

Switch from coal slag to GMA Garnet™ reduces consumption by 75%



GMA PremiumBlast™

Coal Slag

Job Overview

Project	Improve working conditions across blasting sites
Location	Cologne, Germany
Task	Blast trial on site to test GMA PremiumBlast™ Garnet against coal slag.
Challenge	To improve visibility and working conditions on site
Test Details	GMA PremiumBlast™ was tested on a test plate coated with 5mm Interthem 7050, 10 mm Chartek 7, and 50 µm of the base coating Interplus 256.

ZÜBLIN Chimney and Refractory (ZCR) provides innovative solutions in refractory construction, chimney construction, structural fire protection, and technical insulation. The company's services range from consulting and project planning through to service, maintenance, and documentation, as well as the reconstruction and refurbishment of industrial facilities.

ZCR had been using coal slag for their abrasive blasting projects across Europe. As the business grew, they were looking for ways to improve the working conditions for their workers, making it as clean and safe as possible. With coal slag, they experienced high levels of dust emission and impaired operator visibility, especially in enclosed areas. In addition, the abrasive consumption was high, and it took a long time to remove thick and heavy isolations coatings.

Solution

To assess the current conditions and address these challenges, GMA teamed up with Elcometer, a blast and inspection equipment provider, and ZCR to conduct a blasting trial between GMA PremiumBlast™ garnet and coal slag on site.

Trial Results

During the trial, there was a considerable reduction in dust levels, and operator visibility was greatly improved while blasting with GMA PremiumBlast™. The blasters' blasting techniques were evaluated, and equipment settings were fine-tuned. By reducing the air pressure to 7 bar, which was less tiring for the blaster, GMA was able to optimize the abrasive flow while reducing abrasive consumption. Besides increasing the cleaning speed, especially for removing isolation coatings*, the blasted surfaces were free of embedment and other pollutants/contaminations.

Using GMA PremiumBlast™



SAFER
Dust level reduction creating a safer working environment



EFFICIENCY
12.8kg/m² reduction compared to 50kg/m²



CONSUMPTION
75% less abrasive



SURFACE QUALITY
Cleaner result free of embedment and other pollutants

Why is GMA Garnet™ the preferred blasting abrasive?

Achieve safe, effective blasting with minimized consumption and unmatched coating adhesion.



Surface quality

GMA: The proven choice for exceptional coating adhesion and reduced embedment, outperforming copper slag with embedment contamination levels of nearly 4.5 times higher.



High productivity

GMA maximizes productivity and can significantly reduce the cost of surface preparation jobs.



Reduced consumption

Lower your abrasive consumption by 30-50%, giving you savings in abrasive purchase costs, as well as transport, storage and disposal costs.



Workers safety

By using GMA Garnet it can significantly reduce the presence of heavy metals and silica which are mainly found in other slag and garnet abrasives, cutting ground and air toxins, protect both workers and the natural environment.



Low dust blasting

Independent tests show GMA Garnet™ cuts dust by up to 80%, boosting visibility and lowering contamination.



Sustainable resource

Our garnet recovery programs present a cost-effective and environmentally responsible solution for used garnet disposal, with GMA garnet capable of being reprocessed up to five times.



An isolation coating with 2cm thickness (20,000 microns), can be easily remove with GMA PremiumBlast™ garnet.

Key Project Outcomes

- **Improved Working Conditions:** The trial saw a significant reduction in dust levels, greatly improving operator visibility and creating a safer working environment.
- **Optimized Abrasive Consumption:** By fine-tuning the equipment settings and reducing air pressure, abrasive consumption was optimized, resulting in increased efficiency.
- **Enhanced Surface Quality:** The blasted surfaces were free of embedment and other pollutants, providing a cleaner result.

Significant Improvements

A few months into using GMA PremiumBlast™, ZCR recorded a significant reduction in abrasive consumption of 75% for their ongoing projects. The current consumption rate is only 12.8kg/m² compared to abrasives which require 50kg/m². By switching to GMA PremiumBlast™ Garnet, ZCR has achieved a cleaner and safer working environment for its workers while reducing abrasive consumption.

Summary

The transition to GMA PremiumBlast™ Garnet has not only improved the safety and working conditions for ZCR's workers but also enhanced the efficiency and effectiveness of their blasting operations.

*GMA PremiumBlast™ was tested on a test plate coated with 5mm Interthem 7050, 10 mm Chartek 7 and 50 µm of the base coating Interplus 256.