HPR-520-HTAC

HPR-520-HTAC is designed to upgrade the performance of conventional materials of construction and in particular to protect equipment operating in contact with acids and highly aggressive chemicals at elevated temperatures. The coating once fully cured is capable of withstanding temperatures up to 90°C (195°F) in continuous immersion in sulphuric acid, hydrochloric acid and phosphoric acid. The material can be applied directly to abrasive blasted steel or to surfaces previously rebuilt with HPR-503-M or HPR-515-C

Typical applications

Suitable for the coating of oil and gas processing equipment such as –

condensate extraction pumps
distillation unit
scrubber units
return tanks
evaporators
calorifiers
heat exchangers

Surface Preparation

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

On surfaces already rebuilt with HPR-503-M or HPR-515-C no further surface preparation is required where over-coating takes place within 3 hours. After this maximum over-coating time has elapsed roughen the surface by flash blasting or other means of abrasion.

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

Only full units of material should be mixed and to aid mixing add only part of the Activator initially. Pour approximately one third of the contents of the Activator unit into the Base container and mix carefully using a spatula.
Once the two materials have been blended, add the remainder of the Activator ensuring that as much material is drained from the Activator container as possible.
Mix the two components together until they are streak-free and apply using a short bristled brush or applicator tool. The material once fully mixed has an application of time of 30-40mins at 20°C (68°F).

Two Coat Application

Where possible, the application should be carried out in two coats.
a) The first coat of material should be applied at a target thickness of 600 microns (24mil), use a plastic applicator as a squeegee to apply a **very** thin layer of product, forcing it into the blast profile. Special attention should be paid to detailed areas such as edges, corners and welds where brush application by stippling may be required. Immediately after the initial application apply further material by brush or applicator to give the required film build, checking film thickness with a wet film thickness gauge. Lay off the coating by brush to give a smooth finish.

Two Coat Application (continued)

b) Allow to harden for a minimum of 16 hours before removing any surface bloom by washing first with a detergent and water mixture and then clean water. This should be followed by sweep blasting at reduced pressure using fine grit, and removal of any debris before washing with MEK.

c) The second coat of material should be applied at a target thickness of 300 microns (12mil) using a brush or applicator and once again checking film thickness with a wet film gauge before finally laying off the coating with a brush to give a smooth finish.

Single Coat Application

If a two coat application is not practical, the product can be applied as in (a) above in a single coat at 650-850 microns (26-34mil). Using this method extreme care is required when carrying out visual inspection of the coating (whilst still wet) to identify any defects which should be corrected.

Once cured any surface bloom should be removed by detergent wash and the coating then wet sponge tested to identify any pin holes. These should be repaired by manually abrading the surface, cleaning down and applying freshly mixed HPR-520-HTAC at approximately 250 microns (10mil) thickness to the prepared area.

Coverage Rates

1kg (2.2lb) of fully mixed product will give the following coverage rates –

1.415m² at 300 microns	15ft² at 12mil
1.063m² at 400 microns	11.5ft² at 16mil
0.850m² at 500 microns	9ft² at 20mil
0.708m² at 600 microns	7.5ft² at 24mil
0.607m² at 700 microns	6.5ft² at 28mil
0.531m² at 800 microns	5.7ft² at 32mil

Please note that the coverage rates quoted are theoretical and do not take into consideration the profile or condition of the surface being repaired.

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	20 - 30 minutes
Movement without load or immersion	3 hours
Light loading	6 hours
Full loading	1.5 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

Pack Sizes

This product is available in the following pack sizes –

1kg (2.2lb), 3kg (6.6lb)

Parker James Protective Coatings Ltd, Unit 4 Aldridge Depot, Brickyard Road, Walsall, WS9 8SR

Tel: 01922 457 664 Email: sales@parkerjames.co.uk Web: www.parkerjames.co.uk

Technical Data Sheet

HPR Engineering Repair

Colour

Mixed material - Dark Grey, Light Grey
Base component – Dark grey, Light Grey
Activator component – Amber Liquid

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.

Storage Life

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

Technical Data and Performance

Volume Capacity	**425cc/Kg**
Compressive Strength ASTM D695	**983kg/ cm² (13,960psi)**
Tensile Shear Adhesion ASTM D1002	**220kg/cm² (3125psi)**
Flexural Strength ASTM D790	**614kg/cm² 8710psi**
Shore D Hardness ASTM D2240	**89 at 20°C 78 at 240°C**
Corrosion Resistance (ASTM B117)	**5000 hours**

Please see HPR-520-HTAC Specification Sheet for further technical and performance data.

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

Parker James Protective Coatings Ltd, Unit 4 Aldridge Depot, Brickyard Road, Walsall, WS9 8SR
Tel: 01922 457 664 Email: sales@parkerjames.co.uk Web: www.parkerjames.co.uk