

## POTENTIAL APPLICATIONS OF STEEL FIBRE REINFORCED CONCRETE TO IMPROVE SEISMIC RESPONSE OF FRAME STRUCTURES

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### **Abstract:**

Fibre reinforced concrete has gained acceptance in several civil engineering applications. The proclivity of new generation of engineers to use steel fibre reinforced concrete can be attributed to some distinct functional and structural benefits that it can provide compared to conventional reinforced concrete. Fibre reinforced concrete has been found to increase the post-cracking tensile strength of concrete thus facilitating pseudo-plastic response, improved energy absorption, and better energy dissipation capabilities that lead to better structural response under cyclic loading. These factors suggest benefits in considering the use of steel fibre reinforced concrete to enhance the structural response of reinforced concrete structures under earthquake loading. This paper summarizes useful background on steel fibre reinforced concrete, the benefits over conventional reinforced concrete, and its response to cyclic excitation. The authors believe that steel fibre reinforced concrete is a suitable ductile high performance material that is gaining acceptance for applications in frame structures and is particularly suitable for enhancing seismic response.

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