APPLICATION OF DFRCC THIN BOARD TO PASSIVE-VIBRATION-CONTROL PANEL FOR WOODEN FRAME

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Keywords:
Ductile Fibre Reinforced Cement Composites, Passive-Vibration-Control, PVA fibre

Abstract.

The authors investigate the application of highly ductile fibre reinforced cement composites (DFRCC) to passive-vibration-controlled aseismatic device for wooden frame.
In this study, various types of wooden frames filled with DFRCC panel were experimented. They include 4 frames filled with commercialized DFRCC boards which had various types of incisions to induce multiple cracks for consuming seismic vibration energy.
The structural behaviours of the frames were observed applying gradually increasing drift angle repeatedly from 1/480 radian finally up to 1/30 radian.
The experimental results showed that the damping factor of a frame made of DFRCC panel with incisions was 34% due to induced cracks in it, whereas those of references were about 11% at the highest. From these values, the expected response load for this type of DFRCC panels would be substantially reduced.