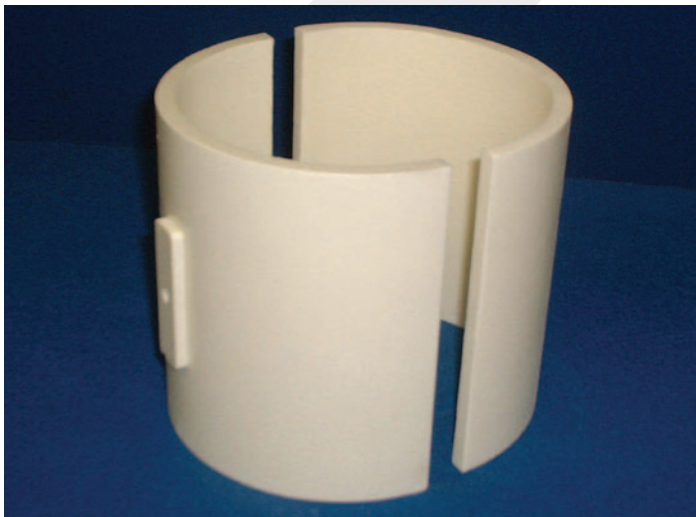


# SXL and Thor-Flex Improve Bearing Wear Life for Water Purification Plant

The American Midwest is home to one of the world's largest water purification plants, pumping over 700 million gallons of water from Lake Michigan each year. For over 12 years, the plant has been fitted with Thordon SXL flocculator paddle wheel bearings and Thor-Flex chain conveyor wear shoes. As a result of the impressive wear life of both bearing grades, the plant continues to use Thordon bearings in its water purification plant applications.

## Flocculator Paddle Wheel Bearings

In 2000, the plant engineer contacted Thordon to discuss an issue they were having with the bearing located in the flocculation system. The flocculation system consists of large concrete tanks filled with water that is agitated by large paddle wheels that rotate very slowly (approx. 3 rpm). Alum, a very abrasive coagulant is added to the water. The abrasive environment was causing premature wear of the phenolic laminate shaft bearings of the large paddle wheels that slowly mixed the water. There are over 500 paddle wheels at this particular water purification plant.

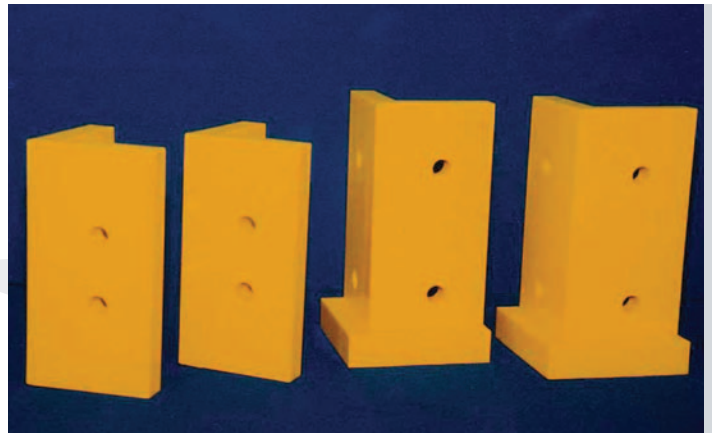


*SXL Flocculator Paddle Wheel Bearing*

## Chain Conveyor Wear Shoes

Grit chambers are large settling tanks where the removal of organic solids takes place. The large tanks have chains and sprocket systems with scrapers or flytes spaced at intervals between them. Scum is removed from the top. The grit and settled solid material are scraped to one end of the bottom of the grit chamber for removal. The existing UHMWPE wear shoes are

the surface for the slow moving scrapers. This area in particular has been problematic for this type of application and with there being more than 14,000 wear shoes at this plant in three different sizes, performance and long bearing wear life is of the utmost importance.



*Thor-Flex Conveyor Wear Shoes*

After Thordon reviewed the operating conditions and environment, Thordon SXL bearings were recommended for the paddle wheels as SXL grade bearings offer low friction suited to slow speed shaft operating conditions and have excellent resistance to abrasion. Thordon Thor-Flex was recommended for the chain conveyor scraper wear shoes as it would ensure excellent wear resistance in low speed sliding wear pad applications. Thor-Flex also brings with it a much greater cut and gouge resistance than UHMWPE

Due to the impressive wear life, and extensive reference lists, the water treatment plant re-ordered SXL flocculator paddle wheel bearings for replacement in 2014 along with Thor-Flex chain conveyor wear shoes, providing a wear life of over 12 years. **NW**

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