

## ABSTRACT

The development of Steel Fiber Reinforced Self Compacting Concrete (SFRSCC) workability properties of SFRSCC such as filling ability, passing ability and segregation resistance are evaluated using workability tests such as slump flow, V-funnel and L-Box tests. The application of Steel Fiber Reinforced Self-Compacting Concrete (SFRSCC) in the construction of structural elements is seen as an alternative solution to the complication in placing the reinforcement and compaction of normally vibrated concrete.

The main advantage of SFRSCC is the ability to be properly poured in place, filling the formwork corners and small voids between reinforcement bars by means of its own weight. The research had been done in exploring the structural performance of SFRSCC due to the enhanced engineering and mechanical properties. The incorporation of steel fibers in the mix has been found to enhance the hardened properties of self-compacting in terms of its tensile strength, ductility, toughness, energy absorption capacity and as well as fracture toughness.

The objective of steel fiber reinforced self-compacting concrete (SFRSCC) is to develop the strength of concrete. The knowledge could be used as a guide in expanding the application of SFRSCC as to increase or develop the strength of concrete.

**Keywords:** Steel, fibers, concrete, building materials, mechanical properties.