Strength and durability performance of light weight concrete

Abstract

Lightweight concrete (LWC) has been researched during the past few decades. In ancient times the LWC is used due to its lower density and extreme thermal insulation properties. It reduce the dead load of structural elements, the usages of waste materials reduces the environmental waste. Light weight concrete is mainly make use of waste by product substance like fly ash , slica fume. Flyash is cheap and it will reduces environmental pollution to a large extent. Flyash is one of the major waste materials available from thermal power plants. Silica fume reduces segregation and bleeding and also give high compressive and flexural strength.Cinder is naturally occuring light weight rock. Ground granulated blast furnace slag is used by replacing the cement content to improve the compressive strength of concrete.This investigation reduces the environmental effects and also give lighter products in construction industry.Especially in precast industry it will give very good results.The effect of various parameters such as compressive strength, flexural strength and split tensile strength of concrete. To evaluate the durability performance tests such as water absorption, sorpitivity acid resistatance test (sulphate,chloride and nitrate test) will be carried out.