Surface water pumping in Kaolin mine

Market segment	Industry
Application market	Mining
Pumped medium	Surface water with high grit content
Pump product	Submersible
Country	Czech Republic

Challenge

Pumping surface water in a Kaolin mine is a major challenge for the system and components, especially for the pumps used: At high flow velocities, fine sand and other suspended solids in the pumped medium can cause very heavy wear and possibly fatal damage. Accordingly, the customer placed high demands on the wear resistance of the pumps.

Solution

The use of **Hidrostal Screw Centrifugal Submersible Pumps** in wear-resistant material combinations guarantees a long service life and high reliability for the wear parts concerned, such as the pump impeller, liner, wear ring and back cover. For this application, the use of the **Hidrostal** FreeFlow technology was deliberately avoided and the standard rubber bellows mechanical seal type G was used. Further the pump sump was built in such a way, that it would not flood during heavy rainfall, preventing dirt and other solids from the surrounding area from being washed in.

Benefits

The choice of high-quality materials guarantees a long service life for the wear parts and correspondingly high availability and reliability for the pumps. Since commissioning in 2020, the system has already been in operation for several years without any faults or downtime.

Quantity of units sold	2
Pump type	DE4U-EMN3 + EN030X2-GSEQ1CC
Motor data	37 kW / 2 pole / 50 Hz / 400 V
Material combination	Cast iron pump body, wear parts Hidrohard, pump impeller wear resistant cast steel
Duty point	Flow : 43.0 liters per second / Head : 48.5 meters
In operation since	2020