

Technical Data Sheet

UPS 241 HDX Heavy Duty Ceramic X



UPS 241 HDX Heavy Duty Ceramic X has been specifically developed as a 100% solids ceramic repair system for resurfacing equipment subject to sever abrasion.

Product Features

- Designed for application by trowel or spatula at thicknesses up to 6mm (240 mil).
- Provides outstanding resistance to sliding abrasion.
- Excellent adhesion to correctly prepared metal surfaces.

Product Applications

For use on equipment such as chutes, hoppers, pipe bends, pump casings, etc., which are subject to high abrasive wear.

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 from 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 7 microns using an angular abrasive. Once blast cleaned, the surface must be degreased and cleaning using UPS CLEANER MEK. All surfaces must be coated before gingering or oxidation occurs.

PLEASE NOTE – For salt contaminated surfaces the area must be abrasive blast cleaned as mentioned above and left for 24 hours to allow any ingrained salts to come to the surface. After this 24 hours 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 in full units or by part mixing. If mixing the whole unit please ensure as much as the Base and Activator is dispensed from the plastic container onto a clean plastic mixing surface and mix using a spatula until a uniform material free of any streaks is achieved, whilst 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 50 – 60 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 one equal measure from the Activator unit and place alongside the Base measures. Mix as before.

Using a spatula or applicator tool, apply the material to the prepared surface, ensuring the product is pressed into any holes, scars or pitting and profile the repair to an even finish.

Technical Data & Performance

Characteristics

Coverage Rates

5KG (11LB) of fully mixed product will give the following coverage rates -	
0.975m ² at 3mm	10.5ft ² at 120mil
0.73m ² at 5mm	7.8ft ² at 1/8"
0.584m ² at 5mm	6.2ft ² at 3/16"
<i>Please note that the coverage rates quoted are theoretical and do not take into consideration the profile or condition of the surface being repaired.</i>	

Drying & Cure Times at 20°C (68°F)

Useable Life	50 – 60 minutes
Movement Without Load or Immersion	4 hours
Light Loading	8 hours
Full Loading	4 days
Immersion	6 days
<i>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)</i>	

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.



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Appearance

Mixed Material Colour	Dark Grey Paste
Base Component Colour	Dark Grey Paste
Activator Component	Pale 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 6 hours
<i>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.</i>	

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	4	1
By Volume	3	1

Density

Base	1.82
Activator	1.38
Mixed	1.71

Volume Capacity

584cc/Kg

Solids Content

100%

Slump Resistance

Nil at 2.0cm

Pack Sizes

This product is available in the following pack sizes;
1.5KG (3.3LB), 5KG (11LB), 25KG (55LB)

Useable Life

10°C (50°F)	90 – 100 minutes
20°C (68°F)	50 – 60 minutes
30°C (86°F)	30 – 35 minutes

Mechanical Properties

Abrasion Resistance Taber CS17 Wheels / 1KG load	21mg loss / 1000 cycles 0.012cc loss / 1000 cycles
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Tensile Shear Adhesion ASTM D1002 (Abrasive Blasted Mild Steel with 75 micron profile)	148kg/cm ² (2,100 psi)
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Compressive Strength ASTM D695	1,089kg/cm ² (15,500 psi)
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Corrosion Resistance ASTM B117	Minimum 5000 hours
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Flexural Strength ASTM D790	420kg/cm ² (6,000 psi)
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Hardness Rockwell R ASTM D785	100
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Heat Resistance

Suitable for long-term water immersion at temperatures up to 60°C (140°F) and intermittent contact with pressured steam up to 120°C (248°F).

Resistant to dry heat in excess of 120°C (3248°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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