

## MODAL ANALYSIS OF THE EFFECT OF APPLYING CFRP STRENGTHENING ON MASONRY WALLS

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The strengthening of masonry walls with carbon fibre reinforced polymer laminates (CFRP) is a common practice nowadays. Thus, it is necessary to evaluate the structural effectiveness of this type of strengthening system without damaging the structure, especially for historical constructions and monuments. The tests carried out in this research were performed on brickwork walls by using the modal testing as a non-destructive testing technique before and after strengthening them. This paper presents the results of modal characterisation of 6 brickwork walls with different number of CFRP laminates. The sample brickwork walls were built and divided in two groups. Then, two different number of CFRP laminates have been bonded on the wall's surface to strengthen them.

The results (mode shapes, frequencies, and damping ratios) are presented for qualitative and quantitative analysis of the walls behaviour. The comparison of the mode shapes which appear in the range of 0-500Hz shows that the main characteristic vibration frequencies are increased between 2% and 10% when strengthening the walls.

