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Copper Scrap

Shaft Furnace
Northeastern USA

Initial Conditions

The initial emission level of 0.10 gr/ACF was attained without the help of special filter media. Due to new and lower emissions requirements handed down by the state government, this copper remelter enlisted the help of Dustex, a baghouse OEM. With the required emissions limit of less than 0.001 gr/ ACF, membrane style filter media was selected. The release of sulfur as a byproduct of this process lead to the selection of 16 oz. PPS felt with Tetratex® High Efficiency expanded PTFE membrane.

Conditions

*Design Flow	45,800 ACFM	*Air to Cloth Ratio	3:1
*Particulate size	< 1um	*Temperature	300 F
*Inlet Grain Loading	<0.1 gr/ACF	*Outlet Load	0.0008 gr/SCF

Success Story

In September 1999, 1024 filter bags, 5.75 inch diameter by 12 feet long, were installed. Shortly after startup, due to lack of insulation and temperature less than 300 F, moisture was found inside the unit. However, the filter bags did not lose any strength and have been operating at an astounding performance level. The use of Tetratex® membrane filter media insured the ability to recover from the upset conditions. Insulation has been added and the unit is operating at 45,800 ACFM with a pressure drop of less than 6 in. WG. The outlet loading is less than 0.0008 gr/SCF.

Summary

Despite getting wet at start up the Tetratex bags have been in service for two years and are still meeting emissions requirements. This manufacturer has not experienced any unscheduled production shutdown since the installation of Tetratex® membrane bags.