TESTING THE PASTE PROPERTIES IN THE MEANING OF LIQUID MIGRATION

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The processing of assorted powdery substance is often made by an extrusion process. The powdery substances are being formed into a paste by the addition of a liquid substance. The paste, as a multiphase system, consists of a skeleton made of powder materials. The individual grains are in contact with the surrounding grains. The spaces between them can be called pores, disregarding their shape, mutual size or degree of interconnection. Because of this work is focused on the migration of liquid in the porous materials, it is important to make focus on porous material as an environment of the transport process.

During the extrusion of the materials, one of the phenomena, the movement of the liquid phase in the pastes occurs. This is due to the pressure difference in the extruders between the face of the extruder and the nozzle outlet. If the liquid escapes, the rheological properties of the paste are changing, and consequently it affects the whole extrusion process as well as the quality of the product. Therefore, it is important to know the properties of the paste and the movement of the liquid phase during extrusion.

This paper is focused on monitoring this phenomenon. The results of the measurements provide a picture of the movement of the liquid phase under the influence of the pressure in the porous skeleton formed by the powder material.

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