ABSTRACT

Title : Analysis of Workability and Strength of a Mixture of Rigid Pavement With Additives Fly Ash and Master Glenium SKY 8108-BASF, Name : Rizky Darmawan, Nim : 41113010052, Supervisor : Ir. Alizar, MT., Year : 2017

Pavement is a very important component in movement of traffic. Pavement is used the time consisted of three types, namly flexible pavement, rigid pavement, and composite pavement,on this research for pavement. Conctrete mix design is a mixture of aggregates, binder and water with a specific measure. With the emergence of various kinds of concrete that are available show that developments in the field of construction science technology is getting advanced. This research also aims at knowing the character of concrete with addition of partial replacement of cement with fly ash and admixture Master Glenium SKY 8108-BASF. The aggregate used in this study is fine aggregate extracted from a sand quarry Rumpin, Bogor. While for coarse aggregate extracted from a stone quarry Rumpin, Bogor. For Portland cement using product from Indocemet Tiga Roda of Type I. For an additional material of fly ash in the can from PT. Farika Beton. And additives used MASTER GLENIUM SKY 8108 BASF.

Presentation on the manufacture of specimens using fly ash 3%, 5%, 7%.Compressive strength on age 3,7,14 and 28 days.Testing of test object using cube 15x15x15 cm for compressive strength and 5x5x5 cm for concrete long angeles test and concrete aggregate impact value test. Use of additives as additives of 0.5%, 1%, 1.5% after use of the use of Fly Ash with the highest compressive strength. The calculation method used is SNI 03-2834-1993.To achieve the required compressive strength, the mixture must be proportioned so that the average compressive strength of the test results in the field is higher than the required compressive strength (f'c).

Research shows that the material is feasible to be a mixture of concrete. The use of fly ash influences the value of concrete compressive strength, where in this research more and more percentage of fly ash usage is used higher concrete value of concrete, but lower than normal concrete, and the use of additives greatly affect the value of concrete compressive strength,In this study the use of additives with the largest percentage makes the value of compressive strength is lower but higher than normal concrete,The use of fly ash has no significant effect on slump value,while the additive affects the slump value because the more use of the additive the concrete mixture gets thinner but faster hardened.While on the wear value more and more use of Fly Ash hence value of wear is higher then more additive addition of lower of concrete wear.In Aggregate Impact Value Test test more and more use of Fly Ash hence strong value to collision lower, the more additives the heigher the stronger the impact of the concrete impact. Appriate SNI T14-2003 concrete mix quality K-300 with some substitute materials of fly ash 7% and 1,5% additives used that have met the standard.

Keyword : *Rigid Pavement, Concrete Mix Design, Los Angles Test, Aggregate Impact Value, compressive strength of concrete.*