

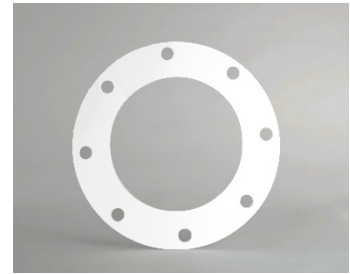
TEADIT[®] 24SH Environmental Chemical Processing CASE HISTORY

INDUSTRIAL SEGMENT

Chemical Processing

APPLICATION

Nitric Acid with Nitric Oxides (operating conditions: 200 F / 80 psi)



SCENARIO

A chemical processing customer was experiencing leaks due to chemical attack of restructured PTFE material after approximately 10 months of service.

SOLUTION

Teadit was contacted to assist the customer in determining the root cause of the failures. Restructured PTFE materials with a silica filler (traditionally recommended for acid services) produced by multiple manufacturers had failed in the service after 10 months or less. The root cause was determined to be chemical attack of the filler in the material compounded by low sealing stress. Teadit engineers performed a flange design and assembly analysis to determine the available/recommended sealing load and matched that information with the best available technology. Expanded PTFE (ePTFE) was chosen based on its broad range of chemical compatibility, due the fact that it is 100% pure PTFE with no fillers, and its ability to seal tighter at lower loads.

CUSTOMER GAINS

The customer accepted Teadit's recommendation and performed a trial of the ePTFE material. The gaskets were in service for more than 10 months and continued to remain tight with no signs of leak or chemical attack. A permanent switch was made resulting in improved process efficiency and reduced annual downtime and maintenance costs.