

Joint Reinforcement as Primary Shear Reinforcement for Concrete Masonry Shear Walls

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Abstract:

This paper provides comparisons between concrete masonry shear walls for in-plane loading with deformed reinforcement in bond beams and with joint reinforcement. Ten full-scale wall tests were conducted of fully grouted and partially grouted shear walls. The results show that sufficient areas of joint reinforcement can provide the strength necessary to resist lateral loads and control cracks that form in shear walls. The joint reinforcement provides a more uniform distribution of reinforcement, which results in a larger number of smaller cracks versus a smaller number of larger cracks with bond beam reinforcement. Joint reinforcement also provides energy dissipation and ductility at levels comparable to walls reinforced with deformed reinforcement in bond beams. The paper reviews previous work in this area and provides recommendations concerning construction details of shear walls.

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