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(57) Abstract :
Mechanical properties of concrete can be enhanced by using jute fibers. In order to analyses the effect of jute fibers on the properties of concrete. The compressive strength test, split tensile strength test and flexural strength test were performed. The ratio of jute fiber in concrete is varied from 0 to 5%. Test results shows that the compressive strength, split tensile strength and flexural strength increases from 10 to 20% in comparison with concrete without fibers. The result of the compression test indicate that the present of jute fibers tends to reduce the compressive strength at higher jute fiber contents there is improvement in ductility after cracking of concrete. Similarly tensile and flexural characteristics increases up to a certain percentage beyond which strength characteristics decreases. Jute fiber concrete significantly improves the toughness behavior of concrete. Tests results shows that the concrete mix with jute fibers can be used in pavements as reinforcing materials. The results of JFRCC were also compared to the plain concrete. The large cut length and higher content of reinforcing materials (jute fiber) result to the unfortunate tendency of balling formation and high porosity of composites followed by the degrading of mechanical properties of JFRCC in reference to plain concrete. But in the incorporation of short and low fiber content, an intact structure develops which enhances the mechanical properties of the same composite. content.

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