MASS TRANSFER APPARATUS HAVING A STRUCTURED PACKING

Mass transfer apparatus including ~~a structured packing~~

The invention relates to a structured packing as well as to a mass transfer apparatus which contains such a structured packing, for example an absorption column or a desorption column.

Structured packings are made in a commercial embodiment as folded metal sheets arranged one after the other whose structure has inclined channels which continuously cross one another. These channels positively influence the flows of the gas phase and the liquid phase within the packing and facilitate the mass transfer between the phases. That is, the gas phase and liquid phase are brought into contact in the channels of the packing and the mass transfer between the phases is thus facilitated.

To increase the separating capacity of a structured packing, the surface of the structured packing is usually enlarged, which is mostly achieved by a higher number of packing layers and/or tighter channel geometries. However, these measures result in an increase of the pressure drop in the structured packing. Therefrom follows, however, that less packing surface has to be provided for the reduction of the pressure drop, whereby the separating capacity, that is the efficiency of the packing, deteriorates. In addition, more open intersection channels can be provided. More open intersection channels means that the angle of inclination of the channels is selected to be lower with respect to the main direction of flow. This means that an optimum has to be found between