

Case Study Asphalt Industry

Eliminating Emissions and Bag Cleaning Issues In An Australian Asphalt Plant's Baghouse

CHALLENGE

An Australian asphalt plant was having considerable issues with cleaning their baghouse's filter bags. The filter bags were unable to be sufficiently cleaned to maintain draft from the asphalt rotary dryer, resulting in an increase in emissions. In addition to increased emissions, safety concerns were also heightened with the use of an air cannon required on a regular basis to blast each individual bag to remove the dust accumulation not removed from regular pulse cleaning.

Our team was approached for a filtration solution that would assist the plant, as the poor performing baghouse was significantly impacting production capacity goals.

SOLUTION

After running a Cleaning System Simulation Tool, our investigation found that the baghouse cleaning system was not adequate, and performance would be improved by upgrading from conventional filter bags to extended surface SOLAFT[®] StarBag[™].

Regarding the cleaning system, we installed a new header tank, replaced the valves, and made some modifications to the blow tubes. In addition, to assist with ongoing baghouse monitoring, a PTronik[™] Smart Controller was installed, to log and provide visibility into the performance of the entire dust collector system.

We recommended moving from conventional filter bags to SOLAFT® StarBag[®], extended surface filter bags (ESBs). SOLAFT® StarBag[®] is a proven solution for addressing capacity constraints facing baghouses. The increased surface area of the filter bag reduces the air to cloth ratio and allows an increase in the production load, with greater filtration efficiency.

After successfully implementing the filter changes to SOLAFT[®] StarBag[™], the following improvements were demonstrated:

- > 10% production capacity improvement, with baghouse reliability being the primary contributor
- 93% drop in pulsing frequency (from 12,960 to 895 pulses) over an 18-hour production period
- 36% drop in pulsing pressure from 700 kPa (101.5 psi) to 450 kPa (64.25 psi)
- Emissions expelled from the rotary drum dryer had been eliminated

Filter bag life has been extended due to less filter fatigue from excessive pulsing. Operational expenses and downtime have been reduced due to the need for fewer filter bag changeouts. This eliminates the need to use air cannons to augment pulse cleaning.

You can rely on the Micronics Engineered Filtration Group to be your proven single source for solving complex baghouse challenges around the globe.



TOTAL ENGINEERED FILTRATION SOLUTIONS

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