

**A STUDY ON THE MIX PROPORTION OF FOAMED CONCRETE
TO COMPRESSIVE STRENGTH, TENSILE STRENGTH AND
EARLY STRENGTH DEVELOPMENT**



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ABSTRACT

Foamed concrete is a cement-based slurry into which a stable and homogeneous foamed is mechanically blended, either by mixing or by injecting. The compressive strength and tensile strength of foamed concrete is a function of density dependent on many factors such as sand/cement ratios, water /cement ratios, curing conditions and particle size distribution of sand. The scope of this research is to study the effect of density, mix proportion of cement-sand ratio, admixtures and percentage of surfactant to compressive and tensile strength of foamed concrete at early age. From the result attained, it shows that the compressive strength increases with increase in density of normal foamed concrete, foamed concrete with Glenium C380 and foamed concrete with Calcium Nitrate. For the effect of mix proportions of cement-sand ratio, the result shown that the compressive and tensile strength increases with increase in the cement content. Mix 2:1 shows higher compressive and tensile strength compared to mix 1:2. It is also observed that, foamed concrete with admixtures (Glenium C380 and Calcium Nitrate) gives higher compressive strength compared to normal foamed concrete. For the early strength development, the compressive strength value increased significantly with Glenium C380 and increased slightly with Calcium Nitrate. However, higher percentage of surfactant added in foamed concrete was reduced the compressive and tensile strength of the foamed concrete.