
Proposal for simple evaluation method for macroscopic hydraulic conductivity of low permeable soil

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There are two methods for calculating the macroscopic hydraulic conductivity: the highly explanatory method by seepage flow analysis and the simple method by Dagan's formula. The method based on seepage flow analysis has the disadvantage that it takes a long time to calculate. The method based on Dagan's formula has the disadvantage that the calculated macroscopic hydraulic conductivity is a value on the unsafe side compared to the method based on seepage flow analysis. In this paper, we compared the seepage flow analysis method and Dagan's formula for the purpose of obtaining a method for calculating macroscopic hydraulic conductivity that is simpler and easier to explain than conventional methods. As a result, it was confirmed that by multiplying the macroscopic hydraulic conductivity obtained from Dagan's equation by an appropriate multiplier, a value equivalent to the macroscopic hydraulic conductivity obtained from seepage flow analysis can be obtained.
