

BHA® ThermoPleat®

US cement producer overcame the limitations of a clinker cooler baghouse built from a converted gravel bed filter structure to halt abrasion-related bag failures.

Challenge:

Filter bag abrasion in the converted clinker cooler baghouse corresponded to areas where the inlet gas deflected off the shallow hopper walls and into the bag bottoms. Because of the shallow construction of the original hoppers, ladder vane baffling and other modifications to the inlets and hoppers would not work. Physical space restrictions and budget constraints prevented structural modifications to the existing baghouse.

Solution:

CLARCOR Industrial Air proposed installing BHA ThermoPleat filter elements with greater filter surface area and shorter length. This created a 57" material dropout zone between the filters and the inlet. The increased filter area helped reduce upward airflow velocity and heavier abrasive material was collected before it reached the filters.

Results:

- Replacing the 96" bags with 39" BHA ThermoPleat filter elements increased filter area by 52% and created the dropout space.
- Inlet gas velocity was lowered from 250 FPM to 146 FPM, enough to prevent abrasive material from impacting the filters.
- The BHA ThermoPleat filter elements lasted nearly 5 years in the converted baghouse. The plant previously changed an average of 20–25 abrasion-damaged filter bags every month.



The increased filter area of the BHA ThermoPleat filter elements in a shorter overall package provided a cost-effective solution for the converted clinker cooler baghouse.

The reduced material velocities and a dropout zone below the shorter BHA ThermoPleat filters ended the frequent bag failures the plant was experiencing.