Some mechanical characterization of the Sandakan formation's sandstone, Sabah, Malaysia

ABSTRACT

This work defines the mechanical characteristics of slightly weathered sandstone belonging to sedimentary Sandakan formation in Sandakan, Sabah. The mechanical properties of uniaxial compressive strength, shear strength (includes basic and peak friction angle and cohesion) was determined by the uniaxial compressive strength test, direct shear test, tilt test and triaxial compressive strength test. The slightly weathered very fine sandstone gave higher strength but lower in basic friction angle than slightly weathered fine sandstone. The basic friction angle for very fine and fine sandstone are 28o and 33o , respectively. The value of peak friction angle and cohesion of intact rock by the triaxial compressive strength test (52-58o and 2-4 MPa) is higher than direct shear test (16-20o and 0.25-4.00 MPa) of fine sandstone rock mass (for planar surface).