Prediction of Index-Mechanical Properties of Pyroclastic Rock Utilizing Electrical Resistivity Method

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Abstract : The aim of this study is to determine index and mechanical properties of pyroclastic rock in a practical way by means of electrical resistivity method. For this purpose, electrical resistivity, uniaxial compressive strength, point load strength, P-wave velocity, density and porosity values of 10 different pyroclastic rocks were measured in the laboratory. A simple regression analysis was made among the index-mechanical properties of the samples compatible with electrical resistivity values. A strong exponentially relation was found between index-mechanical properties and electrical resistivity values. The electrical resistivity method can be used to assess the engineering properties of the rock from which it is difficult to obtain regular shaped samples as a non-destructive method.

Keywords : electrical resistivity, index-mechanical properties, pyroclastic rocks, regression analysis

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