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SFRC used RC Beam and its Increasing Torsional Strength

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Abstract: *Steel Fiber Reinforced Concrete (SFRC) is the most often employed method for improving the flexural, shear, and torsional properties of concrete in the modern era. It is capable of withstanding cracks and crack propagation. As a consequence of this capacity to arrest fractures, fiber composites may improve extensibility and tensile strength, both at the initial crack and at the final load, and fibers can help keep the matrix together after significant cracking. Steel fibers are short in length and are employed in concrete in proportion to their aspect ratio (i.e., the ratio of length to diameter); this ratio ranges from 20 to 100. Torsion is often associated with bending moment and shear force, and so the interplay of these forces is critical. Torsion occurs when a slab or beam is supported on just one side or when stresses acting transverse to the beam's longitudinal axis are applied. Numerous researchers have worked with SFRC to boost the flexural and shear capacities of the material, but the amount of work done on torsional strengthening is insignificant. This article introduces steel fiber, reviews prior experimental investigations on torsional strengthening, and compares the torsional strength and angle of twist of normal concrete and SFRC beams when varying percentages of steel fiber used.*

Keywords: Steel Fiber Reinforced Concrete, Cracks, Torsion

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