



GMA GARNET GROUP

GMA Garnet™ - High Performance Blasting Abrasives



engineered to perform



About GMA

GMA Garnet Group (GMA) is the trusted global leader in industrial garnet and has been providing the highest quality garnet abrasive to the waterjet cutting and protective coating industries for more than 40 years.

Since being founded in 1983, GMA has grown to be the only industrial garnet supplier to manage the complete supply chain from the source to processing, international distribution, and recycling. We have a long history of sustainable mining and continue to invest in research and development, focusing on energy-efficient processing and reductions in landfill. We own our mines and processing plants across Australia, North America, Europe, South Africa and the Middle East and have expanded our operations to include alluvial, crushed and recycled garnet.

At GMA, it is our people that make the difference. At present, more than 500 GMA employees manage our operations around the world. Our team of dedicated sales and technical experts work with our customers to understand their priorities and challenges. We deliver specialist advice and distribute a complete range of premium abrasive products to more than 80 countries from our own warehouses and a network of more than 100 distributor outlets.

GMA Garnet™

Blasting Abrasives

A full range of garnet abrasives for any surface preparation requirement from removing resistant coatings and heavy rust to polishing glass and delicate restoration work.

GMA Garnet™ is approved by major paint manufacturers, preferred by major oil companies, shipyards and international fabricators and is available through an extensive global network.



| Product | Performances | Application |
|--|---|---|
| ToughBlast™ Engineered blend for the toughest coating removal jobs. | <p>Fast removal of high build coatings and/or heavy rust.</p> <ul style="list-style-type: none">• Uniform surface profile: 90 - 120 µm with exceptionally clean surface, enabling ideal preparation for industrial coating applications.• Blasting rates: Up to 30 m²/hr.• Consumption rate: As low as 15 kg/m². | <p>High Performance 'all-around' garnet abrasive. Heavy rust and pitted surfaces.</p> <p>Tank lining maintenance - 2 coat, 3 coat systems and thick coatings.</p> <p>Industrial maintenance on pipes, tanks, pressure vessels and offshore platforms.</p> |
| PremiumBlast™ Our versatile maintenance grade abrasive. | <p>Removal of thick coatings and/or medium to heavy rust.</p> <ul style="list-style-type: none">• Uniform surface profile: 60 - 95µm with exceptionally clean surface, enabling ideal preparation for industrial coating applications.• Blasting rates: Up to 20 m²/hr.• Consumption rate: As low as 10 - 15 kg/m². | <p>'All-round' garnet abrasive.</p> <p>General industrial maintenance.</p> <p>Construction and maintenance of chemical plants, power stations, mining and processing equipment, gas and sewerage plants, desalination, industrial plants and commercial buildings.</p> <p>Tanks, piping, pressure vessels, ship hulls, ballast tanks and offshore platform decking.</p> |
| NewSteel™ Our ideal abrasive for new steel, lightly rusted surfaces and thin coatings. | <p>Unrivaled speed in removing mill scale.</p> <ul style="list-style-type: none">• Uniform surface profile: 40 - 65µm with exceptionally clean surface, enabling ideal preparation for industrial coating applications.• Blasting rates: Up to 35 m²/hr.• Consumption rate: As low as 7 - 12 kg/m². | <p>New construction; removal of light rust or mill scale on new steel.</p> <p>Removal and preparation for powder coating.</p> <p>Tanks, piping, pressure vessels, ship hulls, ballast tank and offshore platform decking.</p> |



| Product | Performances | Application |
|---|---|---|
| <p>Fine</p> <p>Our ideal abrasive for fast gentle cleaning on precision equipment and vulnerable surfaces.</p> | <p>Removal of mill scale, surface preparation of stainless steel, aluminum and titanium, as well as etching glass.</p> <ul style="list-style-type: none"> • Uniform surface profile: 25 - 50µm or less with exceptionally clean surface, enabling ideal preparation for coating applications. • Blasting rates : Up to 31 m²/hr. • Consumption rate : As low as 6 kg/m². | <p>Preparing ferrous and non-ferrous metals and easily damaged or deformed substrates.</p> <p>Cleaning precision equipment like gauges, turbines, propellers, valve bodies, threads (valves, bolts, pipes).</p> <p>Weld seam inspection.</p> <p>Efficient alternative to hand tooling.</p> <p>Glass, fiberglass, plastics, softer metals, automobile, fire restoration and graffiti removal.</p> |
| <p>Superfine</p> <p>Our softest product, enabling cleaning and polishing of the most delicate surfaces.</p> | <p>Extremely delicate blasting, cleaning and polishing.</p> <ul style="list-style-type: none"> • Uniform surface profile: 12 - 25µm or less with exceptionally clean surface, enabling ideal preparation for coating applications. • Blasting rates : Up to 30 m²/hr. • Consumption rate : As low as 6 kg/m². | <p>Preparing softer metals, polishing and lapidary.</p> <p>Providing exceptional cleaning for extreme adhesion requirements as well as cleaning heavily pitted surfaces.</p> <p>The cleaning and restoration of historical landmarks, brick, stone and sensitive substrates. Graffiti removal.</p> <p>Restoration of log and old wood homes.</p> <p>Automotive, marine and antique restoration.</p> |

Production and consumption rates may vary based on nozzle size, pressure at the nozzle, standoff distance, abrasive metering, equipment quality, surface type, coating type and thickness. The blasting rates are achieved by setting the nozzle pressure to operate within the range of 95 psi – 100 psi. GMA will work with you to produce optimum performance on blasting jobs, reducing time and cost, and producing the best surface result for any coating.

* µm = micron

GMA ToughBlast™

HIGHER PRODUCTIVITY | COST EFFECTIVE | SUPERIOR SURFACE FINISH | SAFER

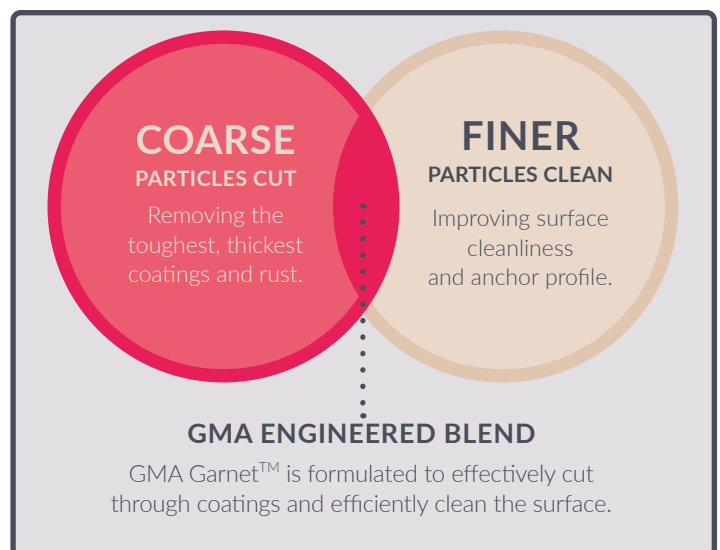


Engineered Blend for the Toughest Coating Removal Jobs

GMA's ToughBlast™ is our most diverse blend of garnet engineered for the toughest coating removal jobs.

The unique blend of both coarse and fine garnet removes resilient industrial coatings, and the durability of our sub-angular alluvial garnet helps sweep off remaining surface contaminants.

It produces an unmatched coating adhesion for industrial maintenance projects in shipyards, petrochemical plants, tank farms (exteriors and interior liners), rail car facilities, water towers, water treatment plants and general maintenance.





Higher productivity

Superior cleaning rate against other abrasives.



Superior Surface Finish

Exceptionally clean surface and uniform profile.



Cost Effective

Lower garnet consumption, labour, clean up and disposal cost.



Safer

Meets all industry, government safety and environmental standards.



Major Industries/Applications



Oil & Gas (Onshore/Offshore)



Bridges



Tank Chemical Liners



Shipyards



Military

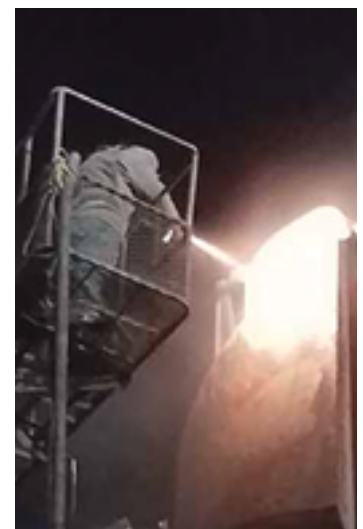
| Performance | Application |
|--|---|
| <p>Fast removal of high build coatings and/or heavy rust.</p> <ul style="list-style-type: none"> Uniform surface profile: 90 - 120 µm Blasting rates: Up to 30 m²/hr Consumption rates: As low as 15 kg/m². | <ul style="list-style-type: none"> High Performance 'all-around' garnet abrasive. Heavy rust and pitted surfaces. Tank lining maintenance - 2 coat, 3 coat systems and thick coatings. Industrial maintenance on pipes, tanks, pressure vessels and offshore platforms. |

CASE STUDY

Shipyards saves 70% in abrasive consumption with shift to GMA ToughBlast™

A shipyard in New York harbour recently switched from using slag abrasives to GMA ToughBlast™ garnet. Results showed an impressive increase in efficiency from each blaster covering 111m² per night using slag abrasives to between 139 to 185m² per night using garnet abrasives.

The customer blasted two steel ocean barges with GMA ToughBlast™ and achieved a significant savings up to 70% in abrasive consumption. The reduced consumption rate also resulted in less downtime required to refill the blasting pots. By using GMA Garnet™, lower dust emissions not only improved the operator's visibility but also enhanced workplace safety.



GMA PremiumBlast™

HIGHER PRODUCTIVITY | COST EFFECTIVE | SUPERIOR SURFACE FINISH | SAFER



Your Most Versatile Maintenance Grade Abrasive

GMA PremiumBlast™ is our “all round”, maintenance grade garnet that delivers the most efficient and cost-effective abrasive, ideal for the removal of medium to heavy rust and medium to thick industrial coatings. It is recognised as the most popular, industry standard garnet abrasive amongst manufacturers’ globally.

GMA’s alluvial garnet removes resilient coatings and its durability not only brings higher productivity but also superior surface finish.

UNIQUE FEATURES

- “All round” abrasive.
- Ideal for general industrial maintenance.
- Most versatile grade.

Performance*

Removal of medium to thick coatings and/or medium to heavy rust.

- Uniform surface profile: 60 - 95 µm
- Blasting rates: Up to 20 m²/hr
- Consumption rate: 10 - 15 kg/m².

Application

- Maintenance of chemical plants, power stations, and processing equipment.
- Initial preparation for gas and sewage treatment, desalination, industrial plants and commercial buildings.
- Tanks, piping, pressure vessels, ship hulls, ballast tanks and offshore platform decking.



Higher productivity

Superior cleaning rate against other abrasives.



Superior Surface Finish

Exceptionally clean surface and uniform profile.



Cost Effective

Lower garnet consumption, labour, clean up and disposal cost.



Safer

Meets all industry, government safety and environmental standards.



Major Industries / Applications

- Oil and Gas
- Terminals
- Offshore production
- Petroleum refining
- Energy generation and transmission
- Construction and infrastructure
- Pipelines
- Shipyards maintenance and repair
- Water and wastewater treatment
- Metal fabrication

CASE STUDY

ZÜBLIN Chimney and Refractory: A Cleaner, Safer Innovative Solution

ZÜBLIN Chimney and Refractory (ZCR) had been using coal slag for their abrasive blasting projects across Europe. With coal slag, they experienced high levels of dust emission and that impaired its operator's visibility, especially in enclosed areas. To address these challenges, GMA teamed up with Elcometer to conduct a blasting trial between GMA PremiumBlast™ garnet and coal slag on site. ZCR witnessed an increased in cleaning speed where the blasted surface were free of embedment and other contaminants. Besides that, there was a considerable reduction in dust levels. By switching to GMA PremiumBlast™ garnet, ZCR has achieved a cleaner and safer working environment for its workers while improving productivity.

**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.*



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GMA NewSteel™

HIGHER PRODUCTIVITY | COST EFFECTIVE | SUPERIOR SURFACE FINISH | SAFER



Unrivalled Speed in Removing Mill Scale

GMA NewSteel™ is our high performance garnet that delivers the most efficient, cost-effective abrasive for lightly rusted surfaces and thin coatings. It provides an unrivalled speed at removing mill scale.

Throughout the world, GMA Garnet™ is recognised as the leading high performance, cost effective and safe choice for a variety of blasting applications.

UNIQUE FEATURES

- Surface preparation on new steel surfaces, light rust or thin coatings.
- Low consumption rate.
- Ideal for initial preparation of coating application.

Performance*

- Unrivalled speed in removing mill scale.
- Uniform surface profile: 40 - 65µm
 - Blasting rates: Up to 35 m²/hr
 - Consumption rate: As low as 7 - 12 kg/m².

Application

- New construction, removal of light rust or mill scale on new steel.
- Removal and preparation for powder coating.
- Tanks, piping, pressure vessels, and offshore platform decking.



Higher productivity

Superior cleaning rate against other abrasives.



Superior Surface Finish

Exceptionally clean surface and uniform profile.



Cost Effective

Lower garnet consumption, labour, clean up and disposal cost.



Safer

Meets all industry, government safety and environmental standards.



Major Industries / Applications

- Oil and Gas
 - Terminals
 - Offshore production
 - Petroleum refining
- Energy generation and transmission
 - Construction and infrastructure
 - Pipelines
- Shipyards maintenance and repair
 - Water and wastewater treatment
 - Metal fabrication

CASE STUDY

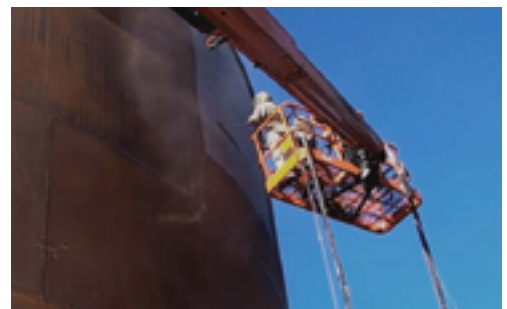
Apache Industrial Services: A Week's Work in One Day

"In one day with GMA Garnet™, we completed the amount of work that would normally take a week with Black Beauty Slag."

Clay Donaldson,
Site Foreman
Apache Industrial Services

Apache Industrial Services, a leading industrial blasting and coatings contractor, recent switch from using waste slag to garnet abrasives media has managed to increase productivity by 71%, and saved 15% in product costs. After conducting a full blasting demo trial with Apache between GMA NewSteel™ and Black Beauty Fine products, the results showed that GMA NewSteel™ produced a 2.8mil profile, while Black Beauty Fine nearly overshot the profile. GMA NewSteel™ cleaned nearly twice as many square feet per hour, with 50% less consumption.

Armed with a safer, more productive garnet abrasives and the proper blasting technique, Apache's team is getting the job done right—and moving on to the next in record time.



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GMA Fine and GMA Superfine

HIGHER PRODUCTIVITY | COST EFFECTIVE | SUPERIOR SURFACE FINISH | SAFER



GMA Micronised Garnet Products for Vulnerable Surfaces and Precision Applications

GMA Fine and GMA Superfine garnet products are processed using state of the art technology to ensure consistent high quality.

The combination of high mineral purity, total grain angularity and consistent sizing ensures high performance cleaning, etching and polishing.

GMA will work with you to produce optimum performance on blasting jobs, reducing time and cost, and producing the best result.





Higher productivity

Superior cleaning rate against other abrasives.



Superior Surface Finish

Exceptionally clean surface and uniform profile.



Cost Effective

Lower garnet consumption, labour, clean up and disposal cost.



Safer

Meets all industry, government safety and environmental standards.



Fine Application

Ideal for fast and gentle cleaning of precision equipment and vulnerable surfaces.

- Removing mill scale (less than 10 micron profile), preparing ferrous and non-ferrous metal, and easily damaged or deformed substrate.
- Blasting of galvanized coatings, stainless steel, aluminium and alloys. Blast etching for glass frosting.
- An efficient alternative to hand-tooling for cleaning precision equipment and components such as gauges, turbines, propellers, valve bodies, threads and bolts. Preparation for weld seam inspections.
- Finer abrasive blasting cleaner for substrates such as glass, fibreglass, plastics, softer metals, automobiles, stone/brick/timber restoration and graffiti removal.
- Concrete maintenance and surface preparation of concrete formwork.
- Available in 200 mesh.

Superfine Application

Ideal for extremely delicate blasting, cleaning and polishing of the most delicate and sensitive surfaces.

- Removing mill scale (less than 5 micron profile), graffiti removal, preparing softer metals, polishing, and lapidary.
- Exceptional cleaning requirements such as tackling extreme adhesion and cleaning heavy pitting.
- Removing gloss from plastic before applying a coating.
- Removing paint one layer at a time without causing heat affected zones on metal surfaces.
- Blast cleaning around valves and gauges in refineries and production plants.
- Blast etching of glass, aluminium, plastics and composites.
- Cleaning heritage landmarks made of brick and sensitive stone. Automotive and antique restoration.
- De-burring and polishing of masonry, castings and optical glass components.
- Available in 350 mesh.

CASE STUDY

Lauterbad Viaduct



At a Glance

| | |
|---------------------------|---|
| Client: | MBS Sandblastarbeiten GmbH & Co. KG |
| Location: | Freudenstadt, Germany |
| Application: | Railway viaduct renovation. |
| Product: | GMA PremiumBlast™ |
| Project Scope: | Abrasive blasting and painting on 5,000 m ² of steel bridge. |

New Corrosion Protection for Lauterbad viaduct for the next 50 years

A well known viaduct in Lauterbad (Freudenstadt) was extensively renovated From June 2022 to March 2023.

Built between 1884 and 1886, the 34m high viaduct spans 213m across the Lauter river. The impressive half-timbered structure has since served as a railway bridge for the Kinzig Valley Railway. The entire route belongs to DB Netz AG.

The Lauterbad viaduct is a listed heritage structure, and as much as possible, all its original components should be preserved despite the extensive renovation work. The scope of the project was to renew the corrosion protection on the steel structure for 40 to 50 years. Therefore, the work and materials from contractors in all trades need to be of high quality.

MBS Sandstrahlarbeiten GmbH & Co. KG (MBS) was commissioned to complete the corrosion protection work. The scope comprised of abrasive blasting and painting (five layers) of approximately 5,000 m² steel surface in compliant with the ZTV-ING standard, and within a tight timeframe.

MBS is a recognised and leading corrosion protection company in Baden-Württemberg, and in Greater Southern Germany. The company also specialises in bridge structures. The owner-managed company stands for conscientious, motivated and timely work.

Due to a proven track record, MBS chose GMA PremiumBlast™ as the preferred blasting abrasive for this project. The biggest advantage of GMA Garnet™ was the lower



Higher productivity

Superior cleaning rate against other abrasives.



Cost Effective

Lower garnet consumption, labour, clean up & disposal cost.



Superior Surface Finish

Exceptionally clean surface & uniform profile.



Safer

Meets all industry, government safety and environmental standards.



Benefits of GMA PremiumBlast™ Garnet”

- **Faster cleaning speed, especially for projects with tight timeframes.**
- **Lower consumption and disposal efforts. Reduced downtime and unnecessary costs on material handling concurrently.**
- **Good price-performance ratio leads to cost-savings.**
- **On-site technical service by GMA's experienced team.**

abrasive consumption compared to alternative expendable abrasives such as coal, nickel or copper slags.

Moreover, the concerted effort from onsite handling (loading/unloading) and cleaning to disposal was significantly reduced coupled with the professionalism of the specialist MBS team made it possible to achieve higher cost savings. In fact, the budgeted blasting media consumption was reduced by another 20% over the time of the project.

Furthermore, GMA PremiumBlast™ garnet was readily available to MBS in a stable silo system on-site, and three blast pots can be operated and filled at the same time. On one hand, project downtime is significantly reduced with a faster filling of blast pots, and on the

other hand, these were carried out every 1.5 to 2 hours due to reduced abrasive flow and consumption.

MBS managing director Mr. Buttenmüller praised GMA's delivery performance as 'very good, fast and competent'.

"The GMA representatives were a great support to us, and we are very satisfied with the service, the delivery reliability and the delivery times," Mr Buttenmüller said.

The GMA team would like to thank everyone involved for the successful cooperation in this complex but exciting project!.

CASE STUDY

Salier Bridge



At a Glance

Client: Heinrich Schmid

Location: Speyer, Germany

Application: Salier Bridge

Product: GMA PremiumBlast™

Abrasive Consumption: Reduced by 63%.

Productivity: Increased by 100%.

Heinrich Schmid replaces slag with GMA PremiumBlast™ for Salier Bridge corrosion protection project

For cleaner and more efficient abrasive blasting results.

When corrosion protection experts Heinrich Schmid took on the maintenance work for Salier Bridge in Speyer, Germany in 2019, they found the slag abrasives they were using to be underperforming.

Moreover, the dust levels during blasting were very high. The search for a cleaner and higher performing abrasives has led them to GMA PremiumBlast™ garnet.

The Salier Bridge, built in 1956 has two road traffic lanes, pedestrian and bicycle lanes. The 595m long steel bridge spans across the Rhine river between Baden-Württemberg and Rhineland-Palatinate.

According to Heinrich Schmid, the old paint coating (thickness between 300 - 450 µm) on the steel beams under the bridge must be thoroughly and safely removed as it contained lead, a dangerous and toxic metal.

The workers were required to wear personal protective equipment and enter the worksite via hermetically insulated airlock doors.

The project covered four construction areas of similar size with 1,400m² per area and a total area of 5,600m². The blasting works were conducted in two stages due to the presence of hazardous materials. The coating was first removed followed by rust removal in stage two. Therefore, the blasting works in each area were performed twice.



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“GMA PremiumBlast™ was found to be more efficient. Not only was the performance in productivity increased by 100% but abrasive consumption was also drastically reduced by 63%.”

Initially, the first area was blasted with Asilikos coal slag 0.5 - 2.0 mm. The performance was unsatisfactory with high abrasive consumption of 42.86 kg/m². Moreover, the dust levels were very high, which was a health concern for workers and the environment. It took more effort and a longer time to clean up with reduced safety on site.

GMA PremiumBlast™ was then tested on area two and was found to be more efficient. Not only was the performance increased, but abrasive consumption was also drastically reduced to only 16.07kg/m².

In addition, GMA provided a package offer of PremiumBlast™ abrasive and a mobile GMA Blast Abrasive Silo. Filling the blast pots via the silo takes just a few seconds. It also minimizes handling and reduces packaging waste.

In summary, Heinrich Schmid saved 63% in abrasive consumption and the same constructed second area was completed in half the time. Productivity was increased by 100% due to higher blasting speed, reduced cleanup, post-processing and material handling.

The bridge maintenance project commenced in November 2019 and is expected to be completed in 2021.

Heinrich Schmid GmbH & Co. KG is one of the largest construction companies in the industry with more than 5,200 employees and 170 locations in Europe. Besides painting, fire and building protection and insulation, the company offers corrosion protection services for steel and concrete.

CASE STUDY

Berlin Postal Station



At a Glance

Client: CDP GmbH

Location: Berlin, Deutschland

Application: Sanierung des Berliner Postbahnhofs

Product: GMA PremiumBlast™

Abrasive Consumption: 19 kg/m² on a surface thickness of over 800 µm

Productivity: Over 30 % faster than the pre-calculated blasting time.

Refurbishment of the Berlin Postal Station

The Berliner Postbahnhof project: Can GMA PremiumBlast™ perform better than slag abrasives?

Built in 1907, the postal station in Berlin was once an important logistics hub for managing mail and parcels. Over 100 years later, this fine industrial architecture is being refurbished and modernised while retaining its history and charm.

One of the structural refurbishment works was sandblasting 4000 m² of complicated steel construction, including the original rivets. In addition, the old coating on these structures was up to 800 µm thick. The cleaned surface was then treated with a fire-protection coating.

Blasting and Painting specialist – CDP has been using synthetic slag abrasives for their major surface preparation works, and this was the first time GMA PremiumBlast™



garnet was exclusively used for a project of this scale. Initially, Mr Udo Pohl, the owner of GDP, was skeptical of garnet abrasives outperforming slag. After reviewing the performance data, he is convinced.

The first distinct data that set GMA PremiumBlast™ apart was the consumption rate. CDP recorded a rate of 19.5 kg/m² of garnet



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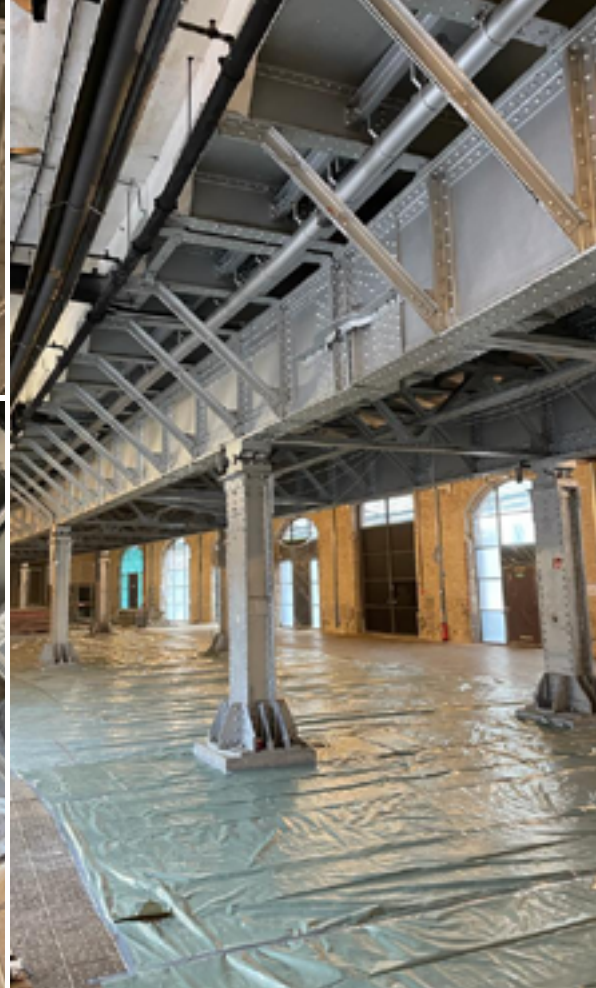
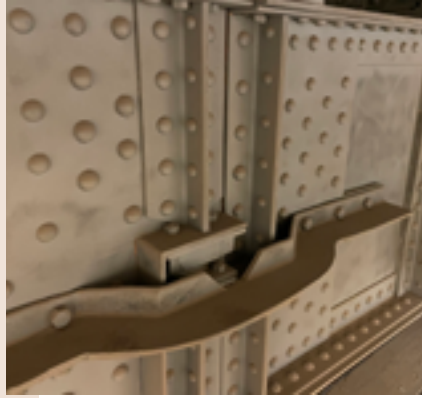
Superior Surface Finish

Exceptionally clean surface & uniform profile.



Safer

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Advantages of GMA PremiumBlast™

- Meets surface profile requirements with high surface cleanliness.
- Low abrasive consumption.
- Less downtime and interruptions due to longer blasting time and with fewer refills.
- Cost savings on cleanup and disposal of used abrasives.

used compared to 50 to 70 kg/m² of conventional slags. In addition, numerous tests have recorded consumption rates that were lower than 12 kg/m² on less angled surfaces.

Secondly, the sandblasting work which commenced on 17 October 2022, was completed within 30 days. The four blasters allocated for the job completed the work two weeks ahead of schedule.

Moreover, a longer blasting time equates to spending less time refilling the blast pots. With slags, the blaster stops every 40 minutes to refill the blast pot, while he only needs to refill GMA PremiumBlast™ every 90 to 120 minutes. The lesser amount of used garnet abrasives - 78 tonnes of garnet compared to at least 250 tonnes of slag was also quicker to clean up and cheaper to dispose of.

According to Mr Pohl, the blasted surface had the required surface profile with high surface cleanliness, which was almost perfect, even around the rivets.

“From my professional point of view, the switch from slag abrasives to GMA PremiumBlast™ garnet was the right decision for us and our customers. The initial price per tonne may be higher, but the advantages on top of the economic benefits justify the initial investment,” Mr Pohl said.

“I would like to thank the GMA Team for the good cooperation and the great job done.”

CDP GMBH ●

The GMA Garnet™ Advantage



GMA is the trusted global leader in industrial garnet. For over 40 years, GMA has been providing the highest quality garnet to the protective coating industries. Our blasting range ensures higher productivity, superior surface finish, cost effectiveness and it is safe. GMA is approved by leading corrosion companies, manufacturers, major oil companies, shipyards and fabricators worldwide.

GMA provides a uniform, superior surface finish because in a bag of GMA Garnet, it contains up to 98% garnet particles, whereas a bag of slag abrasives usually contain higher dust contaminants and other compound that affects surface embedment.

Garnet is also harder than slag. GMA Garnet has an Mohs of 7-8, whereas slag abrasives only have an Mohs of 6-7. Hence, GMA cleans faster than slag due to its superior hardness and weight that cleans the surface with greater efficiency.

| OVERVIEW | | |
|---|-------------|-------|
| | GMA Garnet™ | Slags |
| Consumption in kg/hr | 200 | 500 |
| Purchase price EUR / MT | 490 | 90 |
| Disposal costs EUR / MT | 120 | 120 |
| Labour EUR / hr | 50 | 50 |
| Equipment EUR / hr | 15 | 15 |
| Blast cleaning speed m ² /hr | 15 | 10 |



Higher productivity

Superior cleaning rate against other abrasives.



Cost Effective

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How do I calculate my exact costs per blasted sqm?

$$\frac{\left(\text{consumption in tonnes} \times \left(\text{abrasive costs} + \text{disposal costs} \right) \text{labour costs} + \text{equipment costs} \right)}{\text{blast cleaning speed}} = \text{€ / m}^2$$

Sample comparison between common slag abrasives and GMA Garnet™:

Blasting with slag abrasive cost around 90,00 €/MT. A 200 liter blast pot would last around 20-30 minutes (approx. 500 kg per hour) can achieve a blast rate of 10 sq²/hr. Hence, the cost to blast with cost around 17,00 €/m².

However, when blast with GMA Garnet abrasive, a 200 liter blast pot with garnet abrasive can lasts around 1 hour. You can achieve a blast rate of at least 15 m²/hr. The cost to blast with garnet only cost around 12,46 €/m².

$$\text{Total costs} \frac{(0.5 \times (90 + 120) + 50 + 15)}{10} = 17,00 \text{ € / m}^2$$


$$\text{Total costs} \frac{(0.2 \times (490 + 120) + 50 + 15)}{15} = 12,46 \text{ € / m}^2$$

Our dedicated sales team stands ready to assist customers to select the best garnet abrasive to meet your unique project specifications. Discover our full range of GMA Garnet™ abrasives for your surface preparation applications today!

A Quick Comparison of Common Industrial Blasting Abrasives

| | GMA Garnet™ | Waste Slag | Silica Sand | Metallic Abrasives | Aluminium Oxide | Crushed Glass |
|--|---|---|---|--|--|--|
| Productivity (m²/hr) | High | Medium | Medium | Medium | High | Low |
| Consumption (kg/m²) | Low/Medium | High | Medium | Low | Low/Medium | High |
| Surface Quality | Minimal embedment. Consistent profile. No rework required. | Medium to high level of embedment. High risk of failing surface inspections and possible rework required. | Medium to high level of embedment. | Medium level of embedment and metallic contaminants. Often too high surface profile (more than 100 microns). | Low embedment. Consistent profile. Less rework required. Often too high surface profile. | Medium to high level of embedment. Possibility of chalky white residue. |
| Dust | Low in initial use Possibility of increasing dust generation after multiple reuse. | High Possibility of exceeding respirable hazardous limits. | High Possibility of exceeding respirable hazardous limits. | Low in initial use. Possibility of increasing dust generation after multiple reuse. | Low in initial use. Possibility of increasing dust generation after multiple reuse. | High |
| Heavy Metals and Hazards | Trace amounts (significantly below OSHA limits). | Arsenic, Beryllium, Cadmium, Chromium Copper, Lead Manganese, Nickel Vanadium <i>*Heavy metal content will vary depending on the type of slag abrasives, i.e. Copper, Coal, Nickel.</i> | Silica | Trace amounts (significantly below OSHA limits). | Trace amounts (significantly below OSHA limits). | Trace amounts (significantly below OSHA limits). |
| Environmental Contamination Risk | Low | High | Medium | Low | Low | Low |
| Disposal Cost | Low | Medium to high Possible extra costs for hazardous. | High | Low | Low | High |
| Friability | Low | High | High | Low | Low | High |
| Hardness (Knoop Scale) | 1700 | 550-800 (coal slag) 950 (copper slag) 500-700 (nickel slag) | 500 | 1500 - 3000 | 1800 | 600 |
| Specific Gravity (g/cm³) (Density Relative to Water) | 4.2 | 2.7 (coal slag) 3.4 (copper slag) 2.8 (nickel slag) | 2.5 | 7.4 | 3.9 | 2.5 |
| Bulk Density (mt/m³) | 2.3 | 0.9-1.4 (coal slag) 1.4-1.9 (copper slag) 1.4-1.7 (nickel slag) | 1.1-1.6 | 3.7-4.2 | 1.7-2.0 | 1.3-1.5 |
| Recycling | Can be recycled 5 to 15 times. | Cannot be recycled. | Cannot be recycled. | Realistically 30 - 100 times. | Can be recycled 10 to 20 times. | Cannot be recycled. |
| Supply | Secure supply directly from the producer. Mined and produced domestically and internationally. | Some products have significant supply issues like coal slag. Global production and supply network is only available for inefficient copper slags | Plentiful supply. Mined and produced domestically and internationally. | Produced domestically and internationally but significant fluctuation due to the steel market. | Supply and quality disruptions. Not produced domestically. | Produced domestically and internationally. |

Disclaimer: The data and information contained on this sheet are general representative ratings and should be used as a guide only.

An aerial photograph of a large-scale industrial garnet processing facility. The central feature is a vast, terraced area of reddish-brown material, likely garnet, which has been processed and spread out in large, flat piles. The terrain is rugged and hilly, with green vegetation visible in the background and foreground. A dirt road runs along the edge of the processing area, and two large white trucks with yellow dump bodies are driving on it, carrying loads of the processed material. The overall scene conveys a sense of large-scale industrial activity in a natural, hilly environment.

Consistent supply of the highest quality industrial garnet to our customers, anywhere in the world.



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