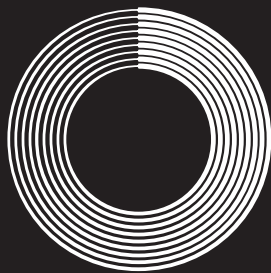


wire®

Düsseldorf



SIKORA^{EXTRA}

Wire and Cable Magazine



Visit us at the
wire 2016

Booth 9A41

SIKORA^{EXTRA}
Issue #2/2016
www.sikora.net

Special:
SIKORA at the wire 2016
Visit us at booth 9A41

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DEVELOP SUCCESSFULLY.

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Next Events

■ wire Düsseldorf
Mar 4th – 8th, 2016
Düsseldorf, Germany
Booth 9 – A41



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f.l.: Harry Prunk, Dr. Christian Frank



Dear customers, colleagues and business partners,

For SIKORA, 2016 is characterized by development – especially with regard to our measuring, control, inspection, analysis and sorting systems. Therefore, we are proud to introduce new analyzing technologies, the PURITY CONCEPT Systems, for the inspection of pellets, flakes and films/tapes. These modular designed devices detect color anomalies and inhomogeneities reliably by using either X-ray, infrared or optical technologies.

Already at the beginning of the year, we started with the re-launch of our corporate identity. Whether the website's new layout, advertisements with a new image concept or brochures in a new design – starting April 2016, SIKORA communication mediums are more emotional, clearer, more blue-white. Discover detailed information on our devices and our expanded service range, such as the new online support and spare part request on www.sikora.net/service to purposefully contact us regarding your SIKORA devices.

At SIKORA, we are continuously working on process optimizations – whether for our devices or for our own organization. This is proven by the renewed re-certification according to ISO 9001, whose seal we are bearing since 1993.

Find information on these and many more developments of SIKORA AG from April 4th to 8th, 2016, at the wire in Düsseldorf on our booth 9 – A41.

Enjoy reading!
Sincerely,

Dr. Christian Frank
CEO of SIKORA AG

Harry Prunk
Member of the board of SIKORA AG

CALIBRATION SET: WIRE TEMPERATURE MEASURING AND PREHEATING SYSTEMS

Precision you can rely on

■ Worldwide, measuring, control, inspection, analysis and sorting systems by SIKORA are associated with precision and efficiency. To keep it that way, SIKORA offers a comprehensive service range. Our employees are constantly developing ideas and processes to perfect the support of our customers: as for example the new calibration set for the preheating device PREHEATER 6000 TC and the temperature measuring system WIRE-TEMP 6000.

Golden highlight

The highlight of the set is the calibrated sensor. Due to its gold coating, the probe has similar low emission values as the measured conductors, for example copper wires. Thus, the calibration set proves additionally that the PREHEATER 6000 TC and WIRE-TEMP 6000 guarantee non-contact, exact measurements even for low emission values. Furthermore, the sensor, with a diameter of 1 mm, is stainless and therefore, laid out for a long lifetime. The set is delivered in a convenient and robust box with a special foam inlay for more safety and a clean storage of the calibration set.

The calibration

According to European standards, open operated measuring and testing equipment has to be checked, calibrated and verified regularly. For this purpose, the custom-fit sensor is easily inserted into the radiator, which is heated up to the desired temperatures. The included handheld console provides accurate measuring values directly at the device. Due to the comparison of contact and non-contact temperature measurements, the calibration is fast and easy and ensures safety for production lines regularly. Naturally, the calibration can be included in your SIKORA service contract.

Reliability all along the line

For SIKORA, high availability values are another proof for the impressive quality and one of the strongest arguments for the measuring and control systems. Next to individual service contracts, which are custom-fit to your production requirements, SIKORA offers devices that are already free of maintenance and calibration or have an integrated function test: for example the SPARK 6000 with an integrated high-voltage testing, check of the touch current, check of the capacitive load and the Corona level as well as an integrated function and sensitivity test.



SIKORA calibration set

AUDITED QUALITY

SIKORA is again certified according to EN ISO 9001

■ Quality is a combination of fulfilled requirements and expectations towards the end result. Therefore, for SIKORA quality of the measuring, control, inspection, analysis and sorting systems is defined among other things by the fulfillment of customer requests, the reliability of installed parts and thus, the durability of the devices as well as the professionalism, with which the devices are developed and produced. For that reason, processes were created and perfected, which have been awarded with the EN ISO 9001 certificate for over 20 years.

Quality management standard EN ISO 9001

The international standard EN ISO 9001 describes requirements that have to be considered when creating and maintaining a quality management system respectively a method of the company management. Target of such a system is the audit and continuous improvement of the system quality, process quality and product quality. SIKORA has been certified since 1993 and passes each yearly surveillance audit as well as recertification audit every third year successfully.

* With the aim to make all ISO management system standards (e.g. environmental protection, occupational safety, energy, information security) more compatible, a basic structure was created that will be applied to all management system standards. This means that all standards will get a uniform structure on the High Level. Furthermore, fundamental core texts, terms and definitions are standardized.

Quality management at SIKORA

Quality management should be practiced continuously. Therefore, SIKORA introduced quality business principles that support employees in the decision making process or work flows. Some of these principles are:

- Explicit determination of customer wishes and definition of product requirements
- Embedding of quality responsibility by self-examination in executing divisions
- Regular information and knowledge transfer
- Development of employees with the best possible qualification

Naturally, these principles as well as the quality management system are continuously developed and adjusted to the most current requirements. As an example, SIKORA already started to integrate new areas of the EN ISO 9001:2015 standard (risk management and knowledge management) into company processes. By using the new High Level Structure*, the new requirements are integrated into existing quality management documents.

Advantages of the certification

The certification according to EN ISO 9001 is voluntary. But SIKORA understands the enormous added value, especially regarding all interested parties. These include the employees that benefit from an organized company providing safe jobs and especially customers that can rely on the compliance of international regulations and standards.

SIKORA is certified according to ISO 9001



NEW SIKORA WEBSITE

Aiming at efficiency – www.sikora.net

■ In time for the wire 2016 in Düsseldorf, SIKORA presents itself online in a new design. The new layout of the website, ready for PC, tablet or smartphone, guides users intuitively and unerringly to the right product, the most suitable service or spare part and offers interesting facts about the traditional family-owned company from Bremen, Germany.

At the start of the relaunch project, four essential conditions for the new homepage were defined: intuitive operation, clear presentation of all services, modern layout and a responsive design supporting the claim

“Technology to Perfection” and the innovative orientation of the company. Nevertheless, the focus was put on the concept of supporting customers in every situation and facilitating the collaboration.

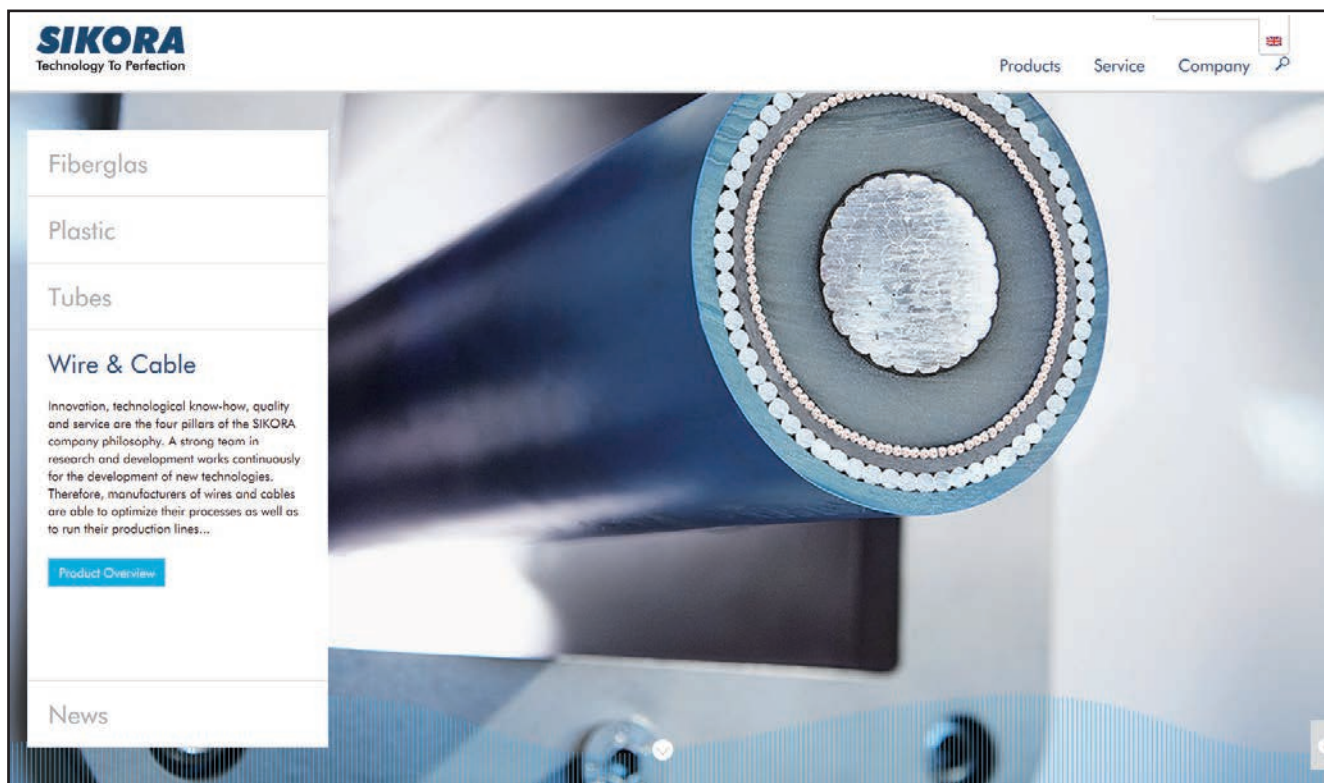
Comprehensive product portfolio

Direct access via the industries or all devices at one glance – SIKORA offers different entry opportunities to the comprehensive product portfolio of measuring and control devices, inspection, analysis and sorting systems. By means of filters for functions and applications suitable products for every production are found. Naturally,

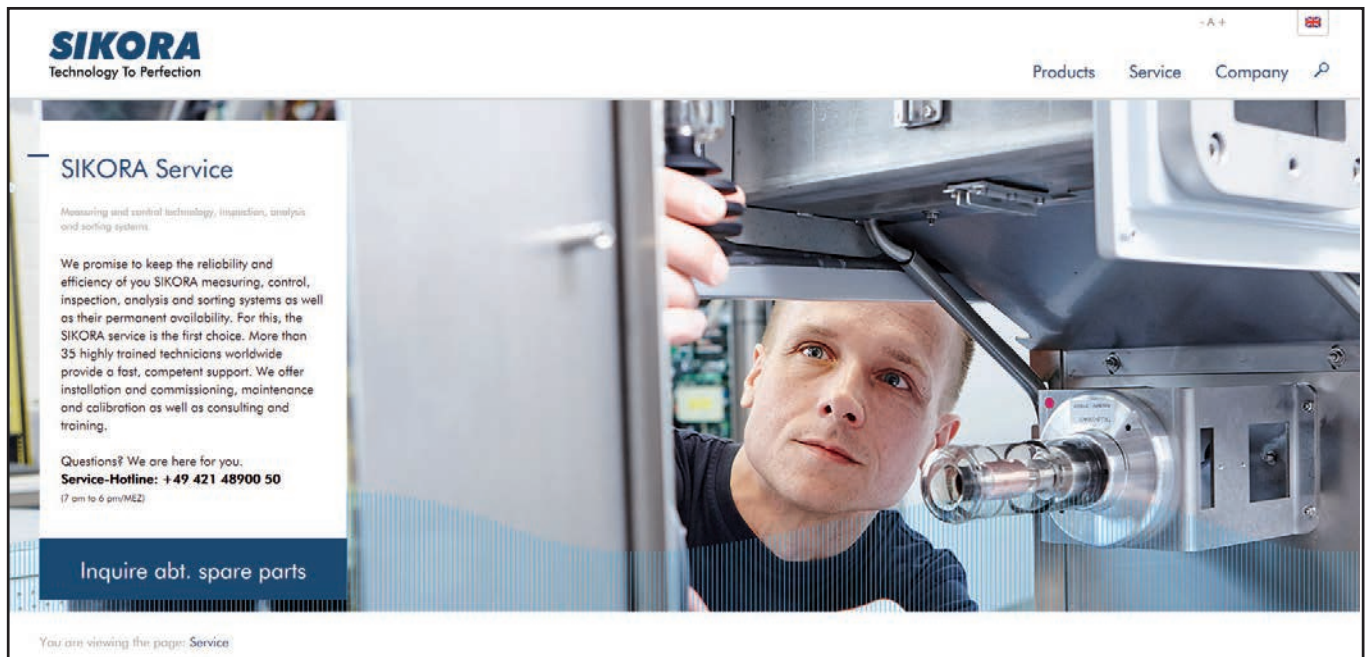
SIKORA offers clearly arranged technical data and detailed information for each product.

Custom-fit services

Professional services regarding individual consulting, the installation and commissioning as well as the regular maintenance: a detailed overview of all services is found on the “Service” page. Furthermore, customers have the opportunity to contact the SIKORA service team online regarding support and spare part requests.



SIKORA Homepage



Interesting facts about SIKORA

A traditional family-owned business with a global approach and more than 40 years of experience has a lot to tell. The area "About SIKORA"

covers the most important milestones of SIKORA's development in Bremen and worldwide. Additionally, the practical newsroom lists all up-to-date press releases, videos and technical articles. Only the SIKORA Twitter ac-

count, which is accessible at several places throughout the pages, offers even more topics.

EXCELLENT SUPPLIER EVALUATION



SIKORA was rated A-supplier by the company Rosendahl Nextrom

The company Rosendahl Nextrom, a world leader for the wire and cable as well as fiber production technologies, is one of the most important partners of SIKORA AG. Together, both companies stand for highest quality in production lines.

For the year 2015, Rosendahl Nextrom rated SIKORA as A-supplier. SIKORA gleamed in all rated categories (adherence to delivery dates, quality, adherence to quantity and performance) and therefore, demonstrated again the high-class workmanship of the company from Bremen.

wire

SIKORA AT THE WIRE 2016

Visit us at booth 9A41

■ The wire in Düsseldorf, from April 4th to 8th, 2016, is one of the world's most important exhibitions for the wire and cable production. Naturally, SIKORA will be on site with a booth. Exclusively in the EXTRA, we offer a first peak into the innovative product world and the new booth concepts, which are waiting in hall 9 at booth A41.

Visit us and look forward to interesting talks and technical discussion as well as freshly prepared snacks and refreshments from our cocktail bar at the upper booth level.

PURITY SCANNER / PURITY CONCEPT Systems

One highlight is the PURITY SCANNER for a 100% online inspection and sorting of plastic materials, which is used for the inspection of pellets used in the insulation of energy cables. The system ensures that only purest material enters the production process and thus, the durability of the cable substantially increases.

Furthermore, we celebrate the premiere of the PURITY CONCEPT Systems at the wire. The technological innovation is especially expressed by the modular concept of the devices for the online and offline inspection and analysis of opaque, colored and black pellets, flakes and films/tapes. The systems are, regarding the application, based on either X-ray, infrared or optical technologies. A typical application is the inspection of tapes as they are used for the manufacture of factory joints.



X-RAY 8000 NXT

The X-RAY 8000 NXT has been proven more than 1,000 times and is world-wide the industrial standard for quality assurance of medium, high and extra-high-voltage cables. It impresses with the precision of the measurement and control during the production of cables with up to three layers. Concentricity, wall thickness, diameter and ovality in CCV, VCV and MDCV lines are constantly monitored and controlled during the cable production. Operators trust the system as it makes centering of the crosshead easier. Quality management does not want to miss the online documentation of the cable quality while the management is excited about the fast ROI.

X-RAY 6000/6000 PRO

For continuous quality control directly at the insulation or jacketing process of wires and cables, the X-ray measuring devices X-RAY 6000 and X-RAY 6000 PRO are today's "state of the art" technologies. Both systems provide precise and reliable measuring values regarding diameter, wall thickness, concentricity as well as ovality for a repeatable product quality. Up to three layers of different materials are measured. With the automatic control, the line speed or extruder rpm is optimally adjusted for maximum savings of insulating material.

SPARK 6000

SIKORA offers a complete line of direct current (DC), high frequency (HF) and alternating voltage (AC) spark testers. The insulation of wires and cables is tested for possible insulation faults by means of a high-voltage test device already during the extrusion. Another application of the devices is found in rewinding lines. For the inspection, the dry cable runs through the sturdy bead electrode of the spark tester and is exposed to the test voltage. Faults in the insulation are detected reliably.



SIKORA booth concept at the wire 2016

FIBER Series 6000

At our booth you will find a model of a fiber drawing tower with a variety of demanding systems for quality assurance during the production of optical fibers. The FIBER Series 6000 includes innovative devices for diameter measurement and control of optical fibers in the drawing process. In addition, the concept of the fiber measurement determines the fiber position, the vibrations, the tension, the temperature as well as the concentricity and detects airlines and faults on the surface of the coating.

PREHEATER 6000 TC

The PREHEATER 6000 TC (Temperature Controlled) is the most advanced solution to precisely preheat a conductor. A reliable conductor preheating during the manufacture of high-quality cables, especially data and automotive cables, is essential in order to ensure an optimum adhesion of the insulation on the conductor, respectively a controlled foaming. A reproducible process is the result, which contributes to the increase of quality and productivity.

In this context, we also present the WIRE-TEMP 6000, a non-contact conductor temperature measuring system, available for conductor diameters up to 50 mm and therefore, for the control after the conductor preheating in CV lines.

CENTERVIEW 8000

The CENTERVIEW 8000 inspires. A continuous non-contact 8-point eccentricity measurement, 4-axis diameter measurement and an 8-point ovality measurement of coax and LAN cables as well as automotive and installation wires provides the highest measurement accuracy. The measuring device is specially focused on all round high-quality single conductor wires, wires and cables with a single or multi wire conductor as well as massive and foamed insulation. Get inspired by the sophisticated FFT analysis, the SRL production and the unique scatter plot.



LUMP 2000

With the LUMP 2000 Series, SIKORA offers spectacular measuring technology for the detection of lumps and neckdowns in two or three measuring planes. The core of the LUMP 2000 devices is the innovative double sensor technology, which reliably detects irregularities such as lump and neckdowns on the product surface.

LASER Series 2000/6000

The devices of the LASER Series 2000 and LASER Series 6000 are an essential element for the perfect diameter control in thousands of extrusion lines. Furthermore, the classic and high-end devices are used in rewinding lines as well as for the wire drawing and excel at their high precision, reliability and continuous functionality without any calibration or maintenance time. Discover the unique non-contact and non-invasive laser measuring principle, the intelligent design as well as the diverse application of the LASER Series 2000 and LASER Series 6000.

Further products at the booth:

- ULTRATEMP 6000 – Non-contact temperature measurement of the polyethylene melt
- CAPACITANCE 2000 – Innovative capacitance measurement with multi-zone technology, integrated FFT and SRL analysis
- CSS 2 – Save purity measurement of the polymer melt for high and extra-high-voltage cables
- Display and Control Devices – Measuring values clearly, direct, at one glance



2016

SIKORA STARTS A NEW ADVERTISING CAMPAIGN

Technology in its most beautiful from

■ For more than 40 years SIKORA, a technology company from Bremen, listed as one of the hidden champions of Germany's mid-size companies, has been standing for quality, service and cost saving in the area of measuring, control, inspection, analysis and sorting systems. During this time, special attention was paid to innovation. This does not only apply for the future-oriented research and development work – also the external appearance is always one step ahead.

Discover „Technology to Perfection“

An example of this innovative orientation is the new advertising campaign that uniquely presents SIKORA

devices in use. “Nowadays, pure product pictures are not sufficient anylonger to stand out from the technically oriented environment”, explains Katja Giersch, Head of Corporate Communication at SIKORA AG, the challenge of the new advertising campaign, which has been placed in wire and cable as well as fiber trade magazines worldwide since the beginning of 2016. “Therefore, we consciously combined the technology with people, in order to offer the viewer a functional and emotional access. Presented are SIKORA products in a manufacturing environment. Furthermore, each image shows a SIKORA employee, who is responsible for the development, assembly or service of the corresponding device. We are de-

monstrating therefore, that our products are backed by a strong team”, says Katja Giersch.

Emotional. Clear. Blue-White.

The unique image style, which was specially created for this campaign, underlines the innovative orientation of the technology company. Furthermore, the color scheme changed: instead of a minimalist black design, SIKORA puts the focus on clear blue and white shades, which support the expressive large image stages perfectly.

The advertisements are completed by a communication area, on which all benefits of the displayed technology are clearly highlighted for the user.



Quality in its purest form.

With passion, we develop future-oriented inspection and sorting devices for the quality assurance of plastic pellets, such as the **PURITY SCANNER**. A so far, unique solution, which combines X-ray technology with an optical inspection. A technological progress significantly increasing the quality of material and end products and saving costs.

- detects contamination from 50 μm inside the pellet and on its surface by X-ray and optical cameras
- purest material and highly qualitative end products due to automated sorting
- efficient production without time-outs and scrap
- suitable for different applications independent of material and color



www.sikora.net/purityscanner



Visit us from April 4th to 8th, 2016, at the wire/tube in Düsseldorf, Germany.

Hall 9, Booth A41

A WELL-ROUNDED PRODUCTION

SIKORA offers fiber measuring devices for the complete drawing process

■ In order to reliably transport high data volumes over long distances without any losses, a high-quality optical fiber is necessary. To reach this quality level, a comprehensive and powerful measuring technology is obligatory. SIKORA sets standards in the area of continuous quality control in the fiber drawing process.

FIBER LASER 6003/AIRLINE/CCE

The FIBER LASER 6003 is an innovative device for diameter measurement of optical fibers directly in the drawing tower. The unique measuring principle assures an accuracy of $0.05 \mu\text{m}$ at a repeatability of $0.02 \mu\text{m}$. 2,500 measurements per second with high single value precision and a short exposure time of $1.2 \mu\text{s}$ always guarantees the highest reliability.

The FIBER LASER 6003 AIRLINE, typically installed prior to the coating, is factory-calibrated and keeps it absolutely accuracy for its entire life-cycle. This multi-purpose device is used for the measurement of the diameter and the detection of smallest airlines (air bubbles in the fiber) from $0.5 \mu\text{m}$ (diameter).

The FIBER LASER 6003 CCE (Coating Concentricity Evolution) is installed after the coating cup and provides information on the coating concentricity as well as diameter values.

FIBER TEMP 6003

The FIBER TEMP 6003 is a standalone gauge for the measurement of the fiber temperature during the drawing process. With the precise information on the fiber temperature, the forced helium cooling can be reduced to a minimum, resulting in reduced costs.

The gauge head however, can be installed at the cold (measuring range 30° to 270°C) or at the hot end (measuring range 500°C to $1,500^\circ\text{C}$) of the fiber line. To ensure the right temperature at both positions, two FIBER TEMP 6003 devices should be installed, for the highest stability of the process.

FIBER LUMP 6003/MICRO

Lump detectors are essential for continuous quality control in drawing towers after the coating. The 3-axis FIBER LUMP 6003 as well as the 6-axis FIBER LUMP 6003 MICRO reliably detect lumps and neckdowns with a height/depth from $5 \mu\text{m}$ and a length of $50 \mu\text{m}$. Every fault is recorded regarding height, length, number and position. The lump detectors are available for product diameters from 100 to $500 \mu\text{m}$.



Combined precision –
SIKORA FIBER measuring devices

PERSONAL CUSTOMER CONTACT AS KEY TO SUCCESS

Harry Prunk, member of the board, on the SIKORA exhibition year

The wire in Düsseldorf is just around the corner. How important is this exhibition for SIKORA?

The wire is the worldwide leading exhibition for the wire and cable as well as optical fiber industry. Therefore, the wire in Düsseldorf is an absolute industry highlight and of tremendous importance. For us, the possibility to meet many customers and simultaneously keeping an ear close to the market is very important to keep up with new requirements at any time.

Is there anything in special visitors can look forward to?

We are proud to present our comprehensive product portfolio for the quality assurance as well as the new groundbreaking PURITY CONCEPT Systems.

The innovative, modular analysis systems inspect and analyze the raw material or tapes used for factory joints.

Contamination, color anomalies and inhomogeneities are detected and statistically analyzed.

Visitors can also look forward to our new booth that encourages lingering and interesting talks with its straightforwardness and application-oriented design. Additionally, our visitors find delicious snacks and refreshing drinks on our second level.

How do you prepare yourself for the wire 2016?

Although I have represented SIKORA at exhibitions for over 40 years now, I am still excited when it comes to such special occasions as the wire in Düsseldorf. You do not always get the chance to meet as many international customers, partners and business friends to discuss and develop optimization plans for production sites worldwide.



What other highlights does this year has to offer for SIKORA customers?

For SIKORA, 2016 is an especially exciting year. We are working continuously on our advancements and new developments for our measuring and control systems, for example the FIBER LASER 6003 which is now able to control the drawing tower already from the hot measurement. A further focus is on the growth of competence in the segment of inspection, analysis and sorting of plastic materials, as they are used, for example, in the cable industry. In addition, we introduced our new Corporate Identity with a new layout and design for our communication media, such as the website, advertisements etc. already at the beginning of the year.



Interview with Harry Prunk, Member of the board SIKORA AG

BLESSING AND RISK – X-RAY RADIATION

Several applications for the ionizing radiation

■ With its moderate radiation, the sun makes all life on earth possible. Nevertheless, humans should not expose themselves for too long to the radiation. Protection is especially necessary when it comes to the invisible, hard ultraviolet rays of the sunlight and hence, the risk of possible skin changes.

X-ray radiation

X-rays, with a spectrum starting where the hard UV radiation devolves to ultra-hard UV radiation, proved as a blessed instrument for many areas, especially for the medical diagnosis and cancer therapy. Also, the X-ray radiation has become indispensable over the last decades for valuable applications in the industrial area.

While the energy of the UV radiation rate of the sunlight shows only low penetration regarding the human skin, X-ray radiation is able to penetrate the tissue completely. In both cases, damages of cells in the skin respectively the body may occur, which can result

in the malign change of the cells. In principle, all substances of a body cell may be damaged but eventually only damages regarding the hereditary material (DNA) is of importance.

Single and double-strand breaks of the DNA are not only caused by X-ray radiation. Nowadays it is a common understanding that oxygen radicals, produced by the metabolism of a cell, continuously cause DNA changes. Modern methods proved that on a daily basis between 0.1 and 5 DNA double-strand breaks occur per cell. This number is increased with the progressive age. 99.9% of these damages are eliminated by the endogenous repair mechanism in the cells. If this is not possible, the defect cell is replaced by a new cell.

Evidence of radiation damages

Exposure to ionized radiation contains relative risk. Today, the biological dosimetry is an international recognized method to estimate the dose of a possible excessive radiation exposure.

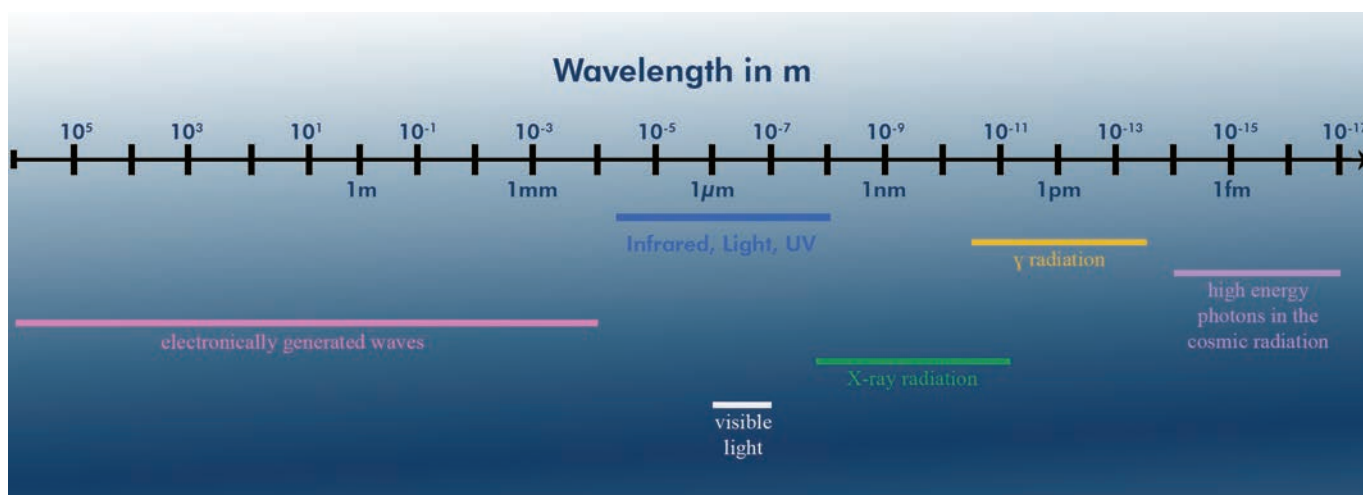
DNA double-strand break

Therefore, special biological marker are used, which are like fingerprints in irradiated cells.

Save handling with X-ray devices

Just as clothes offer protection against the ultraviolet radiation of the sun, also X-rays can be shielded by suitable materials. Materials with a so called high atomic number are especially suitable. Relevant in this context are steel, copper and lead. By using this materials, the X-ray radiation of medium energy, as it is used in industrial measurement technology, can be weakened so much that the omnipresent background radiation on the outside of such a device is only slightly or not at all increased.

Unlike radioactive isotopes, which radiation can only be shielded but not turned off, the radiation of an X-ray device can be switched off. Without the anode voltage for the X-ray tube, no X-ray radiation is produced. Also, X-ray radiation cannot cause radioactivity in irradiated materials as the



energy of the X-ray radiation is too low to create radiant, radioactive isotopes. Even the X-ray tube, just like all other inner components of the X-ray device, is completely free of radiation after the deactivation of the anode voltage and can therefore be handled unconcernedly.

Blessing and risks while handling X-ray devices

An especially positive aspect of the X-ray radiation is its usage when treating malignant tumors in order to

destroy degenerated cells of the tumor with high-energy X-ray radiation. This energy sector of about 10 MeV is called gamma radiation.

According to the European directive 96/29/Euratom, X-ray based measuring devices have to be built in a way that its radiation does not exceed the maximum value of 1 $\mu\text{Sv/h}$ at a distance of 0.1 m on the outside of the device. This limit is so low that a significant statistical proof for a possible cancer is not possible.

It may sound astounding, but modern researches point to the complete opposite direction. Namely, a small dose of X-ray radiation, similar to the UV radiation of light, stimulates the immune system and therefore, can even be healthy.

RAFFLE

SIKORA in the spotlight

Which SIKORA diameter measuring device is under the magnifying glass?



If you know the answer, send an e-mail until May 20th, 2016 to:
communications@sikora.net

The prize is one of three V7 mobile Bluetooth speakers (Picture similar)



Each correct answer takes part in the raffle. Employees of SIKORA AG and SIKORA Holding GmbH & Co. KG and their relatives are not allowed to participate. Each player can only participate once. We value the first e-mail, all subsequent e-mails will be considered invalid. The legal process is excluded.

Good luck!

The correct answer of the last raffle was:

X-RAY 6000

Congratulations to the winners!

SIKORA

Technology To Perfection

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