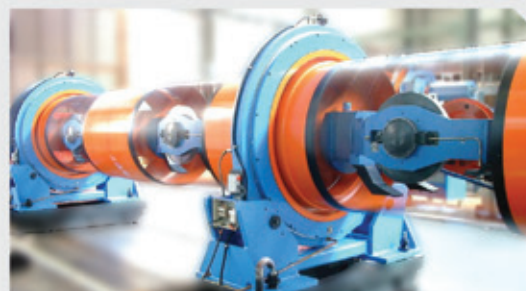
Single Twist Stranders



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... and Shielding Lines, Taping & Rewinding Lines



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Highest level lump and neckdown detection

FOR continuous quality control, lump and neckdown detectors are as important as diameter gauges and spark testers.

The new line of KW 13TRIO detectors captures with the highest accuracy, reliability and velocity even the smallest lumps and neckdowns in wires, conductors, optical fibres, cables, tubes and hoses.

Thanks to the separate operating and display unit BAE 2-KW, the KW 13TRIO can be fully operated and configured at the device. This unit features an illuminated graphic module to display values and messages, red, yellow and green tolerance indicators for signalling operating states, a keyboard with function keys and a numeric keypad for manual instrument setting. The BAE 2-KW can be fixed at the operator station by means of the included wall mounting bracket (swivelling) or on the table.



Thanks to its compact design, the KW 13TRIO can easily be integrated in any extrusion line or rewinding process. The measuring field is dimensioned in such a way that during the start-up, even extremely big lumps pass smoothly through. Its open design enables quick and easy threading of the product without stopping production.

○ Top: BAE 2-KW – local operating and display unit
○ Above: KW 13TRIO – lump and neckdown detector

A powerful microprocessor, as well as full digital signal processing, makes this lump and neckdown detector an essential tool for faultless quality control. This detector is, in addition to other versions, also available as a stand-alone device.

A unique measuring principle and complex optics solution ensure immunity to stray and intense light whilst providing the highest detection accuracy and identification of lumps and neckdowns in the micrometre range.

Highlights include:

- Complex optics allows: Min detectable fault height of 0.01mm (0.0004")
- Min fault length of 0.2-0.3mm (0.008-0.011")
- Full digital signal processing DSP
- Very compact design

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

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The 5th All China
International Wire & Cable Industry Trade Fair
Sept.25-28, 2012 SNIEC/Shanghai



4th International Exhibition & Conference
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eBP® 东佳港

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Major Product Lines:
 Copper rod continuous casting and rolling line
 Aluminum(aluminum alloy) rod continuous casting and rolling line
 Drawing machine for copper, aluminum,aluminum alloy wire
 Stranding machine



Copper Wire Drawing Machine Type LHD 450 Series
(With Continuous Annealer and Rapid Die-change)




Aluminum Wire (Round or Shaped) drawing machine Type LFD 450 Series
(Non-slipping and Rapid Die-change)



Rigid Strander Type JLK Series

1. Application and Features:
 This unit is equipped with continuous casting and rolling mill to continuously coil Al or Al alloy rod in diameter 9.5 or 12 mm.
 After Al rod or Al alloy rod is hot-rolled from CCR line, this unit can finish traversing in different pitches, continuous coiling and pneumatic bundling up to it. This unit is of full mechanical and electrical integration, featured with high efficiency and conforms to relative wire and cable standard.

2. Composition:
 Rod cooling device---Shears---Route dividing device---Drive unit for waste rod---Dual-spooler coiler---Air system---Electrical transmission and control device



3. Main Technical Data:
 1. Coiling size: External diameter: 1520 mm; Internal diameter: 780mm
 Diameter of Al rod: 9.5/12 mm;
 Diameter of Al alloy rod: 9.5 mm
 Coiling speed: 4~7.2 m/sec. for \varnothing 9.5mm Al rod;
 2.55~4.55 m/sec. for \varnothing 12mm
 Traverse pitch: 5~20mm (stepless and adjustable)
 Bundled weight: Max. 2200Kg

Dual-spooler Coiler Type SGS800/1600



Tubular Strander Type JGG Series (with Large Bearings)



Copper Rod Continuous Casting and Rolling Line Type ZZR1800+255/12 (4+8)

Middle Section of Bohai Road
 Jingyang Industrial Development Area, Deyang
 Sichuan 618000, China
 Tel: +86 838 2305777 / 2824333 / 2827301
 Fax: +86 838 2208658 / 2823311 / 2824999
 E-mail: dongjiagong@yahoo.com.cn / sales@ebp.cn
 Http://www.ebp.cn

DCM's new shielding effectiveness test system

DCM has released its new CATS-3000 Shielding Effectiveness Test System.

DCM's CATS-3000 provides cable producers and test laboratories with a test solution for the automatic measurement of coupling attenuation, screening attenuation, and transfer impedance.

The CATS-3000 provides full compliance to TIA-568-C.2 and IEC requirements for the testing of shielded/screened twisted-pair Category data cables.

The CATS-3000 provides a tri-axial test method utilised to test over the frequency range from 30 MHz to 1 GHz.

The test software enables complete test automation, is simple to use, and provides complete test reporting and data storage.

DCM Industries – USA

Website: www.dcmindustries.com

Shaping the future of compounds

Shakun Polymers does not just manufacture compounds but looks forward to the shape its very own compounds take and the different tasks they would be used for.

After more than two decades serving the industry, the company now manufactures, researches, develops and redesigns compounds, whilst keeping a close eye on the environment too.

Quality, consistency, safety and service with no compromise are the company's mantras. From three facilities in India it exports products worldwide.

Shakun specialises in:

- EcoTek: Halogen free flame retardant compound
- EsconTek: Semi conductive compound
- VinylTek: Specialised PVC compound PE compounds

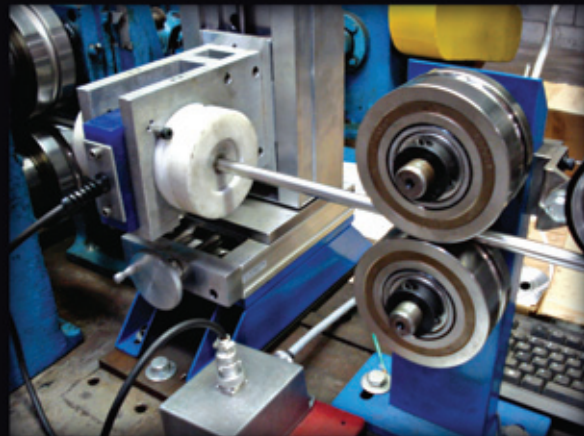
Shakun Polymers Ltd – India

Website: www.shakunpolymers.com



○ The CATS-3000 Shielding Effectiveness System

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- Varimac®
- Minimac® MAC40

MAC instruments can handle a range of metal wire including:

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Blachford



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Blachford delivers **rock-solid reliability** and **rigorous quality control**. We help reduce variability in manufacturing processes and improve products and profitability for our customers.

Blachford – experience you can draw on.

ISO 9001
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Rope length measuring machine produces results

FOLLOWING the major success of the wire 2012 exhibition in Düsseldorf, Bar Products & Services Ltd has gained further worldwide recognition for its full range of products.

One of the major successes of the show was the wire rope measuring system. This new product attracted a lot of interest from wire rope manufacturers as well as wire rope service centres.

The unit is capable of very accurate mechanical measuring of rope lengths to $\pm 0.25\%$ allowing precise cutting of required orders and less expensive waste.

Developed using a five-roller system the measuring machine can be used for wire ropes of diameters between 6mm and 40mm, and is ideal for use in wire rope service centres during re-spooling from stock reels to specific lengths required by the customer.

The measuring machine, designed by Stonepark Consultancy and manufactured by Bar Products & Services Ltd, comprises five rollers overhung from a supporting structure.

The rollers are opened by a hand-operated lever allowing the rope to be placed between the measuring rollers from the front of the machine. The rollers are closed onto the rope with a constant, pre-set load by means of tension springs.

A high degree of accuracy is achieved through use of



○ The new wire rope measuring system from Bar Products

precision ground, profiled rollers made from hardened steel.

Measurements are recorded via a mechanical counter or alternatively by linking to an encoder or pulse generator.

Bar Products – UK

Website: www.barproductsandservices.com



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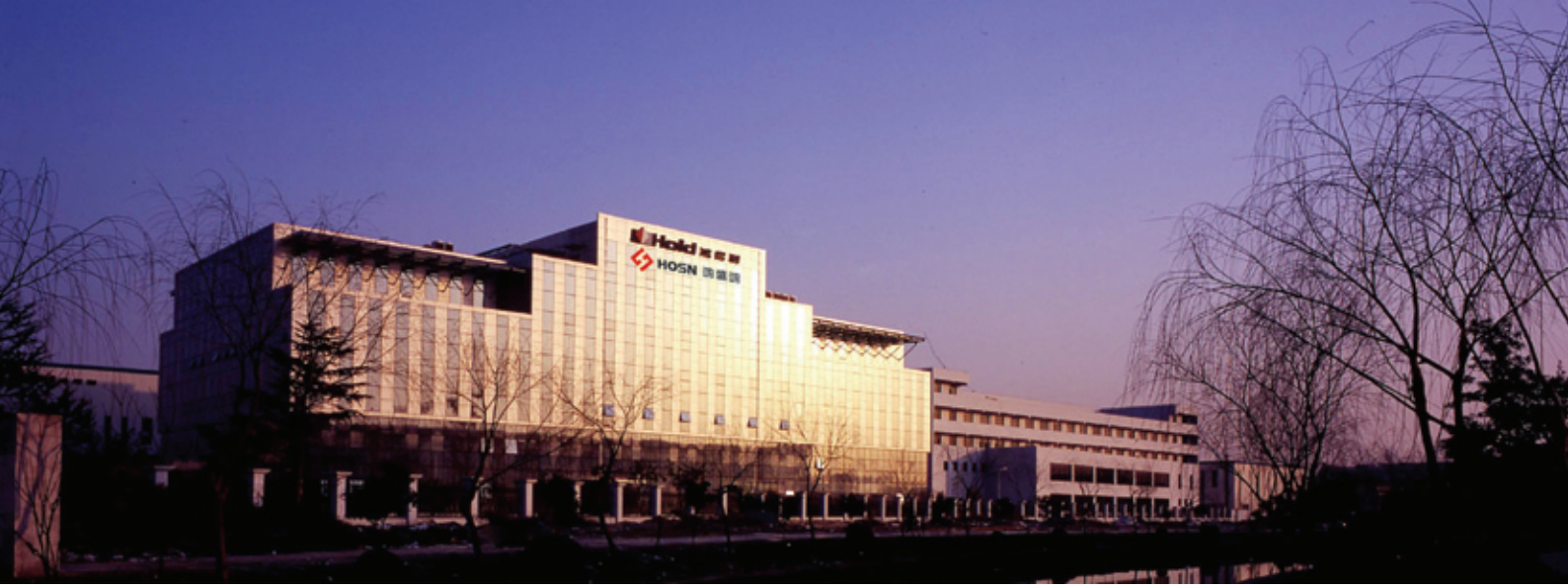


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Intelligent partners in cable production

SIKORA now offers the X-ray measuring system X-RAY 6000 Pro for the measurement of up to three insulation layers as well as the X-RAY 6000 Basic, which is used for quality control of single layer products. Both X-ray measuring systems assure a continuous quality control to fulfil the required cable specifications regarding wall thickness, eccentricity and diameter.



○ The X-RAY 6000 Basic, now with integrated monitor

The monitor is arranged in vertical format and shows simultaneously all measuring values numerically as well as graphically and also trend and statistic data. The operation is via touchscreen.



○ At the new vertical 22" wide-screen monitor of the Ecocontrol 6000, production data of the X-RAY 6000 Pro is clearly displayed

Immediately with the online measurement the values for wall thickness, eccentricity, outer diameter and ovality are accessible at the processor system Ecocontrol 6000. The wall thickness measuring values are displayed at eight points and allow the operator, with the help of the eccentricity function, for optimally centring the extrusion tool and to precisely control wall thickness and diameter to the nominal value.

Sikora AG – Germany
Website: www.sikora.net

With the complement of the X-RAY 6000 Basic to the Sikora product portfolio, manufacturers of single layer products get a powerful and simultaneously cost-efficient alternative to the X-RAY 6000 Pro.

The Basic device is equipped with an integrated monitor for measured value display including analysis software. For the measurement of several insulation layers the X-RAY 6000 Pro is available. An innovation of the device is its 22" TFT display and control system Ecocontrol 6000.





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New products for the world of cables

FAINPLAST has launched two new products, dedicated to the world of cables: the halogen free crosslinkable compound HFX 521 and the halogenated crosslinkable compound CTX 65.

HFX 521 is a halogen free crosslinkable compound (XLPO-HFFR), featuring long duration even at high temperatures, high fire resistance, low smoke emission and oil resistance.

This type of product – that can be processed using the SIOPLAS method (working with a normal extruder, and thus achieving a considerable reduction in costs) – is particularly suitable for applications on ships and railways, environments where high standards of reliability and safety are required.

CTX 65 is a halogenated crosslinkable compound, with technical features similar to rubber, which is also resistant to high temperatures, atmospheric agents, and mechanical and chemical stresses.

CTX 65 can be used with the SIOPLAS method, in order to produce cables with a normal extruder, with no need of specific plants. This product is particularly suitable for the realisation of power, signal and control cables.

These two new products are the result of the continuous research and development work of Fainplast and of its natural tendency towards innovation and implementation of new technologies.



○ The Fainplast office in Italy

HFX 521 and CTX 65 are now parts of the wide range of compounds that Fainplast puts on the market in order to satisfy all requirements.

Fainplast continues to stand out in the market of compounds, where it has been operating for over 15 years. Research and development, on-going innovation and cutting-edge technology are the keys to success of the Italian company.

Fainplast – Italy
Website: www.fainplast.com

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In the automotive wire industry, market leaders including Leoni, Delphi and Force have been Singcheer's major customers in China for more than 10 years already; while in the building wire industry, Singcheer has been always working closely with Far East, Baosheng, TBEA.



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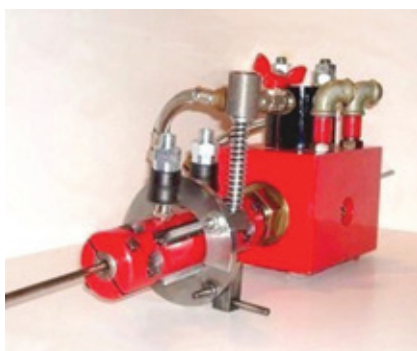
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THE BHW wire cleaning system is used in the most demanding applications, allowing the highest cleaning speed, with all carbon steel wires (including 0.85%C), mechanically descaled or acid cleaned, bare or pre-coated, drawn with calcium or sodium lubricants.

The BHW system is particularly recommended for cleaning applications in which a conventional process is inappropriate, especially with wires drawn in severe conditions resulting in increased heat and burnt lubricant tightly bound to the wire surface and embedded in micro cavities.

The BHW system incorporates new technology which enables normal plant water to be converted into the most unique "micro-abrading liquid" agent used for cleaning of drawn wire, in-line, at high speed, at virtually zero energy consumption, providing extra-clean wire.

Basically, it is a sensitive multi-layer



○ Wire cleaning by the BHW/PWC system

displace/fine scrub/flush cleaning system, benefiting from water immersed high density ultra-fine bristles performing as porous long-life abrading pads that smoothly impact wire surface separating lubricant residue from base material, washing away dispersed contaminants by moving wire, exiting the unit very clean of white-metal appearance.

At exit, the system can be fitted with the PWC (Pressure Wet Cleaning) unit

for complete removal of residual moisture film, providing wire polishing for reflective appearance.

The BHW system provides the ultimate combination of simplicity and effectiveness: acid-free, caustic-free, without ultrasonic, without chemicals. Economical and environmentally friendly, the system provides significant energy and process savings in production of clean H/C and L/C wires.

The BHW system cleans drawn wire from lubricant residue in applications prior to heat treatment or coating, including galvanising, annealing, patenting, plating, welding (chain, mesh), painting, plastic coating, Al or Cu cladding etc. In a typical application, the 2.6mm (0.102") drawn wire is cleaned in-line at 12m/s (2,400ft/min) with 3 to 5 x BHW units, obtaining a very clean wire, enabling direct galvanising or other metallic or plastic coatings.

Decalub – France
Website: www.decalub.com

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New automatic cable test system

DCM, now a part of Beta LaserMike and a leading provider of cable test and measurement solutions, has launched the 3S-XLD automatic cable test system to efficiently measure high-performance, twisted-pair LAN cables.

The DCM 3S-XLD is equipped a 28-pair test fixture platform to simultaneously test up to seven 4-pair shielded and unshielded twisted-pair cables, including CAT 5e, CAT 6/6A, and CAT 7. The system is also fully compliant to perform "6 around 1" Alien Crosstalk testing. A standard 4-pair ISTP fixture enables the automatic testing of individually shielded twisted pairs up to 1 GHz.

The DCM 3S-XLD uses proprietary, solid-state switching technology for high-speed cable testing to significantly increase productivity. A full "6 around 1" Alien Crosstalk test can be completed in minutes. Insulation displacement clips on test fixtures provide simple and quick connections that require only a single cable connection to measure HF and LF test parameters, eliminating the need for time-consuming manual cable re-connections. This enables users to test more cable in less time for higher quality results.

The DCM 3S-XLD comes as a fully integrated system that includes a network analyser and computer console. This next-generation LAN cable test system is also available as an upgrade for those organisations using the earlier DCM CMS-2XLD system.

DCM Industries – USA

Website: www.dcmindustries.com



○ The 3S-XLD from DCM Industries

LUKAS ANLAGENBAU GMBH

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

A Vertical Taping Line with Vertical In-line Sintering Oven will be exhibited at the WIRE CHINA Show in SHANGHAI (booth no. W1D28).

It is suitable for nearly all available kinds of tapes, such as: PTFE, Kapton, Mica, Polyester, Fleece, Laminated Tapes, Metal Tapes, etc. 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!

Contact: lukas.voh@lukas-anlagenbau.de www.lukas-anlagenbau.de
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BOOTH No. W1D28 at Wire China 2012, SNIEC, Shanghai

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Highest quality wire

Wire drawing is one of the major bulk deformation processes to produce high quality wire in a wide cross-section dimension range.

During this manufacturing process the cross-section of a wire or rod is reduced by pulling it through a die, located in a special die holder tool. In the multi-pass wire drawing machines the wire goes through several stages of such forming tools. The drawing force for the deformation process is mainly influenced by the geometry of the die.

For the evaluation of the die geometry the delta factor is used to predict the optimum approach angle. For the reduction of wear and friction and to achieve high surface quality, optimal hydrodynamic lubrication is important.

The Linnox drawing machine by CPA is designed as a wet drawing machine for fine high-strength steel wire and operates on the principle of the so-called slip drawing process. Implementation of modern technological aspects ensures the production of highest wire quality.

High pressure cooling lubricant jets in the deformation zones protect against metal dust, provide an intense heat removal directly at the forming area and guarantee an optimum lubrication of the drawing tools. Another advantage is the high operating comfort with an integrated control system.

CPA – Austria

Website: www.cpa.at



○ Increased flexibility from Rosendahl

Metal tape forming and welding line RN-W for MV, HV & EHV power cables

FOR many years it has been popular to shield MV, HV and EHV cables with lead or aluminium or with longitudinal applied glued Al/PE tapes. Based on the growing market demand for alternative solutions for these, Rosendahl Austria has entered this segment of power cable manufacturing equipment.

Rosendahl's metal tape forming and welding line RN-W gives the possibility to produce cables with better properties like increased mechanical stability, water and/or gas tightness, high-pressure resistance, lower weights, smaller dimensions and short current resistance. At the same time this technology is more environmentally friendly and more flexible.

The metal sheathing process starts with a tape out of copper, aluminium or stainless steel, which will be applied around a cable core. These tapes will be formed, longitudinal welded and sized. Depending on the requested product design a corrugation process can follow.

An advantage of this solution is the possibility to fulfil plenty of different demands (cable designs) with high productivity. In addition to this it is possible to have an "offline" or an "inline" (combination with the jacketing process) configuration.

Metal tape forming with longitudinal welding gives cable designers and makes the possibility to serve solutions to the market, especially in the field of renewable power generation and transport.

The target is to serve lighter cables, which fulfil all requirements and specifications.

At the same time these cables offer increased flexibility and cross pressure resistance. In the field of land-cables Rosendahl's RN-W presents an innovative alternative to the commonly known "combined layer technology" where, for example, screen wires and tapes are used.

Rosendahl Maschinen GmbH – Austria
Website: www.rosendahlaustria.com



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DataMatrix marking



○ The EDDS-2 system

THE new EDER EDDS-2 innovation allows marking and identification of diamond/PCD drawing dies and other costly tools within seconds.

This is effected by marking a small specific and continuously individual numeric DataMatrix code onto the steel casings of the relevant tools in a couple of seconds with high precision, leading to their full identification and allowing administration of specific die-tool data immediately.

Today, in modern wire drawing mills and cable plants, various tens of thousands of costly diamond/PCD die-tools are in permanent use, asking for collection and registration of lots of information to grant trouble-free wire drawing operations onwards. Property data such as manufacturer, fabrication number, die-tool material, die-geometry, bore-size, delivery and usage date, etc, has to be registered.

Likewise this has to be done also for variable performance data, eg time/endurance of die-applications, number of repairs, usages with new bore-sizes, drawing statistics, etc.

Until now, all this data has been collected and registered statistically by personnel onto paper in more or less circumstantial and time-consuming procedures, then getting stored externally and with the hope to get them on hand again when being needed later on.

The new system from Eder, a family owned company, simplifies this collection of data. The marking, reading and administration of all important die-tool data can now be executed directly in a short space of time.

The new EDDS-2 device and system uses a special dot-peening procedure to mark a specific, individual numeric DataMatrix code within seconds only onto the casings of costly diamond/PCD die-tools. Thereafter, all relevant property and variable performance data of these tools is registered into a specific EDDS-2 software and can easily be read and administrated at any time.

The entire EDDS-2 system uses a specially developed software which can run on nearly all commercially available computers and the specific hardware components, such as the Dot-Peening unit with an electrically driven tungsten carbide precision marking pin. Furthermore there is the control board, the data read-out device and the take-up carriage for the dies to be marked.

The dies to be marked will be supplied from a magazine towards the marking position of the EDDS-2 device, where the marking pin will dot-peen mark each one of the relevant die-casings with an individual specific numeric DataMatrix code.

After the marking, the dies, by means of a conveyor belt, will be transported to the read-out station, where the marked codes will be checked for their readability by a special controlling device.

If the code cannot be read-out properly, the relevant die-tool will be automatically removed from the conveyor belt and will be transported to a separate collection area. Thereafter, a proper code-marking of this tool can be undertaken.

Eder Engineering – Austria
Website: www.eder-eng.com

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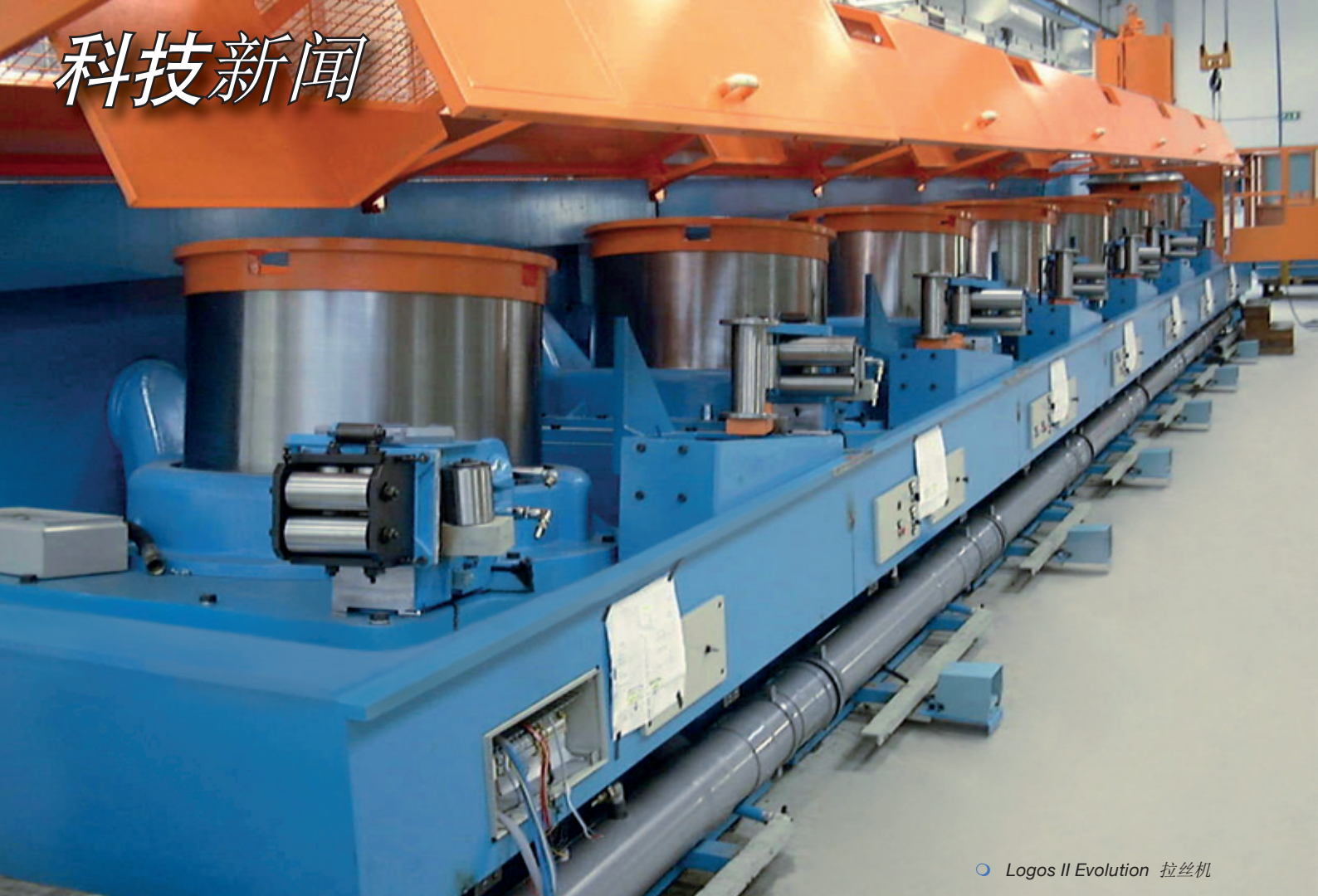
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Logos II Evolution拉丝机有几种规格，绞盘直径分别为900毫米、760毫米、670毫米和500毫米，是世界知名拉丝机Logos的演变版本。几十年来，成百上千的Logos机器销往世界各地，其主要构造保持不变，拥有传奇般的韧性和可靠性。

这个新版本的机器拥有最现代的设计和建造技术，并使总体效率和安全得以最大化，使维修成本最小化。

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- 清洗方便：绞盘和模具盒区域有专门设计，为的是方便清扫拉丝过程中产生的灰尘、碎屑和润滑油，从而有益操作员的身体健康
- 紧凑的设计：优化了机器的框架，降低了总体尺寸大小，同时依然符合人体工程学设计
- 高灵敏度速度控制：每个绞盘上都装有感应臂来控制速度

- 操作简单：每个绞盘位置都有短小钻孔和单个锻造（来回）装置
- 拉丝绞盘：用感应加热锻钢制成，硬度加强到62硬度值，从而延长使用寿命
- 人机界面：通过操作员控制台很容易读取工作参数
- 机器的安全性：机器的所有部件以及电控系统的设计和建造都能保证操作员安全。
- 肥皂盒：即使机器在运作中也能补给皂液

以上所有的特色造就了一个非常创新的拉丝机，其中900毫米直径绞盘的机器能够生产出14毫米直径的高碳钢线材，并能以每秒18米的机械速度运转，从而创造了此类别产品中最高的产能。

Continuus-Properzi – 意大利
网址: www.properzi.com

最高水平的缺陷探测

为保证持续一致的质量控制，缺陷探测器与测径仪和火花试验器一样重要。

KW 13TRIO 新系列探测器能够非常准确、可靠、快速地探测到电线、传感器、光纤、电缆、管和软管中最细微的缺陷。

因为有了独立分开的运行和显示部件BAE 2-KW, KW 13TRIO 得以全部在设备上运行和配置。这个部件上有光亮的图形模块用来显示数值和信息，红色、黄色和绿色的公差指示器用于告知运行状态，还有装有许多功能键和手动设置键的操作键盘。因为BAE 2-KW设计了壁挂式支架，所以可以固定在操作台或桌子上。

由于设计紧凑，KW 13TRIO可以很容易地被整合到任何挤压成型生产线和反绕过程中。探测场地按照专门的尺寸建造，在初始阶段，即使是非常大的缺陷也能顺

利通过。它开放式的设计使得它在不停止生产的情况下能快速轻易地将产品穿线。

因为拥有一个强大的微处理器和一个全面的数字信号处理器，这个缺陷探测器在无瑕疵质量控制中举足轻重。这个探测器还有多种型号，同时也可以作为一个独立运行的设备。

其独特的测量原则和复合光学仪器保证了测量工作不受偏差和强光的影响，从而可以非常精准地探测到微米范围内的缺陷。

本产品的特色如下：

- 复合光学仪器可探测到的故障高度最小值达到0.01毫米(0.0004英寸)
- 探测故障长度最小值为 0.2-0.3毫米(0.008-0.011英寸)
- 全面的数字信号处理器
- 非常紧凑的设计



○ 图一: BAE 2-KW - 局部检测显示器
○ 图二: KW 13TRIO - 缺陷探测器

Zumbach Electronic AG - 瑞士
网址: www.zumbach.com

绳长测量机器初见成效

在杜塞尔多夫举行的2012年电线展览会中，Bar Products & Services Ltd 公司取得了巨大的成功，使其进一步地获得了国际上对其产品的认可。

其中最成功的是钢丝绳测量系统。这个新产品引起了钢丝绳生产商和钢丝绳服务中心的极大兴趣。

这个产品能够精准地测量绳长，从而能够精确地按照订单规格切割，减少浪费。

由于使用了五辊系统，这款测量机器能够测量直径在6毫米和40毫米之间的钢丝绳。钢丝绳服务中心里，在钢丝绳从棒料架到被切割成客户要求的长度的过程中，这款机器特别有用。

这款测量器是由 Stonepark Consultancy 公司设计的，并由 Bar Products & Services Ltd 公司制造的。它由五个悬挂在支架上的滚轴组成。滚轴可以用手动的杠杆打开，并且可以从机器的前端将钢丝绳安置在测量滚轴之间，然后通过预设的拉力弹簧将滚轴关闭。

因为使用了精密磨光技术和用硬刚制成的凸面滚轴，这款测量器的准确度极高。

测量结果是通过一个机械的计数器记录的，或是将结果连接到一个编码器或脉冲发生器上。



○ Bar Products 的钢丝绳测量设备

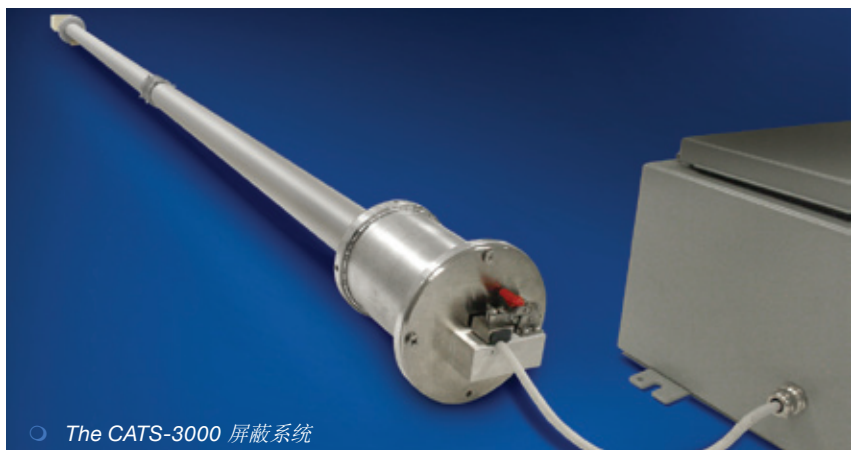
Bar Products - 英国
网址: www.barproductsandservices.com

DCM 推出遮蔽式对绞电缆的屏蔽效能测试系统

作为Beta LaserMike公司的一部分，DCM是一家全球领先的提供电缆测试测量解决方案的公司。它最近发布了其最新的CATS-3000屏蔽效能测试系统。DCM公司的CATS-3000系统为电缆生产商和测试实验室提供测试解决方案，用于自动测量耦合衰减、屏蔽衰减和转移阻抗。CATS-3000系统完全符合用于测试遮蔽式双绞电缆的TIA-568-C.2 和 IEC 要求。

CATS-3000系统使用三轴向的测试方法，其测试频率范围在30兆赫到1 吉赫(千兆赫)之间。这个测试软件是完全自动化的，方便使用，并提供全套的测试报告和数据存储。

DCM Industries - 美国
网址: www.dcmindustries.com



○ The CATS-3000 屏蔽系统

中压、高压、超高压电缆的金属带成型和焊接生产线RN-W

许多年以来，业内都是使用铅、铝或是纵向应用的粘合胶带对中压、高压和超高压电缆进行屏蔽。但随着市场上对这些材料的替代品需求不断上涨，奥地利 Rosendahl 公司逐渐进入了电缆生产设备的市场。

Rosendahl 公司的金属带成型和焊接生产线 RN-W 能使生产出来的电缆具有更好的性能，如更高的机械稳定性、水密性和气密性，更加耐高压，更轻巧、以及短路电流电阻。同时，这种技术还有利于环保，灵活性较强。

金属护套过程的最开始是将用铜、铝或不锈钢制成的胶带缠绕在电缆核心周围。这些胶带将被压制成型、纵向焊接和切割。根据对产品的不同要求，有些产品还需要进行起皱加工。

这项解决方案的优势在于能够高效率地满足不同的电缆设计要求。另外，它既能



Rosendahl 的设备以其灵活性著称

离线配置，又能内嵌配置（等于与护套过程结合）。纵向焊接金属带成型技术让电缆设计者和生产商能更好地服务市场，特别是在可再生能源发电和传输领域。

此技术的目标是生产出轻便的电缆，以满足各种需求和各种规格。

与此同时，这些电缆具有更强的灵活性和对多重压力的耐压性。在地面电缆领域，Rosendahl 公司的 RN-W 生产线对于众所周知的使用屏线和胶带的“合并层技术”是一个很好的创新替代品。

Rosendahl Maschinen GmbH – 奥地利
网址: www.rosendahlaustria.com

激光点喷二维码标识

新的 EDER EDDS-2 创新系统可以在几秒钟内对金刚石拉丝模具、聚晶金刚石拉丝模具，以及其他昂贵的工具进行打标和标识。

这就是在几秒钟内精准地标记一个很小的特殊的数字二维码到相关工具的钢护筒上，从而迅速全面地标记拉丝模具，并方便管理拉丝模具的具体数据。

目前，在现代化的拉丝厂和电缆厂里，人们使用着成千上万各式各样昂贵的金刚石拉丝模具、聚晶金刚石拉丝模具，这使得工厂需要花时间来收集和登记许多的信息来保证随后的无故障拉丝操作。

财产数据如制造商、制作数量、模具材料、模具几何形状、孔径大小、交货日期和使用日期等都需要登记入册。

同样，也要登记各种各样的性能数据，如：模具的使用寿命、维修次数、新孔径的应用，拉丝数据等。

目前，所有这些数据都是由人工收集和登记到纸张上，然后存起来以期将来需要的时候能马上找到，这样的做法多少有些随意，也比较耗时。

Eder 公司（这是一家家族企业）的新系统简化了这个数据采集程序，可以在很短的

时间内完成所有重要模具数据的打标、读取和管理。

新的 EDDS-2 设备和系统使用了一种特别的激光点喷技术，能够在几秒钟之内将一个很小的特殊的数字二维码标记到那些昂贵的金刚石拉丝模具和聚晶金刚石拉丝模具的护筒上。之后，所有相关的财产数据和各种性能数据将会登记到一个特制的 EDDS-2 软件中，并能在任何时间轻易地读取和管理这些数据。

整个 EDDS-2 系统不仅采用了专门开发的一款软件，可以在任何商用电脑上使用，而且也采用了特制的硬件组件，如装有电力驱动的碳化钨精密打标针的激光点喷装置。另外，还有控制面板、数据读取装置和模具运输装置。

模具从仓库里被运往 EDDS-2 装置的打标地点，在那里打码针会将一个特殊的数字二维码点喷到每一个相关的模具护筒上。打码之后，传输带就会将模具运送到数据读取站，在那里一个特制的控制装置就会检查是否能够读取已标记的二维码。

如果二维码不能被正常读取（虽然这个并不常发生），那么相关的模具就会自动从传输带上被移除，并被送往另外一个收集区域进行重新打码。

Eder Engineering – 奥地利
网址: www.eder-eng.com



EDDS-2 设备

电缆生产商的聪明合作伙伴

Sikora公司新推出的X光测量系统X-RAY 6000 Pro (提高版)可以测量有三层绝缘层的产品,另一个系统X-RAY 6000 Basic (基础版)可以用于质量控制过程中的对单层绝缘层产品的测量。两套X光测量系统都能保证测量质量,以满足在电缆的壁

厚、离心率和直径方面有不同规格的产品需求。

因为X-RAY 6000 Basic (基础版)的加盟,单层绝缘体产品的生产商就可以得到比X-RAY 6000 Pro (提高版)便宜,但功能一样强大的产品。

这个基础版的系统装有内置的监测仪显示测量值,还附送测量值分析软件。

如果需要对多层绝缘体的产品进行测量,那么X-RAY 6000 Pro (提高版)就是最佳的选择。这个系统最创新的地方在于它的22英寸真彩显示屏以及监测系统Ecocontrol 6000。

此监测仪是垂直列式的,同时以数字和图形显示所有的测量值,显示走向和统计数据,并且是触屏操作的。

在线测量的同时,处理器系统Ecocontrol 6000上会显示壁厚、离心率、外直径和椭圆度的测量值。壁厚测量值在八个点上显示,从而使操作员能结合离心率,将挤压



22英寸立式宽频 Ecocontrol 6000 清晰显示X-RAY 6000 PRO 数据

工具调整到最佳,并精准地控制壁厚和直径,使其达到额定值。

Sikora AG - 德国
网址: www.sikora.net



X-RAY 6000 基本型,现在配备有监视器

向电缆世界献上的两个新产品

Fainplast公司很自豪地向公众和电缆世界献上两个新产品:无卤素的可交联化合物HFX 521以及卤化的可交联化合物CTX 65。

HFX 521 是一种无卤素的可交联化合物(XLPO-HFFR),主要特征是在高温下持续时间长,防火性能高,烟雾排放少,抗油性能高。这种可以用硅烷交联聚乙烯方法(使用普通挤压机,从而降低成本)加工的产品特别合适在船只和铁路上应用,因为这些地方都需要较高的可靠性和安全性。

CTX 65 是一种卤化的可交联化合物,其主要技术特征与橡胶相似,对高温、大气因素、机械和化学压力有较强的抵抗能力。CTX 65 可以采用硅烷交联聚乙烯方法,用普通挤压机生产电缆,而不需要特别的生产设备。这种产品特别适合用于生产电力、信号和控制电缆。

这两个新产品都是Fainplast 公司不断进行研发的结果,也是推动创新和实施新技术的结果。Fainplast公司为满足各种市场需求生产了一系列化合物产品,HFX 521和 CTX 65 是其中的两个产品。Fainplast公司在化合物产品市场摸爬滚打了15年,一贯表现突出。研发、不断创新和尖端技术是这家意大利公司成功的秘诀。

Fainplast - 意大利
网址: www.fainplast.com



塑造化合物的未来

Shakun Polymers公司不仅生产化合物,还期望能承担艰巨的任务,塑造属于他们自己的化合物未来。在此行业内摸爬滚打20多年后,公司现在生产、研发、重新设计各种化合物,与此同时还非常关注环境保护问题。

绝不含糊的质量、一贯性、安全和服务是他们值得骄傲的地方。他们从印度的三个工厂出口产品到世界各地。

Shakun 公司主营:
 • EcoTek公司: 无卤素阻燃化合物
 • EsconTek公司: 半导体化合物
 • VinylTek公司: 专业聚氯乙烯化合物
 • 聚乙烯化合物

Shakun Polymers Ltd - 印度 网址: www.shakunpolymers.com

India

Insight

Tata Communications to expand in the SEA region

TATA Communications has a view to the South East Asia region, Indonesia and the Philippines, to expand its global operations.

“Indonesia, Philippines, Vietnam, Thailand and Malaysia are markets with a lot of promise of growth,” said Tata Communications (TCL) senior vice president for corporate strategy, Srinivasa Addepalli.

“Over the next year or two, we intend to create our direct presence through a joint venture or a strategic alliance in one or two of these countries.” He added that Indonesia would be top priority market for company’s investments.

“The immediate priority for us would be in terms of markets like Indonesia, Vietnam and Philippines, where we would like to do more

than just provide connectivity. Indonesia is really at the top of the list,” he added.

In March the company announced completion of a round-the-world fibre optic cable network with the launch of the Tata Global Network–Eurasia (TGN–EA) cable, connecting Europe to India through Egypt. This network is the backbone for providing data connectivity services for telecom services like voice, broadband and other for customers of Tata Communications.

The company also announced the launch of its TGN–Gulf subsea cable system, connecting the Gulf to Mumbai, India and the rest of the Tata Global Network (TGN).

Tata Communications – India
Website: www.tatacommunications.com

ArcelorMittal suspends expansion

LACK of demand has moved ArcelorMittal, one of the world's largest steelmakers, to suspend a \$1.5 billion Brazilian expansion plan, Benjamin Baptista, president of the company's Brazil unit has said in a *Valor Economico* newspaper report.

Demand for steel is not expanding fast enough in Brazil and the outlook for global demand in the face of Greece and Europe's debt problems is weak, Baptista told *Valor*.

Luxembourg-based ArcelorMittal, controlled by Indian billionaire Lakshmi Mittal, had planned to build a \$1.2 billion wire rod plant at its mill in Monlevade, Brazil, and a speciality steel production line at its mill in Vega do Sul, Brazil.

The Monlevade wire rod plant has much of its foundation work completed and all the equipment has been bought, the paper said.

ArcelorMittal – Luxembourg
Website: www.arcelormittal.com

National stadium cabling

R&M, a supplier of passive cabling solutions, has installed broadcast cabling at the Narodowy National Stadium in Warsaw. A release from the company said that the backbone of the national stadium is based on 72-fibre single mode optic cables, category OS2, while the risk of failure is minimised through redundant cabling, led through separate routes.

Speaking about the installation, Mr Gaurav Ahuwalla, managing director of R&M, said, "We understand the importance of secure data transfer at a high speed in order to broadcast the game [in] real time."

R&M – India
Website: www.rdm.com

India's peak power deficit nearly 11,000MW in April

AMID signs of a worsening power supply situation for Indian consumers, the shortfall in electricity generation during peak hours stood at nearly 11,000MW in April as fuel scarcity hit thermal plants.

The country's peak power deficit – the shortfall in generation

capacity during the time when the electricity consumption is the maximum – touched 10,876MW in April, according to the official data. The significant deficit implies non-availability of enough electricity to meet the needs of consumers.

Many states, especially in south India, are already challenged with load shedding and power cuts. Consumers in the southern states of Andhra Pradesh, Kerala, Karnataka and Tamil Nadu, and union territory of Puducherry were the worst affected by electricity shortage.

Data compiled by the Central Electricity Authority (CEA) showed that total power generation capacity was just 1,17,124MW in June, whereas the demand reached 1,28,000MW.

Central Electricity Authority – India
Website: www.cea.nic.in

Lost capacity

THE Hindu Business Line has reported that as much as 24,353MW of thermal power capacity is unused, because the plants are under repairs. Of this, 13,204MW of capacity has been under 'forced outage' for over 15 days, according to the Daily Outage Report provided by the Central Electricity Authority.

Including plant shutdown due to "planned maintenance and other reasons", the total thermal capacity remaining unused on 22nd May was 32,438 MW – 18 per cent of the thermal capacity of 176,836MW monitored by CEA. (The total installed thermal capacity in the country is 199,627MW.) As much as 12,330MW was categorised under 'major outage'.

The Mahatma Gandhi Thermal Power Station in Haryana (600MW), the Mundra TPS unit 6 (660MW) and the Bhusawal unit 5 in Maharashtra (500MW) are examples of projects shut down due to 'major problems' in boiler, turbine or coal handling plants. It is unclear as to how the CEA classifies outages into 'major' and 'minor'.

The shutdown of four units of 210MW each of the Mettur Thermal Power Station after fire damaged the coal handling plant is listed under 'minor'. The plant will be out of operation for at least 20 days.

Central Electricity Authority – India
Website: www.cea.nic.in

Aradhya Steel rating reduced

FITCH Ratings has downgraded India-based Aradhya Steel Private Limited's (Aradhya) national long-term rating to 'Fitch D(ind)' from 'Fitch BB(ind)'/Stable.

The downgrade reflects Aradhya's continued delays in meeting its debt obligations since FY12 (year end March).

This is due to liquidity pressures on the company, as illustrated by the over-utilisation of its working capital facilities by 6.1 per cent in April 2012 and 11.4 per cent in May 2012.

Fitch notes that the company's working capital requirements increased in FY12, due to higher inventory requirements and longer receivable periods, and there was a lack of sufficient working capital limits to support the same. The agency is concerned with Aradhya's liquidity over the short-term due to a continuance of insufficient working capital limits.

However, over the medium-term, the company's liquidity could see an improvement in the working capital cycle through a reduction in inventory and debtor days, together with an expected enhancement in its working capital limits.

Positive rating action may result from utilisation of the working capital facilities within sanctioned limits and timely debt servicing of the term loans for two continuous quarters.

Aradhya has manufactured steel wires and wire ropes, catering primarily to the automotive and infrastructure segment, since 1971.

Aradhya Steel Private Limited – India
Website: www.aradhyasteel.com

Digital substation

ALSTOM T&D India has completed the commissioning of one bay of a 220kV substation with its patented Optical Instrument Transformer. The substation, located at Jambuva in the Vadodara district of Gujarat, uses the company's Compact Optical Sensor Intelligence (COSI-CT) range of instrument transformers.

Gujarat Electric Transmission Corporation, the state transmission utility, awarded the contract to Alstom as a pilot project.

Alstom T&D India managing director Rathin Basu said with the new COSI range of Optical Instrument Transformers, Alstom Grid is leading innovation in India. "Alstom uses COSI-CT - a digital substation solution - to support the development of smart grids, allowing India's emerging power grids to deliver more energy with greater flexibility in a more complex environment," Basu added.

The COSI range through optical ethernet connectivity digitalizes current and voltage signals, increases accuracy, reduces use of copper cables, strengthens the reliability of the system, and facilitates current transformer sizing calculations.

Being SCADA-ready, it brings smart grid intelligence to the substation and allows operational data exchange with the network dispatch centre.

The COSI range products were manufactured at Phoenix, USA and were locally supported by Alstom's instrument

transformer unit in Hosur and substation automation solution unit in Pallavaram in the State of Tamil Nadu.

Alstom T&D India
Website: www.alstom.com

Wind power target

INDIAN independent power producer Mytrah Energy Ltd is set to increase its total installed wind farm capacity to 500MW by March 2013.

"From about 250MW of capacity installed across Maharashtra, Rajasthan, Gujarat and Andhra Pradesh, we will increase this to 400MW over the next three to four months and this may go up past 700 to 800MW by March 2013 if a favourable tariff structure is evolved in Andhra Pradesh," said Mr Ravi Kailas, chairman and chief executive of Mytrah Energy.

The company has an installed capacity of 60MW of wind farms in Andhra Pradesh and could develop a further 200MW by next March. Of the expansion now underway, 150MW capacity is at advanced stage.

India is adding about 3,000MW of wind energy each year and there is potential to harness additional power from wind farms. In Andhra Pradesh alone, there is potential to tap more than 10,000MW, Mr Kailas said.

Mytrah Energy Ltd – India
Website: www.mytrah.com

Steels into Saudi Arabia?

INDIAN state-owned Rashtriya Ispat Nigam Ltd (RINL) is considering the establishment of a three million tonnes per annum steel plant in Saudi Arabia, as a joint venture with local manufacturer Rajhi Steel.

"The integrated plant would produce both long and flat products. RINL has forwarded a non-disclosure agreement for signing," a source close to the development told reporters. The gas-based plant would take five years to go on stream from the start of construction. The shareholding and other matters would be decided in the days to come, the source added.

The Riyadh-based Rajhi Steel already has a capacity of over three million tonnes per year, mostly rebars for applications in the local construction industry.

Steel consumption in Saudi Arabia increased to around 12 million tonnes in 2011, while World Steel Association figures show its production rose to 5.3 million tonnes in 2011. The steel shortfall is currently imported. SAIL (Steel Authority of India Ltd) also has plans to set up four overseas plants, in Mongolia, South Africa, Oman and Indonesia.

Rashtriya Ispat Nigam Ltd – India



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- **Technical Assistance** installation, training, die-reconditioning know-how etc.
- **Die Tool working materials** (e.g. diamond powders, -pastes, -suspensions, grinding pins)

- **Precision wire drawing die-tools** made from tungsten carbide, natural diamond and synth. PCD-diamond materials. (Pioneers in first use of PCD for precision die-tools !)

Telefónica and Vodafone are to join forces into one grid running independent networks in Britain

With the British government planning to sell broadcast spectrum for LTE (long term evolution) service by the end of this year, European mobile network operators have given thought as to how they might benefit. On 7th June, Spain's Telefónica and Britain's Vodafone announced that they will combine their wireless phone grids in Britain and jointly build a superfast network to keep pace with the market leader: Everything Everywhere, a joint venture of Germany's T-Mobile and France Télécom.

According to the London-based GSM Association, an industry group, the 60-odd distinct network operators active in Europe's mobile phone market have created an infrastructure density about three times that in North America and Asia. Thus collaboration with rivals on grids to reduce present and future costs is on the rise. Combining the networks of O2 UK – the No 2 British operator, owned by Telefónica – and Vodafone UK, the No 3, will enable Telefónica and Vodafone to share the expense of building a national mobile broadband network using LTE technology.

Vodafone and Telefónica plan to place their British networks into a 50-50 venture encompassing a combined total of 18,500 cell tower masts, an increase of about 40 per cent for each operator. Telefónica already shares its network with Vodafone in Spain and with T-Mobile in the Czech Republic. The British venture expands on a previous equipment-sharing partnership between O2 and Vodafone, called Cornerstone, that began in 2009.

Writing from Berlin in the *International Herald Tribune* (7th June), Kevin J O'Brien observed that it was the expense of building LTE networks in saturated European markets that prompted Telenor, a Norwegian operator, and Tele2, a Swedish operator, to merge their networks in Sweden. In Germany, O2, the nation's No 3 mobile operator, and E-Plus, the No 4 owned by KPN of the Netherlands, are also examining venture options for their businesses.

© Mr O'Brien noted an anomaly of the Vodafone-Telefónica partnership, even as it promises savings on operating and equipment costs in Britain. The two carriers intend to continue to run competing services and even bid against each other in the upcoming British spectrum auction.

Some 46 per cent of TV sets sold in Germany – almost every second unit – can be connected to the Internet

As reported by Jörn Krieger in RapidTVNews, TV sets with Internet access have gained in popularity in Europe, with the number of connected TV sets sold expected to rise by 68 per cent (to 19.1 million) this year compared with 2011. Citing the German industry association BITKOM, Mr Krieger wrote that at least one in three flat-screen TV sets sold in Europe (37 per cent) in 2012 will be Internet-compatible. Referencing current figures compiled by the European Information Technology Observatory (EITO), BITKOM looks

for the turnover in these devices to increase by 40 per cent to \$18.4 billion by the end of the year. ("Connected TV Sets Boom in Europe," 6th June).

The average price of a connected TV set was found to have dropped 17 per cent this year (to \$969) compared with 2011, despite the fact that sets now on the market offer more features than previous models. The lower price can be attributed to strong competition among manufacturers and retailers.

The largest single market by far is Germany, where 4.6 million connected TV sets will be sold in 2012, for an increase of 36 per cent over 2011.

This means that 46 per cent of TV sets sold in Germany (almost every second unit) can be connected to the Internet. Britain is the second-largest

market, with around 2.9 million connected TV sets to be sold there in 2012. According to BITKOM every sixth household in Germany now has a connected TV set, with that 17 per cent saturation seen as rising to 22 per cent by the end of the year. As an interesting aside, the association estimates that only slightly more than half of the owners of connected TV sets actually hook up their units to the Internet.

France's doughty little Minitel falls victim to the Internet

"We invented a lot of today's technology with the Minitel. The Internet, all online networks, it all stemmed from the Minitel."

The speaker was Jean-Paul Maury, former director of the Minitel project at France Télécom, which on 2nd July announced that, after three decades of service, a French technological wonder had been closed down. Developed as a paper-saving measure in the 1970s by France Télécom, then a state-owned monopoly, the government-supported Minitel was distributed free to every household as part of an upgrade of the telephone network.

On its demise the text-only terminal that brought real-time banking, transport updates, weather reports, ticket booking, sports results, and much else into French homes was fondly recalled around the world. Catherine Field of the *New Zealand Herald* wrote: "Users received a beige plastic cube with a flipdown, clunky keyboard, and black-and-white screen about the size of a paperback. It was plugged into the phone socket and used landlines to carry the data."

Ms Field noted that, at the Minitel's peak in the mid-1990s, 25 million people using 26,000 of its services averaged two million connections a month. Many of these employed "Pink Minitel," the forerunner of the online forum. Tens of thousands of businesses sprung up around the device, which at the height of its popularity accounted for \$1.5 billion a year in connection fees for France Télécom. The company tried to promote it abroad, but was overtaken by events.

Even so, wrote Ms Field, at least 800,000 of the terminals were in use when the system was closed down, and income from Minitel connections in 2011 was \$38 million.

"Today it is hard to imagine the revolution that was the Minitel," wrote Ms Field on njherald.co.nz. "In terms of ease of information, it was the equivalent of gaining access to electricity after gas lamps. ("France Unplugs Wizardly Minitel," 3rd July).

Mobile broadband subscribers will total 2.6 billion by 2016, with the greatest gains in Russia, India, China and Brazil

Infonetics Research on 15th June released excerpts from its latest "Total Fixed and Mobile Subscribers Pivot," a report on market size which includes a forecast through 2016.

From its headquarters in Campbell, California, the market research firm tracks some 40 categories of wireline broadband, wireline voice, mobile, wireless, mobile broadband, video, IMS, and WiMAX subscriber.

According to Stéphane Téral, principal analyst for mobile infrastructure and carrier economics at Infonetics, the number of mobile broadband subscribers jumped nearly 50 per cent in 2011 to 846 million; and that total is expected to reach 2.6 billion by 2016, driven by Brazil, Russia, India, China, and others in the developing world.

Mr Téral wrote: "We anticipate Asia Pacific to account for over half of the world's mobile broadband subscribers by 2016, while Latin America will see the fastest growth."

These are the highlights of the Infonetics report:

- ① Total mobile subscribers — including GSM, W-CDMA, LTE, TD-CDMA, cdmaOne, and CDMA2000 — are forecast to pass the 6 billion mark in 2012, and to approach 7 billion by 2016
- ② In some countries the number of mobile subscribers already surpasses the population: eg, Finland, many of whose citizens have both personal and work phones

- ③ More than 200 million traditional voice access lines are expected to be dropped over the next five years as people continue to "cut the cord" to their landlines

- ④ China Mobile, Vodafone and América Móvil are the world's top mobile operators by number of subscribers

- ⑤ The number of LTE subscribers is forecast to approach 450 million by 2016

- ⑥ Despite some subscriber migration to TD-LTE, WiMAX subscribers are expected to grow at a 35 per cent compound annual growth rate through 2016, when they will top 132 million

- ⑦ DSL continues to grow despite competition from cable, FTTH, and LTE, with DSL subscribers accounting for over two-thirds of all wireline broadband subscriptions in 2011

Elsewhere in telecom . . .

- ① "Now that the reserve price has been set for Thailand's long-awaited 3G auction, all eyes are on the issue of foreign dominance, which threatens to derail October's auction." According to Don Sambandaraksa, reporting in Telecom Asia (2nd July), under the previous National Telecommunications Commission a foreign dominance law (FDN) notification empowered the Thai regulator to impose penalties and revoke licenses on national security grounds. Non-compliance might be deduced even from the personal character of a CEO, or management diversity within the foreign company.

But apparently the revised FDN is itself problematic. Thailand holds foreign telecommunications business shareholding to a maximum of 49 per cent. The FDN now looks in much greater detail into the shell companies popular with foreign investors, to the extent that invoking it could push the two largest players in the 3G auction over the 49 per cent limit. Mr Sambandaraksa wrote: "AIS is 49 per cent owned by [Singapore's] SingTel. DTAC is 49 per cent owned by Telenor

[of Norway]. Only TrueMove is comfortably away from being majority foreign-owned by that measure."

- ② Having confirmed plans to upgrade around 7,500 cell sites over the next 12 months as part of a network improvement programme, the Australian operator Telstra suggested that it could offer advanced LTE services over the 900MHz and 1,800MHz bands. Australia's largest telecom by subscribers — and its first mobile network operator to introduce commercial LTE services — currently uses the 900MHz band for its 2G voice services. As reported by TeleGeography (3rd July), Australian sources believe that Telstra may be seeking to maintain its technological edge with respect to Optus and Vodafone Hutchison Australia (VHA), both having unveiled plans to enter the 4G arena commercially.

In separate news, Optus revealed that its wholly owned MVNO (mobile virtual network operator) Virgin Mobile Australia is expected to offer LTE services before the end of 2012. As previously reported by CommsUpdate, Optus in May 2012 reiterated that it plans a commercial launch of 4G services, with an extension of those services to Brisbane and Adelaide in the first half of 2013.

- ③ Kenya's communications ministry has given its approval to the ending of analogue broadcasting in the East African country. As planned, the capital city of Nairobi will have gone dark — as far as analogue TV is concerned — at the end of August, followed by the coastal region of Mombasa and then Kisumu. Information minister Bitange Ndemo said the process would be complete by the end of the year. As reported by Chris Forrester of Advanced Television Ltd (3rd July), Kenya already has two digital signal distributors: Signet, which is a subsidiary of state-owned broadcaster KBC; and Pan African Group. The country in April adopted DVB-T2 technology, chosen for its improved spectral efficiency.

Dorothy Fabian
Features Editor

西班牙电信公司 (Telefónica) 和沃达丰公司 (Vodafone) 将要合并入同一网路, 用以在英国运营独立网络

英国政府正计划在本年末之前出售LTE (长期演进技术) 的广播频谱, 而与此同时, 欧洲的移动网络运营商正思索着他们如何能够从中获益。6月7日, 西班牙电信公司和英国沃达丰公司发布声明称, 他们将合并设置在英国境内的无线电话网路并一同建立一个超高速网络以赶上市场的领导者: 德国电信公司 (T-Mobile) 和法国电信公司 (France Télécom) 的合资企业Everything Everywhere。

根据位于伦敦的一家行业组织全球移动通信系统 (GSM) 协会的报告指出, 活跃于欧洲移动电话市场的60余家不同网络的运营商已经完成了一个密度为北美洲和亚洲三倍的基础设施建设。与对手间的网路合并可以降低目前和未来的业务增长成本。通过西班牙电信公司旗下的O2 UK——英国第二大运营商以及第三大运营商英国沃达丰公司间的合并项目, 西班牙电信公司以及沃达丰公司可以一同承担利用LTE技术建立国际移动宽带网络所需要的花费。

西班牙电信公司和沃达丰公司计划以各持50%股份的合资公司形式设置英国网络, 其中包括两者共计18,500个蜂窝系统的塔架——对这两个运营商来说都分别增长了40%的蜂窝系统拥有量。西班牙电信公司已将其在西班牙的网络与沃达丰公司达成共享, 同时其在捷克共和国的网络也与德国电信公司建立了共享。自2009年起, 这家英国企业扩大了与O2和沃达丰公司间的设备合作共享, 称为基石 (Cornerstone) 计划。

Kevin J O'Brien在国际先驱论坛报 (International Herald Tribune) 6月7日从柏林发来的报道中写道, 正是因为因为在欧洲这样一个饱和市场中建立LTE网络的花费才促使了挪威运营商挪威电信公司 (Telenor) 和瑞典运营商Tele2在瑞典的网络合并。而在德国, 德国第三大移动运营商O2以及第四大移动运营商并隶属荷兰电信公司 (KPN) 旗下的E-Plus也正在审核他们业务的风险选项。

O'Brien先生也注意到沃达丰公司和西班牙电信公司合作中的异常情况, 即使这一合作关系可以确保其在英国的运营和设备上开支的节省, 但是二者却计划继续竞争性服务, 甚至在即将到来的英国频谱拍卖中相互竞标。

德国售出的电视机中的46%——几乎可用秒计算——可连接到互联网

RapidTVNews记者Jörn Krieger报道说, 在欧洲, 拥有互联网接口的电视机正越来越受欢迎, 相较于2011年, 该类电视机本年的销售量预计可增长68% (达到1,910万台)。Krieger还援引了德国行业协会BITKOM的报告, 他写道, 2012年在欧洲出售的每三台宽屏电视中至少有一台 (37%) 可与互联网兼容。在参考了欧洲信息技术观察组织EITO (European Information Technology Observatory) 的最新数据后, BITKOM预计本年末这类器件的销售额将增长40%, 达到184亿美元。(“可联网电视机在欧洲掀起热潮”, 6月6日)

尽管目前市场上的可联网电视机比起早先的产品拥有更多的特色功能, 但相较于2011年, 可联网电视机的本年平均价格已下降了17% (至969美元)。价格的降低归因于在各生产商和零售商间的竞争。目前最大的统一市场是德国, 2012年预计可售出可联网电视机460万台, 相较于2011年增长了36%。这意味着, 德国售出电视机中的46% (几乎可用秒计算) 可连接到互联网。英

国是第二大市场, 2012年预计可售出可联网电视机290万台。

法国的小型电脑电视终端机 Minitel成为了互联网的牺牲品

“通过Minitel, 我们开发了当今很多的技术应用。互联网和所有的在线网络都是在Minitel基础上衍生出来的。”

说这段话的人正是法国电信公司 (France Télécom) Minitel项目的前任总监Jean-Paul Maury, 法国电信公司在7月2日发表声明称, 在提供服务三十年之后, 这一法国的科技奇迹已经划上了句号。1970年代, Minitel作为一个节省纸张的项目被法国电信公司开发出来, 其后作为国有垄断项目, 在政府的支持下, Minitel成为了每家每户电话网络的免费升级手段。

在停止运行之前, 这一文本终端为人们带来了实时银行系统、交通状况更新、天气预报、票务预订、体育赛事播报以及为世界各地的法国家庭留下了亲切的回忆。新西兰先驱报 (the New Zealand Herald) 的Catherine Field写道: “用户会收到一个浅褐色的正方体

塑料盒子, 包括一个倒计时装置、笨重的键盘和一个与平装书大小差不多的黑白屏幕。它被接到电话插座上, 利用陆上通讯线传输数据。”

Field小姐写道, 尽管如此, 当该系统关闭时, 仍有至少80万个终端还在使用, 同时2011年Minitel的网络连接费收入为3,800万美元。

到2016年为止, 全球移动宽带用户将达26亿, 其中增长率最大的国家是俄罗斯、印度、中国和巴西

美国市场调查公司Infonetics在6月15日发布了其针对市场规模的最新“固定和移动快带接入点”报告, 其中还包括对于2016年的统计预测。在其位于加利福尼亚州坎贝尔的总部, 该市场调查公司追踪了40个的有线宽带、有线语音、移动设备、无线设备、移动宽带、无线电设备、IP多媒体系统 (IMS) 和全球互通微波存取系统 (WiMAX) 用户。

Infonetics首席移动设施和运输设备分析师Stéphane Téral指出, 2011年移动宽带用户数迅速增长50%至8.46亿; 同时预计到2016年为止, 移动宽带用户总数将达到26亿, 其中巴西、俄罗斯、印度、中国等发展中国家对该数值的影响力最大。Téral先生写道: “我们预计到2016年为止, 亚太地区的移动宽带用户将占世界总数的一半以上, 其中拉丁美洲的增长速度最快。”

电信业的其他新闻...

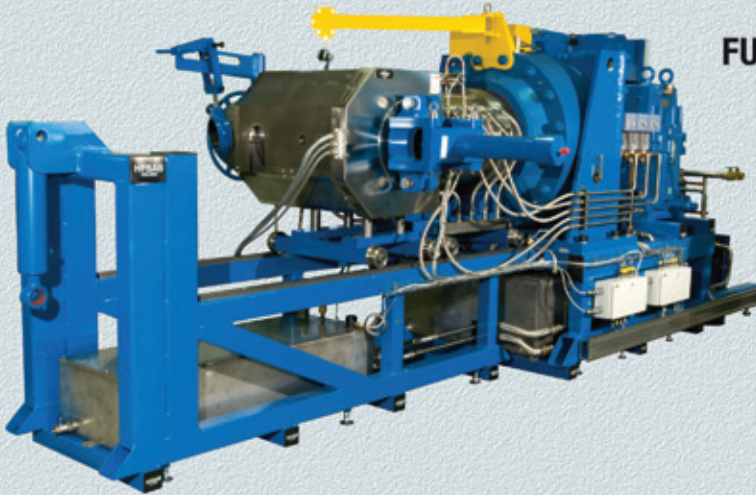
“期待已久的泰国3G服务拍卖的最低价格已经出台, 所有人的目光都聚焦于外资主导的问题上, 这可能会破坏十月份拍卖会成功进行。”

亚洲通讯 (Telecom Asia) 的记者Don Sambandaraksa在7月2日的报道中称, 在前国家电信委员会的一项有关外资主导法律 (FDN) 公告的授权下, 泰国监管机构有权以保护国家安全为由行使惩罚机制和吊销执照。违反规定的人员可被追溯到该外资公司内的首席执行官或是各管理部门。

但显而易见的是, 修订后的FDN本身也存在问题。泰国最多持有外国电信业务股权的49%。现在, FDN正寻求制定受外国投资者欢迎的控股公司的细节条款, 用以使3G拍卖最大的两个竞争者的持股量超过49%。Sambandaraksa先生写道: “新加坡电信公司 (SingTel) [新加坡] 持有AIS 49%的股份。挪威电信公司 (Telenor) [挪威] 持有DTAC 49%的股份。在此计算方式下, 只有TrueMove完全不受外商资产占多数问题的干扰。”

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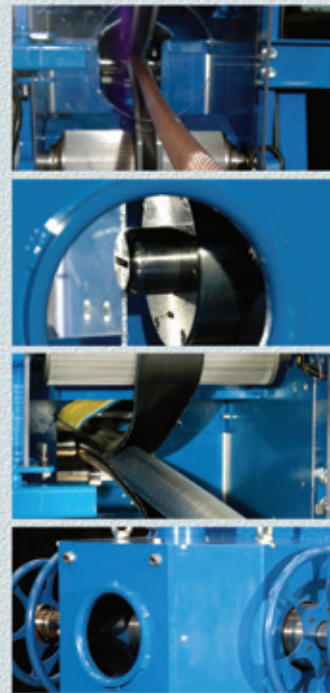
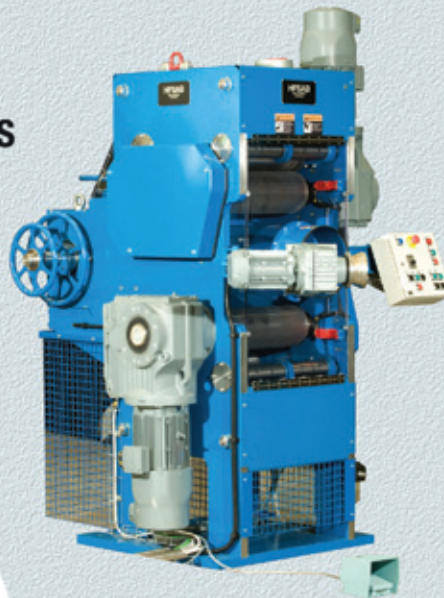
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Citing overwhelming Chinese competition, another government-supported US manufacturer of solar panels closes up shop

Abound Solar Inc, a company that borrowed \$70 million against its \$400 million Energy Department guarantee to complete a factory in Colorado, announced 28th June that it would suspend operations.

Abound said its thin-film panels were not competitive with Chinese products, the same reason cited by the Fremont, California-based solar equipment manufacturer Solyndra, which closed its doors last year. Solyndra drew down nearly all of its \$535 million loan guarantee before it failed.

Abound said in a statement that it would let go all 125 employees and file for bankruptcy within the week. The Loveland, Colorado-based company, formerly known as AVA Solar, put together its early funding under a grant programme begun during the George W Bush administration, and the project had attracted enthusiastic support from lawmakers of both major political parties.

Its plans, now abandoned, included a manufacturing facility at a closed automotive plant in Tipton County, Indiana.

Abound Solar produced panels that made electricity directly from sunlight, using a cadmium telluride chemistry which promised a cost advantage over silicon cells. But that benefit eroded as silicon cells plunged in price.

The struggling company announced in February that it was closing down its factory to conserve resources while it tried to start production of a more advanced product.

Whether or not the attempt would have succeeded, given time, is now a moot point, but there is no question that this second conspicuous collapse of a government-supported solar company quickly became a political football.

Mitt Romney, the presumptive Republican presidential nominee, had already used the failure of Solyndra – a manufacturer of innovative cylindrical solar systems for commercial rooftops – to impugn President Barack Obama's support for clean energy companies.

Jim Jordan, Republican of Ohio and chairman of a sub-committee of the House Government Reform and Oversight Committee, similarly seized the opportunity presented by Abound Solar's failure. "Our government," he said, "is not good at picking winners and losers in the marketplace but has certainly proved it is good at wasting taxpayer dollars."

❖ For its part, the Energy Department on 28th June released letters it received in 2009 from members of Congress representing residents of Colorado and Indiana urging the grant of the loan guarantee. Four Indiana Republicans were among the signers, as were Indiana's Democratic senator and several Colorado Democrats.

If success has many fathers, so – the Obama administration was clearly asserting – does failure.

❖ Abound Solar said it could have been profitable if it had had large-scale manufacturing underway, but "aggressive pricing actions from Chinese solar panel companies have made it very difficult for an early stage start-up company like Abound to scale in current market conditions."

Other American manufacturers of solar panels brought a trade case against Chinese manufacturers, claiming the Chinese government had improperly subsidised them, and won substantial tariffs on the Chinese firms.

Even so, analysts interviewed by Matthew L Wald of the *New York Times* agreed that a global oversupply of manufacturing capacity was making life very difficult for solar panel makers.

"The less cost-competitive vendors are exiting the market," Amir Rozwadowski, an analyst at Barclays, told Mr Wald. "In the near term it's going to be painful for vendors that aren't cost-competitive." ("A Second US-Supported Maker of Solar Panels Will Close," 28th June).

Immigration

Policies that force foreign-born innovators to leave the United States are said to injure the nation's economy

If President Obama suffered a recent setback as a proponent of clean energy ("Manufacturer of Solar Panels," above), he won a major victory on another front: immigration. On 29th June, the US Supreme Court struck down three of the four main provisions in Arizona's tough SB 1070 immigration law.

The Court left in place a fourth provision, requiring local police officers during routine stops to check the status of anyone suspected of being in the country illegally. But, even here, the Court's narrow reading left such searches open to legal challenge on grounds that they violate a prohibition of racial profiling, as well as other laws.

To the extent that the nation's highest court is pointing the way toward a more immigrant-friendly United States, it is not only obliging the White House; it is acting, as well, in the best interests of the national economy.

A study released 26th June shows that immigrants played a role in more than three out of four patents generated at the top American research universities. Nearly all the patents were in science, technology, engineering and maths – the so-called STEM fields that are a crucial driver of job growth. Some of the patents that were reviewed for the report have in fact led to business ventures.

Conducted by the Partnership for a New American Economy, a non-profit group co-founded by Mayor Michael Bloomberg of New York, the report points out that, while many of the world's top foreign-born innovators are trained at US universities, after graduation they face "daunting or insurmountable immigration hurdles that force them to leave and bring their talents elsewhere."

Andrew Martin of the *International Herald Tribune* noted that Mr Bloomberg's group had previously called attention to some other nations' aggressive courtship of highly skilled foreign-born citizens of the United States, urging a return to their home countries.

The Partnership for a New American Economy supports legislation that would make it easier for foreign-born STEM graduates and entrepreneurs to stay put. ("Immigrants Are Crucial to Innovation, Study Says," 25th June).

In one illustration of the issue, Mr Martin wrote, the study notes that nine out of ten patents at the University of Illinois system in 2011 had at least one foreign-born inventor. Of those, 64 per cent had a foreign inventor who was not yet a professor but rather a student, researcher, or postdoctoral fellow.

- ❖ Under the current system, foreign-born students are permitted to remain in the United States for 12 to 29 months after graduation, provided they find a job or internship in their field. After that, efforts to obtain a more permanent visa are constrained by such factors as country quotas. The Partnership for a New American Economy study notes that China is entitled to the same number of visas as Iceland.
- ❖ The clear sentiment of the last sentence – that certain categories of immigrant are more welcome than others – is expressed quite unabashedly in discussions of US immigration policy. Some commentators have noted the uneasy fit it makes with a few lines of verse graven on a tablet within the pedestal on which stands the Statue of Liberty:

Give me your tired, your poor,
Your huddled masses yearning to breathe free,
The wretched refuse of your teeming shore.
Send these, the homeless, tempest-tost to me,
I lift my lamp beside the golden door!

On 22nd June, New York Times Op-Ed writer Gail Collins recalled Republican presidential hopeful Mitt Romney's strategy for commending himself to American Hispanics: "The key, he explained last year, is to tell them 'what they know in their heart, which is they or their ancestors did not come here for a handout.'"

Musing in "Mittspeak," Ms Collins wrote:

Give me your tired, your poor,
Your huddled masses bearing PhD's and master's
degrees in civil engineering or computer science . . .

The number of foreign-born small business owners in the US has increased in tandem with the immigrant workforce.

The role of immigrants in the small-business economy of the United States has expanded by 50 per cent since 1990, to the point that almost one-fifth of owners with fewer than 100 employees were born outside the country. Immigrant Small Business Owners: a Significant and growing Part of the Economy, from the Fiscal Policy Institute (FPI), also traced the origins of the owners and found the Mediterranean and Middle East to be well represented. At least 10 per cent of workers from Italy, Greece, Israel, Syria, Iran, Lebanon and Jordan are business owners.

Analysing US Census data, the institute determined that, in 1990, immigrants made up about nine per cent of American workers and 12 per cent of small business owners.

By 2010, the foreign-born share of the workforce had grown to 16 per cent, and immigrants made up 18 per cent of small business owners.

In the view of David Dyssegaard Kallick, a fellow at the FPI who authored the report, this immigrant-ownership growth – mainly in service enterprises – has gone from modest to "pretty substantial."

Mr Kallick told *Bloomberg Businessweek* reporter John Tozzi in New York that the national conversation about immigrants' role in the economy is often dominated by two oversimplified ideas. Immigration is seen as a magic bullet to revive a stagnant economy; or, immigrants are seen strictly in terms of competition with the native-born for jobs.

While not wishing to overstate the impact of immigrants on job growth, he said, "People sometimes don't realise that when immigrants come into the economy, the economy also grows."

Information technology companies in India look for – and find – a way around the squeeze on US work visas

"Bangalore, stymied by the visa shortage, hires in the US"

The headline, in the "Global Economics" section of *Bloomberg Businessweek* (26th June), references a problem faced by companies across India's extensive IT industry.

With the US unemployment rate higher than eight per cent, and Indian outsourcing already an issue in the American presidential election set for 6th November, the two types of visas on which Indian IT companies rely to get their workers into the United States are getting even harder to obtain.

One of these visas is the H-1B, which the US reserves for people with specific types of training. The other is the L-1B, for employees with specialised knowledge. "Rejection rates are way up," Scott Staples, president of the US unit of MindTree, an Indian outsourcing company in Bangalore, told *Bloomberg*. "It's so much harder to get visas approved."

MindTree has 11,000 employees doing work for customers in a number of industries. Most are based in India but, because the company wants some of these workers to be close to the clients, MindTree has 850 employees in the US, working in 36 of the 50 states.

Some are US citizens or holders of the "green card" (essentially a permanent visa). But about 60 per cent have entered the country on one of the two types of short-term work visas that are now in short supply.

Bruce Einhorn, a *Bloomberg Asia* regional editor, noted that big Indian companies such as Tata Consultancy Services, Infosys and Wipro have become global outsourcing powers. Most of their workers are in Bangalore, Mumbai and other Indian cities; but, like their smaller rival MindTree, the

largest companies also need to have employees on the ground for "onshore" work. But rejection rates, which were around ten per cent five years ago, are now as high as 50 per cent, says Ajoyendra Mukherjee, executive vice president and head of global human resources for Tata, India's largest IT services company.

Som Mittal, the president of the Indian IT services industry's trade organisation Nasscom, said: The high rejection rates "add immensely to the uncertainty of our business. We are never sure [whether] somebody will be approved or not."

❖ There is apparently a limit to Indian patience with this kind of thing. According to Mr Einhorn, Indian companies in greater numbers are considering such alternatives as employing more American locals.

Tata hired 1,600 people in the US last year, up from 1,200 in 2010. Acknowledging the "inevitable" pressure on visas, given the high rate of local unemployment, Mr Staples of Mindtree predicted a decline in his reliance on work visas. He said the company plans to hire 400 people at a new centre in Gainesville, Florida, and to open more centres in the US.

"If visas become harder to get," the Mindtree executive told Mr Einhorn, "we have the ability to accelerate that."

Trade

Winning some, losing some, the United States and China go on airing their mutual grievances in the World Trade Organization "China firmly opposes the abuse of trade remedy measures and trade protectionism."

This statement, by China's Ministry of Commerce, accompanied a complaint at the World Trade Organization against US import duties on 22 Chinese products that the United States says are unfairly priced or subsidised, including steel products, wind towers, and solar panels. The complaint – filed 26th May and encompassing other products, as well – covers exports to the US worth \$7.3 billion, the Ministry said.

The Chinese action was a clear counterstrike. Eight days before, the US Commerce Department had set punitive tariffs on solar panels that it accused Chinese exporters of dumping on the American market.

In December 2010, the US launched a trade suit over Chinese government grants to wind power manufacturers, although it did not pursue the case.

Earlier that same year, the US imposed hefty anti-dumping duties on Chinese steel pipe imports.

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In 2011, China won a WTO complaint similar to the one lodged this May against US duties on imports of Chinese steel pipes, among other products.

China's latest case, its seventh against the United States since it joined the WTO in 2001, commences with a Chinese "request for consultations" with the US on an amicable settlement. But it could move to arbitration if agreement is not reached, and the US could be compelled to lift its duties and even compensate China if it is found to have broken the rules.

Reporting from Geneva for Reuters, Tom Miles observed that the dispute "adds more heat to a trade relationship that has barely stopped simmering despite the United States seeing signs of China 'making progress' towards easing restrictions on its currency" — one of the main causes of friction between the two. ("China's WTO Suit Hits Back At US Duties," 25th May).

Two other Chinese-US trade disputes were already under consideration by WTO dispute panels when China lodged its latest complaint. One of these, concerning Chinese imports of electrical steel, was decided in favour of the US on 15th June.

The panel accepted objections raised by the US to Chinese countervailing duties on potentially hundreds of millions of dollars worth of grain-oriented flat-rolled electrical steel made by AK Steel Corp. (West Chester, Ohio) and ATI Allegheny Ludlum (Pittsburgh) for use in the power sector.

❖ Although the overall pace of China's export growth has slumped to single digits this year, its trade surplus with the United States set a record of more than \$295 billion in 2011. This has put additional pressure on US manufacturers whose markets are still recovering from the global financial crisis.

Automotive

Nissan has high hopes for enlarging its already impressive share of the US market — but 'the competition is fierce'

"The pieces are falling into place. Ten per cent of the market would be an historic level, but it's not a plateau. We won't sit there. We'll keep deploying new products. Reaching ten per cent share is a moment to savour, but not the end."

So said Bill Krueger, vice chairman of Nissan Americas, in an interview with the Detroit Free Press. It is a measure of his ambition that the dismissable 10 per cent of the US market has yet to be achieved.

Nissan hopes to ride the wave of fuel-efficient new cars and crossovers to that record percentage by 2015 or 2016. According to WardsAuto.com, the Yokohama-based company's share was 7.4 per cent last year.

Detroit Free Press auto critic Mark Phelan acknowledged that Nissan could indeed be primed for unprecedented

success as, over the next 15 months, it launches five vehicles whose current models account for 70 per cent of its US sales.

Notably, he wrote, Nissan will present a new version of its best-selling Altima mid-size sedan ("the automaker's first entry in the hot market for family-hauling crossovers, replacing the old-style Pathfinder SUV") in September. ("Nissan Primed for Record Share," 23rd June).

Nissan, which already builds more cars and trucks in North America than any other foreign-based automaker, plans to add a third shift at its Smyrna, Tennessee, plant this fall to meet demand for the new Altima, which boasts a highway fuel economy rating of 38 miles per gallon.

Together with other new-version models in the works for this year and next, the Altima programme prompted analyst Rebecca Lindland of IHS Automotive to pronounce Nissan's future "very, very bright, product-wise."

Even so, Mr Phelan reported, IHS is much more restrained about Nissan's prospects than the automaker is. The consultancy expects the brand's share of the US market to peak at 7.8 per cent in 2013 and decline to 7.1 per cent in 2015.

As it happens, the Altima is not the only retooled mid-size sedan soon to become available to American buyers. The Chevrolet Malibu, Ford Fusion, and Honda Accord also hit the dealerships this year: new models, all.

"Consumers are very open to new brands and products right now," Ms Lindland told the Free Press. "But the competition is fierce."

Telecom

Radio spectrum cannot be created but only apportioned. With demand on the rise, how is spectrum used efficiently?

Wireless carriers in the US have been warning the government about the impending exhaustion of their resources, brought on by rising demand for wireless data transmission.

AT&T and Verizon, among others, say a spectrum crisis could slow mobile devices and retard the national economy.

Martin Cooper, the former vice president of Motorola who helped create the first working cellphone, is of the contrarian view that technology offers the solution to satisfying the insatiable American appetite for wireless capacity.

Recently a presidential advisory committee concurred, urging President Obama to promote methods of using radio spectrum more efficiently. On 31st May, the New York-based "Bits" blogger Brian S Chen conducted an extensive interview with Mr Cooper. Here, abridged and lightly edited, are some highlights of the question-and-answer session:

Mr Chen: The wireless operators contend that they need not just better-managed spectrum but additional spectrum, and they want the government to clear their access to it.

Mr Cooper: How can 20 per cent more spectrum – which is as much as they're ever going to get, in their wildest dreams – solve the problem when the need is for 20 times more spectrum? It can't. They've got to push harder on technology. They're not using technology that exists today and was demonstrated 10 years ago.

Mr Chen: Where do we stand now on technology that makes more efficient use of spectrum?

Mr Cooper: The technology that senses whether some free radio spectrum is available at that location is known as cognitive radio. This is still in the early stages of development but could be available in five to 10 years.

The technology that allows cellular radios to use any of a large number of channels is called software-defined radio, or frequency-agile radio. All radios today are software-defined, but their agility is not yet adequate. That will take five years or longer.

The technology that lets many people use the same radio channel at the same time is called smart antenna technology or adaptive array technology or interference

mitigation. This uses computer processors to take the signals from multiple antennas at each location and sorts the various signals out so they don't interfere with one another.

Smart antenna technology has been available for almost 20 years but is not yet used by cellular operators.

Mr Chen: The presidential committee's report concludes that the radio spectrum could be used as much as 40,000 times as efficiently as it is now. That sounds dramatic. Is it feasible?

Mr Cooper: Cognitive radio, Smart antennas, and the other techniques all require computer processors. As the processors get more powerful they are capable of more spectrally efficient techniques. It's a continuum. You add technologies, you improve the processing, you introduce a new technique, you get incremental improvement.

Doubling every two and a half years is Cooper's Law. You don't have to double very much to get to 40,000. When they say 40,000 times, that's a million times more spectrum. It's going to take 20 years. Each time you put in new technology you get a big jump.

Dorothy Fabian
Features Editor



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由于中国压倒性的竞争，又一家政府支持的美国太阳能电池板生产商关门大吉了

Abound 太阳能有限公司通过其市值四亿美金的能源部门担保获得的七千万美金，并拟在科罗拉多州建立一个工厂，6月28日宣布将推迟运作。**Abound**宣称它的薄膜厂无法与中国产品竞争，一家坐落于加利福尼亚的**Fremont**家族的太阳能设备制造商**Solyndra**重蹈覆辙，该公司于去年关门。**Solyndra**在用尽将近5.35亿美金的贷款担保后破产了。

Abound在声明中宣布将解雇125名雇员并在一周内提出破产。**Loveland**，一家坐落于科罗拉多的公司，之前名为**AVA**太阳能，将其早期的资金放在一个从乔治·布什时代就开始资助计划下，并且该项目吸引了两个主要政治党派的立法者的强烈支持。它曾计划在印第安纳州的蒂普顿郡的一家已经关闭的汽车厂里设立一家制造厂，但目前已经放弃了。**Abound**太阳能生产能将阳光直接变成电能的电池板，使用一种碲化镉的化学应用并承诺其相比硅电池有成本优势。但该优势在硅电池价格大幅跳水后荡然无存。困境中的公司在2月宣布它计划关闭其工厂以节约资源同时尝试开始生产更先进的产品。

无论努力是否会成功，给予时间，现在讨论也无意义，但毫无疑问第二次政府支持的太阳能公司的大败局迅速成为了政治攻击素材。**Mitt Romney**，共和党总统候选人提名获得者，已经开始利用**Solyndra**（一家在商业建筑屋顶安置太阳能圆柱系统的创新公司）的失败——对奥巴马总统支持清洁能源公司进行抨击。

Jim Jordan，俄亥俄州共和党人及众议院政府改革与监督委员会小组委员会主席，同样抓住**Abound** 太阳能公司失败的机会。他说：“我们的政府不擅长在市场上区分赢家与输家，但在浪费纳税人钱的能力上首屈一指。”

❖ 6月28日，能源部公开了2009年收到的信件，这些信件来自于代表科罗拉多州和印第安纳州居民的国会议员，内容是敦促能源部批出贷款担保。四个印第安纳州的共和党人位列签名者之间，同时也有印第安纳州的民主党参议员和几个科罗拉多州民主党人。

如果事成都来居功，那么——奥巴马政府清楚的断言——失败则都来谴责。

❖ **Abound** 太阳能公司如果它形成了大规模的生产便有可能盈利，但是“来自中国太阳能电池公司的攻击性的价格举措对一个像**Abound**这样刚开始发展还在起步阶段的公司，在现有市场环境下形成规模来说太难了。”

其他美国太阳能电池制造商中国的制造商提起诉讼，宣称中国政府不正当的资助中国企业并在它们身上获取可观的关税。即便如此，纽约时报的**Matthew L Wald**在分析采访中也同意全球供大于求的生产能力使得太阳能电池制造商的处境举步维艰。

“缺乏成本竞争能力的卖家正在离开市场，”巴克莱银行的分析师**Amir Rozwadowski**告诉**Wald**先生。“近期对那些没有成本优势的卖家来说是非常痛苦的。”（“第二家美国支持的太阳能电池制造商即将关闭，”6月28日）。

移民

迫使海外出生的发明家离境的政策将会破坏美国经济

如果奥巴马总统作为一个清洁能源的倡导者为最近的倒退而痛苦（“太阳能电池板的生产商，”见上面），在另一条战线移民问题

上，他赢得了一场重要胜利。在6月29日，美国最高法院驳回了在四条在亚利桑那州通过的强硬的**SB1070**移民法案中的三条。法院保留了第四条条款，要求一个当地的警官在例行公事中检查任何涉嫌非法入境者的身份。但是，即便如此，法院的狭窄解读留下了诸如搜索这样的法律挑战，因为他们违反了种族定性的禁令及其他法律。

在一定程度上国家最高法院为美国指出了一条对移民更加友好的道路，它不光约束了白宫，同时，它还保护了国民经济的最佳利益。6月29日公布的一项研究显示在美国顶尖的研究型大学中移民在超过3/4的专利生成中起到重要作用。几乎所有的专利都在科学、技术、工程和数学——所谓的**STEM**领域，该领域决定性的引领着工作岗位的增长。据报告回顾称某些专利实际上已经带来了商业投资。

纽约的**Mayor Michael Bloomberg**合作创立的非盈利性组织“新美国经济伙伴”调查报告指出：很多世界顶尖的海外出生的发明家在美国大学接受训练而毕业之后他们面对“令人生畏和难以逾越的移民障碍迫使他们离开并把他们的智慧带到别处去。”

国际先驱论坛报的**Andrew Martin**评论道：**Bloomberg**先生的组织提前引起了其他一些国家的对美国的高技能海外出生的人才进行积极的追求，敦促他们回到祖国。“新美国经济伙伴”支持立法以使得对海外出生的**STEM**领域毕业生和企业家更容易的留下来。（“研究称：移民对创新至关重要，”6月25日）

在该事项的说明中，**Martin**先生写道：研究称2011年伊利诺斯州大学系统下十个中有九个专利的发明人至少有一个海外出生的。其中64%外国发明家并非教授而是学生、研究员或博士后，这是个更需要面对移民问题的群体。

- ❖ 在目前的体制之下，海外出生学生被允许在毕业后继续呆在美国12-29个月，保证他们在自己的领域内找到一份工作或者实习工作。之后，在国家配额等因素下被迫努力获得一个更长期的签证。“新美国经济伙伴”研究指出中国被给予了和冰岛相同数量的配额。
- ❖ 最后一句话所表达出的明确情感——某些类别的移民比其他类别更受欢迎——在对美国移民政策的讨论中不加掩饰的表达了出来。

随着移民劳动力的增加美国海外出生的小业主的数量也相应增长

自1990年以来移民在美国中小企业经济中的角色已经增加了50%，即员工数量在100人以下的企业业主有1/5出生在海外。移民小业主：一个意义重大且不断增长的经济组成部分，来自财政政策研究中心（**FPI**），追溯业主的出生并发现地中海和中东地区表现很好。至少10%的员工来自意大利；而来自希腊、以色列、叙利亚、伊朗、黎巴嫩和约旦则多是企业主。

分析美国统计局的数据，该研究所确定，在1990年，9%的美国工人和12%的小业主由移民构成。到2010年，海外出生人口占据劳动力市场份额已达到16%，18%的小业主由海外移民组成。在**FPI**主管该报告的**David Dyssegaard Kallick**的观点是，移民业主的增长——主要在服务型行业——已经从缓慢爬升到“相当可观”的程度了。

Kallick先生在纽约告诉彭博商业周刊记者**John Tozzi**关于移民角色在经济中的角色色国家对话经常被两个过于简单的观点所左右。移民被视为振兴停滞经济的神奇子弹，或者，移民被视为本土居民在就业岗位上的强有力的竞争对手。虽然不希望夸大移民对就业增长的冲击，他说道，“有时候人们没有意识到当移民进入经济，经济同样得到了增长。”

印度的IT公司寻找——并找到了——迂回通过美国工作签证阻碍的方法

“班加罗尔，被签证短缺所困扰，在美国本土雇佣”

彭博商业周刊“全球经济”版的头条（6月26日），引用了整个印度广泛的IT行业都面临的一个问题。随着美国失业率超过8%，印度的外包已经成为11月6日开始的美国总统大选的一项专题。印度IT公司所依赖的可以使他们的工人进入美国的签证将越来越难获得。

其中一个签证是H-1B，即美国储备接受特殊培训的人才签证。另一个是L-1B，即特殊技能员工签证。“拒签率在升高，” Scott Staples，一家设立在班加罗尔的印度外包公司Mindtree美国分公司总裁告诉彭博。“要得到签证获批实在是太难了。”

Mindtree有11,000名员工为诸多不同行业的客户工作。大部分在印度，但是，因为公司想要让一些员工更贴近客户，Mindtree有850名雇员在美国的50个州中的36个州工作。部分是美国公民或持有“绿卡”（本质上是“永久签证”）。但是大约60%的员工通过上述两种短期签证之一进入美国，而现在已经短缺供应了。

Bruce Einhorn，彭博社亚洲地区编辑，称：大的印度公司诸如Tata顾问服务，Infosys公司，以及WIPRO公司已经成为全球外包巨头。绝大部分的员工都在班加罗尔，孟买和其他印度城市；但是，和他们的小对手Mindtree一样，最大的公司同样需要雇员在“彼岸”现场工作。

但是拒签率，在5年前还是大约10%左右，现在已经高达50%了，印度最大的IT服务公司Tata执行副总裁兼全球人力资源领导Ajoyendra Mukherjee说。印度IT服务行业贸易组织Nasscom的总裁Som Mittal说：“高拒签率极大的增加了我们业务的不确定性。我们将不能确定那个人（是否）会获批。”

❖ 此类事件显然限制了印度人的耐心。据Einhorn所说，大量的印度公司正考虑选择雇佣更多的美国当地人。Tata公司于2010年在美国雇佣了1600人。鉴于当地的高失业率给签证带来“不可避免”的压力，Mindtree的Staples先生预测他对工作签证的依赖将下降。他说公司计划在佛罗里达的盖恩斯维尔的新中心雇佣400名员工，并在美国开设更多的中心。

“如果签证变得更加难拿了，” Mindtree的经理告诉Einhorn先生，“我们有能力加快这一进程。”

贸易

有所得必有所失，美国和中国将要在世贸组织发表他们对彼此的不满

“中国坚决反对滥用贸易补救措施及贸易保护主义。”

这份由中国商务部长所作的声明，伴随着在世贸组织所作的反对美国对22种中国产品征收进口税的指责，即美国所称的不公平价格或者补贴，包括钢材制品，风塔，太阳能电池板。这个在5月26日所作出的指责同样还包含其他产品——包括出口至美国的价值73亿美元的产品，商务部长说道。

中国的举动是明显的反击。8天前，美国商务部对太阳能电池板征收惩罚性关税，指责中国出口商在美国市场上倾销。在2010年12月，美国对中国政府补助风力制造商进行贸易诉讼，虽然之后无疾而终。同年更早期，美国对中国的钢管进口实施巨额反倾销税。

2011年，中国赢得一场WTO诉讼，该诉讼与今年5月提出的反对美国对进口中国钢管及其他产品征收关税类似。中国的最新的诉讼，这是自它2001年加入WTO后第七次反对美国，开始着手与美国达成和解的中国式“磋商要求”。但是如果协议不能达成，案例可以转到仲裁，如果美国被发现破坏了规则，可能被迫减轻其关税甚至补偿中国。来自路透社日内网的报告，Tom Miles观察到：中美两国间的摩擦的主要原因之一是中国对其货币的管制，尽管美国看到了中国在放松货币管制方面取得了‘进展’，但该争论使得两国间从未停止的贸易摩擦升温。（“中国通过WTO诉讼反击美国的关税，”5月25日）。

当中国提出其最新的诉讼时，另外两个中美之间的贸易争端也早在WTO的贸易争端解决小组的观察之中了。其中一起是关于中国进口的电炉钢，6月15日裁定支持美国。该小组接受了由美国提出的反对中国向美国AK钢铁集团（西切斯特，俄亥俄州）和ATI Allegheny Ludlum公司（匹兹堡）生产的用于电力行业晶粒取向平轧电工钢征收潜在价值达数亿美金的补充性关税。

❖ 虽然今年中国的整体出口增速已经急剧下滑到了各位数，但与美国之间的贸易盈余则创纪录的达到了2950亿美金。这给美国的制造商带来额外的压力，他们的市场仍旧处于全球经济危机的恢复当中。

汽车业

尼桑对扩大目前在美国的巨大市场份额抱有极大的期望——但竞争是激烈的

“尘埃落定，10%的市场将成为一个历史性的高度，但不是一个至高点。我们不能坐享其成。我们必须发展新的产品，达到10%的市场份额只是开心一刻而绝非终点。”

尼桑美洲的副总裁Bill Krueger 在对《底特律自由新闻报》的采访中这么说道。他的雄心壮志远非达到美国市场份额的10%那么简单。尼桑希望挟省油型行车和跨界车之势在2015年或2016年达到这个目标。根据WardsAuto.com的数据，这家总部位于横滨的公司去年的市场份额为7.6%。

《底特律自由新闻》汽车评论员 Mark Phelan声称：尼桑可能确实会在接下来的15个月里迎来前所未有的成功，它推出的5款车型占现有在美国销售的车型的70%。值得注意的是，他写道，尼桑将会在九月推出其销售最佳的奥特玛（Altima）款中型轿车的新版本（“汽车制造商的首次进入家用跨界拖车的热门市场，取代老款的Pathfinder SUV”）。（尼桑准备占领新的市场份额，6月23日）。

尼桑是北美生产轿车和卡车量最大的海外汽车制造商，计划今年秋天在田纳西州的士麦那增加第三个轮班，以满足对新奥特玛（Altima）的需求，该款车的高速公路节油率达到了每加仑38英里。与新版的车型在今年或下一年度一起生产，奥特玛项目促使IHS汽车分析家 Rebecca Lindland作出声明所尼桑的未来“在产品方面非常非常的光明。”

即便如此，Phelan先生写道，IHS仍旧不如尼桑那样对自己的前景如此乐观。咨询机构预计该品牌在美国市场份额将在2013年达到峰值7.8%，并在2015年降至7.1%。那时奥特玛（Altima）将不是唯一迅速被美国买家所接受的重新组装的中型轿车。雪佛兰迈瑞宝（Malibu），福特风行（Fusion），以及本田雅阁（Accord）同样将于今年抵达代理商处：所有这些，都是新车型。

“客户现在对新品牌和新产品都很容易接受，” Lindland女士告诉《自由新闻报》。“但是竞争是激烈的。”

专栏编辑：Dorothy Fabian

Dies, lubricants and drawing



Introductory courses in schools both academic and technical very often take the designation 101. Wiremaking 101 would necessarily feature the specialities reviewed here, which summarise the process of creating a production run of certifiably perfect wire as neatly as a flow diagram.

Developed for one another, dies, lubricants and drawing make as logical and complementary a grouping as any on display in a state-of-the-art wire mill.

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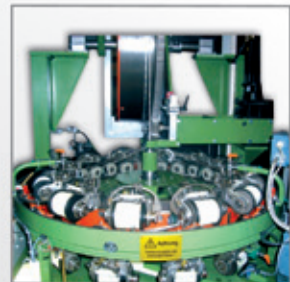
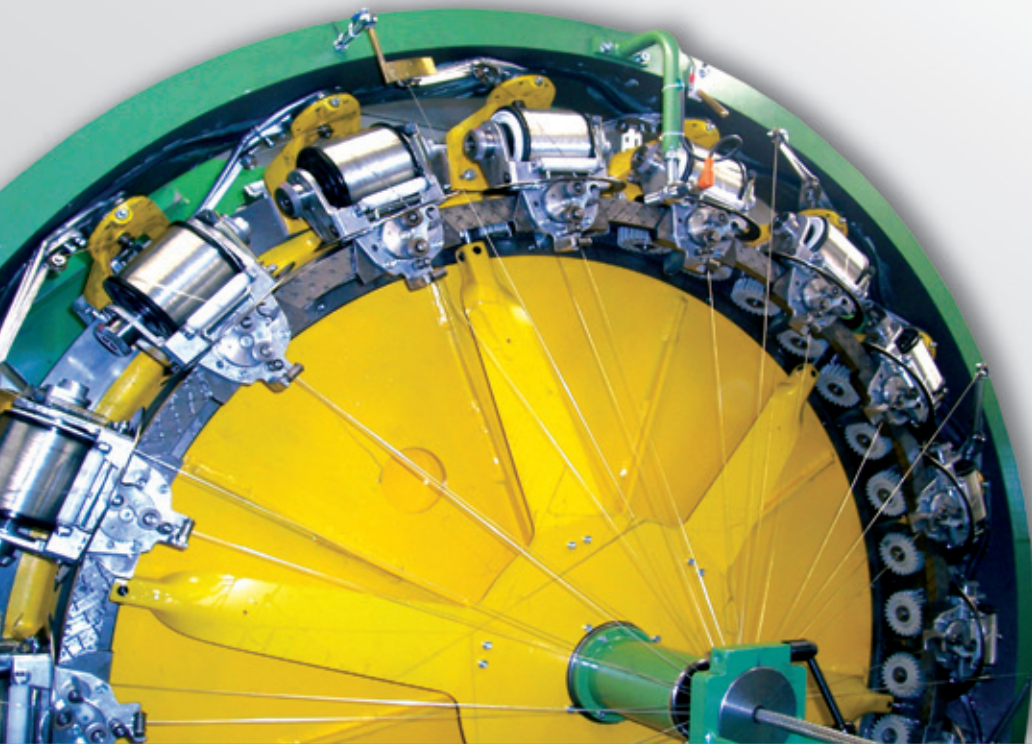
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GCR Eurodraw has developed a full range of high-performance wire dry drawing equipment. The range of machines starts from the largest machines, the MTS 1200 and the MTS 900, suitable to draw high carbon steel wire with inlet diameters up to 18.00 and 16.00mm, and ends with the smallest MTX 180 machine, suitable for wire sizes down to 0.1mm.

For the medium to large wire diameter range, GCR Eurodraw proposes the MTS 760, the MTS 710 and the MTS 660. All these three models are suitable for high carbon steel wire as well as for low and medium carbon contents. As with all the other wire drawing machines, customisation is possible with a wide range of dedicated accessories.

The next family of wire drawing machines is represented by the MTS 630, the MTS 610 and the MTS 560.

The MTS 610 is the GCR Eurodraw workhorse. It includes the highly efficient Turbo Cold narrow gap cooling system, the exclusive GCR Eurodraw user-friendly die holder, and many small smart features developed and integrated over the years, always following the suggestions and feedback from valued customers.

Finally, for the thinner wire sizes, GCR Eurodraw has developed the MTX range of machines, available in capstan sizes from 500mm down to 180mm, with intermediate models such as the MTX 400, 350, 300 and 250.

The MTX machines integrate the electrical panel on board the machine and may also integrate the cooling system with an on-board refrigerator. In this way, the machine needs only the power connection and is ready to run.

The transmission is unique: there are no belts or pulleys and the motor is directly connected to the gearbox, therefore avoiding any need of belt change or tensioning over time.

GCR Eurodraw SpA – Italy

Website: www.gcrgroup.com

Lubricants a speciality

Agena, a leading Brazilian supplier of copper wire drawing lubricants, offers a complete line of aluminium and copper lubricants and coolants.

Choosing the proper compound for high lubrication, prolonged life, cleanliness yet improving the die life, work environment and reducing costs is the main job of an Agena technical representative.



○ *The Agena plant in Brazil*

Agena also supplies metalworking coolants and lubricants (machining, grinding, stamping, etc), metal treatment compounds, industrial cleaners and degreasers, protective coatings, special high performance greases, oilfield chemicals, and custom made and private label chemical specialities.

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In the meantime four more multi-wire drawing machines have been supplied and successfully commissioned, including one machine to Sierra Cable in Sri Lanka and one to Manufacturera Concel SA in Mexico.



These successful experiences have provided an ideal solution to customers who are looking for multi-wire drawing equipment with proved performance at an affordable cost. Well Gain can offer machines for eight-wire and 16-wire, with outlet wire diameters ranging from 0.15-0.4mm and 0.4-0.9mm.


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Well Gain Cable Systems Ltd – China Website: www.wellgincable.com



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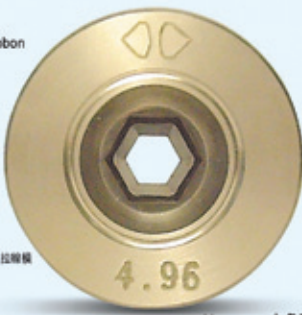
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Tinning dies 鍍錫模


Nipple for plastic coating of wire 挤出內模

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Others 其他用途鑽石模具




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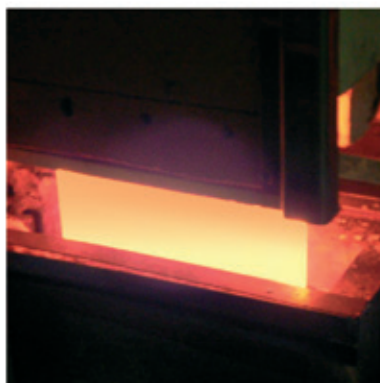
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GMP Slovakia is a leading producer of metal reels, drums and special equipment, including many different items for the drawing process.

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For copper or aluminium drawing processes, standard reels are DW-Double Wall and FM-Fully Machined for steel wire drawing process the suggested reel is HD-Heavy Duty.

All these reels can be machined on the winding surfaces (except FM-Fully Machined which is completely machined, on the internal and on the external surfaces) and can be balanced for high speed.

The barrel can be reinforced and is completely closed to prevent humidity problems and the structure of the reel is fully welded. Many other options are available according to customers' request.

The design of all GMP products is studied to guarantee the perfect use with machines of high quality.



○ One of the reels from the GMP Slovakia range

The structure of all reels and equipment is strong and guarantees a long life of the product, which after years of use will be still in good condition, having been produced in the GMP Slovakia manufacturing department.

This department is under constant quality control, the company having achieved the ISO 9001:2008 quality certification in 2010. The company also manufactures equipment to handle the reels, in vertical or horizontal positions.

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Whole range available

Compacting dies are always used in bunched and stranded conductors. The multiple wires drawn in wire drawing machines, a process before stranding, are formed into circular/shaped conductors by passing and compressing wires to the desired shape and sizes. The conductor sizes are mostly referred in sq, mm and AWG.



○ Dies from Ajex & Turner

before the take-up reel inside the machine to shape the wire that goes onto the reel to make the conductor compacted, reducing the bow loading effect.

Based on the conductor construction, material and application type, the stranding dies can be classified in the following types:

- Bunched or gathering dies
- Semi-compacting dies
- Highly compacting dies

The bunched or gathering and semi-compacting dies are basically used in low voltage conductor making to reduce the over-all conductor diameter meeting the specified conductor size in sq and mm. These dies are made in tungsten carbide material.

For high voltage cables the conductor demands a high compactness level, better shape and ridge-free formation. This is achieved using poly crystalline dies. These dies are useful to get the exact the CR value and metal, polymer and other accessories savings.

These dies are available for 16, 25, 35, 50, 70, 95, 120, 150, 185, 240, 300, 400, 500, 630, 800 and 1,000mm conductor.

Ajex & Turner Wire Dies Co – India

Website: www.ajexturner.com

New developments

There are two new developments in the wide range of tungsten carbide die reworking machines from Bremer GmbH, Germany.

Bremer has developed the new machine KSPM1 Microcontrol. The machine can work with very small diameter (range 0.07-0.5mm) and is specially developed for repairing the conical section of tungsten carbide drawing dies (0.08mm saw wire).

With automatic computer settings, the roundness can be reached with very narrow tolerance. Furthermore, Bremer has developed grinding and polishing equipment for the repair and production of tungsten carbide drawing dies with a full automatic process (range 0.5-10mm).

Bremer GmbH – Germany

Website: www.bremer-willi.de

The bow type machines, whether double or single twist, are called bunchers with the take-up reel inside the machine and wire twisting at very high speed, usually at 5,000rpm or above. The dies are located at the entrance of the machine to gather the incoming wires for the bunched conductors and sometimes these dies are located

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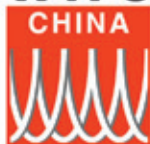


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Die Quip's belief in quality machinery, training, tooling and measuring are the key components to successful die making shop. Just relying on automatic machines to run "fast" is not enough.

The machines are built to last under harsh conditions taking heavy cuts needed to rework used dies into high quality tools using the meeting point method.

The new generation of machines have blended technology with tradition – rigid steel structures, fixed spindles, spray mist systems, angle gauge blocks have all been upgraded with simplified operator controls, advanced PLC controls and easy to set pressure system for consistent polishing.

All of these features eliminate guesswork and operator error while running faster than ever before and work different cycles so all features of the die can be run on one machine.

Die Quip offers many choices in machinery such as manual feed, semi-automatic or fully automatic cycles.

The Die Savers are versatile machines that can grind or polish the angle or cylinder of the die.

The Die Flex machines are accurate, multi-tasking machines that can polish the angle or calibrate the bearing from a meeting point or existing diameter.

All the machines can stand alone or work together to form work cells and provide more efficient and flexible production solutions.

At Die Quip you get more than just a machine.

There are a variety of training programmes and on-site consultations that teach operators how to use the company's equipment, which tooling to use and the different methods of making dies.

Die Quip also presents die geometry seminars to teach die design to eliminate drawing problems and improve production.

Die Quip – USA
Website: www.diequip.com

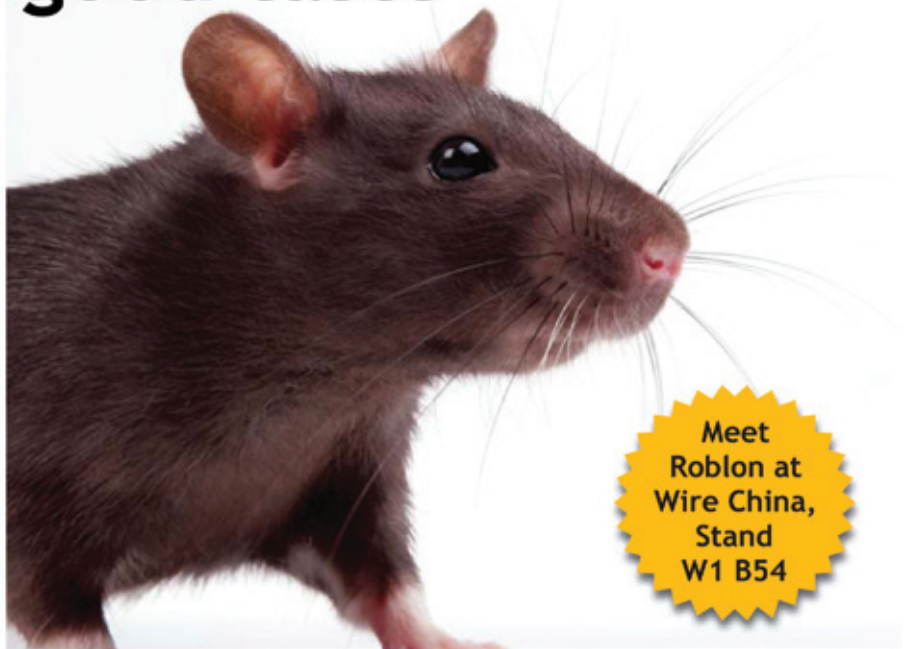


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Drawing down the costs

Historically the wire drawing industry in many parts of Asia has chosen to use relatively low technology lubricants for rod breakdown applications, the decision on which product used being based largely on unit cost per litre/kilo of the lubricant rather a consideration of the 'total cost of production' which is the normal approach in more developed markets.

There is no such thing as the perfect lubricant. If there were it would be the case that it was extremely low cost, only very little of it would be used and it would never have to be changed. In reality this can never be the case. In virtually any production process the only reason a lubricant is used is to make the process run – without the lubricant the ultimate final product cannot be manufactured.

In the case of wire drawing lubricants this logic is equally true, but it is important to move to a 'total cost of production' concept rather than simply looking at the unit cost of the lubricant when justifying the lubricant to be used. For wire drawing companies major running cost items include:

- The cost of copper/copper rod
- Poor control of manufacturing tolerances
- Dies
- Energy
- Surface coatings
- Maintenance costs
- Scrap/reject/machine downtime
- Labour
- Waste disposal

Considering most of these individual areas of cost, the amount spent on production lubricants is considerably lower. When these areas are considered as the total cost, the lubricant represents only a very small fraction of this figure and yet performance of the lubricant can reduce costs in many areas of the production process and lead to an overall 'total' cost reduction.

As some specific examples in relation to rod breakdown lubricants:

1 Copper/copper rod/quality

It is universally accepted that the quality of copper rod directly influences the quality and efficiency throughout all stages of the wire drawing process; and also quality of the final product produced.

2 Control of manufacturing tolerances

In the same way that input rod quality is important at every stage of the drawing process, it is the quality of the wire produced from the rod breakdown machines which govern the quality, efficiency and amounts of reject material produced during subsequent re-drawing, and then final processing operations (eg enamelling, insulation, cable production, etc).

Obtaining the correct balance of levels of lubrication with properties such as detergency, wetting characteristics and long-term emulsion stability is essential and leads to a high degree of technology and complexity in the lubricant formulation.

3 Lubricant consumption/top-up

As stated, purchasers often focus on the unit price of the lubricant when re-charging a lubricant system as it is obviously a significant cost, particularly for large volume rod breakdown systems.



○ The Mastersol range of speciality wire drawing lubricants from Batoyle

The true cost of the lubricant actually should be measured over the lifetime of the lubricant against the tonnage of copper produced. The obvious example of this is the amount of top up of fresh lubricant that is used per tonne of copper wire produced. The total cost of fresh lubricant added on a daily, weekly or monthly basis can often be greater than the quantity used initially to charge the lubricant system.

Differences between high and low quality lubricants in amount of top up used can vary massively. High quality lubricants typically will require in the order of between 0.25 and 0.75 litres top up per tonne of wire drawn for rod breakdown (figures vary because of other factors such as system size, rod and die quality, filtration quality, water quality, etc). Some 'good' systems will even use less than this.

Lower quality products on the other hand could require 10 to 20 times the amount of top-up lubricant. Whilst higher technology products may appear expensive in terms of unit cost, over the longer term they can and often do show actual cost savings purely on the amount of lubricant used over the lifetime of the lubricant system. The reasons for this are generally quite complex but relate to a large extent on factors such as emulsion stability and reactivity of the lubricant to the copper itself.

4 Associated product costs

In basic terms the lubricant is designed to produce high quality wire and protect the dies and capstans from excessive wear. Lubricant formulation development does not stand still and formulators are constantly striving for formulations which give better performance regarding these functions. As before, simple logic would say that some lubricants are better than others in the way they perform – and therefore improved die and capstan life are achievable as well as reductions in the amount of maintenance required re die cleaning, re-polishing or replacement. It should not be forgotten that maintaining/replacing die sets – particularly if not done in a planned manner – leads to lost production and therefore increased cost. The same applies to any down time or stoppages in production, for example wire breaks.

Batoyle Ltd – UK

Agent: Ajax & Turner – India

Website: www.ajaxturner.com



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Critical choice of lubricants

Selecting the proper control cable lubricant can be tricky given the variety of materials, designs, routing requirements, loads, temperatures, and duty cycles.

Tight cable routing and heavy loads make the selection of the right cable lubricant all the more critical.

The key is to choose a lubricant that improves cable efficiency — a measure of how quickly, smoothly and easily the cable moves under a broad range of operating conditions.

This efficiency is directly related to how well a lubricant minimizes friction between the cable and its liner, that is, the

Formulated by gelling a base oil with a thickener system, they act as a sponge of oil, slowly releasing oil throughout the life of the cable and ensuring an adequate supply of lubricant during cycling.

Special grease formulations can further improve cable performance and extend operating life.

Nye Lubricants' fluorocarbon gels, for example, incorporate PTFE, which creates a surface with a very low coefficient of friction and aids in supporting medium, and heavily loaded cables to reduce wear.

Other anti-wear and load-carrying additives, as well as antioxidants and corrosion inhibitors, may also be introduced into grease formulations for specific applications. Greases can also damp mechanical vibration and deliver a "quality" feel.

Nye has custom-formulated greases for a variety of control cable applications. Nye offers greases for mechanical systems that use cables, pulleys, tracks, and guides. Many are rust-inhibited for protection of metal rail systems.

Nye also offers greases for push-pull cables. They feature a unique combination of silicone oils and PTFE gelling agents, which provide excellent cable wetting, very low friction, and load-carrying capabilities.

The very high viscosity greases also introduce varying degrees of damping which can be helpful when trying to reduce mechanical vibration from one end of the cable to the other.

Damping can also deliver a preferred "quality" feel in a cable. Occasionally, certain designs require a unique degree of efficiency, or must operate well below freezing or above 200°C.

Nye's "flea-power," wide-temperature greases are intended for these applications.

UniFlor™ fluoroether greases offer low vapour pressure, excellent high-temperature oxidative stability, and resistance to aggressive chemicals.

Nye Lubricants – USA
Website: www.nyelubricants.com



○ Nye has custom-formulated greases for a variety of control cable applications.

lubricant's ability to wet and adhere to the cable and liner surfaces under both test and standard operating conditions.

Since most tests involve constant rapid cycling, high film strength and the proper base oil viscosity are essential to maintaining the right amount of lubricant where it is needed.

While oil is still used for some lightly loaded cables with high efficiency needs, greases offer several advantages for control cable lubrication.

A grease's stay-in-place capability mitigates leakage problems associated with oil.

Greases also prevent wear better than oils.

Die specialist

Shree Mahalaxmi Die Industries specialises in the manufacture of wire drawing dies made in synthetic diamond (PCD), natural diamond and tungsten carbide, tooling for the cable industries. The company provides PCD and natural diamond dies in sizes ranging from 15 micron to 15mm.

Mahalaxmi wire drawing dies are particularly recommended for use on the following materials: from rod to finish size for copper, aluminium, stainless, alloy steels, low carbon steel, tungsten and molybdenum.

Shree Mahalaxmi Die Industries - India

Website: www.mahalaxmidie.com

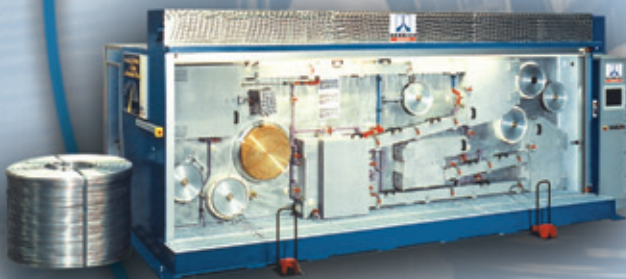


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Dies and lubricant – an important choice

Selection of proper dies and lubricants are two most important and essential requirements for wire drawing applications.

This affects not only the quality, but also helps in reducing cost of drawing in terms of maintenance, and cost of drawing by increasing die life and reducing lubricants consumption.

Kay Pee Dies, established in 1968, is a leader in the field of tungsten carbide dies for wire, bar tube drawing, cold heading extrusion and special application.

The company serves reputed customers all over India and SE Asia, Nepal, the Middle East and Africa.

Since 2008 it has tied up with Pan Chemicals SpA, Italy, a manufacturer of wire drawing lubricant, surface treatment and protection, for distribution and sale of its products in India and SAARC companies as an exclusive agent.



○ A Kay Pee die

Kay Pee is managed by highly technically qualified father and son partners and maintains high ethical standards in dealing with suppliers, customers, business associates and workforce.

The company is eagerly looking forward to its golden jubilee in 2018.

Kay Pee Dies – India

Website: www.kaypeedies.com

High precision from TKO

Established Turkish company TKO Tooling provides high precision moulds and parts for the fastener, automotive and aerospace industries.

TKO aims to have sustainable quality, high customer satisfaction and competitive prices with its CNC machines. The company also has short delivery times.

Customers send their problems of die drawing and TKO suggests the materials, whether carbide or tool steel. The company's staff of 15 professionals use their CNC grinding, milling and turning machines to solve the issues the customer is experiencing.



○ A range of dies from TKO

In the production process the company uses European steels and tungsten carbide, and can also supply conventional steels and powder metallurgical steels like ASP PMD CMD, as well as having a tungsten and ceramic coating service for wear resistance parts.

Tool steels with high wear resistance and toughness according to the customer specifications are heat treated in vacuum furnaces.

TKO Tooling – Turkey

Website: www.tkomakine.com

High performance fluids

Hangsterfer's manufactures high performance, environmentally friendly metalworking fluids.

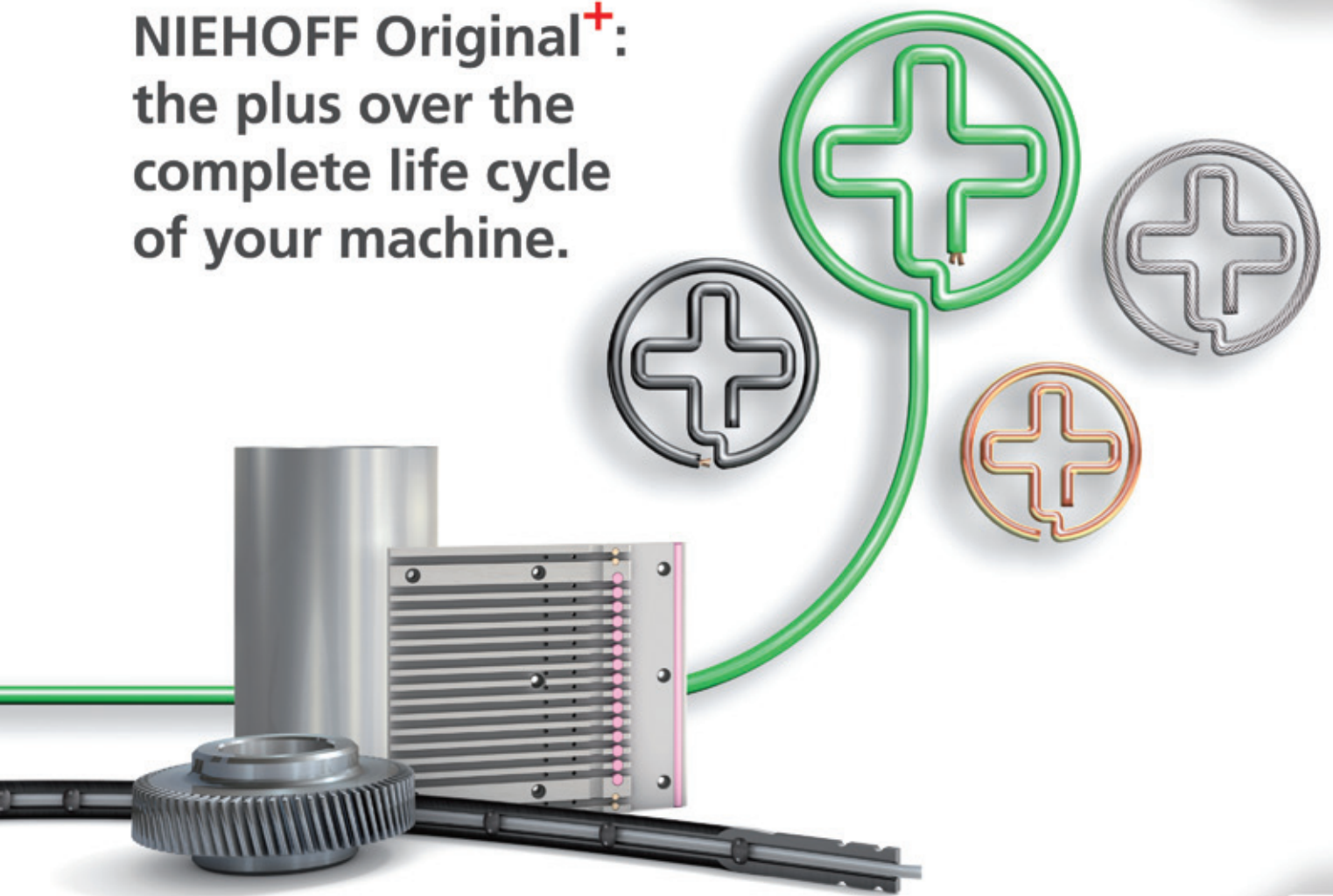
Hangsterfer's metalforming compounds "Aldraw" are formulated to provide maximum lubricity between the tool workpiece interface preventing galling and improving surface quality.

The Aldraw series are easily cleaned in aqueous or non-aqueous cleaning systems. In addition Hangsterfer's manufactures metal-cutting fluids, which include cutting oils, coolants, and dielectric fluids, cleaners and machine lubricants.

Hangsterfer's Laboratories Inc – USA

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New alloy copper and aluminium profile wire drawing machine



○ Aluminium and copper profile wire drawing machine

For some years, Deyang Jiechuang Wire & Cable Machinery Co Ltd has focused on research and development of drawing machines to meet every kind of wire requirement for its customers.

It has now developed a new state-of-the-art profile wire drawing machine which can process both alloy copper and aluminium rod into round wire, rectangular wire and small cross section wire (equivalent size $\Phi 2.8-6.0\text{mm}$).

Its linear speed can reach 15m/s. Featuring a combination of continuous pre-drawing parts and finish drawing section, spooler, as well as continuous annealer, this non-slip drawing machine is ideally geared towards the production of high quality profile wire.

These profile wires can be widely applied for cables, transformers and motors as well as generators. As this machine is highly automatic, few operation labours will be involved.

Deyang Jiechuang Wire & Cable Machinery Co Ltd – China

Website: www.jcdfama.com/web

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Condat offers an extensive range of lubricants covering all the industrial needs in the field of rod wire, cold rolling, wire drawing, drawing of bars and tubes with brand names as well known as:

- Viacfil®: the largest range of lubricants for all wire drawing applications in the industry
- Steelskin®: specific high tech dry lubricants range
- Galvasmooth®: range for galvanising wires for hot dip processes
- Condaclean: range of cleaners for all applications.

The range includes non-reactive coatings, dry powder lubricants, oils, pastes, greases, protective products and other coating products designed for all wire and tube drawing applications.

With a laboratory of 45 people and five per cent of its turnover dedicated to research and development, Condat offers to the wire drawing industry lubricants that meet the most recent environmental and health and safety legislations:

- Low dust in workshops
- On chemicals: REACH, biocides
- Eco-friendly lubricants: free of borax, barium, sodium nitrites.

Condat – France

Website: www.condat.fr



○ The range of dry powder lubricants from Condat

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Quality, research and good relations

Since 1975, Paganoni, a division of Mario Nava SpA, has been manufacturing wearing out components for the wire drawing industry in the field of ferrous and non-ferrous metals.

Thanks to the high product quality, incessant research activity and good relationships with customers, this brand has proven to be reliable and of unquestionable technological level.

Paganoni's customers are well-known manufacturers and users of wire drawing machines throughout the world.



○ Kersint rings, rolls and bushes

In addition to the quality, the company boasts a complete range including both products and services addressed to the wire industry.

Among other items, it has experience and knowledge in sintered ceramic parts (Kersint®) for the wire drawing industry, compounded pulleys for copper coating lines (CO₂ wire), cones and rings for wet drawing machines, and rolls for multi-wire machines.

Paganoni also coats worn out blocks with ceramics (Kerblack®) and tungsten carbide (Wolside®), while grinding and lapping them.

Nicksint® also belongs to the production line: It is a highly wear-resistant nickel based coating for contact surfaces of annealing furnaces for machines drawing red and yellow copper.

Paganoni is a well-known and experienced manufacturer of rings for copper rod-breakdown machines carried out in its special sintered ceramic material, Kersint®.

Qualified internal departments carry out, if specifically required, certified dimensional tests, roughness tests with issue of a test certificate, and balancing with the issue of a test certificate.

Paganoni – Italy
Website: www.paganoni.it

Making dies an art form

Mikrotek's name has become synonymous with the art of die making and die technology.



○ Mikrotek's head office in India

In today's fast moving technology, Mikrotek has edged forward to make dies which exceed customers' expectations. With a strong, qualified team and a high-tech production centre, stringent quality control checks and a new die manufacturing facility, Mikrotek has the expertise and in-depth knowledge to provide the complete solution for its customers.

The company's product line includes superfine natural diamond dies (0.013mm-0.05mm), natural diamond dies, mono diamond dies, polycrystalline diamond dies, shaving dies, compacting dies, tungsten carbide dies, enamelling dies with TC and PCD inserts, reconditioning and repolishing services.



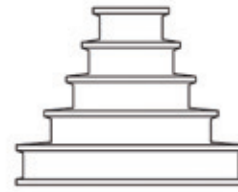
○ A range of dies from Mikrotek

Related product lines include diamond powder, diamond paste, diamond suspension, diamond angle pins, GHCS pins and measuring pin sets.

Mikrotek is a modern company with its plant housing state-of-the-art machines that perform well-designed, intricate processes.

Mikrotek – India
Website: www.mikrotek.org

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Renowned Wirex

Wirex is one of the biggest semi-finished and finished die manufacturing companies in northern India.

Since 1985 and after continuous improvement for more than 25 years, Wirex Dies has become a renowned name in the industry which produces natural diamond dies (PCD dies), tungsten carbide wire drawing dies available in all shapes and widely used for the drawing process of all wire materials such as copper, aluminium, stainless steel, mild steel, brass and zinc, etc.



○ A range of dies from Wirex

Wirex Dies draw soft as well as hard wires. Wirex PCD dies are generally manufactured by exclusively using PCD die blanks from Sumitomo, Japan and, Diamond innovations (GE) including blanks of acceptable good quality or as per specification.

Some advantages of Wirex products over others are:

- Significantly longer die life
- Excellent wear resistance
- Higher surface finish
- Accurately sized
- High machine efficiency
- Repeatability
- High wire surface quality
- Fit to draw very hard wires
- The minimum size of the products is 0.012mm

Wirex Dies and Steel India Pvt Ltd – India
Website: www.wirexdiamonddies.com

Research and development leaders

Founded in 2003, Guanbiao Electrical Machinery Co Ltd is one of the largest wire drawing machine manufacturers in China.

A high tech company specialised in research and development and sales of wire and cable machinery equipment, Guanbiao has an enviable reputation in the area of non-ferrous metals.

The company's main products include wire drawing machines and annealing and tubular tinning machines, the output wire size being from 4.0-0.025mm, covering essentially a complete range of sizes produced by the wire drawing machine manufacturers, and ideal for all kinds of alloy wire manufacturers.

With the enterprise spirit of "innovative, technical, truthful and sincere", the pursuit of better service to meet customer requirements, Guanbiao set up the standard enterprise management system, and is ISO9001 quality management system certified.

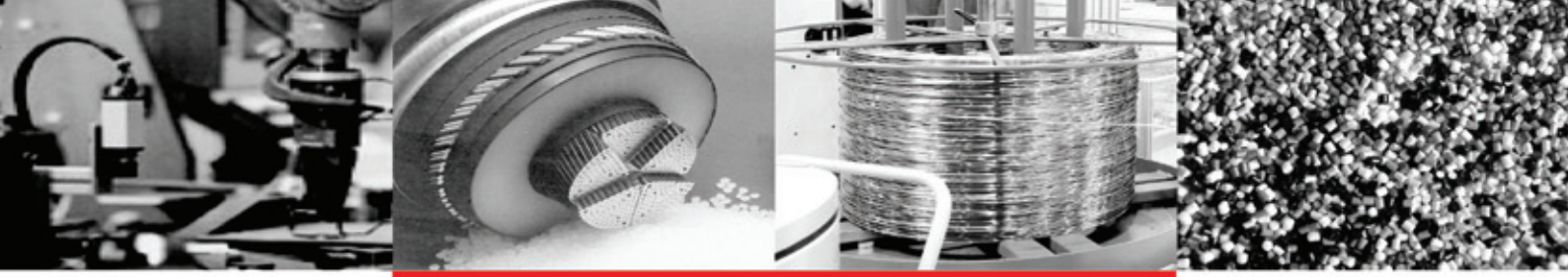
The company serves nearly 300 clients, and has strategic cooperation partners with many outstanding domestic enterprises.

At the same time of brand strategy and global development, the sales and service network has spread both at home and abroad, successfully entering the Asian and European market.

Guanbiao Electrical Machinery Co Ltd – China
Website: www.guanbiao.com



○ Guanbiao has an enviable reputation in the field of non-ferrous metals



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Shanghai Kechen Wire & Cable Machinery Co., Ltd.
Shanghai Kingstone Cable & Equipment Co., Ltd.
Sheng Chyeen Enterprise Co., Ltd.
Sicme Italia Impianti srl
Solvay (Shanghai) Co., Ltd.
Suzuki Garphyttan Wire (Suzhou) Co., Ltd
Teijin Aramid Asia Co. Ltd.
TJK Machinery Co., Ltd
Totoku Toryo Group
Troester GmbH & Co KG
VDKM - Verband der Draht- und Kabelmaschinenhersteller
VÖDKM / AWCMA - Verband Österreichischer Draht- und
WAFIOS AG
WCISA - Wire and Cable Industry Suppliers Association
WKÖ - Wirtschaftskammer Österreich
Wuxi Nanfang Electrotechnical Machinery Co., Ltd

Organizers



Messe Düsseldorf (Shanghai) Co.,Ltd.



Shanghai Electric Cable Research Institute

in Cooperation with



Messe Düsseldorf GmbH
Organizer of wire



International Supporters



International Wire and Cable
Exhibitors Association (IWCEA)
German Wire and Cable Machinery
Manufacturers Association (GWMA)
Austrian Wire and Cable Machinery
Manufacturers Association (AWCM)
International Wire and Cable
Exhibitors Association France (IWCEA France)



International Wire &
Machinery Association (IWMA)



Italian Wire Machinery Manufacturers
Association (ACIMAF)



Wire and Cable Industry
Suppliers Association (WCISA)

For more information
Messe Düsseldorf (Shanghai) Co.,Ltd.
Tel : (86 21) 6169 8300
Fax : (86 21) 6169 8301
Email : wire@mds.cn
www.mds.cn



Concurrent Event:
Tube China 2012

模具、 润滑剂和拉丝



学校的理论和技术入门课程通常是手册101。

线材制造手册101是在这里评论的必选专辑，它概述了生产程序，保证生产运转象流程表一样完美。

随着不断的开发，模具、润滑剂和拉丝成为展示一流拉丝设备组成的合理和应有的部分。

模具设备新发展

德国Bremer GmbH公司取得了硬质合金模具再加工机器的两大新开发成果。Bremer开发的新机器包括KSPM1 Microcontrol。该机能够加工非常小的直径(范围从0.07到0.50毫米),专门开发用于修复硬质合金拉丝模的锥形部分(0.08毫米埋弧焊丝)。

随着计算机的自动设置,圆度可以达到非常窄的容差。此外,Bremer还开发了碾磨和抛光设备,用于修理和生产硬质合金拉丝模,全自动生产工艺(范围包括0.50-10毫米)。

Bremer GmbH – 德国
网址: www.bremer-willi.de

高性能拉丝生产线

GCR Eurodraw开发了完整系列的高性能线材干拉设备。

机器范围从最大型MTS 1200和 MTS 900,适用于拉伸入口直径达18.00和16.00毫米的高碳钢丝,到最小型MTX 180机器,拉伸的线材直径小至0.10毫米。

GCR Eurodraw生产的MTS 760、MTS 710和MTS 660适合于拉伸中、大线径。这三种型号的机器都适用于高碳钢丝,以及中低碳含量的钢丝。正如其它所有的拉丝机一样,可以定制,并配有多种专用配件。

另一系列的拉丝机包括MTS 630、MTS 610和MTS 560。MTS 610型机是GCR Eurodraw的主力。

该机包括高效涡轮冷窄间隙冷却系统,独特的GCR Eurodraw用户友好模座,多年来开发集成的许多小型智能特征,并且始终遵循我们尊贵客户的建议和反馈。

最后,对于较薄的线径,GCR Eurodraw开发了MTX系列机器,可使用的绞盘尺寸从500毫米到180毫米,中级机型如MTX 400, 350, 300, 250。

MTX系列机器可集成机器的电气面板,也可集成机载冰箱的冷却系统。通过这种方式,机器只需连接电源,即准备运行。

传输相对独特:没有皮带或皮带轮,电机直接连接到变速箱,从而避免任何带变化需要或随着时间推移带来的张力。

GCR Eurodraw SpA – 意大利
网址: www.gcrgroup.com

质量,研发和良好的客户关系

自1975年以来,Mario Nava SpA的分公司Paganoni一直为拉丝行业的有色和黑色金属领域生产磨损部件。

由于其生产的产品质量高,持续的研发活动,以及与客户保持的良好关系,公司品牌得到广泛认可,代表可靠可信赖和不容置疑的技术水平。

Paganoni的客户是全球范围内知名的拉丝机制造商和用户。

除了产品质量,公司能够为线材行业提供完整系列的产品和服务。

此外,公司拥有广泛的经验和专业知识,比如拉丝行业的烧结陶瓷零部件(Kersint®),铜涂装生产线(CO₂焊丝)的复合滑轮,锥和环形湿式拉丝机,以及多线机轧辊。

Paganoni也使用陶瓷(Kerblack®)涂层磨损部分,在磨削和研磨时使用碳化钨(Wolside®)。



○ Kersint圆环、轧辊和衬套

Nicksint®也属于生产线:系高度耐磨镍涂层,用于接触退火炉的表面,机器拉伸红铜或黄铜。

Paganoni是著名的和有经验的铜杆轧制机圆环制造商,使用特殊烧结的陶瓷材料Kersint®。

如果有明确的规定,合格的内部部门进行认证三维测试、粗糙度测试,并且发放测试证书和解决测试证书中出现的问题。

Paganoni – 意大利

网址: www.paganoni.it

模具和润滑剂 – 重要的选择

选择合适的模具和润滑剂是拉丝应用两个最重要和最基本的要求。

这不仅影响质量,而且有助于降低维护成本,以及通过提高模具使用寿命和减少润滑剂消耗来减少拉丝成本。

Kay Pee模具成立于1968年,是碳化钨模具行业的领导者,生产的模具广泛用于线材、棒材拉管、冷镦挤压和特殊应用,服务于印度、东南亚、尼泊尔、中东和非洲的尊贵客户。



○ 一只Kay Pee模具

2008年以来,公司与拉丝润滑油生产、表面处理与保护供应商-意大利Pan Chemicals SpA公司联手,为其在印度分销和出售产品,南亚区域合作联盟公司(SAARC)作为独家代理。

Kay Pee由技术精湛的父子共同管理,在与供应商、客户、业务合作伙伴和公司员工的交往过程中保持高度的道德标准,公司热切期待在2018年的金禧。

Kay Pee Dies – 印度
网址: www.kaypeedies.com

完整系列模具

压缩模具总是应用于揉成及绞线。拉丝机上的多线拉伸是绞线之前的一道工序，通过和压缩线材成为所需的形状和尺寸，从而形成圆形/定型导体。导体尺寸大多按平方米，毫米和美国线规(AWG)来计算。

弓形机，无论是双捻或单捻，都称为搓捻机，卷线轴在机器内，通常以5000tpm以上的高速搓捻线材。模具位于机器的入口处，为导线束收集传入的线材，有时这些模具位于收线轴的前部，定型线材，传到卷轴上，从而压缩导线，减少弓装效果。根据导线结构、材料和应用类型，绞线可分为以下几种类型：

- 束状或聚集模具
- 半压缩模具
- 高度压缩模具

束状或聚集以及半压缩模具基本上用于低压导线，用于降低整体导线直径，以满足特定导线尺寸(平方米和毫米)的要求。这些模具使用硬质合金材料制造而成。



○ Ajex & Turner生产的模具

对于高压电缆，导体要求高压水平、更好的形状和无脊成型，该需求通过使用多晶模来实现。

这些模具有助于获得准确的CR值和金属、聚合物以及其他附属物的储蓄。这些模

具适用于导线的尺寸有16, 25, 35, 50, 70, 95, 120, 150, 185, 240, 300, 400, 500, 630, 800, 和1,000毫米。

Ajex & Turner Wire Dies Co – 印度
网址: www.ajexturner.com

润滑油的关键抉择

选择适当的控制电缆的润滑剂可能会非常棘手，因为需要考虑材料的种类、设计、路由要求，以及负载、温度和占空比等。紧电缆布线和重载使得选择恰当的控制电缆润滑剂显得更为关键。

关键在于选择一种润滑剂能提高电缆效率——电缆在广泛的操作条件下如何迅速、顺利地移动。这种高效率直接关系到润滑剂如何减少电缆和其内壁之间的摩擦，也就是润滑剂在测试和标准作业条件下润湿和粘附电缆和其内表面的能力。

由于大多数测试涉及不断的快速循环，高的油膜强度和适当的基础油粘度对于保持适量润滑剂是必须的。

虽然仍有一些油用于轻载电缆的高效率需求，但润滑脂在控制电缆润滑方面更具有优势。润滑脂留在原地的能力减轻了与油有关的泄漏问题。润滑脂防止磨损的能力比油更好。

基础油与增稠剂系统配方，作为一个油海绵，在电缆的整个使用过程中缓慢释放油，保证循环过程中供应充足。特种润滑

脂配方，可以进一步提高电缆性能，并延长运作寿命。

Nye生产的润滑油氟碳凝胶，例如，采用聚四氟乙烯，创造一个摩擦系数非常低的表面，支持中型和重型负载电缆减少磨损。其它抗磨损和承载添加剂，以及作为抗氧化剂和缓蚀剂，也将根据特定的要求应用到润滑脂配方中。润滑脂也可以缓冲机械振动，提供一个“质”的感觉。

Nye能够根据不同的电缆控制应用制定各种润滑脂。Nye提供的机械体系润滑脂包括用于电缆、滑轮、轨道和导轨。不少润滑脂还具有防锈功能，广泛应用于金属铁路系统的保护。

Nye还提供推拉电缆的润滑脂。此类润滑脂结合了独特的硅油和PTFE胶凝剂，具有优良的电缆润湿功能，而且摩擦系数低，具有一定的承载能力。

非常高粘度的润滑脂还推出不同程度的阻尼功能，有助于试图减少从电缆一端到另一端的机械振动。

阻尼还可以在电缆上提供一个首选的“质”感。有时，某些设计需要特定程度的效率，或必须在零度以下或200°C以上运作良好。我们的“跳蚤功率”，宽范围温度润滑脂将是这些应用的理想选择。

UniFlor™氟代润滑脂具有低蒸气压、优良的高温氧化稳定性和抗腐蚀性化学物质的特点。

Nye Lubricants – 美国
网址: www.nyelubricants.com



○ Nye有适合各种控制电缆的润滑剂

模具成为一种艺术形式

Mikrotek的名字已成为模具制造艺术和模具技术的代名词。当今技术发展日新月异，Mikrotek力求生产的模具超越客户预期的需求。公司的产品线包括超细天然金刚石模具(0.013毫米-0.05毫米)、天然金刚石模具、单钻石模具、聚晶金刚石模具、剃须刀模具、压制模具、硬质合金模具、TC和PCD刀片上釉模具，并且提供翻新和再抛光服务。相关的产品生产线包括钻石粉、钻石膏、金刚石悬浮液、钻石角引脚、GHCS针和测量针组。

Mikrotek是一家现代化装备的公司，厂房容纳了当今最先进的机器，能够进行设计精湛和复杂工艺的生产。

Mikrotek - 印度
网址: www.mikrotek.org

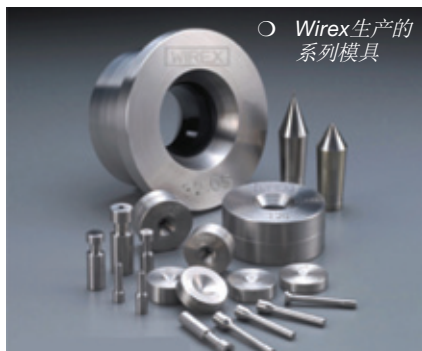
著名模具制造商 Wirex

Wirex是印度北部最大的半成品和成品模具制造公司之一。自1985年以来，经过了25年多的不断改进，Wirex模具已经成为同行业中的知名品牌，专门生产天然金刚石模具(PCD模具)和各种形状的硬质合金拉丝模具，广泛应用于所有线材的拉丝工艺，比如铜、铝、不锈钢、碳钢、铜和锌等。Wirex模具拉伸软、硬线。Wirex天然金刚石模具一般都是专门使用日本住友生产的PCD模具坯料制造而成，金刚石创新(GE)包括可接受质量好的坯料或按照特定的规格生产。

Wirex产品具有以下独特优势:

- 显著延长模具寿命
- 优良的耐磨损性
- 更高的表面光洁度
- 精确尺寸
- 高整机效率
- 重复性
- 线材表面质量高
- 适合拉伸非常硬的线
- 公司产品的最小尺寸0.012毫米。

Wirex Dies and Steel India Pvt Ltd - 印度
网址: www.wirexdiamonddies.com



○ Wirex生产的系列模具

专家的帮助就在您手边

GMP Slovakia是金属卷轴、工字轮和拉丝专用设备的领先生产商。

卷轴的选择取决于不同的元素。其要点是装上卷轴的线直径、线材的材料类型和使用的卷轴。GMP Slovakia拥有丰富的经验和知识，能够为每一位客户建议最佳的卷轴。

对于铜或铝拉伸工艺，标准卷轴是DW-双壁和FM-完全加工，对于钢丝的拉伸，建议的卷轴是HD-重型。所有这些卷轴能够在绕组表面加工(除了FM-完全加工，在内部和外部表面)，可用于高速平衡。

圆筒可以得到加强，完全关闭，以防止湿度问题和卷轴的结构完全焊接。根据客户需求，还可提供其他选择。所有GMP产品的设计都经过精心研究，以保证与高质机器完美整合使用。



○ GMP Slovakia生产的卷轴之一

所有卷轴和设备的结构坚固，保证了产品的使用寿命长，使用多年后状态依然保持良好，所有产品都在GMP Slovakia生产部门生产。

该部门在恒定的质量控制下，公司在2010年取得了ISO 9001:2008质量管理体系的认证。公司还生产在垂直或水平位置处理卷轴的设备。

GMP Slovakia - 斯洛伐克

网址: www.gmp-slovakia.com

模具专家

Shree Mahalaxmi Die Industries专业生产拉丝模，模具使用合成金刚石(PCD)、天然金刚石和碳化钨制造而成，应用于电缆行业。公司提供的合成金刚石和天然金刚石模具尺寸从15微米到15毫米。Mahalaxmi拉丝模特别推荐用于以下材料，从杆到完成尺寸的铜、铝、不锈钢、合金钢、低碳钢、钨和钼。

Shree Mahalaxmi Die Industries - 印度 网址: www.mahalaxmidie.com

具有可靠性能的中国多线拉丝机

Well Gain Cable Systems Ltd能够提供最先进具有高品质性能的多线拉丝机。

机器由昆山宏泰机电设备公司生产, 该公司专业生产拉丝机, 并且交付了第一台多线拉丝机给西安西电集团。

机器大大改善了终端用户的生产效率, 因为使用体检较好, 在12个月内又订购了另一台机器。

与此同时, 四台多线拉丝机已成功投产, 其中一台机器销往斯里兰卡Sierra Cable公司, 另一台供应给墨西哥Manufacturera Concel SA公司。

因为拥有这些成功的经验, 公司所以能够为寻求价格低廉、具有可靠性能多线拉丝机设备的客户提供理想的解决方案。Well Gain能够提供8线和16线机器, 出线直径范围0.15-0.40毫米和0.40-0.90毫米。

Well Gain是昆山宏泰独家出口代表。

Well Gain Cable Systems Ltd – 中国
网址: www.wellgaincable.com



○ Well Gain最先进的多线拉丝机

基业长青

Die Quip' 恪守高质机械信念, 以及培训、工装和测量是模具制造的关键因素。仅仅依赖自动化机器运行“快”是不够的。

制造的机器要能够在恶劣条件下, 使用重切割再加工旧模具, 运用交汇点的方法使之成为高质工具。

新一代机器融合传统技术 - 刚性钢结构、固定主轴、喷雾系统和角度量块, 所有这些都使用被简化的操作者控制、先进的PLC控制, 以及易于设置一致抛光的压力系统进行了升级。

所有这些功能消除了猜测和操作错误, 同时, 运行速度比以往任何时候都快, 不同的工作周期, 使得所有功能的模具能够在同一机器上运行。

Die Quip提供多种机器可供选择, 如人工供料、半自动和全自动循环。

Die Savers系多功能机, 能够研磨或抛光模具的角度和缸体。

Die Flex机器是准确的、多任务机器, 能够从交汇点或现有的直径抛光角度, 或校准轴承。

所有的机器可单独使用或一起工作, 形成工作单元, 从而提供更加有效和更加灵活的生产解决方案。

在Die Quip, 你得到的不仅仅是一台机器, 那里有各种各样的培训方案和现场咨询, 指导操作者如何使用公司的设备, 使用什么样的加工工具和制造模具的不同方法。

Die Quip还将呈现模具几何设计研讨会, 指导模具设计, 消除拉伸问题和改善生产。

Die Quip – 美国
网址: www.diequip.com



○ 恪守质量机械的信念

来自TKO的高精度模具



○ TKO生产的系列模具

土耳其公司TKO Tooling提供高精度模具及零件，用于紧固件、汽车和航空工业。TKO使用数控机床旨在保持拥有可持续的品质、高的客户满意度和有竞争力的价格。公司的交货时间也非常短。客户发送其模具图纸，TKO建议材料，是否使用碳化物或工具钢。公司拥有15名专业人员使用数控磨床、铣床和车床，帮助客户解决遇到的问题。

在生产过程中，公司使用欧洲钢材和硬质合金，还可以提供如ASP PMD CMD 这些传统的钢和粉末冶金钢，以及为耐磨性零件提供陶瓷涂层。工具钢具有高度的耐磨性和韧性，根据客户需求是否需要在真空炉内进行热处理。

TKO Tooling – 土耳其 网址: www.tkomakine.com

润滑油的特色

Agena, 巴西领先的铜拉丝润滑油供应商，提供完整系列的铝和铜润滑剂和冷却剂。

选择适当的高润滑化合物，不但易于清洗，而且能够延长磨具的使用寿命，工作环境和降低成本是Agena 技术代表的首要任务。



○ Agena巴西工厂

Agena也提供金属加工冷却剂和润滑剂(加工, 碾磨, 冲压等)、金属处理化合物、工业清洗剂和脱脂剂、防护涂料、特定的高性能润滑脂、油田化学品, 以及定制和代工特定的化学物。

Agena Resinas E Colas Ltda – 巴西 网址: www.agenacom.br

全球范围内的行业知识

因为拥有超过150年的专业经验，再加上Condat集团在国际结构和专业技术方面的最佳协和作用，Condat润滑剂系列得到了世界公认。

Condat提供广泛系列的润滑剂，涵盖所有领域的工业需求，诸如棒材、冷轧、拉丝、管和棒的拉伸。著名品牌润滑油包括：

- Vicafil®: 同行业中品种最全的润滑油，适用于所有拉丝应用
- Steelskin®: 特殊高科技干式润滑剂系列
- Galvasmooth®: 用于镀锌线热镀锌工艺
- Condaclean: 适合于所有应用的清洁剂。

该系列包括非反应性涂料、干粉润滑剂、油、膏、油脂、防护产品和其他涂层产品，设计用于所有线材和管材拉伸应用。



○ Condat生产的系列干粉润滑剂

公司拥有45人的实验室，5%的营业额用于研究和开发，Condat提供拉丝行业的润滑油，符合最新的环保、健康和安法：

- 低粉尘车间
- 关于化学品: REACH法规, 杀虫剂
- 环保润滑油: 无硼砂、钡、亚硝酸钠。

Condat – 法国 网址: www.condat.fr

高性能液体

Hangsterfer's生产高性能环保金属加工液体。Hangsterfer锻压化合物“Aldraw”能够在工件接口之间提供最大化的润滑作用，防止擦伤和改善表面质量。Aldraw系列易于在水或非水清洗系统清洗。此外，Hangsterfer's生产的金属切削液包括切削油，冷却液和绝缘液，清洁剂和润滑油。

Hangsterfer's Laboratories Inc – 美国 网址: www.hangsterfers.com

润滑油降低拉丝成本

历史以来亚洲不少地区的拉丝工业采用技术含量相对较低的润滑油进行杆材的轧制，使用什么样的润滑油主要取决于每公升或每公斤产品的单价，而非考虑其总成本，但在许多发达市场对总成本的衡量却是惯用的方法。市场上没有很完美的润滑油。如果有，那么只需非常低的成本，非常少的量，而且长期使用无需更换。事实上，这很难实现。

在实际生产过程中，之所以使用润滑油，是为了整个生产工艺的运行，相反，如果没有润滑油，产品最终不能够生产。该原理也同样适用于拉丝润滑油，但必须强调的是，选用何种润滑油，要有“生产总成本”的概念，而非仅仅只考虑润滑油的单价。

拉丝企业的主要运营成本项目包括：

- 铜或铜杆的成本
- 生产容差的不良控制
- 模具
- 能源
- 表面涂层
- 维护成本
- 废品/次品/机器停机时间
- 劳动力
- 废物处理

如果仅简单考虑个别方面的成本，那么用于生产的润滑油成本相对较低。但如果综合考虑其总成本，润滑油只占这一数值很小的一部分，然而，润滑剂的性能却能够降低生产过程中诸多方面的成本，最终导致总体成本降低。

以下列举一些关于杆材轧制润滑油的具体例子：

1. 铜/铜杆/质量

众所周知，铜杆的质量直接影响拉丝工艺所有阶段的质量和效率，以及最终的成品质量。

2. 生产容差控制

同样，输入杆的质量在拉丝工艺的各个阶段也非常关键，就是在后续再拉伸和最终加工(如：涂漆，绝缘，电缆生产等)过程中控制品质、效率和次品数量的杆材轧制机生产的线材品质。获得润滑作用的正确平衡水平，以及去污力、润湿性和长期乳化稳定性的特征是必不可少的，这使得润滑油的配方技术和复杂程度较高。

3. 润滑油消耗/装满

如前所述，当再装润滑油系统时买家通常关注单位价格的润滑油成本，因为这显然是个重大的成本，尤其对于大容量的杆材轧制系统而言。

其实润滑油的实际成本应该结合润滑油的使用寿命和铜的生产吨位进行衡量。这个明显的例子说明新的润滑油装满的量，



○ Batoye生产的Mastersol系列特殊拉丝润滑油

即用于每吨铜线生产的量。新的润滑油总成本每天、每周或每月都在增加，往往大于润滑系统最初注入的量。高、低品质的润滑油在注满的量上差别较大。高品质的润滑油通常需要消耗0.25至0.75升用于每吨线材的轧制（具体用量会随着以下因素变化：系统大小，杆材和模具的质量，过滤质量，水质等）。一些好的系统使用的量甚至更少。

另一方面，低质的产品可能需要消耗10到20倍的量。虽然可能会出现较高的技术产品单位成本昂贵，但从长远来看，就润滑系统的寿命和润滑油使用的量而言，的确能够节约成本。出现这种情况的原因一般都比较复杂，但很大程度上取决于这些因素，如乳液稳定性和铜本身润滑剂的反应。

4. 相关的产品成本

一般情况下，润滑剂用于生产高品质的线材和保护模具和绞盘不被过度磨损。润滑油配方的发展不会停滞不前，好的配方不断提供更好的性能。简而言之，一些润滑油的性能表现较好，因此提高了模具和绞盘的使用寿命，并且降低了模具清洗、再抛光或更换的维护成本。

此外，我们不应该遗忘的是维护/更换模具组 - 尤其不在计划中更换 - 导致生产受损和成本增加。这同样适用于任何停机时间或生产过程中停工，比如断线。

Batoye Ltd - 英国

代理: Ajex & Turner - 印度

网址: www.ajexturner.com

新型铜合金和铝合金型材拉丝机



○ 铝和铜型材拉丝机

多年来，德阳杰创线缆机械有限公司致力于研发拉丝机，以满足其客户的每一种线材要求。目前，公司开发了最先进的型材拉丝机，能够将铜合金和铝棒加工成为圆线、扁线和小截面导线(大小相当于 $\Phi 2.8 \sim 6.0$ 毫米)。

其线速度能够达到15m/s。由于结合了连续预拉伸部件、抛光拉伸、线轴和连续退火，该拉丝机是高质量线材生产的理想选择。

这些型材可广泛应用于电缆、变压器、电机和发电机。由于本机高度自动化，几乎不需要人工操作。

Deyang Jiechuang Wire & Cable Machinery Co Ltd - 中国

网址: www.jcdofama.com/web

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www.cables-conference.com

ASIA'S number one wire and cable industry exhibition – the 5th All China International Wire & Cable Industry Trade Fair (wire China 2012) – is being staged at the Shanghai New International Expo Centre from 25th-28th September.

More than 750 companies from 26 countries have confirmed their participation in wire China 2012, organised jointly by the Shanghai Electric Cable Research Institute and Messe Düsseldorf (Shanghai) Co Ltd.

On the following pages are details from some of the exhibitors.

Further information can also be found at www.wirechina.net

New International
Expo Centre,
Shanghai, China
25th-28th September

Opening hours:
25, 26 and 27 Sept: 9.00am – 4.30pm
28 Sept: 9.00am – 4.00pm

Admission is free for business and trade visitors only by registration

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wire China 2012

Anbao (Qinhuangdao) Wire & Mesh Co Ltd
 Stand/展台 W4F21

As a manufacturer and exporter of steel wire products, Anbao supplies various sizes of galvanised steel wire and strands, Galfan wire and strands, including ACSR wire and strand, overhead ground wire and message strand, message/guy/stay/span wire and strand, aluminium-clad steel wire and strand, armouring cable wire, braiding wire, etc.

The company produces these to the standards ASTM B498, ASTM B500, ASTM A475, BS EN50189, BS 4565, BS 183, IEC888, DIN48200 (Pt. III), ASTM A363, ASTM A640, ASTM A641, ASTM A111, ASTM B502, EN10270-1 and BS443.

Anbao also supplies zinc-coated flat steel armouring tape according to ASTM A459, and is engaged in various metal wire mesh products.

The company operates under ISO 9001 and 14001 quality control systems.

Anbao (Qinhuangdao) Wire & Mesh Co Ltd – China
 Website: www.anbao.com

Beta LaserMike
 Stand/展台 W1A31

Beta LaserMike debuts its new AccuScan 4012 single-axis diameter gauge and newly acquired line of DCM cable testing solutions in Shanghai.



○ The DCM Model 3S-XLD will be on display in Shanghai

Beta LaserMike's new AS4012 includes all the powerful features of the larger AccuScan 5000 series of

diameter gauges but in a compact, cost-efficient package.

This laser diameter gauge integrates DSP technology and specially engineered optics enabling it to capture high-accuracy, low-drift measurements regardless of where the product is positioned in the measuring gate.

The AS4012 performs 1,200 scans/second and can measure product diameters from 0.1 to 12mm (0.004 to 0.47") with accuracies to ±0.0005mm (±0.000020"). It also offers highly flexible communications, making it easy to connect to a host PC or PLC using RS-232, DeviceNet, Ethernet IP, Profibus, and Profinet.

In addition, the AS4012's small footprint enables it to be installed at a wider range of locations on the product line. Rugged construction to IP65 (NEMA 4) standards ensures reliable operation for the most demanding applications.

Beta LaserMikes' will also be presenting its line of DCM cable testing solutions, such as:

- DCM Model 3S-XLD – latest integrated system from Beta LaserMike for testing 4-pair to 28-pair LAN/Datacom cables up to 1 GHz
- DCM Model ES-2G – bench-top system for testing 4-pair LAN/Datacom cables up to 2 GHz
- DCM Model SCS-350B – bench-top system for testing 4-pair LAN/Datacom cables up to 600 MHz
- DCM Model 3S-PCX – latest integrated system from Beta LaserMike for testing broadband telecom twisted-pair cables up to 100 MHz
- DCM CATS-3000 – latest cable shield performance testing system from Beta LaserMike for automatic measurement of coupling attenuation, screening attenuation and transfer impedance

In addition, Beta LaserMike will be exhibiting its line of non-contact measurement and controls solutions including the new LN3015 3-axis lump and neckdown detector, CenterScan eccentricity measurement system, AccuScan diameter gauge, LaserSpeed length and speed gauge, High-Frequency Spark Tester and pre-heater systems, BenchMike table-top cut sample measurement system, DataPro process controller and data management system, and



SRL Pro on-line structural return loss (SRL) prediction and analysis system.

Beta LaserMike – USA

Website: www.betalasermike.com

Cimteq Ltd

Stand/展台 W1A48

Cimteq's flagship product is CableBuilder, a cable design and quotation software application.

This can help your company design wire and cable faster, quote faster and avoid costly mistakes that lead to scrap and re-work. Here is a short summary of the application features:

- Low cost of ownership
- Easy to use and to implement
- Fast cable design for all types of cables
- Easy to use mass-update tools
- Produces 2D, 3D and profile drawings
- Version control with version comparison
- Work-flow and approval control
- Completely customisable configurations



○ CableBuilder from Cimteq

- Integration to ERP systems
- Integrated crystal reports engine from SAP
- Data import/export with spreadsheets
- Fast quotation generation
- Produces professional datasheets
- Cable configuration variant generator
- Produces manufacturing instructions
- What-if analysis of value engineering
- Bill-of-material and routing generation
- Alternative bill-of-material and routing

Successfully implementing software is a partnership between the cable maker and the software provider.

This is why when it comes to purchasing design and quotation software, you need a company that understands the requirements of your industry, and is able to provide you with the flexibility you need to make you profitable.

Cimteq is that kind of company.

Cimteq Ltd – UK

Website: www.cimteq.com

Condat

Stand/展台 W1C42

The Condat sales team will present its extensive range of lubricants for wire drawing and cold rolling, including:

Vicafil®: the industry's most comprehensive range of wire drawing powders, wet lubricants, pastes, neat oils and greases.
 Steelskin®: speciality high performance drawing powders.

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wire China 2012



○ *Condat – meeting the needs for environmental standards*

The increasing demands for higher productivity (including machine efficiencies, power costs and die tooling optimisation) has led Condat to focus on this market, to offer a higher level of product performance and technical services and support.

By offering lubricants and products with high quality and consistency (recognised by the major producers), Condat is able to present a complete offer, including the latest surface pre-coatings, designed to meet customers' needs for both performance and meeting environmental standards.

The Condat technical team works on how to improve the performance (reduction of die wear, reduction of soap consumption, increase of speed, optimisation of soap residual, etc), as well as minimising the environmental impact of cutomers' processes.

The constant evolution of worldwide environmental regulations combined with Condat's extensive experience in wet lubricants has resulted in a range offering being one of the most extensive in the industry.

With special focus high tensile galvanised, phosphate coated or brass coated wires (for rope, staples, steelcord, saw wire, piano wires, etc), Condat has optimised its wet draw products in terms of lubricity,

biostability and ease of management. The technical team can advise on the most suitable lubricants for its customers' processes, including Vicafil SL 3400, SL 3500 and SL 3600.

Condat – France
Website: www.condat.com

Daloo
Stand/展台W1E04

As a member of the Gauder Group, Daloo has a long background in the cable industry. For cable producers wanting simple and reliable machines at affordable prices, Daloo is an obvious choice.

While the design is based on European experience, the manufacturing is done in China following strict criteria: systematic quality control all along the process, main and critical components ordered to well-known companies, and support from local agents.



○ *A long background in the cable industry*

Launched in 2008, Daloo has the possibility to extend the current production range including rigid cage stranders, taping lines, rewinding lines, pay-offs and take-ups as well as pulling caterpillars for future needs.

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

Enkotec A/S
Stand/展台 W1B60

At Enkotec's booth, staff will be ready to present news within high-performance machinery for nail production.

The company's product programme includes various complementary machines supplied as standalone units or in ENKOLine in-line systems.

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Enkotec's present high-capacity nail machines, the ENKOnail+ series, are designed according to a modular principle with a basic machine and six machine variants. The dimension range of these nail manufacturing machines has been widened, as it is possible to cover nail lengths from 32 up to as much as 130mm (1.1/4"-5.1/8") and wire diameters from ø1.8 to ø4.2mm (0.071" to 0.165"). The ENKOnail+ machines come with a PLC control system and touch screen operator interface, which is easy to navigate and allows quick setup of nail parameters.

The ENKOnail model nail manufacturing machine, type MI01, intended for small and midsize capacity needs, can produce 1,000 nails per minute at ø2.3-3.8mm (0.090" to 0.150") and nail lengths 50-90mm (2"-3.1/2").



The MI01 features simple adjustments, quick tooling changeovers, easy access for cleaning and service, and long tooling life among other advantages. The MI01 combined with its high-end ENKOnail+ series allow Enkotec to offer a complete range of nail machines, where many tooling parts are common for all machine models, thus increasing their cost effectiveness.

The ENKORoll TA01 thread rolling machine has been specially designed for making screw shank or annular nail profiles with a production speed of up to 2,500 nails per minute. The working area of the TA01 is ø1.8-4.2mm (0.071" to 0.165") x 32-105mm (1.25"-4") nail length with a profile height of 27-76mm (1.06"-3").

Apart from the high production capacity, the TA01 machine incorporates numerous advantages such as high-quality output, high stability, quick tooling changeovers, simple adjustments, and low noise level. The machine is capable of running in-line in a nail manufacturing line or as a standalone machine.

The ENKOPack movable stand-alone packaging machine, type NCP02, offers the possibility of in-line nail production in a complete, automated nail manufacturing process. The NCP02 automatically feeds the nail cartons, fills them with the accurate number of nails, and transports the nail cartons via automatic drive belt conveyors. All of this can be done in-line with a standard Enkotec nail machine or thread rolling machine.

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

FSP-one
Stand/展台W1D39

FSP-one is 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. It's already used in high technology markets and is qualified by the aircraft industry.

NPCCA and SPCCA (nickel or silver-plated copper clad aluminium) have been especially developed for the aircraft industry by FSP-one.

This new generation of conductors is now available as standard industrial products and is already being used by Airbus in the A380 jumbo and for new series in the future.

The CCA conductor offers a competitive advantage over the classic copper conductors. This allows the reduction of weight while keeping optimum performance.

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

From its plant located in Vietnam, Hi Tech Wires Asia (HWA), the company delivers conductors as well as EDM wires of its mother company, Thermocompact.

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

Gauder Group
Stand/展台W1E04

Both the Gauder Group's Pourtier and Setic companies design and manufacture high quality machines for the international market.

Pourtier develops comprehensive solutions to produce all kinds of power cables including 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) or DC type (using large round compacted conductor or trapezoidal wires).

Setic offers complete solutions to produce high quality special/LAN cables with enhanced performance in one step or two steps according to product mix as well as double twist bunchers/stranders for PC and automotive industry.

For supplying the Chinese market, Gauder Group China has been manufacturing from Changzhou (Jiangsu) rotating machines since



○ The TC 630i from Setic

1999, working to provide European quality and performance while utilising the local services at competitive levels.

A fully equipped workshop and a trial department are available for production tests, as well as bows and spare parts. The sales division is located in Shanghai.

A cost-effective version of the well-known Setic double twist buncher will be exhibited on the booth for first time: a single bow design "TD 630 EC" type equipped with the exclusive Greenbow for lower consumption.

Gauder Group – France
Website: www.gaudergroup.com

Jiangsu Handing Machinery
Stand/展台W2A03, W2B03

Handing will exhibit PVC, PE, LSHF extruder lines, double twist stranding machines, single twist stranding machines, double twist bunching machines, taping machines, take ups and pay offs.



○ One of the machines on display from Handing

Handing began manufacturing cable machines in 2002 to meet the specific demands of the wire and cable industry and through development of the market, products are updated on an annual basis.

The company has advanced CNC lathes, milling machines, boring machines, SIGMAR aerospace vibratory stress relief systems, high-precision universal grinders, precise copying cutting machines, precise bearing sensor heating systems, concentricity calibration

AdwanteK ADVANTEK TECHNOLOGIES CO.,LTD



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Spark Tester

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Fax:+86(755)-26420390
Email:sales@adwanteK.com
Web:www.adwanteK.com



balancing machines and other professional equipment for manufacturing.

The machines are equipped with AC and DC motors. The main parts and electric appliance components all adopt the original products from Japan, France, Taiwan and Switzerland, dependent on the customer specification.

Jiangsu Handing Machinery – China
Website: www.hdxljx.com

H&R Group
Stand/展台 TBC

H&R Group will be exhibiting an extensive product range in Shanghai.

The range originates from the globally recognised Dussek Campbell and BP cable compound brands.

These include Insojell, Dijell and Naptel petroleum jellies, Optifill and Rheogel thixotropic gels for filling and flooding, the T series of dielectric fluids for high voltage AC paper insulated cables, impregnating

compounds for MV DC and EHV DC paper insulated cables.

Innovative product development has yielded many new products in both the telecommunication and energy cable sectors, including the H2000 range of hydrogen absorbing gels for OPGW, OPPC and submarine fibre optic cables.

Sahara particulates free water swelling coating technology, which offers exciting new opportunities for cable design in the future, and the recently launched Strandblok technology for HV AC XLPE subsea cables.

In addition to this tracer technology solutions offer rapid leak location in low-pressure oil-filled HV cable networks.

H&R Cable compound manufacturing facilities are located in China, UK, South Africa, Australia and Thailand, with customers supported worldwide by a team of experienced sales personnel, and an extensive network of agents and distributors.

H&R Cable – UK
Website: www.hur.com

ITO-SIN (Deyang)
Wire & Cable Equipment Co Ltd
Stand/展台 W2C61

ITO-SIN (Deyang) Wire & Cable Equipment Co Ltd specialises in the design and manufacture of equipment for the wire and cable industry.



○ ITO-SIN – the specialist

Main products include aluminium and alloy rod continuous casting and rolling lines, copper rod continuous casting and rolling lines, drawing machines for copper wire, aluminium wire and steel wire and stranding machines for power cable.

ITO-SIN (Deyang) Wire & Cable Equipment Co Ltd – China
Website: www.ito-sin.cn

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Wire drawing ceramic ring
氧化锆塔轮

Wire drawing steel ring
大拉钢圈

Idler pulley
导轮

Fine wire drawing stepped pulley
细拉机塔轮

Intermediate wire drawing stepped pulley
中拉机塔轮

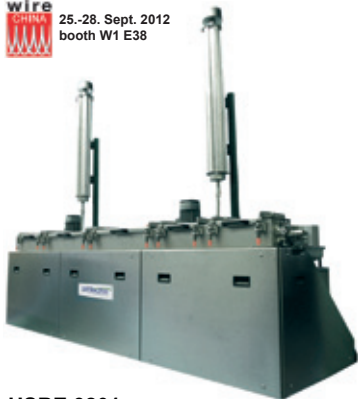
Ceramic guide pulley series
陶瓷导轮

Wire drawing steel ring
钢圈

Plasma spray welding
等离子喷焊

HVOF spray coating
超音速火焰喷涂

wire
CHINA 25.-28. Sept. 2012
booth W1 E38



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and monitoring panel
for a safe production process.

www.witech.de

wire China 2012

**KJM GmbH
Stand/展台 W1F35**

KJM will be presenting its new slip free fine wire drawing machine where each draw is single driven and controlled by torque.

This drawing principle prevents the wire surface from damage and saves energy. The drawing dies and the pulleys have an extended lifetime, and the single drive system allows updating of the die condition for the machine operator.

Every elongation can be different from the others, and the machine itself regulates this. The pay off is fully controlled by the machine too giving a reduced production cost than traditional wire drawing machines.

The interface is user friendly and gives all necessary information to the operator, while a diameter and surface defect checking system is available as an option.

The machine can reach a speed up to 35m/s and the final wire diameter can be smaller than 20µm.

**KJM GmbH – Germany
Website: www.kjm-ag.de**

**Maillefer Extrusion
Stand/展台 W1F62**

Maillefer's local Shanghai team, led by Mr Brown Wu, will be pleased to see customers at booth W1F62.

Mr Brown said: "We are proud to be considered the market leader of extrusion technology in China especially in areas like CV lines. Our technology solutions combined with top service are designed to make customers successful within their markets."

Maillefer maintains a long tradition of offering complete extrusion systems for energy cable, fibre optic cable, telecom cable and tube manufacturing systems within China.

**Maillefer SA – Switzerland
Website: www.mailleferextrusion.com**

**Medek & Schörner
Stand/展台 W1D49**

Medek & Schörner will be presenting the following state-of-the-art cable marking machines in Shanghai:

Cable marking machines:

- 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)
- High performance ring markers for marking telephone wires, switchboard wires, automotive cables, 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



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

Optical fibre coating systems:

- Top speed optical fibre processing systems
- Optical fibre colour coding up to 3,000m/min
- Ring marking of optical fibres
- Tight buffering up to 1,300m/min
- Fibre ribbon production with excellent ribbon planarity and for speeds up to 1,000m/min
- CFU production of compact fibre units

Copper wire insulation with UV varnishes (enamelled wire):

- Manufacture of dimension-sensitive precision micro flexible flat cables (FFC) using UV resins

As the only company operating in this sector, Medek & Schörner covers virtually the entire spectrum of machines for marking cables and coding optical fibres; in particular for power, telecom and data cables.

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

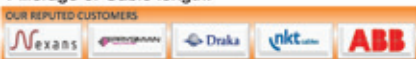
INSULCAP GALA
Heat Shrink Cable End Cap



Seals Cable End, protects from water / moisture, etc.

De-gassing End Cap:
Supplied with Special Relief Valve, used for High Voltage (33 KV) and Extra High Voltage Cables to release the constantly evolving gas.

Tamper Proof Application:
Custom Logo / Print with special non-removable Ink, used as permanent seal on End Cap after shrinking, thereby avoiding claims in case of Pilferage of Cable length.



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Email: office@galathermo.com Website: www.galathermo.com

wire China 2012

Metalube Ltd
Stand/展台 W1B46

UK-based manufacturer of industrial lubricants, Metalube Ltd, specialises in lubricants for the wire, cable and tube industries on a global scale.

China is an extremely significant market for Metalube. In 2005 Metalube (Shanghai) Ltd was established as a wholly owned Chinese company with sales offices located in Shanghai and Dongguan.

Fan Yang, assistant general manager, Metalube (Shanghai) Ltd, and Gavin Gu, sales manager, will be on the stand accompanied by David Lee, managing director and Douglas Hunt, commercial director from the company's headquarters in Manchester.

Also exhibiting at the show is one of Metalube's key distribution partners in China, DLF, who will be located on stand W3G15.

Metalube Ltd – UK
Website: www.metalube.co.uk

Nextrom OY, Rosendahl
Stand/展台 W1C44

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



○ The clenching capstan from Nextrom

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

Rosendahl is a leading global supplier of high-tech wire and cable manufacturing solutions, and offers first class products and turnkey solutions in the fields of extrusion, corrugation, fibre optic cable as well as SZ stranding.



○ Manufacturing solutions from Rosendahl

Out of these competences Rosendahl developed the product segments power cable, automotive wire, LAN cable, coaxial cable and fibre optic cables. Rosendahl's most recent completion of its product portfolio is the crosshead series.

Together, Nextrom and Rosendahl offer first-class products and turnkey solutions combining leading edge know-how and state-of-the-art technology in close cooperation with their customers and product suppliers.

At wire China the companies will present the latest advancements and technology highlights, including new developments in fluor-polymer processing for data, coaxial, micro-coaxial and speciality cables.

Nextrom further developed the clenching concept machinery and dry loose tube diameter control with its clenching capstan SCC 100.

This proprietary design and innovation of Nextrom consists of a small immersed capstan inside the hot section of the cooling trough of a loose tube line. Learn more about this new concept at the show.

Nextrom OY – Finland
Rosendahl – Austria
Website: www.nextrom.com
Website: www.rosendahlaustria.com

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- ◆ PV Tapping Ribbon For Solar Panel
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wire China 2012

Maschinenfabrik Niehoff Stand/展台 TBC

Maschinenfabrik Niehoff, a leading manufacturer of machines for the wire and cable industry, and Niehoff Machinery Changzhou Co Ltd (NMC), its new Chinese subsidiary, will display the MMH type multiwire drawing machine and a D 630 type high speed double twist bunching machine.

The drawing machine is part of the MMH range of multiwire drawing machines for copper wires (and a multitude of specific applications), which covers a finished wire diameter range from 0.05mm to 1.35mm; the largest machine of the MMH range is capable of drawing up to 48 wires.

The wires drawn on these machines exceed the most demanding specifications and processing requirements in view of electrical conductivity, surface quality and mechanical properties and can be processed to multiwire bundles with outstanding characteristics.

The D 630 double twist bunching machine built by NMC under Niehoff licence is adapted to specific requirements of the Chinese market. The machine is designed for strands with a diameter of 0.09 to 6.00mm² and accommodates spools with a maximum flange diameter of 630mm. It is equipped with AC drive technology and Niehoff's ECO-Bow.

At the Niehoff booth there will also be present the cold rolling mill manufacturer Bühler-Würz Kaltwalztechnik and the lead extruder and cable repair and recovery system manufacturer HFSAB.

**Maschinenfabrik Niehoff GmbH & Co KG – Germany
Niehoff Machinery Changzhou Co Ltd – China
Website:** www.niehoff.de

Pan Chemicals Stand/展台 W1B39

For 25 years Pan Chemicals has been producing and supplying the wire industry with high-tech drawing lubricants, covering all applications.

The production programme includes different grades of calcium, sodium and combined dry lubricants (Panlube S series) and a full range of wet lubricants for low and high carbon,

welding wire, stainless steel and non-ferrous wire (Panlube L series).

Besides the dry lubricants the company is offering full technical support on wire production processes and development of customised products.

Pan has recently focused its activity on lubricant carriers for drawing of carbon steel wire, stainless steel wire and cold forming operation (Pancover series).

The company is also active in the surface treatment technology with new fluxes for hot dip galvanising, anticorrosive products and special wiping media (Panchem series).

Particular attention is dedicated to the development of ecological products according to the new international regulations (Borax-free coatings and lubricants).

**Pan Chemicals – Italy
Website:** www.panchemical.com

Qinhuangdao Yanda-Guohai Stainless Steel Co Ltd Stand/展台 W4A12

Qinhuangdao Yanda-Guohai Stainless Steel Co Ltd is a Chinese manufacturer of stainless steel wire and knitted mesh, supplying stainless steel wire of 300, 400 and 200 series, ranging from 0.14mm to 5mm.



○ Knitted mesh wire from Qinhuangdao

Yanda-Guohai's wire is available for welding, weaving, braiding, etc. Especially for welding wire, the company explored the product five years ago and the market is still growing, including MIG wire, TIG wire, submerged arc welding wire and electrode core welding wire.

The knitted mesh gasket can be used in automobile and chemical industries.

Qinhuangdao operates under the ISO 9001 quality management, and

more than 70 per cent of products are exported to 20 countries and regions, such as Asia, Europe, America and South Africa each year.

**Qinhuangdao Yanda-Guohai
Stainless Steel Co Ltd – China
Website:** www.yandaguohai.com

Qunye Reels Stand/展台 W2B41

Jiangsu Qunye Electrical Co Ltd produces metal and plastic reels for the wire and cable industries, and exports about half of its products every year.



○ A range of the reels on offer from Qunye

With more than 20 years' experience, staff work extensively on research and development, and the company operates under the ISO 9001-2000 accreditation.

Qunye's reels are suitable for use in many areas: high voltage, middle voltage and low voltage XLPE power cables, optical fibre cables, telecommunication cables, and steel wires, bead wires, cutting wires as well as in the textile industry.

**Jiangsu Qunye Electrical Co Ltd – China
Website:** www.qunye.com.cn

Roblon Stand/展台 W1B54

Denmark-based Roblon A/S continues to focus on the Chinese OFC market – the latest development being employment of a local sales representative, Mr Chris Chen, who is based in Shanghai.

Products customised to meet the Chinese market requirements are also being introduced. Roblon produces a range of industrial yarns, ideal for compact cable designs and FTTH cables.



Furthermore, the Roblon range comprises binder yarns in an ultra low shrinkage version, which minimise the risk of attenuation caused by squeezing of the tubes holding the optical fibres, as well as extremely flexible and wear-resistant peripheral glass strength members.



○ Roblon Eccentric Binder, EB-4

Roblon also supplies compact serving machines with two to six positions, which offer low tension and high speed applications and are ideal in the production of compact cables.

For perfect winding of compact cables, the Roblon Precision Take-up is recommended as it will ensure automatic and precise winding of the cable, without need for extra supervision.

Roblon develops and manufactures high-tech industrial fibres such as glass and aramid strength members, binder yarns and ripcords (standard and water-blocking) used in fibre optic cables, and is ISO 9001 and 14001 certified. Furthermore, Roblon is known for its high quality servers and binding machines, with more than 400 pieces of each operational worldwide.

Roblon A/S – Denmark
Website: www.robлон.com

Sampsistemi
Stand/展台 W1B04

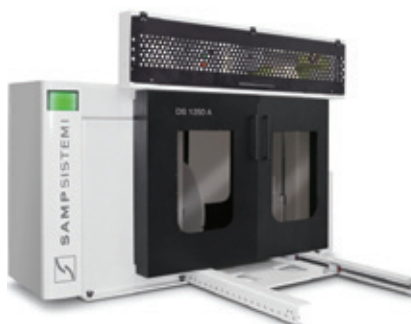
SAMP, a provider of turnkey solutions for wire and cable manufacturing, will present many world premieres, including high-tech drawing machines for non-ferrous wire, double-twist bunchers and innovative spoolers.

One of these breakthrough machines is the new double automatic spooler DS 1250 A, suitable for handling reels from 800mm to 1,250mm.

The machine can be connected to rod breakdown lines for copper wires up to 4.5mm at a maximum spooling speed of 50m/s, and is ideal for cylindrical, conical and collapsible reels.

The key features and technical solutions adopted are the result of careful analysis of customers' requests.

As Artemio Affaticati, CEO of SAMP Group, said: "It is our innovative and forward-looking approach to addressing the needs of our customers that has sustained SAMP through both the successful and tumultuous market conditions over our many years of service to the industry."



○ Turnkey solutions from SAMP

SAMP is particularly excited since Wire China 2012 will coincide with a major milestone in the company's history: the grand opening of the new SAMP Machinery Shanghai plant, which will take place on Wednesday, 26th September, 2012 at 4.30pm.

The SAMP Group has been active in China since 2004. In 2011 the decision was made to further strengthen its

local presence, investing in a new state-of-the-art production unit to efficiently and safely produce high-quality machinery and equipment with minimal environmental impact.

With over 3,800m² (3,000m² workshop, 800m² offices), SAMP Shanghai has almost doubled its original size.

Dominique Perroud, managing director of SAMP Shanghai, added: "We aim at giving our customers what they most need and value, in a cost-effective and sustainable way.

"This new flexible plant will help give us the capacity to realise our aggressive growth plans for the Asian market."

Sampsistemi – Italy
Website: www.sampsistemi.com

Sket Verseilmaschinenbau
Stand/展台 TBC



○ Best selling machines from Sket






Sket Magdeburg has enjoyed a very successful business period during the past few years, almost doubling its staff and tripling its turnover.

Whether it be as a supplier of individual machines, complete technological lines or complete works for the production of electric

● ZIRCONIA MATERIAL (WHITE, YELLOW ETC)
● ZTA MATERIAL (WHITE)

Our products are widely used in:

- Multi-wire drawing lines machine
- Medium wire drawing machine
- Fine wire drawing machine
- Tungsten molybdenum wire drawing machine
- High speed wire drawing and enamelling machine

The most cost-effective wire-drawing ceramic capstan in China

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wire China 2012

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www.siltex.de

cable or steel wire rope, Sket Verseilmaschinenbau GmbH is valued as a partner in the cable and wire rope industry in 50 countries on all five continents.

Best selling machines for the cable industry are MKZS/T Central Stranders, MWR Drum Twisters and MKD Rigid Stranders, while SRW Tubular Stranders, MSDN Double Twist Bunchers and MKVS Planetary Stranders are SKET's main products in the steel sector.

Latest developments include:

- New generation of central stranders featuring a 500kg Al wire bobbin capacity
- Special-design large planetary stranders/closers for submarine cable
- New development of large double twist bunchers suitable for producing multiple-layer steel wire strands up to 12mm (0.5")
- Long high-speed tubular strander and large cage-type stranding machine for making offshore and mining ropes

The company operates from a 40,000m² site where traditional and newly developed machine systems for cable and wire rope production are designed and manufactured.

Linked CAD/CAM work stations and fully integrated processes supported by a computerised production, planning and control system are standard.

**Sket Verseilmaschinenbau GmbH
– Germany
Website: www.sketvmb.de**

**Teknor Apex
Stand/展台 W1C12**

Tough new Flexalloy® PVC elastomer compounds to be introduced by Teknor Apex provide manufacturers of charger cable for electric vehicles (EVs) with cost-effective alternatives to premium-priced elastomers such as TPUs in insulation and jacketing.

Flexalloy 89504-90 is a 90 Shore A formulation for insulation, and Flexalloy 9610-78 for jacketing has a Shore A hardness of 78. The materials exhibit brittle points of -46 and -38°C, respectively, and are both rated for a maximum continuous operating temperature of 105°C.

Unlike standard vinyl, Flexalloy



○ Cable for electric vehicle chargers

compounds are based on ultra high molecular weight PVC resin. They exhibit improved toughness, abrasion resistance, and low temperature properties and provide elastomeric resilience and resistance to compression set. They are processed on standard PVC equipment.

The new Flexalloy products meet the requirements of UL Type EVE for the high production volumes and rugged end use performance posed by EV charger cable.

**Teknor Apex Asia Pacific –
Singapore
Website: www.teknorapex.com**

**Troester GmbH & Co KG
Stand/展台 W1F44**



○ Visitors can expect a warm welcome at the Troester booth

Troester GmbH & Co KG is a leading 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 as well as the complete range of downstream equipment, like winders, caterpillars, capstans and accumulators.

In China Troester is represented by its subsidiary, Troester Machinery Shanghai (TMS), which is responsible for the sales, after-sales service and production for the domestic market. It will present information and new developments in the field of:

- CCV and VCV lines for MV, HV and EHV cables up to 1000kV
- Rubber CV and CCV lines up to 35 kV
- CV technology for production of HV cables on CCV lines
- Production equipment for submarine cables

X-Compound, the new company of the Troester Group, will join the stand and present its kneader technology for the continuous compounding of HFFR, PVC, XLPE, semiconductive materials and EPR/EPDM.

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

Zumbach Electronic AG
Stand/展台 W1C41

Zumbach will present many new developments and products.

The following is a summary of the most important ones:

Sensors:

- New 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.

- Laser diameter gauges with incorporated fault detection:
- The advanced ODEX® concentricity and diameter gauge for wire extrusion. Fully non-contact, based on magnetic and laser technology
- New ultrasonic wall thickness and eccentricity scanners of the UMAC® RZ series with quick and easy adaptation to cable diameters and space-saving integration
- Unique Speel length and speed gauge down to zero speed measurement
- State-of-the-art spark tester systems
- Advanced KW fault detectors with new local BAE control and display unit

Data acquisition, processing and display units (processors):

- New economic, modular high performance USYS IPC data acquisition, processing and display units

Complete measuring and control systems:

- Rayex® D series: Zumbach's X-Ray measuring and control system for CV lines, for wall thickness (3 layers), eccentricity and diameter/ovality for CV lines
- Wallmaster/UMAC® - DIACAL systems
- Ultrasonic wall thickness and eccentricity systems for cable jackets and DIACAL option for fully automatic calibration and control

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



○ The Profilemaster from Zumbach

bongard machines trading

More than 1.200 second-hand machines in stock



Reconditioned straight line drawing machine

bongard machines engineering

New machines designed for your production



New Bongard drawing line for trolley wire

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Come and meet us at Stand B1B49

STAFF from *Wire & Cable ASIA* will be on Stand B1B49 during the wire China exhibition in Shanghai.

Please go along and meet sales executives Linda Li, Jason Smith and Giuliana Benedetto, who will be on hand to help with all your enquiries.

Our stand will be manned from 9am-4.30pm on each day of the exhibition.



WIRE & CABLE
INDIA 2012

Wire & Cable India 2012

4th International exhibition for the wire & cable industry

WITH rapid expansion and an annual growth of around 25 per cent in the automotive, telecommunication and construction industries, there is little wonder anticipation is high for this year's Wire and Cable India in Mumbai, from 30th October to 1st November.

India's premier wire and cable platform is expected to exceed previous visitor numbers once the doors have opened at the Bombay Convention and Exhibition Centre.

The fourth Wire & Cable India is again being organised by Messe Düsseldorf and Messe Düsseldorf India Pvt, in association with CII (Confederation of Indian Industry).

Along with many Indian companies, more than 250 exhibiting companies are expected at the

three-day exhibition, which runs concurrently with Tube India, Metallurgy India and Welding & Cutting India.

Duration:
30th October - 1st November 2012

Venue:
Bombay Convention and Exhibition Centre, Western Express Highway Goreagon (East), Mumbai, Maharashtra, India

Opening times:
30th and 31st October: 10.00 – 18.00
1st November: 10.00 – 17.00

Full details, including travel information and a current exhibitors list, are available from the website: www.wire-india.com

Alphabetical list of Exhibitors

(Exhibitors list correct at time of going to press)

A1 Fence Products Company Pvt Ltd..... India
Ajex & Turner Wire Dies Co India
Anka International India
Associated Machinery Corporation Ltd..... India
Assomac Machines Ltd..... India
BS Shakti Steel Pvt Ltd..... India
Bansal Wire Industries..... India
Bechem India India
Bedmutha Industries Ltd..... India
Beijing Holland Trading Co Ltd..... China
Bekaert Mukand Wire Industries P Ltd..... India
Beta LaserMike India..... India
Bongard Trading GmbH & Co KG Germany
CAB Device Industries..... India
Candor Sweden A/B..... Sweden
ChangZhou Riyur Machine Co Ltd..... China
Coatwell India Pvt Ltd India
Comsuc Technology Development Ltd China
Condat Lubricants..... France
Confederation of Indian Industry (CII) India
Conoptica AS Norway
Control Print Ltd..... India
Daloo Machinery Co Ltd China
Das Precision India
Datsons Enterprises India

DISA India Ltd India
Dongguan City Success Industrial Company..... China
EJP Maschinen GmbH Germany
Enkotec A/S..... Denmark
Ernst Koch GmbH & Co KG Germany
Ethan Chillers India
Eurowire Magazine UK
FIB Belgium SA Belgium
FMS Force Measuring Systems AG Switzerland
Fortuna Federn..... Austria
FSP-One SAS..... Austria
Fuhr GmbH & Co KG..... Germany
Gala Thermo Shrink Pvt Ltd India
Gauder & Co SA Belgium
Grauer & Weil (India) Ltd..... India
H Folke Sandelin AB Sweden
Handuk Ultrasonic Co Ltd..... South Korea
Hans Schmidt & Co GmbH Germany
HD Wires India
Hefei Smarter Technology Co Ltd China
Henrich Maschinenfabrik GmbH..... Germany
Hsiang Chuan Machinery Co Ltd Taiwan
Huzhou Jindu Micro-Nano Materials Co Ltd..... China
Ideal-Werk Germany
Indore Composite Pvt Ltd India

Alphabetical list of Exhibitors

InnoVites Cable ERP Software.....	Netherlands	Sai Extrumech Pvt Ltd.....	India
Institute of Spring Technology.....	UK	Sampsistemi.....	Italy
IWMA - International Wire & Machinery Association.....	UK	Sarvasv Machinery & Equipments Pvt Ltd.....	India
Jain Polymers	India	Setic sas Gauder Group.....	France
Jiangsu Handing Machinery Co Ltd.....	China	Shah Fabricators Pvt Ltd.....	India
Jiangsu Qunye Electrical Co Ltd.....	China	Shakun Polymers Ltd.....	India
JSC "VNIKIP" "Trade House of VNIKIP".....	Russia	Shanghai Lanpo High Voltage Technology & Equipment Co Ltd.....	China
Kalpena Industries Ltd.....	India	Shanghai Shenchen Wire & Cable Equipment Co Ltd.....	China
Karan Enterprise.....	India	Shanghai Surrey Polymers Co Ltd.....	China
Kay Pee Dies & Tools.....	India	Shanghai Xudong Electric Machinery Factory.....	China
Kemtech International Private Ltd.....	India	Shanghai YingGong Cold Welder Manufacturing Co Ltd.....	China
Khurana Carbides Pvt Ltd.....	India	Shanxi Tianxiang Machinery Co Ltd.....	China
Kyoeisha Chemical Co Ltd.....	Japan	Sharda Enterprises.....	India
Lamnea Bruk AB.....	Sweden	Siebe Engineering GmbH.....	Germany
Machine Developing Services.....	India	Sikora AG.....	Germany
Machine Tools Associates.....	India	Sket Verseilmaschinenbau GmbH.....	Germany
Mademgulf Industries WLL.....	Bahrain	Smeets India Techno Trading Pvt Ltd.....	India
Maillefer Extrusion Oy.....	Finland	Sneham International.....	India
Mario Nava SpA.....	Italy	Solarman Engineering Projects Pvt Ltd.....	India
Markem - Imaje India Pvt Ltd.....	India	Swaraj Technocrafts Pvt Ltd.....	India
Maschinenbau Scholz GmbH & Co KG.....	Germany	SWMAI - Steel Wire Manufacturers' Association of India.....	India
Messe Essen GmbH.....	Germany	Systematic Intel Industries Private Ltd.....	India
Metalube Pvt Ltd.....	India	Tata Steel - Wire Division.....	India
MFL Group.....	Italy	Technovynil Polymers India Ltd.....	India
Mikrotek Machines Ltd.....	India	Techweld Industries.....	India
Mikrotek Services.....	India	Tomer Engineering Works.....	India
Minimax Industries.....	India	Tranz International.....	India
Nextrom OY.....	Finland	Traxit International GmbH.....	Germany
Niehoff of India Private Ltd.....	India	Troester GmbH & Co KG.....	Germany
Ningbo Kaite Machinery Co Ltd.....	China	Unitech Metalstamping Technologies Pvt Ltd.....	India
Oilmax Systems Pvt Ltd.....	India	Veer Machinery.....	India
Pan Chemicals.....	Italy	Victory Plant & Machinery Pvt Ltd.....	India
Panchmahal Steel Ltd.....	India	Videojet Technologies (India) Pvt Ltd.....	India
Parovi Systems.....	India	Vidyut Furnaces.....	India
Pourtier sas Gauder Group.....	Austria	Vikas Spool Pvt Ltd.....	India
Prasad Koch Technik Pvt Ltd.....	India	Wafios AG.....	Germany
Prasum Metals Pvt Ltd.....	India	Walson Woodburn Wire Die Pvt Ltd.....	India
Precise Alloys Pvt Ltd.....	India	Wire & Cable ASIA Magazine.....	UK
Proton Products International Ltd.....	UK	Wire & Tube Solutions.....	India
Puretronics.....	India	Wirex Dies & Tools.....	India
Raajratna Metal Industries Ltd.....	India	Yuan Hsiang Metal Industrial Corp.....	Taiwan
Reber Systematic GmbH + Co KG.....	Germany	Zenith Wire Industries.....	India
Redex SA.....	France	Zenkoh Co Ltd.....	Japan
Reliable Wires & Engineers Pvt Ltd.....	India	Zhangjiagang SanFeng Machinery & Electric Development Co Ltd.....	China
Rimjhim Ispat Ltd.....	India	Zhongshan Tianhua Metals Machining Co Ltd.....	China
Ronak Industries.....	India		
Rosendahl.....	Austria		
Royle Extrusion Systems Pvt Ltd.....	India		
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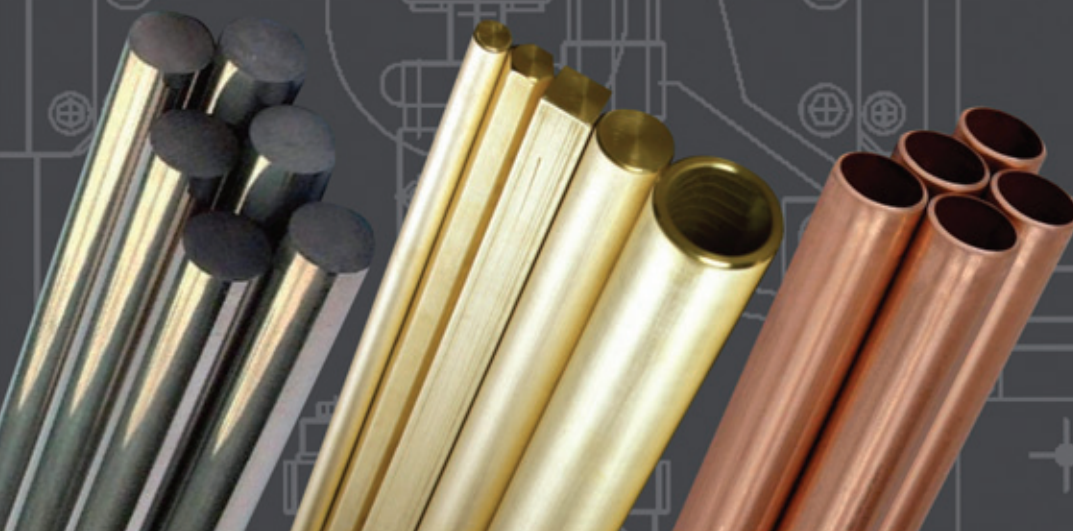
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Wire & Cable India

Enkotec A/S
Stand E26

Enkotec will focus on its ENKOnail machine model, the MI01, intended for small and midsize capacity needs and producing 1,000 nails per minute at ø2.3-3.8mm and 50-90mm lengths. The MI01 is based on the well-known Enkotec rotary forming principle allowing the production of high-quality nails at high speed. For this model the company has chosen a simple and sturdy transmission system, mainly based on belt drives, with a more mechanical adjustment set-up than its ENKOnail+ top models.



○ The MI01 nail machine

The tooling ring includes a reduced number of dies, which is a contributing factor in allowing tooling changeovers in the MI01 machine to be made easily and in little time.

The MI01 nail machine is user-friendly in its design with an ergonomic working height, foot controlled wire feeding, and easy access for cleaning and service. Like the NX machines, the MI01 has an efficient active nail ejection system. One of the characteristics of all Enkotec nail machines is the low noise level resulting from the rotary head-forming principle. Moreover, the straightening unit is placed in a closed box, from which it is possible to establish a connection to exhaust ventilation.

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

Fortuna Federn
Stand 1B68B

Fortuna Federn GmbH (FF) is an Austria-based company with works located in Croatia. The company came into existence almost 35 years ago and is a closely held family concern of Goran Fofonjka, assisted by his brothers and a team of over 25 dedicated researchers, engineers and workers.



○ The COM 16 CNC machine from Fortuna Federn

The manufacturing facility in Croatia is equipped with all modern machines needed for spring related machinery. The owners have always been visionary and farsighted and have moved with the times. As the industry progressed, FF also kept upgrading technology and in line with the need of the hour, is today making CNC and computerised machinery of a very vast range comprising mainly of 'COM' range of CNC coilers, 'WIM' range of CNC lathes, hot coiling plants and all related machines such as power reels, end grinders, looping machines, etc.

Full product display is available at www.spring-coiling-machinery.com. The client base is spread almost over the entire world, specifically in countries which have large manufacturing facilities for two-wheeled and four-wheeled automobiles and components.

To cover the vast Indian market, the company has exclusive selling agents namely, Tranz International located in New Delhi who can be reached through sales1@mta.co.in or the marketing director, D K Dhody, on + 91 98117 61606.

Fortuna Federn – Austria
Website: www.fortunafedern.com
Website: www.spring-coiling-machinery.com

Jiangsu Handing Machinery
Stand 1D44

Handing will exhibit PVC, PE, LSHF extruder lines, double twist stranding machines, single twist stranding machines, double twist bunching machines, taping machines, take up and pay offs. Handing began manufacturing cable machines in 2002 to meet the specific demands of the wire and cable industry and through development of the market, products are updated on an annual basis.

The company has advanced CNC lathes, milling machines, boring machines, SIGMAR aerospace vibratory stress relief

systems, high-precision universal grinders, precise copying cutting machines, precise bearing sensor heating systems, concentricity calibration balancing machines and other professional equipment for manufacturing.



○ One of the machines on display from Handing

The machines are equipped with AC and DC motors. The main parts and electric appliance components all adopt the original products from Japan, France, Taiwan and Switzerland, dependent on the customer specification.

Jinagsu Handing Machinery – China
Website: www.hdxljx.com

Ideal-Werk
Stand TBC

Ideal-Werk of Germany supplies welding machines to service the wire and cable industry.

The company is well known in the market for the development and manufacture of wire mesh welding machines for various types of industrial mesh and fences, jig welders for wire and sheet metal articles, butt welding machines for all branches of the wire and cable industry and equipment for special applications.



○ The Ideal CSR 102 green line jig welder

The features and design of these machines are made to assure high flexibility and short set-up times. High performance, burr free and reduced weld sparking, quick changeover units and

Wire & Cable India

utmost flexibility offers the customer a considerable reduction of welding cost and down times. New and user-friendly graphical interfaces enable process reliability even with non-skilled operators.

Ideal also offers a wide range of butt-welding machines for all branches of the wire industry. The welders are used in wire drawing, cable manufacturing and wire fabricating companies all over the world.

The butt welders are made for butt-welding of steel and non-ferrous wire from 0.1 to 20mm diameter. A wide range of accessories is available for a perfect ease of the coil joining operation. Annealing devices are available for annealing of the weld joints in carbon steel wire.

The green line series, providing power-optimised resistance welding machines, is in response to the increased demand for energy efficient and environmentally responsible processes.

Ideal-Werk – Germany
Website: www.ideal-werk.com

Metalube Ltd
Stand..... 1B60

Metalube Ltd will be exhibiting in India after having opened an office in Mumbai earlier this year, led by Amit Gupte. The Metalube stand will reflect the many changes the company has made over the past year, with a whole new look encompassing new barrels, brochures and a new website.

Douglas Hunt, commercial director, said: "Our Indian business is growing from strength to strength and our partnerships with Wirex Dies and Steel India Pvt Ltd - (northern and eastern regions) and Walsen Industrial Supplies Pvt Ltd - (western and southern regions) are surpassing our expectations."

"Due to customer demand Metalube is planning to launch a new lubricant aimed at the 'aluminium fine wire drawing' market place. We hope to have this available to launch at Wire & Cable India. This is very exciting – as the technology brings a new dimension to the lubrication systems used in this type of wire drawing process." Both Hunt and Gupte, alongside general manager Albert Molloy, will be on the stand.

Metalube specialises in wire and tube drawing lubricants, working with wire, cabling and tubing manufacturers across the world.

The headquarters are in Manchester, UK, where the site incorporates offices with warehousing, laboratories and manufacturing facilities.

Metalube – UK
Website: www.metalube.co.uk

Maschinenfabrik Niehoff GmbH & Co KG
Stand 1E12

Maschinenfabrik Niehoff, a leading manufacturer of machines for the wire and cable industry, and Niehoff of India (Nol), its Indian subsidiary, will display at booth 1E12 an MMH type multiwire drawing machine.

The machine is part of the MMH range of multiwire drawing machines for copper wires (and a multitude of specific applications), which covers a finished wire diameter range from 0.05mm to 1.35mm; the largest machine of the MMH range is capable of drawing up to 48 wires.

These wires exceed the most demanding specifications and processing requirements in view of electrical conductivity, surface quality and mechanical properties and can be processed to fine multiwire bundles with excellent characteristics.

At the Niehoff booth, there will be also as sub exhibitors the Niehoff partner companies Strecker (wire welding machines), Bühler-Würz-Kaltwalztechnik (cold rolling mills), Zeller + Gmelin (drawing lubricants), Leimbach (cable machinery) and HFSAB (lead extruders and cable repair and recovery systems).

Maschinenfabrik Niehoff GmbH & Co KG – Germany

Niehoff of India Private Ltd – India
Website: www.niehoff.de

Pan Chemicals
Stand..... 1C02

For 25 years Pan Chemicals has been producing and supplying the wire industry with high-tech drawing lubricants, covering all applications.

The production programme includes different grades of calcium, sodium and combined dry lubricants (Panlube S series) and a full range of wet lubricants for low and high carbon, welding wire, stainless steel and non-ferrous wire (Panlube L series). Besides the dry lubricants the company is offering full

technical support on wire production processes and development of customised products.

Pan has recently focused its activity on lubricant carriers for drawing of carbon steel wire, stainless steel wire and cold forming operation (Pancover series).

The company is also active in surface treatment technology with new fluxes for hot dip galvanising, anti-corrosive products and special wiping media (Panchem series).

Particular attention is dedicated to the development of ecological products according to the new international regulations (Borax-free coatings and lubricants).

Pan Chemicals – Italy
Website: www.panchemical.com

Rosendahl and Nextrom
Stand 1E28

Rosendahl and Nextrom will present the latest advances and technology highlights, including developments for the production of energy, automotive, communication and fibre optic cables.



○ Special focus on metal tape sheathing from Rosendahl



○ The clenching capstan SCC 100 from Nextrom

Wire & Cable India

Particular highlights will be new technologies for the production of power cables with a special focus on SZ-stranding and metal tape sheathing. Well-trained and skilled staff will be pleased to welcome you at the booth to answer all your questions.

Rosendahl – Austria

Website: www.rosendahlaustria.com

Nextrom OY – Finland

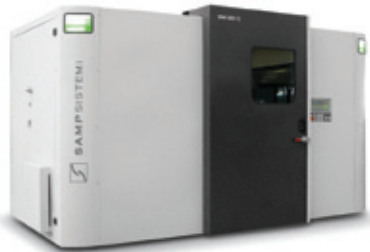
Website: www.nextrom.com

Sampsistemi

StandTBC

SAMP, a global provider of turnkey solutions for wire and cable manufacturing, looks forward to Wire & Cable India as the perfect venue to present a wide range of brand new products and technological innovations, which will be of high interest for the Indian market.

One of these machines is the new bunching machine BM 800 C that, as a result of innovative construction solutions, allows a reduction of energy consumption by 35 per cent compared to traditional machines and has a much lower impact on the environment.



○ *The new bunching machine BM 800 C from Sampsistemi*

Wire & Cable India 2012 will also be the first participation at an exhibition organised directly by SAMP's Indian subsidiary, SAMP India Cable Machines Pvt Ltd. The opening in 2011 of an office in Bangalore with personnel having considerable cable experience and know-how, along with well-trained service engineers, has been a major achievement in the company's history.

As Artemio Affaticati, CEO of SAMP Group, said: "We have witnessed continued growth in India during the past years. Our employees in Bangalore are able to understand the complexity and the specific characteristics of the Indian market in a way that only locals can. Opening a local office emphasises our long-term commitment to the growing Indian market."

S V Nagesh, director of SAMP India, said: "The peculiarity of the Indian customer is the tendency to bargain until the very end, as if price were the only thing that mattered. SAMP's main target is to provide customers with technical know-how and state-of-the-art solutions.

"For us it is of utmost importance to educate customers about the features that really count when purchasing new machinery, like productivity, flexibility, energy saving and a fast return on investment. Only in this way can they understand that price comes second place if the machine can repay the investor in a shorter time, as a result of power savings, material savings and zero preventive maintenance."

Sampsistemi – Italy

Website: www.sampsistemi.com

Sket Verseilmaschinenbau

StandTBC

Sket Magdeburg has enjoyed a very successful business period during the past few years, almost doubling its staff and tripling its turnover.

Whether it be as a supplier of individual machines, complete technological lines or complete works for the production of electric cable or steel wire rope, Sket Verseilmaschinenbau GmbH is valued as a partner in the cable and wire rope industry in 50 countries on all five continents.



○ *Best selling machines from Sket*

Best selling machines for the cable industry are MKZS/T Central Stranders, MWR Drum Twisters and MKD Rigid Stranders, while SRW Tubular Stranders, MSDN Double Twist Bunchers and MKVS Planetary Stranders are SKET's main products in the steel sector. Latest developments include:

- New generation of central stranders featuring a 500kg Al wire bobbin capacity
- Special-design large planetary stranders/closers for submarine cable
- New development of large double twist bunchers suitable for producing multiple-layer steel wire strands up to 12mm (0.5")

- Long high-speed tubular strander and large cage-type stranding machine for making offshore and mining ropes

The company operates from a 40,000m² site where traditional and newly developed machine systems for cable and wire rope production are designed and manufactured.

Linked CAD/CAM work stations and fully integrated processes supported by a computerised production, planning and control system are standard.

Sket Verseilmaschinenbau GmbH – Germany

Website: www.sketvmb.de

Troester

Stand.....1E20

Troester GmbH & Co KG is a world leading 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.

At Wire India Troester will present information and new developments in the field of:

- CCV and VCV lines for MV, HV and EHV cables up to 1,000kV
- Rubber CV and CCV-lines up to 35kV
- Silane technology for LV cables
- Insulation and sheathing systems



○ *Triple Cross Head TQu*

X-Compound, the new company of the Troester Group, will also join the booth and present its kneader technology for the continuous compounding of HFFR, PVC, XLPE, semiconductive materials and EPDM/EPDM.

Troester GmbH & Co KG – Germany

Website: www.troester.de

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- Tangential Type
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Cable Tech Machines (CTM) started its manufacturing plant over two decades ago and since then, it has urged technological advancements with enthusiasm and commitment towards machinery construction. Our team of industrial professionals specializes in the design and construction of rotating machinery for cable manufacturing. The Company's extensive range of machinery and systems offers the most efficient and reliable solutions for the cable industry. Over hundreds of regular buyers worldwide are a guarantee of its performance.

The Group has two manufacturing units at premium locations - Delhi NCR & M.P. (Heart of India) with four separate independent sheds equipped with state-of-the-art machinery to manufacture machines for the conductor, cable (HT/LT) & rope industries. It also has an independent high tech machine design and drawing office equipped with US software networked CAD, CAM, Workstation & fully integrated processes are standardized. The Company has further acquired 80,000 sq. mts. area to meet its capacity expansion plans in the future.

CABLE TECH MACHINES

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Cable Print Verification system

By Craig Girdwood, Taymer International Inc, and Brian Franklin, Commscope

Abstract

The use of the Print Verification (PV) system in detecting print defects greatly improves quality assurance of wire and cable. Defects on the jacket are continuously detected by a machine vision system at production line speed. Images of the defects are processed and saved.

This technology improves the print quality of the cable produced and by greatly reducing defective products from reaching the customer.

1 Introduction

Print defects are generally the biggest single source of defects in power cable and fibre optic cable manufacturing facilities.

Wrong messages, print smudging and faded prints are print defects that should not be on good quality products. The defects are not only cosmetic problems, but the wrong message can lead to misuse of the cable when it reaches the end-user. By being able to detect the defects, corrective actions can be taken at the production level and defective pieces can be reprinted or discarded.

The PV system uses machine vision technology to analyse, isolate, and identify print defects. The system runs inline and saves the all defect image data including length and defect size in a database.

The camera is generally positioned close to the printer to simplify print legend identification and print location. Images of the print legend are created and processed through high-speed image processing algorithms and character verification techniques.

Any illegible or incorrect print legends are detected by the software, alerting the operator to take corrective action. The images are stored together with length information providing further analysis or report generation.

The alert provides operators with instant feedback on current printing conditions resulting in not only corrective actions, but more importantly allows the operator to identify and reduce the root causes of the print defect. This reduces the print defects before they actually happen; improving print quality, reducing rework cost, wasted consumables, and defective products.

The PV system can also easily integrate to your lines and works well for all types of printed cables (twisted pair, jacketed, bare wires, and convoluted profiles).

The system will be able to analyse print legends done by any type of printing method such as hot foil, inkjet, emboss, indent, laser, and gravure printing.

Maintenance on the unit involves a quick wipe when the unit is dusty. The lifetime of the lights can be over 50,000 hours of usage, and they are the only consumable part in the whole system.

2 Various Print Detection Technique Limitation

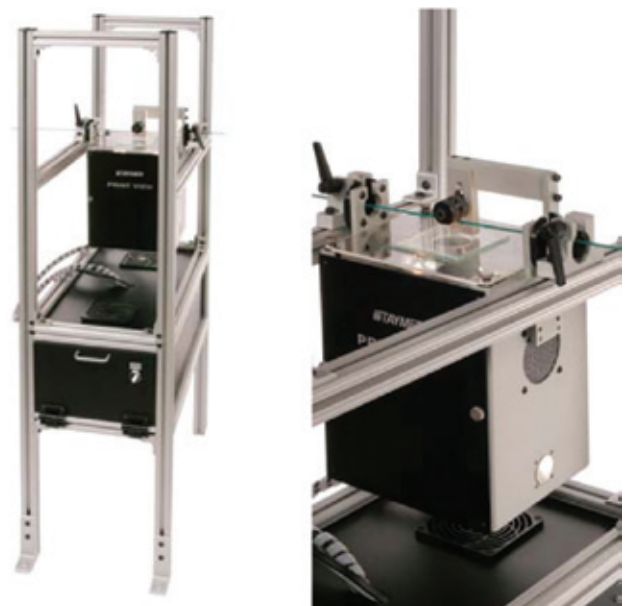
2.1 Inline Visual Inspection Using Stroboscope

This type of inspection involves using a stroboscope inline. A stroboscope flashes light at the proper period to make the print legend appear to be slow moving or stationary. This gives some time for the operator to verify the existence or quality of the print. However, one limitation is that there is not enough time to carefully verify lengthy print legends until the next print shows up. As well, the flashing light strobes can be a nuisance to the operator.

2.2 Offline Viewing Through Magnifying Lens

One technique to detect print defects is having the operators look through a magnifier. Although the operator can see the print defects and categorise them accordingly, there are a lot of limitations. The operator can only read the print up to a certain speed.

○ Figure 1: Taymer Print View System



This technique is done offline where the line speed is slower or zero. This process is very tedious and time consuming; so it is usually for customers who require this type of inspection. As print legends can be lengthy, there is a high chance of human error during the inspection. Also, the threshold of each operator is different and print quality is judged differently.

2.3 Image Capture and Sampling

This process involves a camera acquiring an image based on an encoder signal and sampling rate. The image is then shown on a display for the operator to process a sample of images to determine if there are any print defects. Some main limitations are fatigue, operator's thresholds, and slower processing speed. There is also a chance of missing some print defects depending on the sampling rate.

3 Machine Vision Inspection System

3.1 Optical Mechanical Design

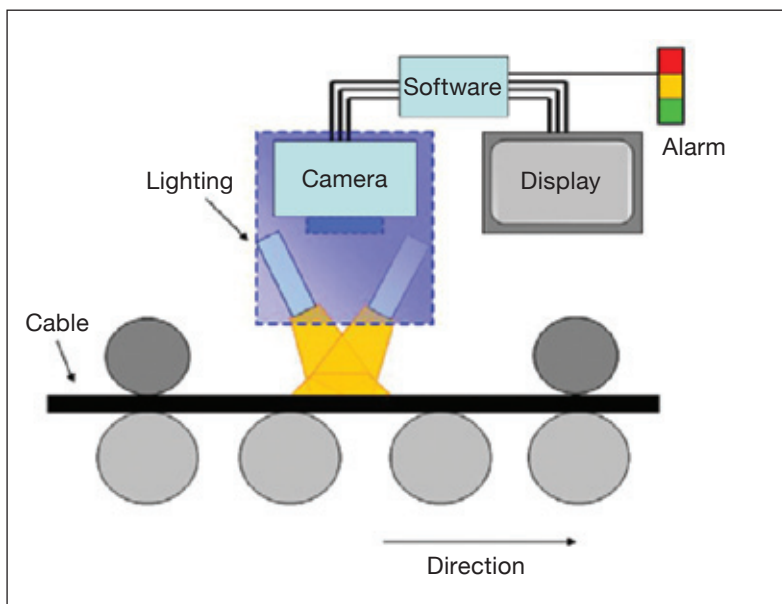
The print verification system (*Figure 1*) consists of a camera and adequate lighting to capture images of print legend moving at speeds more than 1,400ft (460m) per minute.

Multi-camera systems may be needed to handle cables with several print legends. For example, wires with print legends on opposite sides require a two-camera system.

The camera and lens provide a field of view to cover the print legend (*Figure 2*). Image capture is synchronised with the printer and line speed. The image will be used for further software processing. The lighting can vary depending on the application. The factors in consideration are the reflectivity of the material, surface profile, colour, line speed, and lens aperture.

To ensure consistency in the images, the setup features an enclosure to prevent other lighting, dust particles, and other factors from affecting the results. Vibration of the cable is also minimised by wire guides to prevent images from being out of focus.

○ **Figure 2: Print View System Overview**



One other challenge is the location of the PV system and to ensure the print stays within the camera's field of view. The recommended location for the PV system is directly after the printer, where the print will be in the correct spot consistently. Placing the PV system further down the line will result in a high chance of cable twist, which causes the print to be anywhere around the cable and outside the field of view.

3.2 Software

Advance algorithm is used to process the images for print defects inspection. There are a number of algorithms: print quality detection, optical character verification (OCV), and optical character recognition (OCR). Different algorithms are implemented depending on the requirements and budget.

For print quality detection, it utilises a method called pattern matching. This method requires a template of a good print on that specific cable. The template is compared to each captured image during a run. If the two images differ beyond the desired threshold, an alarm will notify the operator and an error report is saved to the ongoing data log. The print defect will also show up on the display for operators to clarify.

OCV and OCR algorithms are more complex and are an extension to the pattern matching technique. For OCV, the software will verify each letter of the print legend. Alphabets of different fonts are stored in the database. The desired print legend is broken down into individual letters of the same font. Each captured image is also broken down into individual letters. Each letter will be compared to the desired letter. If there are differences beyond the threshold, it is a print defect. However, the software does not know what the misprinted letter is.

OCR is the most advanced. The algorithm is very similar to what an operator would be able to detect with the eyes and mind. Not only would the software find out if a letter is different from the desired print legend, but it will be able to recognise the misprinted letter(s). This helps identify exactly what the mistake is and immediate actions to fix the system can be done.

3.3 Improving Quality Assurance

Suitable for any Type of Products

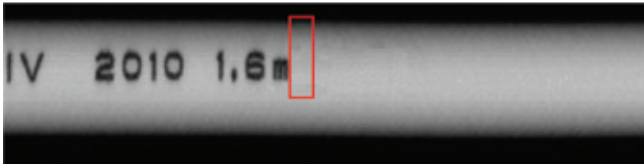
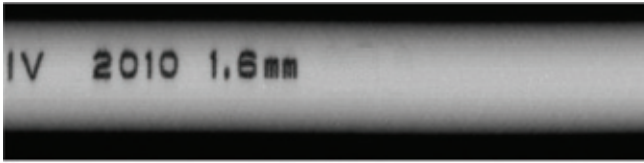
Since the PV system uses machine vision, it is able to inspect the print legend for any type of products. With proper set-up of the optical components, the system can be used on bare wire, cables, pipe, tube, tapes, flat sheets, etc.

Suitable for any Type of Printers/Fonts

The PV system uses image templates as a reference. The reference fonts or print legends are predefined at the start-up. Regardless if the print legend or fonts are done by an inkjet, inkwheel, hot foil or laser printer, the software will be able to compare the print legends to the references.

Reduce Defects On-The-Fly

The PV system provides the operator with a view of the current print legend as well as the most recent print defects. This continuous stream of real time information – especially failure data – allows the operator to isolate the causes of print defects while the production



○ **Figure 3:** Missing print detected at 900ft/min



○ **Figure 4:** Poor print quality detection at 200ft/min



○ **Figure 5:** Screenshot of print quality comparison

line is still running. If the print quality is degrading below the threshold, the operator can immediately adjust the printer to improve the quality. Also, operators can use the PV system at the beginning of the run to set-up the printer and check to ensure the print legend is correct. The PV system allows changes to be made on the fly, greatly reducing reprint of the cable post production.

Quality Assurance

The system will capture images of the printed cable at high line speeds, and save the images of the print defects to disk for use in quality reports.

The PV system's display makes it easy for engineering and production supervisors to examine the defect without having to see the defect itself. Defect locations are recorded together with the image allowing for easy report generation and further analysis.

3.4 Limitations

There are a few limitations to the print verification system.

- For different types of cable surface (round/twisted profile), and fonts, the same print legend may look different. Therefore, different templates are required for different types of cables
- Lengthy print legend can also twist out of the camera view, resulting in missing characters. There is a high chance of this happening on twisted pair wires
- Since the camera is looking at the surface, water droplets/grease/dust particles would show up affecting the print legend resulting in false defects. To compensate for them, the system would need to decrease the quality threshold or an air wipe is necessary

3.5 Test Results

Taymer's Print Verification System has been tested in the industry extensively on different products, print messages, and using types of printing methods.

The two authors worked closely with Commscope in Claremont to bring this QA technology to the plant. The before and after print defect data was recorded. After one year of use, print defects were reduced by over 50%.

The reasons were as follows:

- Minor print quality issues were caught before they became an actual defect. For example the operator adjusted the printer or fixed cable alignment
- Printer maintenance was initiated before the printer actually malfunctioned because the operators received very current feedback on print quality
- Incorrect print legend was identified before the entire run was misprinted

3.6 Sample Images

Figures 3-5 are sample images or screenshots of print defects found by the PV optical system on different products.

Conclusions

With a Print Verification System, the print legends on the cable can be inspected thoroughly for defects. The system provides several benefits:

- Suitable for any type of products – wire/cable/hose/ pipes/bars/plates/stranded product
- Suitable for any type of printers – inkjet, ink wheel, hot foil, laser, indent/emboss
- Ensure the customer will not get defective products, improving customer relationship and confidence
- Reduce reprinting and eliminate consumable waste resulting in material cost and labour cost
- Assist in internal improvement to production process to reduce defects

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缆线打印检验系统

作者：Taymer International Inc. 公司Craig Girdwood和Commscope公司Brian Franklin

摘要

使用打印检验系统来发现缆线中的打印缺陷极大的提高了电线和电缆的质量保证。机械成像技术按生产线速度持续检验和发现缆线护套上的打印缺陷。这些缺陷的图像被加以处理和保存。这种技术提高了缆线上的打印质量，并极大减少客户收到次品的机会。

1 简介

打印缺陷通常来说是电缆和光纤设备生产中最主要的产生次品的原因。高质量的产品是不允许有错误信息，打印污渍，褪色字迹这些打印缺陷的。这些缺陷不仅仅是美观的问题，终端用户可能会因为错误的信息而使用错误的电缆。如果能检测出这些缺陷，在生产中就能及时采取纠错措施，如重新打印或者直接废弃。打印检验系统利用机械成像技术来分析，隔离和辨别打印缺陷。该系统可在生产线上运用并将所有缺陷图像信息包括长度和尺寸都存入一个数据库。摄像头通常被放置在靠近打印机的位置以便于字体的辨认和打印位置。打印出来的字体被拍成图像后通过高速图像处理算法和字符验证技术来加以处理。如果软件发现任何非法或错误字体便会发出警告通知操作员采取纠错行为。所有图像包括长度信息都被储存以用于未来分析和报告。

这种警告通知不仅仅是让操作员根据当前的打印状态采取相应的纠错行为，更重要的是可以让操作员发现和减少产生这些打印缺陷的根本原因。这样既能在打印缺陷产生前就发现并减少这种缺陷，同时也可以提高打印质量，减少再生产成本，损耗部件的浪费和次品产量。打印检验系统非常容易被整合入生产线，并能极好的运用于生产各种类型的缆线(双绞型，护套型，裸线型，回旋型)。这种系统也可以对用热烫，喷墨，拷花，缩进，激光和蚀刻等任何方法打印出来的字体进行分析。日常维护只需擦掉装置上的灰尘即可。装置中的灯管使用寿命可达5万小时以上，并且是整个装置唯一的消耗部件。

2 其他几种打印检测方法的局限

2.1 在线上利用频闪仪目测

这种方法是在生产线上使用频闪仪。这种仪器会在有效时间内发出闪光使打印字体看上去静止或缓慢移动，从而给操作

员一定的时间去查看字体是否存在以及打印质量。然而，这种方法有一种缺陷就是当字符过长时操作员来不及仔细查看，下一串字符就会跳出。并且，频闪仪发出的刺眼闪光对操作员也是一种干扰。

2.2 下线后使用放大镜检查

这种方法是让操作员使用放大镜来查看和发现打印缺陷。尽管这样操作员是可以发现并归类打印缺陷，这种方法却有着太多的局限。首先操作员只能以一定的速度来查看。并且这种方法通常用于下线后，此时生产线速度非常缓慢甚至为零。此外这种方法过程非常枯燥乏味并且耗费大量时间，所以通常是客户指定才会采取这种方法来检测。打印出来的字符有时非常长，这时就很可能产生人为的错误。并且每个操作员的阈值标准不同，他们对质量的判断也会有所不同。

2.3 图像捕捉和取样

这种方法是摄像头根据编码器发出的信号和采样频率来获取图像。图像呈现在显示屏上后由操作员根据从图像中的采样来判断是否有打印缺陷。这个方法主要的局限有容易产生疲劳，操作员的阈值标准，以及处理速度缓慢。这个方法也有可能因为采样频率的不同而对打印缺陷有所疏漏。

3 机械成像检测系统

3.1 光学机械化设计

打印检验设备(图一)使用照相机和充足的光线来获取这些以每分钟1,400英尺(460米)以上速度打印出来的字符图像。有些缆线需要多行字符，这时就需要配备多台照相机。比如电线两面都需打印字符时就要使用双摄像头设备。照相机和镜头视线必须覆盖整个打印字符范围(图二)。图像的获取与打印机和生产线速度同步。这些图像将被进一步的用软件进行处理。光线强度可以根据不同情况有所不同，一般考虑因素为材料的反光度，表面轮廓，颜色，生产线速度和镜头光圈。为保证图像的连贯性，装备采用封闭装置，以确保没有其他光线，粉尘颗粒和任何其他因素干扰。使用电线引导装置可以尽量减少因为缆线震动而使产生的图像无法正确对焦的问题。找到正确安放打印检验设备的位置也是一个挑战，只有这样能保证打印机一直在摄像头的视线范围内。一般推荐的位置是将检测设备直接紧随打印机安放，因为多数情况下那个位置都能打印在正确的点上。相反如果将打印检测设备放置在离打印机较远的位置，缆线很可能会扭曲，这样字符就可能被打印到缆线上任何位置，从而离开摄像头的视线范围。

3.2 软件

在图像处理中运用高级算法来发现打印缺陷。一般来说有这几种算法：打印质量检测法，光学字符验证法(OCV)和光学字符辨认法(OCR)。通常根据不同要求和预算来选择运行不同算法。打印质量检测算法通常采用图样匹配的方法。这种方法使用特定缆线上一套高质量的打印字符作为模板，每次运行时将所生成的图像与这个模板进行比较。如果两幅图像上的差异超过理想阈值，操作员就会收到警报，同时会生成一份故障报告并存入当前数据记录。打印缺陷会显示



图1: 泰莫 (Taymer) 打印视觉系统

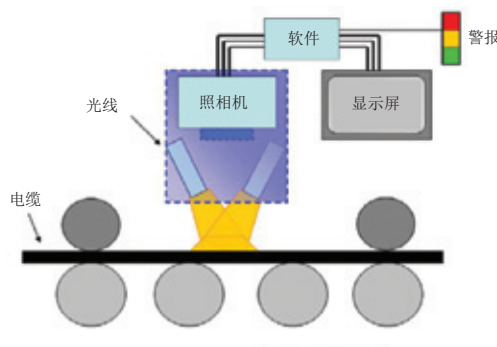


图2: 打印视觉系统简图

在屏幕上供操作员详细查看。光学字符验证法(OCV)和光学字符辨认法(OCR)是图像匹配法的延伸并且更为复杂。使用光学字符验证算法(OCV)的软件会验证打印字符上的每一个字母。字母的不同字体形式都被储存在数据库中。理想的打印字符被分解成字体相同的单独的字母，而获取的图像也被分解成单独的字母并与理想打印字符中的字母进行比较，如果差异超过阈值就被认为是缺陷。然而使用这种算法的软件无法识别出这个打印错误是哪个字母。光学字符辨认(OCR)法是最先进的算法，它与操作员直接用肉眼观察非常相似。这种软件不仅可以找出与理想字符有差异的打印字符，还可以辨别出这个打印错误是哪个字母。这样就可以找出问题到底是什么并立即采取必要修补措施。

3.3 提高质量保障

适用于任何产品

使用机械成像技术的打印检验系统可以检测任何产品上的打印字符。如果能正确安装光学部件，这种系统可以用于裸线，电缆，管道，筒管，胶带和平板等产品上。

适用于任何打印机/打印字体

打印检验系统以图像模板为参考。作为参考的字体或字符在系统开始运行前就被设定好。无论使用哪种方法如喷墨，墨轮，热烫或激光打印出来的字符都可以用软件来与参考字符作比较。

及时减少缺陷的产生

打印检验系统为操作员提供当前打印字符和最近打印缺陷的图像。这种实时并且源源不断的信息，特别是错误信息，使操作员在生产线运行时也能分析辨别出产生缺陷的原因。如果打印质量下降到阈值以下，操作员可以立即调整打印机来改善打印质量。此外，操作员还可以在运行开始时用打印检验设备帮助正确设置打印机，以保证打印出正确的字符。打印检验系统可以做出实时调整，极大减少了成品后期缆线需要重新打印的情况。

质量保证

这个系统可以在高速生产时获取已打印缆线图像，并把缺陷图像存入光盘以用于质量报告。工程师和生产主管可以在系统里的显示器上就查看到打印缺陷，而不用一定非要看到缺陷本身。缺陷的位置信息与图像都被保存下来以便于写报告和做进一步分析。

3.4 局限性

打印检验系统的一些局限性。

- 对于不同类型的缆线表面(圆型/绞状)和字体，同一字符打印上去后可能会稍有不同。因此不同类型的缆线需要不同的模板。
- 过长的打印字符可能会弯转出摄像头视线而导致字符缺损。这种情况特别容易发生在双绞电线上。
- 由于摄像头对着缆线表面，有时水滴/油渍/尘粒会印在打印出来的字符上，造成假象的打印缺陷。为弥补这种情况，系统需要降低质量标准阈值或做必要的空气净化。

3.5 测试结果

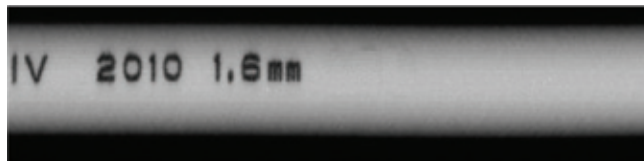
泰莫(Taymer's)的打印检验系统已在业界被广泛测试，包括用于不同的产品类型，打印信息和打印方法。两位作者与位于克莱尔蒙特(Claremont)的Commscope紧密合作将这个质保技术投入生产。打印缺陷产生前后的数据都被记录下来。使用一年以后，打印缺陷减少了超过50%。

原因如下：

- 轻微的印刷质量问题在成为打印缺陷前就被发现。例如操作员可以调整打印机或将缆线对准。
- 由于操作员可以收到关于打印质量的实时反馈，打印机的日常维护在出现故障前就已经启动。
- 错误的打印字符在整条缆线都被打错前就可以被发现。

3.6 图像样本

以下是由打印检验系统在不同产品上发现的打印缺陷图像或屏幕截图(图3-5)。



○ 图3: 以900英尺/分钟速度打印时发现的字符遗漏



○ 图4: 以200英尺/分钟速度打印时发现的劣质字符



○ 图5: 打印质量对比的屏幕截图

总结

使用打印检验系统可以对缆线上打印的字符进行彻底的检验。这种系统有以下几个优点

- 适用于任何产品-电线/电缆/软管/管道/块状物/金属板/搁浅产品
- 适用于任何打印机- 喷墨/墨轮/热烫/激光/缩进/拷花
- 确保客户不会收到有瑕疵的产品，增进与客户的关系并提高自信心。
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- 帮助生产过程内部进行提高以较少缺陷产生。

鸣谢

特别感谢IWCS员工为今年发表的文章提供这个模板。

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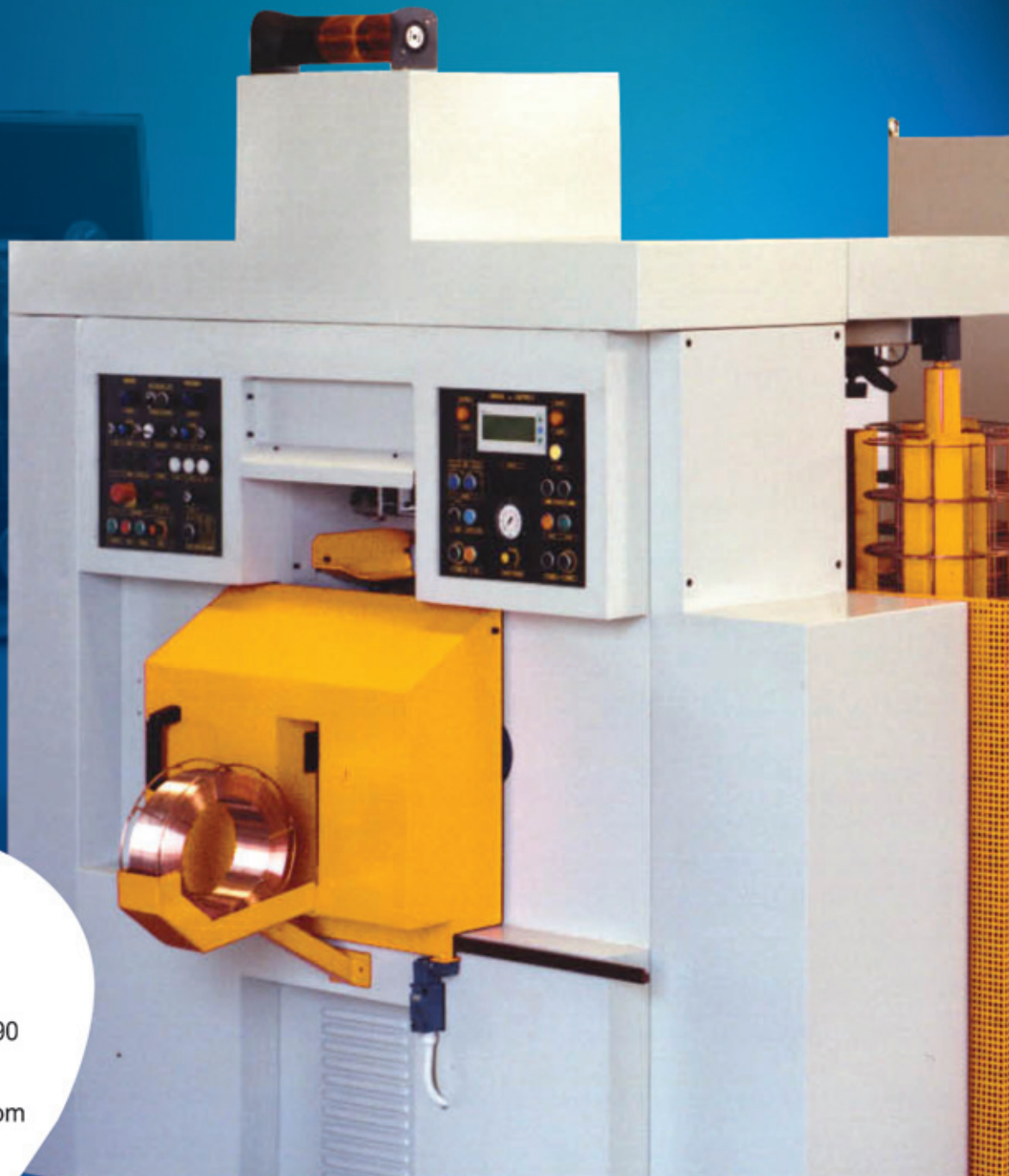
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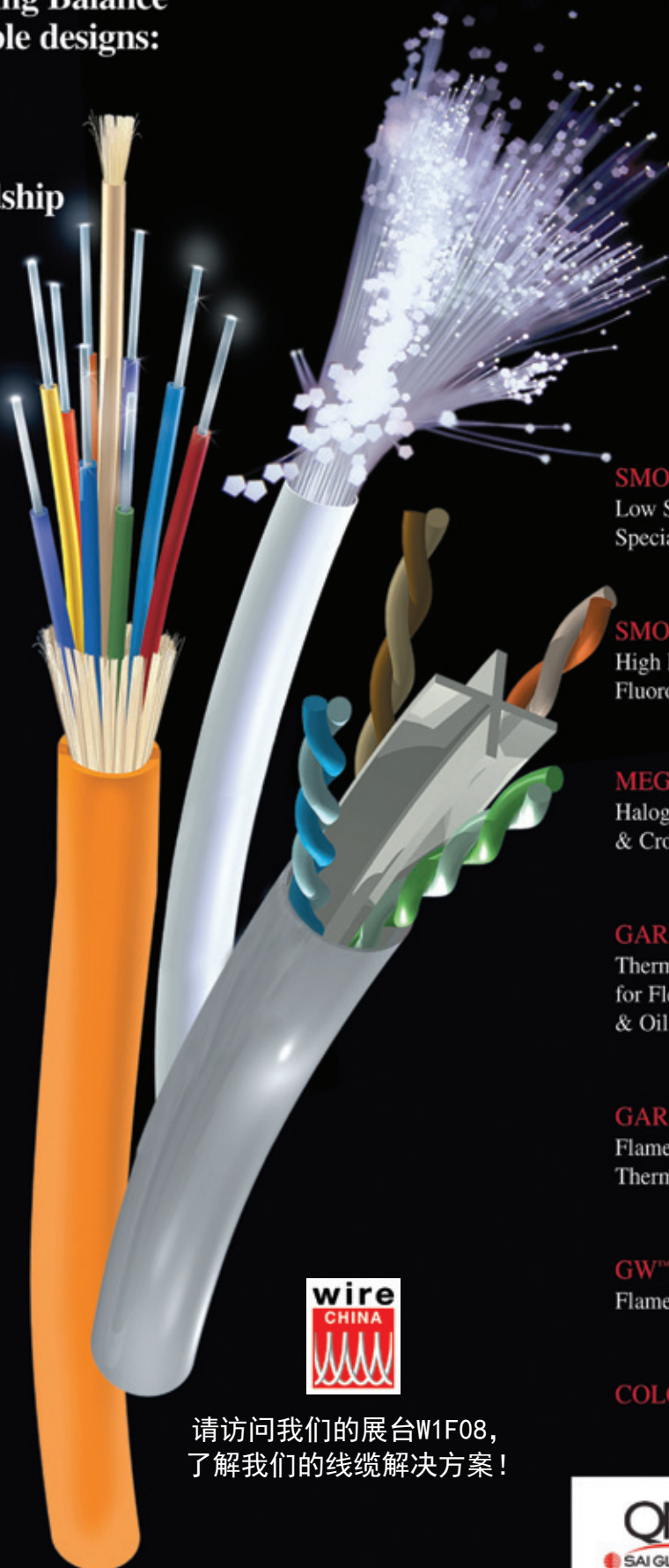
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