

Industry: Sugar Cane Processing
End User: San Cristobal Sugar Mill, Veracruz, Mexico
Application: Cooling Water Pumps
Thordon Grade: ThorPlas-Blue
Date of Original Installation: April 2023

About:

San Cristobal Sugar Mill is located in Veracruz, Mexico and they share sugar cane territory with 23 other sugar mills in the area. However, San Cristobal is the only double tandem process sugar mill in Mexico with a daily milling production of 16.3 million kg/day (18,000 tons/day).

Challenge:

The San Cristobal Sugar Mill has approximately 36 vertical turbine pumps operating on-site, that pump river water, process water, cooling water, and condensate. The original greased bronze bearings installed in these pumps were only lasting 2 months and were causing damage to the shafts, so repairs were frequent and failures arose often. These unexpected failures often occurred during the night shift and maintenance costs were also extremely high as they had to rent a crane to pull out the pumps to complete the repairs.

Solution:

Thordon's authorized distributor in Mexico, TZ Industrias, introduced San Cristobal to Thordon's products for use in vertical pumps as well as industrial applications with high loads. ThorPlas-Blue was recommended for these pumps due to its chemical resistance since the cooling water in the pumps also contains some softeners and cadmium additives to prevent serious wall scaling in the cooling tower. Additional benefits of ThorPlas-Blue for these pumps included low friction, thermal stability, and no chance that the bearings would damage the shaft.

Result:

ThorPlas-Blue was installed in April 2023 and it is projected that these bearings will operate for over 3 years. The repair season for sugar mills is from June-October, so TZ Industrias is expecting to retrofit some addition pumps with Thordon during this year's repair cycle. Between the bearings, machining, not having to replace shafts, and labour, San Cristobal is estimated to save at least US\$3000 per pump, per year. In fact, San Cristobal is so impressed with ThorPlas-Blue's performance already that they are planning to standardize Thordon in all of their pumps. They are also investigating how Thordon can be retrofitted into some high load applications such as sugar cane lifter bearings and sugar train wheel bearings at their facility.

