

## CONCRETE MIX PROPORTIONING USING EMMA SOFTWARE

**K.L.BIDKAR & K.T.PHALAK**

Associate Professor, Sandip Foundation's Sandip Institute of  
Engineering and Management Nasik, and Maharashtra, India

### ABSTRACT

Concrete mix proportioning by conventional, methods consumes substantial amount of cement. The huge utilization of cement in concrete will cause serious environmental degradation of earth. This emphasizes the need to find alternate methods for concrete mix design, in the interest of sustainable development of waste resources. Pozzocrete fly ash is a byproduct of thermal power plant, if not attempted properly the disposal of fly ash will create number of problems in disposal of fly ash. The theoretical methods available for the analysis of concrete mix design, it becomes very much essential to examine the behaviour of these mixes experimentally and then verify the same using suitable software. The aim of this paper is to highlight the behaviour of concrete in fresh and hardened state which was modeled and analyzed using EMMA software with certain assumptions made and also provide the comparison between experimental and software results.

**KEYWORDS:** EMMA, Pozzocrete 60, Particle Packing, Castable