

Case Study 31

Resin Bonded Drop in Replacements

Background

A major coatings manufacturer had historically been using the resin bonded filter cartridges for many years in their resin plant. In 2020 a nationwide ban was placed on the resin bonded filter production. These cartridges were made up polyester fibers that were mechanically bonded using phenolic resin. The emissions from oven curing the phenolic resin was considered highly toxic to the environment and operators handling them during the curing process. Resin bonded filter cartridges were economical and the industry-preferred filter choice for high viscosity applications. This coatings manufacturer had two approved resin bonded filter sources for secured supply chain sourcing. Following the ban of these cartridges our customer was forced to find an alternative quickly to prevent production delays.

Solution

Northeast Filter was contacted to provide an alternative to the historically used resin bonded filter cartridges to filter high viscosity coatings. Working with process engineers, both parties agreed an evaluation of a thermally bonded depth media filter with three different fluid flow patterns through the filter was warranted. The targeted alternative cartridge forces the process fluid to pass through the filter media helically, radially and axially. These contrasting flow patterns improve particle capture with high tortuosity and translates into longer on-stream life, higher dirt holding capacity and lower OPEX. Material samples were submitted to the customer lab for chemical compatibility and extractables analysis and the results were outstanding. Samples were provided for two production runs. Fluid quality, on-stream life were compared to the resin bonded equivalents and the thermally bonded cartridge outperformed the resin bonded, which helped justify the higher cost of the thermally bonded. The switch to the new cartridge was immediate.

This true depth media continues to provide consistent retention efficiency throughout the filtration life cycle. The thermally bonded, helically wound filter cartridge has proven to be an economical alternative option to replace the resin bonded cartridge.

