



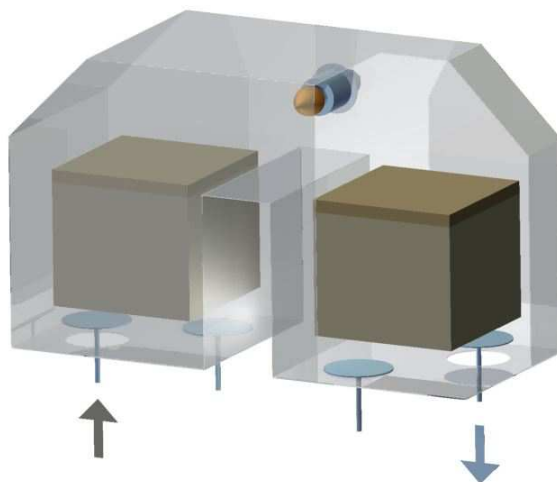
Filtrační Technika

Regenerative Catalytic Oxidizer - RCO

A company producing various products from laminates, e.g. sewer programme components, shells for cabin sailboats, and automotive components, faced a problem in the elimination of emissions of styrene drawn off from the lamination area. The manufacturer was looking for an operatively efficient measure that would replace the current design of an absorber with active coal. Another motivation was compliance with the emissions limits for future regulations as well.

Emphasis was placed on low operating costs when selecting the technology. Since it concerned low concentrations of styrene (approximately 200 mg/m³) combined with a relatively small volume of waste air, Filtrační technika recommended using the regenerative catalytic oxidation (RCO) system to resolve the issue.

The waste gas passes through a ceramic bed on the catalyst, where the oxidation of volatile organic compounds takes place. Hot clean air releases thermal energy while passing through the ceramic bed of the heat exchanger. This energy is recovered and used further in the system, considerably reducing fuel consumption and consequently operating costs as well. Our experience with styrene emissions demonstrated the easily-oxidizable nature of styrene in the presence of catalyst. In the presence of the catalyst, oxidation of volatile organic compounds takes place at reduced temperatures, approximately 300 to 350°C. Therefore, the RCO system combines the advantages of the catalyst with the high thermal efficiency of the regenerative heat exchanger.



Further decreases in operating costs were obtained from the installation of a recuperation heat exchanger that returned heat back to the plant.

The result of this project is the successful reduction of styrene emissions from lamination technology.

Řešíme **emise**

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