International Journal of Civil Engineering , Architecture, and Design , Vol. 1, Issue 1, Jul-Dec, 2015, pp 01-11 , ISSN: 2455-WZXY (Online)

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UNDERSTANDING THE IMPLICATIONS AND CONSEQUENCES OF THE ASSIMILATION OF STEEL FIBRES FOR CONCRETE PROPERTIES M30

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Abstract

Concrete has comparatively high compressive strength, but significantly lower tensile strength and it is a well established fact that all concrete structures will crack to some extent, due to shrinkage and tension. Concrete which is subjected to long-duration forces is prone to creep. Many researches studies have been carried out to understand the nature of concrete properties and how these properties affect the internal structure of concrete by means of various types of materials so far. However no plausible solutions have been provided to the actual composite use of the fibres with the concrete mixture. This paper represents the Optimum use of the fibres with the concrete mixture and will also help in achieving the desired results. This paper shows the investigation on M30 grade due to incorporation of stainless steel fibres. In this paper we used the stainless steel fibres of diameter 0.50 mm with aspect ratio 80 at various percentages as 0%,0.5,%.1%,1.5%,2% by the volume of concrete on M30 grade of mix proportion (1:1.5:3) with water cement ratio 0.43. SFRC based specimens has been tested for the compressive strength, flexural strength and split tensile strength.

Keywords: *Stainless Steel Fibres, Compressive Strength, Flexural Strength and Split Tensile Strength.*