

EFFECINCY OF USED NANOTUBE CARBONE FIBER IN FRACRURE MECHANCIS OF REINFORCED CONCRETE STRUCTURAL

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Abstract

Carbon nanotubes (CNT) are the subject of one of the most important areas of research in nanotechnology. The reviewing of experimental works of used nanofiber in reinforced concrete shows that nanotechnologies are being spoken of as the driving force behind a new industrial revolution. In this paper, the efficiency of used nanotube fiber in the fracture mechanicals of concrete is studied. Two points differs due to adding nanofibers for fracture mechanics models of reinforced concrete. The first, the cracks behavior of nano-concrete/or nanofiber added to concrete. The second, the effect of nanotube fiber in stress distribution through fracture process zone (FRZ) is studied and the approximated stress distribution is found. From paper concluded that, the fracture models of concrete mixed with nanotube fibers depends on phenomena that occur on a micro and a nano scale, where nano-fiber with debonding matrix produces a fibril in the concrete body. For this, the efficiency depends on homogenous distribution of nano-fiber during mixing.

Keyword: Nanotechnology, Fracture mechanics, Carbon nanotubes (CNT), Fibers