



"Gheorghe Asachi" Technical University of Iasi, Romania



THE FREE LEVEL UNIFORM POST-DARCY FILTRATION THROUGH A SPHERE-MADE HOMOGENOUS MEDIUM

**Iosif Bartha*, Nicolae Marcoie, Daniel Toma, Daniel Toacă,
Victor Gabor, Aron Gabor Molnar**

"Gheorghe Asachi" Technical University of Iasi, Faculty of Hydrotechnical Engineering, Geodesy and Environmental Engineering, Department of Hydroamelioration and Environmental Protection, 65 Prof.dr.docent Dimitrie Mangeron Street, 700050, Iasi, Romania

Abstract

This paper refers to the post-Darcy free level uniform filtration. The capillary tube fascicle model is applied to this filtration. The theoretical Chézy coefficient is computed and also experimentally verified for a homogenous and isotropic material, made of glass spheres. The typical features for the free-level post-Darcy filtration (depending on slope) are the lover, critical and higher stages flows.

Key words: post-Darcy filtration, free level flows, hydraulic parameters, the capillary tube model

Received: August, 2011; Revised final: December, 2011; Accepted: December, 2011

* Author to whom all correspondence should be addressed: e-mail: i_bartha@yahoo.com