

BELZONA 2141 ANTI-CAVITATION

Unit:- Hick Hargreaves SHR22500
Water/Sugar

Industry:- Sugar Pumped media:



Unit as received

The unit prior to disassembly was imaged and booked on to our database which allocates a unique internal repair and tracker number.

The unit was then dismantled, pressure cleaned and shot blasted and inspected and the following was found

- The gland area was in poor condition with shaft wear found
- Both impellers and bodies had glass flake coating applied which was heavily worn
- Heavy wear due to cavitation and erosion was apparent to the leading and trailing edges of the suction impeller. Similar wear was also found to the and delivery impeller and bodies
- All plates were scored due to contact from the impellers and were worn due to erosion
- The Non drive shaft bearing location was worn



Scoring to intermediate plates



Cavitation to impellers



The following work was then carried out

- The impellers were be hydraulically pressed from the shaft
- Both impellers were grit blasted to SA 2 ½ to remove existing coating, surface impurities and so incorrect surface profile is achieved
- The areas on the suction impeller which had been subjected to cavitation were rebuilt with Belzona 1311 Ceramic r metal and formed back to profile

Both impellers were coated with Belzona 2141 anti cavitations coating to protect against further wear. This replaced the previous glass flake coating which had not protected the base metal



Suction impeller after grit blast - after application of 1311 - after being ground to profile

- The gland packing sleeves were grit blasted to SA 2 ½ @ 75 Microns and the rebuilt with Belzona 1131 bearing metal and then machined to size
- The NDE worn Bearing location were grit blasted to SA 2 ½ @ 75 microns and then rebuilt with Belzona 1311 ceramic and then machined to size
- The shaft diameters were polished and threads cleaned
- All four plates were undercut and prepared for Belzona application by machining
- The plates were rebuilt with Belzona 1311 ceramic r
- All plates were machined to original size
- Both Suction and delivery bodies were then Grit blasted to SA 2 ½ @75 microns
- The suction body was rebuilt with Belzona 1311 ceramic r metal where wear due to product wash was apparent
- Both bodies were coated with Belzona 1321 ceramic s to protect against future wear
- Both bodies were machined so correct clearance is established against the impellers



First coat of 214 - Impeller being coated - Applying second coat 2141

On completion of all Machining and coating the unit was rebuilt in accordance with OEM clearances with the following spares;

- | | |
|--|---------------------------------------|
| 1 Drive end bearing | 2 Non Drive end bearing |
| 2 Bearing locking sleeves | 3 Locknuts |
| 3 Tab washers | 1 Drive end gland packing set |
| 1 Non drive gland end packing set | 1 Gasket set & fastenings as required |
| Consumables - Oil, lubricant, grease etc | |

The unit performance tested in our dedicated test facility against the OEM curve

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