

New Restrictions of Maintenance Works for Continuous Welded Rails at Low Temperatures

Shingo TAMAGAWA Yuki NISHINOMIYA Tomoya KOKETSU

This study aims to establish new restrictions of maintenance works for continuous welded rails at low temperatures in winter. The authors measured inward rail displacements and changes in axial rail forces caused by maintenance works and performed FEM analyses which simulate maintenance works under various track conditions. On the basis of the measurements and the FEM results, the authors propose the restriction diagrams of track maintenance works which provide allowable decreases in rail temperature from neutral temperatures. Furthermore, the authors propose an assessment flow for users to judge the propriety of maintenance works at low temperatures by using the diagrams. Consequently, new restrictions allow track maintenance works at low temperature conditions exceeding current restrictions.