

Effect of Effective Microorganisms (EM) on concrete performance

Abstract

Concrete technology is life-long research, that strives to discover the best additives or admixtures that are able to produce good concrete in terms of physical, chemical and mechanical properties in a more economical, sustainable, environmental friendly and obtainable. This study focuses the effect of different percentages of EM toward strength of concrete. The compressive strength test was carried out to analyse these properties by using the concrete cubes with size 100 mm x 100 mm x 100 mm. These concrete mixes were tested at different ages which are 7, 14 and 28 days. Effective microorganism (EM) replacement percentages are 5%, 10% and 15% and the strength of concrete with EM replacement will be compared with the control sample. All the cubes were cured by immersed in the water for curing process before the compressive strength tests were conducted. The finding shows that the workability degree of EM mixture is similar with the conventional mixture. The compressive strength increase with the increment of EM content. The results shows that 10% of EM could be the optimum value of water replacement in concrete production to improve strength and durability.