



GORE® Filtration Products

Metals Industry

Case History 3

Ferrochrome

Optimization Potential

In order to improve environmental performance, the plant increased the use of coal to substitute coke as a reductant. This led to an increase in the volume and heat content of the offgas generated by the furnace. Typical problems were, insufficient extraction at the furnaces, heat buildup under the hoods, poor bag filter availability, high emissions, and high maintenance costs.

Solution

Installed GORE® membrane filter bags with acid resistant woven glass backing material. Optimized the cleaning system by installing 'smart cleaning' upgrade where the cleaning energy supplied to the bags can be varied in response to process conditions.

Result

System optimization and installation of GORE® membrane filter bags resulted in the following improvements to the baghouse and overall production process:

- Emissions from all the filters are well below 10 mg/Nm³
- Maintenance on the filters has been significantly reduced.
- Extraction volumes from the furnaces have been significantly increased, leading to lower stack temperatures.
- All furnace bag filters in the smelter complex are to be changed to membrane filter bags.



Application:	6 open furnaces for the production of ferrochrome
Baghouse:	Reverse air type
Number of bags:	3 baghouses with 1600 bags each 1 baghouse with 1248 bags
Filter area:	60,000 m ²
Temperature:	230°C
Emissions:	Less than 10 mg/Nm ³ .
Filter material:	GORE® membrane filter bags with 288 g/m ² (8.5 oz/yd ²) acid resistant woven glass backing material

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