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EFFECTS OF CONSTRUCTION JOINTS AND AXIAL LOADS ON SLIP BEHAVIOR OF RC SHEAR WALLS

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ABSTRACT

This research paper is an analysis of an experiment conducted on four RC shear wall specimens. The tested specimens were built with same dimensions, but taking different variables, such as the use of construction joint and the application of axial loads. The main purpose of the research was to determine the relationship between axial loads, construction joints and slip behavior of each specimen when put under an earthquake simulating cyclic shear load. The results of the experiment allowed concluding that specimens built with construction joint slip and fail after reaching maximum moment strength, as the vertical bars of the web get cut. On the other hand, slip is negligible in monolithic specimen and the failure of the specimen occurs on concrete, rather than on reinforcement. The results also enlightened how the increase of axial load affects the reduction of the width of cracks, the increase of strength of the specimen and its capacity to dissipate energy.

KEYWORDS: Slip, Shear Wall, Axial Load, Construction Joint

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