

A Complete Repair Solution to Pumps

Application by ProCoat Specialities Pvt. Ltd.



ThistleBond

A Division of E. Wood Ltd., U.K.

One major area of concern for most industrial accounts today is the erosion and corrosion of pumps and its parts. Another major concern and cost is the reduction of pump efficiency due to above problem.

Problems in fluid handling equipment - Pumps

Casing	:	Inlet & outlet areas wear, pitting & cavity formation, loss of substrate, punctures and body cracks.
Impeller	:	Pitting & cavity formation, worn out vanes, loss of profile, dimension loss
Collor Seating Area	:	Wear & tear
Shaft	:	Worn out areas of bearing seating area
Volute	:	Cavities formation by corrosion

These problems will lead to improper surface profile with lot of undulations which ultimately result in frictional losses and poor efficiency of the pumps by consuming large amount of energy for operation.

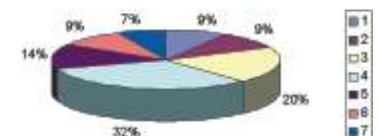
ProCoat Specialities Solution with ThistleBond Products

- For Repair and Rebuilding of Impeller, Casing, Volute
 - Ceramic Carbide Wearing Compound
 - Flexiblised Ceramic Carbide Compound
- For Rebuilding the damaged areas of shafts, bearing housing, end covers collors & seating areas
 - Super Metal Rebuilding System
- For Providing Abrasion / Erosion / Impact Resistance Coating
 - Ceramic Carbide 88
 - Flexiblised Ceramic Carbide Fluid
- For Protecting Pump Casing from Sliding Abrasion from slurries / fluid
 - Heavy Duty Ceramic Carbide
- For Increasing the Energy Efficiency of Pump
 - Super Low Friction Efficiency Coating

Down time of pump is mainly due to wear and tear of the casing, volute and impeller. These damage areas can be successfully rebuilt with 'Super Metal Rebuilding System', which makes a reliable repair and attains superior engineering properties to prevent further propagation of cavities. As this deposit can be machined / ground to the required dimensions. These repairs can be made In-Situ condition, therefore the time required for refurbishment can be reduced considerably.

The total Cyclecost of pump is similar to the following

- 32% - Energy cost throughout working life
- 20% - Cost of maintenance
- 14% - Actual cost of pump when purchased
- 9% - Installation
- 9% - Downtime
- 9% - Operation costs
- 7% - Environment





Pump Repair - Efficiency Improvement

Second major area of concern for the efficiency is casing / impeller surface smoothness. Surface undulations will obstruct "fluid flow" and causes "turbulence inside the pump". In reverse condition, if the surface is extremely smooth, turbulence can be avoided thereby reducing friction and increase the flow rate.

The Pump Efficiency is directly dependent on

- Flow rate of pump
- Energy consumption
- Cost of Maintenance

ProCoat Specialities has ways to improve the above with ThistleBond 'Low Friction Efficiency Coating' which is proven to

- Increase the flow rate through the pump
- Reduce the energy consumption
- Reduce the cost of maintenance by increasing the mean time between failure

Product : Super Low Friction Efficiency Coating

'Super Low Friction Efficiency coating' is a high performance solvent free coatings designed for use as a resurfacing and lining system to improve efficiency in fluid flow environments.

However, to increase efficiency and reduce maintenance of the pump, a smooth and hard wearing surface must be applied to repaired area.

'Super Low Friction Efficiency Coating' is brush applied and has self leveling properties which enables user to have a smooth finish to the repair.

Normal ceramic coatings leave brush marks across the surface, these offer areas of resistance when fluid is pumped over the surface. However the self leveling properties of ThistleBond 'Super Low Friction Efficiency Coating' means the majority of brush marks are smoothed away, allowing fluid being pumped to run more easily over the surface, reducing friction, wear and energy consumption, while increasing flow rate of the pump.

Furthermore, the high concentration of ceramic and carbide particles within the coating offers a higher level of protection to metal component and equipment being repaired.

ThistleBond 'Super Low Friction Efficiency Coating' is proven to increase flow rates by up to 10%, thus reducing energy consumption, maintenance and downtime.

Surface Preparation

Based on type of fluid handling the surface preparation method will be selected like sandblasting to SA2.5, grinding, rotary wire wheel etc., then the area to be repaired will be given more attention towards absorbed / adsorbed chlorides and care will be taken to ensure the same in safe limits. By the expertise of ProCoat's application specialists, all factors related to obtain the best possible surface profile will be ensured.

Distributor catering to your needs



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