

Study the Properties of Self-Compacting Concrete

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Abstract

Concrete is known as the most commonly used materials in the world and it is widely used because of its properties such as durability, quality, density and optimization. Today, different types of concrete are constructed to use in design and construction industry. Self-compacting concrete is considered as new technology in high quality concretes which are flowed without internal and external vibration processes and it fills mold by gravity force and covers existing reinforced bars. Self-compacting concrete is fluid and liquid and elements many problems and defects such as separation, water absorption, penetration, etc. This property helps elements implementation and structural sections with increasing compression of reinforced concrete, significantly. Current research has tried to determine compressive strength of self-compacting concrete using standard samples and concrete compressive jack.

Key words: Self-Compacting Concrete, Reinforcement Bar, Compressive Strength.

1. Introduction

Self-compacting concrete (SCC) is new technology in construction area all over the world. This type of concrete can be flowed affected its weight without separation of aggregates among structural elements. It has high efficiency. On the other hand, this type of concrete is compressed without vibration and affected by its weight. Three basic criteria to produce self-compacting concrete including: high plasticity, high enclosed plasticity/penetrability and high resistance to separation. The most important advantages of using concrete include; decreasing time construction, being economical and high total quality of produced concretes [1]. The most important factors to reach desired strength and durability are using resistant aggregates and decreasing the size of aggregates in concrete blend to increase its homogeneity. Also, it can be produced more compressed