

Functional Evaluation of Collar Part of Fastening of Aged Slab Track

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Slab track has been developed to reduce the maintenance cost related to track, and it has passed 40 years since the first slab track was installed in a revenue line. Recently, it has been feared that there is a possibility that the function of the rail fastening system cannot be demonstrated because of the concrete deterioration by acid attack around the collar part of the fastening of slab track. In this study, a harmful alteration of concrete was estimated by a constructed forecasting model. Moreover, various examinations with focus on the deterioration of slab concrete were carried out to evaluate the function of the rail fastening system. As a result, the progress of the acid deterioration was identified in the concrete near the collar part of the fastening of slab track. However the function of the rail fastening system was confirmed to be operational at the time of examinations.