

Industry: Flood Control

End User: SIGMA GROUP a.s., Lufín, Czechia

Application: Vertical Turbine Pump

Thordon Grade: Composite

Date of Original Installation: There are several projects involving inclined propeller pumps, the first installation was 2015

About:

SIGMA GROUP a.s. is the largest producer of pumps in Czechia, more widely known as the Czech Republic. Their focus is on researching, developing, and producing mid-size, heavy and one-off specialized pumps, and pumping sets for industrial applications. Their range of over 70 products includes vertical and inclined turbine pumps designed for use in virtually all areas of industry, energy management, agriculture, and water management.

Challenge:

The SIGMA pumps in this application were for an irrigation system in Egypt. There are a series of incline pumps installed on the Nile River which operate in very abrasive water. As a result of the harsh operating conditions, the bronze bearings in the incline pumps were only lasting 1-2 years. When looking for a replacement bearing, a tin composition (white metal) was requested in the tender documentation for these pumps, but SIGMA wanted a modern and robust abrasion-resistant material.



Solution:

SIGMA first used Thordon Bearings in 2008 and since then, they have supplied a large number of pumps equipped with Thordon bearings for many applications. Based on their experience with Thordon and their relationship with Thordon's authorized distributor in Czechia, Eribos s.r.o., it was recommended that Thordon's Composite material be used in this application due to the large amount of sand in the pumped liquid. Thordon Composite provides the best abrasive resistance in abrasive water-lubricated pumps offering the longest bearing wear life. By using Composite in the incline pumps, the customer would save money related to pump repair by reducing maintenance and eliminating downtime.

Result:

The first Composite bearings were installed in SIGMA vertical pumps on the Nile River in 2015. Based on current wear rates, a 10 year wear life is projected before replacement bearings will be required. The customer has saved considerable money and reduction in downtime by extending the wear life by 500%!

Eribos and SIGMA are currently implementing the second major pump project in Egypt – El Hamam. These are 12, SIGMA 1400-BQBV vertical pumps and each pump is fitted with two Thordon Composite bearings. They are also starting work on a third project – Mostagbal. This project will see the supply of 28 SIGMA 1500-BQBV vertical pumps and each of these pumps will also be equipped with two Thordon Composite bearings.

The success of Thordon Composite bearings in Egypt has led to several other large tenders including Thordon Composite in the project specification that have been awarded to other major pump OEMs in Europe and Asia. SIGMA's early adoption of Thordon's products in the Egyptian pump market has led to widespread usage in the region.



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