



UNIVERSITI TEKNOLOGI MARA

BEHAVIOUR OF REINFORCED CONCRETE BEAM  
WITH SILICA FUMES UNDER STATIC LOADING

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I hereby declare that this report has not been submitted, either in the same or different form, to this or any other University for a degree, and except where reference is made to the work of others, it is believed to be original

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## **ABSTRACT**

The purpose of this study is to study behaviour of high strength reinforced concrete of grade 60 incorporating silica fumes by replacement at 8%, 12%, 16%, and 20% to weight of cement with water cement ratio of 0.3 cured in room temperature under static load. Structure properties have been investigated are crack pattern and location occur, deflection and modulus of elasticity due to bending of reinforced concrete respectively. Four numbers of beam with respective percentage of silica fumes are casted and underwent static load test to failure.

This laboratory study are done in the Civil Engineering Laboratory, UiTM Shah Alam by using 1000KN Universal Testing Machine. The result obtain shows by replacing certain percentage of silica fumes (SF) into concrete have increase the concrete strength and 16% of replacement are give the best result such as higher concrete compression strength and higher ultimate load at failure. The results also show the different behaviour of beam contain different percentage of silica fumes.

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