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May Allah Bless You All

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ABSTRACT

The Triaxial Compressive Strength is the one of the important mechanical properties of rocks. It can be defined as the failure strength of an intact of rock samples. The triaxial test is intended to measure the strength of cylindrical rock specimen by which the value of the internal friction angle ϕ , and the apparent cohesion c . The testing is comply with the suggested method of testing outlined by the International Society of Rock Mechanics (ISRM). Also, The strength criterion of rock samples are analyse and the mode of failure of the rock samples are observe in this study.

Now, rock engineering is gaining popularity in Malaysia and South East Asia. By knowing the mechanical properties of rock, the engineer and designer can determine the potential usage in civil engineering related work as well as the engineering application of rock. The main used of this mechanical properties are for the design of structure, characterization of intact rock material, various underground openings and aqueous tunnels.

Thus, the knowledge of the strength of rock is the part of engineering application and very useful for the future.

SHEAR STRENGTH OF ROCK BY TRIAXIAL METHOD OF TESTING

1.0 INTRODUCTION

1.1 Rock Engineering

The discipline of engineering rock mechanics is the scientific basis for rock engineering. Rock engineering is the practical, technical use of engineering application of rock mechanics in the design of engineering structures such as various underground openings as set forth: power plants, storage space, protective shelters, fortifications, shafts, adits, mines, vehicular and aqueous tunnels. The utilization of rock as a support of structural foundations; or in the design of roads, canals, concrete dams on rock, quarries, open excavation, design of rock slopes in cuts, anchorage of rocks.

Rocks may be classified according to several principles. Some of the classification systems are :

- 1) By origin or genesis
- 2) Geological or lithological classification
- 3) Engineering classification of intact rock on the basis of rock strength
- 4) A combination of several of the above.