
Development of Double-pipe Ready-made Concrete Piling Method

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In recent years, as the ready-made concrete piling method progresses and its vertical support performance have been improved, the horizontal force of an earthquake burden on the piles has also tended to increase. In order to enhance the earthquake resistance of the piles, a double-pipe earthquake pile construction method has been proposed, which reduces the horizontal force acting on the pile by installing a steel pipe that can bear the seismic force on the head of the pile. We applied this to ready-made concrete piles and jointly developed them for practical application. The effect of the double-pipe pile, which was shown in theory, and the small-scale model experiment was verified by the large-scale horizontal loading tests and the validity of the stress analysis method was confirmed.

In this paper, we report the results of the horizontal loading tests and construction experiments that were conducted to establish the construction methods and quality control methods.