

Cleanup of particles and hydrogen sulfide from hot gas

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Ceramic filter system have been widely developed for the particle removal at high temperature processes, especially in the integrated gasification combined cycle, pressurized fluidized bed combustion and other chemical processed involving corrosion gases. In this study, the ceramic filter system was also designed in order to remove particles in hot gas and examine the pressure drop characterization at different temperature, filtration velocity and so on. In addition, a reactor system was set up in front of filter system to remove hydrogen sulfide. A series of experiments on MnO sorbent for hydrogen sulfide were conducted to examine the effects of dusts on the removing efficiency of hydrogen sulfide. The sorbent injected in the reactor was collected on the ceramic filter and led to an increase in the thickness of the sorbent and dust cake with an increase in the removing efficiency of hydrogen sulfide.