

Evaluation of Settlement Characteristics for Grouted Ballasted Track Applied to Ballasted Track with Mud Pumping

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When mud pumping begins to generate in ballasted track, frequency of repair work increases. Therefore, several types of ballastless tracks have been developed to reduce the repair work of ballasted track. For example, grouted ballasted track which uses super-fine particle cement (SFC) milk as grout material, can be used with existing aged ballast. However, SFC milk could not be applied to ballasted track which produced mud pumping. In this study, we have proposed several construction methods for grouted ballasted track with SFC milk that can be applied to ballasted track which produced mud pumping, and have evaluated the effectiveness of the track in reducing settlement. As a result of the cyclic loading test on full-scale track model and test construction on commercial lines, it was confirmed that grouted ballasted track with SFC milk had a sufficient settlement reduction effect.