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Presentation of the results of the QIB blasting project at the practical application forum for industrial coating in Wetzlar, Germany

Hattingen, Germany, in November 2024. *As part of the 12th PIB Practical application Forum for Industrial Coating in Wetzlar, Germany on November 14th and 15th, 2024, experts from the Quality Association for Industrial Coating (QIB) presented the first results of the extensive QIB blasting project. VULKAN INOX was part of the team of experts and was live on site with our colleagues Christian Hoffmann and Peter Müller. The QIB blasting project, which was launched over a year ago with an initial project outline, was dedicated to the question of how blasting abrasives influence the adhesive strength and corrosion resistance of coatings.*

Why is an optimum blasting result so important?

Blasting processes are a proven method for pretreating surfaces, offering high efficiency, economy and environmental friendliness. Unfortunately, however, blasted surfaces do not always reach their full potential. This often leads to premature failure of the corrosion protection or other defects in the coating.

In this project, **13 different blasting media** - including angular and round, metallic and mineral materials - were tested to determine which would best provide the desired bonding bond strength and corrosion resistance. Over 100 steel plates were blasted according to strict specifications and then coated with a 1-layer powder coating system.

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The aim was to determine the ideal roughness and purity to ensure maximum adhesion and durability of the coating.

Initial findings and results:

The series of tests showed that **angular abrasives** were advantageous in achieving the desired surface structure in many cases. However, **round abrasives** also achieved remarkably good results in the corrosion test (KK test and NSS test). All samples treated with the optimum abrasive operating mixture survived the **480-hour corrosion test** without any significant defects.

What is important when optimizing surface treatment?

The right abrasive operating mixture is particularly important. It must be neither too coarse nor too fine, neither dusty nor oily, in order to achieve optimum surface roughness and purity. This is the only way to ensure reliable and reproducible adhesion of the coating. The right abrasive - matched to the corrosion protection system - makes it possible to exploit the full potential of the blasting process.

The results of the project provide valuable insights that not only improve the quality of the surface treatment, but can also extend the service life of the corrosion protection.

Christian Hoffmann, Head of Sales at VULKAN INOX and member of the QIB blasting project: “VULKAN INOX's in-house stainless steel blasting media, CHRONITAL and GRITTAL, also proved particularly effective in this challenging project. They were tested intensively and performed excellently in all areas. These

abrasives are characterized not only by their exceptional durability, but also by their extremely low dust generation, which ensures a clean and healthy working environment. Particularly noteworthy is their ability to deliver uniform and consistent blasting results at all times, ensuring high efficiency and quality in surface treatment. Thanks to their outstanding performance in the most demanding conditions, CHRONITAL and GRITTAL have proven to be the ideal solution for the challenges of this project, offering optimal performance for a wide range of applications."

Future prospects and conclusion:

The QIB blasting project brings more clarity to the often uncertain areas of surface treatment and offers practical solutions for better performance of coatings.

"The exchange and cooperation between the various experts from the quality community make a decisive contribution to the continuous improvement of processes and standards in industrial coating," says Christian Hoffmann. "In the future, we will see how the findings and results from this project play out in practice and how we can work with industry to find the best solutions for durable and corrosion-resistant surfaces."

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Image 1 Caption:

Surface preparation of a steel structure using GRITTAL stainless steel abrasive before coating

Image 2 Caption:

Roughness measurement on the blasting material for surface control

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About VULKAN INOX:

Founded in 1985, VULKAN INOX GmbH is a leader in the development and production of durable, corrosion-resistant stainless steel abrasives for the surface treatment of metallic and mineral materials. The company offers a wide range of products, including abrasives for deburring, descaling, structuring and cleaning. The basic products are the spherical CHRONITAL and the angular GRITTAL, which can be used individually or in combination.

VULKAN INOX relies on state-of-the-art induction melting furnaces, which mainly melt down recycled scrap to ensure the quality and sustainability of its products. Around 50 employees work in development, production and administration at the headquarters in Hattingen. More than 30 representative offices around the world are available for expert advice, reliable delivery and fast service.
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