BEHAVIOUR OF REINFORCED CONCRETE BEAM WITH SILICA FUME UNDER STATIC LOADING

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DECLARATION

I Mohd Junaidi bin Mohamad, 2001304804 confirm that the work is my own and that appropriate credit has been given where reference has been made to the work of others.

15th May 2006

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ABSTRACT

Generally, normal concrete have a limited capability to sustain heavy load. By using high strength concrete graded seem like a solution to the problem. However for high rise building, something needs to be done to the available high strength concrete. Hope that by using silica fume as cement replacement, the strength of the concrete will increase. The purpose of this study is to investigate the effects of replacement of cement (by mass) with ten percentages of silica fume in reinforced concrete beam under static loading. The results of an experimental study that was carried out to examine the behaviour of reinforced concrete beam with silica fume. By this method, the concrete grade 60 may be achieved. In this study, three (3) sample of reinforced concrete beam incorporating silica fume, water binder ratio of 0.30, with respect to the serviceability and ultimate limits was cast and have been tested under static loading until failure. The reinforced concrete beams were considered stiffer and show the consistency as the effect of silica fume. The specimens of reinforced concrete beam also have been modeled by using LUSAS software. The result of simulation also has been carried out and discussed.