

# TECHNICAL DATASHEET UPS200

## Unique Polymer Systems - Ceramic Carbide Wearing Compound



Unique Polymer Systems

ADVANCED POLYMER SURFACE ENGINEERING TECHNOLOGY

### Unique Polymer Systems - Ceramic Carbide Wearing Compound



'Ceramic Carbide Wearing Compound' is a high performance multi purpose ceramic repair compound specifically developed for rebuilding metal components in fluid flow environment damaged by erosion and corrosion. 'Ceramic Carbide Wearing Compound' 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 'Ceramic Carbide Wearing Compound' 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. Apart from good mechanical properties, 'Ceramic Carbide Wearing Compound' has an excellent chemical corrosion resistance (Test of SALT FOG passed for 5,000 hours) which ensures a full proof repair in any working condition.

#### **SURFACE PREPARATION & APPLICATION PROCEDURE**

Remove thick deposits like grease, rust, dust, dirt and make surface rough enough. Clean with ThistleBond 'Cleaner'. Surface should be prepared by mechanical grinding / wire wheel / angle grinder / needle gun or by abrasive blasting to SA 2.5 profile. Cross score surface to improve adhesion especially for fluid flow equipments.

Mix Resin & Hardener in 3:1 ratio by volume and mix thoroughly till single colour consistency appears. Apply by spatula, initially by finger over prepared surface by wetting action to fill up deformities and to remove entrapped air from the surface. Then apply further based on deformity / rebuilding dimension. Once full cure is achieved, sanding, grinding, drilling, tapping and machining can be done on the repaired portion. Ensure at the time of application that substrate temperature is more than 3 C and humidity less than 85%. 'Ceramic Carbide Wearing Compound' can be applied along with reinforcement tape where ever it is required.

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PHYSICAL PROPERTIES	
Flexural Strength	700 kg/cm <sup>2</sup>
ASTM D790	(10000 psi)
Compressive Strength	1055 kg/cm <sup>2</sup>
ASTM D695	(15000 psi)
Tensile Shear Adhesion	175 kg/cm <sup>2</sup>
ASTM D1002	(2500 psi)
Heat Distortion	90 °C
ASTM D648	
Abrasion Resistance	0.006 ml loss / 1000 cycles
ASTM D4060	CS17 wheel 1 kg load
Nuclear Decontamination	Excellent
Bs4247 Part 1	
Hardness Rockwell R	100
ASTM D785	
Corrosion Resistance	5000 hours
ASTM B117	unaffected
Dielectric Strength	12 kV/mm
ASTM D149	

PHYSICAL CONSTANTS		
Mixing Ratio	Resin	Hardner
By volume	3	1
Appearance	Resin	Hardner
Paste	Grey	Light Grey
Drying Time @ 20°C		
Usable Life	25 Minutes	
Initial Set	1 Hour	
Grinding Time	2 Hours	
Volume Solids	100%	
VOC	Nil	
Operating Temperature	Maximum	Continuous
Dry Heat	200 °C	120 °C
Wet Heat	120 °C	70 °C
Shelf Life	5 years	

CHEMICAL RESISTANCE *	
Acetic Acid 0-10%	Good
Hydrochloric Acid 0-20%	Excellent
Hydrobromic Acid Dilute	Excellent
Nitric Acid 0-10%	Excellent
Liquid Petroleum	Excellent
Nitrous Oxide	Excellent
Sulfuric Acid 0-20%	Excellent
Sulphur Dioxide	Excellent
Sea Water	Excellent

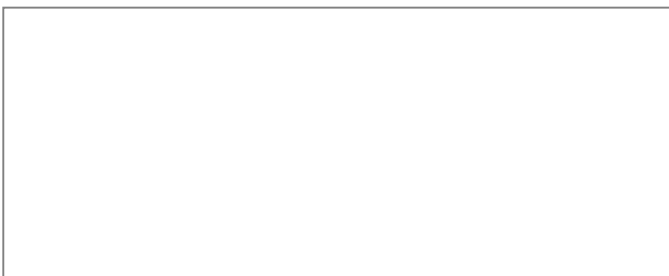
SUPPLY INFORMATION

**Stock No :** UPS200  
**Description :** Ceramic Carbide Wearing Compound  
**Pack Size :** 2 kg  
 •for further information see Chemical Resistance Chart

RECOMMENDED APPLICATIONS

Rebuilding pump bodies, impellers, propellers  
 Rebuilding of guide vanes, valves, tube Sheets, volutes  
 Repairing the water boxes, rudders, condensers  
 Reclaiming the dimensions of pump bodies, collars, flanges  
 Repair of pitting, cavities in the pump casings  
 Repair of heat exchangers / tubesheet surface  
 Rebuilding of damaged fluid flow parts

FOR FURTHER INFORMATION PLEASE CONTACT



The information provided in this Product Data Sheet is intended as a general guide only and should not be used for specification purposes. The information is given in good faith but we assume no responsibility for the use made of the product or this information because this is outside the control of the company. Users should determine the suitability of the product for their own particular purposes by their own tests.



Unique Polymer Systems

www.UniquePolymerSystems.com  
 Quarry House, Hollybush, Ledbury,  
 Herefordshire. HR8 1ET. UK  
 Tel: +44(0)1531 636300  
 Fax: +44(0)8700 558801  
 Email: sales@UniquePolymerSystems.com