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# TRADE PROJECT

TITLE : COMPARATIVE STUDY OF THE EFFECT  
OF WATERS & SULPHATE WATERS ON  
THE COMPOUNDS OF CEMENT

PRESENTED TO: KENYA NATIONAL EXAMINATION  
COUNCIL

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## ABSTRACT

The comparative study of the effect of water and sulphate waters was carried out on 2 sample as follows

- i) E.A.P.C. Cement
- ii) B.P.C Cement

It was found that the cement sample fell within the range of the standards. But the effect of water (pure) was progressively slow that it could not be ignored. The sulphate waters (sodium, calcium and magnesium) had a very devastating effect on this cement and this was by reaction with the compounds of the cement thus reducing the strength of the cement. This led to the expansion and increase in the volume of the solid solution hence cracks in concrete and mortars. It was found that this effect varied with composition of the raw materials used and the concentration of the sulphate waters.

In prevention of the attacks the compound  $C_3A$  was replaced by the compound  $C_4AF$  which was resistant to sulphate attack. Steam curing also helped a great deal.

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