

China Clay Mining Great Britain

Application market	Industry
Market segment	Mining
Pumped medium	Kaolin sludge
Pump product	Bearing Frame
Country	United Kingdom



Challenge

China clay (Kaolin) is an essential ingredient in the manufacture of porcelain, paper, rubber, and paint, among other things. The largest mined deposit in the British Isles today is in the south-west of England. It is extracted from large open mines using the open pit mining method and then processed further to obtain the composition defined and with the corresponding required properties for the respective application. The highly abrasive medium to be pumped, with a density of 1'200 kg/m³ and solids content of up to 30 % requires a very robust pump.

Solution

As of 2024, the demanding task with mixing the heavy and highly abrasive sludge, has already been successfully and reliably performed by the **Hidrostal Screw Centrifugal Pumps** for 14 years. During a courtesy visit on site, with the aim of improving wear protection and service life for the whole pump, Hidrostal recommended to upgrade the pump impeller from ductile iron to Duplex stainless steel and to change the mechanical seals to a heavy-duty, premium version. During the installation of the upgraded units, Hidrostal also provided instructions on how to use the adjustable hydraulic unit, which enables the impeller clearance to be readjusted, thus compensating for the high wear, while maintaining the same pump efficiency over a long period of time and finally reducing the energy consumption and lowering the overall life cycle costs.

Benefits

The upgrade has at least tripled the **Mean Time Between Maintenance (MTBM)** for the pumps. The customer welcomed the modifications and confirmed the increased performance of the pumps and the higher overall production rate of the system. The technical manager on site described the **Hidrostal** pumps as "**the most reliable pumps in his quarry**".

Quantity of units sold	5
Pump type	D04R-HMN3R + DDM1F
Motor data	4.0 kW / 1'500 rpm / 50 Hz
Material combination	Cast iron pump body, Hidrohard wear parts and Duplex stainless-steel impeller
Duty point	Flow : 27.0 liters per second / Head : 8.5 meters
In operation since	2010