

**Series of Analyses and Experiments for Lateral Resistance and Dynamic
Behavior of Batter Pile Foundation during Earthquake**

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Railway structures should have high horizontal stiffness for ensuring running safety of railway vehicles during earthquakes; therefore the foundations having high lateral resistance are necessary for railway structures. We are researching the application of batter pile foundations to railway structures as one of the effective methods. This paper reports a series of analyses and modeled tests for lateral resistance and response of the batter pile foundation during earthquake. It has been made clear that the horizontal resistance of structures can be increased and the equivalent natural period of structures can be reduced even if the angle of the batter piles is about five degrees; on the other hand, the sectional force and deformation of the pile have increased subjected to the ground deformation during earthquakes.