



Study of Compressive Strength Of brick Assemblage having different grades of mortar

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Abstract : Brick masonry is bonded into an integral mass by mortar and grout, it is considered to be a homogeneous construction. It is the behavior of the combination of materials that determines the performance of the masonry as a structural element. However, the performance of a structural masonry element is dependent upon the properties of the constituent materials and the interaction of the materials as an assemblage. It is customary to relate the compressive strength of the masonry to that of its components: mortar and units. The correlation between solid unit compressive strength, mortar type and assemblage compressive strength is

well documented, and is generally independent of unit coring. The relationships of prism components and prism dimensions to assembly compressive strength brick are presented in this paper.

Key Words :

Introduction : Masonry construction is one of the oldest and common building technique in construction. The word “masonry” encompasses technique which may differ substantially depending on type and shape of material and construction method. A screening of the historical masonry heritage shows that the wide variety of construction systems which falls under the name of “masonry”. Brick masonry is composite material consist of brick and mortar, to be able to predict the behavior of this composite material under various state of stress. The relevant characteristics of brick and mortar will be discussed in term that how they affect masonry behavior in general and the properties of the material used in the experimental program.

It is a common practice to determine the compressive strength of brick masonry under gradually increasing axial loading (known as monotonic loading) thus we generally ignore the effect of cyclic loading, which the real masonry structures experience during earthquakes. On the other hand, experimental work carried out by researchers on masonry walls indicate that brick masonry is very sensitive to cyclic loading and undergoes relatively more damages under the action of cyclic loading compared to monotonically increasing static loading. Behavior of brick masonry will change and there will be a definite effect on its mechanical properties. Due to this contrast behavior of brick masonry under monotonic loading and static cyclic loading, it becomes a matter of concern to investigate the influence of loading types on mechanical properties of masonry. The aim of this experimental work was to study the Influence of static cyclic load on the Compressive strength and Modulus of Elasticity of Brick masonry constructed in cement, sand and khaka mortar.

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