

GAS CLEANING IN DEMANDING APPLICATIONS - NEW INSIGHTS, CHALLENGES AND OPPORTUNITIES

Achim Dittler, Karlsruhe Institute of Technology (KIT)

Separation of particulate matter from gas streams is a task, present in many different fields of applications. Choosing the right type of filter medium is key to operational excellence. While filter media are characterized under distinct lab conditions according to given standard test procedures, they are applied under operating conditions, often different from test conditions. Once particulate matter is reactive or gas conditions become humid or reactive, the operational behavior of the filter might change significantly. The contribution addresses various kinds of challenges associated with reactive particulate matter and gas-solid-interactions. New insights in fundamental mechanisms of particle-gas-interactions are presented and opportunities in utilizing the effects to improve the operational behavior of a gas-particle-filter are presented and discussed.