

Lap Splices in Flexurally Loaded Masonry Walls

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Abstract:

Ten partially grounded reinforced concrete masonry wall specimens were tested to examine lap splice behavior. Specifically of interest were the effects of variations in the compressive strength of the masonry assemblage upon the performance of lap splices and overall specimen behavior. All specimens were simply-supported and loaded monotonically laterally out-of-plane at their third points. Investigation parameters were lap length and the compressive strength of the masonry assemblage. Results indicate that splices in reinforced concrete masonry flexural specimens perform similarly to those in reinforced concrete specimens. The performances of concrete masonry flexural test specimens and lap splices were sensitive to variations in the strengths of the masonry assemblage and block, but relatively insensitive to variations in the grout strength. Splice lengths required to produce ductile behavior of the test specimens were best estimated by an equation developed that incorporated measures of the tensile strength of the masonry assemblage. The observed specimen behavior suggests that current building code recommendations for tension lap splice length in masonry are conservative.

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