Development of Internal Reinforcement Method for Tunnel Lining by FRP Plate

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A method to reinforce mountain tunnels for railways is indispensable for the following not to invade construction gauge, good workability, and other essential factors. We have developed a new internal reinforcement method satisfying the foregoing conditions. In order to study the effect on the method adaptable to deformation and loading characteristics, we performed loading tests for one-fifth scale tunnel and the simulation analysis. Consequent to the test, we obtained the following conclusion; the new internal reinforcement method was effective to compare with a conventional fiber-sheet reinforcement method and other pertinent factors.