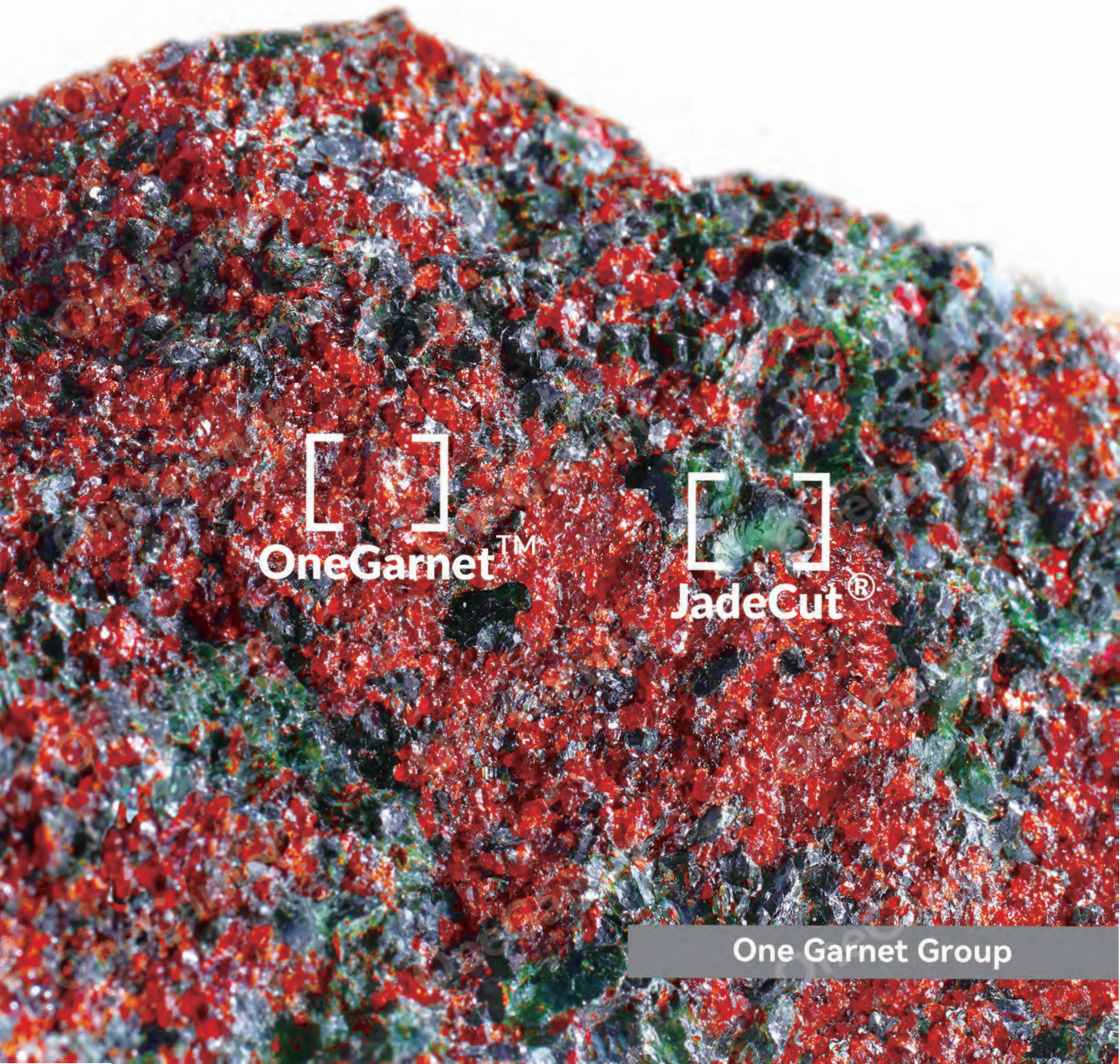


# ONEGARNET

Blasting Abrasive | Waterjet Cutting Abrasive



[ ]  
OneGarnet™

[ ]  
JadeCut®

One Garnet Group



The **OneGarnet™** mine is located in Lianyungang City, Jiangsu Province, China, covering an area of one square kilometre, with proven garnet reserves of more than 100 million tonnes. The mining method is open-pit mining, with careful planning for environmentally responsible mining and eventual rehabilitation.

OneGarnet originated at a depth of 160km, at 2.8GPa pressure and 700~890°C environment, producing an Almandine garnet that is rich in  $\text{Fe}_2\text{O}_3$  and  $\text{Al}_2\text{O}_3$ , and hence harder and tougher

grains with a deep red colour when compared to alluvial garnet. 400 million years ago, the Pacific plate collided with the Eurasian plate, bringing OneGarnet to the surface.

The OneGarnet processing plant covers an area of 160,000 m<sup>2</sup>, with a fully automated mineral processing and packaging production line, to produce a world class hard rock garnet abrasive under strict quality control (certified under ISO9001:2015) to ensure the highest level of quality capable of meeting even the most stringent industry requirements. Annual production will initially commence at 700,000 tonnes per annum of OneGarnet and 300,000 tonnes per annum of **JadeCut®**, and to meet market demand will gradually increase to 2.8 million tonnes per annum of OneGarnet and 1.3 million tonnes per annum of JadeCut.



OneGarnet and JadeCut are high quality hard rock abrasives, with high hardness and toughness, sharp angular edges leading to excellent abrasive blasting and cutting performance. Both abrasives contain no heavy metals and toxic ingredients and meet even the most stringent international occupational health and safety requirements.

## Product Technical Datasheet



### Hard Rock Almandine Garnet Abrasive

- Highest quality hard rock almandine garnet
- Excellent hardness and density
- Sharp angular edges for greater performance and precision
- Straighter cuts (less taper) from top to bottom and cleaner edges
- Carefully screened to ensure no oversized particles to block focusing tubes, and no dust or ineffective fine grains to restrict garnet free flow or slow down cutting efficiency

### Chemical Composition (Typical)

Fe <sub>2</sub> O <sub>3</sub> .....	33%
Al <sub>2</sub> O <sub>3</sub> .....	14%
SiO <sub>2</sub> .....	33%*
CaO .....	12%
MgO .....	4%
TiO <sub>2</sub> .....	1%

\*Refers to SiO<sub>2</sub> bound within the homogeneous crystal

Quartz (free silica) ..... <0.5%

### Other Characteristics (Typical)

Conductivity .....	<15m S/m (150μ S/cm)
Radioactivity ...	Not detectable above background
Moisture Absorption .....	Non-hygroscopic, Inert
Total Chlorides .....	<8ppm (0.0008%)
Ferrite (free iron).....	<0.01%*
Lead .....	<0.01%*
Copper .....	<0.01%*
Other Heavy Metals .....	<0.01%*

\*Generally below detectable levels

### Physical Characteristics (Typical)

Bulk Density.....	2.2T/m <sup>3</sup> (140lbs/ft <sup>3</sup> )
Specific Gravity.....	4.0
Hardness (Mohs) .....	7.5 - 8.0
Melting Point .....	1250°C (2280°F)
Shape of Natural Grains .....	Angular

	OneGarnet		Focusing Tube		Orifice	
	Mesh	Particle Size (μm)	Inner Diameter (in)	Inner Diameter (mm)	Inner Diameter (in)	Inner Diameter (mm)
High Speed Cutting	60 mesh	425-200μ	0.040"	1.02mm	0.014-0.015"	0.356-0.381mm
Precision Edge (Industry Standard)	80 mesh	300-150μ	0.030-0.040"	0.762-1.02mm	0.010-0.014"	0.254-0.356mm
High Precision Edge	120 mesh	200-100μ	0.020-0.030"	0.508-0.762mm	0.007-0.010"	0.178-0.254mm
Fine Precision Edge	150 mesh	53-150μ	0.020-0.030"	0.508-0.762mm	0.007-0.010"	0.178-0.254mm
	200 mesh	45-125μ	0.020-0.030"	0.508-0.762mm	0.007-0.010"	0.178-0.254mm
	240 mesh	45-106μ	0.015-0.020"	0.381-0.508mm	0.007"	0.178mm

Note: OneGarnet is naturally occurring mineral and some variations to data shall be expected. Not to be used as technical specification

## Product Technical Datasheet



### Hard Rock Almandine Garnet Abrasive

OneGarnet is an Almandine Garnet with excellent hardness and density.

- Hard rock with sharp angular edges
- Non-toxic and harmless, free of heavy metals, low salt contamination, ferrite free and low free silica
- Achieve SA3.0 (white metal), effortlessly achieve SA2.5 (near white metal)
- Complies with ISO 11126-10 and SSPC AB-1 (mineral abrasive)

### Chemical Composition (Typical)

Fe <sub>2</sub> O <sub>3</sub> .....	33%
Al <sub>2</sub> O <sub>3</sub> .....	14%
SiO <sub>2</sub> .....	33%*
CaO .....	12%
MgO .....	4%
TiO <sub>2</sub> .....	1%

\*Refers to SiO<sub>2</sub> bound within the homogeneous crystal

Quartz (free silica) ..... <0.5%

### Other Characteristics (Typical)

Conductivity .....	<10m S/m (100μ S/cm)
Radioactivity ...	Not detectable above background
Moisture Absorption .....	Non-hygroscopic, Inert
Total Chlorides .....	<5ppm (0.0005%)
Ferrite (free iron).....	<0.01%*
Lead .....	<0.01%*
Copper .....	<0.01%*
Other Heavy Metals .....	<0.01%*

\*Generally below detectable levels

### Physical Characteristics (Typical)

Bulk Density.....	2.2T/m <sup>3</sup> (140lbs/ft <sup>3</sup> )
Specific Gravity.....	4.0
Hardness (Mohs) .....	7.5 - 8.0
Melting Point .....	1250°C (2280°F)
Shape of Natural Grains .....	Angular

Product	US Mesh Size	Metric Size	Performance
Extra Coarse	20/40 mesh	350-850μ	Extra coarse angular hard rock garnet for heavy duty maintenance applications or for very rough anchor profile over 75 microns (+3 mils)
Coarse	30/40 mesh	350-600μ	Coarse angular hard rock garnet for heavy duty maintenance applications 50-75 microns (2-3 mils)
Regular	30/60 mesh	200-600μ	Regular angular hard rock garnet for maintenance applications and anchor profile of 37.5-62.5 microns (1.5-2.5 mils)
Medium	80 mesh	180-355μ	Medium angular hard rock garnet for mill scale or removing light to medium coating producing an anchor profile of 37.5-62.5 microns (1.5-2.5 mils)
Fine	100 mesh	80-180μ	Fine angular hard rock garnet for mainly millscale or removing very light coatings producing an anchor profile of 25-50 microns (1-2 mils)

Note: OneGarnet is naturally occurring mineral and some variations to data shall be expected. Not to be used as technical specification

Abrasive blasting with JadeCut is faster, safer and produces excellent surface cleanliness without contamination or embedment

## Product Technical Datasheet



### Hard Rock 'Garnet blend' Abrasive

**JadeCut** is a dark green and red 'Garnet blend' of hard rock natural minerals with superior hardness and density.

- Hard rock with sharp angular edges
- Non-toxic and harmless, free of heavy metals, low salt contamination, ferrite free and low free silica
- Achieve SA3.0 (white metal), effortlessly achieve SA2.5 (near white metal)
- Complies with ISO 11126-10 for chloride and free silica and SSPC AB-1 (mineral abrasive)

### Chemical Composition (Typical)

Fe <sub>2</sub> O <sub>3</sub> .....	20%
Al <sub>2</sub> O <sub>3</sub> .....	14%
SiO <sub>2</sub> .....	43%*
CaO .....	10%
MgO .....	7%
TiO <sub>2</sub> .....	7%

\*Refers to SiO<sub>2</sub> bound within the homogeneous crystal

Quartz (free silica) ..... <0.5%

### Other Characteristics (Typical)

Conductivity .....	<10m S/m (100μ S/cm)
Radioactivity ...	Not detectable above background
Moisture Absorption .....	Non-hygroscopic, Inert
Total Chlorides .....	<5ppm (0.0005%)
Ferrite (free iron).....	<0.01%*
Lead .....	<0.01%*
Copper .....	<0.01%*
Other Heavy Metals .....	<0.01%*

\*Generally below detectable levels

### Physical Characteristics (Typical)

Bulk Density.....	1.8T/m <sup>3</sup> (115lbs/ft <sup>3</sup> )
Specific Gravity.....	3.5 - 3.6
Hardness (Mohs) .....	7.0 - 7.5
Melting Point .....	1250°C (2280°F)
Shape of Natural Grains .....	Angular

Product	US Mesh Size	Metric Size	Performance
Extra Coarse	20/40 mesh	350-850μ	Extra coarse angular hard rock garnet for heavy duty maintenance applications or for very rough anchor profile over 75 microns (+3 mils)
Coarse	30/40 mesh	350-600μ	Coarse angular hard rock garnet for heavy duty maintenance applications 50-75 microns (2-3 mils)
Regular	30/60 mesh	200-600μ	Regular angular hard rock garnet for maintenance applications and anchor profile of 37.5-62.5 microns (1.5-2.5 mils)
Medium	80 mesh	180-355μ	Medium angular hard rock garnet for mill scale or removing light to medium coating producing an anchor profile of 37.5-62.5 microns (1.5-2.5 mils)
Fine	100 mesh	80-180μ	Fine angular hard rock garnet for mainly millscale or removing very light coatings producing an anchor profile of 25-50 microns (1-2 mils)

Note: JadeCut is naturally occurring mineral and some variations to data shall be expected. Not to be used as technical specification

# ONEGARNET



## Standard Packing



- 25kg paper bags packed inside a 1,000kg (2,200lbs) or 2,000kg (4,400lbs) bulk bag
- 25kg paper bags shrinkwrapped on a 1,000kg (2,200lbs) or 2,000kg (4,400lbs) pallet
- 25kg plastic woven bags packed inside a 1,000kg (2,200lbs) or 2,000kg (4,400lbs) bulk bag
- Loose bulk in 1,000kg (2,200lbs) or 2,000kg (4,400lbs) top and bottom spouted bulk bag with internal liner
- Other packing on request

