

STRENGTH AND PERMIABILITY OF HIGH PERFORMANCE CONCRETE WITH POLYPROPYLENE FIBRE

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ABSTRACT

The paper presents a comparison of mineral admixtures, Alccofine 1203 (AF), Metakaoline (MK) and Ground Granulated blast furnace slag (GGBS), on the Mechanical and durability properties of polypropylene fibre reinforced high-performance concrete. Assessment of the mechanical properties of concrete mixes was based on compressive strength, split tensile strength, flexural strength and durability tests like water absorption, seawater test, sulphate attack test, sorptivity and carbonation test of concrete. Measurements were carried out after first 24 hour warped curing and water curing. The results, in general, showed that mineral admixtures improved the properties of high-performance concretes, but at different rates depending on the binder and fibre type.

KEYWORDS: Durability, High Performance Concrete, Nokrack, Sorptivity, Strongcrete