Product Code: PBG / PBGR / PBG-BLACK **TECHNICAL DATA SHEET**

CERAMIC BRUSHABLE

Epoxy Repair Coating

Description

Ceramic Brushable is a ceramic-filled epoxy coating reinforced with silicon carbide which is available in Blue (PBG), Green (PBGR) OR Black (PBG-BLACK). It is brush applied to metal, plastic and other surfaces. It cures to form an ultra-smooth, hard-wearing outer later which seals against abrasion, cavitation and wear, extending the lifespan of new and repaired parts and machinery.

The silicon carbide in Ceramic Brushable gives the cured material ultimate hardness and high resistance to abrasion. Coating surfaces with Ceramic Brushable creates an external shield preventing corrosion, chemical attack, erosion and pitting damaging the original substrate.

Its smooth finish improves the efficiency of systems such as chutes and equipment in mills, mines and other abrasive industries by reducing friction and making clean up more effective. Ceramic Brushable is also applied to top coat rougher repair compounds like **WearShield Epoxy Paste**.

Different colours of Ceramic Brushable can be used in conjunction to create a two-layer wear indicator coating. When the top colour wears through to reveal the colour beneath, it identifies a high-wear area which needs further protection with a new coating of Ceramic Brushable.

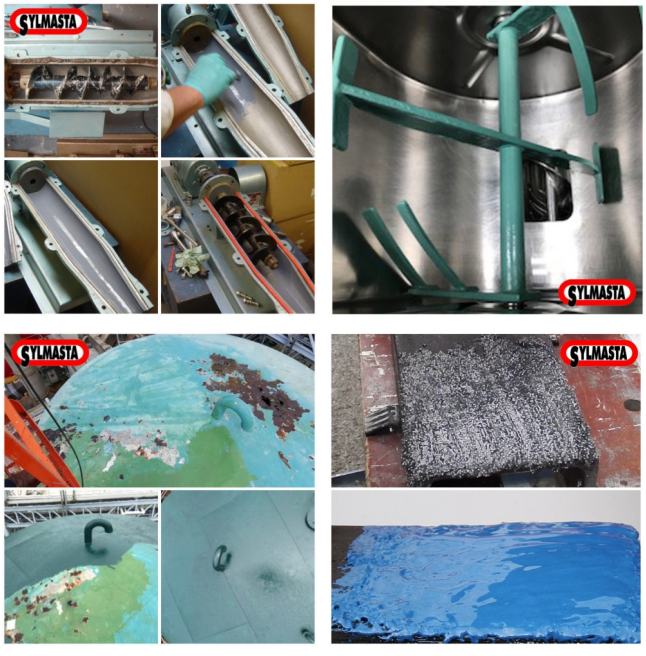
With a 45 minute gel time, Ceramic Brushable can be mixed and applied in large quantities without the worry of curing before application is complete. Its light consistency makes it easy to mix and apply with little sag. It is virtually odourless, with no unpleasant smell.

Applications

- Protecting new equipment from abrasion, cavitation, wear, erosion and pitting
- Providing a final reinforced topcoat over repaired surfaces
- Protecting silos, chutes, mills, pumps, impeller blades, valves, fan blades, metal castings, tanks and other machine parts in abrasive environments
- Increasing resistance against corrosion and chemical attack
- Creating a two-layer wear indicator coating

Advantages

- Easy to mix and apply with a long working time for complex applications
- Ultra-smooth, glass-like finish reduces abrasion and cavitation
- Extremely hard setting



Technical Data

Minimum shelf life (months @ 24°C)	24
Mix ratio (weight)	5:1
Mix ratio (volume)	3:1
Gel time (minutes)	45
Recoat time (hours	4-6
Full cure (hours)	24
Thickness per coat (mm)	0.5-1.0
Shore D hardness (full cure, 24 hrs.)	90
Tensile strength (MPa)	35
Compressive strength (MPa)	111
Flexural strength (MPa)	70
Density (gm/cm^3)	1.6
Shrinkage (%)	<1
Non-volatile content (%)	100
Heat distortion	
Cured at room temperature (°C)	50
Post cured (°C)	120
Maximum service temperature (°C)	150

(values are typical and should only be used as a guideline)

Chemical Resistance

Excellent resistance to water, inorganic acids, alkalis and certain organic solvents; good resistance to dilute organic acids but limited resistance to alcohol's, ketones and glycol ethers. For maximum chemical resistance allow to harden for 7 days at ambient temperature or else post-cure at 100°C for 2 hours after initial cure.*(values are typical and should only be used as a guideline)*

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Directions for Use

Surface Preparation

- Surfaces must be prepared prior to application.
- All surfaces must be dry and free of grease. Clean and roughen the surface for optimum adhesion.
- Remove all paint, rust and grime from the surface by abrasive blasting or with sandpaper.
- If applying to aluminium, remove oxidation from surface for optimal adhesion.
- Roughen the surface first, ideally by grit blasting (8-40 mesh grit) or through grinding with a coarse wheel or abrasive disc pad. An abrasive disc may be used provided white metal is revealed. Roughening the surface creates a “key” which improves the grip of the coating to the substrate.
- Metal which has been in contact with seawater or other salt solutions should be grit blasted, high pressure water blasted and then left overnight to allow salts in the metal to ‘sweat’ to the surface. Repeat this process if necessary to ‘sweat out’ all of the soluble salts.
  - Test for chloride contamination before application.
  - The maximum soluble salts left on the substrate should be no more than 40 ppm.
- Use a solvent cleaner to remove all trances of sandblasting, grit, oil, grease, dust or other foreign substances.
- In cold working conditions, it is recommended the repair area is heated to 37ºC-43ºC prior to application. This will dry off any moisture, contamination or solvents for maximum adhesion.
- Apply Ceramic Brushable as soon as possible after preparation to avoid oxidation or rusting.

Mixing Ceramic Brushable

- Measure 5 parts resin to 1 part hardener by weight or 3 parts resin with 1 part hardener by volume. For convenience when mixing an entire kit, Ceramic Brushable is supplied with Part A and Part B in the correct ratio. The resin container has enough room to dispense the hardener straight into it, meaning Ceramic Brushable can be applied straight from the pack.
- Mix with a brush or stirrer until the epoxy is streak free and a uniform colour.

Application as a Coating

- Apply Ceramic Brushable with a brush. Each coating should be 0.5mm-1.0mm thick. Apply at least two coats to ensure a pinhole-free coating.
- Ensure previous coating has fully hardened before applying next coat. Re-coat time is approximately 4-8 hours after applying, or when first coat has gelled.
- Ceramic Brushable work time is 45 minutes. A tack free finish is achieved around four hours after application. A full cure is achieved in 24 hours. Exact cure time is dependent upon the thickness of the application and temperature at the time of the repair.
- Cure can be accelerated using heat after the coating has been allowed to harden at ambient temperature. Material will fully cure at 100°C in two hours.

Post Curing

Heat resistance can be as high as 150°C. To achieve max temperature resistance, Ceramic Brushable should be post-cured:

- Cure at room temperature for 24 hours.
- Heat at 80°C for 2 hours.
- Heat at 130°C for 3 hours.
- Allow to cool.

Creating a Two-Layer Wear Indicator Coating with Ceramic Brushable

- Apply a top coat of one colour over a base coat of another enables identification of high wear areas
- When the bast coat colour begins to show through, it indicates a new coating of Ceramic Brushable should be applied to maintain suitable levels of protection.

Packaging

Product Code	Colour	Pack Size	Product Code	Colour	Pack Size	Product Code	Colour	Pack Size
PBG-500g	Blue	500g	PBGR-500g	Green	500g	PBG-BLACK-500g	Black	500g
PBG-4x500g	Blue	4x500g	PBGR-4x500g	Green	4x500g	PBG-BLACK-4x500g	Black	4x500g
PBG-2kg	Blue	2kg	PBGR-2kg	Green	2kg	PBG-BLACK-2kg	Black	2kg
PBG-5kg	Blue	5kg	PBGR-5kg	Green	5kg	PGB-BLACK-5kg	Black	5kg

Bulk sizes available on request. Please contact Sylmasta.

Storage

Ceramic Brushable should be stored out of direct sunlight in dry, frost free conditions at temperatures between 15°C and 20°C. Under such conditions, shelf life will be two years from the date of manufacture.

Health & Safety

Ceramic Brushable consists of epoxy resins and hardener systems. Please consult the individual Material Safety Data Sheet for hazard information. Wear eye protection and rubber or plastic coated gloves. Wash hands with soap and water immediately after use.