



GORE® Filtration Products

Metals Industry

Case History 12

Secondary Lead Production

OPTIMIZATION POTENTIAL

Old shaker-style baghouses utilized a woven acrylic filter media. In order to keep the temperature below the operating limits of the acrylic bags, the baghouse needed to occasionally be operated below the acid dew point, resulting in chemically degraded filter bags, high pressure drops, and corrosion in the collector itself.

Emissions from failed filter bags, lack of adequate draft at the furnace, and maintenance problems with the baghouse itself all contributed to severe environmental problems.

SOLUTION

Replaced the existing acrylic bags with GORE® membrane filter bags with a 100% ePTFE woven fabric backing material and optimized temperature and flow settings. PTFE is chemically inert and operates continuously up to 260 °C. It has a very long flex life, and with the membrane filter surface captures even sub-micron particulate, which is then released very easily.

RESULT

High-temperature, chemically inert GORE® membrane filter bags allowed the plant to raise the baghouse operating temperature and stay above the acid dew point, resulting in much less corrosion and wet dust cakes. The high-efficiency membrane filtration reduced overall baghouse emissions and easily released the accumulated dust cake with normal cleaning cycles. This resulted in low pressure drops and consistent furnace evacuation. Raising the baghouse temperature also allowed the plant to efficiently operate an acid gas scrubbing system after the baghouse to remove the acid gases before they were released to the atmosphere. Bags typically last 5 to 7 years; baghouse maintenance has been drastically reduced, emissions from the APC system are well below regulations, and the overall consistency and operation of the APC system has improved.



Application:	Reverbatory Furnace
Baghouse:	Shaker Cleaning 102,018 Am ³ /h (60,000 acfm)
Number of bags:	1,728
Filter area:	2,522 m ² (27,143 ft ²)
Temperature:	185°C (365°F) maximum
Filter material:	GORE® membrane filter bag with 288 g/m ² (10 oz/yd ²) ePTFE woven fabric backing

© 2007 W. L. Gore & Associates
© GORE® and designs are trademarks of W. L. Gore & Associates

W.L. Gore & Associates, Inc.
101 Lewisville Road
ELKton, MD 21921

www.gore.com/filtration

Worldwide Sales and Support Contact Information

- | | | |
|------------------------------------|--------------------------------------|--|
| Australia +61 2 94 73 68 00 | Italy +39 04 56 20 92 42 | Singapore +65 62 75 46 73 |
| Benelux +31 7 36 87 24 44 | Japan +81 3 33 27 00 11 | Spain +34 9 34 80 69 00 |
| China +86 21 64 85 49 90 | Korea +82 23 93 34 11 | South Africa +27 1 18 94 22 48 |
| France +33 1 56 95 65 65 | Malaysia +60 60 37 32 37 75 | South America +55 11 51 82 66 99 |
| Germany +49 89 46 12 22 42 | North America +1 800 638 5300 | Taiwan +88 62 87 71 77 99 |
| India +91 22 6 83 71 87 | Scandinavia +46 3 17 06 78 00 | United Kingdom +44 15 06 46 01 23 |

