

TEADIT® 2002 – Paper Refiner CASE HISTORY

INDUSTRIAL SEGMENT

Pulp and Paper

APPLICATION

Media: Paper stock 6.5%

Temp: 65°C

Equipment

Refiner



SCENARIO

A major paper manufacturer was not achieving their desired level of performance from their previous packing material on their refiner. This refiner has a shaft size of 145mm (5.7") and is operating with a media of 6.5% paper stock at 150°F (65°C). The customer was previously utilizing a braided packing manufactured from thermoset fibers that was providing a maximum run time of 6 months and was consuming a high amount (22.5 l/min) of flush water. A common challenge in pulp and paper applications, such as this, is that the media is often abrasive which can be difficult for mechanical packings and requires a packing material with more mechanical strength to resist wear from the media. Another common challenge in certain rotating equipment applications is that a high amount of heat is generated due to friction between the packing and the shaft. The thermoset packing material is not ideal for handling abrasive types of medias and required a high amount of flush water in order to dissipate the friction heat, as it does not have as high of heat dissipation properties as other types of packings.

SOLUTION

The customer asked Teadit to help them identify a new solution that would increase run time, reduce flush water consumption, and reduce operational costs. An equipment survey was performed to identify the equipment conditions and determine the packing lifetime and annual costs. Based on the analysis, a significant improvement in the water consumption and the lifetime could be achieved if the customer transitioned to the TEADIT 2002 carbon packing. TEADIT 2002 braided packing is manufactured of carbon yarns and is graphite filled, and this construction makes it a great solution for this application. The carbon yarns give this packing

very good mechanical characteristics which allow it to resist the abrasive nature of the media in this application. The carbon fiber and graphite construction of the TEADIT 2002 give this packing exceptional heat dissipation properties which allows this material to operate in applications with little to no flush water. TEADIT 2002 was determined to be the best solution for this application due to its great mechanical characteristics and heat dissipation properties.

CUSTOMER GAINS

The customer has experienced great success utilizing the TEADIT 2002. With this new packing solution, the customer has seen a decrease in flush water consumption of 20 l/min and has seen their packing lifetime increase to 8 months. These improvements helped the customer realize a substantial savings on their operation costs as well. By utilizing the TEADIT 2002 packing the customer has seen a 90% decrease in water consumption costs as well as an over 50% decrease in maintenance costs. These savings have allowed the customer to achieve a total operation cost savings for this piece of equipment of over 60%. The customer was also able to achieve a full return on investment in 4 months. The customer has been able to successfully meet all their goals of improving run time, reducing flush water consumption, and reducing operational costs by using the Teadit solution.

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