

SPLIT TENSILE STRENGTH OF BRICK MASONRY

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ABSTRACT

Load bearing masonry walls of a building, when subjected to earthquake experience in plane and out of plane forces which may lead to sudden collapse. Since a state of pure shear leads to diagonal tension and compression, Split tension tests are conducted on masonry panels to obtain the tensile strength of masonry. The tensile strength of masonry is determined with masonry bed joints as horizontal and with bed joints inclined at 45° to the horizontal. Stress analysis has been carried out using finite element analysis. Both isotropic and orthotropic cases were considered. Split tensile strength of masonry is evaluated from the formula obtained by finite element analysis and the experimental failure loads.

KEYWORDS: Masonry, Split Tension, Square Specimen