

## ABSTRACT

Masonry structures may need strengthening for variety of reasons. Creep within structure may redistribute loads such that masonry is carrying more loads over time. The use of fiber reinforced polymers (FRP) materials for structural repair and strengthening has continuously increased in recent years due to several advantages associated with these compounds when compared to conventional materials like steel.

Fiber reinforced polymers (FRP's) have light weight, excellent durability, and high strength the later particularly when the fibers are oriented unidirectional within the composite. These properties make these materials attractive for use in strengthening and rehabilitation of structures. FRP's have been used in various applications in both new construction and rehabilitation. In this project we are mainly dealing with masonry structures strengthening by post-tensioning with Carbon FRP tendons to provide improved serviceability and reduce crack sizes in damaged structures, wrapping damaged columns with CFRP sheets to restore/increase strength, and by using Glass FRP sheets to increase the flexural capacity and energy absorption characteristics of plain and reinforced concrete block work. FRP's therefore will provide an additional option for structural engineers when considering these types of applications. This project deals with CFRP and GFRP and reports the methods used and also number of days of wrapping to obtain strength.

**Keywords:** reinforced concrete columns, fiber reinforced polymer sheets, carbon fiber reinforced polymer.