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(57) Abstract :
Concrete is the basic engineering material used in most civil constructions. It is extremely used because of the ability to possess high compressive strength and be molded into any desired shape. In order to overcome the poor tensile strength of concrete, fibers are introduced in the matrix. In this idea, burr wastes obtained from the CNC turning process in the lathe industry were disposed of as wastes in open lands in the industries' proximity, causing a hazard to the environment. Hence, these wastes were tested as fiber material in the form of micro-reinforcements in the concrete. Burr wastes were added to the concrete in volume fractions Vf=0%, 0.5%, 1.0%, 1.5% and 2.0% and tested for its compressive, split tensile and flexural strength. The experimental test results revealed that the compressive and flexural strength of burr waste concrete increased from 16.16% to 23.36% and 117% to 124%, respectively, for Vf = 0.5% to 2.0% at 28 days strength in comparison with concrete made without burr waste. The tensile strength of burr waste concrete increased up to 6.06% for Vf = 0.5% at 28 days strength when compared to conventional concrete. The experimental investigation observed that the addition of burr wastes as micro reinforcements in the concrete had significant improvement in concrete strength.

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