

# **Flexural Resistance of Masonry Wall Retrofitted with Timber Panels under Out-Of-Plane Loading**

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## **ABSTRACT**

Retrofit of unreinforced masonry (URM) buildings has incessantly attracted interest of masonry professionals. This is because there is an enormous URM building stock in different parts of the world that have shown vulnerability to damage against out-of-plane actions [1]. As such, there is a global trend of promoting the development of sustainable retrofit techniques for URM wall. The authors previous study [2] has introduced the application of oriented strand board type 3 (OSB/3) as a prospective sustainable retrofit material for URM wall with evidence of improving the flexural performances.

This paper presents experimental works on 1115 x 1115 x 215 mm double wythe single leaf URM walls to validate the observations introduced in [1]. Here, quasi-static out-of-plane loading tests were carried out on two plain specimens, two single-sided retrofitted walls and two double-sided retrofitted walls. The flexural and displacement capacities were evaluated in both plain and retrofitted specimens and the results substantiated that OSB/3 application improves the flexural capacity of masonry wall. Therefore, the application of OSB/3 for retrofitting URM buildings can be considered as an inexpensive, efficient and sustainable retrofit technique.

Keywords: Flexure, OSB, Retrofit, Sustainable, URM

## **REFERENCES**

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