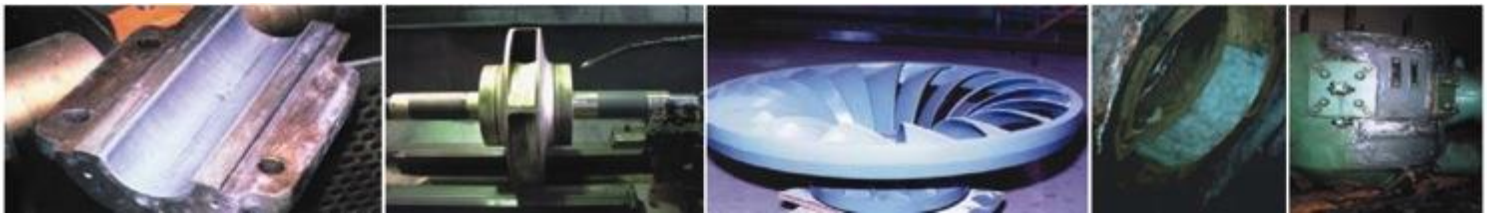
Technical Data Sheet
UPS 200 EG Ceramic Repair Paste



UPS 200 EG Ceramic Carbide Repair Paste is a high performance multi-purpose ceramic repair compound specifically developed for rebuilding metal components in fluid flow environments damaged by erosion and corrosion.

The *UPS 200 EG* formulation uses a complex blend of polymer resins and a polyamino-amide curing system reinforced with carbide and ceramic particles to produce coating with a high level of abrasion and erosion resistance, combined with optimum physical and mechanical strength, along with excellent resistance to corrosive liquids and gases.

UPS 200 EG can be applied to any corroded or damaged component in one easy application. It is ideal for rebuilding pump bodies, impellers, propellers, guide vanes, valves, tube sheets, water boxes, rudders, heat exchangers etc., to regain original dimensions with required mechanical properties. It bonds effectively to many substrates including wood / concrete.

Product Features

- Combines optimum application characteristics with good build characteristics.
- Designed for application by towel or spatula at thicknesses up to 12mm (472 mil).
- Provides outstanding wear and abrasion resistance.
- Designed for use to repair cracked pump housings, worn impellers, propellers, guide vanes, valves, tube sheets, etc.,

Product Applications

Suitable for emergency repairs or part of planned maintenance to equipment such as worn impellers, damaged valves, eroded separator housings, damaged pump casings, eroded pipe work, propellers, bow thrusters, rudders corroded water boxes and eroded end plates and tube sheets.

Before proceeding, please read the following information carefully to ensure that the correct application procedure is fully understood.

Surface Preparation

All oil and grease must be removed form the surface of the repair using *UPS CLEANER MEK.*

For optimum performance, the surface should be abrasive blasted to ***ISO 8501/4 Standard Sa2.5 (SSPC SP10/NACE 2)*** and a minimum blast profile of 75 microns using angular abrasive. Once blast cleaned, the surface must be degreased and cleaned using UPS CLEANER MEK or similar type material. All surfaces must be repaired before gingering or oxidation occurs.

PLEASE NOTE: For salt contaminated surfaces the area must be abrasive blast cleaned as mentioned above and eft for 24 hours to allow any ingrained salts to come to the surface. After this 24 hour period the surface must be washed with UPS CLEANER MEK prior to brush blasting to remove the surface salts. This process must be repeated until all ingrained contaminants have been sweated out of the surface.

Mixing & Application

Warm the Base component to 15 – 25°C (60 – 77°F) before mixing and do not apply when the ambient or substrate temperature is below 5°C (40°F) or less than 3°C (37°F) above the dew point.

Mixing of the product can be on full units or by part-mixing. If mixing the whole unit please ensure as much of the base and activator is dispensed form the plastic container onto a clean plastic mixing surface and mix using a spatula until a uniform material free of any streakiness is achieved while ensuring no unmixed material is left on the spatula or the mixing surface. From the commencement of mixing the whole of the material should be used within 25-30 minutes at 20°C (68°F).

For part mixing, using a spatula place 3 equal measures from the Base unit onto a clean plastic mixing surface. Clean the spatula thoroughly and then take 1 equal measure from the Activator unit and place alongside the Base measures. Mix as above.

Using a spatula or applicator tool, apply the material to the prepared surface, ensuing the product is pressed into any holes, scars or cracks and profile the repair to a smooth finish.

Technical Data & Performance Characteristics

Coverage Rates

1KG (2.2LB) of fully mixed product will give the following coverage rates -	
0.406m at 1mm	4.3ft at 40mil
0.203m at 2mm	2.2ft at 80mil
0.135m at 3mm	1.45ft at 1/8"
Please note that the coverage rates quoted are theoretical and do not take into consideration the profile or condition of the surface being repaired.	

Drying & Cure Times at 20°C (68°F)

Useable Life	30 minutes
Movement Without Load or Immersion	1.5 hours
Machining & Light Loading	2 hours
Full Loading	2 days
Immersion	3 days
Once hardener, the material should be left for the following periods of time at 20°C (68°F) before being subjected to the conditions indicated. These times will be doubled at 10°C (50°F) and halved at 30°C (86°F)	

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MADE IN BRITAIN

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For Optimum Performance

After an initial curing period of at least 4 hours at 20°C (68°F), raising the cure temperature progressively to 60 – 100°C (140 – 212°F) for up to 8 hours will result in improved mechanical, thermal and chemical resistance properties.

Appearance

Mixed Material Colour	Mid Grey Paste
Base Component Colour	Dark Grey Paste
Activator Component	Light Grey Paste

Over Coating Times

Minimum	The applied material can be over coated as soon as it is touch dry
Maximum	The over coating time should not exceed 3 hours
Where the maximum over coating time is exceeded, the material should be allowed to harden before being abraded or flash blasted to remove surface contamination.	

Shelf Life

5 years if unopened and store in normal dry conditions (15-30°C / 60-86°F)

Mixing Ratio

Component	Base	Activator
By Weight	5	1
By Volume	3	1

Density

Base	2.70
Activator	1.70
Mixed	2.46

Volume Capacity

406cc/Kg

Solids Content

100%

Slump Resistance

Nill at 2.0cm

Pack Sizes

This product is available in the following pack sizes;
1KG (2.2LB), 2KG (4.4LB), 3KG (6.6LB), 30KG (66LB)

Useable Life

10°C (50°F)	50 – 60 minutes
20°C (68°F)	25 – 30 minutes
30°C (86°F)	15 – 20 minutes

Mechanical Properties

Abrasion Resistance Taber CS17 Wheels / 1KG load	147mg loss / 1000 cycles 0.06cc loss / 1000 cycles
Tensile Shear Adhesion ASTM D1002 (Abrasive Blasted Mild Steel with 75 micron profile)	188kg/cm^2 (2,675 psi)
Compressive Strength ASTM D695	1,089kg/cm^2 (15,500 psi)
Corrosion Resistance ASTM B117	Minimum 5000 hours
Flexural Strength ASTM D790	703kg/cm^2 (10,000 psi)
Hardness Rockwell R ASTM D785	100
Heat Distortion ASTM D648 At 264psi Fibre Stress	20°C (68°F) Cure – 58°C (136°F) 100°C (212°F) Cure – 98°C (208°F)

Heat Resistance

Suitable for long-term water immersion at temperatures up to 70°C (158°F) and intermittent contact with pressured steam up to 120°C (248°F).

Resistant to dry heat in excess of 200°C (392°F) dependent on load.

Chemical Resistance

The product resists attack by a wide variety of inorganic acids, alkalis', salts and organic media. Refer to the Unique Polymer Systems LTD Technical Centre for advice.

Quality: All Unique Polymer Systems LTD Products are supplied under the scopes of the company's fully documented quality system.

Warranty: Unique Polymer Systems LTD warrants that the performance of the product supplied will confirm to the typical descriptions quoted within this Technical Data Sheet provided the material is stored correctly and used according to the procedures detailed in the Technical Data Sheet for the material.

Health & Safety: Please ensure good practice is observed at all times during the mixing and application of this product. Protective gloves must be worn during the mixing and application of this product. Before mixing and applying the material please ensure you have read the fully detailed Material Safety Data Sheet.

Legal Notice: The data contained within this Technical Data Sheet is furnished for information only and is believed to be reliable at the time of issue. We cannot assume responsibility for results obtained by others over whose methods we have no control. It is the responsibility of the customer to determine the products suitability for use. Unique Polymer Systems LTD accepts no liability arising out of the use of this information or the product described herein.

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