

## STRUCTURE STABILITY AND ITS INFLUENCE ON SOIL PERMEABILITY

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### Abstract

The coefficient of permeability is an important parameter in soil mechanics and it is influenced mostly by soil structure, soil particle distribution, soil porosity and soil water content. Permeability is primarily an indicator of the capacity of soil to store water. In the technical and engineering the knowledge of permeability coefficient is required for irrigation, flow modeling, soil compaction, contaminant migration, forecast landslides etc. Several general functions were used to describe empirical measurements of permeability function. Theoretical developments have provided support for numerous empirical relationships. The objective of this paper is to establish a connection between structural stability and soil permeability. Knowledge of soil pore size is important for infiltration rate (soil water movement), and rate of percolation (water movement through the soil). Size and number of pores influences soil texture and structure, which in their turn affects soil permeability. To evaluate the effect of soil structure on permeability were determined pore size distribution, aggregate stability and suction curve. Coefficient of permeability can be measured either directly (using Darcy's law) or through empirical formulas. Permeability coefficient of saturated soil is determined by the number of pores (pore volume / volume solid part). Incompressible unsaturated soil permeability coefficient is determined by the degree of saturation. Soil permeability in natural setting is extremely variable and difficult to measure, so measurements are performed in the laboratory. Permeability changes can provide early warning of soil degradation, risk of flooding and erosion. It also is an indicator of water potential and nutrient availability to plants.

**Key words:** structural stability,