Influence of Confinement on the Cyclic Behavior of Reinforced Clay Brick Masonry Walls

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Abstract:

Presented are the results of an experimental study on the influence of confinement plates on the behavior of double wythe reinforced clay brick masonry walls. The variables considered in the program include longitudinal (vertical) steel ratio, confinement steel ratio, and load history. Six full-scale cantilever walls were tested under reversed cyclic forces. Results indicate that confinement plates have a dramatic effect on the deformation capacity of walls, whether subjected to cyclic or monotonic load histories, although the increase in capacity is noticeably less for a full cyclic response history. Confinement plates had little effect on wall strength or hysteretic damping. Results are presented in a format such that direct comparisons at key performance limit states are possible.

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