

Development and Construction of Ground Reinforcement Method using Pressurized Injection Materials

Yuki KURAKAMI Susumu NAKAJIMA Masaaki BEPPU Sumio YAZAKI

A new method called Lotus anchor method was developed as a soil reinforcement method using grout injection. This method enables the construction of ground reinforcement with a diameter larger than the boring diameter ($\phi=115$ mm) by pressurized injection. The pullout test results showed that the design pullout resistance can be evaluated reasonably by setting the reinforcement diameter twice than that of the boring diameter. It was also confirmed that the proper management of injection pressure and injection rate secures the safe construction. Using an ordinary soil reinforcement method, we need a large construction machine with a width of about 5 m, on the other hand only a width of just 3 m will do for the developed method. Moreover, using a small core drill machine, required space can be reduced to just a 1 m site width, allowing the construction in narrow place.