TOTAL FILTRATION SERVICES

Parker PCLAS Successfully Replaces Resin Bond Cartridge for Global Manufacturer

Customer Case Study

PROFILE

The customer involved in this case is a global advanced materials and specialty additives company that produces a wide range of products found in items people use every day. The manufacturing facility discussed resides in the northeast region of the United States and manufacturers varnish for various industries.

INTRODUCTION

At the time of this case study, most filter manufacturers have ceased production of phenolic resin filter cartridges also known as resin-bonded filter cartridges, due to their impact on the environment. However, many companies still rely on resin-bonded cartridges to remove unwanted particles from highly viscous fluids such as paint and varnish.

With industry leading manufacturers exiting the resin bond market, customers are considering alternative products for their industrial liquid filtration needs. This case study provides an example of how Total Filtration Services exceeded the customer's expectations by replacing their existing filters with an innovative product that provided improved performance and resolved their supply chain disruptions.

CHALLENGE

The customer has been a long-time consumer of resin bonded cartridges for their varnish manufacturing application and needed to place an order for replacement filters. Upon learning their existing cartridges were being discontinued in the United States, TFS suggested the customer consider a non-phenolic resin cartridge alternative to improve their process and avoid further supply chain issues.

THE TFS SOLUTION

The customer's engineering team was willing to explore alternative filter types and provided details of their process and filtration requirements. The TFS account manager identified the Parker PEACH-Pure™ Series PCLAS as the most promising long-term solution, but also sourced other phenolic resin cartridges for testing purposes.

TFS worked with several manufacturers to obtain 10" samples of alternative liquid filter cartridges, which were sent to the customer's testing facility. All but one of the samples failed the initial testing.

Of the phenolic resin cartridge filters tested, the existing filter held up the best. However, the customer took note of the distortion of the filter after testing. The testing of the non-phenolic

resin style PCLAS cartridge filter lacked any noticeable distortion of the media.

The Parker PCLAS uses PEACH filtration technology to create a thermally bonded, three-dimensional depth filter with a fixed pore structure to classify contaminant capture and maintain consistent efficiency throughout its life. This type of filtration acts as a sieve to focus on retaining targeted particle sizes while allowing smaller non-harmful particle sizes to pass through.

RESULTS

Resin bonded filters are becoming increasingly hard to source, as filter manufacturers are ceasing production of this filter type due to environmental concerns.

Moving to the Parker PCLAS (a non-phenolic resin style depth filter) proved to be the best solution for this application for the following key reasons:

- This solution will deliver an annual hard cost savings of over $21,000 in product alone. Additional soft cost-savings include reduced labor expenses, elimination of hazardous waste disposal, increased productivity, and increased product quality. The customer's engineering team now refers to the PCLAS as a "miracle filter."

- Quality inspections of the filtrate (after the filter) has proven the filter is meeting the customer's expectations. The engineer expressed his concern that the low DP during the entirety of the testing period could be an indication it was not filtering particulate properly. However, after the customer cut the filter to exam the media, they discovered the particulate was located deep, near the core of the filter, which is exactly how the PCLAS is designed to perform.

- Shifting from a product that uses formaldehyde to one that doesn't contain any hazardous waste further enhances the customer's sustainability efforts.

- Phenolic resin style filters were lasting about three months in this application. However, the PCLAS will last up to nine months or longer due to the minimal rise in differential pressure.

- The Parker PCLAS with Peach Pure media is depth-loading and has improved flow rates over resin bonded alternatives.

Parker Series PCLAS Liquid Cartridge