



Press Release

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Henkel and analyticon instruments develop special measuring system for mobile handheld XRF spectrometer to boost process efficiency at Claas Bad Saulgau

New measuring system for X-ray gun enables Henkel to analyze metal coatings at Claas in just 10 Seconds

Düsseldorf – Together with analyticon instruments, Henkel Adhesive Technologies has developed a new measuring system for the mobile handheld XRF spectrometer, or X-ray gun for short. The measuring system was tested at Claas Bad Saulgau and was used on the agricultural machinery parts manufacturer's production line to investigate the potential of replacing the powder activation Bonderite M-AC 50-1 with the liquid activation Bonderite M-AC AL 2000. Rather than requiring laboratory analysis, the new system was able to measure the coating weight (CW) of the Zn phosphate (ZnPO₄) layer through the e-coat on the steel substrate in approximately 10 seconds. Using the X-ray gun, it was possible to directly and accurately analyze the activation parameters, thereby enabling Henkel Adhesive Technologies to optimize these parameters in just one day. The measured part is called "Mulde" and is made from cold rolled steel with 4g/m² Zn-PO₄ layer and a e-coat. For Claas this meant there was no need to slow down or interrupt full production during tests – nor risk any loss of quality, for example in corrosion protection.

The new solution, which combined the X-ray gun and the special measuring system from Henkel and analyticon instruments provided a way to achieve analysis on the production line – rather than in a laboratory, which would have taken several days or weeks. Thus, Henkel's technical expertise combined with analyticon's innovative equipment has resulted in a highly efficient process that saved the Claas Bad Saulgau time and money, while also using fewer resources over the long term.

"At Henkel, process efficiency and sustainability are core concerns that we consider in everything we do", said Andy Bender, Chemical Engineer at Henkel Adhesive Technologies. "We are also committed to working with our partners to develop the best possible solutions

for our customers. Thanks to the new measuring system for the X-ray gun, we are able to save our customer Claas Bad Saulgau an immense amount of time, optimizing processes at an unprecedented speed.”

Driving accuracy and efficiency with X-ray fluorescence analysis

The X-ray fluorescence analysis, or XRF, is a fast, non-destructive method for analyzing the chemical element composition of a sample accurately. It can be used to determine the type and quantity of measurable elements. The concentrations of the elements are analyzed independently of their chemical bonding – this works across the wide spectrum from magnesium (Mg) to uranium (U). The Niton XL-2 XRF gun measures the exact composition of metal alloys in seconds. Reliably and without significant sample preparation, it can identify stainless steels, non-ferrous metals and, based on their silicon and magnesium content, aluminum alloys too. The X-ray gun offers significant advantages both in quality assurance and mix-up testing as well as in the field of metal recycling, which can be enormously simplified using the X-ray gun.

Users of the X-ray gun require dedicated training, such as that provided by Henkel's technical experts. It cannot and must not be used without training, as this ensures safe and correct use of the X-ray gun.

The example of Claas Bad Saulgau impressively demonstrates of how the interaction between Henkel's extensive technical expertise and analyticon's precision measurement equipment and calibration expertise was able to deliver significant time and analytical advantages for the customer. Only through close cooperation and the bringing together of complementary skills knowledge can we work together towards a sustainable future.

About Henkel

Henkel operates globally with a well-balanced and diversified portfolio. The company holds leading positions with its three business units in both industrial and consumer businesses thanks to strong brands, innovations and technologies. Henkel Adhesive Technologies is the global leader in the adhesives market – across all industry segments worldwide. In its Laundry & Home Care and Beauty Care businesses, Henkel holds leading positions in many markets and categories around the world. Founded in 1876, Henkel looks back on more than 140 years of success. In 2020, Henkel reported sales of more than 19 billion euros and adjusted operating profit of about 2.6 billion euros. Henkel employs about 53,000 people globally – a passionate and highly diverse team, united by a strong company culture, a common purpose to create sustainable value, and shared values. As a recognized leader in sustainability, Henkel holds top positions in many international indices and rankings. Henkel's preferred shares are listed in the German stock index DAX. For more information, please visit www.henkel.com.

Photo material is available at www.henkel.com/press

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The following photo material is available:



The Niton XL2 X-ray gun was in use at this pretreatment plant at Claas Bad Saulgau.



Measuring the coating weight of the ZnPO4 layer through the e-coat at Claas Bad-Saulgau.