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A Review of Masonry Buildings Restrengthening Methods

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Abstract : The historic buildings are generally the ones which have been built by materials like brick, mud, stone, and wood. Some phenomena such as severe earthquakes can be tremendously detrimental to the structures, imposing serious effects and losses on such structures. Hence, it matters a lot to ascertain safety and reliability of the structures under such circumstances. It has been asserted that the major reason for the collapse of Unreinforced Masonry (URM) in various earthquakes is the incapability of resisting the forces and vice versa because such URMs are meant for the gravity load and they fail to withstand the shear forces inside the plate and the bending forces outside the plate. For this reason, restrengthening such structures is a key factor in lowering the seismic loss in developing countries. Seismic reinforcement of the historic buildings with regard to their cultural value on one hand, and exhaustion and damage of many of the structural elements on the other hand, have brought in restricting factors which necessitate the seismic reinforcement methods meant for such buildings to be maximally safe, non-destructive, effective, and non-obvious. Henceforth, it is pinpointed that making use of diverse technologies such as active controlling, Energy dampers, and seismic separators besides the current popular methods would be justifiable for such buildings, notwithstanding their high imposed costs.

Keywords : masonry buildings, seismic reinforcement, Unreinforced Masonry (URM), earthquake
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