



# GORE® Filtration Products

Metals Industry

## Case History 1

# Silicomanganese

### Optimization Potential

The baghouse was originally designed to evacuate 3 furnaces, with the 4th furnace added later. The baghouse was deterring plant productivity and efficiency. Typical problems included: insufficient extraction at the furnaces, heat buildup under the hoods, poor bag filter availability, high emissions and high maintenance costs.

### Solution

W. L. Gore & Associates installed GORE® membrane filter bags with acid resistant woven glass backing material, optimized system settings, and upgraded tensioning system.

### Result

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

- Furnace extraction has been increased by 41%.
- Eliminated blockage of furnace offtake ducts.
- Hood temperatures have been reduced, leading to a reduction in maintenance under the furnace hoods.
- Stack emissions are well below 5 mg/Nm<sup>3</sup>.
- The need to reduce furnace power due to constraints imposed by the APC system has been eliminated.

After 7 years the original filter bags are still in operation.



Application:	4 semi-closed furnaces for the production of silicomanganese
Plant Capacity:	130 000 tons SiMn per year
Baghouse:	3 negative pressure reverse air baghouses
Number of bags	1280 bags per baghouses
Temperature:	220° C
Filter area:	33,100 m <sup>2</sup>
Emissions:	Less than 5 mg/Nm <sup>3</sup>
Filter material:	GORE® membrane filter bags with 339g/m <sup>2</sup> (10 oz/yd <sup>2</sup> ) acid resistant woven glass backing material

