Garlock
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Case Study: FLOOD-GARD® Biofuels

INDUSTRY
Biofuels

CUSTOMER
Ethanol producer

BACKGROUND
An ethanol producer had several screw conveyors driven by gearboxes which had lubricant loss due to failing lip seals. Standard nitrile lip seals would degrade due to temperature and contamination, requiring a complete gearbox rebuild every six months. The end user did not stock spare gearboxes, making it necessary to have them sent out for rebuild which is costly in terms of material, labor and downtime.

CHALLENGES FACED
There was no consistency among the gearboxes being used despite there only being three sizes at the plant. In terms of keyway and shaft step position, measurements also varied before and after rebuild leading to a challenge in determining the appropriate design. This posed a challenge for the end user to obtain alternative options and break the cycle of using lip seals and dealing with shortened equipment life and costly rebuilds.

OPERATING CONDITIONS
Size: 1.000" - 4.000" shafts
Temperature: 180° - 250°F (82° - 121°C)
Application: Gearbox
Media: Oil
Pressure: NA
Speed: 70 RPM

SOLUTION AND BENEFITS
Garlock made joint calls with the distributor to obtain accurate application details to develop a solution aimed at alleviating the pain they experienced searching for alternative solutions. Armed with this information, Garlock proposed FLOOD-GARD® bearing isolator as a solution. FLOOD-GARD® has been in service for approximately 2 years with no leakage to date. The end user has transitioned to FLOOD-GARD® on their remaining screw conveyor gearboxes and is looking to replicate this success in their other locations. The estimated annual cost savings for just one gearbox rebuild is $5,000.

For more information, please visit:
http://www.garlock.com

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