

## **Full-Scale Experimental Study On The Performance Of A Viscoelastic Damper With Improved Out-Of-Plane Stiffness**

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In this study, a viscoelastic damper with improved out-of-plane stiffness is proposed, to make up for the lack of out-of-plane stiffness of viscoelastic dampers. Firstly, its structure is introduced and its experimental design is carried out. Two groups of full-scale specimens of new viscoelastic damper and conventional viscoelastic damper are made, and low cycle load test and out-of-plane static push-over test are carried out. Then, the result comparison of two groups is carried out, the test results show that the in-plane mechanical performance of the new viscoelastic damper is not lower than that of the conventional viscoelastic damper, and its out-of-plane stiffness is better than that of the conventional viscoelastic damper. Finally, by comparing the hysteretic energy consumption of material test, scale test and full-scale test, the variation law is obtained: the smaller the component size is, the greater the difference of mechanical properties under different deformation is; Size effect has little effect on frequency correlation.