عنوان مقاله:

Characteristics of Foamed Concrete Containing Ultra-fine Drift Sand of the Yangtze River

محل انتشار:

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خلاصه مقاله:

The primary goal of this study was to evaluate the use of Ultra-fine Drift Sand from the Yangtze River (China) in place of natural sand in the production of foamed concrete. The experimental design included factors with varying levels : the proportion of Ultra-fine Drift Sand at four levels (۰ percent, ۳۰%, ۶۰%, and ۱۰۰%). Ultra-fine Drift Sand was substituted in proportion to the mass of material. Each factor's effect on compressive strength, density (dry and saturated), air voids, and water absorption was assessed. According to the results, all factors had significant findings. The compressive strength of concrete increased due to an increase in curing time; fly ash content up to ۳۰%; increasing the percent of Yangzi river sand; and decreasing slag. The mixture of ۱۰% SF (Silica Fume), ۲۴% FA (Fly Ash) and ۱۰۰% YS (Yangzi soil) gives the enhanced results in concrete strength, by which it reaches about ۷ MPa compared with other findings. The remaining percentages of mixing benefit compression strength results. This method of treatment provides an economical way through providing a cheap material that enhances the mechanical properties of concrete, provides a light weight concrete, and a good isolator material to improve the building's thermal insulation to reduce ecological problems and save energy. Doi : ۱۰.۲۸۹۹۱/CEJ-۲۰۲۲-۰۸-۰۸-۰۱۳ Full Text : PDF

کلمات کلیدی:

.Foamed Concrete; Ultra-Fine Sand; Compressive Strength; Drift Sand