

IMPORTANT OF CFRP FOR REHABILITATION OF UN-REINFORCED MASONRY (URM) STRUCTURES

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ABSTRACT

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Key Words: CFRP, URM walls, culture of retrofitting

1 INTRODUCTION

FRP is a material made of high strength fibers (glass, aramid, carbon) embedded in a polymeric resin matrix. The fibers resist tension while the resin resists other forces. The most common use of FRP is as external reinforcement for reinforced concrete elements. Typical applications are as tension reinforcement of beams and slabs, shear reinforcement of beams, beam-column joints, and walls, and as confinement reinforcement of columns. Externally bonded FRP elements to be used in retrofit have as advantages low weight-strength ratio, short installation periods, and very low intervention on the structure. A building can be retrofitted with a minimum interruption of its operation.

2 REVIEVE OF LITERATURE AND RELEVANT TOPICS

An experimental study was initiated at the METU (university in Ankara) Structural Mechanics Laboratory, which aimed to develop such strengthening techniques [1]. The arrangement of the CFRP layers, the amount of CFRP used the anchorage of CFRP fabric to the wall and the frame elements were the major parameters investigated. Effect of cross-sectional shapes, vertical applied loads and horizontal wall reinforcement on seismic behaviour of walls is studied by koji [2]. Kachlakev had been done numerous investigations on performance of strengthening of structure [3, 4, 5, 6]. The effective strengthening method has been gained acceptance over the past two decades. Numerous analytical models exist for the prediction of the load carrying behaviour of confined circular concrete columns nowadays. Results of inelastic pushover tests on scaled models of ductile RC frames, directly braced by steel X and knee braces are presented which indicate that such bracings can increase the yield and strength capacities and reduce the global displacements of the