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Dynamic response of brick veneer wall reinforced with long-rawlplug screw anchors

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ABSTRACT

This study proposes a long-rawlplug screw anchor (LSA) which effectively prevents the overturning of the brick veneer, and the dynamic response of the brick veneer wall reinforced with LSAs was evaluated through shaking table tests. The experimental variables were the presence/absence of reinforcing metals, interval and installation locations of the LSA. The dynamic response of the brick veneer wall was evaluated based on the peak response acceleration, relative displacement, amplification factor, and shear force obtained from accelerometers. The specimens reinforced with LSA and steel strip exhibited improved peak response acceleration, relative displacement, and amplification factor compared to the unreinforced specimen. The shear force was calculated assuming a generalized single degree of freedom for the brick veneer. The shear force of unreinforced specimens was decreased compared to the reinforced specimens.

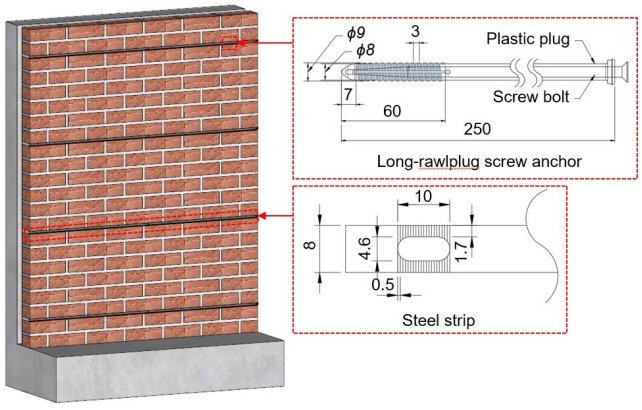

Fig. 1 Schematic of long-rawlplug screw anchor and steel strip

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