

SIKORAEXTRA

Your magazine for Inspection | Sorting | Analysis

INSPECTION

Free
material
testing

Special topic:
SIKORA at K 2019

04

Service: Inside PURITY SCANNER

09

Dear readers,

It's about to happen again: The K 2019 is just around the corner. As the leading exhibition for plastics and rubber, from October 16 to 23, 2019, the K in Düsseldorf presents anew current trends for plastic manufacturers and processors. Already for the 8th time, SIKORA will also be present with an exhibition booth.

Whether automotive sector or aviation industry, the medical area or consumer goods, such as sneakers – plastics are used for a variety of applications and are even irreplaceable in many fields. At the same time, public and professionals intensively discuss prohibitions of plastic products to counter environment pollution. The ongoing debates clarify the need to rethink and switch to a sustainable industry.

We cordially invite you to visit our exhibition booth in Hall 10, Booth H21. Convince yourself of our future-oriented and resource-efficient technologies for quality control during plastics manufacturing and processing. Use the chance to discover our exhibition highlights beforehand in this EXTRA edition and get an overview of the SIKORA portfolio.

We are looking forward to interesting expert discussions at the K. But until then, enjoy reading!

Sincerely,



Dr. Christian Frank
CEO SIKORA AG

Harry Prunk
Board member SIKORA AG



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

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VISIT US AT K!

SIKORA AT K 2019

Numerous premieres at SIKORA's exhibition booth
(Hall 10, Booth H21)

At K 2019, from October 16 to 23, 2019, SIKORA presents progressive inspection, analysis and sorting technology for non-destructive quality control and process optimization tailored for the plastics industry.



**Laboratory testing system PURITY CONCEPT X with X-ray technology
to detect metallic contamination**

Discover the X-ray based PURITY CONCEPT X for the inspection and analysis of metallic contamination on granulate surfaces as well as inside the single pellet. The PURITY CONCEPT X is especially predestined for sample inspection of black and colored material, such as semiconductor materials.

Optical online inspection and sorting with the PURITY SCANNER ADVANCED

The PURITY SCANNER ADVANCED for optical online inspection and sorting of plastic material combines X-ray technology with up to four black and white and/or color cameras. This combination ensures the detection of metallic contamination inside the pellet, color deviations as well as black specks on its surface. Contaminated pellets are detected and automatically sorted out. The Professional Data Analysis Management (PDAM) provides a statistical evaluation of detected contamination, sorted by size and frequency. For a high material throughput, the sorting system is available as a "Twin Pack" solution, which will be presented for the first time at K. The Twin Pack reaches throughputs of up to three tons per hour.



Premiere: Optical laboratory testing system PURITY CONCEPT V with color detection

SIKORA presents the PURITY CONCEPT V – an automated light table that inspects plastic granulate within a few seconds with a color camera. A projector optically marks all contaminated pellets directly on the sample tray. By evaluating the images, contamination, like black specks, from a size of $50\text{ }\mu\text{m}$ on the surface of transparent, translucent and colored material are automatically detected, visualized and statistically evaluated. A clear allocation of the contamination and follow-up inspection are possible at any time.

TRACKING DOWN METALLIC CONTAMINATION

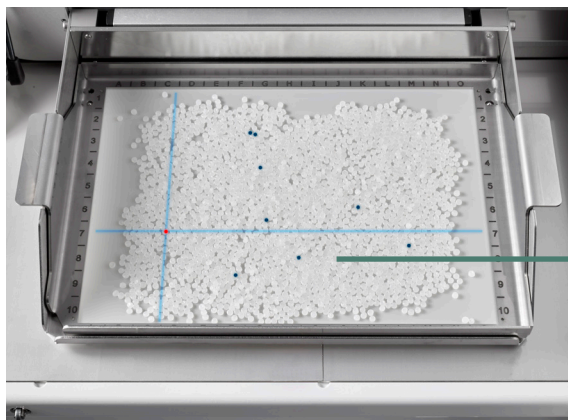
Automatic sample inspection with the PURITY CONCEPT X

Even the smallest metallic contamination in plastic pellets can cause significant problems for plastics manufacturers and processors. This is the case when contamination lead to time-consuming and expensive losses in the further processing or in the final product. SIKORA's laboratory inspection device PURITY CONCEPT X reliably detects metal contamination inside the pellet and, therefore, guarantees a comprehensive quality control.

The X-ray based PURITY CONCEPT X is characterized by its intuitive handling. The operator places the material onto a sample tray that is being moved through the inspection area. The inspection and analysis are carried out within 30 seconds. A projector highlights contaminated material in color directly on the sample tray. Simultaneously, the contamination is visualized and highlighted on the monitor. This allows for a clear allocation of the contamination and facilitates the removal, for example, for further inspections in a laboratory.

With the integrated analysis software, metallic contamination from a size of $50\text{ }\mu\text{m}$ on the surface as well as within non-transparent, colored and transparent plastic pellets are automatically detected, visualized and evaluated. In addition to an image gallery of detected contamination, the software provides statistics about their size, area and number. With the PURITY CONCEPT X single as well as serial inspections can be realized which results will be included in the overall evaluation.

The PURITY CONCEPT X is used for sampling inspection outside of the production process in a laboratory environment or, alternatively, directly next to the production line. The system is also predestined for incoming goods inspection and quality control due to the fast analyzing procedure. It supplies a test certificate containing all information about the quality of the inspected pellets as well as a summary of the test results, creating the prerequisite for material release and delivery to the customer.

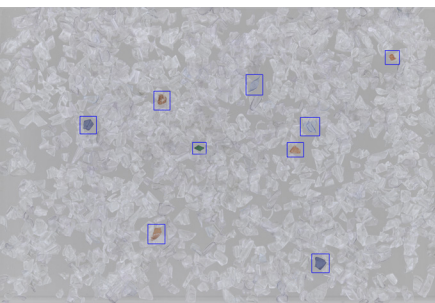


Optical marking of detected contamination for easy identification and removal.

PURITY CONCEPT V – EVERYTHING IN SIGHT

Optical offline inspection system detects color deviations of plastic granulate

The PURITY CONCEPT V automatically inspects small amounts of pellets, reliably detects contamination such as black specks and is therefore used for quality assurance in incoming goods inspection, production control and follow-up inspection. Due to a color camera, color deviations of the pellets are detected by the PURITY CONCEPT V as well.



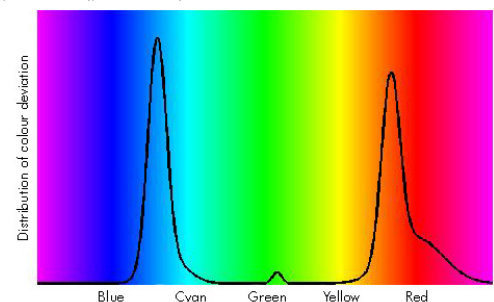
Picture 1: Display of the recorded sample material with marked color deviations

For sample inspection with the PURITY CONCEPT V, up to 100 g of pellets are being moved through the inspection area. Within seconds, a camera inspects the material, contaminated pellets are detected and analyzed. The detected contamination is highlighted in color on the monitor image as well as on the sample tray.

The PURITY CONCEPT V contains a line color camera with a resolution of 50 μm and is therefore, able to detect even smallest deviations. For this, adaptive detection algorithms analyze the inspected material. For example, color deviations due to cross contamination are optionally displayed and evaluated on the monitor (picture 1). This way, the operator receives besides the information about number, area and size also findings about the color spectrum of the inspected sample.

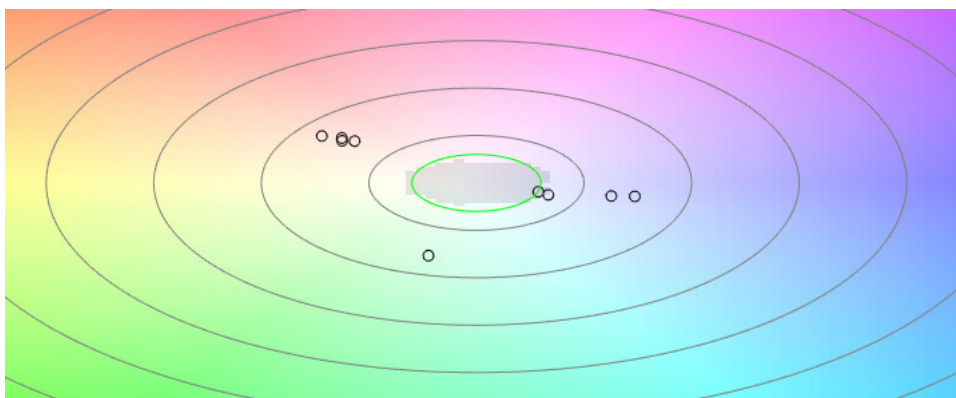
Within the inspected sample, the saturation and the color value distribution of the detected deviations are clearly displayed in a diagram (picture 2). Due to the visualization in a common scatter plot, the distance of the saturation and the color value of the contamination to the good material is clearly to see (picture 3).

The adjustment to specific requirements, like e. g. the detection sensitivity, is done by the operator by choosing the recipe parameters.



Therefore, the PURITY CONCEPT V offers a reliable sample inspection with regard to the detection of black specks, identifies color deviations and enables their exact allocation and analysis. Furthermore, the system provides a test certificate with all information about the inspected pellets as well as a summarization of the test results. Thus, it provides the prerequisite for material release and delivery to the customer.

Picture 2: Distribution of detected color deviations and color assignment



Picture 3: Scatter plot for displaying the color saturation and color shade of color deviations

FREE MATERIAL TESTING LIVE AT THE K

Bring your plastic granulate to the SIKORA booth 10 H21 and get your free live analysis

You would like to learn more about our inspection system, if it is suitable for your plastic granulate and what advantages it may offer? Simply test it. Visit SIKORA at K 2019 at **booth 10 H21**. We inspect and analyze **up to three** granulate samples with the **PURITY CONCEPT V** for free. The results are either discussed directly at our exhibition booth or confidentially sent to you.

Have we inspired your curiosity?

- 1 Fill up to three material samples – each ca. 100 g.
- 2 Bring your samples to the K Düsseldorf – ideally arrange a meeting at sales@sikora.net.
- 3 Get your free of charge analysis directly at K 2019 or confidentially by mail.

Do you have any questions? Please feel free to contact us at phone: +49 421 48900 0 or visit our website www.sikora.net/en/live-material-test for further information.



Live analysis at K 2019 with the
PURITY CONCEPT V

INSIDE PURITY SCANNER

Customized maintenance trainings of pellet sorter

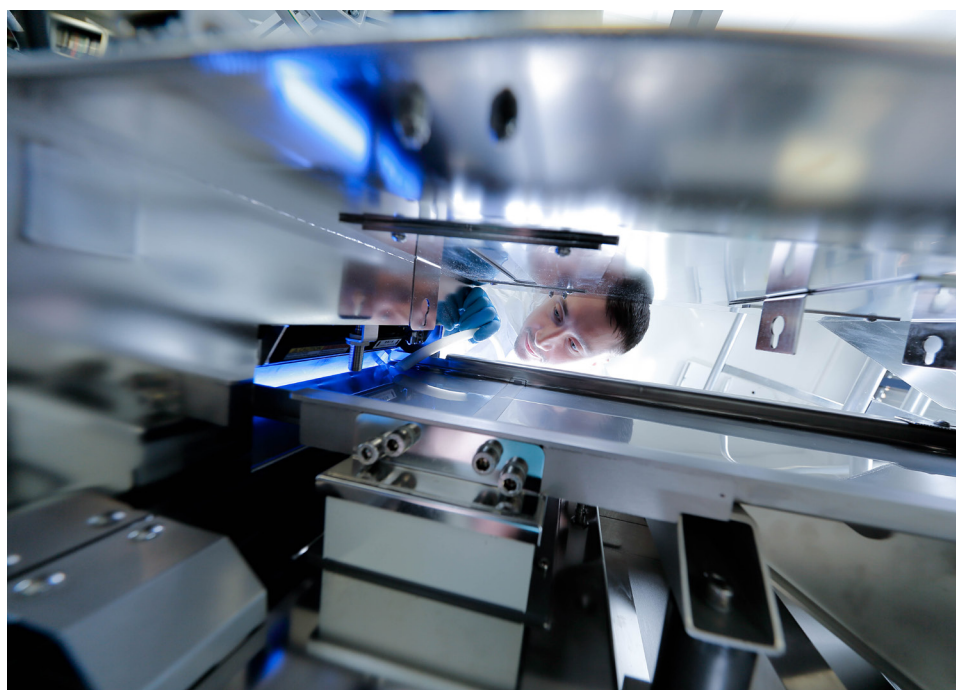
A strong understanding of handling and functions is the best prerequisite to reach best possible performances of a device. In this respect, SIKORA offers operator and maintenance trainings for all measuring, control, inspection, analysis and sorting systems. Especially interesting are customized trainings for the PURITY SCANNER and PURITY SCANNER ADVANCED.

PURITY SCANNER as well as PURITY SCANNER ADVANCED are sophisticated systems whose performance is not least a matter of correct handling as well as the understanding of all components. Accordingly important is best instructed technical staff for taking care of operating and maintaining the inspection and sorting systems.

What is more, while maintaining, cleaning and exchanging wear parts expertise is not only the guarantee for optimal performance, but also for short downtimes. *

A further advantage: SIKORA offers no standard training. Our experts prepare individual trainings for each customer that are tailored to the specific requirements. Whether operators, maintenance crew or process engineers – the customer specifies the focus of the training and receives matching training contents and documents.

Interested? Directly contact the SIKORA service at phone: +49 421 48900 50 or email: service@sikora.net and arrange your individual training today.



*Maintenance program

Naturally, SIKORA's professional service team will take care of these services as part of the one, three or five year maintenance programs.

Advantages of SIKORA maintenance programs

- ✓ Your employees keep your machines running, SIKORA takes care of the measuring, control inspection, analysis and sorting systems
- ✓ Decrease of inventory level for spare parts
- ✓ Regular maintenance of the devices
- ✓ No purchase and no maintenance of your own calibration equipment
- ✓ Production without interruption as the devices remain in your production line
- ✓ No engagement of your own employees



SIKORA
Technology To Perfection

— 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 ADVANCED**.

- Online inspection and automatic sorting for pellets of any kind
- Detection of metallic contamination as well as cross contamination as small as 50 µm on the surface and inside the pellet
- Professional Data Analysis Management (PDAM) for statistics, visualization and data logging



www.sikora.net/purityscanner

RAFFLE



Congratulations to the winner of the labyrinth – SIKORA EXTRA 1/19. Solution: 640

- Andy Bruneel
- Jose Ruiz
- Semih Ferik

SIKORA pictures

There are 5 flaws in the lower picture. Can you find them all?

Send us an email with a picture of your solution until November 30, 2019 to: extra@sikora.net

Win one of three
Baseus Bracket Wireless Charger and Powerbank
(Picture 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 emails will be considered invalid. The legal process is excluded. **GOOD LUCK!**

NEXT EVENTS



• K | Oct 16-23, 2019 | Düsseldorf, Germany



• International Plastic Pipe Conference | Nov 18-19, 2019 | Guangzhou, China

PLASTIC PIPES 2019

• Plastic Pipes 2019 | Nov 21-22, 2019 | Mumbai, India

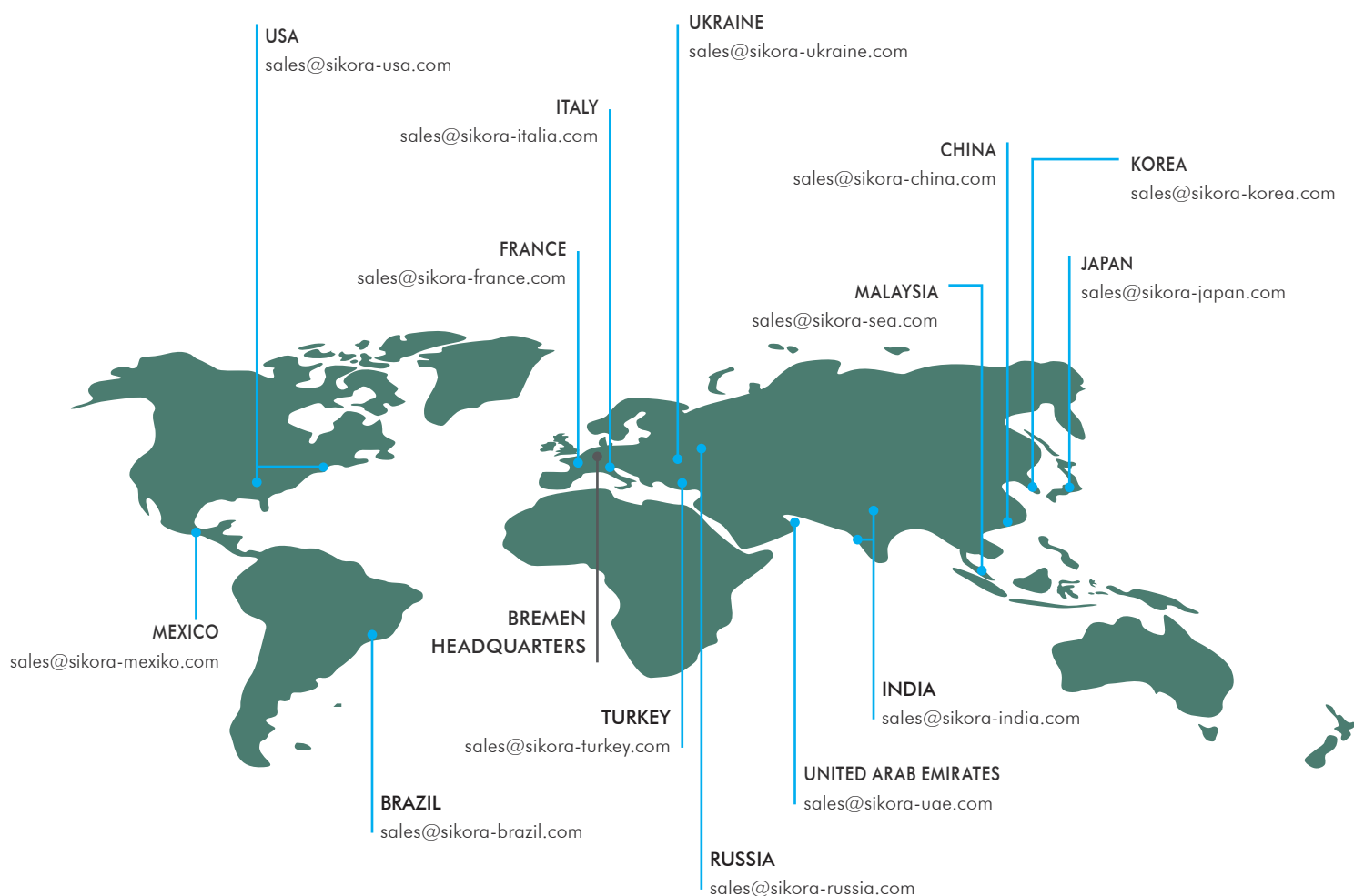
Sustainability at SIKORA

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 and receive the SIKORA magazine conveniently via email instead of printed material.

SIKORA

Technology To Perfection

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