

TEADIT[®] 2774 / SEALPAK 47 CASE HISTORY

INDUSTRIAL SEGMENT

Sugar and Alcohol

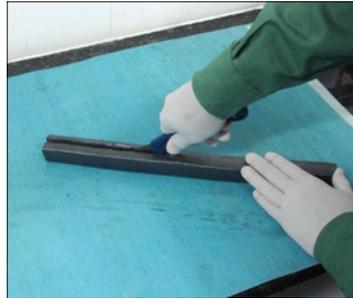
APPLICATION

Fluid(s)

Liquid Sugar

Equipment

Sugar crystallizer mixer



SCENARIO

A large sugar mill was having issues with constant leakage out of their sugar crystallizer mixer, which is operating at 30psi and 180°F, with a rotational speed of 10RPM. Agitators on large mixers such as this can pose more challenges to braided packing than would appear from the basic operating parameters. Large agitators in general tend to have challenges with shaft alignment which can pose a serious issue for braided packing as it creates uneven wear on the packing and can lead to premature failure. In this specific application, as is common in the sugar industry, the media that is being sealed creates a challenge as it contains solids and is abrasive which can damage many styles of braided packing and can create wear on the shaft and stuffing box. Previously they had been utilizing a synthetic style braided packing with PTFE suspensoid. This type of packing is a commercial grade packing that is typically utilized for general service conditions. The previous product leaked on startup of the equipment and continued to leak for the entire crop cycle as the equipment can't be shut down for repair during a cycle. The previous packing experienced constant leakage because it was unable to withstand the challenges of the application such as the abrasive media as well as shaft alignment and shaft/stuffing box wear.

SOLUTION

The customer reached out to the team at Teadit to try and come up with a solution for their application. After a thorough investigation of the application it was determined that a combination set was needed that could handle not only the abrasive media but also be

conformable to overcome the shaft issues. Teadit proposed to replace the existing packing with a combination of style 2774 bull rings and Sealpak 47. Teadit 2774 is one of the best options for the sugar and alcohol industry as it is designed for use in processes with fluids containing suspended solids and abrasive applications. Sealpak 47 is an extruded, moldable gasket made of pure PTFE, graphite, and special lubricant that provides good heat dissipation as well as excellent chemical resistance including use in contact with abrasive media. Due to it being soft and dense it provides great sealability as well as conformability in order to overcome field issues such as off-center axes or worn packing box. The 2774 rings provide mechanical strength to the set, including anti-extrusion resistance for the soft and conformable Sealpak 47, while also providing an industry proven solution for sealing abrasive media. In combination with the 2774 sealing the abrasive media, the Sealpak 47 allows the set to overcome the challenges in the field such as shaft/stuffing box wear and off-center axes.

CUSTOMER GAINS

The unique combination of benefits found in the set of 2774 and Sealpak 47 made this a winning solution for the customer. The customer installed Teadit's proposed solution and experienced vastly improved sealing performance with no leakage for half of a crop cycle, and then only slight leakage for the remainder of the cycle due to the condition of the equipment. This was greatly improved performance in a very challenging scenario due to the media and condition of the equipment. These improvements saved our customer time and maintenance cost of having to try to stop the leakage while the equipment was running, as well as significantly reduced product loss due to the leakage. Teadit showcased its technical knowledge and experience in the industry, by creating a unique solution that combined the benefits of 2 products in order to solve a challenging application for the customer.