

Comparative practical study to the effect of the industrial additives on the concrete strength *

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Abstract

There are various types of industrial fibers such as: (polypropylene fiber, fiberglass, silica fume powder, etc.). These fibers are used widely as additives for improving concrete strength. We study in our research the effect of each of polypropylene fibers, steel fibers, and silica fume powder, on two kinds of concrete mix the first ordinary mix and the second is mix other with Mazar sand. We found after the studying of mechanical properties for those mixes that a slight improvement on tensile strength of concrete has occurred, an increasing of compression strength of concrete has happened, and the failure style has changed according to the type of additive compared with concrete without additive.

Keywords: Concrete, Polypropylene Fiber, glass Fiber, Silica fume, Compression Strength, Tensile Strength, Failed Sample.

* For The paper in Arabic see pages (43-54)

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