

# **THE EFFECTS OF ACCELERATOR ON PFA CONCRETE**

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### *Synopsis.*

*The aim of this project is to analyse the effects of accelerators on PFA concrete. Various level of PFA content are used and each mix is cast with a specified amount of accelerators. OPC and PFA concrete with or without accelerators is also cast as control samples.*

*The concrete strength development is obtained from 100 mm samples which are crushed at 3 , 7 , 28 , 90 days. The 150 mm cubes are used to monitor the durability in term of its absorption properties.*

*ISAT test will be employed in determining the variations of absorption characteristics of OPC & PFA concrete.*

## CHAPTER ONE.

### INTRODUCTION

#### 1.0 Field of Studies.

Concrete is a versatile material which can be shaped according to wide spectrum of design requirements. The introduction of admixtures and cement replacement materials has broaden the scope of concrete technology. Amongst the growing popularity of cement replacement materials is PFA.

The suggestion that PFA is a pozzolanic material was first made 75 years ago (Annon. Eng. News Record). However , it was the study undertaken by Davis et al , the results of which were published in 1937, that actually paved the ways for the used of PFA for partial cement replacement in concrete.

Most of the previous studies into the behaviour of OPC/PFA concrete have been undertaken using recipe methods of mix proportioning which generally involved modification of an OPC concrete mix by simply replacing a certain amount of the Portland cement by an equal or greater amount of PFA. It is found that PFA has a very