

ABRASIVE SELECTION GUIDE

YOUR SUPPLIER OF CHOICE FOR ALL ABRASIVES

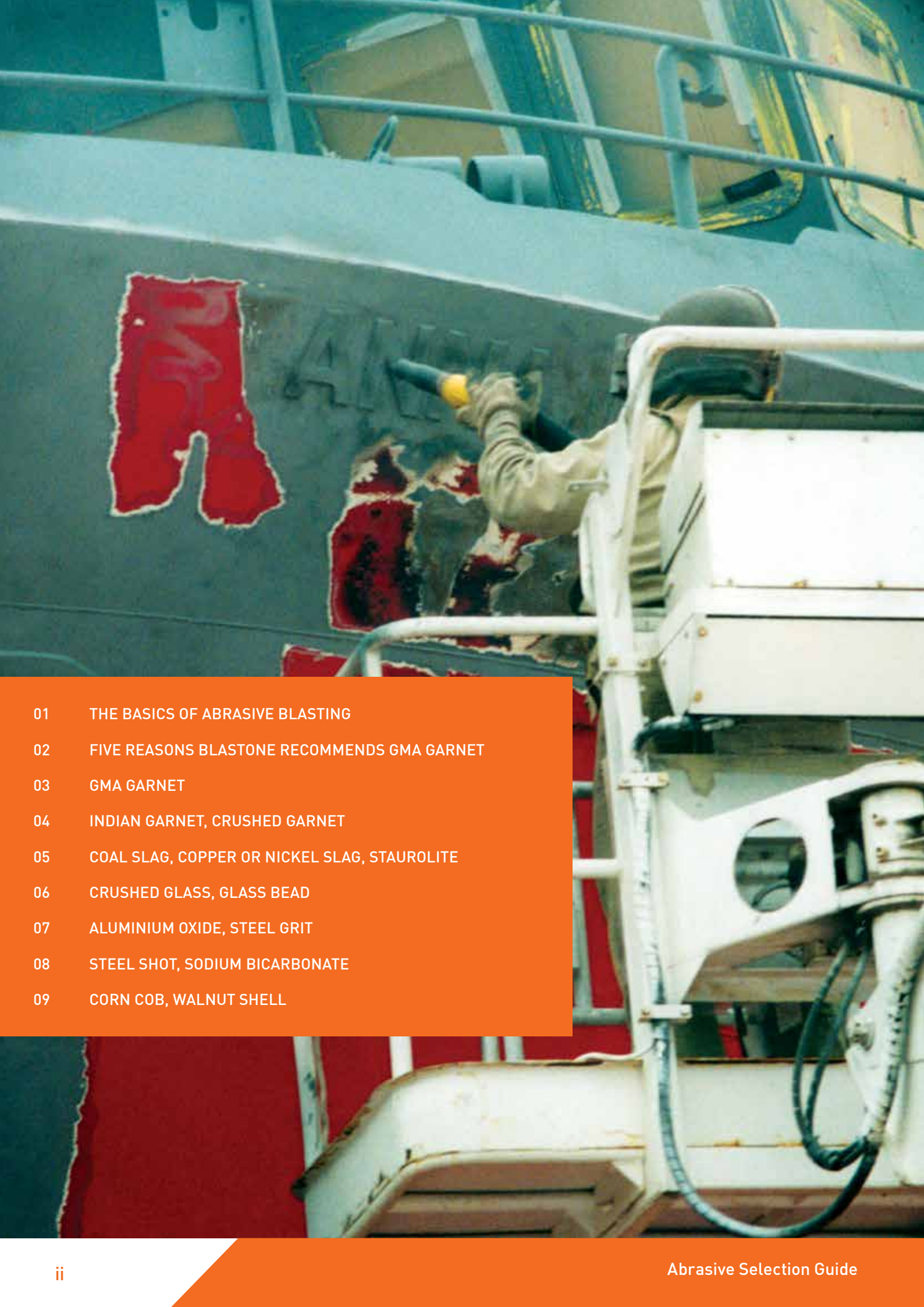


A complete guide | Abrasives used in the blasting industry

Use this guide to help determine what abrasive is best for your project. The right choice of abrasive is crucial to ensure the most successful outcome possible. BlastOne supplies a range of abrasives for surface preparation projects.

FEATURES

- The basics of abrasive blasting
- GMA Garnet for tough jobs
- Abrasive specifications



- 01 THE BASICS OF ABRASIVE BLASTING
- 02 FIVE REASONS BLASTONE RECOMMENDS GMA GARNET
- 03 GMA GARNET
- 04 INDIAN GARNET, CRUSHED GARNET
- 05 COAL SLAG, COPPER OR NICKEL SLAG, STAUROLITE
- 06 CRUSHED GLASS, GLASS BEAD
- 07 ALUMINIUM OXIDE, STEEL GRIT
- 08 STEEL SHOT, SODIUM BICARBONATE
- 09 CORN COB, WALNUT SHELL

THE BASICS OF ABRASIVE BLASTING

SIX QUESTIONS TO ASK BEFORE CHOOSING AN ABRASIVE

1. FOR THIS PARTICULAR JOB, WILL ABRASIVE BLASTING BE USED FOR SURFACE PREPARATION OR AS A CLEANING PROCEDURE?

The difference between these two procedures is as follows:

- When abrasive blasting is used as a surface preparation technique, the intention is to both remove all surface contaminants and also prepare the substrate to receive a coating.
- When abrasive blasting is to be used as a cleaning procedure, then the intention is to remove only the surface contaminants, while leaving the substrate untouched.



2. WILL IT BE POSSIBLE TO RECLAIM AND RECYCLE THE ABRASIVE, OR WILL IT HAVE A SINGLE USE ONLY?

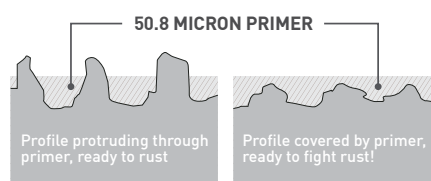
The major deciding factor here is cost. The cost of abrasive varies widely and some abrasives, while very effective, are uneconomical to use if recycling is not an option.

3. WILL THE WORK SITE BE DUST SENSITIVE?

The amount of dust generated by different abrasives varies widely. Some excellent types of abrasive are available that are specifically graded to reduce dust.

4. IF BLASTING FOR SURFACE PREPARATION, WHAT SURFACE PROFILE IS REQUIRED?

All coatings have a recommended surface profile (roughness) specification. Excess surface profile can shorten the life of thin-film, low-build coatings; insufficient profile can cause delamination of high-build coatings.



There is such a thing as too high a profile



Tough GMA Garnet particles



Weak Indian Garnet particles with fracture lines

5. WILL COATING ADHESION BE AFFECTED BY SURFACE CONTAMINATION?

Some abrasives leave a cleaner surface than others, which can have a substantial impact on coating adhesion.

6. WHICH ABRASIVE PROVIDES THE MAXIMUM PRODUCTIVITY?

Abrasive particle size, toughness, and shape all have an effect on blasting speed. Some factors to consider:

- The ideal abrasive size is where the largest particle is equal in size to the thickness of the coating to be removed. If the particle size is too large, the "hit rate" is reduced because the grain count in the pot is lowered. If the particle size is too small, the speed of cutting through the old surface is reduced.
- Grain toughness is a term given to describe its durability and recyclability. A tougher grain converts more energy into the removal of the old coating, while a weaker grain is more likely to disintegrate on contact.
- Particle shape can either be rounded or angular. The more rounded the particle is, the more contact area it has, which increases the surface removal speed.

⚠ CAUTION ⚠

Blasting with silica sands, such as beach sand, river sand and any other crystalline silica sand may cause serious injury or be fatal. Crystalline silica is recognised world-wide as a Class 1 carcinogen.

Slag and coal abrasives have a traces of heavy metals like beryllium and arsenic which can find their way into the blasters respiratory system. Long-term or repeated exposure over years to the toxins has been linked to serious and life threatening health issues.

FIVE REASONS

WHY BLASTONE RECOMMENDS GMA GARNET FOR TOUGH JOBS

1 FASTER JOB COMPLETION

Removes tough coatings more than twice as fast as medium slag.



Slag – 10 minutes, 130kg used



SpeedBlast Garnet – 10 minutes, 75kg used

2 LOW DUST

Provides dramatic dust reduction improving visibility by up to 10x for safer and more productive blasting.



Conventional abrasives can create excessive dust



Blasting with GMA Garnet is much more neighbourly

3 BETTER QUALITY RESULTS

GMA Garnet gives you a cleaner surface, with no surface embedment which gives your new coating far better adhesion.



Slag

GMA SpeedBlast Garnet

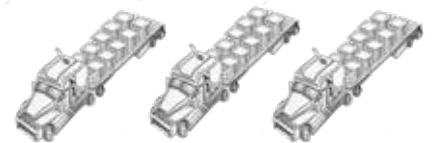
4 LOWER ABRASIVE CONSUMPTION

- You use half as much
- Less clean up time
- Half your disposal costs



GMA SPEEDBLAST

Needed to blast this entire tank project
– 15 tonne, 1 truck

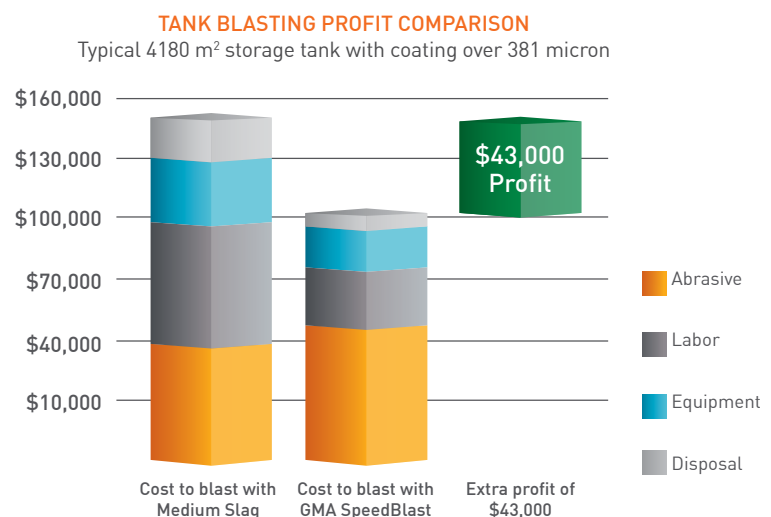


SLAG

Needed to blast this entire tank project
– 120 tonne, 5 trucks

5 LOWER COST TO USE

GMA Garnet delivers twice the blasting power of medium slag, and you use half as much.
Fewer hours of blasting expense.



GMA PREMIUMBLAST



All-around' garnet abrasive. General industrial maintenance. For removal of medium coatings and/or medium-to-heavy rust.

Construction and maintenance of commercial buildings, chemical plants, power stations, mining and processing equipment, gas and sewerage plants, desalination and industrial plants. Tanks, piping, pressure vessels, ship hulls, ballast tanks and offshore platform decking.

Blasting Speed	Up to 31 m ² /hr
Dust factor	Low
Recyclability	5/10
Mesh Sizes	30/60
Profile Range	76-95 µ
Consumption Rate	7.3-14 kg/m ²

Part Number	Description	Coating Thickness	Profile
GA PB	Alluvial Garnet Abrasive	254-381 µ	76.2-95.25 µ
GM 3060	3060 Mesh Crushed Garnet Abrasive	254-381 µ	76.2-95.25 µ

GMA SPEEDBLAST



Light general industrial maintenance. Construction and maintenance of commercial buildings, chemical plants, power stations, mining and processing equipment, gas and sewerage plants, desalination and industrial plants.

Suitable for tanks, piping, pressure vessels, ship hulls, ballast tanks and offshore platform decking.

Blasting Speed	Up to 32.5 m ² /hr
Dust factor	Low
Recyclability	5/10
Mesh Sizes	30/60, 80
Profile Range	63-90 µ
Consumption Rate	7.3-14 kg/m ²

Part Number	Description	Coating Thickness	Profile
GA SB	Alluvial Garnet Abrasive	127-254 µ	63.5-82.5 µ
GX1	GX1 Garnet Abrasive	254-381 µ	63.5-89 µ

GMA NEWSTEEL



New construction; removal of light rust or mill scale on new steel. Removal and preparation for powder coating.

Suitable for tanks, piping, pressure vessels, ship hulls, ballast tank and offshore platform decking.

Blasting Speed	Up to 46.5 m ² /hr
Dust factor	Low
Recyclability	6/10
Mesh Sizes	80
Profile Range	25.4-63.5 µ
Consumption Rate	6.1-9.7 kg/m ²

Part Number	Description	Coating Thickness	Profile
GA NS	Alluvial Garnet Abrasive	Mill scale	38.1-50.8 µ
GX NS	GXNS Garnet Abrasive	Mill scale	31.75-50.8 µ
GM 80	80 Mesh Crushed Garnet Abrasive	Mill scale	38.1-63.5 µ

GMA TOUGHBLAST



A specifically engineered blend of abrasive for superior cleaning on tough jobs.

This high-performance 'all-around' garnet abrasive is ideal for quick removal of the toughest coatings and corrosion.

Excellent for two-coat, three-coat, and heavy mil (thick) rigid coatings and includes heavy marine and industrial coatings - offshore rigs, tanks, pipes, pressure vessels, ship hulls, and ballast tanks.

Blasting Speed	Up to 30 m ² /hr
Dust factor	Low/Medium
Recyclability	4/10
Mesh Size	Blended grades
Profile Range	70-90 μ
Consumption Rate	As low as 16 kg/m ²

Part Number	Description	Coating Thickness	Profile
GX 2	GX2 Garnet Abrasive	381-760 μ	70-90 μ

INDIAN GARNET



Indian Garnet is mostly mined on the coasts of India. Typical sieve analysis will show coarser particle sizes between 12-60#.

Indian Garnet has a reputation for variable cleanliness, and salt and other contaminants are sometimes present.

Blasting Speed	Up to 20.5 m ² /hr
Dust factor	Medium
Recyclability	2/10
Mesh Sizes	12/20, 20/40, 30/60, 80
Profile Range	38-114.3 μ
Consumption Rate	14.6-24 kg/m ²

Part Number	Description	Coating Thickness	Profile
G1 1220	12/20 Mesh Indian Garnet	508+ μ	89-114.3 μ
G1 2040	20/40 Mesh Indian Garnet	381-508 μ	76.2-95.25 μ
G1 3060	30/60 Mesh Indian Garnet	254-381 μ	63.5-89 μ
G1 80	80 Mesh Indian Garnet	Mill scale	38.1-50.8 μ

CHINESE GARNET



As its name suggests, Crushed Garnet is a manufactured, rather than a natural, abrasive. In its original state, it is bound to other rock materials (such as granite) and must be crushed to separate it.

The effect of the crushing puts microscopic fracture lines in the particles, which makes them break apart when blasting. This creates a dusty blast, and means that the recyclability of this abrasive is negligible.

Blasting Speed	Up to 31.5 m ² /hr
Dust factor	High
Recyclability	1/10
Mesh Sizes	20/40, 30/60, 80
Profile Range	38.1-95.25 μ
Consumption Rate	17-30 kg/m ²

Part Number	Description	Coating Thickness	Profile
GG 2040	20/40 Mesh Crushed Chinese Garnet	381-508 μ	76.2-95.25 μ
GG 3060	30/60 Mesh Crushed Chinese Garnet	254-381 μ	63.5-89 μ
GG 80	80 Mesh Crushed Chinese Garnet	Mill scale	38.1-50.8 μ

COAL SLAG



Coal slag is a glass matrix alumina-silicate which is produced as a by-product of coal burning power plants. As the coal burns, the residual ash (slag) becomes molten. When this slag is cooled, it vitrifies into a glassy, abrasive material, which is then crushed to produce blast media. A wide range of mesh sizes are available, with some being capable of removing very thick or elastomeric coatings.

Blasting Speed	Up to 14 m ² /hr
Dust factor	High
Recyclability	1/10
Mesh Sizes	10/40, 12/40, 20/40, 30/60, 60
Profile Range	50.8-127 μ
Consumption Rate	24.4-59 kg/m ²

Part Number	Description	Coating Thickness	Profile
SL CAXC	10/40 Mesh 'Extra Coarse' Coal Slag	762 μ	101.6-50.8 μ
SL CAC	12/40 Mesh 'Coarse' Coal Slag	508-762 μ	89-114.3 μ
SL CAM	20/40 Mesh 'Medium' Coal Slag	254-508 μ	3.0-101.6 μ
SL CAF	30/60 Mesh 'Fine' Coal Slag	Mill scale	63.5-89 μ
SL CAXF	60 Mesh 'Fine' Coal Slag	Mill scale	50.8-76.2 μ

COPPER OR NICKEL SLAG



Metallic slags are produced from the by-products of the refining process. Similar to coal slag, the molten slag is rapidly cooled and the resulting material is crushed and screened. While metallic slags are slightly harder than coal slag, their performance and inherent issues are basically the same. Metallic slags are primarily used in the geographic regions where their base metals are refined.

Blasting Speed	Up to 14 m ² /hr
Dust factor	High
Recyclability	1/10
Mesh Sizes	12/30, 20/50, 30/60
Profile Range	63.5-114.3 μ
Consumption Rate	24.4-59 kg/m ²

Part Number	Description	Coating Thickness	Profile
SL CUC	12/30 Mesh 'Coarse' Copper Slag	508-762 μ	89-114.5 μ
SL CUM	20/50 Mesh 'Medium' Copper Slag	254-508 μ	76.2-101.6 μ
SL CUF	30/60 Mesh 'Fine' Copper Slag	Mill scale	63.5-89 μ

STARBLAST/STAUROLITE



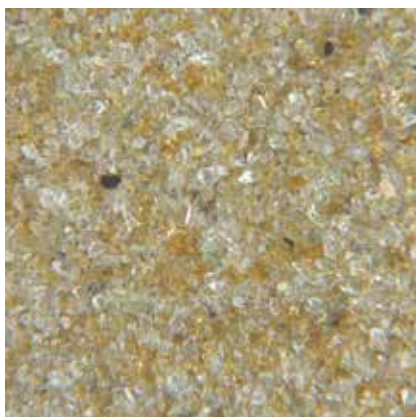
Staurolite is a mineral sand which is similar to garnet mineralogically, and has moderate levels of durability and hardness. Most Staurolite comes from Florida and Western Australia as a byproduct of the zircon mining process.

Low recyclability versus other media types means more abrasive is needed. Can be used for removal of mill scale and light rust.

Blasting Speed	Up to 28 m ² /hr
Dust factor	High
Recyclability	1/10
Mesh Sizes	100
Profile Range	25.4-50.8 μ
Consumption Rate	9.7-14.6 kg/m ²

Part Number	Description	Coating Thickness	Profile
ST DBSB	Dupont Starblast Abrasive	Mill scale	25.4-50.8 μ
ST PB	PowerBlast Staurolite Abrasive	Mill scale	25.4-50.8 μ

CRUSHED GLASS



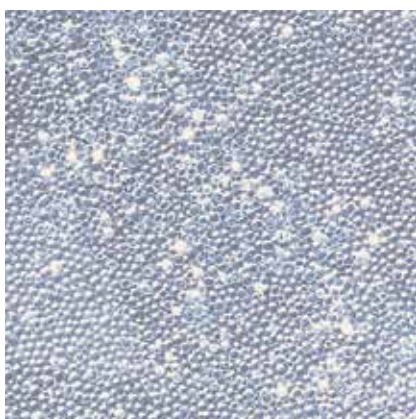
Crushed Glass is sourced from scrap glass containers. Being crushed, it is angular in shape and is available in larger sizes. It is mostly used for blasting very thick or elastomeric coatings.

Health warning – the glass is highly friable and particles are a physical irritant. May cause irritation to skin, eyes, nose, and throat.

Blasting Speed	Up to 20.5 m ² /hr
Dust factor	Medium
Recyclability	1/10
Mesh Sizes	10/20, 10/40, 20/40, 40/70, 70/120
Profile Range	12.7-114.3 μ
Consumption Rate	17-36.6 kg/m ²

Part Number	Description	Coating Thickness	Profile
1.411 mm	10/20 Mesh 'Extra Coarse' Crushed Glass	762+ μ	89-114.3 μ
CG C	10/40 Mesh 'Coarse' Crushed Glass	508-762 μ	89-114.3 μ
CG M	20/40 Mesh 'Medium' Crushed Glass	254-20 μ	63.5-89 μ
CG F	40/70 Mesh 'Fine' Crushed Glass	Mill scale	25.4-63.5 μ
CG XF	70/70 Mesh 'Extra Fine' Crushed Glass	Mill scale	12.7-38.1 μ

GLASS BEADS



Glass beads are a manufactured abrasive. The spherical shape prevents impingement.

Glass bead is a low-impact media that can be used for a variety of cleaning applications and surface treatments.

Used where profiling of substrate is undesirable.

Blasting Speed	Up to 3.7 m ² /hr
Dust factor	N/A
Recyclability	7/10
Mesh Size Range	20-325
Profile Range	6.35-25.4 μ
Consumption Rate	N/A

Part Number	Description	Coating Thickness	Profile
ASGB3	20/30 mesh Glass Beads – B3	Polishing	6.35-25.4 μ
ASGB4	30/40 mesh Glass Beads – B4	Polishing	6.35-25.4 μ
ASGB5	40/50 mesh Glass Beads – B5	Polishing	6.35-25.4 μ
ASGB6	50/70 mesh Glass Beads – B6	Polishing	6.35-25.4 μ
ASGB7	60/80 mesh Glass Beads – B7	Polishing	6.35-25.4 μ
ASGB8	70/100 mesh Glass Beads – B8	Polishing	6.35-25.4 μ
ASGB9	80/120 mesh Glass Beads – B9	Polishing	6.35-25.4 μ
ASGB10	100/170 mesh Glass Beads – B10	Polishing	6.35-25.4 μ
ASGB11	120/200 mesh Glass Beads – B11	Polishing	6.35-25.4 μ
ASGB12	140/230 mesh Glass Beads – B12	Polishing	6.35-25.4 μ
ASGB13	170/325 mesh Glass Beads – B13	Polishing	6.35-25.4 μ

BROWN ALUMINIUM OXIDE



Aluminium Oxide is a manufactured abrasive, specifically designed for sharpness and hardness. It is available in two different grades of purity. Brown Aluminum Oxide is for general industrial usage and the white version is used in sanitary applications. The sharpness and hardness of this abrasive will leave a very pronounced profile.

Often used for surface preparation prior to plating, metal spraying or ceramic coating, and can be used both on both steel as well as on aluminium or non-ferrous alloys.

Blasting Speed	3.7-18.5 m ² /hr
Dust factor	Low
Recyclability	7/10
Mesh Size Range	8-250
Profile Range	6.35-152.4 μ
Consumption Rate	N/A

Part Number	Description	Coating Thickness	Profile
SUALOXB008	8 Mesh Brown Aluminum Oxide	Specialty	127-152.4 μ
SUALOXB012	12 Mesh Brown Aluminum Oxide	Specialty	127-139.7 μ
SUALOXB016	16 Mesh Brown Aluminum Oxide	Specialty	127 - 139.7 μ
SUALOXB024	24 Mesh Brown Aluminum Oxide	Specialty	101.6-127 μ
SUALOXB030	30 Mesh Brown Aluminum Oxide	Specialty	101.6-127 μ
SUALOXB036	36 Mesh Brown Aluminum Oxide	Specialty	89-114.3 μ
SUALOXB046	46 Mesh Brown Aluminum Oxide	254-762 μ	89-114.3 μ
SUALOXB054	54 Mesh Brown Aluminum Oxide	254-762 μ	63.5-89 μ
SUALOXB060	60 Mesh Brown Aluminum Oxide	Mill scale	50.8-76.2 μ
SUALOXB080	80 Mesh Brown Aluminum Oxide	Mill scale	25.4-76.2 μ
SUALOXB100	100 Mesh Brown Aluminum Oxide	Mill scale	25.4-76.2 μ
SUALOXB120	120 Mesh Brown Aluminum Oxide	Mill scale	12.7-25.4 μ
SUALOXB150	150 Mesh Brown Aluminum Oxide	Specialty	12.7-25.4 μ
SUALOXB180	180 Mesh Brown Aluminum Oxide	Specialty	6.35-19 μ
SUALOXB220	220 Mesh Brown Aluminum Oxide	Specialty	6.35-19 μ
SUALOXB240	240 Mesh Brown Aluminum Oxide	Specialty	6.35-19 μ
SUALOXB280	280 Mesh Brown Aluminum Oxide	Specialty	6.35-12.7 μ

STEEL GRIT



Steel Grit is a recycled product manufactured from scrap steel. This scrap is melted down, reformed and crushed.

Typically used in blast rooms and in large steel grit recycling units, often found in the bridge repair industry.

Blasting Speed	Up to 11 m ² /hr
Dust factor	Low
Recyclability	10/10
Mesh Sizes	25, 40, 50, 40/50, 80
Profile Range	50.8-127 μ
Consumption Rate	N/A

Part Number	Description	Coating Thickness	Profile
AM GL25	25 Mesh Steel Grit	1016+ μ	101.6-127 μ
AM GL40	40 Mesh Steel Grit	20-40 μ	89-14.3 μ
AM GL50	50 Mesh Steel Grit	10-30 μ	76.2-114.3 μ
AM GL80	80 Mesh Steel Grit	Mill scale	50.8-89 μ
AMGL4050	40/50 Mesh Steel Grit	15-40 μ	76.2-114.3 μ

STEEL SHOT



Steel shot is popular in airless wheel machines, in part because it is less destructive to the machine than other abrasive types.

Used in wheel machines for shot peening and cleaning applications.

Blasting Speed	Up to 4.6 m ² /hr
Dust factor	Low
Recyclability	10/10
Mesh Size Range	S780-S70
Profile Range	12.7-25.4 μ
Consumption Rate	N/A

Part Number	Description	Mesh	Coating Thickness	Profile
AM S460	S460 Steel Shot	16/18	Peening	12.7-25.4 μ
AM S390	S390 Steel Shot	18/20	Peening	12.7-25.4 μ
AM S330	S330 Steel Shot	20/25	Peening	12.7-25.4 μ
AM S280	S280 Steel Shot	25/30	Peening	12.7-25.4 μ
AM S230	S230 Steel Shot	30/35	Peening	12.7-25.4 μ
AM S170	S170 Steel Shot	40/45	Peening	12.7-25.4 μ
AM S110	S110 Steel Shot	50/80	Peening	12.7-25.4 μ

SODIUM BICARBONATE



The most common application for Sodium Bicarbonate is as a degreaser or for paint removal on a soft substrate. Ideal for graffiti removal, cleaning of brickwork, cleaning automobiles and very thin coatings.

Available in many different formulations (rather than different sizing) – for different applications.

Blasting Speed	Up to 9.2 m ² /hr
Dust factor	Medium
Recyclability	Non-recyclable
Mesh Sizes	270
Profile Range	6.35-50.8 μ
Consumption Rate	4.8-9.7 kg/m ²

Part Number	Description	Coating Thickness	Profile
AR XMaintenanceXL	Maintenance Grade Soda	25.4-127 μ	6.35-12.7 μ
AR XFlowXL	Formulated Soda for Humid Areas	25.4-127 μ	6.35-12.7 μ
AR XProfileXL	Formulated Soda with Grit	50.8-254 μ	25.4-50.8 μ
AR XSodeX	Sodium Bicarbonate Media	25.4-127 μ	6.35-12.7 μ

CORN COB



Corn Cob abrasive is ideal for deburring and polishing, often used to remove mould, smoke and fire damage. Can be used on operating machinery, will not damage glass or rubber.

Blasting Speed	Up to 9.2 m ² /hr
Dust factor	Low
Recyclability	1/10
Mesh Sizes	10/14, 14/20, 20/40
Profile Range	6.35-12.7 µ
Consumption Rate	9.7-30 kg/m ²

Part Number	Description	Coating Thickness	Profile
SU CC1014	10/14 Mesh Corn Cob Media	Polishing	6.35-12.7 µ
SU CC1420	14/20 Mesh Corn Cob Media	Polishing	6.35-12.7 µ
SU CC2040	20/40 Mesh Corn Cob Media	Polishing	6.35-12.7 µ

WALNUT SHELL



Walnut Shell has excellent durability, and is now widely used to blast clean and polish soft metals, glass, fibreglass, wood, plastic and stonene.

Walnut Shell works as a de-burring and de-flashing product for moulding, casting and electrical parts.

Blasting Speed	Up to 9.2 m ² /hr
Dust factor	Low
Recyclability	1/10
Mesh Sizes	8/12, 12/20, 20/30, 40/100
Profile Range	6.35-12.7 µ
Consumption Rate	9.7-30 kg/m ²

Part Number	Description	Coating Thickness	Profile
SU WALNUT0812	8/12 Mesh Walnut Shell Media	Polishing	6.35-12.7 µ
SU WALNUT1220	12/20 Mesh Walnut Shell Media	Polishing	6.35-12.7 µ
SU WALNUT2030	20/30 Mesh Walnut Shell Media	Polishing	6.35-12.7 µ
SU WALNUT40100	40/100 Mesh Walnut Shell Media	Polishing	6.35-12.7 µ

DISCLAIMER: The performance characteristics provided in this brochure only serves as a guide and that the results can vary widely on every project. Let BlastOne assist you on using the right abrasive and the right equipment for every project.

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