UniquePolymerSystems.com
The Engineer's Choice ... for Solutions

ADVANCED POLYMER SURFACE ENGINEERING TECHNOLOGY

Unique Polymer Systems – Ceramic Carbide Wearing Compound






UPS 'Ceramic Carbide Wearing Compound' is a high performance multi -purpose metal repair compound specifically developed for rebuilding metal components in a fluid-flow environment damaged by erosion and corrosion.

The UPS 'Ceramic Carbide Wearing Compound' formulation uses a complex blend of epoxy resins and a polyamino-amide curing system reinforced with carbide and ceramic particles to produce a coating with a high level of abrasion and erosion resistance combined with optimum physical and mechanical strength.

UPS 'Ceramic Carbide Wearing Compound' can alternatively be applied to any damaged component in one easy application and is ideal for rebuilding pump bodies, impellers, propellers, guide vanes, valves, tube sheets, water boxes, rudders, heat exchangers etc.

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

SURFACE PREPARATION

All dust and loose material should be scraped away. Oil and grease should be removed with **UPS 'Cleaner'.**

Surfaces should then be abrasive blast cleaned to a minimum Sa2½ BS7079 Part A1 : 1989 or equivalent with a blast profile of 75 microns (3 mil) corresponding to 'Medium' in BS7079 Part C3/ISO 8503/1. All loose abrasive dust and debris must be blown clear or vacuum-cleaned away.

Equipment that has been salt impregnated due to service conditions should be first wet blasted then dry abrasive blasted and checked for presence of salts, this process should be repeated until salts are removed.

Alternatively, surfaces should be warmed with a blow torch or similar to bring salts up to the surface. The surface should once again be blast cleaned. This procedure must be repeated until no further sweating of impregnated salt is evident.

On sections of repair which are not required to bond to the **UPS 'Ceramic Carbide Wearing Compound'** these surfaces should be treated with **UPS release agent**

MIXING.

UPS 'Ceramic Carbide Wearing Compound' is a two component material comprising resin and hardener components which must be mixed together before use.

Transfer the entire contents of the resin and hardener containers onto a clean mixing board or other suitable surface.

Alternatively, measure three volumes of resin component and one volume of hardener onto a clean mixing surface. The two components should be thoroughly mixed until completely streak free.

The mixed material should be used within 25 minutes of at 20°C (68°F). This time will be reduced at higher and extended at lower temperatures.

APPLICATION.

Application should not be carried out at temperatures below 5°C nor when relative humidity exceeds 85% or when the surface to be repaired is less than 3°C above the dew point.

The mixed material should be pressed firmly onto the prepared area, care should be taken to avoid air entrapment on deeply pitted surfaces. Application should be carried out as soon as possible after surface preparation is complete, and certainly the same day , otherwise flash blasting will be necessary before application.

Where necessary, a reinforcement tape should be mixed product and further material applied over the tape. For large areas the tape should be overlapped.

In areas where a second layer of **UPS 'Ceramic Carbide Wearing Compound'** is required, this application must be carried out within the initial set time for

the first layer, if this is not possible surfaces will require thorough abrasion or abrasive blasting prior to any subsequent material being applied.

Machining of **UPS 'Ceramic Carbide Wearing Compound'** will cause excessive tool wear so care should be taken to finish the repair to the required size or dimensions.

Formers treated with **UPS Release Agent**can be used to minimise machining.

Once the **UPS 'Ceramic Carbide Wearing Compound'**has reached initial set the material can be separated from surfaces treated with **UPS 'Release Agent'.**

All equipment must be cleaned IMMEDIATELY after use with **UPS 'Cleaner'** or equivalent.

Volume Capacity

417cc (25.4 cu ins) per kilo

PHYSICAL CONSTANTS

Mixing Ratio	**Resin**	**Hardener**	
	3	1	By volume
	5	1	By weight
Appearance	Resin		Grey Paste
	Hardener		Light Grey Paste

Drying & Cure times at 20°C (68°F)

Usable Life	25 minutes
Initial Set	1 hours
Grinding Time	2 hours
Full Mechanical	5 days

Volume Solids 100%

V.O.C. Nil

Shelf Life Use within 5 years of purchase. Store in original sealed containers at temperatures between 5°C (40°F) and 30°C (86°F).

Operating Temperature

	Maximum	**Continuous**
Dry Heat	200°C (392°F)	120°C (248°F)
Wet Heat	120°C (248°F)	70°C (158°F)

PHYSICAL CONSTANTS

Compressive Strength ADTM D695	1055 kg per cm² (15000psi)
Tensile Shear Adhesion ASTM D1002	175 kg per cm² (2500psi) (Grit Blasted Steel)
Flexural Strength ASTM D790	700 kg per cm² (10000psi)
Heat Distortion Temperature ASTM D648	90°C (194°F)
Hardness (Rockwell R) ASTM D785	100
Abrasion Resistance ASTM D4060	0.006 ml per 1000 cycles - 1 kg load/CS17 Wheel
Nuclear Decontamination BS 4247 Part 1	Excellent

HEALTH AND SAFETY

As long as normal good practice is observed **UPS 'Ceramic Carbide Wearing Compound'** can be safely used. Protective gloves should be worn during use.

A fully detailed **Material Safety Data Sheet** is either included with the material or is available on request.

PACKAGING

Supplied in 2kg packs.

PARA LA INFORMACION ADICIONAL POR FAVOR CONTACTO:

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