**Effective Parameters on Mechanical Performance of Steel Fiber-Reinforced Concrete Beams**

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|  **Abstract**In this study, parameters affecting the mechanical performance of steel fiber-reinforced concrete beams were evaluated. The aim of the study is to see the effect of steel fibers used to change the failure mode in beam members that become embrittled with the increasing the concrete strength, on the behavior of the members. For this reason, 271 beam test results with/without stirrup were compiled from the literature. The parameters considered in the compiled beams are fiber volumetric ratio ($V\_{f}$), fiber aspect ratio (${l\_{f}}/{d\_{f}}$), span-to-dapth ratio ($a/d$), cylinder concrete strength ($f\_{c}^{'}$), and longitudinal reinforcement ratio ($ρ$). Fiber types used in beams are hooked-end, flat end, crimped, and round steel fiber. $V\_{f}$, ${l\_{f}}/{d\_{f}}$, $a/d$, $f\_{c}^{'}$, and $ρ$ ranges are $0.3-2.0$, $43.0-127.7$, $0.6-6.5$, $19.6-232.1$, and $0.4-8.0 \%$, respectively. As a result of the study, the effects of these parameters on the shear stress of the beams and the limit values of these effects were determined. |
| Keywords: steel fiber, shear stress, span-to-dapth ratio, failure mode |