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Review of strengthening techniques for masonry using fiber reinforced polymers

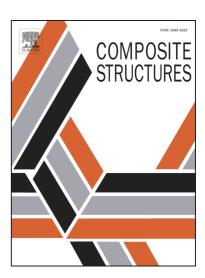
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## REVIEW OF STRENGTHENING TECHNIQUES FOR MASONRY USING FIBER REINFORCED POLYMERS

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#### 1. Abstract

Various studies have been done over a number of years to develop strengthening techniques which will improve the performance of masonry structures. Many unreinforced masonry structures are seismically deficient and several research studies have been conducted to improve the seismic performance of these structures. Strengthening methods such as the addition of new structural elements, steel plate bonding, external post tensioning, steel bracing and many more have been applied with some degree of success. However, an innovative retrofitting technique using Fiber Reinforced Polymer (FRP) has gained recognition and acceptance. FRP materials have light weight, excellent durability, and high strength, yet are lightweight and are easy and quick to install. All these properties make FRP materials attractive for strengthening and rehabilitating of reinforced and unreinforced masonry structures. Different strengthening techniques are available to increase the flexural and shear strength and ductility of masonry structures using FRP materials. This paper reviews these strengthening techniques, their advantages, disadvantages and limitations. 21

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Keywords: FRP, masonry, strengthening 22

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