عنوان مقاله:

Concrete Reinforcing with Use of Recycled Fibers

محل انتشار:

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نویسنده:

Hamed Rajabpour - *Ph.D. student, Dept. of Civil Engineering, Cyprus International University, Nicosia, Northern Cyprus*

خلاصه مقاله:

Damage and destruction of concrete strongly depends on the formation of cracks and micro-cracks. As the load increases, the micro-cracks join to form cracks. In order to solve this problem and to create homogeneous conditions, in recent decades, a series of thin filaments that have been spread over the entire volume of concrete have been used; they are called fibers. One of the most widely used fibers used in concrete is recycled glass fiber. Recycled fiber reinforced concrete is a material that consists of a combination of hydraulic cement, coarse and fine aggregate, water and recycled fibers. The use of recycled glass fibers in concrete improves the concrete properties as increasing the tensile and flexural strength, improving impact resistance, increasing energy absorption, improving the behavior of concrete in the nonlinear region and high ductility. Since the properties of recycled glass fiber reinforced concrete are directly related to the condition of the recycled fibers used on the concrete surface, issues related to the performance of recycled fibers over time have always been of interest to researchers. In this paper, we want to mathematically simulate and demonstrate the durability and workability of concrete, which is reinforced by the recycled glass fibers. In the last section of the paper, we also present new idea for reducing the effects of the alkaline environment of the reinforced concrete, which will cause destruction and changes in the mechanical properties of concrete [۱ – ۴].

کلمات کلیدی:

Recycled Materials, Reinforced Concrete, Fiber Reinforced, GFRP, PET Fiber