

ON THE USE OF STRUCTURED ADSORBENTS IN CYCLIC ADSORPTION PROCESSES

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Key Words: Structured adsorbent, pressure swing adsorption, temperature swing adsorption, parallel channel

Structured adsorbents have been around for some time. However, commercialization for use in PSA and TSA processes has been extremely limited. There are just a few examples that the authors know about. Yet, the potential for a structured adsorbent to minimize pressure drop and alleviate particle fluidization and attrition issues is enormous. The objective of this work is to provide an overview on the use of structured adsorbents in cyclic adsorption processes, such as PSA and TSA processes.

This objective will be accomplished by first presenting a brief literature review of the subject, then by discussing one of the successful commercial applications, and finally by presenting the efforts ongoing in Ritter's adsorption laboratory. They have been working with Catacel (now owned by Johnson Matthey) on a metal foil, parallel channel, structured adsorbent coated with zeolite crystals. A photograph of this type of structure is shown in the photographs below. This material is being studied for use in both PSA and TSA processes. The latest results from Ritter's group will be presented at this conference.

