SCHUMACHER Porous tiles for filtration, fluidization, transport and discharge aid for powdery products

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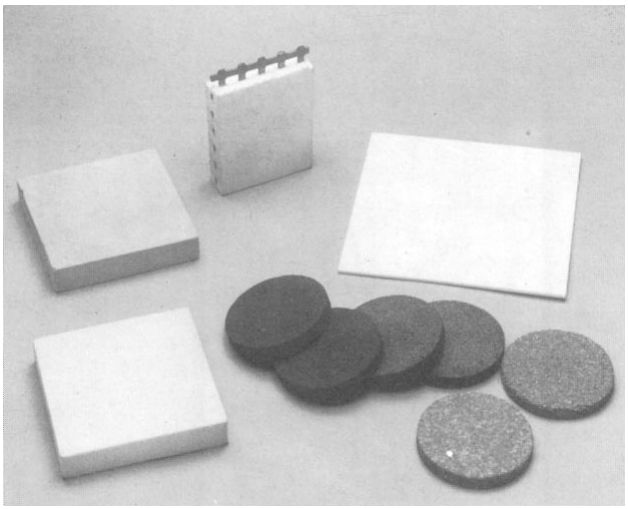

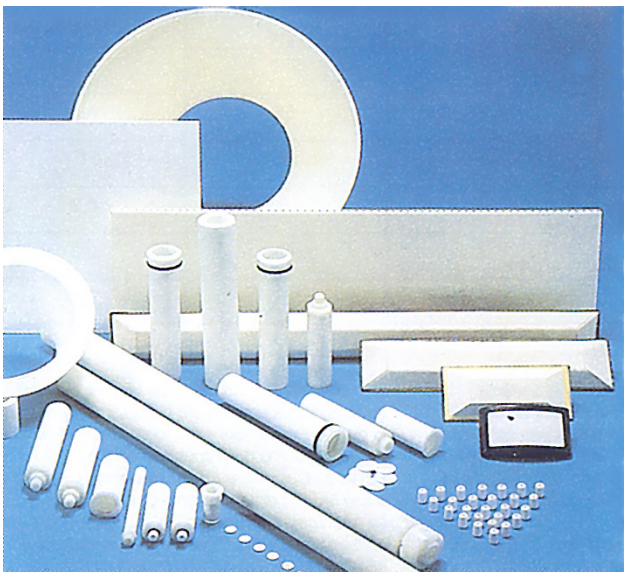

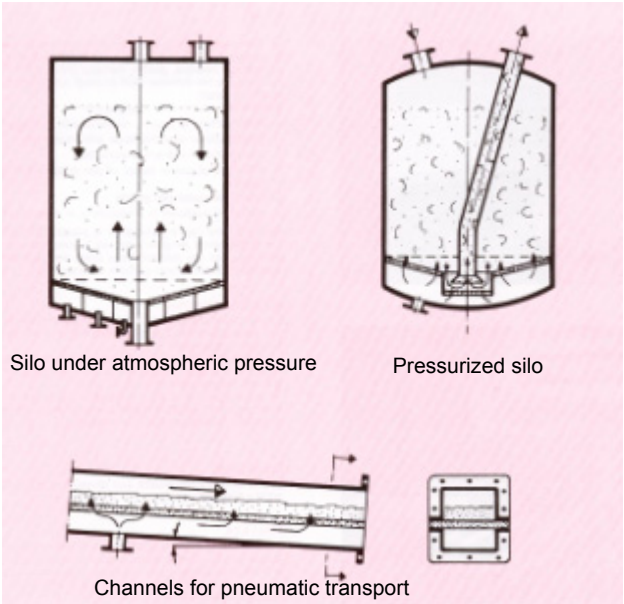

Schumacher is the most important world producer of porous materials: ceramic, plastic, graphite, activated carbon and PTFE. These are supplied as tiles or as bands.

Some of the applications are the following:

- *fluidization of powders by compressed air*
- *fluidization of silos by compressed air*
- *sound damping of pneumatic vents*
- *diffusion of gas in liquids, of gases in gases, of liquids in liquids*
- *Filtration of gases in pressure and in suction*

In the first three cases, the use of porous plastics is recommended. For diffusion, both ceramic and plastic filter elements are recommended. In the last case only carbon and ceramic elements are used.

POROUS PLASTIC

Plastic is the material most commonly used because it is easy to handle and is elastic and easily machined.
These elements can be metal cut, punched, glued and welded to obtain funnels, boxes etc.. (for example using Bostik SL 503 glue). The surfaces are very smooth, and the structural regularity helps to give low pressure losses.

DIMENSIONS

The most popular are tiles with dimensions 500x500 mm, and 1000x1000 mm, and with thicknesses 5-8 and 20 mm.

FLOW RATES

For dimensioning, please consult our office. We give just one example: a tile of Filtroplast KP with a surface of one square meter and a thickness of 8 mm, has a pressure loss of 0.02 atm, with a flow rate of 400 m^3/h at atmospheric pressure.

POROUS CERAMIC

Porous ceramic tiles are used mainly for filtering gases or for filtering liquids by gravity. They are especially interesting when a high resistance to thermal shocks is required. Another good application is for the coating of vessels for giving resistance to chemical aggression.

Schumacher tiles are used in the construction of fluidizing beds. They are fed with compressed air with continuous flow so as to exclude the input of moist air, or with large instantaneous flow rates to move the contents of the silos. The air can be used to direct the powder to the exit. The first figure shows a silo under atmospheric pressure, the second figure shows a pressure silo, two different solutions for the storage of hygroscopic powders. The figure underneath shows a conduit for the pneumtic transport of powders; by the use of compressed air, the powder is fluidized.