



## Repair and Overhaul of four River Water Pumps following pump house flooding

A18/238

### Client

Gas Fired Power Station.

### The Challenge

Corroserve's dedicated pump division was approached to repair and service four feed water pumps for a gas fired power station. Not only does the river water used have a very high silt content, but the pump house itself suffered from flooding, which fully submerged the pumps.

### The Solution

Each pump was taken out of service in turn and delivered to our workshop. After arrival the service team dismantled the pump and completed a strip and inspection report. As can be seen in the images above, the wetted areas suffered from erosion corrosion and due to flooding, the bearings were badly damaged.

### Results & Benefits

The professional preparation of the wetted parts before coating and the use of Plasmatec HTE ensured that the pumps will remain in service for many years.

The specialist coating used is designed to provide protection against corrosion in immersed locations and offers resistance to highly abrasive pumped products.

### Coating credentials

Corroserve has the experience and expertise to either coat from new or provide remedial coatings to process equipment. The bespoke coating systems used are determined by the operating conditions and mediums. Our coating systems have provided unrivalled levels of corrosion in the harshest environments in over 40 years.

Corroserve is a member of the Corrosioneering Group, which also includes the specialist coating manufacturer, Corrocoat and our research and development division, Corrolabs. Working together, we provide the ultimate 'one-stop-shop' for our customers.



## Pump Suction Cover Repair

### Client

Power generation plant, UK.

### The Challenge

Repair the suction cover back to original dimensions. Then to also give better protection to the substrate from the abrasive pumped media.

### The Solution

Corrosolve proposed to rebate and pre-machine to accommodate the coating process. Masked the areas not requiring treatment. Grit blasted to ISO850-1, internals and all wetted areas to Sa2.5 and externals to Sa2. Then applied multiple coats of Plasmatec HTE (data sheet 5/05A) to achieve a minimum DFT 2.0mm to the pump internals, thickness checked and spark tested. Post machined as required. Then finally applied two coats of Plasmatec ZF (data sheet 5/22 ) to the suction cover external areas.

### Results & Benefits

The suction cover was returned back to its original dimensions, with the added benefit of being more abrasion resistant due to the Plasmatec HTE coating. Plasmatec HTE is a viscous, solvent free, amine cured epoxy containing stainless steel flakes, glass flakes and silicon carbide. It has excellent abrasion and chemical resistance in immersed environments and is also useful for building up damaged areas where impact or abrasion are prevalent.

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### Images

Left - suction cover as received from the client

Middle - Suction cover during coating process

Right - Suction cover finished and ready for dispatch back to client



## Repairing Ballast Pump for an FPSO

V149

### Client

Major Commercial Shipping Company.

### The Challenge

Corroserve was approached by the client to repair a badly damaged ballast pump casing. As can be seen in the images above, the pump had pulled in a large item that had cracked open the casing at the bottom of the suction chamber.

### The Solution

After arrival at our workshop the service team cut out the affected area and welded in a new bronze plate, prepared volute casing by abrasive blasting the surface to a Sa2 1/2 to provide a minimum surface profile of 50 microns. They then laminated over the affected area inside and out. Finally, the casing was coated with Corroglass 600 series to a DFT of 1.25mm inside and painted to the requested RAL outside.

### Results & Benefits

The professional preparation and repair of the casting before coating and the use of Corroglass 600 will ensure that the casting will be in service for many more years. The specialist coating used is designed to provide protection against erosion corrosion in immersed conditions.

### Coating credentials

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## Protection for Pump Wetted Areas

### Client

Petrochemical, UK.

### The Challenge

The HSC split pump casing and cover was received from the client, an initial inspection report was carried out. During the inspection the casing and cover were found to have suffered from severe erosion corrosion around the cutwater, discharge bend and stuffing box bores. The stationary wear ring landings had already been mechanically repaired by the client.

### The Solution

Internal areas - rebated all flanges, including the split face, to prevent crevice corrosion. Prepared and masked all areas not requiring treatment. Grit blasted all the internal areas requiring coating to ISO8501-1, Sa2.5. Applied a priming coating using Corroglass 632 to data sheet 1/11A. Built up the coating to a minimum dry film thickness of 1.25mm using Corroglass 602 to data sheet 1/10A. Thickness checked and spark tested (17Kv) External areas - Grit blasted to ISO8501 - 1 Sa2. Apply 2 coats of Plasmet ZF to data sheet 5/15A. Applied a top coat of industrial enamel to RAL5009 (Blue).

### Results & Benefits

The casing has been repaired back to standard sizes at a fraction of the cost of replacing with new. The 600 series coating system will give this unit a life expectancy exceeding ten years.

### Coating credentials

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