

Compressive and tensile strengths of Kuala Lumpur limestone and Kuala Lumpur granite: in relation to their internal properties

ABSTRACT

Limestones are generally formed from the sedimentations of calcium carbonates and these carbonates react with acids and the likes. These reactions will initiate the dissolution of the limestones. Granites on the other hand, are generally made up of the combinations of minerals by the crystallizations originating from chemicals in the molten magma. All these minerals react differently to weathering agents and as such, the deterioration of these two different types of rocks and subsequently, the reduction of their strengths will be quite an issue in geotechnical engineering field. This article discusses the strengths of these two types of rocks and the relation to the internal properties of the rock. It was found that the tensile strength of limestones are lower than that of the granites at all time. However, the compressive strength of limestones can be higher than that of granites. The internal properties of the rocks do affect the compressive strength of rocks but for the tensile strength, the bonding between the mineral or minerals within the rock seems to be the main contribution.

Keyword: Compressive strengths; Tensile strengths; Limestone; Granite