SIKORA EXTRA

Your magazine for Inspection | Sorting | Analysis

Dear readers,

In 2019, SIKORA has started its 46th business year – striving again to stand by your side as a reliable partner and to further optimize your tasks and production processes with future-oriented technical solutions. For example, Minger Kunststofftechnik AG, a global leading reprocessor for fluoroplastic, counts on the online inspection and sorting system PURITY SCANNER ADVANCED for the reprocessing of thermoplastic polymers and thus, improves material quality up to 100 %. Find out more in the case study on page 4.

In addition, the PURITY CONCEPT V significantly simplifies the offline inspection and analysis of various plastic materials due to a unique combination of light table and fully automatic material inspection. Find out about the benefits of the automatic optical light table compared to visual inspection on page 6.

In the previous EXTRA issues, we informed you about the progress of our new building for production and logistics. We are pleased to announce the successful completion after a construction phase of only one and a half years. The building offers room for an efficient production to react flexible and fast to customer wishes.

Continuous further development and process optimization pay off. This shows the successful recertification of SIKORA for another three years according to ISO 9001 on page 8.

You will find these and other topics in the current EXTRA issue.

Enjoy reading!

Sincerely,

Dr. Christian Frank
CEO SIKORA AG

Harry Prunk
Executive Board SIKORA AG

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

CONTENT

PERFORMANCE SHOWS IN MANY SEGMENTS!

"THE PURITY SCANNER IS CURRENTLY THE MOST ACCURATE SORTING EQUIPMENT AVAILABLE ON THE MARKET"

Minger counts on SIKORA's inspection and sorting system for the highest material purity during recycling of technical and high-performance polymers

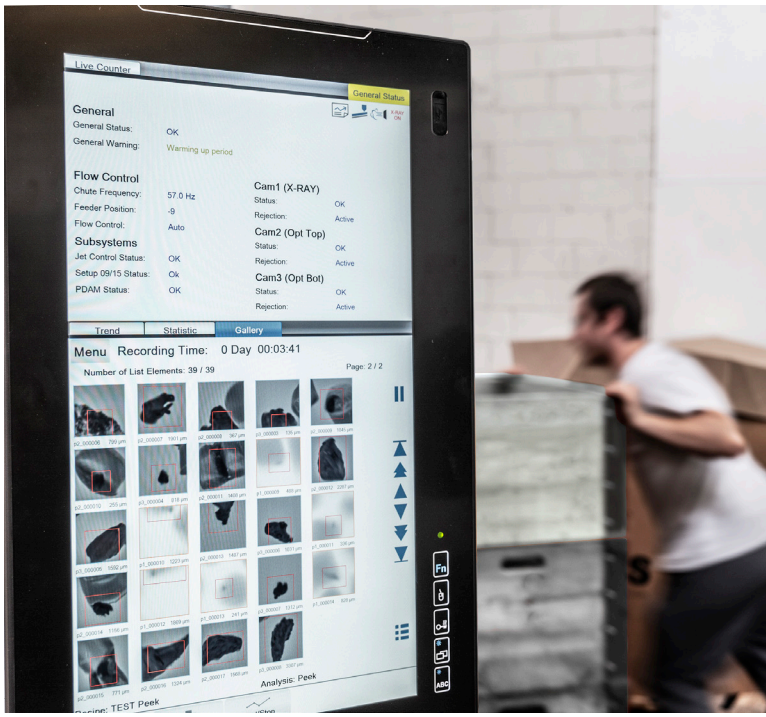
Minger Kunststofftechnik AG is a specialist for professional reprocessing of thermoplastic polymers. The company is especially renown in the area of technical high-performance polymers and is one of the leading reprocessors of fluoroplastic worldwide. Since 2018, the family owned company located in Appenzell/Switzerland has been using the PURITY SCANNER ADVANCED, an online inspection and sorting system from SIKORA, for recycling and thus, ensures the highest material purity.

Minger uses SIKORA's PURITY SCANNER ADVANCED for inspection and sorting of plastic granulate; Bruno Ofner, CEO Minger Kunststofftechnik AG

For the production and processing of polymers, the highest purity of the materials is essential and a crucial characteristic for the quality of the final product. The requirements on purity are accordingly high, especially for sophisticated materials which, for example, are used in cable, medical, aerospace and food industries. For over 30 years, the company Minger has been active in the recycling business and produces plastic granulates as customized compound or as clean and pure regranulate, which is reprocessed as a service, respectively, as un-disclosed recipe. At Minger, they sort, clean, shred, ground, dust, granulate and compound – always with the demand to supply a pure regranulate that is practically equivalent to new material. At the same time, the company relies on a sustainable recycling concept for an optimum material cycle.

The application of innovative technology in reproducing lines to ensure the highest quality and process optimization is a matter of course for the Swiss manufacturer. Since last year, the company has been using the PURITY SCANNER ADVANCED from SIKORA for online inspection and sorting of plastic material. "For our technical polymers and high-performance polymers – such as fluoroplastic, PEEK, polyamide, polyethylene or polypropylene – this quality approach was relevant for supplying first-class material", says Bruno Ofner, CEO of Minger Kunststofftechnik AG. According to Ofner, there are several methods for material sorting on the market. The PURITY SCANNER ADVANCED convinced, however, on grounds of its future-oriented measuring principle and, above all, due to sorted, pure material. "Worldwide, we are the first company that uses this technology for recycling", says Ofner. During the production of raw or recycled granulate, the plastic material can be contaminated by black spots, foreign particles or fine metal abrasion. These impurities are eliminated by the PURITY SCANNER ADVANCED.

The inspection and sorting system combines X-ray and optical technologies and detects contamination inside the granulate as well as on its surface. Thus, transparent, diffuse and colored materials are reliably inspected for purity to 100 %. Contaminated granulates are detected and automatically sorted out. The result of the purity testing is significant because, in the extreme case, unusable material can be made usable again. "The material does not contain any foreign particles and the quality is improved up to 100 %", explains Ofner and adds "the PURITY SCANNER ADVANCED is currently the most accurate sorting equipment available on the market. With the optical sorting systems used so far, generally only up to 96 % purity can be guaranteed. In this case, however, impurities remain undetected in the pellet."



Process data with image gallery of contaminated pellets is clearly visualized and evaluated at the ECOCONTROL monitor

The SIKORA device is combined with an intelligent processor system, which analyzes and visualizes the sorting. For Minger, especially the statistical evaluations of the detected contamination sorted by number, size and frequency as well as an image gallery of contaminated granulates, which were detected by the optical cameras and X-ray camera, are of importance. All information is automatically saved and available in Excel format as well as image file. Also recorded is data such as the possible duration of the order, material type, throughput and rejection rate. This way, a full traceability is possible after a project has been completed.

"We use the production data as reference for future orders. Furthermore, we forward the information as a final report to our customer who receives absolute technical transparency about his product and the production process", explains Ofner.

Customers appreciate Minger's quality standards and know that sorting technology is a core element in the production process in order to ensure premium plastics. This strategy has a positive impact on all stages of the process chain. "By supplying clean, evenly reprocessed regranulates, we are supporting an automatic and smooth production process of plastic products", explains Ofner. Furthermore, Minger enables a sustainable material cycle by using innovative sorting technology from SIKORA. "Impurities are eliminated, the processed material can be reused and waste is reduced", says Ofner. Hence, regranulates from Minger are nowadays a competitive alternative to new material, providing economic benefits whilst also protecting the environment.

By using the inspection and sorting system, material quality is increased by up to 100 %; left: clean material after sorting, right: contaminiated material prior to sorting

SMART SAMPLE TESTING DUE TO AN AUTOMATED LIGHT TABLE

Unique automated material control with the PURITY CONCEPT V

Plastics industry is increasingly relying on a high degree of automation to fulfill growing quality demands and more complex production processes. Sample testing and analysis of plastic material play an essential role.

Up to this day, light tables are commonly used for a visual sample testing and incoming goods inspection of plastic material. The material to be inspected is illuminated on a table and manually inspected for contamination by an operator. This method, however, depends on the eyes of the respective auditor. Form on the day and the amount of time the operator is inspecting the material are just a few factors that influence the quality of the test result so that there is only a limited repeatability. Further limits of visual sample testing are detectable sizes of contamination for the human eye as well as their classification into size classes.

Manual, visual sample analysis at a light table

Whereas, the PURITY CONCEPT V transports the material on a sample tray through the inspection area, which is equipped with a color camera. The inspection takes place automatically and within seconds: a projector marks contaminated material directly on the sample tray. Simultaneously, it is displayed on the supplied monitor including information on contamination size.

By analyzing the images, contamination starting at 50 µm (2 mil) are automatically detected, visualized and analyzed in transparent as well as colored or diffuse material. A clear allocation of contamination and follow-up inspection are always possible and a manual check by a user is not necessary.

The PURITY CONCEPT V offers a broad range of applications: In addition to plastic granulates, flakes and microgranulates, films, powder as well as extruded and molded parts can also be inspected and analyzed. The intelligent system is more precise, reproducible and reliable than the human eye at a light table. It determines the size of contamination and therefore, contributes largely to quality control and process optimization.

Automated light table: The inspection takes place automatically and within seconds: a projector marks contaminated material directly on the sample tray.

Automatic inspection also available with X-ray technology

The PURITY CONCEPT X, based on X-ray technology, detects and analyzes metallic contamination on the pellet surface as well as inside of transparent and opaque or colored plastic materials.

SIKORA
Technology To Perfection

The light table. Automated.

The **PURITY CONCEPT V** is a system of the PURITY SCANNER family for future-oriented inspection and analyzing for offline quality assurance of plastic pellets. A technological innovation with the advantages of an optical light table as well as automatic inspection, visualization and evaluation of contamination in plastic material.

- Sample inspection and analysis of plastic granulate, flakes and microgranules, films, powder as well as extruded and injection parts
- Detection and visualization of tiny contamination
- Data analysis and statistics for a comprehensive documentation

www.sikora.net/purityconcept

WE STRIVE FOR QUALITY

SIKORA stands further for highest quality, long-life products and professionality – certified according to ISO 9001

Since 1993, SIKORA has been embracing its annual surveillance audits as well as the re-audits every three years and is certified according to EN ISO 9001. During this interview Arne Heel, Quality Manager at SIKORA, explains why this certificate is special and why SIKORA customers can rely on the highest quality and optimized processes.

What has changed with the new certificate compared to DIN EN ISO 9001:2008 and what are the implications for daily routines at SIKORA?

One of the most important changes of the new DIN EN ISO 9001:2015 is the very distinctive process-oriented approach. Work steps are not evaluated and defined individually anymore, but the whole process is assessed, so that all necessary work flows can be seen in the overall context. All parties involved, performance indicators as well as a comprehensive risk and opportunity management are considered. Due to continuous developments of these processes, customers can be assured that the devices are produced and delivered under strict quality standards, adapted to meet current market requirements. Therefore, they can rely on long-life, maintenance-free functionality from the first day, a quick amortization and professional support.

25 years uninterrupted ISO certified – that is remarkable. How does SIKORA ensure to meet the high requirements of ISO 9001 standards?

At SIKORA, quality management is practiced in every department. In order to support our employees, we defined quality related company principles to help with daily decision making and work flows. It is important for us to accurately evaluate customer requests through constant self-assessment as well as information and knowledge management in order to align accordingly the entire product process from development to delivery.

Mr. Heel, thank you for the interview.

SIKORA DEVICE TRAININGS

With SIKORA, users are fit to face the future

SIKORA inspection, analysis and sorting systems are intuitive and easy to operate. A short introduction is sufficient to get the basic functions across to the user. Nevertheless, a comprehensive user training for each device pays off for a number of reasons.

When acquiring a SIKORA device, customers have clear requirements. Those might be saving materials and costs, the optimization of quality and efficiency or stability of processes – in any case, customers find the right technical solution for their special requirements at SIKORA. This reveals the first reason for an individually tailored user training. The devices work most efficiently if users know the comprehensive scope of functions, are able to ensure the direct and professional maintenance and therefore, exploit the whole potential for their production line. Thus, each training results in an investment for the future.

At the same time, companies motivate their employees by including them in production processes and therefore, creating a stronger identification with the company. Productivity is increased as well as trained employees master daily challenges more easily.

Still, the main reason for intensive training is the resulting competitive advantage. Market requirements constantly change. Yesterday's standards may already be outdated today. Therefore, looking outside the box is always worth it.

SIKORA trainings provide a deeper insight into the system's possibilities and users can use their special knowledge for process optimization. Therefore, companies and their employees can be sure to always get the maximum out of the SIKORA device and, simultaneously, are able to examine, analyze and optimize production processes in a future-oriented way.

Being one step ahead with SIKORA

SIKORA service engineers offer a combination of theoretical and practical user trainings for all measuring, control, inspection, analysis and sorting systems of the comprehensive product portfolio that are individually tailored to customer requirements and wishes.

Make your company fit for the future and contact us today at +49 421 48900 50 or service@sikora.net to plan your training.
More information at www.sikora.net/en/service/trainings.

GROWN FOR THE FUTURE

SIKORA's new building for production, logistics and development has been completed

After about one and a half years of construction time, SIKORA has now inaugurated the new building for production, logistics and development at its headquarters in Bremen, Germany. With its total area of 7,000 square meters (8,372 y²), the building more than triples the previous space.

The new building is a strategic investment for the future and the answer to SIKORA's strong growth and diversification into new markets as well as the accompanying technological new developments. "The building provides the needed space to further expand and is, in every respect, state-of-the-art", says Peter Früchtenicht, Director Operations at SIKORA.

Special attention was put on assuring optimized material flows from incoming goods to the production and further onward to the shipping based on modern lean production concepts.

"An efficient production enables us to flexibly and quickly react to technological developments and customer wishes. All whilst guaranteeing consistent quality and delivery reliability", explains Früchtenicht.

The four storey building accommodates, in addition to production, logistics as well as research and development departments. An extended communication area in the upper stacked storey with its flexible meeting and creativity rooms builds a bridge between technology and communication.

With 220 employees at headquarters in Bremen and 70 employees spread on 14 international subsidiaries, SIKORA serves customers with innovative product solutions and individual service. The measuring, control and inspection systems are solely manufactured at the headquarters in Bremen, Germany.

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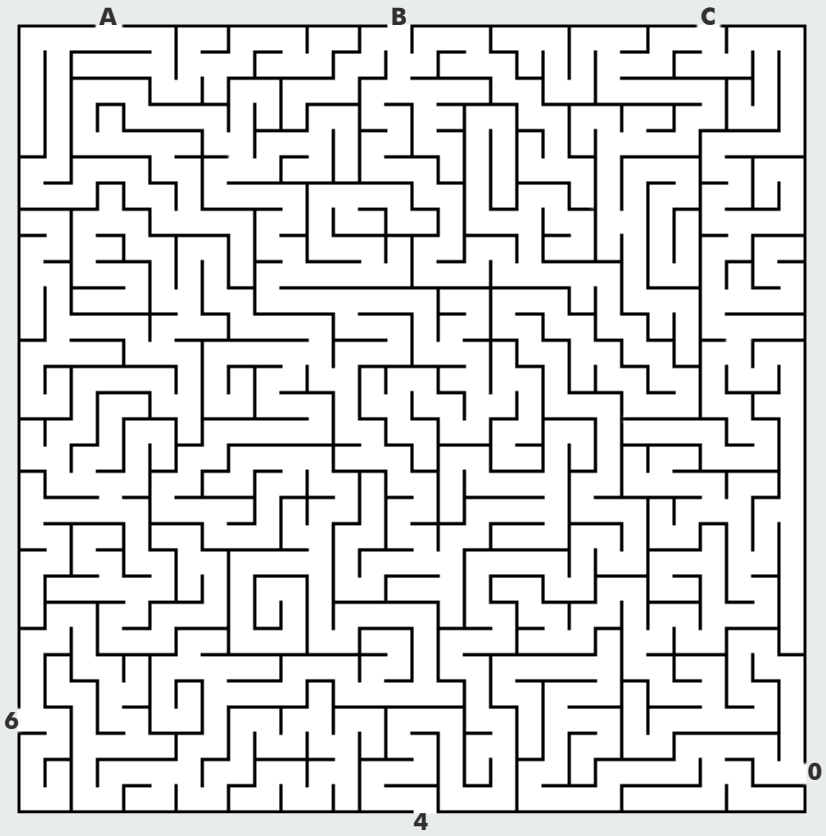
Photo: Caspar Sessler

RAFFLE



SIKORA labyrinth

Find the three paths through our labyrinth and write the solution numbers into the regarding boxes.

A	B	C

Send us your solution via email by July 31, 2019, to: extra@sikora.net

Win one of three **Tie Studio Bluetooth 4.2 TRULY PRO (X2T) In Ear Headsets with Noise Cancelling.**
(Image similar)

Your contact details will not be passed on to third parties. Each correct answer takes part in the raffle. Employees of SIKORA AG and SIKORA Holding GmbH & Co. KG and their relatives are excluded from participation. Each player can only participate once. We value the first email, all subsequent e-mails will be considered invalid. The legal process is excluded.
GOOD LUCK!

Congratulations to the winners of the word puzzle – SIKORA EXTRA edition 3/2018. Solution: International

- **Davide Zorzi**
- **Joan Totusaus**
- **Birgit Rück**

NEXT EVENTS

- Compounding World Expo | May 8-9, 2019 | Cleveland, OH, USA
- Chinaplas | May 21-24, 2019 | Guangzhou, China
- K | Oct 16-23, 2019 | Düsseldorf, Germany

Sustainability at SIKORA

Our environment is important to you, but you do not want to do without the informative SIKORA EXTRA articles? Register today at extra@sikora.net to get our EXTRA newsletter and receive the SIKORA magazine conveniently via email instead of a print material.

SIKORA

Technology To Perfection

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