

## EFFECT OF CURING REGIMES ON THE MECHANICAL AND FRESH PROPERTIES OF STEEL FIBER-REINFORCED CONCRETE

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### Abstract

Properties of concrete are affected by its fabrication process such as preparation, mixing, placing, finishing and curing. Since curing process is the ultimate stage of the fresh state of concrete before it is put into service, it is of great significance that is needed to be strictly handled. In the present study, steel fiber reinforced concrete was investigated in terms of different curing regimes including precast technology and comparative analysis was performed. To this end, beams and cubes specimens were fabricated and cured under steam process to represent the applications of precast concrete industry. Findings were compared with the other types of curing regimes. Mechanical behaviors of specimens were evaluated along with their strength development and workability in the presence of steel fiber. Results indicated that adequate workability and mechanical properties were obtained for steam-cured specimens compared to other specimens produced with different curing regimes. However, production parameters such as mixture proportion and fiber dosage were more pronounced for low-strength concrete specimens compared to high strength steam cured concrete specimens.

Keywords: Mechanical properties; Precast concrete; Steam curing; Steel fiber.