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The Evaluation and Optimization of Fest Filter Media

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ABSTRACT

The filter operation and media selection are challenging due to the plate shaped particles and particle size variations from product to product. The purpose of this investigation was to evaluate a new filter media to increase retention rates on the Fest filter, without a loss in production rate.

At the beginning of this project, there was no protocol available for using the testing apparatus. A testing protocol was first developed for the pressure filter testing apparatus. Media made from multifilament polyester in different weaves and rated for different flow rates were evaluated. The 2020 media appeared to have the highest retention rates without significant difference in rate comparing to the existing 1896 cloth. Based on percent yield comparisons, maintenance costs analyses, filter cake quality and moisture content, and flow rate, the recommendation was made to switch from the existing 1896 media to the 2020, especially with finer particles.