PR 2101 Metal Repair Paste

PR 2101 Metal Repair Paste is a two component solvent free epoxy metal repair compound. The product has been designed for use on a wide range of metallic surfaces and once cured is readily machine able.

Typical Applications

Suitable for emergency repairs or part of planned maintenance to equipment such as –

- ***Worn or damaged pump shafts***
- ***Cracked pump or valve casings***
- ***Scored hydraulic rams***
- ***Worn bearing housings***
- ***Damaged flanges***
- ***Leaking tank seams***
- ***worn keyways and***
- ***Cracked engine blocks.***

Surface Preparation

All oil and grease must be removed from the surface of the repair using an appropriate cleaner.

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 an angular abrasive. Once blast cleaned, the surface must be degreased and cleaned using 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 left for 24 hours to allow any ingrained salts to come to the surface. After this 24 hour period the surface must be washed with 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.

In the case of cracked surfaces, the cracks should be stabilized by drilling the termination points and the cracks weed out and drilled, tapped and bolted every 75-100 mm (3-4")

Where abrasive blast cleaning is not possible (excluding salt contaminated surfaces) the surface should be roughened by MBX, needle gun or grinding.

In areas where the product should not adhere a thin layer of a suitable release agent should be applied taking care not to contaminate other areas.

Mixing and Application

Warm the Base component to 15-25°C (60-77F°) before mixing and do not apply when the ambient or substrate temperature is below 5°C (40F°) 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 from 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 (68F°).

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 above.

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

Where a machined finish is required, the repair area should be overfilled by up to 1.5mm (60mil) and once hardened machined using a surface cutting speed of 200ft/minute and a feed rate of 50 thou/rev initially and 10 thou/rev for finishing.

Coverage Rates (*Please note that the coverage rates quoted are theoretical and do not take into consideration the profile or condition of the surface being repaired)*

1kg (2.2lb) of fully mixed product will give the following coverage rates –
0.406m² at 1mm 4.3ft² at 40mil
0.203m² at 2mm 2.2ft² at 80mil
0.135m² at 3mm 1.45ft² at 1/8"

Cure Times

At 20°C (68F°) the applied materials should be allowed to harden for the times indicated below before being subjected to the conditions indicated. These times will be extended at lower temperatures and reduced at higher temperatures:
Usable Life 30mins
Movement without load or immersion 1.5 hours
Machining and light loading 2 hours
Full loading 2 days
Immersion 3 days

For Optimum Performance

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

Color

Mixed material - Dark Grey, Base component – dark grey, Activator component – light grey

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.

Storage Life

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

Technical data and Performance

- ***Mix Ratio: 3:1 by volume***
- ***Heat Resistance: 150° C***
- ***Volume Capacity: 406cc/Kg***
- ***Compressive Strength ASTM D695: 1075kg/ cm² ((15,300psi)***
- ***Tensile Shear Adhesion ASTM D1002: 185kg/cm² (2630psi)***
- ***Flexural Strength ASTM D790: 703kg/cm² (10,000psi)***
- ***Hardness Rockwell R ASTM D785: 100***
- ***Corrosion Resistance (ASTM B117): 5000 hours***

Health and 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.