**FIBER REINFORCED CONCRETE**

**ABSTRACT**

The concept of using fibers in concrete to improve resistance to cracking and fragmentation is old and intuitive. During the last 30 years different types of fibers and fiber materials were introduced and are being continuously introduced in the market as new applications. These fibers can be made of metals, natural, glass or organic materials. In the past three decades, extensive research on fiber reinforced concrete has shown that some types of fibers can be added to concrete to improve its durability and physical properties such as cracking induced by plastic shrinkage, drying shrinkage and thermal gradient on the surface of fresh and mature concrete due to the severe environmental conditions of the India has been marked as one of the several causal factors of deterioration of reinforced concrete in the country.

In this project, commercially available synthetic fibers namely, polypropylene, is used to study the effects of polypropylene fiber used for reinforcing concrete mixes and to obtain basic strength. The compressive, splitting tensile strength tests were performed by changing fiber weight content from 0% to 1% of the cement weight content.

As a result, it was found that the use of polypropylene fiber considerably increases the tensile strength as the fiber content is increased. The compressive strength has increasing by 10% with (0.25%) of fiber than start decrease with increase the fiber quantities. Compared to corresponding plain concrete, there was a favorable decrease in drying shrinkage and creep of specimens containing various fiber contents.

**Keywords:**

Fiber reinforced concrete; polypropylene, steel and glass fibers; fiber concrete testing; compressive, splitting tensile and flexural strength shrinkage and creep deformations.