

Securing a Critical Process with Sewn Filter Bags



THE CUSTOMER

A European manufacturer of edible oils supplying the cosmetics, pharmaceutical, and food industries was experiencing major difficulties during the filtration of a mixture composed of oil, bleaching earth, and activated carbon. This stage is essential for removing fine particles that cause black specks in the final product and for ensuring the required quality standards.

The filtration elements used in this process are part of the site's Operational Prerequisite Program (OPRP), meaning their reliability is essential to meeting food safety and quality requirements.

THE CHALLENGE

The client experienced repeated failures during final filtration, leading to significant production downtime and contamination. This step was performed using filter bags advertised with a filtration efficiency of 92%. Tests were also conducted with a version claimed to provide 100% efficiency, but these did not deliver conclusive results under real operating conditions.

Contamination incidents caused unplanned shutdowns and forced the reprocessing of entire batches. A bag failure on a 50 m³ batch resulted in approximately one day of lost production, while an incident affecting 150 m³ could create a down time of up to three days. Although difficult to quantify precisely, the economic and operational impact of these events was considerable.

This stage was carried out using thermo-welded filter bags from the existing supplier, which showed insufficient resistance to the mechanical stresses of the process.

THE SOLUTION

An analysis of the client's process and operating conditions conducted by Global Filter's teams led to questioning the mechanical strength of the installed filter bags.

Global Filter proposed a change in technology: **replacing the thermo-welded bags with sewn filter bags**, known for their superior mechanical strength and reliability in demanding applications. The bags needed to withstand temperatures up to 95°C and handle a flow rate of 10 tons per hour.

Three references of sewn polyester filter bags were tested on-site:

- **GPE1P2SS-AS-1PK;**
- **GPE1P2N-AS-1PK;**
- and **GPE10P2ASS-AS-1PK.**

Despite the presence of other suppliers offering alternative solutions, **only the Global Filter bags met the client's requirements and were approved.**

THE RESULTS

The usage of these sewn filter bags immediately stabilized the process. No mechanical deterioration of the bags or loss of filtration efficiency was observed during the trials or during several weeks of operation. This secured a critical OPRP step and significantly reduced the risk of production interruptions.

The increased reliability of the filters also extended their service life. Previously, the client replaced two filter bags every eight hours as a preventive measure. They can now perform a **replacement every twenty-four hours**. This optimization represents **savings of approximately four bags per day, equivalent to about €20 per day and nearly €7,000 per year**. The client also achieved a **67% reduction in maintenance costs**.

Beyond these direct gains, the elimination of bag failures prevents full-batch reprocessing, production losses, and associated logistical disruptions, generating a major operational benefit.

To ensure the long-term sustainability of this improvement, a dedicated stocking agreement for the validated references is currently being finalized.

LOOKING AHEAD

Thanks to the switch to Global Filter sewn filter bags, this edible oil manufacturer successfully eliminated recurring filtration failures, secured a critical process point, reduced production downtime, and lowered operating costs. This solution not only improved process reliability but also helped ensure consistent final product quality.

Global Filter is ready to collaborate with you to enhance your products and streamline the processes that fuel your success.
