



GORE® Filtration Products

Cement Industry

Case History 12

Cement Finish Mill

OPTIMIZATION POTENTIAL

Plant has seven kilns including a 2,000 tpd pre-heater kiln. Total production is roughly 1.5 million tpd. After analysis of the plant, personnel determined that the high efficiency separator that vents the ball mill was operating at 10–16% below the rated design capacity. The cause was determined to be inefficient air volume to the separator, resulting in elevated pressure losses at the baghouse. At the time, the plant was using conventional (non-membrane) polyester filter bags which lasted about one year.

SOLUTION

After lengthy evaluation, GORE® High Flow Filter Bags were installed for their increased return on investment (ROI) and better air flow. Gore applications specialists optimized all system settings including cleaning sequence, frequency, and pulse pressure.

RESULTS

After modifications and adjustments to the baghouse and separator were completed, the plant achieved a production rate of 80 tph, which exceeded the rated specifications for the separator by almost 10 tph. The production rate increased by 23% more than the pre-optimization rate, and 14% higher than the original rated capacity of the separator.



Process Description:	Finish Mill Collector with O-Sepa N2500
Collector Manufacturer:	Henan Sinoma Environmental Protection Co., LTD
Design Airflow Rate:	157,000 am ³ /hr (92,630 acfm)
Design Temperature:	< 125°C (257°F) (over dew point)
No. Bags/Collector:	1,792
Cleaning System:	Plenum Pulse
Air-to-Cloth Ratio:	Gross 1.17 m/min (3.83 ft/min) Net 1.26 m/min (4.13 ft/min)
Bag Material:	GORE® High Flow Filter Bag (Polyester Felt, 543 g/m ² , 16 oz/yd ²)

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