



# GORE® Filtration Products

Metals Industry

## Case History 9

# Ferroalloy

### OPTIMIZATION POTENTIAL

The baghouse differential pressure was very high while operating with non membrane woven fiberglass filter bags. The reverse air cleaning had to be assisted by sonic horns causing disturbance to the neighboring community. This restricted gas flow limited furnace power input and alloy production. Bag life was only one to two years.

### SOLUTION

Optimize system settings and replaced the existing non membrane woven fiberglass bags with GORE® ePTFE membrane bags with 10 oz/yd<sup>2</sup> acid resistant fiberglass backing.

### RESULT

Eliminated the need for sonic horns and dramatically decreased baghouse pressure drop. Gas flow increased significantly, even with fewer filter bags than had originally been used in the non membrane system.

With the increased furnace draft furnace power increased by 11% with 75% FeSi, and 14% with 50% FeSi, allowing increased alloy production. Bag life exceeded eight years with the first set of GORE® membrane filter bags.



<b>Application:</b>	Ferroalloy –Submerged Arc Furnace 50% and 75% FeSi
<b>Baghouse:</b>	Reverse Air Cleaning 608,000 Am <sup>3</sup> /h (358,000 acfm)
<b>Number of bags:</b>	5568
<b>Filter area:</b>	14,700 m <sup>2</sup> (158,000 ft <sup>2</sup> )
<b>Temperature:</b>	218°C (425°F)
<b>Filter material:</b>	GORE® membrane filter bags with 339 g/m <sup>2</sup> (10 oz/yd <sup>2</sup> ) acid resistant fiberglass backing material

© 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](http://www.gore.com/filtration)

#### Worldwide Sales and Support Contact Information

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



4990-CH9 1/07 AGS#