

Applicable Conditions of Polyurea Resin Spraying Method for Seepage and Uneven Surface of Tunnel Lining

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If a piece of tunnel lining falls off and hits a train, it could lead to an accident, so great care is taken every day during tunnel maintenance to prevent this from happening. Repairs are planned and carried out in areas where there is a potential risk of future spalling. We have developed a method, called the “polyurea resin spraying method”, to prevent spalling of the lining by spraying polyurea resin on the surface of the tunnel lining. This paper presents the results of a study carried out to extend the applicability of this method and some construction examples: the effect of surface moisture during application on the bond strength of the resin, the long-term durability in a seepage environment, and the bond strength of the resin in an uneven surface environment, as well as the results of its application in a real tunnel.