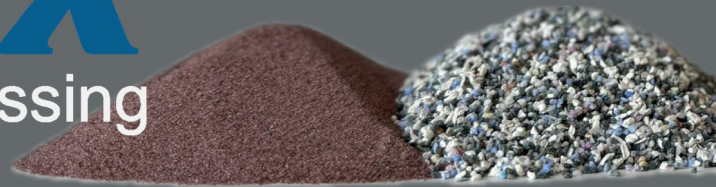


KOMINEX

Minerals + Processing



Product Catalogue

Why you should use our Products:

- Enhance your economic efficiency
- Improve your CO₂-Balance
- Made in Germany
- 50 Years of Experience
- Certified Top Quality

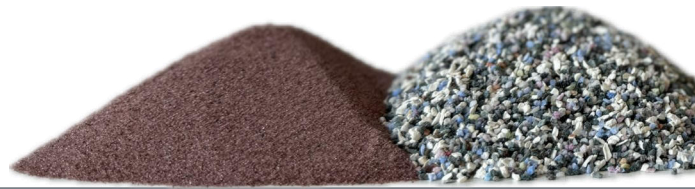
Products

- **KOMINEX** Fused Alumina (MK-D)
- **KOMINEX** Fused Alumina (MKK-D)
- **KOMINEX** Garnet Premium (GR-C)
- **KOMINEX** Garnet (GR-D)

Contact Information



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Why you really should consider

Using our high class products and services

- **Enhancing your economic efficiency**
- **Improving your CO₂-Balance**
- **Products „Made in Germany“ for a short supply chain**
- **Comprehensive Quality Control**
- **More than 50 years of experience in recycling**





Enhance your economic efficiency

while achieving the same quality

Blasting Test comparing KOMINEX Fused Alumina MK-D with virgin Brown Fused Alumina:

The graph shows the percentage of grains coarser than 125 microns (separation sieve FEPA size F 80).

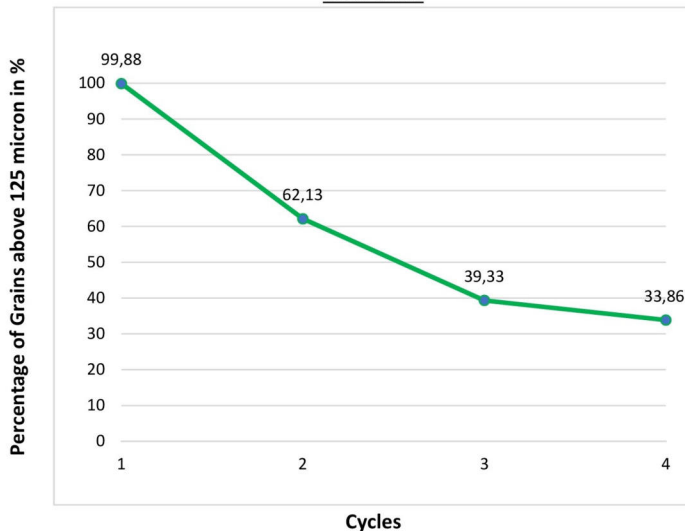
Blasting Test KOMINEX Fused Alumina Type MK-D F 80

| | |
|-----------------------------|----------------------------|
| Blasting nozzle | 8 mm |
| Pressure | 5 Bar |
| Flow rate blasting material | ca. 6 kg/min |
| Blasting Angle | 45° |
| Distance to the surface | 20 cm |
| Blasted Surface | Construction steel St 37.2 |
| Separation size grain [µm] | 125 micron |

Roughness Ø

| | During Cycle 3 | During Cycle 10 |
|----|----------------|-----------------|
| Ra | 4,09 | 3,68 |
| Rz | 28,47 | 26,94 |

Wear chart



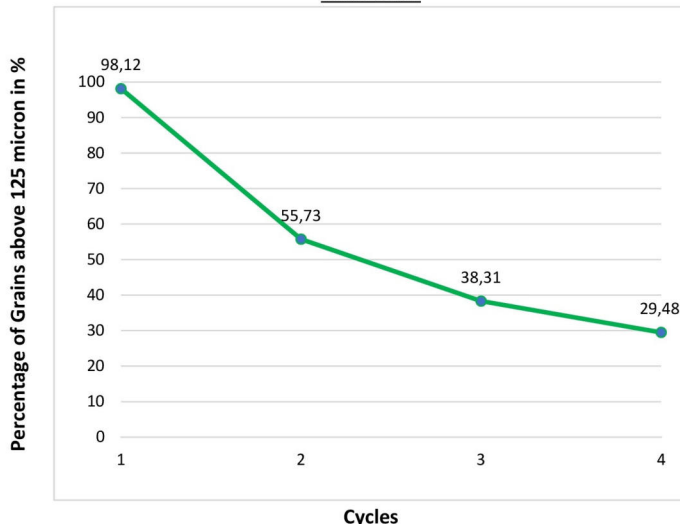
Blasting Test Virgin Brown Fused Alumina F 80

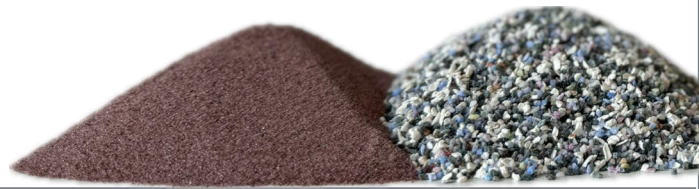
| | |
|-----------------------------|----------------------------|
| Blasting nozzle | 8 mm |
| Pressure | 5 Bar |
| Flow rate blasting material | ca. 6 kg/min |
| Blasting Angle | 45° |
| Distance to the surface | 20 cm |
| Blasted Surface | Construction steel St 37.2 |
| Separation size grain [µm] | 125 micron |

Roughness Ø

| | During Cycle 3 | During Cycle 10 |
|----|----------------|-----------------|
| Ra | 3,75 | 3,72 |
| Rz | 25,87 | 25,5 |

Wear chart





Improve your CO₂ - Balance

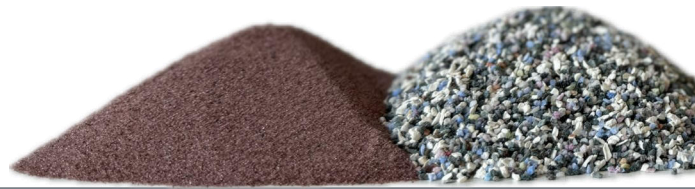
with our products and services

Save nearly 1.000 kg of CO₂ by using 1 mt of our KOMINEX Fused Alumina MK-D

- For the production of 1 mt of Brown Fused Alumina (origin China), 2000 kWh of energy are used, which means 1062 kg CO₂* are generated for 1 to BFA.
- During the production of 1 mt of KOMINEX Fused Alumina, 100 kg CO₂ are generated. The only energy consumed is for the breakers and the sieving machines. Almost 60 % of the energy used originates from green sources.
- By using 1 mt of KOMINEX MK-D, more than 1000 kg of CO₂ are saved, compared to the use of 1 mt of virgin BFA.
- The CO₂ generated during the transport of virgin BFA from China to Europe is even not included in the calculation.

*<https://www.statista.com/statistics/1300419/power-generation-emission-intensity-china/>





Products Made in Germany

Create a Short Supply Chain

We take back your

- Vitrified bonded abrasives
- Fines from abrasive production
- Leftover fused alumina/SiC grains from coated abrasive production
- Used blasting media (Fused alumina/ SiC)
- Technical ceramics scrap (Fused alumina/ SiC based)
- Used garnet

And give them a second live in our recycled Products

- We process the residues into high-quality end products on a total of six production lines.
- A large number of systems ensure the processing and recycling into the right quality and quantity and under the right conditions.
- Complex screening technology for the production for a wide range of products to various industrial applications.
- We operate three logistics centres in Germany to ensure fast and reliable delivery.



D-06463 Ermsleben

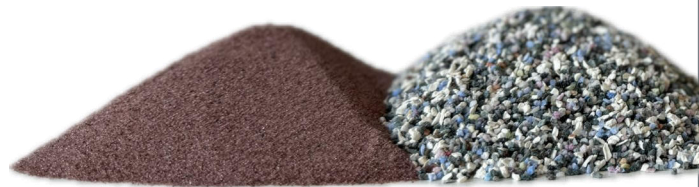


D-76877 Offenbach



D-41749 Viersen



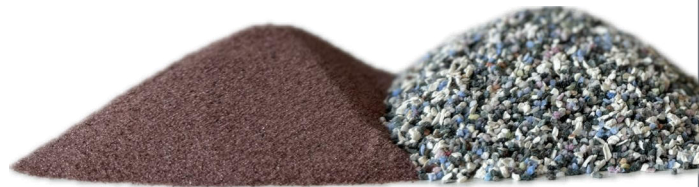


More than 50 years experience

in processing and recycling

- The reprocessing of residual materials from the grinding, blasting and refractory industries began in the middle of the 20th century.
- Thanks to our many years of experience and extensive know-how in processing and recycling of industrial minerals, we can offer you tailor-made concepts for your residual materials.
- Due to the versatility of our products, we are a reliable supplier for a wide range of products to various industrial sectors and companies of all sizes.



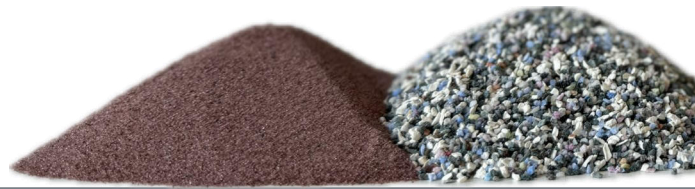


Comprehensive Quality Control

Ensures great results

- **Manufacturing outstanding products requires the right raw materials, optimal production techniques and precise quality control.**
- **As a first step, we examine the residual materials offered to us individually for their suitability for processing and discuss the best way to process them, including logistics, with the supplying company.**
- **When the residual materials arrive at our plant, a precise check of incoming goods is carried out to ensure that the defined quality parameters are met.**
- **All finished products are tested in our in-house laboratory for compliance with the determined specifications before they are cleared for delivery.**





Products:

- **KOMINEX Fused Alumina Type MK-D**
- **KOMINEX Fused Alumina Type MKK-D**
- **KOMINEX Garnet Premium Type GR-C**
- **KOMINEX Garnet Type GR-D**

Available Grit Sizes:

| Product | Grain sizes |
|--------------------------|---|
| Fused Alumina Type MK-D | FEPA F 12 - F 220 1-3 mm, 0,5-1 mm, 0,25-0,5 mm, 0,125-0,250 mm, DCF |
| Fused Alumina Type MKK-D | FEPA F 12 - F 220 1-3 mm, 0,5-1 mm, 0,25-0,5 mm, 0,125-0,250 mm |
| Garnet Premium Type GR-C | 80# , 120#, 20/40#, 30/60# |
| Garnet Type GR-D | 80#, 120#, 180# , 220#, 230#, 240#, 300# 0.1 - 0.25 mm / 0.09 - 0.18 mm / 0.06 - 0.1 mm / 0.01 - 0.06 mm |

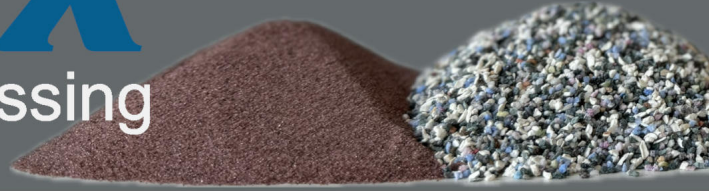
Available packaging:

- 25kg paper bags on pallets of 1 to shrink wrapped
- 1 to big bags on pallets
- Other sizes on demand



KOMINEX

Minerals + Processing



KOMINEX Fused Alumina Type MK-D

Description:

Our Fused Alumina is manufactured from high-value vitrified grinding wheels and fused alumina fines from the abrasive industry. Due to the characteristics of the input materials, the final product is a mix of diverse fused alumina types with white fused aluminas comprising the majority.

Application:

- Abrasive tools
- Blasting
- Refractories

Characteristics

Spec. gravity: approx. 3.9 g/cm³ Bulk density: 1.5 - 1.8 g/cm³
Hardness: 9 (Mohs)

Chemical Analysis (typical):

| Al ₂ O ₃ | TiO ₂ | SiO ₂ | Fe ₂ O ₃ | CaO + MgO | SiC |
|--------------------------------|------------------|------------------|--------------------------------|-----------|------|
| 86.15% | 0.7% | 6.8% | 0.25% | 0.3% | 5.8% |

Available Grits:

| FEPA Grits |
|------------|
| F 12 |
| F 14 |
| F 16 |
| F 20 |
| F 24 |
| F 30 |
| F 36 |
| F 40 |
| F 46 |
| F 54 |
| F 60 |
| F 70 |
| F 80 |
| F 90 |
| F 100 |
| F 120 |
| F 150 |
| F 180 |
| F 220 |

Other sizes on request

| Grit Mix F from/to |
|--------------------|
| 16/20 |
| 24/36 |
| 40/60 |
| 70/100 |
| 120/150 |
| 180/220 |

| Metric Grits |
|----------------|
| 1.00 - 3.00 mm |
| 1.00 - 2.00 mm |
| 0.50 - 1.00 mm |
| 0.25 - 0.50 mm |
| 0.12 - 0.25 mm |
| 0.06 - 0.12 mm |



Packing:

In 25-kg-bags on pallets of 1 MT shrinkfoiled or in 1 MT Big Bags.

22.07.2024

This technical information is given according to today's knowledge and can be subject to changes.

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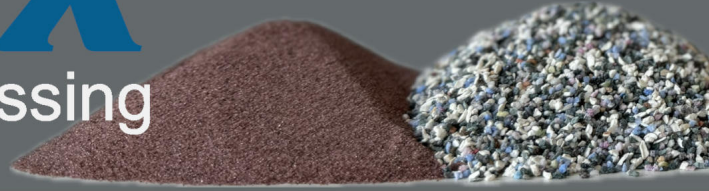
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KOMINEX

Minerals + Processing



KOMINEX Fused Alumina Type MKK-D

Description:

Our Fused Alumina MKK-D is manufactured from high-value resinoid-bonded grinding wheels and fused alumina fines from the abrasive industry. Due to the characteristics of the input materials, the final product is a mix of diverse fused alumina types with brown fused aluminas comprising the majority.

Application:

- Resinoid-bonded abrasive tools

X-ray fluorescence analysis according to DIN 12677 (sample analysis from December 16, 2020)

Grit 0-0,2 mm

| | |
|--------------------------------|--------|
| Al ₂ O ₃ | 72,98% |
| SiO ₂ | 14,92% |
| Fe ₂ O ₃ | 0,11% |
| CaO | 0,21% |
| MgO | 0,04% |
| TiO ₂ | 0,41% |
| K ₂ O | 0,67% |
| Na ₂ O | 0,14% |
| BaO | 0,07% |
| ZrO ₂ | 0,15% |
| Residual bond | 10,30% |

Subject to fluctuations in residual material

Mineral phase analysis using X-ray diffractometry (sample analysis from January 12, 2021)

Grit 0-0,2 mm

| | |
|--------------|--------|
| Corundum | 85,00% |
| SiC | 10,00% |
| Diaoyudaorit | 3,00% |
| Quarz | <1,00% |
| Rest | 2,00% |

Subject to fluctuations in residual material

Packing:

In Big Bags à 500 kg or in Big Bags à 800 kg.



02.08.2024

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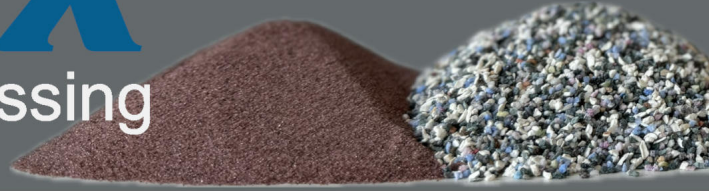
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KOMINEX

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KOMINEX Garnet Premium Type GR-C

Description:

Garnet is a naturally-occurring red-coloured mineral. Our material is almandine garnet, which is chemically inert and non-metallic. Due to its perfect combination of hardness and toughness, garnet is the preferred raw material for various abrasive applications. It is free of iron and does not contain any soluble or dusty components.

Application:

- Waterjet Cutting
- Blasting

Characteristics:

Spec. gravity: 3.8 - 4.1 g/cm³ Fusion point: 1315 °C
Hardness: 7.5 - 8 (Mohs) Bulk density: 2.3 - 2.5 g/cm³

Chemical Analysis (typical):

| Al ₂ O ₃ | SiO ₂ | Fe ₂ O ₃ | CaO | MgO | TiO ₂ |
|--------------------------------|------------------|--------------------------------|-------|-------|------------------|
| 21.00% | 39.00% | 17.00% | 9.50% | 5.00% | 0.05% |

Available Grits:

| Mesh |
|-------|
| 80 |
| 120 |
| 20/40 |
| 30/60 |

Other sizes on request.

Packing:

In 25 kg bags on pallets of 1 MT shrinkfoiled or in 1 MT big bags.



02.08.2024

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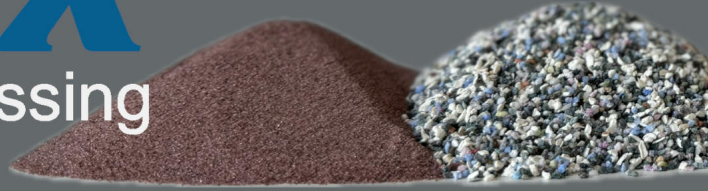
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KOMINEX

Minerals + Processing



KOMINEX Garnet Type GR-D

Description:

Garnet is a naturally-occurring red-coloured mineral. Our material is almandine garnet, which is chemically inert and non-metallic. Due to its perfect combination of hardness and toughness, garnet is the preferred raw material for various abrasive applications. It is free of iron and does not contain any soluble or dusty components.

Application:

- Waterjet Cutting
- Blasting

Characteristics:

Spec. gravity: 4.1 - 4.25 g/cm³ Fusion point: 1315 °C
Hardness: 7.5 - 8 (Mohs) Bulk density: 2.0 - 2.5 g/cm³

Chemical Analysis (typical):

| Al ₂ O ₃ | SiO ₂ | Fe ₂ O ₃ | CaO | MgO | TiO ₂ |
|--------------------------------|------------------|--------------------------------|-------|-------|------------------|
| 22.00% | 35.00% | 34.00% | 2.00% | 5.00% | 2.00% |

Available Grits:

| Mesh | Metric |
|------|----------------|
| 80 | 0.1 - 0.25 mm |
| 120 | 0.09 - 0.18 mm |
| 180 | 0.06 - 0.1 mm |
| 200 | 0.01 - 0.06 mm |
| 220 | |
| 230 | |
| 240 | |
| 300 | |

Other sizes on request.

Packing:

In 25 kg bags on pallets of 1 MT shrinkfoiled or in 1 MT big bags.



22.07.2024

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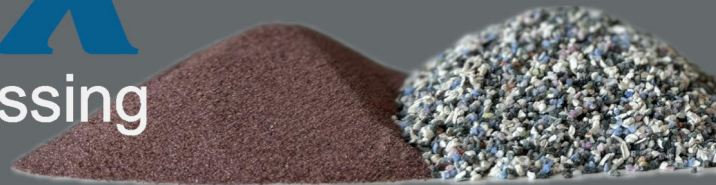
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KOMINEX

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CONTACT INFORMATION

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