

Case history

GORE® LOW DRAG Filter Bags – Longer Bag Life and Stable Operation in Talc Micronizers/Mills

Challenge

A leading talc producer desired longer pulse jet filter bag life in their jet mill baghouses.

Solution

The customer installed a different set of filter bags in each of their three mills, as follows:

- **Mill A:** Gore LOW DRAG filter bags (543 gsm non-woven polyester)
- **Mill B:** Gore Standard membrane bags (543 gsm non-woven polyester)
- **Mill C:** Competitor's blended-fiber filter bags

The flow rate to each bag house was identical, and each baghouse was programmed to clean "on demand" at a set differential pressure (dP) limit. This trial continued for approximately one year, during which dP data was collected and the process was periodically optimized to fully capitalize on the benefits of low-resistance filtration.

Application:
Talc Micronizer/Mill

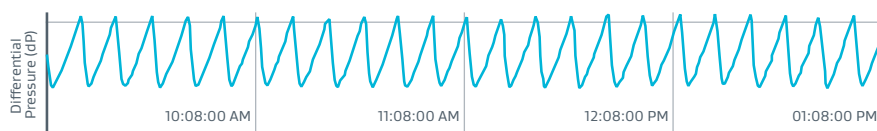
Temperature:
80 °C

Flow Rate:
Confidential Am³/hr

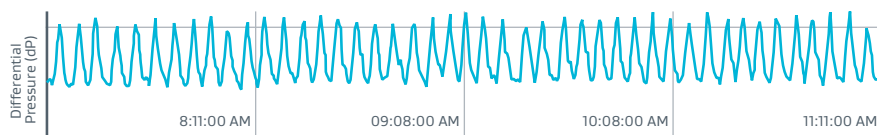
Filtration Area:
222 m²

Bag House Type:
Pulse Jet

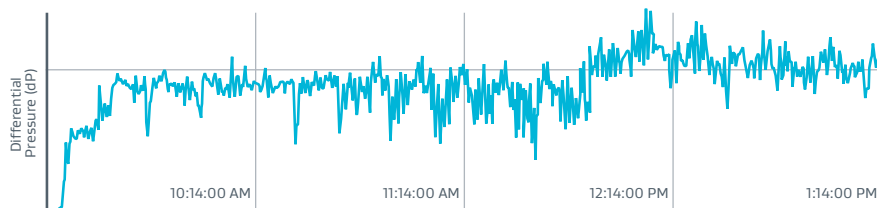
Filtration Material:
GORE Membrane on 543 gsm
Non-Woven Polyester



Mill A: GORE LOW DRAG Filter Bags; Number of Cleaning Cycles: 6/hour



Mill B: Gore Standard Membrane Filter Bags; Number of Cleaning Cycles: 11/hour



Mill C: Competitor's Blended-Fiber Filter Bags;
Number of Cleaning Cycles: Erratic and Many

Result

As shown in the preceding graphs, the dP trends for each baghouse clearly demonstrate that the Gore bags delivered higher cleanability and consistently more stable operation. Specifically, GORE LOW DRAG Filter Bags required cleaning less often (6 times/hour) compared to our Standard Filter Bag (11 times/hour) or the competitor's bag (erratic and many.) Gore's enhanced cleanability also is expected to enable longer bag life.

Gore bags delivered higher cleanability and consistently more stable operation.

In addition, the competitor's filter bag required a cleaning pulse pressure of 6 bars. However, in the GORE LOW DRAG filter baghouse, this pressure was reduced to just 4.5 bars, without affecting the dP. Such pressure reduction should contribute to both energy cost savings, and longer bag life.

Finally, the GORE LOW DRAG Filter Bags provided superior dust cake release. This reduced the amount of wasted product by as much as 400 kg per grade change and reduced the downtime between grade changes. As this customer changes grades up to eight times per day, these additional benefits are expected to significantly enhance their overall process profitability.

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