



Success Story

Success Using Marksman™ Poly-Fine® XLD Series Filters in a Peppermint Oil Application

The Challenge

A leading supplier of natural peppermint and spearmint oils found that an excessive amount of time and effort was spent changing out filter bags. This customer's filtration scheme consisted of a 4-around bag housing as a prefilter, followed by three single-round bag housings, in parallel, as the final filters. All of the housings contained the same 1 µm filter bags.

The customer reported that the 1 µm-labeled bags were typically discarded several times a day, resulting in annual bag filter expenditures of greater than \$40,000 per year. Changing out the filter bags on such a frequent basis resulted in additional costs for labor, downtime, and disposal.

The Solution

During a visit to the customer's facility, the Pall salesperson noted the potential benefits of switching to Marksman Poly-Fine XLD high-efficiency cartridge filters. The customer was enthusiastic about the opportunity to realize process benefits, such as fewer changeouts, and the reduction of particulate in the final product. A trial with the Marksman filters was arranged.

After careful consideration of the customer's visual clarity requirements, 70 µm and 30 µm Marksman Poly-Fine XLD filters were recommended as the appropriate prefilters and final filters, respectively. These filters feature a proprietary, high-performance filtration medium that delivers >99.9% removal efficiency¹ at the labeled rating. This is in contrast to many other bag filters, which have removal efficiencies as low as 50 percent at the labeled value. Based on the high flow capability of the Marksman Poly-Fine XLD filter, the customer was able to reconfigure the housing scheme prior to the trial. A single 70 µm Marksman Poly-Fine XLD filter was installed as a prefilter, followed by a single 30 µm final filter.

The Benefits

Once the trial began, the customer realized immediate benefits from using Marksman filters. The filters met the visible particulate removal specification, and the improved flow through the Marksman filters resulted in the reduction of batch-processing time.

The most significant benefit, however, was not fully realized for almost a month. It was then, upon reaching maximum differential pressure, that the initial set of two Marksman Poly-Fine XLD filters was finally ready to be changed out. The customer calculated that over 125 filter bags would have required replacement by then. Throughout the trial, the customer found "no sign of sediment or particulate matter showing up in the finished product." In addition, the customer reported that they "have the important advantage of being able to supply our customers with a cleaner product."

As a result of switching to Marksman Poly-Fine XLD filters, this customer has realized more than a 98% drop in unit filter consumption, a 94% reduction in changeout frequency, and 90% lower filter costs. Filter disposal costs have been reduced as well. The salesperson reported that his customer is extremely happy with the results and the Marksman Poly-Fine XLD filter product "is now the benchmark for peppermint filtration in our company."

In summary, Marksman Poly-Fine XLD filters helped this customer achieve:

- consistent visual clarity for oils
- 60 times the on-stream life versus the bag filters used previously
- a 90% reduction in annual filter expenditures
- decreased batch processing time

¹ - Based on an ASTM F-795 test.