FIBER CONCRETE SLABS

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رسالة

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بسم الله الرحمن الرحيم

"وعلمك ما لم تكن تعلم وكان فضل الله عليك عظيما"

صدق الله العظيم

بسم الله الرحمن الرحيم

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INTRODUCTION

The reinforcement of building materials by natural fibers had been known since the era of the ancient Egyptians. They used straw in mud bricks and residuals of linen fibers in gypsum mortar for plastering. Excluding asbestos, fibers addition to reinforced cement and concrete were subjects of many researches during the last two decades. Potentialities of the promising types of fibers led both military and civil research workers show equal interest in these researches to develop their constructions.

Fiber reinforced concrete is used in a variety of constructions such as shelters, underground vaults, marine structures, floating pantoon units and boat hulls. It is also used in machine pads and frames, piles, car park decks, and bridge decks. In the field of pavement, fiber reinforced concrete is ideal for high ways and airfields and their maintenance. It is also recommended for tunnelling, rock stabilization, industrial floors and other applications.

Addition of fiber to concrete improves the composite engineering properties such as energy absorption capacity under both static and dynamic loads, fatigue resistance and crack control. The steel fiber are the most promising for practical use. Glass, polypropyline and other fibers were not advised due to their high cost or inadequate results.