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ANALYSIS OF CONCRETE QUALITY COMPARISON USING SIKAMEN NN ADDICTIVE MATERIALS WITH PLASTOCRETE RT 06 PLUS AND SIKACIM CONCRETE ADDICTIVE

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ABSTRACT

In general, the construction of buildings, bridges and other constructional development uses concrete as the main materials of foundation for the structure. Concrete consists of several mixtures of materials including cement, water, fine and course aggregates. Concrete has the advantage of easy maintenance, high compressive value and durability to the changing temperature. These advantages lead to the high demand for the usage of concrete as the main foundation of materials for buildings. In order to meet these needs, it is necessary to modify the concrete mix using added material as a concrete mix design or ReadyMix with the aim of improving the quality of the concrete, bonding time, workability, as well as obtaining economic value in concrete itself.

On this occasion, the authors conducted a study using a modified concrete mixture of K-350. The ingredients were added in the form of addictive substances variations of Sikamen NN mixture with Plastocrete RT 06 Plus and Sikacim Concrete Addictive which aimed to change the binding time, the value of concrete slump, increase the quality of the concrete and compare the compressive strength as well as the value of the concrete slump. Comparative analysis was carried out with added ingredients ranging from 0% (normal, comparable), 0.5%, 1.5%, and 2.0%. Tests were carried out in 3 samples of cubes and at the same time the cube concrete were tested for the compressive strength starting from 7, 14, 21 and 28 days.

From the test analysis shows that the usage of concrete with the added substance of 0,5% and 2,0% with 28 days long of Sikacim Concrete Addictive resulted the compressive strength of 363,13 kg/cm^2, 375,98 kg/cm^2, 379,90 kg/cm^2. Furthermore, for the variation substance of Sikamen NN with Plastocrete RT 06 Plus resulted the compressive strength of 353,45 kg/cm^2, 368,43 kg/cm^2, 372,8 kg/cm^2 with normal concrete 325,49 kg/cm^2 as comparison.

Keywords: *compressive strength, setting time, slump duration for concrete, Sikamen NN with Plastocrete RT 06 Plus and Sikacim Concrete Addictive.*