

# TEADIT<sup>®</sup> 24SH – Spiral Heat Exchanger CASE HISTORY

## INDUSTRIAL SEGMENT

Biochemical

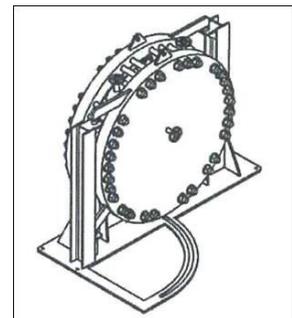
### APPLICATION

**Fluid:** Water

**Temp:** max 200 °C

**Pressure:** 16 bar

**Equipment:** Spiral Heat Exchanger



## SCENARIO

A biochemical manufacturer reached out to TEADIT's partner for support regarding premature gasket failure on a spiral heat exchanger. Spiral heat exchangers pose some unique challenges for sealing due to their very large diameter as well as their unique sealing surface. The special flange design found on this type of equipment can often lead to large flange irregularities which require a soft gasket capable of compensating for them. The customer was currently utilizing a compressed fiber sheet product composed of synthetic fibers with an HNBR binder, as well as applying a silicone adhesive product with the objective of aiding in installation and improving sealability. This solution lasted only three to four months in service and required a large installation effort which led to a prolonged shutdown for each failure. After a thorough review of the application it was determined that the customer was experiencing premature failure due to the gasket material not being able to compensate for the flange irregularities in the equipment and their use of a silicone adhesive which can be detrimental to proper gasket seating.

## SOLUTION

The customer contacted Teadit's application engineering team to help them find a solution to this application. After a thorough investigation of the application it was determined that a softer material was needed that was able to compensate for the flange irregularities. Teadit recommended the customer switch to ¼" (6mm) thick 24SH material due to its high compressibility and its ability to overcome flange irregularities. It was also critical to find a

solution that would aid in the installation effort in order to eliminate the need for the use of the silicone adhesive. In order to overcome this challenge, the gasket was designed with a few bolt holes to help position the gasket and aid in the installation effort.

## **CUSTOMER GAINS**

Switching to Teadit 24SH for this application has provided much improved sealing performance and great benefits for the customer. The customer has experienced improved runtime in this application with the new solution already doubling runtime to 8 months with no issues. Based upon this success the customer has changed their planned maintenance strategy for this equipment from quarterly to annually. Due to the new gasket design the customer also saw the benefit of reduced installation efforts, cutting the installation time down from two and a half days to only a half day. The new sealing solution provided by Teadit has helped the customer greatly reduce their maintenance cost and production losses, by decreasing installation time and increasing mean time between failure.