

MORTARLESS REINFORCED CONCRETE MASONRY WALL UNDER CONCENTRATED AXIAL LOAD AND TRANSVERSE LOAD

Sittichai Seangatith¹

ABSTRACT: This paper presents the results of a study of the short-term behavior of mortarless reinforced concrete masonry wall subjected to two types of loading: concentrated axial load and transverse load. The specimens were made of standard hollow concrete masonry unit, reinforcing steel bar, and grout. The variables studied were steel reinforcement ratio, height or span of the specimen, and grouting pattern. A total of 40 specimens were tested, including 24 specimens under concentrated axial load and 16 specimens under transverse load. The experimentally obtained results were correlated to the ACI 530-99 design equations for reinforced mortar jointed wall and statistical analyses were performed. Finally, the design equations were adjusted based on the obtained results.

Key Words: Mortarless masonry, Masonry wall, Concrete masonry unit

¹ Asst. Prof., Suranaree University of Technology, Thailand, sitichai@ccs.sut.ac.th