CORRELATION BETWEEN UNIAXIAL COMPRESSIONSTRENGTH AND POINT LOAD INDEX FOR SALT-RANGE ROCKS

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ABSTRACT

Nine rock types including Sandstone, Limestone, Siltstone, Dolomite and Marl collected from six different rock formations of the Salt Range area of Pakistan were tested to evaluate the correlations between the uniaxial compressive strength and the corresponding values of the point load index. Two hundred rock cores were drilled and used for the uniaxial compressive strength and point load index tests. Results indicate the existence of two rock groups showing distinct behaviour in the context of this correlation. The first group of rocks, Group A, consists of hard Jutana Sandstone, Baghanwala Sandstone, Siltstone, Sakessar Massive Limestone, Khewra Sandstone and Dolomite. The second group of rocks, Group B, consists of relatively soft Dandot Sandstone, Sakessar Nodular Limestone and Marl. The correlation equations for predicting compressive strength using point load index for each group are presented along with their confidence limits to show the variability of results produced from each equation.

REFERENCES


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both single and double jointed rocks by varying different joint orientation (0, 30°, 45°, 60°, 90°) and joint roughness (Smooth, Rough & joint filled with clay). Plaster of Paris and optimum moisture content of 38% was used as model material to prepare jointed rocks. Point load index test needs less sample preparation, easy to handle and quick test while comparing with uniaxial compressive test. Lot of researchers comes out with a lot of correlations between uniaxial compressive strength and point load index for intact rocks. But there is only few reported research work in jointed rocks. So here with present study to create a equation relating uniaxial compressive strength and point load index for for both single and double jointed rocks by varying different joint orientation (0, 30°, 45°, 60°, 90°) and joint roughness (Smooth, Rough & jo