

Case History 14

## **Secondary Lead Metal Production**

## **OPTIMIZATION POTENTIAL**

Old shaker-style baghouses utilized a conventional woven acrylic filter media. The old bags tended to blind early and bleed through created stack emission problems. While the application was not as chemically aggressive as some secondary lead furnace systems, moisture and some mild acids were present.

Damaged bags and particulate bleed through contributed to unacceptable stack emissions. Lack of adequate draft at the blast furnace also created uncomfortable and dirty working conditions within the facility.

## SOLUTION

Replaced the existing conventional acrylic bags with GORE® membrane filter bags with a homopolymer acrylic woven fabric backing material and optimized system settings.

The ePTFE membrane surface of these filters is chemically inert and extremely efficient, capturing even sub-micron particulate at or very near to the filter surface, from where it is then very easily released, which in turn provides for low operating pressure drops.

## RESULT

GORE® membrane filter bags improved bag life to three to four years, while baghouse down-time, maintenance costs, and stack emissions have all been drastically reduced. Baghouse emission rates are lower than the required regulatory limits and draft at the blast furnace is adequate for the operation. The hygiene conditions inside the plant have improved as a result.



**Application:** Blast Furnace

**Baghouse: Shaker Cleaning** 

119.022 Am<sup>3</sup>/h (70,000 acfm)

Number of bags: 2,880

Filter area: 4,847 m<sup>2</sup> (52,150 ft<sup>2</sup>)

127°C (260°F) maximum **Temperature:** 

Filter material: GORE® ePTFE membrane filter bag with

255 g/m<sup>2</sup> (7.5 oz/yd<sup>2</sup>) homopolymer acrylic

woven fabric backing.

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