

CONTROLLING THE KINETICS OF ALUMINIUM REACTION TO CONTROL THE POROSITY OF FOAM CONCRETE

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Aluminium reaction in water generates hydrogen gas which is useful in many industrial applications. In concrete industry, aluminium is used as a foaming agent to introduce voids in concrete and help with producing lightweight construction materials. While the presence of voids is desirable in foamed concrete, the shape and size distribution of pores can have critical impacts on mechanical properties, insulating capacity and durability of concretes. The kinetics of aluminium reaction can be adjusted to control the porosity of geopolymer concretes and help to achieve foam concrete construction blocks with desirable properties. In this paper, the designed formula of concrete mixture is manipulated to study the impact on foaming and final structure of foams.