

Flexural Behaviour Of High Performance Slurry Infiltrated Fiber Reinforced Concrete With Different Curing Method.

ABSTRACT

In the conventional steel fiber reinforced concrete, the structure is fabricated by combining steel fiber to the concrete mix. By using this method, the volume fraction of fiber is limited. So in order to improve the properties of fiber reinforced concrete, slurry infiltrated fiber concrete was introduced. In this study, concrete slurry grades 80 is 3%, 4%, 5% and also the control sample without fiber. Sizes of prism used in this study are 100 x 100 x 500 mm. In order to determine the effect of the curing method, each sample with different volume friction were prepared for two types of curing method. Water curing and steam curing at temperatures of 80°C and cured for 24 hours were applied. The prisms were tested by two-point load test until failure. The behaviors of the prisms were observed and the load-deflection was recorded. Based on the result, it was concluded that the optimum steel fiber content in this report was 5 % by volume friction which provided the highest flexural strength and deflection. The prisms with steam curing obtained lower flexural strength compared to the water curing prisms except for the control specimen.

Keyword: slurry infiltrated fiber reinforced concrete, steel fiber, water curing and steam curing