

## FUNCTION OF THE DEMAGNETIZATION FACTOR IN RESPECT OF A QUASI-SOLID FILTER MATRIX OF A MAGNETIC SEPARATOR

The author presents the prospects for the use of a magnetic separator, equipped with a filter matrix, in the treatment of ceramic suspensions and minerals. Particles of ferromagnetic impurities are captured by matrix pores, when purified media is transmitted through the magnetized filter matrix. The particle capture efficiency depends on the level of the filter matrix magnetization. The intensity of demagnetization influences the filter matrix magnetization intensity. Unfortunately, many researchers frequently ignore the demagnetization factor of a filter matrix as a specific (granulated) magnet.

The effect of self-demagnetization is studied in terms of homogeneous (solid) magnets. The effect of self-demagnetization means that poles emerge on the borders of magnetized "short" magnets. Thus, a strong inner demagnetization field emerges. The main parameter of this physical characteristic of sample-magnets is the coefficient of demagnetization, which relates the intensity of the demagnetization field and the magnetization intensity of a sample body. The author considers the relevant issue of influence of the demagnetization intensity on the average values of the magnetic permeability of porous (quasi-solid) magnets, for example, a filter matrix. This dependence is relevant for the calculation of magnetic permeability values.

**Key words:** granulated ferromagnetic medium, filter matrix, demagnetization factor, magnetic permeability, porous medium.

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