A. G. Kostornov, O. V. Kirichenko, S. P. Sakhno and G. S. Tymchik. - Porosity determination of thin fibrous-material sheets according to the optical transmission coefficient. - Powder Metallurgy and Metal Ceramics Volume 23, Number 10, 812-815, DOI: 10.1007/BF00792156 (Translated from Poroshkovaya Metallurgiya, No. 10(262), pp. 86-90, October, 1984).

A statistical model of a porous fibrous material is presented which describes, within 6% error at 0.7, the porosity  and the optical transmission coefficient T of a sheet fibrous material as a function of the geometric fiber sizes: i.e., diameter d, lengthl, sheet thickness h, and average density  , of the geometric fiber centers. A functional dependence f = (h, T) was established which allowed the porosity of thin fibrous material sheets to be determined by measurement of the optical transmission coefficient.

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