

Belzona Pump Coating Offers a Saving of up to 20% on Energy Costs

ID: 8752

Industry: General Industry
Application: CEP-Centrifugal Pumps
Substrate: Steel
Products: * Belzona 1111 (Super Metal) ,
* Belzona 1341 (Supermetalglide) ,

Customer Location: UK Automotive Manufacturer
Application Date: February 2022

Problem

The pump casing had corrosion and erosion damage around the surface area where the open impeller vane tip runs. One of the pumps had its performance analysed on a test rig. The hydraulic efficiency was found to be down at 38.3%.



Photograph Descriptions

- * 1. Pump casing with corrosion and erosion damage ,
- * 2. Erosion repaired using Belzona 1111 ,
- * 3. Re-profiled volute casing and first coat of Belzona 1341 applied ,
- * 4. Belzona 1341 applied to all the pump volute internal water ways ,

Application Situation

The customer had four long-coupled end suction pumps that were deemed beyond economical repair. A new replacement pump would cost £18,000 on a six month lead-time from the USA, meaning an expensive and drawn-out process for the customer.

Application Method

The heavily eroded volute casing was rebuilt with Belzona 1111. It was then re-profiled to suit the impeller vane tips before Belzona 1341 was applied to improve the units' hydraulic efficiency, flow rate and head characteristics. The application was completed in accordance with Belzona System Leaflets CEP-01 and CEP-03.

For more examples of Belzona Know - How In Action, please visit <https://khia.belzona.com>

ISO 9001:2015
Q 09335
ISO 14001:2015
EMS 509612

Belzona products are
manufactured under an ISO
9000 Registered Quality
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Belzona Facts

The refurbishment cost the customer significantly less than what they had been quoted for a new replacement pump, from the American OEM. This solution allowed the customer to secure a capital expenditure saving of £11,500 and cut the delivery lead-time down to just 2.5 weeks. It was calculated that the refurbished pump would deliver an annual energy cost-saving of £14,000, based on the following performance test results:

- Hydraulic efficiency: increased to 48.3%
- Flow rate: increased from 77.3% to 85.1%
- Motor absorbed power: reduced from 42.6kW to 40.8kW
- Pump differential head: increased from 20.6m to 23.5m

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